From: Jeffrey Delapena
To: Heidi Pozzo
Cc: Oliver Orjiako; Jose Alvarez
Subject: RE: Comp Plan submission
Date: Monday, August 31, 2026 1:35:00 PM

Hello Heidi,

Thank you for providing these comments and attachments. Confirming these have all been received and will be added to the Comprehensive Plan Index of Record.

Best,

Jeff Delapena
Program Assistant
COMMUNITY PLANNING

564.397.4558

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-----Original Message-----
From: Heidi Pozzo <hcpheidi@yahoo.com>
Sent: Monday, August 31, 2026 1:27 PM
To: Jeffrey Delapena <Jeffrey.Delapena@clark.wa.gov>
Cc: Oliver Orjiako <Oliver.Orjiako@clark.wa.gov>; Jose Alvarez <Jose.Alvarez@clark.wa.gov>
Subject: Comp Plan submission

EXTERNAL: This email originated from outside of Clark County. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear Jeff,

I've just uploaded the staff reports and traffic studies for Four Creeks North, Three Creeks East, and Kozy Manor to the link you provided to me. Additionally, the staff report for 174th St Subdivision is on the link, but I got an error while trying to upload the traffic study, so that is attached here. Please add to the Comp Plan index of record.

Thank you,

Heidi

lancaster mobley

NE 174th Street Subdivision

Transportation Impact Study

Clark County, Washington

Date:
December 4, 2025

Prepared for:
Robert Root
Silver Buckle Homes, LLC

Prepared by:
Daniel Stumpf, PE
Ken Kim, PE



Table of Contents

Executive Summary 3

Project Description 5

- Introduction 5
- Location Description 6

Site Trips 10

- Trip Generation 10
- Trip Distribution 11

Traffic Volumes 16

- Existing Conditions 16
- Background Conditions 16
- Buildout Conditions 19

Safety Analysis 23

- Crash History Review 23
- Sight Distance Evaluation 26
- Warrant Analysis 27

Operational Analysis 28

- Intersection Capacity Analysis 28
- Roadway Capacity Analysis 34

Conclusions 38

List of Appendices

Appendix A – Scoping Materials
Appendix B – Site Plan
Appendix C – Trip Generation and Distribution
Appendix D – Traffic Volumes
Appendix E – Safety Analysis
Appendix F – Operation Analysis

List of Figures

Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth) 6
Figure 2: Vicinity Map 9
Figure 3: Trip Distribution and Assignment – AM Peak Hour 14
Figure 4: Trip Distribution and Assignment – PM Peak Hour 15
Figure 5: Year 2025 Existing Conditions 20
Figure 6: Year 2028 Background Conditions 21
Figure 7: Year 2028 Buildout Conditions 22

List of Tables

Table 1: Vicinity Roadway Descriptions 7
Table 2: Study Intersection Descriptions 8
Table 3: Trip Generation Summary 10
Table 4: Crash Type Summary 23
Table 5: Crash Severity and Rate Summary 24
Table 6: Intersection Capacity Analysis Summary 30
Table 7: Mitigation Capacity Analysis Summary 33
Table 8: Roadway Capacity Analysis Summary 35

Executive Summary

1. The proposed NE 174th Street Subdivision project will include the construction of a residential subdivision on seven properties addressed at/near 17101 NE 40th Avenue in unincorporated Clark County, Washington. The proposal will include the construction of 100 single-family detached houses. Two existing single-family houses will be maintained and incorporated in the overall residential subdivision, whereby a net increase of 101 houses will be developed. Access to the site will be provided via a proposed street connection along NE 174th Street.

2. The trip generation calculations show that the proposed subdivision is projected to generate a net increase of 71 AM peak hour trips, 95 PM peak hour trips, and 954 average weekday trips.

3. The intersection of NE 179th Street at NE 29th Avenue was found to be nearing a crash rate of 1.00 CMEV. The intersection is planned for reconstruction as a roundabout sometime between 2025 through 2028. According to WSDOT, roundabouts often reduce the overall number of recurring crashes at signalized and stop-controlled intersections. Therefore, the overall crash rate at the intersection is expected to decrease well below the 1.00 CMEV threshold after this intersection improvement has been implemented. No additional mitigation is necessary or recommended.

   No significant trends or crash patterns were identified at any of the other study intersections that are indicative of safety concerns. Accordingly, no crash-related mitigation is necessary or recommended as part of the NE 174th Street Subdivision application.

4. Provided any obstructing on-site foliage is either removed or properly maintained following redevelopment of the site, adequate intersection and stopping sight distances can be made available at the proposed site access intersection to allow for safe and efficient operation along NE 174th Street. No other sight distance related mitigation is necessary or recommended.

5. Left-turn lane warrants are not projected to be met at the proposed site access intersection along NE 174th Street. Accordingly, no new left-turn lanes are necessary or recommended as part of the proposed development application.

6. Traffic signal warrants are not projected to be met at any of the applicable unsignalized study intersections by the 2028 site buildout year. Therefore, no new traffic signals are necessary or recommended as part of the proposed development application.

7. Two study intersections were found to exceed Clark County's mobility standards: the intersection of NE 179th Street at NE 50th Avenue under year 2028 conditions, and the intersection of NE 159th Street at NE 72nd Avenue under year 2028 conditions.

   a. The intersection of NE 179th Street at NE 50th Avenue is projected to exceed Clark County standards during the PM peak hour under year 2028 conditions, regardless of whether the proposed development will be constructed. According to TIP Project H, additional mitigation is planned at the intersection post-2030, specifically to reconstruct the intersection as a multilane roundabout. As an interim solution the intersection could be redesigned to include a dedicated northbound left-turn lane, in lieu of a dedicated northbound right-turn lane that was conditioned as part of the planned Three Creeks East Planned Unit Development (PUD). Provided a northbound

left-turn lane is installed at the intersection, the impacts created by the proposed development and Three Creeks East PUD to the intersection will be mitigated. It is recommended that this proposed mitigation measure be implemented as a Condition of Approval for the NE 174th Street Subdivision development application.

b. The intersection of NE 159th Street at NE 72nd Avenue is projected to exceed Clark County standards during the PM peak hour under year 2028 conditions, regardless of whether or not the proposed development will be constructed. However, the eastbound stop-controlled approach of the intersection is projected to operate at LOS C while the westbound stop-controlled approach is project to operate at LOS F under future year 2028 conditions. Since the proposed development is not projected to add any site trips to the failing westbound approach of the intersection, according to Clark County Unified Development Code section 40.350.020.G.1.c no concurrency related mitigation for the intersection can be imposed on the NE 174th Street Subdivision application. Therefore, no capacity related mitigation at the intersection is necessary or required as part of the proposed development application.

All other study intersections are currently operating acceptably per Clark County standards and are projected to continue operating acceptably through the 2028 buildout year of the site. Accordingly, no operational mitigation is necessary or recommended at these study intersections as part of the proposed development application.

8. Several roadway segments within the study area are projected to exceed Clark County's roadway v/c ratio threshold under year 2028 conditions. Although these roadway segments are projected to operate with v/c ratios in excess of 0.90 during the PM peak hour, no mitigation as part of the proposed development application is recommended for several reasons including, but not limited to, the following:

    a. Relevant study intersections along the higher demand roadway segments are projected to operate within acceptable Clark County LOS standards. Therefore, the increased v/c ratio on applicable roadway segments are not expected to create significant impacts to the operation or safety of the nearby transportation system.

    b. For relevant roadway segments, the high v/c ratios occur under year 2028 background conditions, without impacts from the proposed development. Therefore, the NE 174th Street Subdivision project alone does not cause these roadway segment to exceed the 0.90 v/c ratio threshold.

    c. For some roadway segments, the proposed development will add few additional peak hour trips to these roadway segments. In these cases any increase in peak hour trips will be minor, can be considered as equivalent to daily fluctuations in traffic, and will minimally increase the roadway's single travel direction v/c ratios. Any additional mitigation to increase the vehicle carrying capacity of these roadway segments would be disproportionate to the impacts created by the proposed development.

All other relevant roadway segments are projected to operate acceptably per Clark County standards through the 2028 buildout year of the site during both the AM and PM peak hours. Accordingly, no roadway capacity related mitigation is necessary or recommended at these roadway segments as part of the proposed development application.

Project Description

Introduction

The proposed NE 174th Street Subdivision project will include the construction of a residential subdivision on seven properties addressed at/near 17101 NE 40th Avenue in unincorporated Clark County, Washington. The proposal will include the construction of 100 single-family detached houses. Two existing single-family houses will be maintained and incorporated in the overall residential subdivision, whereby a net increase of 98 houses will be developed. Access to the site will be provided via a proposed street connection along NE 174th Street.

Based on correspondence with Clark County staff, this report conducts safety and capacity/level of service analyses at the following intersections:

1. NE 199th Street at NE 10th Avenue
2. NE 199th Street at NE 72nd Avenue
3. I-5 Southbound Ramps at NE 179th Street
4. I-5 Northbound Ramps at NE 179th Street
5. NE 179th Street at NE 15th Avenue
6. NE 179th Street at NE 29th Avenue
7. NE 179th Street at NE 50th Avenue
8. NE 179th Street at NE 72nd Avenue
9. Site Access at NE 174th Street
10. NE 174th Street at NE 50th Avenue
11. NE 159th Street at NE 50th Avenue
12. NE 159th Street at NE 72nd Avenue
13. NE Salmon Creek Street at NE 50th Avenue (North T-Intersection)
14. NE 134th Street at NE 23rd Avenue/I-205 Northbound Off-Ramp
15. NE 134th Street at NE 29th Avenue
16. NE 134th Street at NE Salmon Creek Avenue

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

Location Description

The project site is located south of NE 174th Street, east of NE 40th Avenue, and west of NE 50th Avenue in unincorporated Clark County, Washington. The site consists of seven properties (assessor parcels 181696000, 181711000, 181721000, 181731000, 181764000, 181765000, and 181766000), which encompass an approximate total of 27.06 acres. Located within a developing area of Clark County, the site is immediately surrounded by low-density residential uses to the north, south, east, and west; however, assessor parcel 181682000 to the east of the project site has been approved for redevelopment as an 84-lot residential subdivision.

Figure 1 presents an aerial image of the nearby vicinity with the project site outlined in yellow.

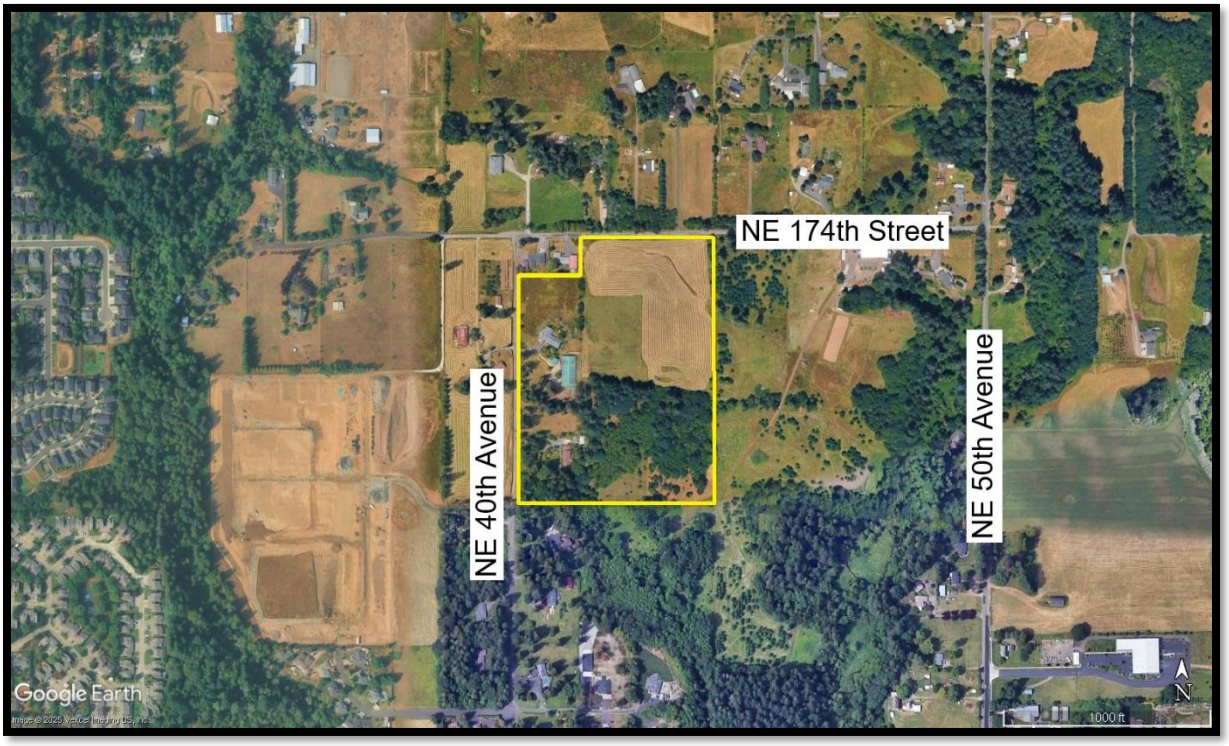


Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth)

Vicinity Streets

The study area is composed of 12 roadways near the site. Table 1 provides a description of each vicinity roadway.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Speed (MPH)	On-Street Parking	Curbs & Sidewalks	Bicycle Lanes
NE 199th Street	Clark County	Minor Arterial	40/50	Not Permitted	Partial South Side	None
NE 179th Street	Clark County	Principal Arterial	40/50	Not Permitted	Partial Both Sides	None
NE 174th Street	Clark County	Collector	35	Not Permitted	None	None
NE 159th Street	Clark County	Collector/Rural Minor Collector	40	Not Permitted	None	None
NE Salmon Creek Street/Avenue	Clark County	Minor Arterial/Collector Rural Minor Collector	40	Not Permitted	Partial Both Sides	Partial Both Sides
NE 134th Street	Clark County	Minor Arterial	35	None	Partial Both Sides	Partial Both Sides
NE 10th Avenue	Clark County	Minor Arterial	50	Not Permitted	None	None
NE 15th Avenue	Clark County	Minor Arterial	40	Not Permitted	Both Sides	Both Sides
NE 23rd Avenue	Clark County	Collector	35	Not Permitted	Partial Both Sides	Both Sides
NE 29th Avenue	Clark County	Minor Arterial	35/40	Partially Permitted	Partial Both Sides	Partial Both Sides
NE 50th Avenue	Clark County	Minor Arterial	40/50	Not Permitted	Partial Both Sides	None
NE 72nd Avenue	Clark County	Principal Arterial	50	Not Permitted	None	None

Table Notes: Functional classification based on Clark County MapsOnline GIS website.

Study Intersections

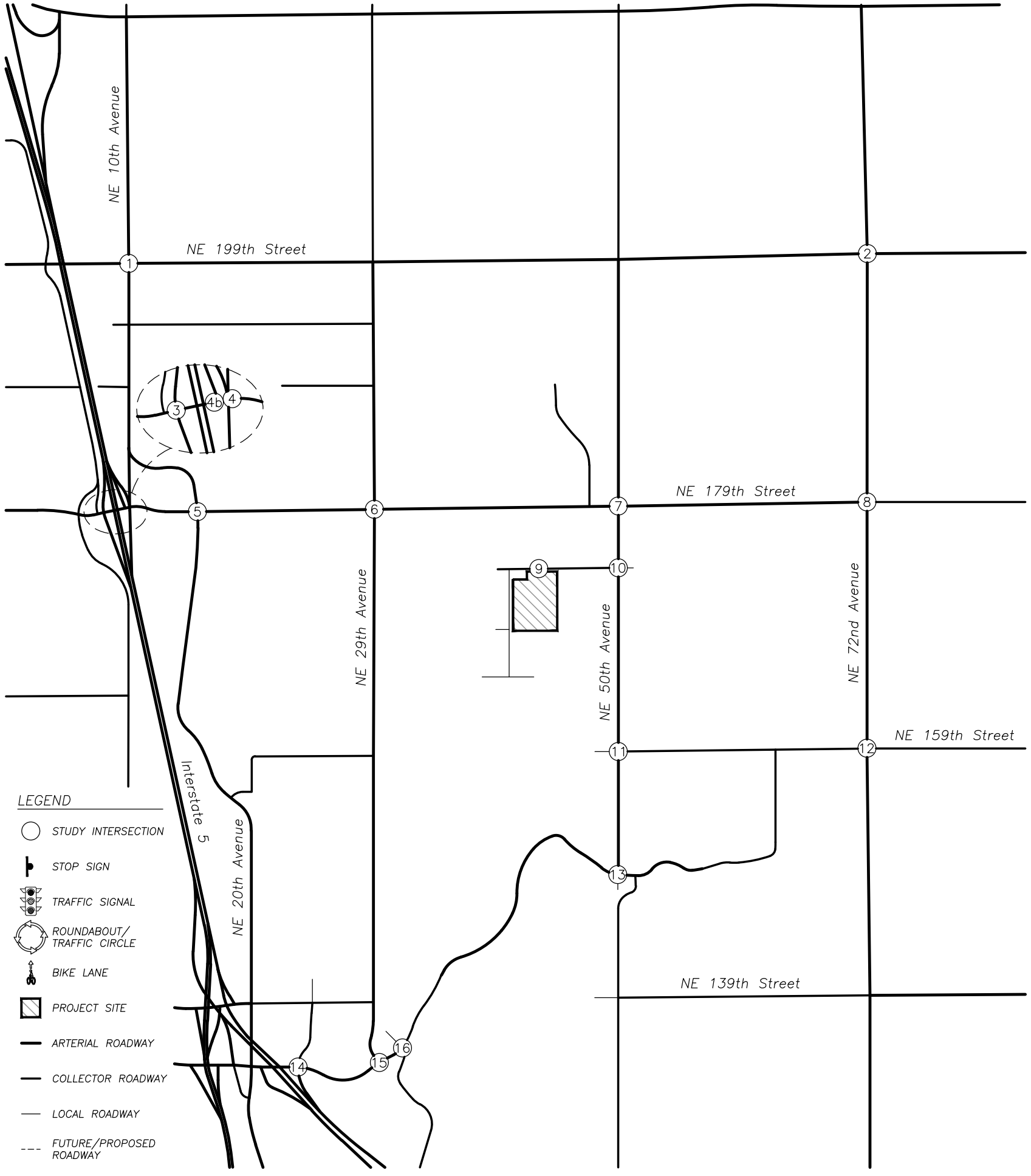
Based on correspondence with Clark County staff, an analysis of 15 existing nearby intersections of significance was conducted. A summarized description of these study intersections under their existing lane configurations is provided in Table 2.

Table 2: Study Intersection Descriptions

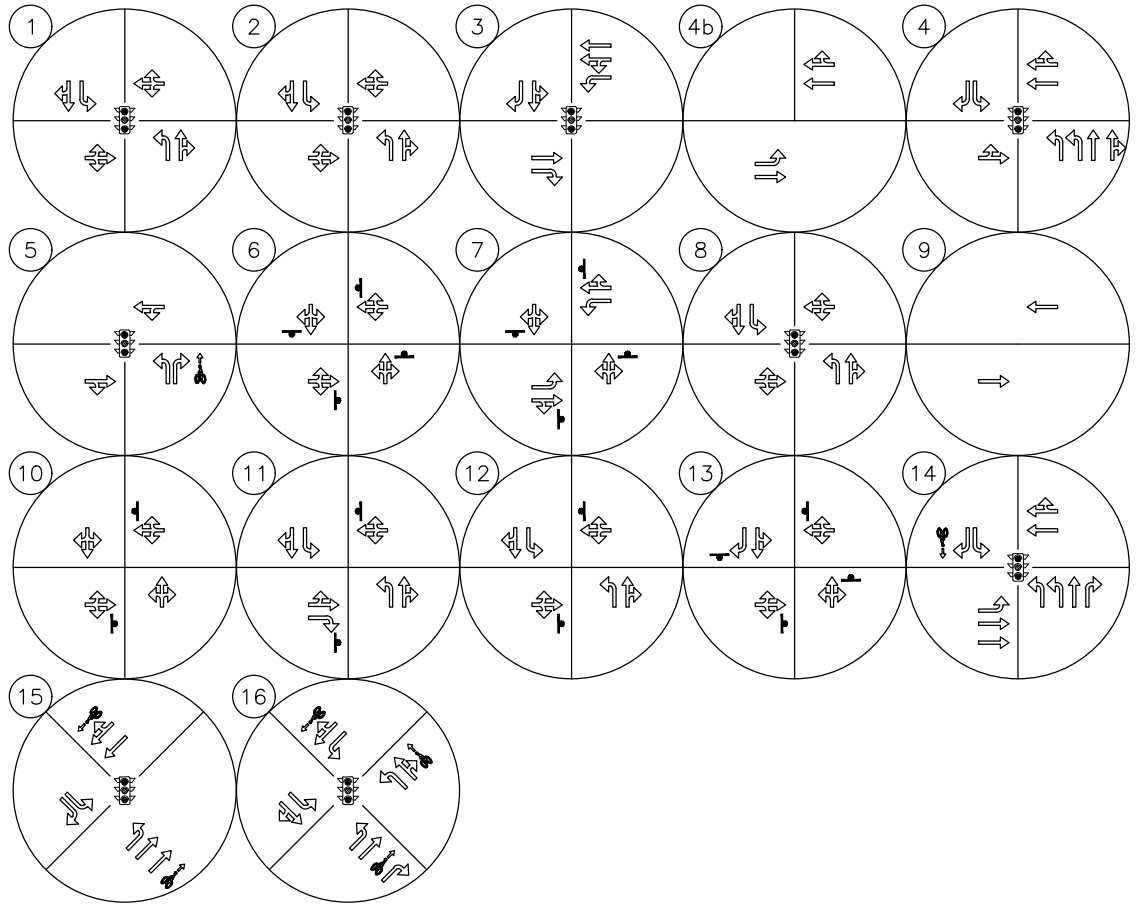
Number	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	NE 199th Street at NE 10th Avenue	Four-Legged	Traffic Signal	Protected NB/SB Left-turn Lanes
2	NE 199th Street at NE 72nd Avenue	Four-Legged	Traffic Signal	Protected NB/SB Left-turn Lanes, Split EB/WB Phasing
3	I-5 SB Ramps at NE 179th Street	Four-Legged	Traffic Signal	Split EB/WB Phasing
4	I-5 NB Ramps at NE 179th Street	Four-Legged	Traffic Signal	Protected NB/SB Left-turn Lanes, Overlap SB Right-turn Lane
5	NE 179th Street at NE 15th Avenue	Three-Legged	Traffic Signal	Permitted NB Left-turn Lane
6	NE 179th Street at NE 29th Avenue	Four-Legged	Stop-Controlled	All-Way Stop-Controlled
7	NE 179th Street at NE 50th Avenue	Four-Legged	Stop-Controlled	All-Way Stop-Controlled
8	NE 179th Street at NE 72nd Avenue	Four-Legged	Traffic Signal	Protected NB/SB Left-turn Lanes
10	NE 174th Street at NE 50th Avenue	Four-Legged	Stop-Controlled	Stop-Controlled EB/WB Approaches
11	NE 159th Street at NE 50th Avenue	Four-Legged	Stop-Controlled	Stop-Controlled EB/WB Approaches
12	NE 159th Street at NE 72nd Avenue	Four-Legged	Stop-Controlled	Stop-Controlled EB/WB Approaches
13	NE Salmon Creek Street at NE 50th Avenue (North T-Intersection)	Three-Legged	Stop-Controlled	All-Way Stop-Controlled
14	NE 134th Street at NE 23rd Avenue/I-205 Northbound Off-Ramp	Four-Legged	Traffic Signal	Split NB/SB Approaches, FYA EB Left-turn, South Leg NB Travel Only
15	NE 134th Street at NE 29th Avenue	Three-Legged	Traffic Signal	Protected SB Left/Right-turns, FYA EB Left-turn
16	NE 134th Street at NE Salmon Creek Avenue	Four-Legged	Traffic Signal	FYA Left-turns on all Approaches

Table Notes: Flashing-Yellow-Arrow denoted as FYA.

A vicinity map showing the project site, vicinity streets, and study intersection configurations are shown in Figure 2.



EXISTING INTERSECTION CONFIGURATIONS



PLANNED INTERSECTION CONFIGURATIONS

No Scale

Figure 2

174th Street Subdivision

12/4/2025

VICINITY MAP

lancaster mobley

Site Trips

Trip Generation

The proposed NE 174th Street Subdivision will include the construction of 100 single-family detached houses. Two existing single-family houses will be maintained and incorporated in the overall residential subdivision, whereby a net increase of 98 houses will be developed. To estimate the number of trips that will be generated by the proposed use, trip rates from the *Trip Generation Manual, 11th Edition*[1] were used. Data from the land use code 210, *Single-Family Detached Housing*, was used to estimate site trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed project is projected to generate 69 morning peak hour trips, 92 evening peak hour trips, and 926 average weekday trips. Note that after completion of an initial iteration of this Transportation Impact Study (TIS), a majority of the analysis reviewed trip impacts associated with 103 single-family detached houses. Since this prior analysis reviewed impacts of a larger development size, all capacity and warrant related analysis findings in this TIS pertaining to the proposed 100 single-family detached houses may be considered conservative.

The trip generation estimates for both the actual development size and analyzed development size are summarized in Table 3. Detailed trip generation calculations are included in the technical appendix.

Table 3: Trip Generation Summary

ITE Land Use Code		Size	AM Peak Hour			PM Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Existing Conditions									
210	Single-Family Detached Housing	2 units	0	1	1	1	1	2	18
Actual Development Conditions									
210	Single-Family Detached Housing	100 units	18	52	70	59	35	94	944
Actual Net Increase in Site Trip Generation (Actual Development - Existing Conditions)									
Net New Trips		**98 units**	**18**	**51**	**69**	**58**	**34**	**92**	**926**
Analyzed Development Conditions									
210	Single-Family Detached Housing	103 units	18	54	72	61	36	97	972
Analyzed Net Increase in Site Trip Generation (Analyzed Development - Existing Conditions)									
Net New Trips		**101 units**	**18**	**53**	**71**	**60**	**35**	**95**	**954**

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

Trip Distribution

The trip distribution used for the proposed development was referenced from the *Viers Subdivision PUD Transportation Impact Analysis* (TIA), dated December 2022. According to the TIA, the trip distribution was derived using the Southwest Washington Regional Transportation Council (RTC) transportation system model. The both the Viers Subdivision PUD and the project site are located in Transportation Analysis Zone (TAZ) #1983 (formerly #525), for which a select zone analysis was run to determine the distribution of site trips entering and exiting the zone. The following trip distribution is projected:

- Northwest and west of the project site (approximately 42% of site trips):
    - Approximately 2% of site trips will travel to/from the north along NE 10th Avenue, north of NE 199th Street.
    - Approximately 4% of site trips will travel to/from the west along NE 199th Street, west of NE 10th Avenue.
    - Approximately 2% of site trips will travel to/from the west along NE 179th Street, west of NE Delfel Road.
    - Approximately 2% of site trips will travel to/from the south along NE 10th Avenue, south of NE 179th Street.
    - Approximately 10% of site trips will travel to/from the north along I-5, north of NE 179th Street.
    - Approximately 21% of site trips will travel to/from the south along I-5, south of NE 179th Street.
    - Approximately 1% of site trips will travel to/from the south along NE 15th Avenue, south of NE 179th Street.
- North and east of the project site (approximately 16% of site trips):
    - Approximately 1% of site trips will travel to/from the north along NE 50th Avenue, north of NE 199th Street.
    - Approximately 6% of site trips will travel to/from the north along NE 72nd Avenue, north of NE 199th Street.
    - Approximately 5% of site trips will travel to/from the east along NE 199th Street, east of NE 72nd Avenue.
    - Approximately 4% of site trips will travel to/from the east along NE 179th Street, east of NE 72nd Avenue.
- South of the project site (approximately 42% of site trips):
    - Approximately 5% of site trips will travel to/from the west along NE Tenney Road, west of I-5.
    - Approximately 4% of site trips will travel to/from the south along NE 20th Avenue, south of NE 134th Street.
    - Approximately 2% of site trips will travel to/from the north along NE 23rd Avenue, north of NE 134th Street.

- Approximately 20% of site trips will travel to/from the south along I-205, south of NE 134th Street.
- Approximately 2% of site trips will travel to/from the south along NE 50th Avenue, south of NE 139th Street.
- Approximately 9% of site trips will travel to/from the south along NE 72nd Avenue, south of NE 139th Street.

Although within a two-mile radius of the site, several regionally significant intersections were determined as not requiring analysis based on limited site trip impacts. The following intersections were determined as not requiring analysis, with explanations for removal provided:

The following intersections will not be impacted by 5 or more peak hour trips. Therefore, no mitigation can be required as part of the application per Clark County Unified Development Code 40.350.020.G.1.c., not-with-standing safety improvements which may be necessary per section 40.350.030(B)(6):

A. NE 199th Street at NE 29th Avenue – 3 AM and PM peak hour trip impact.
B. NE 199th Street at NE 50th Avenue – 4 AM and PM peak hour trip impact.
C. NE 194th Street at NE 10th Avenue – 2 AM and 3 PM peak hour trip impact.
D. NE 194th Street at NE 29th Avenue – no peak hour trip impact.
E. NE 189th Street at NE 10th Avenue – 2 AM and 3 PM peak hour trip impact.
F. NE 189th Street at NE 29th Avenue – no peak hour trip impact.
G. NE 179th Street at NE Delfel Road – 2 AM and 4 PM peak hour trip impact.
I. NE 164th Street at NE 10th Avenue – no peak hour trip impact.
J. NE 149th Street at NE 10th Avenue – no peak hour trip impact.
K. NE 156th Street at NE Union Road – 1 AM and PM peak hour trip impact.
L. NE 159th Street at NE 29th Avenue – no peak hour trip impact.
N. NE Salmon Creek Street at NE 50th Avenue (South T-Intersection) – 1 AM and 2 PM peak hour trip impact.
O. NE 139th Street at NE 50th Avenue – 1 AM and 2 PM peak hour trip impact.
Q. NE 139th Street at NE 20th Avenue – no peak hour trip impact.
R. NE 139th Street at NE 23rd Avenue – no peak hour trip impact.
S. NE 139th Street at NE 29th Avenue – no peak hour trip impact.

Although impacted by 5 or more peak hour trips, the minor-street approaches of the following unsignalized County intersections will be impacted by less than 5 minor-street approaching trips whereby no mitigation can be required as part of the application per Clark County Unified Development Code 40.350.020.G.1.c., not-with-standing safety improvements which may be necessary per section 40.350.030(B)(6). Accordingly, the following intersections were determined as not requiring analysis.

H. NE 179th Street at NE 47th Avenue – 27 AM and 37 PM peak hour trip impact.

M. NE 159th Street at NE 64th Avenue – 6 AM and 8 PM peak hour trip impact.

P. NE 139th Street at NE 72nd Avenue – 6 AM and 8 PM peak hour trip impact.

The trip distribution and assignment for the site trips generated during the AM and PM peak hours are shown in Figure 3 and Figure 4 for the AM and PM peak hours, respectively. Trip assignment is depicted for both the study intersections and the aforementioned intersections that do not require detailed capacity or safety analyses.

Figure 3
174th Street Subdivision
12/4/2025

SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan - Site Trips
AM Peak Hour

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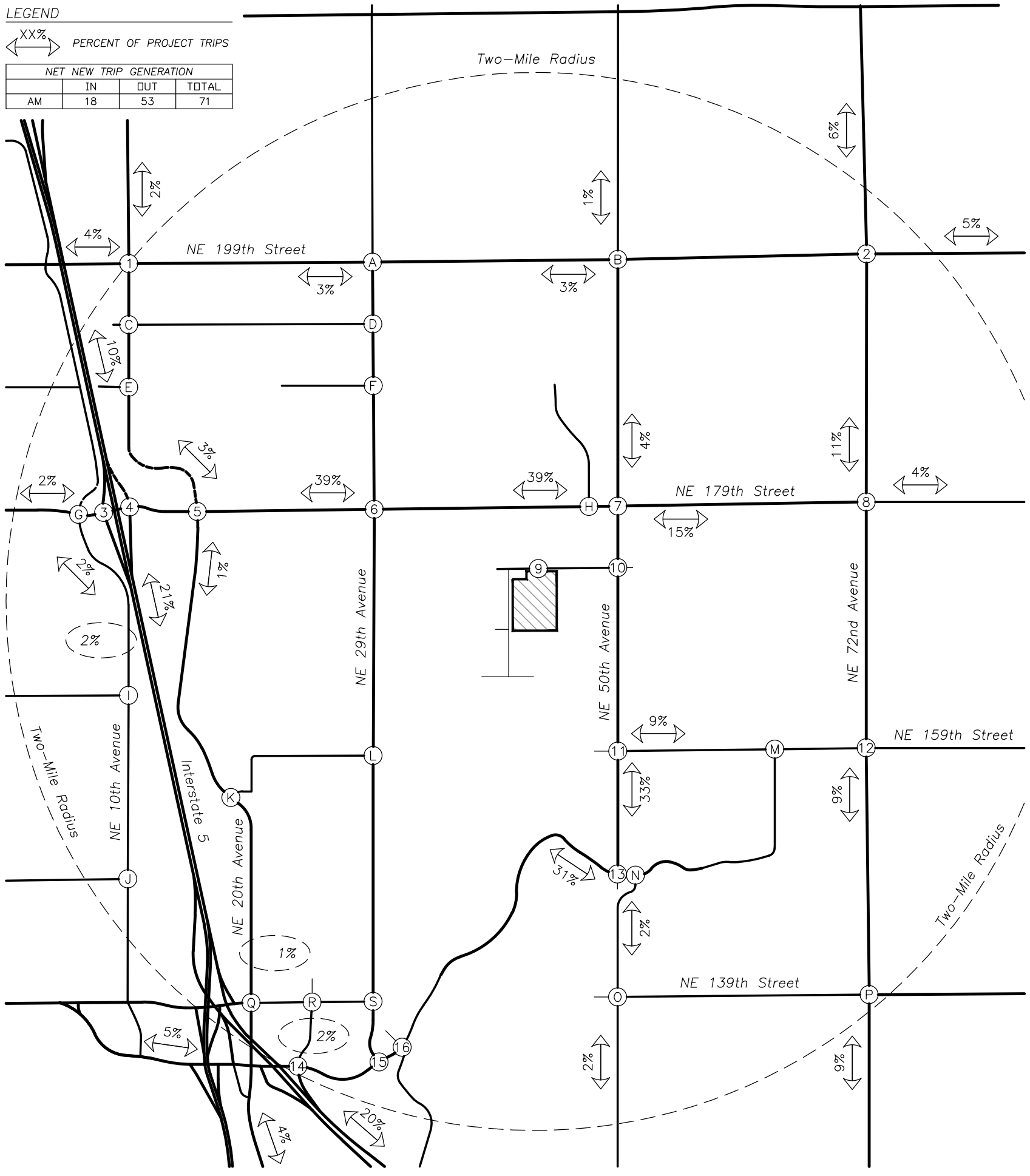
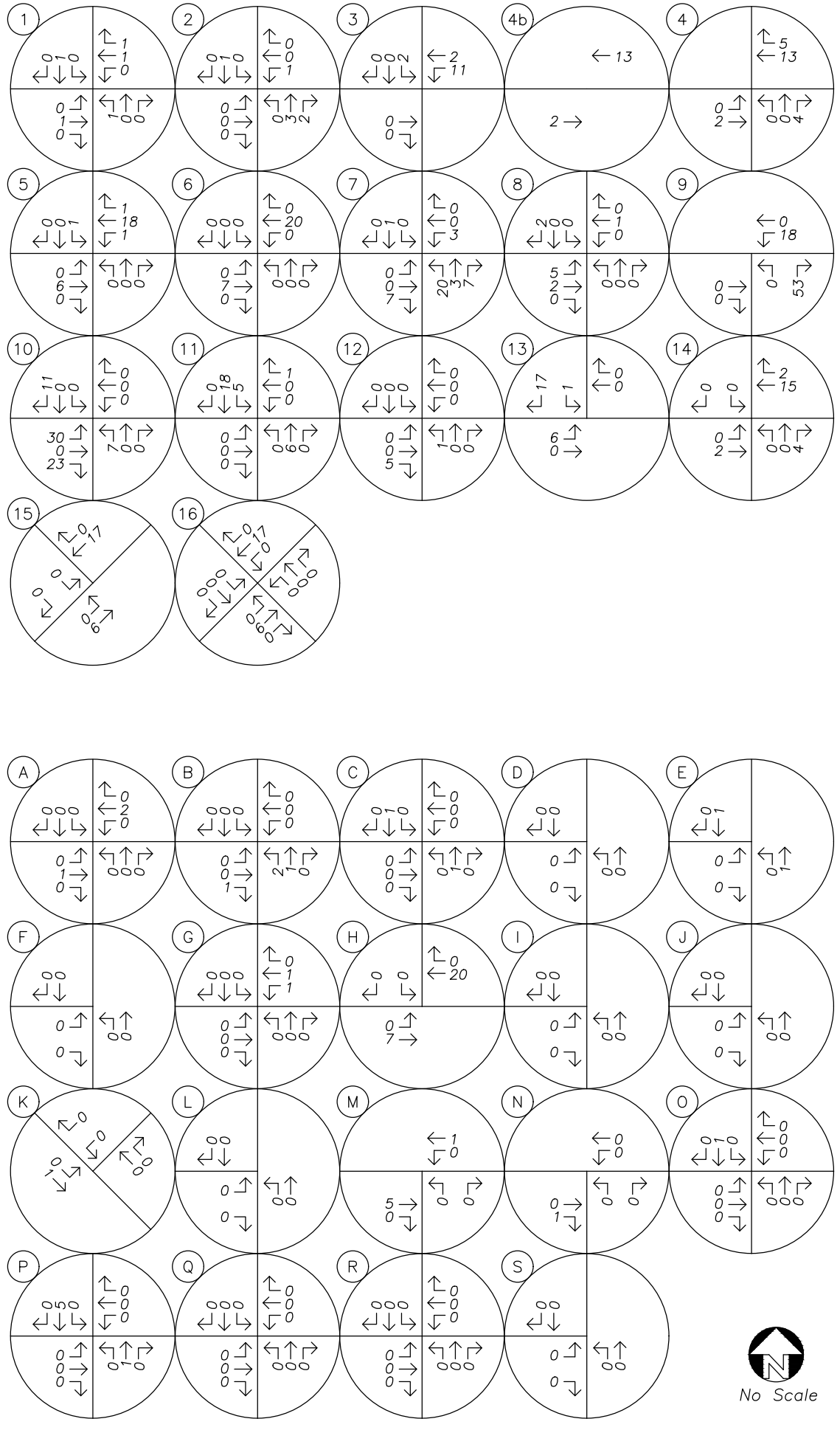
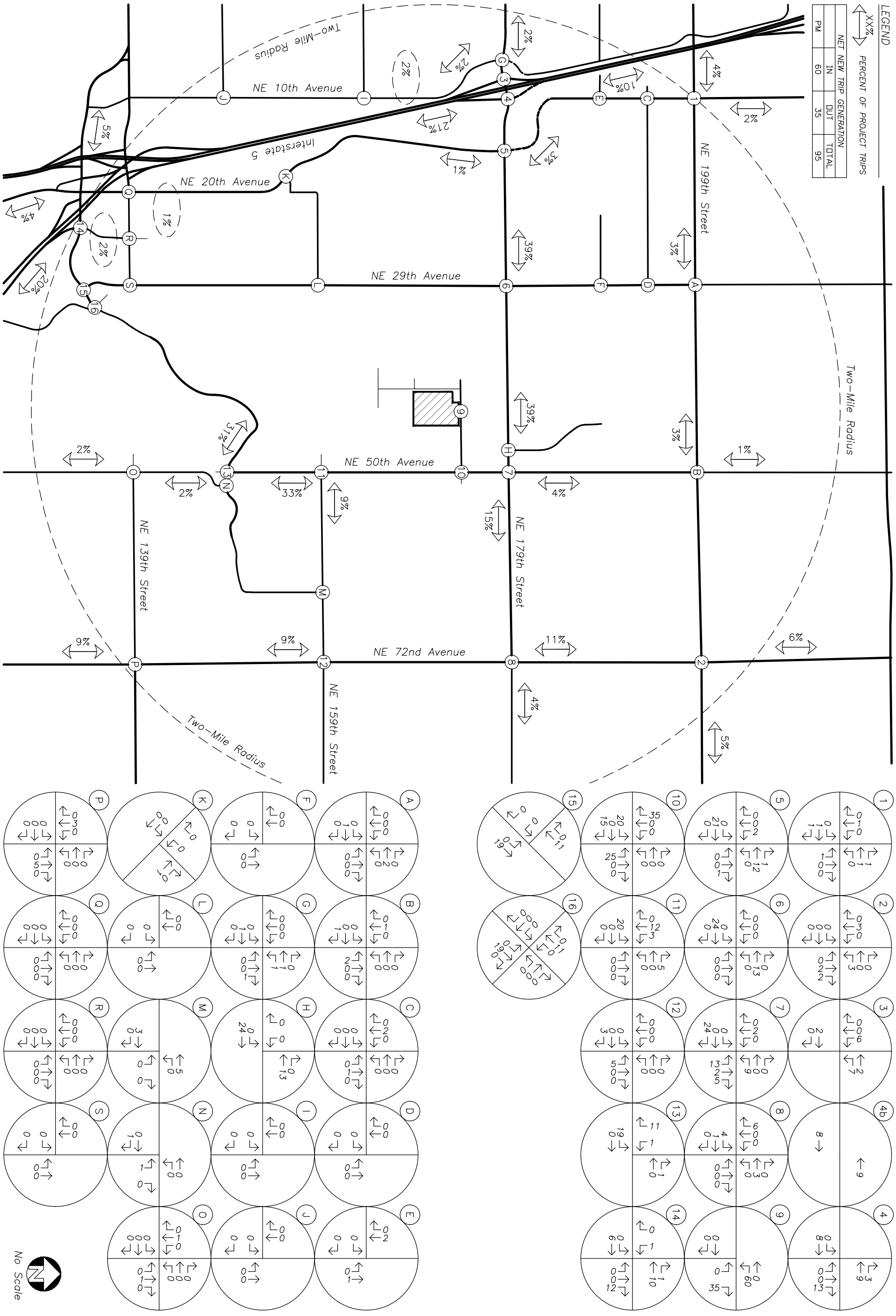






SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

PM Peak Hour

Figure 4

174th Street Subdivision

12/4/2025

Traffic Volumes

Existing Conditions

Data Collection

Traffic counts were conducted at the study intersections on the following dates from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM:

- Wednesday, January 22, 2025
- Tuesday, July 15, 2025
- Tuesday, August 5, 2025
- Wednesday, August 6, 2025

Data was used from each intersection's respective AM and PM peak hours.

Site Access Intersection Volumes

To estimate major street traffic volumes at the proposed site access location along NE 174th Street, volumes were balanced with those recorded at the intersection of NE 174th Street at NE 50th Avenue.

Figure 5 shows the year 2025 existing traffic volumes at the study intersections during the AM and PM peak hours.

Background Conditions

Volume Growth

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. In order to approximate the future year 2028 traffic volumes at the study intersections, a compounding growth rate of two percent per year for an assumed buildout condition of three years was applied to the year 2025 existing traffic volumes.

In-Process Data

In addition to the traffic volume growth described above, there are several in-process developments that are currently approved/proposed for construction within the site vicinity that are expected to impact nearby study intersections. These in-process developments include the following:

- South Ridge Central Apartments
- Mountain View Ridge PUD
- Skyview Station Shopping Center (approximately 58% constructed and occupied)
- Skyview Station East
- Mill Creek Terrace
- Mill Creek Meadows
- Washington State University Master Plan

- Mountain Estates Cluster Subdivision
- Whipple Creek Village Subdivision (approximately 95% constructed and occupied)
- Three Creeks North Phase 1 & 2
- 179th Street Commercial Center Phase 1 & 2
- Woodbrook Subdivision (aka Mill Creek PUD, approximately 20% constructed and occupied)
- M&H Subdivision
- North Haven Subdivision (approximately 75% constructed and occupied)
- Trails at Whipple Creek Subdivision (approximately 20% constructed and occupied)
- DSHS NE 50th Clark County Behavioral Health
- Majestic Industrial Centre
- Martin's Meadow Subdivision (approximately 10% constructed and occupied)
- NE 29th Avenue Subdivision
- Viers Subdivision
- The Highlands at Whipple Creek
- Maletis Distribution Center
- Mt Vista Logistics

The in-process developments are not currently/fully contributing trips to the transportation system but may potentially be by the assumed 2028 buildout year of the site. Additional trips corresponding to each in-process development were added to the existing year traffic volumes in addition to the three years of traffic growth at each of the applicable study intersections. To maintain a conservative analysis of operation at the study intersections, all in-process developments were assumed to be constructed by year 2028.

Figure A in the technical appendix shows the in-process development trips at the study intersections during the AM and PM peak hours.

Planned Transportation Infrastructure Revisions

Several planned transportation improvement projects were analyzed under the future year traffic conditions. According to the Clark County's *Northeast 179th Street Corridor Improvements* project website[2], the Washington Department of Transportation's (WSDOT) *I-5 – 179th Street Interchange – Interchange Improvements* website[3] project, and the 2025-2030 Transportation Improvement Program (TIP), these projects include the following:

[2] "Northeast 179th Street Corridor Improvements | Clark County." Clark County, clark.wa.gov/public-works/northeast-179th-street-corridor-improvements.

[3] I-5 - 179th St. Interchange - Interchange Improvements | WSDOT. 17 June 2024, wsdot.wa.gov/construction-planning/search-projects/i-5-179th-st-interchange-interchange-improvements.

- The I-5 northbound on-ramp will be reconstructed opposite the existing I-5 off-ramp location along NE 179th Street.
- Reconstruct the I-5/NE 179th Street interchange as roundabouts at the ramp terminals. According to WSDOT, the interchange design phase will begin in Spring 2025, construction is expected to begin in 2028 and will be completed by 2031.
- NE 10th Avenue, just north of NE 179th Street and opposite of the I-5 northbound off-ramp, will be closed and reconstructed at a location opposite of NE 15th Avenue along NE 179th Street (2025-2030 TIP Project C). Clark County's *179th Street Circulation and Access Management Plan*, dated July 2023, indicates the intersection of NE 15th Avenue at NE 179th Street will be reconstructed as a roundabout. The anticipated lane configuration of the intersection was referenced from a WSDOT concept design for the NE 179th Street interchange improvement project. Construction is estimated to occur between 2028 and 2030.
- The intersection of NE 179th Street at NE 29th Avenue will be reconstructed as a roundabout (2025-2030 TIP Project G). The initial design will include a single circulating lane but will be sized to be expandable as a multilane roundabout once NE 179th Street is widened to four lanes. The design phase of the project is currently ongoing, and construction is estimated to occur sometime between 2025 and 2028.
- In the near-term, the intersection of NE 179th Street at NE 50th Avenue will be redesigned to include dedicated left-turn lanes and shared through/right-turn lanes on the eastbound and westbound approaches (2025-2030 TIP Project H). In the future the intersection will be reconstructed as a multilane roundabout; however, this is not expected to occur until post-2030. At the time of writing reconstruction of the intersection with dedicated eastbound and westbound left-turn lanes has already occurred.
- NE 179th Street will be widened to accommodate two eastbound travel lanes, two westbound travel lanes, and a center median/turn lane. This roadway widening project will occur in phases:
    - Between NE 10th Avenue and NE 15th Avenue (2025-2030 TIP Project A). The project will be constructed in collaboration with WSDOT as part of the I-5 interchange improvement project. Construction is estimated to occur sometime between 2028 and 2029.
    - Between NE 15th Avenue and NE 26th Avenue (2025-2030 TIP Project F). Construction is estimated to occur sometime between 2028 and 2030.
    - Between NE 29th Avenue and NE 50th Avenue (2025-2030 TIP Project 3). Construction is estimated to occur post-2030.

Although not a part of the NE 179th Street corridor improvement projects, as part of the Viers PUD application, a dedicated northbound left-turn lane will be constructed at the intersection of NE 174th Street at NE 50th Avenue.

It is assumed that the future year 2028 conditions would reflect the aforementioned revisions to the transportation system, excluding the NE 179th Street widening project between NE 29th Avenue and NE 50th Avenue and the reconstruction of the NE 179th Street at NE 50th Avenue intersection as a roundabout, both of which are estimated to occur well after construction of the proposed NE 174th Street Subdivision project. Rerouted peak hour traffic volumes associated with the relocation of NE 10th Avenue and the I-5 northbound

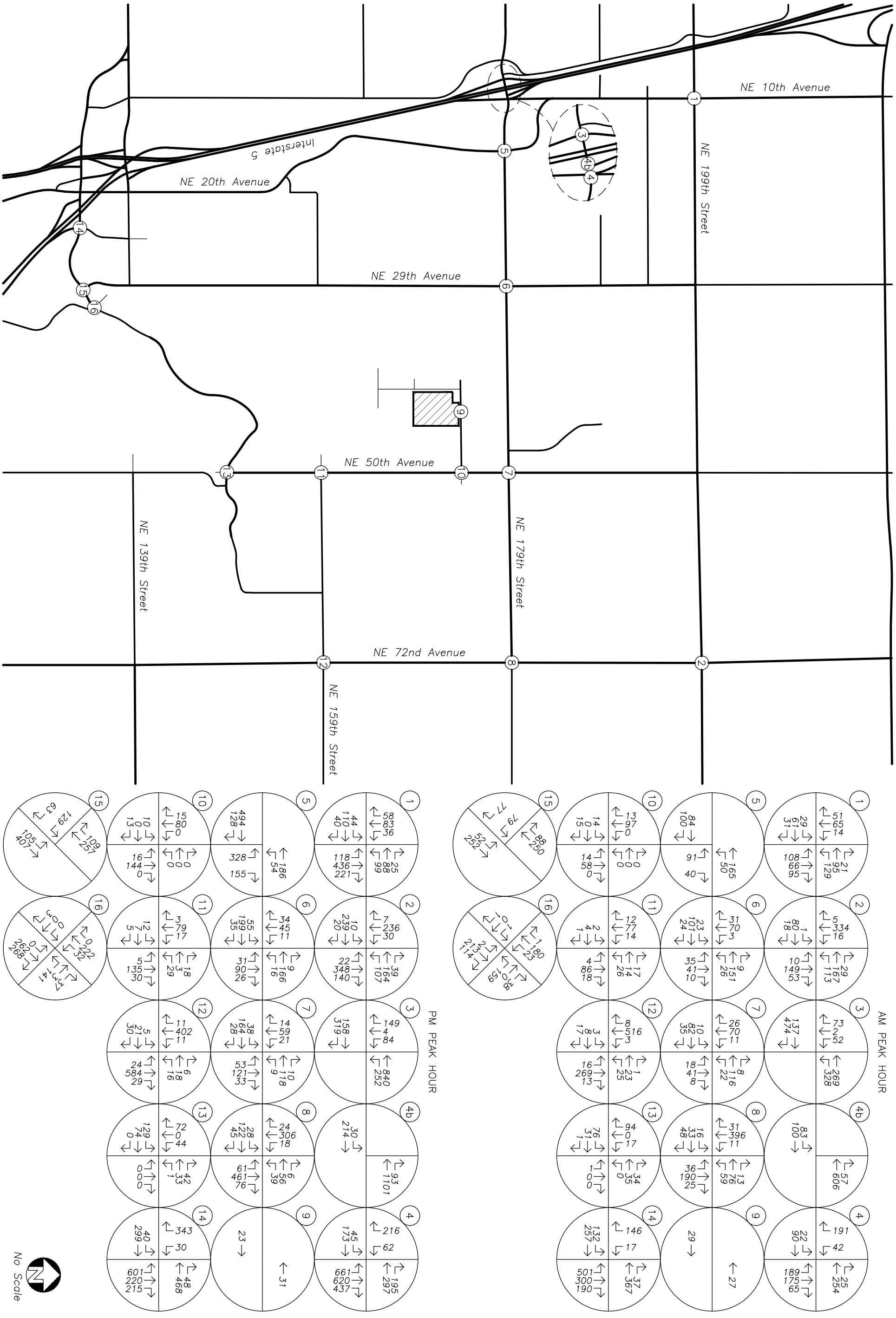
on-ramp are shown in Figure B in the technical appendix. Note that Figure B shows the rerouted 2028 volumes after applying the annual two percent per year growth rates over a three-year period to the existing year traffic volumes.

Figure 2 presents the future planned intersection configurations. Figure 6 shows the projected year 2028 background traffic volumes at the study intersections during the AM and PM peak hours.

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 projected year 2028 background traffic volumes to obtain the expected 2028 site buildout volumes.

Figure 7 show the year 2028 buildout traffic volumes at the study intersections during the AM and PM peak hours.



TRAFFIC VOLUMES

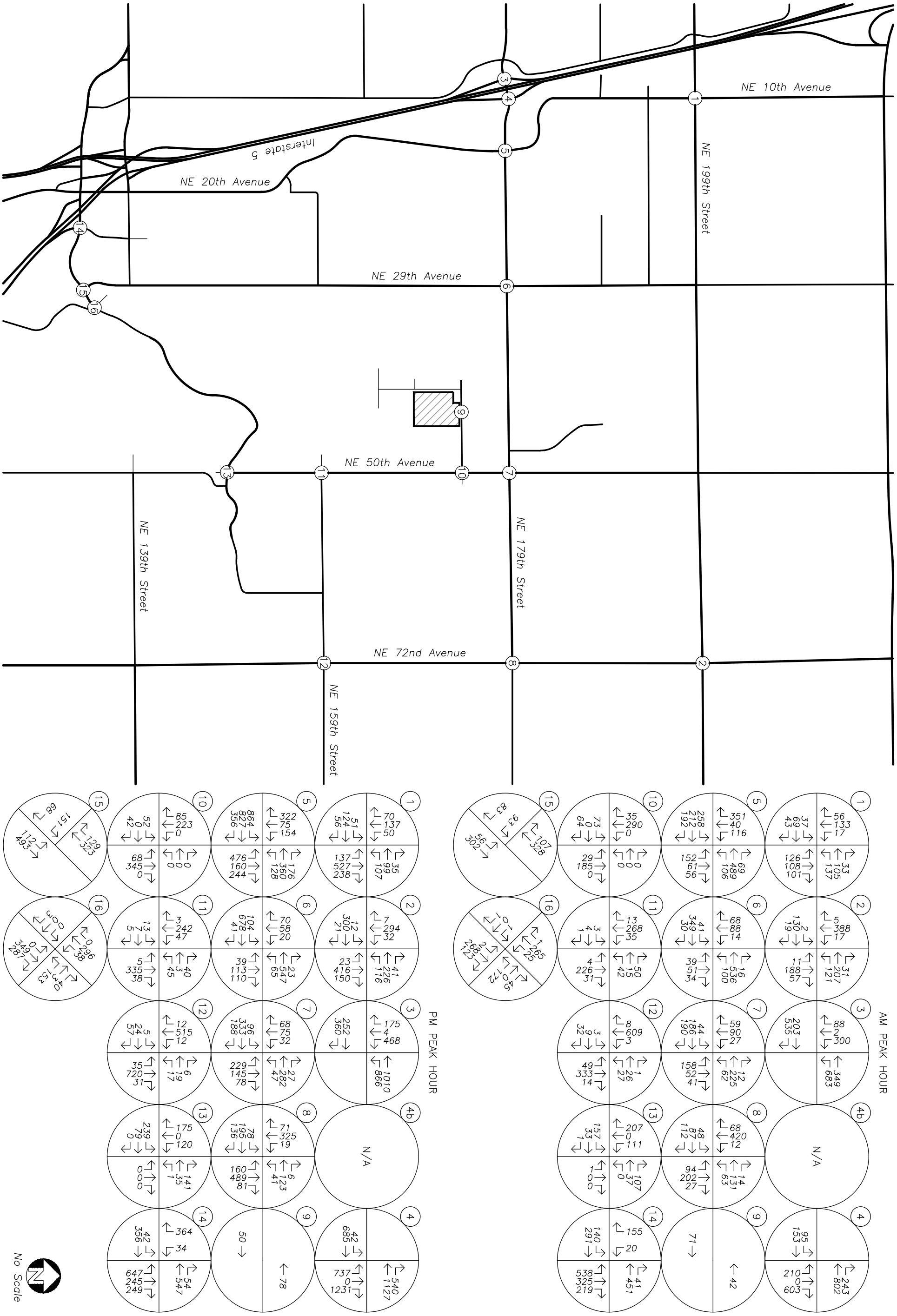
Year 2025 Existing Conditions

AM & PM Peak Hours

Figure 5

174th Street Subdivision

12/4/2025



TRAFFIC VOLUMES

Year 2028 Background Conditions

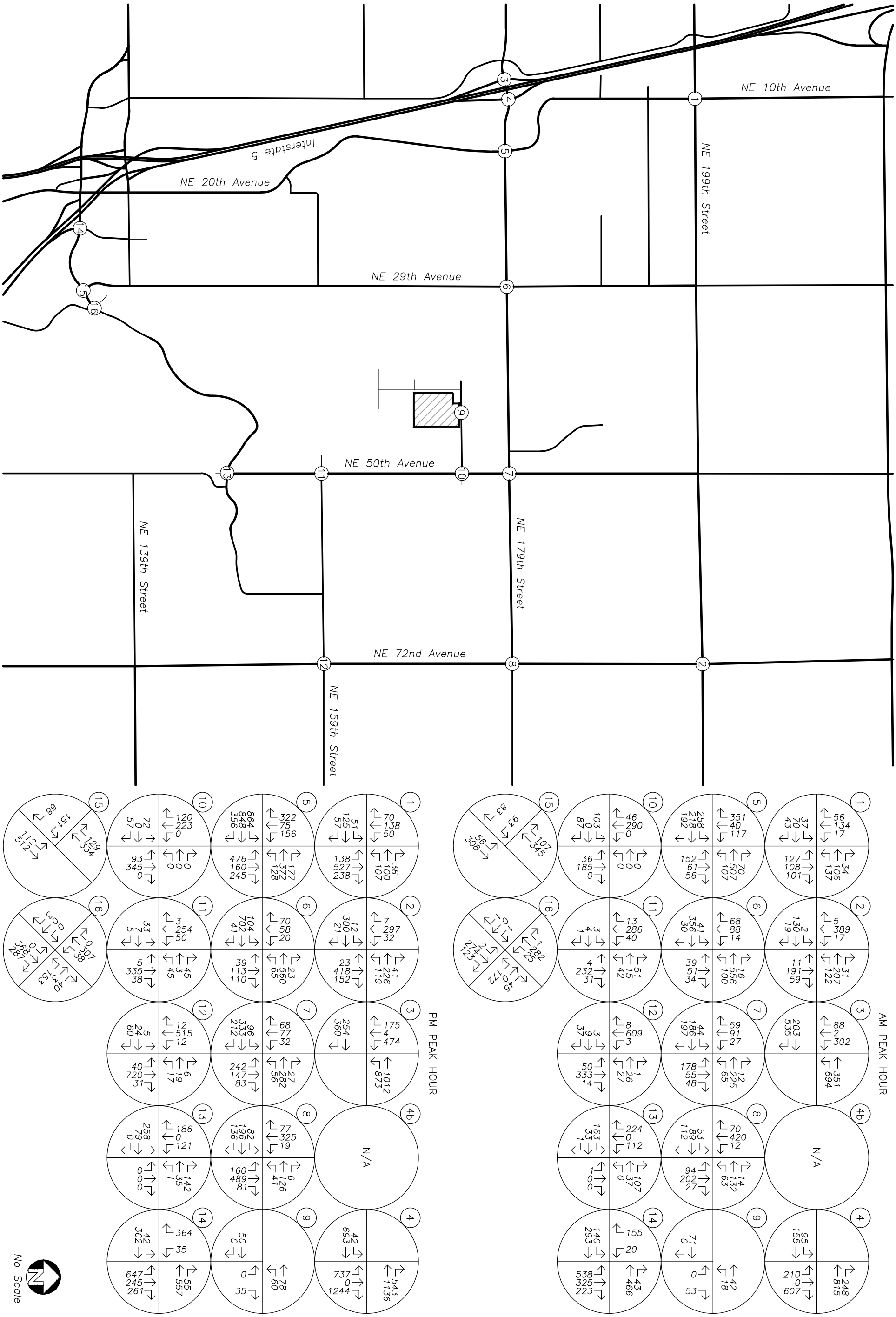
AM & PM Peak Hours

lancaster mobley

Figure 6

174th Street Subdivision

12/4/2025



TRAFFIC VOLUMES

Year 2028 Buildout Conditions

AM & PM Peak Hours

lancaster mobley

Figure 7

174th Street Subdivision

12/4/2025

Safety Analysis

Crash History Review

Using data obtained from the Washington Department of Transportation (WSDOT) Crash Data and Reporting Branch, a review of the most recent available five years of crash history (January 2020 to December 2024) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection.

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the PM 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.

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

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

Table 4 provides a summary of crash types while Table 5 summarizes crash severities and rates for each of the applicable study intersections. Due to the close proximity of the I-5 northbound off and on-ramp intersections (i.e., Intersection 4 and 4b), crash data was consolidated between the two intersections. Crash data is included in the technical appendix to this report.

Table 4: Crash Type Summary

No.	Intersection	Crash Type							Total
		Rear End	Turn	Angle	Fixed Object	Side swipe	Ped/ Bike	Other	
1	NE 199th Street at NE 10th Avenue	1	4	0	2	0	0	0	7
2	NE 199th Street at NE 72nd Avenue	4	1	1	0	0	0	0	6
3	I-5 SB Ramps at NE 179th Street	0	2	0	0	0	0	0	2
4b	I-5 NB On-Ramp at NE 179th Street	1	4	4	0	0	0	1	10
4	I-5 NB Off-Ramp/NE 10th Avenue at NE 179th Street								

Table 4: Crash Type Summary (Continued)

No.	Intersection	Crash Type							Total
		Rear End	Turn	Angle	Fixed Object	Side swipe	Ped/ Bike	Other	
5	NE 179th Street at NE 15th Avenue	0	5	0	0	0	0	0	5
6	NE 179th Street at NE 29th Avenue	1	2	10	0	0	0	0	13
7	NE 179th Street at NE 50th Avenue	1	1	3	0	0	0	0	5
8	NE 179th Street at NE 72nd Avenue	4	0	5	1	0	0	0	10
10	NE 174th Street at NE 50th Avenue	0	0	0	0	0	0	0	0
11	NE 159th Street at NE 50th Avenue	0	0	4	0	0	0	0	4
12	NE 159th Street at NE 72nd Avenue	0	5	4	0	0	0	0	9
13	NE Salmon Creek Street at NE 50th Avenue	0	1	0	0	0	0	0	1
14	NE 134th Street at NE 23rd Avenue/I-205 NB Off-Ramp	5	7	1	0	0	0	2	15
15	NE 134th Street at NE 29th Avenue	0	1	0	1	0	0	1	3
16	NE 134th Street at NE Salmon Creek Avenue	2	1	0	0	1	0	0	4

Table 5: Crash Severity and Rate Summary

No.	Intersection	Crash Severity						Total Crashes	AADT	Crash Rate
		NA	P	SM	SS	Fatal	Unknown			
1	NE 199th Street at NE 10th Avenue	6	0	1	0	0	0	7	13,580	0.28
2	NE 199th Street at NE 72nd Avenue	3	0	2	0	1	0	6	13,620	0.24
3	I-5 SB Ramps at NE 179th Street	2	0	0	0	0	0	2	18,060	0.06
4b	I-5 NB On-Ramp at NE 179th Street	6	2	2	0	0	0	10	27,060	0.20
4	I-5 NB Off-Ramp/NE 10th Avenue at NE 179th Street									

Table Notes: AADT at Intersection 4 (not 4b) was utilized to calculate the crash rate.

Table 5: Crash Severity and Rate Summary (Continued)

No.	Intersection	Crash Severity						Total Crashes	AADT	Crash Rate
		NA	P	SM	SS	Fatal	Unknown			
5	NE 179th Street at NE 15th Avenue	4	1	0	0	0	0	5	13,450	0.20
6	NE 179th Street at NE 29th Avenue	8	4	1	0	0	0	13	7,170	0.99
7	NE 179th Street at NE 50th Avenue	4	0	0	0	0	1	5	6,680	0.41
8	NE 179th Street at NE 72nd Avenue	6	3	1	0	0	0	10	12,420	0.44
10	NE 174th Street at NE 50th Avenue	0	0	0	0	0	0	0	2,780	0.00
11	NE 159th Street at NE 50th Avenue	3	0	1	0	0	0	4	3,430	0.64
12	NE 159th Street at NE 72nd Avenue	4	1	4	0	0	0	9	11,570	0.43
13	NE Salmon Creek Street at NE 50th Avenue	0	1	0	0	0	0	1	3,950	0.14
14	NE 134th Street at NE 23rd Avenue/I-205 NB Off-Ramp	11	1	3	0	0	0	15	22,640	0.36
15	NE 134th Street at NE 29th Avenue	3	0	0	0	0	0	3	10,700	0.15
16	NE 134th Street at NE Salmon Creek Avenue	3	1	0	0	0	0	4	9,680	0.23

Per Table 5, the intersection of NE 179th Street at NE 29th Avenue was found to be nearing a crash rate of 1.00 CMEV. All but one of the reported collisions at the intersection were either turning movement or angle type crashes. The intersection is planned for reconstruction as a roundabout sometime between 2025 through 2028. Per WSDOT's Traffic Safety Methods website[4] roundabouts often reduce the overall number of recurring crashes at signalized and stop-controlled intersections by approximately 37 percent. Therefore, the overall crash rate at the intersection is expected to decrease to approximately 0.62 CMEV after this intersection improvement has been implemented. No additional mitigation is necessary or recommended.

The intersection of NE 199th Street at NE 72nd Avenue had one reported crash that resulted in a fatality. The crash occurred on Monday, February 8, 2021, at approximately 11:12 AM. According to the WSDOT crash data, the crash occurred when the driver of an eastbound left-turning truck was operating their vehicle while under the influence of alcohol and drugs, disregarded traffic controls, and collided with a southbound truck. Driving and roadway conditions at the time of the crash were during daylight hours with overcast weather and wet

[4] Traffic Safety Methods | WSDOT. 1 August 2024, https://wsdot.wa.gov/travel/traffic-safety-methods.

roads. One of the people involved in the collision was transported to a hospital where they died, while another person was reported to have sustained injuries.

Based on a review of the crash data, no significant trends or crash patterns were identified at any of the study intersections beyond the intersection of NE 179th Street at NE 29th Avenue that are indicative of safety concerns. Planned improvements at the intersection of NE 179th Street at NE 29th Avenue are expected to reduce the overall number of recurring crashes at the intersection. No other crash-related mitigation is necessary or recommended as part of the NE 174th Street Subdivision application.

Sight Distance Evaluation

Sight Distance Definitions and Methodologies

Intersection and stopping sight distances were measured at the proposed site access intersection along NE 174th Street. Sight distances were measured and evaluated at the intersection in accordance with standards established in *A Policy of Geometric Design of Highways and Streets*[5], as well as per Clark County standards.

Intersection sight distance is an operational measure, intended to provide sufficient line of sight along the major-street so that a driver can enter the roadway without impeding the flow of through traffic. For intersection sight distance, the driver's eye is assumed to be 15 feet from the near edge of the nearest travel lane (or traveled way) of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The oncoming vehicle driver's eye height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

Stopping sight distance is considered the minimum requirement to ensure safe operation of an intersection with respect to sight lines. This distance allows the driver of a vehicle traveling on the major-street to react to a turning vehicle or other object in the roadway and, if necessary, come to a complete stop to avoid a collision. To ensure safe operation, the extent of available intersection sight distance must at least equal the minimum required stopping sight distance. For stopping sight distance, the major-street approaching driver's eye height is 3.5 feet while an object height of 2 feet above the street pavement is used.

According to Clark County Unified Development Code section 40.350.030.B.8, the minimum recommended intersection sight distance is based on ten times the posted/statutory speed of the roadway. However, alternative standards may be considered provided intersection sight distance cannot reasonably be met. Stopping sight distances were based on Table 40.350.030-7 of the County's code.

Based on a posted speed of 35 mph along NW 174th Street, the following minimum intersection and stopping sight distances are applicable to the proposed site access intersection:

- Intersection Sight Distance: 350 feet to the east and west.
- Stopping Sight Distance: 250 feet to the east and west, considering the major-street eastbound approach grades are <3.0% over a 300-foot distance.

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

Sight Distance Measurements

Field measurements were conducted at the proposed site access intersection on Monday, September 8, 2025. Due to a roadside ditch and on-site foliage near the access, sight distances were measured along the edge of the roadway rather than the standard 15 feet behind the edge of the traveled way. However, no other obstructions were noted either on-site or along the roadway which would reduce sight distances to less than those measured in the field if measurements had been conducted at the standard 15-foot distance.

Provided any obstructing on-site foliage is either removed or properly maintained following redevelopment of the project site, intersection and stopping sight distances to the east and west of the site access location were measured to be in excess of 350 feet.

Analysis Summary

Based on the sight distance analysis and provided any obstructing on-site foliage is either removed or properly maintained following redevelopment of the site, adequate intersection and stopping sight distances can be made available at the proposed site access intersection to allow for safe and efficient operation along NE 174th Street. No other sight distance related mitigation is necessary or recommended.

Warrant Analysis

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

Left-Turn Lane Warrants

Left-turn lane warrants were evaluated at the proposed site access intersection along NE 174th Street. A left-turn refuge lane is primarily a safety consideration for the major-street, removing left-turning vehicles from the through traffic stream. To evaluate left-turn lane warrants, section *1310.02(13) Left-Turn Lanes and Turn Radii* and *Exhibit 1310-9 Left-Turn Storage Guidelines: Two-Lane, Unsignalized* from the WSDOT Design Manual were referenced. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles, the number of turning vehicles, the travel speed, and the number of through lanes.

Since the total design hour volumes along NE 174th Street will not meet or exceed 300 vehicles during the AM and PM peak hours, left-turn lane warrants are not projected to be met at the site access intersections by the 2028 site buildout year per Exhibit 1310-9 of the WSDOT Design Manual. Since the installation of a dedicated left-turn lane at the site access intersection is not necessary, no new turn lanes are recommended for installation as part of this proposed development.

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for the unsignalized study intersections, where applicable, to determine whether the installation of a new traffic signal will be warranted at the intersections by the 2028 site buildout year. Based on the preliminary analysis following a review of Warrant 1 in the *Manual on Uniform Traffic Control Devices*, or MUTCD, traffic signal warrants are not projected to be met at any of the applicable unsignalized study intersections by the 2028 site buildout year. Therefore, no new traffic signals are necessary or recommended as part of the proposed development application.

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)[6]. 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

According to Clark County's Unified Development Code, Title 40.350 – *Transportation and Circulation*, Clark County's 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.

The I-5 ramp intersections along NE 179th Street and the intersection of NE 134th Street at NE 23rd Avenue/I-205 Northbound Off-Ramp operate under the jurisdiction of WSDOT. According to the Revised Code of Washington (RCW) 47.06.140(2):

> *The department of transportation, in consultation with local governments, shall set level of service standards for state highways and state ferry routes of statewide significance. Although the department shall consult with local governments when setting level of service standards, the department retains authority to make final decisions regarding level of service standards for state highways and state ferry routes of statewide significance. In establishing level of service standards for state highways and state ferry routes of statewide significance, the department shall consider the necessary balance between providing for the free interjurisdictional movement of people and goods and the needs of local communities using these facilities…*

Consistent with other transportation studies conducted in the nearby vicinity, it was assumed the I-5 and I-205 ramp intersections along NE 179th Street and NE 134th Street would defer to Clark County mobility standards.

Delay & Capacity Analysis

The study intersections were analyzed utilizing methodologies and parameters detailed in the *WSDOT Synchro & SimTraffic Protocol* document. Of specific note, the following peak hour factors (PHF) were incorporated in the analysis models:

- For existing year conditions, a PHF of no less than 0.80 was applied to each study intersection.

[6] Transportation Research Board, *Highway Capacity Manual 7th Edition*, 2022.

- For future year conditions, for study intersections where count data recorded a PHF of 0.90 or greater, the PHF was increased to 1.0.
- In order to better avoid showing a future year scenario with lower delays than under existing conditions, for study intersections where count data recorded a PHF of 0.89 or less the PHF was increased to 0.92. The exception to this rule is when an intersection was reported to operate at LOS E or F under 2028 conditions, where the PHF was increased to 1.0. In situations when intersection congestion becomes heavier, often PHF's tend to converge toward 1.0.

Due to the lane configuration at the signalized study intersection of NE 179th Street at NE 15th Avenue (i.e., non-NEMA phasing), the HCM 7th Edition methodology utilizing Trafficware's Synchro 12 software does not provide capacity outputs for this intersection under existing conditions. Therefore, the reported results at this intersection are based on HCM 2000 methodologies.

For future year 2028 conditions, the following intersections were modeled as roundabouts.

3. I-5 Southbound Ramps at NE 179th Street
4. I-5 Northbound Ramps at NE 179th Street
5. NE 179th Street at NE 15th Avenue
6. NE 179th Street at NE 29th Avenue

Sidra software was used to model these intersections in accordance with the *WSDOT Synchro & SimTraffic Protocol* and *WSDOT Sidra Policy Settings* documents.

The LOS, delay, and v/c results of the capacity analysis are shown in Table 6 for the AM and PM peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 6: Intersection Capacity Analysis Summary

Analysis Scenario	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1. NE 199th Street at NE 10th Avenue						
2025 Existing Conditions	B	10	-	B	15	-
2028 Background Conditions	B	11	-	B	17	-
2028 Buildout Conditions	B	11	-	B	17	-
2. NE 199th Street at NE 72nd Avenue						
2025 Existing Conditions	B	18	-	C	34	-
2028 Background Conditions	C	23	-	D	44	-
2028 Buildout Conditions	C	23	-	D	45	-
3. I-5 Southbound Ramps at NE 179th Street						
2025 Existing Conditions	B	10	-	B	11	-
2028 Background Conditions[1]	A	8	0.53	A	8	0.75
2028 Buildout Conditions[1]	A	8	0.54	A	8	0.75
4. I-5 Northbound Ramps at NE 179th Street						
2025 Existing Conditions	B	10	-	B	15	-
2028 Background Conditions[1]	A	6	0.42	C	25	>1.00
2028 Buildout Conditions[1]	A	6	0.43	C	26	>1.00
5. NE 179th Street at NE 15th Avenue						
2025 Existing Conditions	A	6	0.28	B	13	0.72
2028 Background Conditions[1]	A	8	0.37	C	34	>1.00
2028 Buildout Conditions[1]	A	8	0.38	D	37	>1.00
6. NE 179th Street at NE 29th Avenue						
2025 Existing Conditions	A	9	0.29	B	11	0.46
2028 Background Conditions[1]	A	7	0.65	A	9	0.80
2028 Buildout Conditions[1]	A	8	0.67	A	10	0.82
7. NE 179th Street at NE 50th Avenue						
2025 Existing Conditions	A	9	0.23	B	11	0.33
2028 Background Conditions	C	20	0.76	**F**	66	>1.00
2028 Buildout Conditions	C	22	0.80	**F**	78	>1.00

Table Notes: ***BOLDED*** *text indicates intersection operation above jurisdictional standards.*

[1] *Intersection analyzed as a roundabout.*

Table 6: Intersection Capacity Analysis Summary (Continued)

Analysis Scenario	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
8. NE 179th Street at NE 72nd Avenue						
2025 Existing Conditions	A	9	-	B	10	-
2028 Background Conditions	B	12	-	B	15	-
2028 Buildout Conditions	B	12	-	B	15	-
9. Site Access at NE 174th Street						
2028 Buildout Conditions	A	9	0.06	A	9	0.04
10. NE 174th Street at NE 50th Avenue						
2025 Existing Conditions	A	10	0.05	B	10	0.04
2028 Background Conditions[2]	C	16	0.30	C	19	0.28
2028 Buildout Conditions[2]	C	18	0.44	C	24	0.43
11. NE 159th Street at NE 50th Avenue						
2025 Existing Conditions	B	11	0.10	B	11	0.09
2028 Background Conditions	C	15	0.24	C	18	0.24
2028 Buildout Conditions	C	16	0.25	C	20	0.26
12. NE 159th Street at NE 72nd Avenue						
2025 Existing Conditions	C	23	0.21	D	30	0.23
2028 Background Conditions	D	32	0.29	**F**	50	0.35
2028 Buildout Conditions	D	32	0.29	**F**	52	0.36
13. NE Salmon Creek Avenue at NE 50th Avenue						
2025 Existing Conditions	A	8	0.17	A	9	0.29
2028 Background Conditions	A	10	0.30	B	11	0.50
2028 Buildout Conditions	A	10	0.32	B	12	0.53
14. NE 134th Street at NE 23rd Avenue/I-205 NB Off-Ramp						
2025 Existing Conditions	B	18	-	B	16	-
2028 Background Conditions	B	18*	-	B	16	-
2028 Buildout Conditions	B	18*	-	B	16	-

Table Notes: ***BOLDED*** *text indicates intersection operation above jurisdictional standards.*

** Delay and/or v/c ratio increased to match previous analysis scenario.*

[2] *Northbound left-turn lane installed.*

Table 6: Intersection Capacity Analysis Summary (Continued)

Analysis Scenario	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
15. NE 134th Street at NE 29th Avenue						
2025 Existing Conditions	A	7	-	A	7	-
2028 Background Conditions	A	7	-	A	7	-
2028 Buildout Conditions	A	7	-	A	7	-
16. NE 134th Street at NE Salmon Creek Avenue						
2025 Existing Conditions	B	12	-	A	9	-
2028 Background Conditions	B	12*	-	A	9*	-
2028 Buildout Conditions	B	12*	-	A	9*	-

*Table Notes: * Delay and/or v/c ratio increased to match previous analysis scenario.*

Based on the results of the operational analysis, two study intersections were found to exceed Clark County mobility standards:

7. NE 179th Street at NE 50th Avenue under year 2028 conditions during the PM peak hour.
12. NE 159th Street at NE 72nd Avenue under year 2028 conditions during the PM peak hour.

All other study intersections are currently operating acceptably per Clark County and WSDOT standards and are projected to continue operating acceptably through the 2028 buildout year of the site. Accordingly, no operational mitigation is necessary or recommended at these study intersections as part of the proposed development application.

7. NE 179th Street at NE 50th Avenue

The intersection of NE 179th Street at NE 50th Avenue is projected to exceed Clark County standards during the PM peak hour under year 2028 conditions, regardless of whether the proposed development will be constructed. According to TIP Project H, additional mitigation is planned at the intersection post-2030, specifically to reconstruct the intersection as a multilane roundabout. As an interim solution to mitigate impacts created by the proposed NE 174th Street Subdivision project, the applicant is proposing to install a dedicated northbound left-turn lane.

The Three Creeks East Planned Unit Development (PUD) originally recommended the installation of a northbound right-turn lane at the intersection to mitigate their respective trip impacts. Assuming Three Creeks East PUD were to coordinate mitigation with the proposed NE 174th Street Subdivision project, additional trips from Three Creeks East PUD were added to the intersection and only the installation of a northbound left-turn lane, in lieu of the northbound right-turn lane, was considered. The intent of evaluating both the proposed development and the Three Creeks East PUD trip impacts to the intersection is to demonstrate that a single dedicated northbound left-turn lane will be sufficient to mitigate impacts from both development applications.

Provided a northbound left-turn lane is installed at the intersection, the impacts created by the proposed development and Three Creeks East PUD to the intersection will be mitigated. It is recommended that this proposed mitigation measure be implemented as a Condition of Approval for the NE 174th Street Subdivision

development application. Additional coordination between the applicant teams for NE 174th Street Subdivision and Three Creeks East PUD will be conducted to install the northbound left-turn lane in lieu of the northbound right-turn lane.

Table 7 below shows the operational analysis results for the PM peak hour with mitigation implemented. Figure C in the appendix depicts the 2028 site buildout year PM peak hour volumes with added trips from Three Creeks East PUD at the intersection of NE 179th Street at NE 50th Avenue.

Table 7: Mitigation Capacity Analysis Summary

Analysis Scenario	PM Peak Hour		
	LOS	Delay (s)	v/c
7. NE 179th Street at NE 50th Avenue			
2028 Background Conditions	F	66	>1.00
2028 Buildout Conditions	F	78	>1.00
2028 Mitigated Conditions (with NB Left-turn Lane)	F	61	>1.00
2028 Mitigated Conditions (with Dual-Lane Roundabout)	A	9	0.63

Table Notes: ***BOLDED*** *text indicates intersection operation above jurisdictional standards.*

12. NE 159th Street at NE 72nd Avenue

The intersection of NE 159th Street at NE 72nd Avenue is projected to exceed Clark County's mobility standards during the PM peak hour under year 2028 conditions, regardless of whether or not the proposed development is constructed. Upon closer review of the Synchro capacity reports for the intersection, the eastbound stop-controlled approach is projected to operate at LOS C while the westbound stop-controlled approach is projected to operate at LOS F under future year 2028 conditions. Referring to the PM peak hour site trip assignment depicted in Figure 4, the proposed development is not projected to add any site trips to the failing westbound approach of the intersection. According to Clark County Unified Development Code section 40.350.020.G.1.c:

> *All unsignalized intersections of regional significance in the unincorporated county shall achieve LOS E standards or better (if warrants are not met). If warrants are met, unsignalized intersections of regional significance shall achieve LOS D standards or better. Intersection control or mitigation of unsignalized intersections shall be at the discretion of the Public Works Director and shall not obligate the county to meet this LOS standard. However, proposed developments shall not be required to mitigate their impacts in order to obtain a concurrency approval unless:*
>
> *(1) The proposed development adds at least five (5) peak period trips to a failing intersection approach; and*
>
> *(2) The worst movement on the failing approach is worsened by the proposed development. In determining whether the movement is worsened, the Public Works Director shall consider trip volume, delay, and any other relevant factors.*

Since the proposed development will not add site trips to the failing intersection approach, no concurrency related mitigation for the intersection can be imposed on the NE 174th Street Subdivision application. Therefore,

no capacity related mitigation at the intersection is necessary or required as part of the proposed development application.

Roadway Capacity Analysis

In accordance with Clark County Code Section 40.350.020(G) – *Level of Service Standards*, a capacity analysis was conducted for roadway segments requested by Clark County staff. The code section requires all collector and arterial roadway segments located within the Vancouver Urban Growth Area, but outside Vancouver city limits, as well as state highways of regional significance to have a maximum v/c ratio no greater than 0.90, measured independently for each direction of travel. Roadway volumes were determined utilizing the year 2028 site buildout volumes during the AM and PM peak hours. Roadway capacities were determined per Table 40.350.020-1 of the Clark County code based on the County roadway designation and classification.

Specific to the roadway of NE 174th Street, the existing street cross section consists of travel lanes that are generally less than 11 feet wide. According to Code section 40.350.020(G)(1)(a) for roadways not fully built-out to County standards:

- Roadways with lane widths of 12 feet or more and paved shoulders of 2 feet or more, the lane capacity is 800 vehicles per hour.
- Roadways with lane widths between 11 and 12 feet with paved shoulders of 2 feet or more, the lane capacity is 700 vehicles per hour.
- Roadways with lane widths less than 11 feet, the lane capacity is 600 vehicles per hour.

Constructing NE 174th Street to its intended cross section is contingent on higher density private development occurring along the roadway. Specifically, private development on properties adjacent to NE 174th Street would need to dedicate portions of their respective street frontages and improve these segments of roadway accordingly in a manner considered proportional to the impacts of the development. Several projects along the roadway have been approved for development; however, until they and other properties which front NE 174th Street are redeveloped, portions of the street may retain travel lanes less than 11 feet wide. Therefore, the roadway capacity of NE 174th Street was evaluated based on both the planned roadway capacity as well as the 600 vehicle per hour directional capacity detailed in 40.350.020(G)(1)(a).

The results of the roadway capacity analysis for the projected year 2028 traffic conditions with buildout of the proposed development are shown in Table 8. The maximum calculated v/c ratio along each roadway segment is reported for both the AM and PM peak hours.

Table 8: Roadway Capacity Analysis Summary

Roadway	From	To	Classification	Capacity (veh/hr)	Volume/Capacity	
					AM	PM
NE 199th Street	NE Delfel Road	NE 10th Avenue	M-4cb	1,800	0.161	0.171
	NE 10th Avenue	NE 29th Avenue	M-4cb	1,800	0.154	0.229
	NE 50th Avenue	NE 72nd Avenue	M-2cb	900	0.248	0.370
	NE 50th Avenue	Battle Ground City Limits	M-2cb	900	0.400	0.538
NE 179th Street	NE Delfel Road	Interstate 5	Pr-4cb	1,800	0.581	**1.047**
	Interstate 5	NE 15th Avenue	Pr-4cb	1,800	0.591	**1.149**
	NE 15th Avenue	NE 29th Avenue	Pr-4cb	1,800	0.380	0.694
	NE 29th Avenue	NE 50th Avenue	Pr-4cb	1,800	0.373	0.462
	NE 50th Avenue	NE 72nd Avenue	Pr-4cb	1,800	0.168	0.249
	NE 72nd Avenue	NE 92nd Avenue	R-2	800	0.261	0.370
NE 174th Street	West	NE 50th Avenue	C-2b	800	0.238	0.266
			C-2b*	600	0.317	0.355
NE 159th Street	NE 50th Avenue	NE 64th Avenue	C-2cb	900	0.120	0.106
	NE 64th Avenue	NE 72nd Avenue	C-2cb	900	0.093	0.099
	NE 72nd Avenue	NE 92nd Avenue	Rm-2	800	0.068	0.084
NE Salmon Creek Avenue/Street	South	NE 134th Street	C-2cb	900	0.241	0.361
	NE 134th Street	NE 35th Avenue	C-2cb	900	0.356	0.453
	NE 35th Avenue	NE 50th Avenue (N)	M-2cb	900	0.291	0.374
	NE 50th Avenue (N)	NE 50th Avenue (S)	M-2cb	900	0.161	0.222
NE 134th Street	NE 20th Avenue	NE 23rd Avenue	M-4cb	1,800	0.644	0.871
	NE 23rd Avenue	NE 29th Avenue	M-4cb	1,800	0.298	0.366
	NE 29th Avenue	NE Salmon Creek Avenue	M-4cb	1,800	0.253	0.368
NE 10th Avenue	SR-502	NE 199th Street	M-2cb	900	0.230	0.682
	NE 199th Street	NE 194th Street	M-2cb	900	0.373	**1.003**
	NE 189th Street	NE 179th Street	M-2cb	900	0.564	**1.334**
NE 15th Avenue	NE 179th Street	NE 174th Street	M-2cb	900	0.377	**0.979**
NE 23rd Avenue	NE 139th Street	NE 134th Street	C-2cb	900	0.203	0.443

Table Notes: ***BOLDED*** *text indicates a roadway capacity in excess of 0.90.*

* *Alternative roadway capacities utilized per Clark County Code section 40.350.020(G)(1)(a).*

Table 8: Roadway Capacity Analysis Summary (Continued)

Roadway	From	To	Classification	Capacity (veh/hr)	Volume/Capacity	
					AM	PM
NE 29th Avenue	NE 189th Street	NE 179th Street	M-4cb	1,800	0.094	0.133
	NE 179th Street	NE 159th Street	M-2cb	900	0.242	0.291
	NE 139th Street	NE 134th Street	M-2cb	900	0.196	0.268
NE 50th Avenue	NE 189th Street	NE 179th Street	M-4cb	1,800	0.098	0.150
	NE 179th Street	NE 174th Street	M-2cb	900	0.392	0.524
	NE 174th Street	NE 159th Street	M-2cb	900	0.419	0.487
	NE 159th Street	NE Salmon Creek Street	M-2cb	900	0.373	0.444
NE 72nd Avenue	SR-502	NE 199th Street	Pr-4cb	1,800	0.228	0.262
	NE 199th Street	NE 179th Street	Pr-4cb	1,800	0.294	0.329
	NE 179th Street	NE 159th Street	Pr-4cb	1,800	0.344	0.406
	NE 159th Street	NE 139th Street	Pr-4cb	1,800	0.374	0.439

Based on the results of the roadway capacity analysis, there are several roadway segments that are projected to exceed Clark County's roadway segment v/c ratio threshold under year 2028 conditions. Although these roadway segments are projected to operate with a v/c ratio in excess of 0.90 during the PM peak hour, no mitigation as part of the proposed development application is recommended. These segments and reasons for not needing development specific mitigation include the following:

NE 179th Street, between NE Delfel Road and I-5 and I-5 NE 15th Avenue

- As part of Clark County's *Northeast 179th Street Corridor Improvements* project, WSDOT's *I-5 – 179th Street Interchange – Interchange Improvements* project, and the 2025-2030 TIP (Project A), roadway improvements are planned along NE 179th Street that are expected to increase the carrying capacity of these street segments near the I-5 interchange.
- These segments of NE 179th Street are projected to operate with v/c ratios above 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the proposed NE 174th Street Subdivision project alone does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The study intersections along NE 179th Street, between NE Delfel Road and NE 15th Avenue, are projected to operate at no lower than LOS D during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersections.

NE 10th Avenue, between NE 199th Street and NE 179th Street

- This segment of NE 10th Avenue is projected to operate with v/c ratios above 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the proposed NE 174th Street Subdivision project alone does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The study intersections along NE 10th Avenue between NE 199th Street and NE 179th Street, are projected to operate at no lower than LOS D during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersections.

NE 15th Avenue, between NE 179th Street and NE 174th Street

- This segment of NE 15th Avenue is projected to operate with v/c ratios above 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the proposed NE 174th Street Subdivision project alone does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The intersection of NE 179th Street at NE 15th Avenue is projected to operate at no lower than LOS D during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersection.

All other relevant roadway segments are projected to operate acceptably per Clark County standards through the 2028 buildout year of the site. Accordingly, no additional roadway capacity related mitigation is necessary or recommended beyond currently planned improvement projects as part of the proposed development application.

Conclusions

Crash History Review

The intersection of NE 179th Street at NE 29th Avenue was found to be nearing a crash rate of 1.00 CMEV. The intersection is planned for reconstruction as a roundabout sometime between 2025 through 2028. According to WSDOT, roundabouts often reduce the overall number of recurring crashes at signalized and stop-controlled intersections. Therefore, the overall crash rate at the intersection is expected to decrease well below the 1.00 CMEV threshold after this intersection improvement has been implemented. No additional mitigation is necessary or recommended.

No significant trends or crash patterns were identified at any of the other study intersections that are indicative of safety concerns. Accordingly, no crash-related mitigation is necessary or recommended as part of the NE 174th Street Subdivision application.

Sight Distance Evaluation

Provided any obstructing on-site foliage is either removed or properly maintained following redevelopment of the site, adequate intersection and stopping sight distances can be made available at the proposed site access intersection to allow for safe and efficient operation along NE 174th Street. No other sight distance related mitigation is necessary or recommended.

Left-turn Lane & Preliminary Traffic Signal Warrants

Left-turn lane warrants are not projected to be met at the proposed site access intersection along NE 174th Street. Accordingly, no new left-turn lanes are necessary or recommended as part of the proposed development application.

Traffic signal warrants are not projected to be met at any of the applicable unsignalized study intersections by the 2028 site buildout year. Therefore, no new traffic signals are necessary or recommended as part of the proposed development application.

Intersection Capacity Analysis

Two study intersections were found to exceed Clark County's mobility standards: the intersection of NE 179th Street at NE 50th Avenue under year 2028 conditions, and the intersection of NE 159th Street at NE 72nd Avenue under year 2028 conditions.

- The intersection of NE 179th Street at NE 50th Avenue is projected to exceed Clark County standards during the PM peak hour under year 2028 conditions, regardless of whether the proposed development will be constructed. According to TIP Project H, additional mitigation is planned at the intersection post-2030, specifically to reconstruct the intersection as a multilane roundabout. As an interim solution the intersection could be redesigned to include a dedicated northbound left-turn lane, in lieu of a dedicated northbound right-turn lane that was conditioned as part of the planned Three Creeks East Planned Unit Development (PUD). Provided a northbound left-turn lane is installed at the intersection, the impacts created by the proposed development and Three Creeks East PUD to the intersection will be mitigated. It is recommended that this proposed mitigation measure be implemented as a Condition of Approval for the NE 174th Street Subdivision development application.

- The intersection of NE 159th Street at NE 72nd Avenue is projected to exceed Clark County standards during the PM peak hour under year 2028 conditions, regardless of whether or not the proposed development will be constructed. However, the eastbound stop-controlled approach of the intersection is projected to operate at LOS C while the westbound stop-controlled approach is project to operate at LOS F under future year 2028 conditions. Since the proposed development is not projected to add any site trips to the failing westbound approach of the intersection, according to Clark County Unified Development Code section 40.350.020.G.1.c no concurrency related mitigation for the intersection can be imposed on the NE 174th Street Subdivision application. Therefore, no capacity related mitigation at the intersection is necessary or required as part of the proposed development application.

All other study intersections are currently operating acceptably per Clark County standards and are projected to continue operating acceptably through the 2028 buildout year of the site. Accordingly, no operational mitigation is necessary or recommended at these study intersections as part of the proposed development application.

Roadway Capacity Analysis

Several roadway segments within the study area are projected to exceed Clark County's roadway v/c ratio threshold under year 2028 conditions. Although these roadway segments are projected to operate with v/c ratios in excess of 0.90 during the PM peak hour, no mitigation as part of the proposed development application is recommended for several reasons including, but not limited to, the following:

- Relevant study intersections along the higher demand roadway segments are projected to operate within acceptable Clark County LOS standards. Therefore, the increased v/c ratio on applicable roadway segments are not expected to create significant impacts to the operation or safety of the nearby transportation system.
- For relevant roadway segments, the high v/c ratios occur under year 2028 background conditions, without impacts from the proposed development. Therefore, the NE 174th Street Subdivision project alone does not cause these roadway segment to exceed the 0.90 v/c ratio threshold.
- For some roadway segments, the proposed development will add few additional peak hour trips to these roadway segments. In these cases any increase in peak hour trips will be minor, can be considered as equivalent to daily fluctuations in traffic, and will minimally increase the roadway's single travel direction v/c ratios. Any additional mitigation to increase the vehicle carrying capacity of these roadway segments would be disproportionate to the impacts created by the proposed development.

All other relevant roadway segments are projected to operate acceptably per Clark County standards through the 2028 buildout year of the site during both the AM and PM peak hours. Accordingly, no roadway capacity related mitigation is necessary or recommended at these roadway segments as part of the proposed development application.

Appendix A – Scoping Materials

Scoping Memorandum

Clark County Response

1130 SW Morrison St., Suite 318
Portland, OR 97205
503.248.0313
lancastermobley.com

Memorandum

To: **Craig Kathol, Clark County**
David Jardin, Clark County

From: **Daniel Stumpf, PE**

Date: **June 24, 2025**

Subject: **174th Street Subdivision (PAC-2025-00047)**
Scoping Memorandum

Introduction

This memorandum details a proposed scope of work for a Transportation Impact Study (TIS) related to the *174th Street Subdivision* project. The project site is located on seven properties (assessor parcels 181696000, 181711000, 181721000, 181731000, 181764000, 181765000, and 181766000) at/near 17101 NE 40th Avenue in unincorporated Clark County, Washington. The proposal will include the construction of 103 single-family detached houses. Two existing single-family houses will be maintained and incorporated in the overall residential subdivision, whereby a net increase of 101 houses will be developed. Access to the site will be provided via a proposed street connection along NE 174th Street.

Trip Generation

To estimate the number of trips that will be generated by the proposed development, trip rates from the *Trip Generation Manual, 11th Edition* were used. Data from land use code 210, *Single-Family Detached Housing*, was used to estimate site trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision is projected to generate a net increase of 71 AM peak hour trips, 95 PM peak hour trips, and 954 average weekday trips. The trip generation estimates are summarized in Table 1. Detailed trip generation calculations are included as an attachment to this memorandum.

Table 1: Trip Generation Summary

ITE Land Use Code		Size	AM Peak Hour			PM Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Existing Conditions									
210	Single-Family Detached Housing	2 units	0	1	1	1	1	2	18
Proposed Conditions									
210	Single-Family Detached Housing	103 units	18	54	72	61	36	97	972
Net Increase in Site Trip Generation									
Net New Trips		**101 units**	**18**	**53**	**71**	**60**	**35**	**95**	**954**

Trip Distribution

The trip distribution used for the proposed development was referenced from the *Viers Subdivision PUD Transportation Impact Analysis* (TIA), dated December 2022. According to the TIA, the trip distribution was derived using the Southwest Washington Regional Transportation Council (RTC) transportation system model. The both the Viers Subdivision PUD and the project site are located in Transportation Analysis Zone (TAZ) #1983 (formerly #525), for which a select zone analysis was run to determine the distribution of site trips entering and exiting the zone.

The following trip distribution is projected:

- Northwest and west of the project site (approximately 42% of site trips):
    - Approximately 2% of site trips will travel to/from the north along NE 10th Avenue, north of NE 199th Street.
    - Approximately 4% of site trips will travel to/from the west along NE 199th Street, west of NE 10th Avenue.
    - Approximately 2% of site trips will travel to/from the west along NE 179th Street, west of NE Delfel Road.
    - Approximately 2% of site trips will travel to/from the south along NE 10th Avenue, south of NE 179th Street.
    - Approximately 10% of site trips will travel to/from the north along I-5, north of NE 179th Street.
    - Approximately 21% of site trips will travel to/from the south along I-5, south of NE 179th Street.
    - Approximately 1% of site trips will travel to/from the south along NE 15th Avenue, south of NE 179th Street.

- North and east of the project site (approximately 16% of site trips):
    - Approximately 1% of site trips will travel to/from the north along NE 50th Avenue, north of NE 199th Street.
    - Approximately 6% of site trips will travel to/from the north along NE 72nd Avenue, north of NE 199th Street.
    - Approximately 5% of site trips will travel to/from the east along NE 199th Street, east of NE 72nd Avenue.
    - Approximately 4% of site trips will travel to/from the east along NE 179th Street, east of NE 72nd Avenue.
- South of the project site (approximately 42% of site trips):
    - Approximately 5% of site trips will travel to/from the west along NE Tenney Road, west of I-5.
    - Approximately 4% of site trips will travel to/from the south along NE 20th Avenue, south of NE 134th Street.
    - Approximately 2% of site trips will travel to/from the north along NE 23rd Avenue, north of NE 134th Street.
    - Approximately 20% of site trips will travel to/from the south along I-205, south of NE 134th Street.
    - Approximately 2% of site trips will travel to/from the south along NE 50th Avenue, south of NE 139th Street.
    - Approximately 9% of site trips will travel to/from the south along NE 72nd Avenue, south of NE 139th Street.

Figures A and B in the attachments depict site trip assignment during the AM and PM peak hours, respectively.

Proposed Study Intersections

According to the project's Pre-Application Final Report:

> *Any development generating 10 or more peak hour trips is required to complete a transportation impact study. A general outline is provided in the concurrency administrative manual. A traffic impact study shall analyze impacts according to the following:*
>
> *- 50 or less new peak hour trips; one mile from site*
>
> *- 51-250 new peak hour trips; two miles from the site*
>
> *- 251 or more new peak hour trips; three miles from the site*

Based on the projected trips generated, the preliminary trip distribution, and the anticipated impacts to the transportation system, the following study intersections are suggested for analysis (refer to Figures A and B for the numbering convention of listed intersections):

1. NE 199th Street at NE 10th Avenue – 5 AM and 6 PM peak hour trip impact.
4. NE 199th Street at NE 72nd Avenue – 7 AM and 10 PM peak hour trip impact.
10. I-5 Southbound Ramps at NE 179th Street – 15 AM and 17 PM peak hour trip impact.
11. I-5 Northbound Ramps at NE 179th Street – 24 AM and 33 PM peak hour trip impact.
12. NE 179th Street at NE 15th Avenue – 27 AM and 37 PM peak hour trip impact.
13. NE 179th Street at NE 29th Avenue – 27 AM and 37 PM peak hour trip impact.
15. NE 179th Street at NE 50th Avenue – 41 AM and 55 PM peak hour trip impact.
16. NE 179th Street at NE 72nd Avenue – 10 AM and 14 PM peak hour trip impact.
17. NE 174th Street at NE 50th Avenue – 71 AM and 95 PM peak hour trip impact.
22. NE 159th Street at NE 50th Avenue – 30 AM and 40 PM peak hour trip impact.
24. NE 159th Street at NE 72nd Avenue – 6 AM and 8 PM peak hour trip impact.
25. NE Salmon Creek Street at NE 50th Avenue (North T-Intersection) – 24 AM and 32 PM peak hour trip impact.
32. NE 134th Street at NE 23rd Avenue/I-205 Northbound Off-Ramp – 23 AM and 30 PM peak hour trip impact.
33. NE 134th Street at NE 29th Avenue – 23 AM and 30 PM peak hour trip impact.
34. NE 134th Street at NE Salmon Creek Avenue – 23 AM and 30 PM peak hour trip impact.

- Site Access at NE 174th Street – 41 AM and 55 PM peak hour trip impact.

While considered higher classification intersections within a two-mile radius of the site, several regionally significant intersections are recommended for removal from analysis. These intersections with explanations for removal from study are provided below.

The following intersections will not be impacted by 5 or more peak hour trips. Therefore, no mitigation can be required as part of the application per Clark County Unified Development Code 40.350.020.G.1.c., not-with-standing safety improvements which may be necessary per section 40.350.030(B)(6):

2. NE 199th Street at NE 29th Avenue – 3 AM and PM peak hour trip impact.
3. NE 199th Street at NE 50th Avenue – 4 AM and PM peak hour trip impact.
5. NE 194th Street at NE 10th Avenue – 2 AM and 3 PM peak hour trip impact.
6. NE 194th Street at NE 29th Avenue – no peak hour trip impact.
7. NE 189th Street at NE 10th Avenue – 2 AM and 3 PM peak hour trip impact.
8. NE 189th Street at NE 29th Avenue – no peak hour trip impact.
9. NE 179th Street at NE Delfel Road – 2 AM and 4 PM peak hour trip impact.
18. NE 164th Street at NE 10th Avenue – no peak hour trip impact.
19. NE 149th Street at NE 10th Avenue – no peak hour trip impact.
20. NE 156th Street at NE Union Road – 1 AM and PM peak hour trip impact.
21. NE 159th Street at NE 29th Avenue – no peak hour trip impact.
26. NE Salmon Creek Street at NE 50th Avenue (South T-Intersection) – 1 AM and 2 PM peak hour trip impact.
27. NE 139th Street at NE 50th Avenue – 1 AM and 2 PM peak hour trip impact.
29. NE 139th Street at NE 20th Avenue – no peak hour trip impact.
30. NE 139th Street at NE 23rd Avenue – no peak hour trip impact.
31. NE 139th Street at NE 29th Avenue – no peak hour trip impact.

Although impacted by 5 or more peak hour trips, the minor-street approaches of the following unsignalized County intersections will be impacted by less than 5 minor-street approaching trips whereby no mitigation can be required as part of the application per Clark County Unified Development Code 40.350.020.G.1.c., not-with-standing safety improvements which may be necessary per section 40.350.030(B)(6). Accordingly, the following intersections are recommended for removal from requiring analysis.

14. NE 179th Street at NE 47th Avenue – 27 AM and 37 PM peak hour trip impact.
23. NE 159th Street at NE 64th Avenue – 6 AM and 8 PM peak hour trip impact.
28. NE 139th Street at NE 72nd Avenue – 6 AM and 8 PM peak hour trip impact.

Other Considerations

In-Process Development

Please provide in-process development data which should be incorporated in the TIS. If available, the traffic studies for these projects are requested.

Lancaster Mobley currently has access to data for the following projects (please let me know if any of the following can be removed):

- South Ridge Central Apartments (PSR-2023-00158)
- Mountain View Ridge PUD (PLD-2023-00053)
- Skyview Station Shopping Center (approximately 58% constructed and occupied, located at/near 14007 NE 10th Avenue)
- Skyview Station East (PLD-2018-00034)
- Mill Creek Terrace (PLD-2024-00015)
- Mill Creek Meadows (PLD-2024-00092)
- Washington State University Master Plan (located at/near 14204 NE Salmon Creek Avenue)
- Mountain Estates Cluster Subdivision (PLD-2017-00046)
- Whipple Creek Village Subdivision (approximately 95% constructed and occupied, located at/near 17603 NE 17th Avenue)
- Three Creeks North Phase 1 & 2 (located at/near 18701 NE 10th Avenue)
- 179th Street Commercial Center Phase 1 & 2 (located at/near 17714 NE 14th Avenue)
- Woodbrook Subdivision (aka Mill Creek PUD, approximately 20% constructed and occupied, located at/near 4519 NE 183rd Street)
- M&H Subdivision (located at/near 3801 NE 174th Street)
- North Haven Subdivision (approximately 75% constructed and occupied, located at/near 807 NW 179th Street)
- Trails at Whipple Creek Subdivision (approximately 20% constructed and occupied, located at/near 1214 NW 166th Way)
- DSHS NE 50th Clark County Behavioral Health (PSR-2021-00183)
- Majestic Industrial Centre (located at/near 15017 NE 10th Avenue)
- Martin's Meadow Subdivision (approximately 10% constructed and occupied, located at/near 1114 NW 150th Street)
- NE 29th Avenue Subdivision (located at/near 18216 NE 29th Avenue)
- Viers Subdivision (assessor parcel 181682000)
- The Highlands at Whipple Creek (located at/near 818 NW 173re Circle)
- Maletis Distribution Center (located at/near 16101 NE 10th Avenue)
- Mt Vista Logistics (PSR-2023-00008)

Conclusions

Based on the projected trips generated, the preliminary trip distribution, and the anticipated impacts to the transportation system, the following study intersections are suggested for analysis:

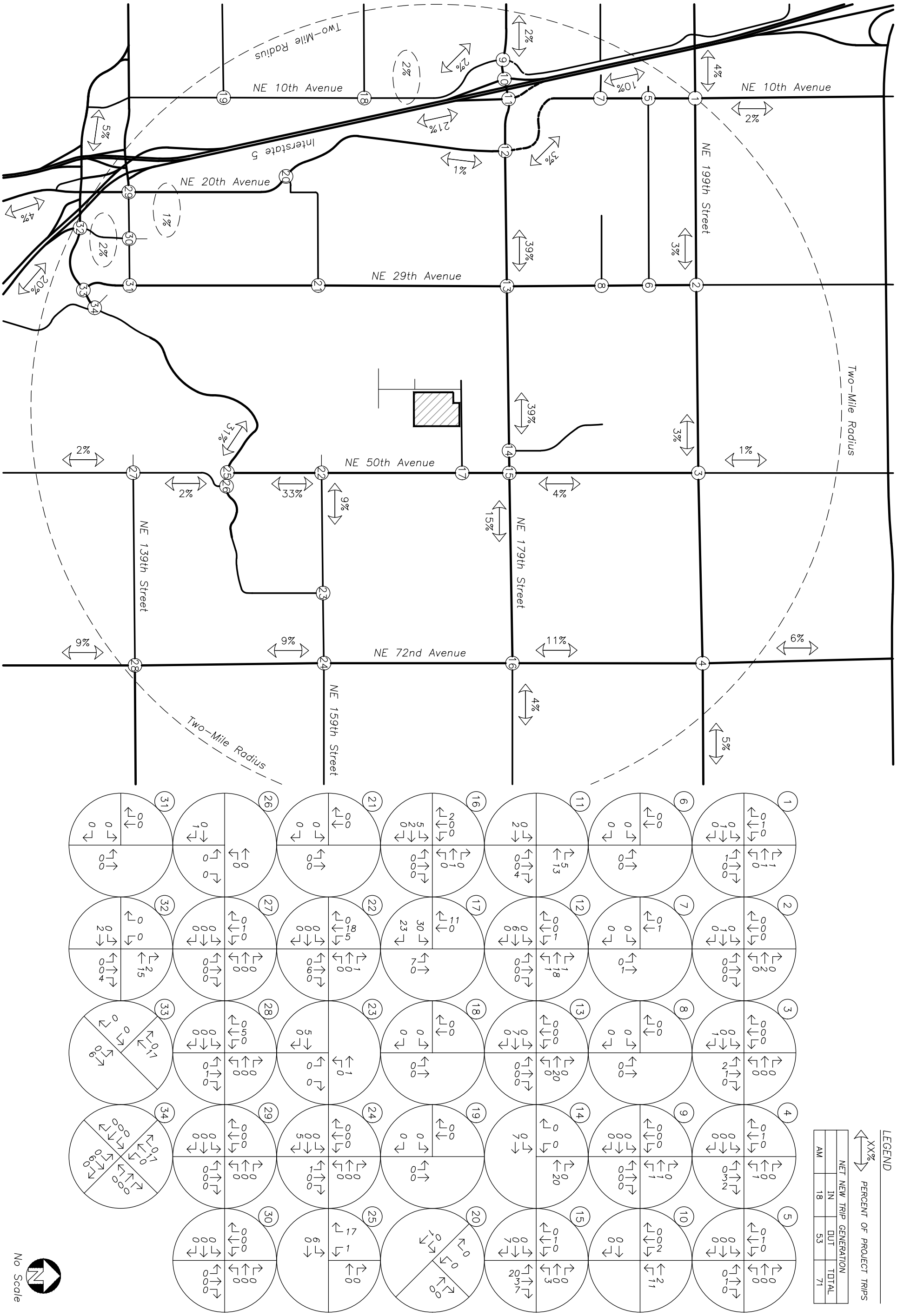
1. NE 199th Street at NE 10th Avenue
4. NE 199th Street at NE 72nd Avenue
10. I-5 Southbound Ramps at NE 179th Street
11. I-5 Northbound Ramps at NE 179th Street
12. NE 179th Street at NE 15th Avenue
13. NE 179th Street at NE 29th Avenue
15. NE 179th Street at NE 50th Avenue
16. NE 179th Street at NE 72nd Avenue
17. NE 174th Street at NE 50th Avenue
22. NE 159th Street at NE 50th Avenue
24. NE 159th Street at NE 72nd Avenue
25. NE Salmon Creek Street at NE 50th Avenue (North T-Intersection)
32. NE 134th Street at NE 23rd Avenue/I-205 Northbound Off-Ramp
33. NE 134th Street at NE 29th Avenue
34. NE 134th Street at NE Salmon Creek Avenue

- Site Access at NE 174th Street

Please confirm if the above study area is sufficient for the TIS. Also, please confirm the following:

- In addition to those listed on the prior page, are there any other in-process development projects that should be incorporated in the TIS? If yes, could their traffic studies be provided?

If you have any questions regarding the preparation of this scoping memorandum, please don't hesitate to contact us.



SITE TRIP DISTRIBUTION & ASSIGNMENT

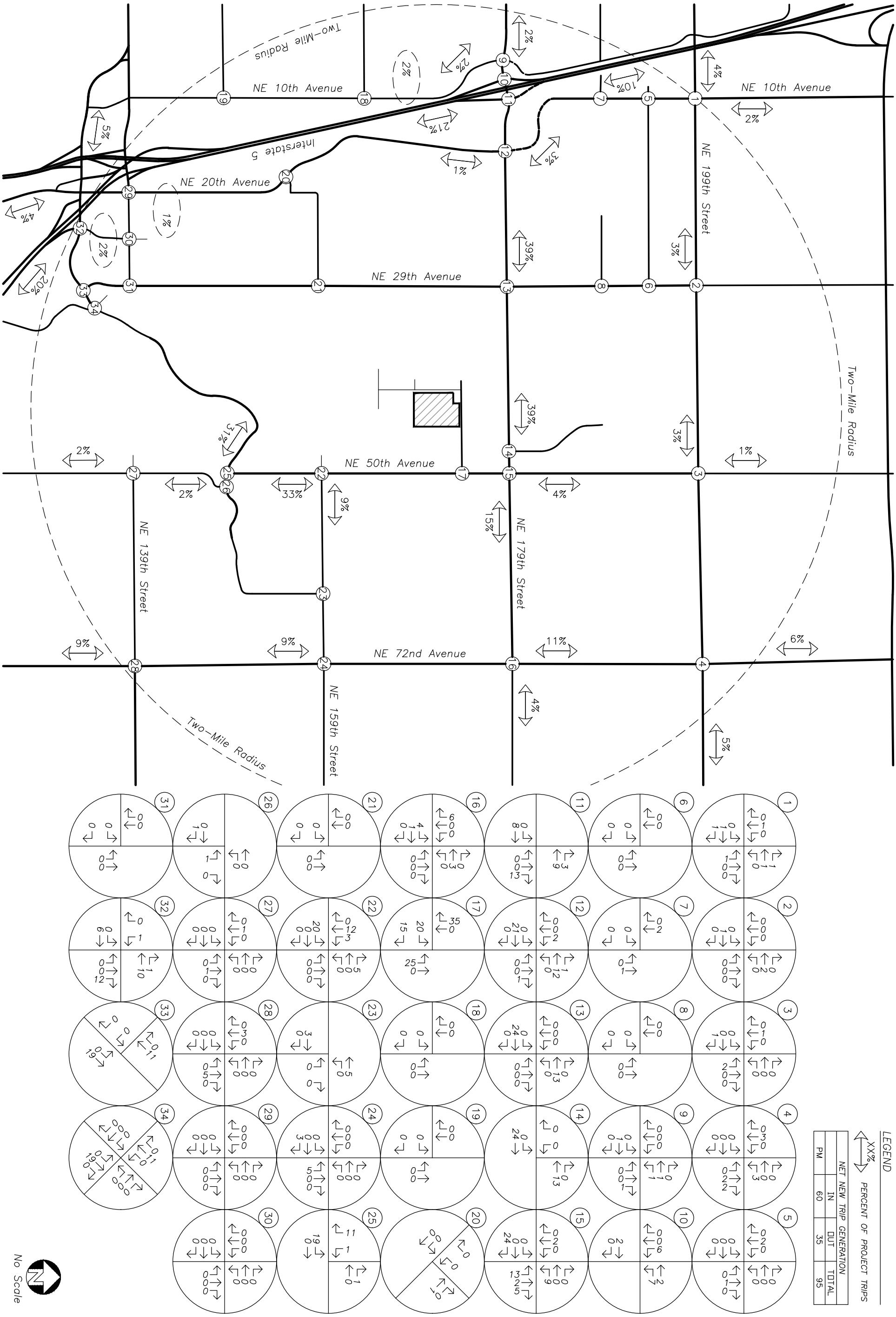
Proposed Development Plan - Site Trips

AM Peak Hour

Figure A

174th Street Subdivision

6/24/2025



SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

PM Peak Hour

Figure B

174th Street Subdivision

6/24/2025

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Existing Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	2

WARNING: Variable Quantity is less than Minimum Survey Size for Peak Hours

AM PEAK HOUR

Trip Rate: 0.7

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

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	1	1	2

WEEKDAY

Trip Rate: 9.43

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	9	9	18

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	9	9	18

Source: Trip Generation Manual, 11th Edition

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Proposed Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	103

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	18	54	72

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	61	36	97

WEEKDAY

Trip Rate: 9.43

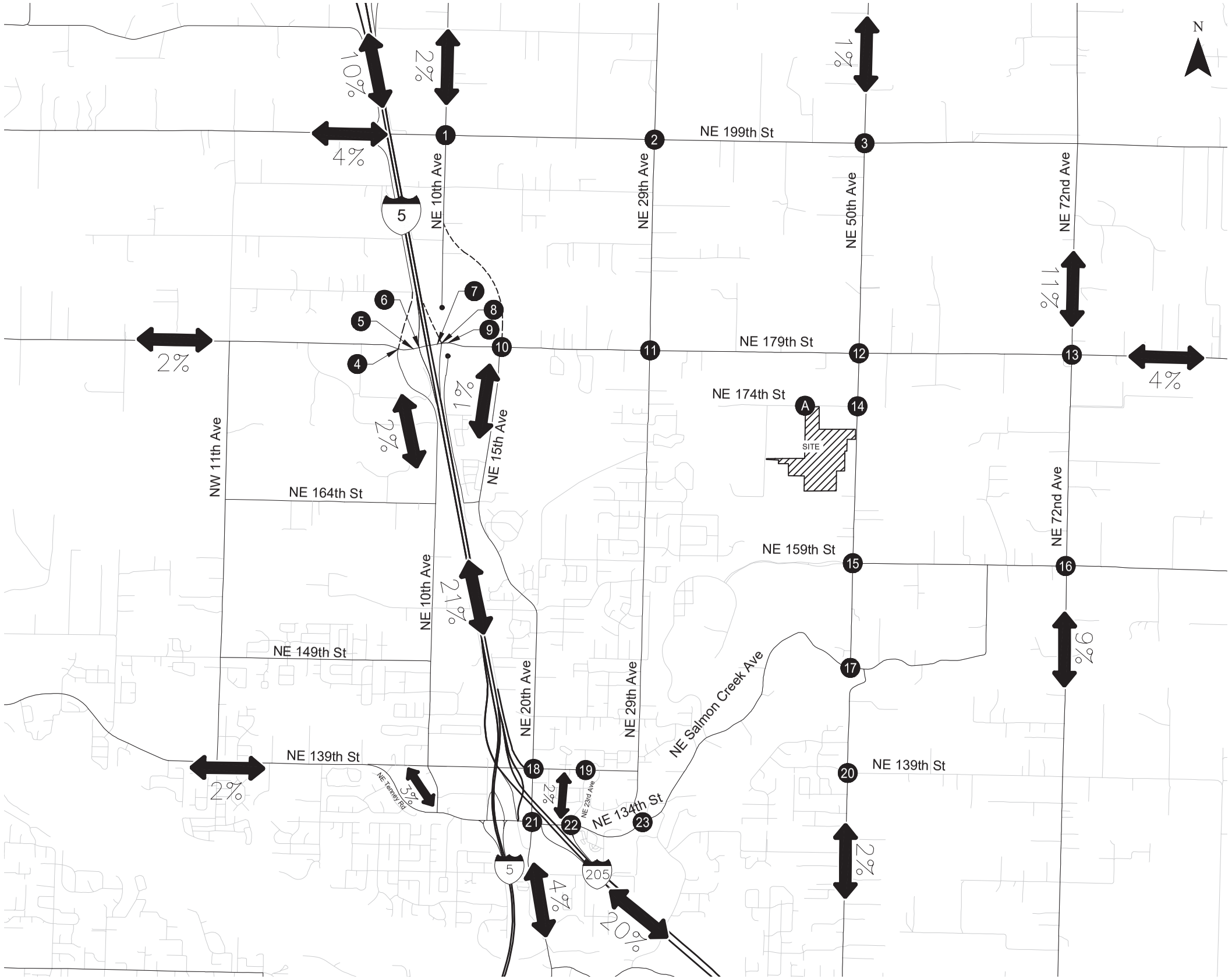
	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	486	486	972

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	488	488	976

Source: Trip Generation Manual, 11th Edition



Estimated Trip Distribution Pattern
Clark County, Washington

Figure
9

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Daniel Stumpf <daniel@lancastermobley.com>

174th Street Subdivision (PAC-2025-00047)- Traffic Study Scoping

Craig Kathol <Craig.Kathol@clark.wa.gov> Tue, Jul 8, 2025 at 1:30 PM
To: Daniel Stumpf <daniel@lancastermobley.com>
Cc: David Jardin <David.Jardin@clark.wa.gov>

Good afternoon Daniel,

I have reviewed the 174th Street Scoping Memo and agree with your findings.

Please retain all intersections discussed in your memo and previous email for analysis.

I did not see any additional in-process projects that would impact this project and all of the in-process data that you provided in your memo is still in-process. Please let me know if you have any questions.

Thank you,

Craig Kathol, E.I.T.
Transportation Concurrency Engineer
Clark County Public Works

Cell: 360.553.8247

From: Daniel Stumpf <daniel@lancastermobley.com>
Sent: Tuesday, June 24, 2025 1:53 PM
To: Craig Kathol <Craig.Kathol@clark.wa.gov>
Cc: David Jardin <David.Jardin@clark.wa.gov>
Subject: 174th Street Subdivision (PAC-2025-00047)- Traffic Study Scoping

EXTERNAL: This email originated from outside of Clark County. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon Craig,

I'm working on a traffic study for the proposed 174th Street Subdivision (PAC-2025-00047), located at/near 17101 NE 40th Avenue. The project will include the development of a 103 single-family house subdivision, where two existing houses will be incorporated as part of the subdivision. I was wondering if you could provide input on the proposed study area.

Attached is a scoping memo for reference which includes trip gen calcs, a referenced distribution figure from the Viers Subdivision traffic study, and trip assignment figures for the AM and PM peak hours. To summarize main points:

- Please confirm if the following study area is acceptable:
    - NE 199th Street at NE 10th Avenue
    - NE 199th Street at NE 72nd Avenue
    - I-5 Southbound Ramps at NE 179th Street
    - I-5 Northbound Ramps at NE 179th Street
    - NE 179th Street at NE 15th Avenue
    - NE 179th Street at NE 29th Avenue
    - NE 179th Street at NE 50th Avenue
    - NE 179th Street at NE 72nd Avenue
    - NE 174th Street at NE 50th Avenue
    - NE 159th Street at NE 50th Avenue
    - NE 159th Street at NE 72nd Avenue
    - NE Salmon Creek Street at NE 50th Avenue (North T-Intersection)
    - NE 134th Street at NE 23rd Avenue/I-205 Northbound Off-Ramp
    - NE 134th Street at NE 29th Avenue
    - NE 134th Street at NE Salmon Creek Avenue
    - Site Access at NE 174th Street
- Are there any other nearby in-process projects that should be included in the study that are not listed in the scoping memo? If yes, can their traffic studies be sent my way?

Thanks, and let me know if you have any questions or need additional info.

Daniel

--

Daniel Stumpf, PE

Senior Transportation Engineer

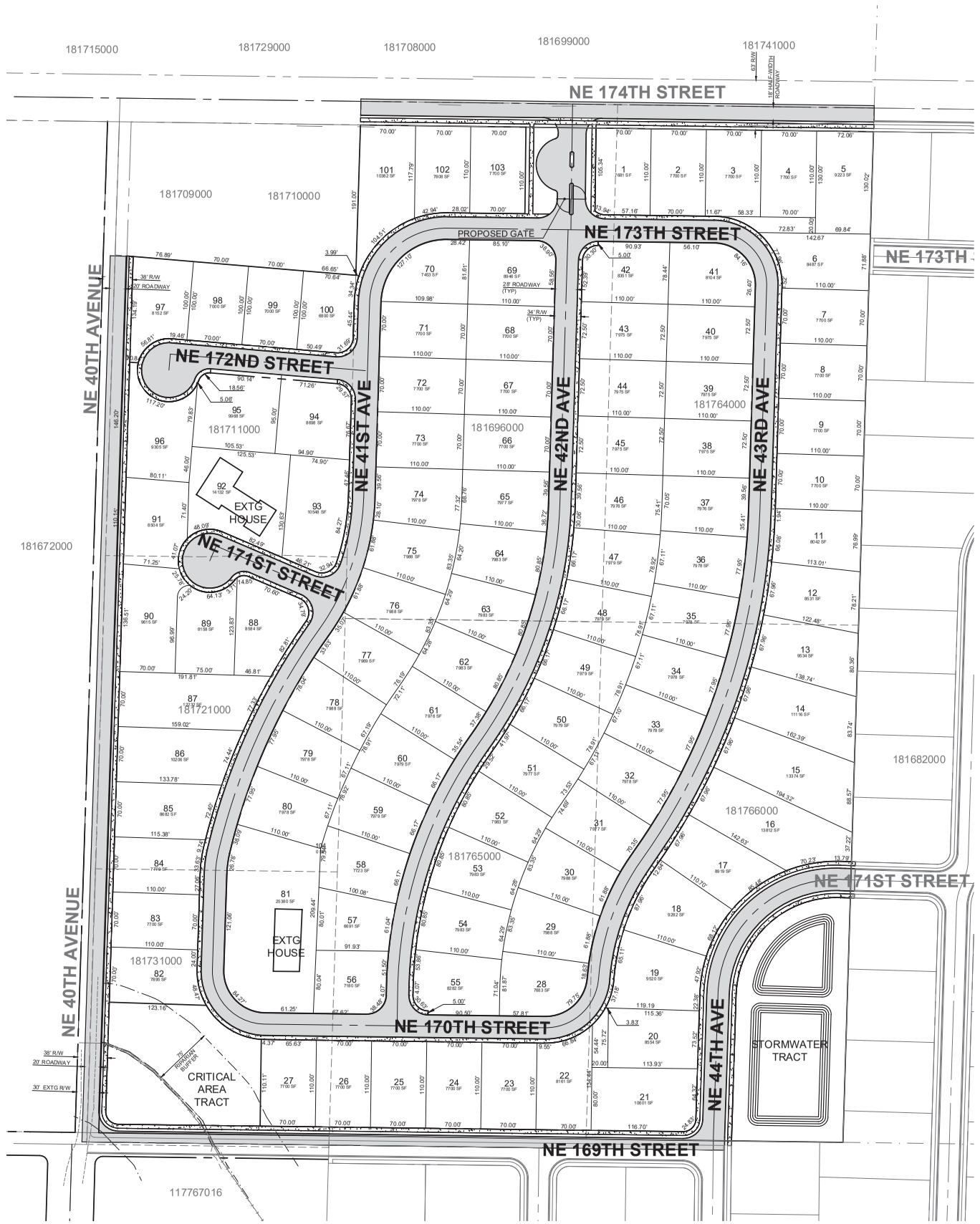
[Quoted text hidden]

Appendix B – Site Plan

Site Plan

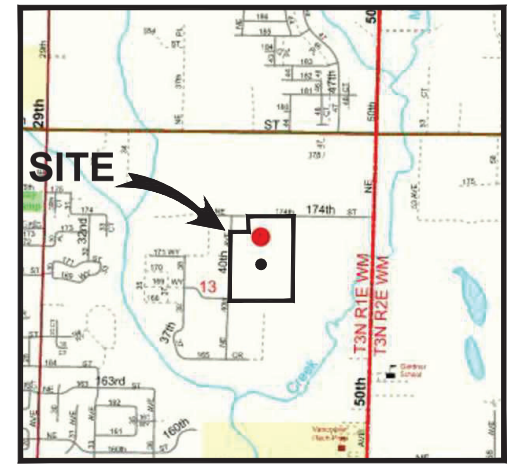
174th Street Subdivision

Located in the NE ¼ of Section 13, T3N, R1E, WM
in Clark County, Washington



Scale 1" = 80'

80 40 0 80



VICINITY MAP
NOT TO SCALE

APPLICANT:
Silver Buckle Homes, LLC
2210 W Main Street Ste. 107-391
Battle Ground, WA 98604
(360) 702-9000
office@timbercresthomes.com

PROJECT CONTACT:
PLS Engineering
Jayson Taylor, PE
604 W Evergreen Blvd
Vancouver, WA 98660
(360) 944-6519
pm@plsengineering.com

OWNERS:
Robert & Annette Root
2210 W Main St.
Battle Ground, WA 98604
rob@timbercresthomes.com

Shawn & Yvette Root
17101 NE 40th Ave.
Vancouver, WA 98686
Shawn@TimberCrestHomes.com

Tobin & Katarzyna Boslaugh
18501 NE 101st Ave.
Battle Ground, WA 98604
tobbos@proton.me

Scott & Angela Eversaul
13311 NE 4th Ct.
Vancouver, WA 98685
Scott@Eversaul.com

SITE LOCATION:
Parcel # 181696000, 181721000, 181765000, 181711000, 181731000, 181764000, 181766000

GENERAL NOTES

LAND USE:
The applicant is proposing a 103 lot subdivision with a concurrent rezone of R1-20 zoned portion of the site to R1-10. This is already proposed for the site based on the most recent Clark County Comprehensive Plan draft updates. Single family detached dwellings are an allowed use in the R1-10 zone. The minimum average lot size in this district is 8,500 sf.

Minimum lot width = 70'
Minimum lot depth = 90'
Setbacks:
- Front = 10'
- Garage = 18'
- Rear = 10'
- Side = 5'
- Street Side = 10'

Maximum building lot coverage = 50%

TRANSPORTATION:
NE 174th Street borders the north portion of the site. Half-width improvements are proposed meeting standard detail #7 (C-2b collector roadway)
NE 173rd Street is proposed to stub into the site from the east with development of the Viers Subdivision. This street is not proposed to extend through the site due to the proposed plan to have a private gated community.
NE 170th Street is proposed to stub into the site from the east with development of the Viers Subdivision. This street will be extended through the site and connect into NE 169th Street.
NE 169th Street abuts the site to the south. Half-width improvements will be provided as shown on the Conceptual Plat.
NE 40th Ave runs along the western end of the site, half width improvements are proposed to meet the standards of a local access road.
Several new private streets are proposed to provide circulation through the site. A private gate is proposed near the main site entrance off of 174th Street. All lots are propose to have direct access from the private roadway and not any of the adjacent public roadways.

There are no transit routes within 1/4 mile of the site.

UTILITIES:
Stormwater runoff from the site will be collected, treated, and will likely be routed to a detention pond located in the SE corner of the site.
CPU is the public water purveyor and CRWWD is the sanitary sewer purveyor for the site with likely connection points within NE 174th Ave and on the Viers PUD property to the south and east. Assumed locations of existing septic systems located on or near the site are shown on plan. The onsite septic system and well will be properly abandoned with site development

CRITICAL AREAS:
The site appears to be impacted by a stream in the SW corner, a small wetland in the SE corner. No other critical areas are known to be onsite.

Legend	
Proposed Asphalt	
Proposed Concrete	

PLS ENGINEERING

Conceptual Plat For:
174th Street Subdivision
A Subdivision Located In Clark County, Washington

Engineering - Surveying - Planning | 604 W. Evergreen Blvd. Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

1	2	3	4	5	6

Project No. 3342

SCALE:	H: 1" = 50' V: N/A
DESIGNED BY:	JMT
DRAFTED BY:	DJB
REVIEWED BY:	JMT

01
01

Appendix C – Trip Generation and Distribution

Trip Generation Calculations

Viers Subdivision PUD – Trip Distribution Figure

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Existing Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	2

WARNING: Variable Quantity is less than Minimum Survey Size for Peak Hours

AM PEAK HOUR

Trip Rate: 0.7

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

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	1	1	2

WEEKDAY

Trip Rate: 9.43

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	9	9	18

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	9	9	18

Source: Trip Generation Manual, 11th Edition

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Proposed Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	103

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	18	54	72

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	61	36	97

WEEKDAY

Trip Rate: 9.43

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	486	486	972

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	488	488	976

Source: Trip Generation Manual, 11th Edition

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Proposed Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	100

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	18	52	70

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	59	35	94

WEEKDAY

Trip Rate: 9.43

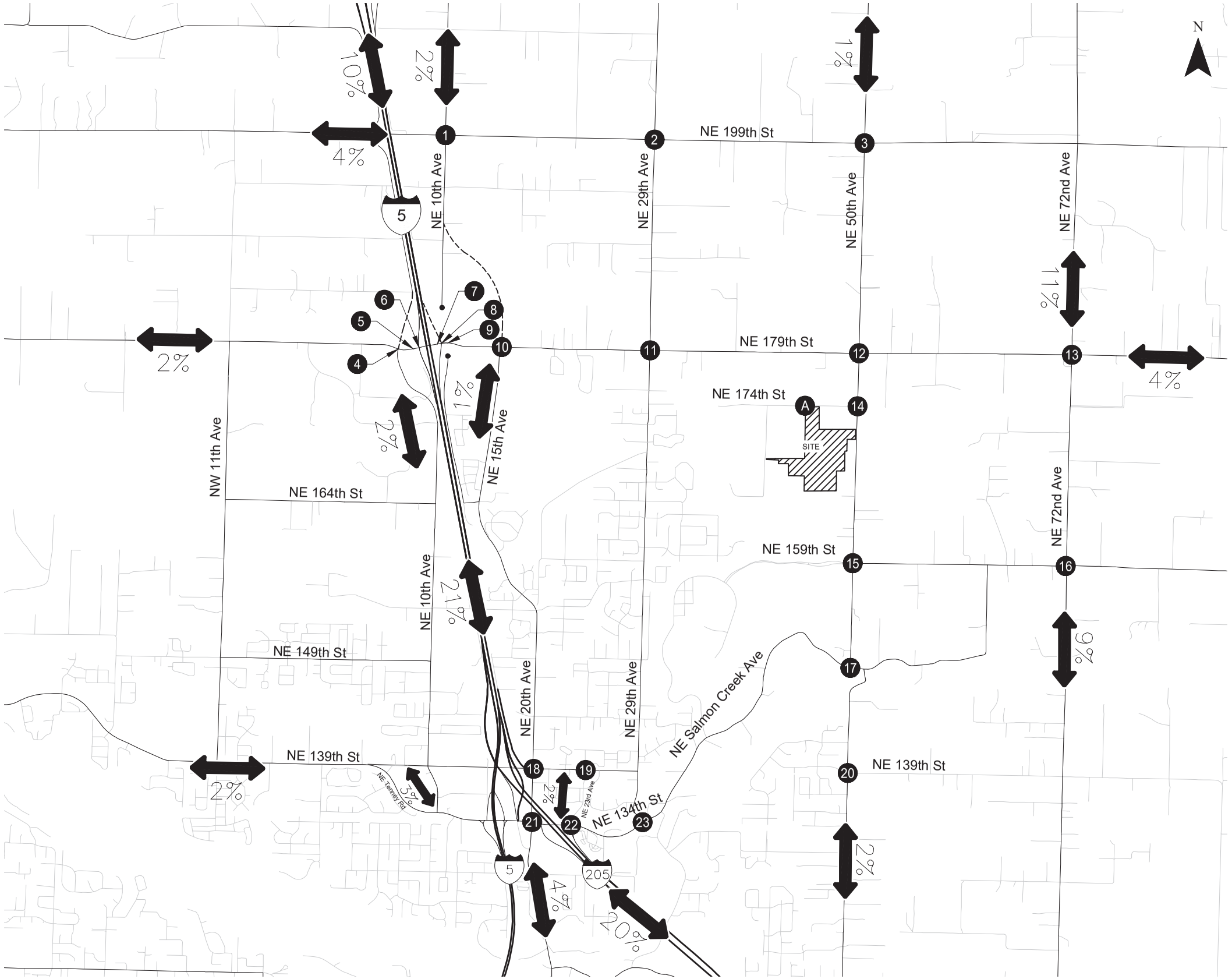
	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	472	472	944

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	474	474	948

Source: Trip Generation Manual, 11th Edition



Estimated Trip Distribution Pattern
Clark County, Washington

Figure
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Appendix D – Traffic Volumes

Traffic Counts

Figure A – In-Process Trips

Figure B – Rerouted Volumes (I-5 NB Ramp and NE 10th Avenue)

Figure C – 2028 Buildout Condition with Three Creek East PUD Trips

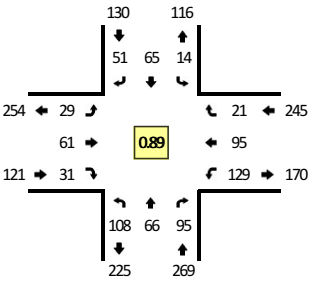
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

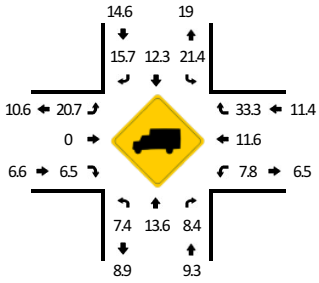
LOCATION: NE 10th Avenue -- NE 199th Street
CITY/STATE: Duluth, WA

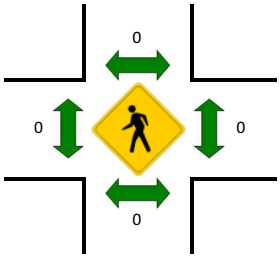
QC JOB #: 16889623
DATE: Wed, Jan 22 2025

Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 8:20 AM -- 8:35 AM

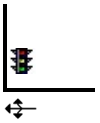


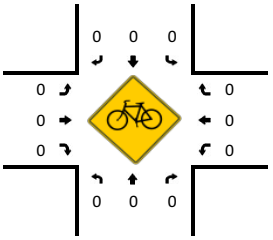


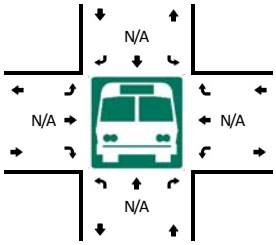


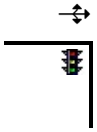


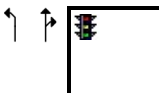


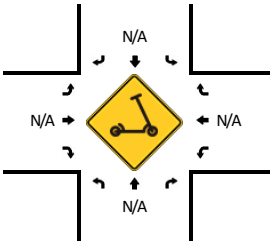












5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 199th Street (Eastbound)				NE 199th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	4	4	0	1	2	2	0	3	4	1	0	9	3	0	0	35	
7:05 AM	6	2	3	0	3	5	1	0	0	1	0	0	11	6	0	0	38	
7:10 AM	5	2	4	0	0	3	1	0	3	4	2	0	9	1	0	0	34	
7:15 AM	8	1	8	0	2	8	1	0	3	7	2	0	14	4	2	0	60	
7:20 AM	8	6	5	0	1	4	3	0	1	4	2	0	18	5	0	0	57	
7:25 AM	7	5	5	0	2	5	6	0	1	1	2	0	10	6	4	0	54	
7:30 AM	7	3	7	0	0	5	2	0	2	4	1	0	13	2	1	0	47	
7:35 AM	8	2	6	0	0	3	4	0	2	3	1	0	10	4	0	0	43	
7:40 AM	3	3	3	0	0	3	2	0	2	8	3	0	10	7	0	0	44	
7:45 AM	3	4	1	0	1	5	3	0	1	6	1	0	9	6	1	0	41	
7:50 AM	7	7	6	0	0	8	4	0	1	2	2	0	11	4	2	0	54	
7:55 AM	7	4	5	0	1	7	5	0	6	7	3	0	13	8	3	0	69	576
8:00 AM	6	3	4	0	1	3	4	0	0	4	1	0	10	3	1	0	40	581
8:05 AM	5	5	10	0	3	3	2	0	5	6	4	0	5	3	3	0	54	597
8:10 AM	6	7	19	0	0	8	2	0	0	6	1	0	8	9	1	0	67	630
8:15 AM	11	7	9	0	0	3	3	0	0	9	3	0	15	7	2	0	69	639
8:20 AM	7	7	7	0	2	3	8	0	0	6	2	0	16	7	1	0	66	648
8:25 AM	15	5	6	0	1	6	2	0	3	2	3	0	11	9	4	0	67	661
8:30 AM	18	4	8	0	1	3	3	0	5	4	2	0	12	19	2	0	81	695
8:35 AM	6	8	7	0	1	9	2	0	1	3	2	0	6	10	1	0	56	708
8:40 AM	7	3	8	0	2	10	6	0	4	9	6	0	13	7	1	0	76	740
8:45 AM	13	6	6	0	2	2	10	0	4	3	2	0	9	9	0	0	66	765
8:50 AM	4	9	3	0	0	5	3	0	5	3	4	0	7	4	1	0	48	759
8:55 AM	8	4	5	0	2	7	6	0	4	5	8	0	2	4	0	0	55	745

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	160	64	84	0	16	48	52	0	32	48	28	0	156	140	28	0	856
Heavy Trucks	8	20	8		4	4	12		12	0	0		32	12	8		120
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

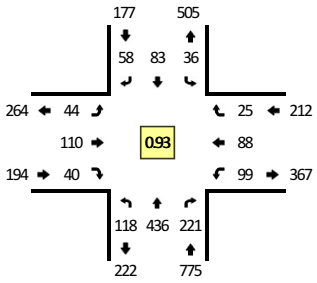
Report generated on 1/29/2025 2:01 PM

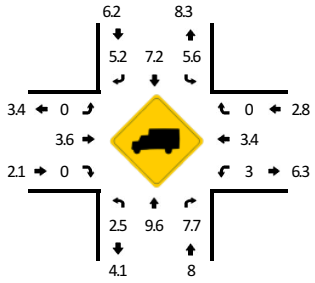
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: NE 10th Avenue -- NE 199th Street | **QC JOB #:** 16889624
CITY/STATE: Duluth, WA | **DATE:** Wed, Jan 22 2025

Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:45 PM -- 5:00 PM





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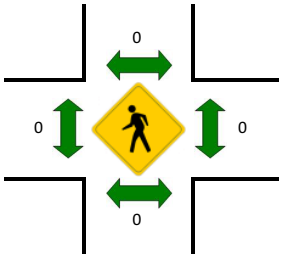



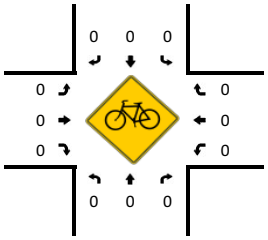

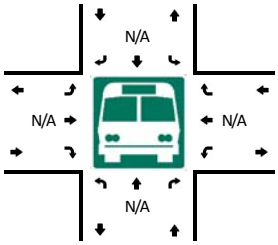



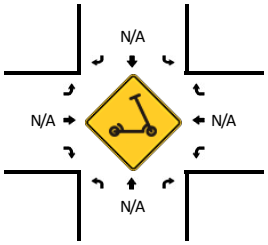

5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 199th Street (Eastbound)				NE 199th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	8	13	0	0	9	5	0	5	4	3	0	6	9	5	0	78	
4:05 PM	12	9	11	0	0	10	4	0	3	16	4	0	9	2	3	0	83	
4:10 PM	15	10	14	0	1	7	1	0	13	7	4	0	12	7	1	0	92	
4:15 PM	12	13	15	0	4	5	1	0	4	9	4	0	6	2	1	0	76	
4:20 PM	11	15	16	0	0	5	6	0	4	6	5	0	12	6	2	0	88	
4:25 PM	10	10	15	0	3	6	4	0	5	10	6	0	10	5	3	0	87	
4:30 PM	19	18	11	0	5	10	2	0	5	6	1	0	11	10	2	0	100	
4:35 PM	13	8	9	0	0	5	4	0	5	6	1	0	8	2	1	0	62	
4:40 PM	13	43	12	0	4	8	4	0	4	9	3	0	5	3	3	0	111	
4:45 PM	10	62	15	0	1	10	3	0	6	6	3	0	4	9	4	0	133	
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4:55 PM	13	40	19	0	7	3	5	0	4	2	4	0	6	8	1	0	112	1144
5:00 PM	2	49	8	0	2	7	8	0	5	13	3	0	8	9	1	0	115	1181
5:05 PM	8	42	17	0	8	10	9	0	5	8	4	0	7	8	3	0	129	1227
5:10 PM	5	23	8	0	3	4	2	0	3	7	2	0	16	11	2	0	86	1221
5:15 PM	6	23	10	0	5	13	2	0	2	6	3	0	2	6	4	0	82	1227
5:20 PM	8	29	20	0	2	9	5	0	2	8	4	0	4	8	0	0	99	1238
5:25 PM	6	33	33	0	3	2	4	0	1	17	5	0	7	5	1	0	117	1268
5:30 PM	4	21	28	0	1	7	5	0	2	23	4	0	10	5	2	0	112	1280
5:35 PM	16	28	24	0	1	5	6	0	5	13	3	0	15	7	3	0	126	1344
5:40 PM	27	36	23	0	0	4	3	0	4	4	3	0	12	8	1	0	125	1358
5:45 PM	17	33	23	0	4	5	4	0	3	5	1	0	11	4	1	0	111	1336
5:50 PM	17	40	23	0	1	6	5	0	1	5	7	0	6	6	2	0	119	1333
5:55 PM	13	46	17	0	2	6	1	0	3	7	3	0	2	14	0	0	114	1335

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	144	608	200	0	44	88	56	0	60	44	36	0	72	84	32	0	1468
Heavy Trucks	0	40	16		4	0	0		0	0	0		0	0	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

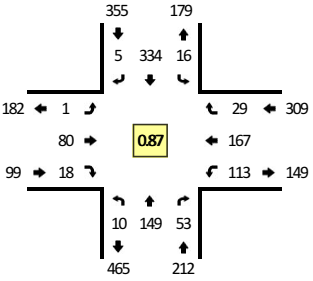
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

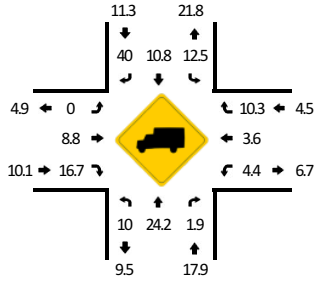
LOCATION: 1. NE 72nd Ave -- NE 199th St
CITY/STATE: Clark, WA

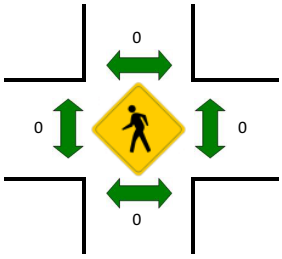
QC JOB #: 17157901
DATE: Tue, Jul 15 2025

Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

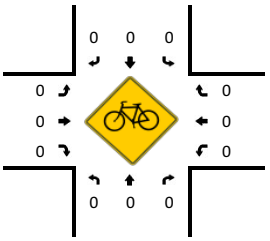


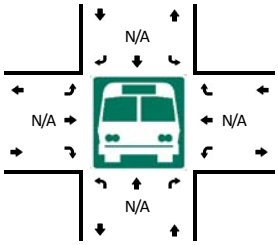




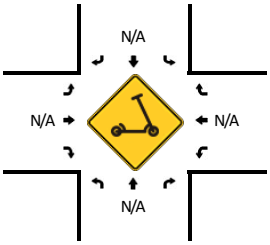












5-Min Count Period Beginning At	1. NE 72nd Ave (Northbound)				1. NE 72nd Ave (Southbound)				NE 199th St (Eastbound)				NE 199th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	12	7	0	2	32	0	0	1	5	0	0	8	16	0	0	83	
7:05 AM	0	6	5	0	0	38	0	0	0	4	2	0	6	20	3	0	84	
7:10 AM	0	5	7	0	3	13	0	0	0	6	1	0	9	16	5	0	65	
7:15 AM	0	12	1	0	2	30	1	0	0	7	3	0	12	7	1	0	76	
7:20 AM	1	13	3	0	0	24	0	0	0	7	1	0	16	14	0	0	79	
7:25 AM	2	18	6	0	1	28	0	0	0	4	0	0	6	12	0	0	77	
7:30 AM	2	8	3	0	0	31	0	0	0	4	0	0	13	12	2	0	75	
7:35 AM	1	11	7	0	1	20	0	0	0	11	1	0	7	17	4	0	80	
7:40 AM	1	20	4	0	1	33	3	0	0	13	3	0	10	11	2	0	101	
7:45 AM	2	17	6	0	3	36	0	0	0	4	1	0	7	14	7	0	97	
7:50 AM	0	13	0	0	0	25	0	0	0	8	4	0	12	18	3	0	83	
7:55 AM	1	14	4	0	3	24	1	0	0	7	2	0	7	10	2	0	75	975
8:00 AM	1	10	3	0	2	24	0	0	0	8	0	0	1	13	2	0	64	956
8:05 AM	1	9	5	0	3	22	0	0	1	3	2	0	9	7	4	0	66	938
8:10 AM	1	17	6	0	3	18	0	0	0	7	0	0	4	15	2	0	73	946
8:15 AM	1	13	8	0	1	25	0	0	1	6	5	0	8	15	4	0	87	957
8:20 AM	0	9	0	0	3	23	0	0	2	6	1	0	13	12	1	0	70	948
8:25 AM	0	14	4	0	1	15	2	0	0	4	1	0	5	8	4	0	58	929
8:30 AM	0	15	3	0	2	10	0	0	0	9	0	0	12	19	3	0	73	927
8:35 AM	1	12	4	0	4	25	1	0	0	7	1	0	13	10	4	0	82	929
8:40 AM	1	16	4	0	0	23	2	0	0	6	2	0	10	21	3	0	88	916
8:45 AM	1	12	8	0	4	23	1	0	0	11	4	0	9	9	2	0	84	903
8:50 AM	0	11	2	0	0	16	0	0	0	10	3	0	4	18	3	0	67	887
8:55 AM	0	18	0	0	4	23	1	0	1	8	0	0	3	10	4	0	72	884

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	12	200	40	0	16	376	12	0	0	100	32	0	116	172	48	0	1124
Heavy Trucks	0	40	0		4	36	4		0	0	0		0	12	4		100
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/22/2025 2:26 PM

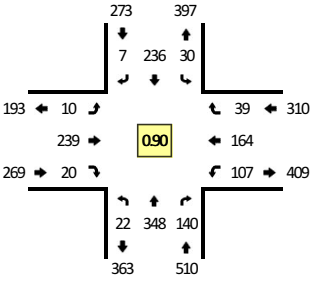
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

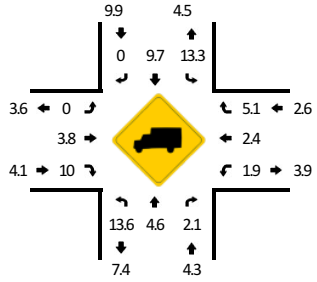
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: 1. NE 72nd Ave -- NE 199th St
CITY/STATE: Clark, WA

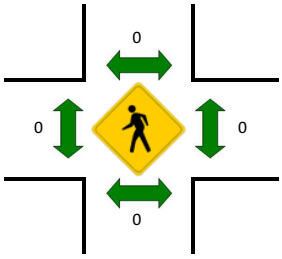
QC JOB #: 17157902
DATE: Tue, Jul 15 2025

Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:40 PM -- 4:55 PM

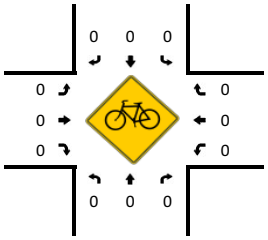


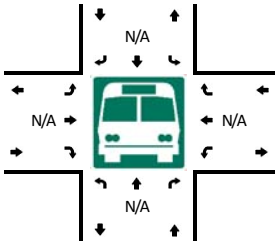


TRUE DATA TO IMPROVE MOBILITY

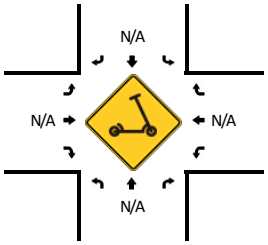












5-Min Count Period Beginning At	1. NE 72nd Ave (Northbound)				1. NE 72nd Ave (Southbound)				NE 199th St (Eastbound)				NE 199th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	30	6	0	4	23	0	0	1	24	3	0	11	9	3	0	114	
4:05 PM	1	30	8	0	6	18	1	0	1	17	0	0	6	9	4	0	101	
4:10 PM	2	34	12	0	2	23	2	0	2	15	1	0	7	21	3	0	124	
4:15 PM	3	29	12	0	1	26	1	0	0	17	0	0	14	12	2	0	117	
4:20 PM	2	22	14	0	1	19	0	0	1	24	6	0	3	11	1	0	104	
4:25 PM	1	38	12	0	3	25	0	0	1	12	0	0	12	10	4	0	118	
4:30 PM	0	30	7	0	2	13	1	0	0	11	3	0	6	17	5	0	95	
4:35 PM	3	27	17	0	0	18	0	0	1	18	1	0	3	10	4	0	102	
4:40 PM	1	31	9	0	3	18	2	0	1	20	1	0	12	15	2	0	115	
4:45 PM	4	25	19	0	2	24	0	0	0	34	1	0	7	15	2	0	133	
4:50 PM	4	35	14	0	2	21	0	0	1	18	3	0	13	15	4	0	130	
4:55 PM	1	17	10	0	4	8	0	0	1	29	1	0	13	20	5	0	109	1362
5:00 PM	1	19	12	0	9	19	0	0	1	17	3	0	3	11	1	0	96	1344
5:05 PM	1	26	8	0	6	19	0	0	1	10	1	0	8	14	1	0	95	1338
5:10 PM	0	38	7	0	1	25	3	0	0	21	0	0	5	14	5	0	119	1333
5:15 PM	1	23	14	0	2	23	1	0	4	31	2	0	9	9	6	0	125	1341
5:20 PM	1	34	13	0	2	12	1	0	1	22	0	0	11	12	3	0	112	1349
5:25 PM	2	25	5	0	3	19	0	0	3	17	1	0	15	10	10	0	110	1341
5:30 PM	1	30	16	0	4	14	0	0	2	19	2	0	7	14	1	0	110	1356
5:35 PM	1	28	15	0	2	15	0	0	0	23	0	0	4	14	3	0	105	1359
5:40 PM	1	16	10	0	7	19	0	0	1	13	1	0	14	7	0	0	89	1333
5:45 PM	1	23	12	0	5	13	0	0	0	16	1	0	4	7	4	0	86	1286
5:50 PM	0	22	8	0	3	14	2	0	0	15	3	0	6	9	1	0	83	1239
5:55 PM	1	26	14	0	2	16	0	0	1	14	1	0	6	11	3	0	95	1225

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	36	364	168	0	28	252	8	0	8	288	20	0	128	180	32	0	1512
Heavy Trucks	8	4	0		0	28	0		0	12	4		0	4	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/22/2025 2:26 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

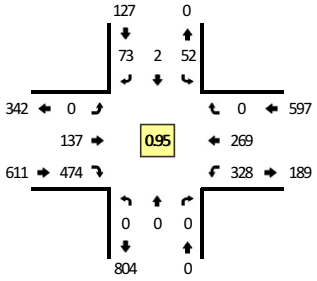
Type of peak hour being reported: Intersection Peak

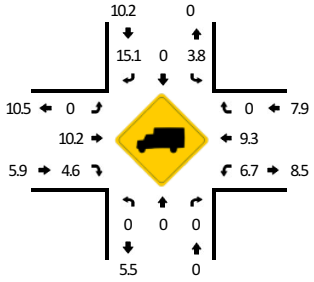
Method for determining peak hour: Total Entering Volume

LOCATION: I-5 SB Ramps -- NE 179th Street
CITY/STATE: Clark, WA

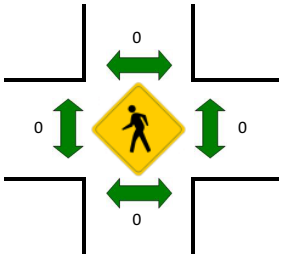
QC JOB #: 16889613
DATE: Wed, Jan 22 2025

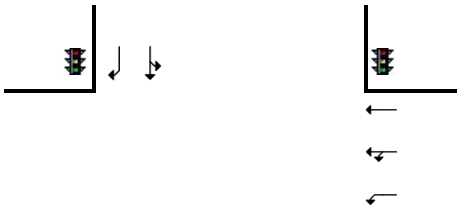
Peak-Hour: 7:05 AM -- 8:05 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

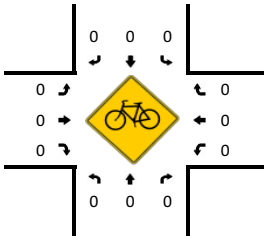


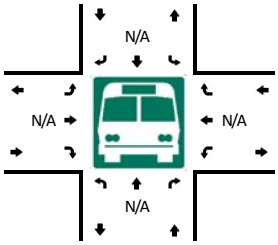


TRUE DATA TO IMPROVE MOBILITY

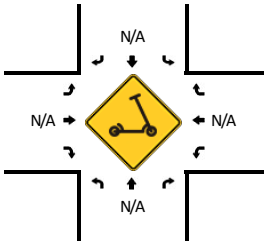












5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	4	0	11	0	0	11	19	0	22	15	0	0	82	
7:05 AM	0	0	0	0	4	1	1	0	0	12	39	0	18	16	0	0	91	
7:10 AM	0	0	0	0	4	0	7	0	0	5	39	0	26	27	0	0	108	
7:15 AM	0	0	0	0	2	1	4	0	0	15	43	0	29	23	0	0	117	
7:20 AM	0	0	0	0	6	0	8	0	0	10	39	0	35	25	0	0	123	
7:25 AM	0	0	0	0	6	0	4	0	0	11	30	0	27	22	0	0	100	
7:30 AM	0	0	0	0	9	0	5	0	0	10	46	0	27	24	0	0	121	
7:35 AM	0	0	0	0	2	0	3	0	0	11	47	0	39	24	0	0	126	
7:40 AM	0	0	0	0	3	0	5	0	0	9	37	0	30	20	0	0	104	
7:45 AM	0	0	0	0	1	0	14	0	0	11	44	0	29	20	0	0	119	
7:50 AM	0	0	0	0	4	0	11	0	0	14	42	0	24	25	0	0	120	
7:55 AM	0	0	0	0	8	0	7	0	0	15	33	0	28	22	0	0	113	1324
8:00 AM	0	0	0	0	3	0	4	0	0	14	35	0	16	21	0	0	93	1335
8:05 AM	0	0	0	0	4	1	10	0	0	11	25	0	23	17	0	0	91	1335
8:10 AM	0	0	0	0	3	0	4	0	0	14	37	0	23	17	0	0	98	1325
8:15 AM	0	0	0	0	4	0	1	0	0	14	26	0	27	21	0	0	93	1301
8:20 AM	0	0	0	0	4	0	10	0	0	8	30	0	24	21	0	0	97	1275
8:25 AM	0	0	0	0	3	0	4	0	0	11	38	0	22	31	0	0	109	1284
8:30 AM	0	0	0	0	0	0	5	0	0	12	29	0	26	25	0	0	97	1260
8:35 AM	0	0	0	0	2	0	4	0	0	10	35	0	23	24	0	0	98	1232
8:40 AM	0	0	0	0	2	0	7	0	0	11	40	0	29	22	0	0	111	1239
8:45 AM	0	0	0	0	4	0	10	0	0	12	40	0	20	16	0	0	102	1222
8:50 AM	0	0	0	0	6	0	1	0	0	11	50	0	15	24	0	0	107	1209
8:55 AM	0	0	0	0	13	0	3	0	0	9	41	0	12	22	0	0	100	1196

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	0	0	0	0	52	0	128	0	0	160	476	0	324	268	0	0	1408
Heavy Trucks	0	0	0		4	0	16		0	8	16		16	24	0		84
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

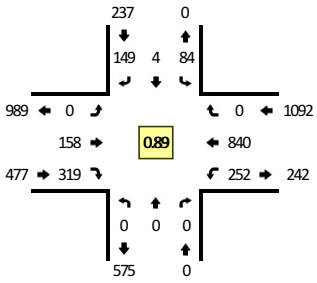
Type of peak hour being reported: Intersection Peak

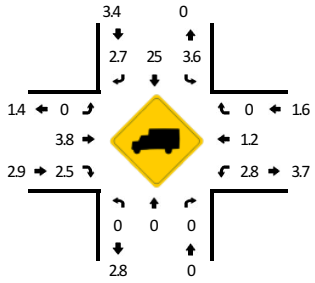
Method for determining peak hour: Total Entering Volume

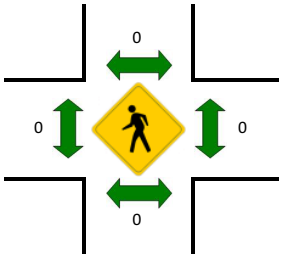
LOCATION: I-5 SB Ramps -- NE 179th Street
CITY/STATE: Clark, WA

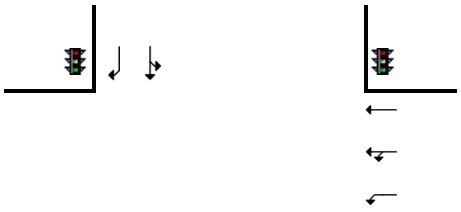
QC JOB #: 16889614
DATE: Wed, Jan 22 2025

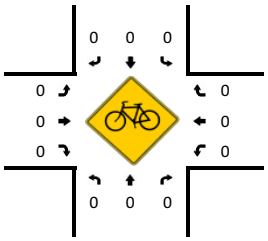
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

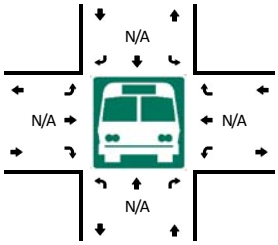




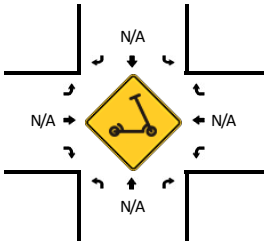












5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	2	1	10	0	0	16	35	0	22	34	0	0	120	
4:05 PM	0	0	0	0	6	1	5	0	0	14	31	0	19	28	0	0	104	
4:10 PM	0	0	0	0	4	1	11	0	0	18	27	0	22	31	0	0	114	
4:15 PM	0	0	0	0	14	0	8	0	0	10	31	0	16	46	0	0	125	
4:20 PM	0	0	0	0	11	0	10	0	0	9	31	0	24	49	0	0	134	
4:25 PM	0	0	0	0	8	1	6	0	0	22	34	0	24	27	0	0	122	
4:30 PM	0	0	0	0	8	0	9	0	0	13	30	0	27	29	0	0	116	
4:35 PM	0	0	0	0	7	0	6	0	0	20	39	0	23	34	0	0	129	
4:40 PM	0	0	0	0	6	0	7	0	0	21	33	0	13	41	0	0	121	
4:45 PM	0	0	0	0	9	1	8	0	0	16	35	0	22	44	0	0	135	
4:50 PM	0	0	0	0	8	0	8	0	0	15	28	0	15	61	0	0	135	
4:55 PM	0	0	0	0	3	2	12	0	0	24	27	0	14	79	0	0	161	1516
5:00 PM	0	0	0	0	11	0	15	0	0	12	28	0	21	82	0	0	169	1565
5:05 PM	0	0	0	0	7	1	20	0	0	12	28	0	22	64	0	0	154	1615
5:10 PM	0	0	0	0	10	0	18	0	0	10	27	0	30	88	0	0	183	1684
5:15 PM	0	0	0	0	2	0	13	0	0	13	29	0	24	79	0	0	160	1719
5:20 PM	0	0	0	0	7	0	15	0	0	13	30	0	26	73	0	0	164	1749
5:25 PM	0	0	0	0	9	0	10	0	0	13	24	0	17	75	0	0	148	1775
5:30 PM	0	0	0	0	3	0	11	0	0	9	22	0	12	73	0	0	130	1789
5:35 PM	0	0	0	0	10	0	11	0	0	13	21	0	21	66	0	0	142	1802
5:40 PM	0	0	0	0	5	0	8	0	0	8	20	0	28	56	0	0	125	1806
5:45 PM	0	0	0	0	9	0	13	0	0	12	22	0	19	45	0	0	120	1791
5:50 PM	0	0	0	0	6	1	9	0	0	6	26	0	25	61	0	0	134	1790
5:55 PM	0	0	0	0	3	0	9	0	0	13	17	0	17	40	0	0	99	1728

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	0	0	0	0	76	0	184	0	0	144	344	0	320	960	0	0	2028
Heavy Trucks	0	0	0		0	0	8		0	8	20		12	16	0		64
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

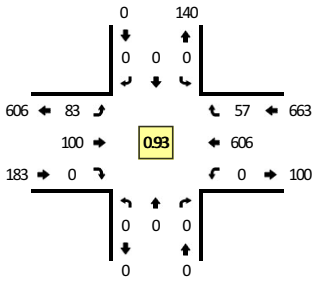
Report generated on 1/29/2025 2:01 PM

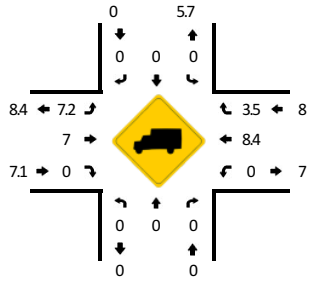
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

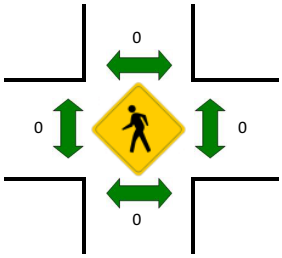
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

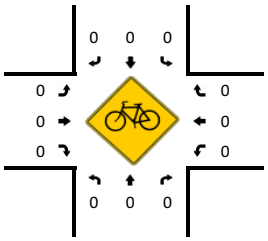
LOCATION: I-5 NB On-Ramp -- NE 179th Street | **QC JOB #:** 16889611
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

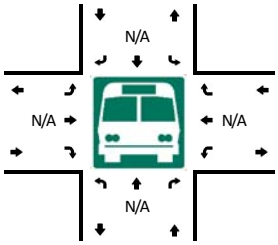
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

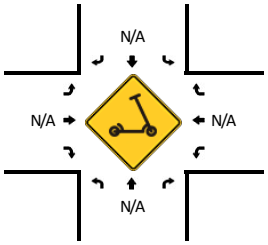












5-Min Count Period Beginning At	I-5 NB On-Ramp (Northbound)				I-5 NB On-Ramp (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	4	11	0	0	0	39	9	0	63	
7:05 AM	0	0	0	0	0	0	0	0	6	8	0	0	0	37	6	0	57	
7:10 AM	0	0	0	0	0	0	0	0	4	6	0	0	0	55	3	0	68	
7:15 AM	0	0	0	0	0	0	0	0	12	5	0	0	0	54	2	0	73	
7:20 AM	0	0	0	0	0	0	0	0	3	9	0	0	0	62	3	0	77	
7:25 AM	0	0	0	0	0	0	0	0	4	11	0	0	0	47	5	0	67	
7:30 AM	0	0	0	0	0	0	0	0	8	13	0	0	0	54	5	0	80	
7:35 AM	0	0	0	0	0	0	0	0	8	7	0	0	0	59	3	0	77	
7:40 AM	0	0	0	0	0	0	0	0	4	8	0	0	0	51	7	0	70	
7:45 AM	0	0	0	0	0	0	0	0	7	5	0	0	0	49	3	0	64	
7:50 AM	0	0	0	0	0	0	0	0	13	5	0	0	0	49	7	0	74	
7:55 AM	0	0	0	0	0	0	0	0	10	12	0	0	0	50	4	0	76	846
8:00 AM	0	0	0	0	0	0	0	0	4	13	0	0	0	38	2	0	57	840
8:05 AM	0	0	0	0	0	0	0	0	7	9	0	0	0	37	2	0	55	838
8:10 AM	0	0	0	0	0	0	0	0	10	8	0	0	0	46	2	0	66	836
8:15 AM	0	0	0	0	0	0	0	0	7	11	0	0	0	46	5	0	69	832
8:20 AM	0	0	0	0	0	0	0	0	6	6	0	0	0	46	3	0	61	816
8:25 AM	0	0	0	0	0	0	0	0	8	5	0	0	0	53	7	0	73	822
8:30 AM	0	0	0	0	0	0	0	0	7	6	0	0	0	52	5	0	70	812
8:35 AM	0	0	0	0	0	0	0	0	2	6	0	0	0	51	6	0	65	800
8:40 AM	0	0	0	0	0	0	0	0	8	9	0	0	0	46	4	0	67	797
8:45 AM	0	0	0	0	0	0	0	0	4	11	0	0	0	39	4	0	58	791
8:50 AM	0	0	0	0	0	0	0	0	7	10	0	0	0	42	2	0	61	778
8:55 AM	0	0	0	0	0	0	0	0	4	17	0	0	0	30	3	0	54	756

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	0	0	0	0	0	0	0	0	80	112	0	0	0	656	60	0	908
Heavy Trucks	0	0	0		0	0	0		4	4	0		0	52	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

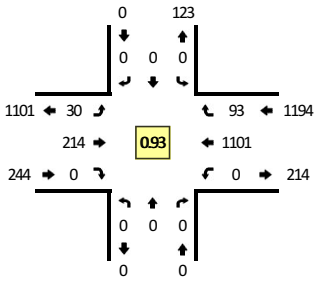
Comments:

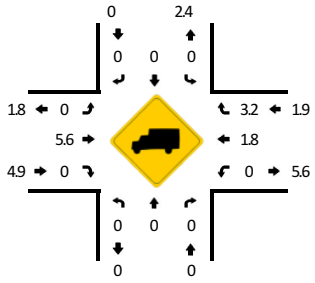
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

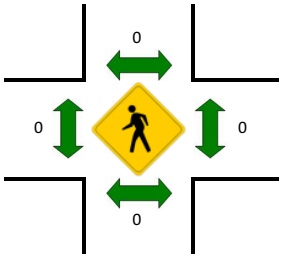
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: I-5 NB On-Ramp -- NE 179th Street | **QC JOB #:** 16889612
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

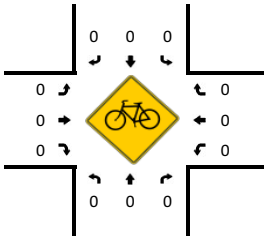
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

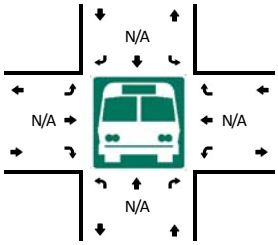




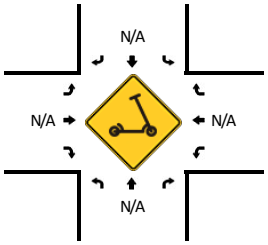












5-Min Count Period Beginning At	I-5 NB On-Ramp (Northbound)				I-5 NB On-Ramp (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	7	12	0	0	0	59	3	0	81	
4:05 PM	0	0	0	0	0	0	0	0	9	11	0	0	0	47	11	0	78	
4:10 PM	0	0	0	0	0	0	0	0	8	14	0	0	0	53	4	0	79	
4:15 PM	0	0	0	0	0	0	0	0	5	20	0	0	0	62	2	0	89	
4:20 PM	0	0	0	0	0	0	0	0	5	14	0	0	0	70	2	0	91	
4:25 PM	0	0	0	0	0	0	0	0	13	18	0	0	0	46	5	0	82	
4:30 PM	0	0	0	0	0	0	0	0	5	14	0	0	0	58	6	0	83	
4:35 PM	0	0	0	0	0	0	0	0	14	13	0	0	0	60	5	0	92	
4:40 PM	0	0	0	0	0	0	0	0	12	15	0	0	0	52	2	0	81	
4:45 PM	0	0	0	0	0	0	0	0	8	18	0	0	0	67	7	0	100	
4:50 PM	0	0	0	0	0	0	0	0	4	19	0	0	0	85	5	0	113	
4:55 PM	0	0	0	0	0	0	0	0	6	23	0	0	0	96	3	0	128	1097
5:00 PM	0	0	0	0	0	0	0	0	1	23	0	0	0	105	3	0	132	1148
5:05 PM	0	0	0	0	0	0	0	0	0	19	0	0	0	79	2	0	100	1170
5:10 PM	0	0	0	0	0	0	0	0	0	20	0	0	0	127	1	0	148	1239
5:15 PM	0	0	0	0	0	0	0	0	2	13	0	0	0	97	6	0	118	1268
5:20 PM	0	0	0	0	0	0	0	0	3	16	0	0	0	98	5	0	122	1299
5:25 PM	0	0	0	0	0	0	0	0	3	17	0	0	0	90	17	0	127	1344
5:30 PM	0	0	0	0	0	0	0	0	2	12	0	0	0	86	14	0	114	1375
5:35 PM	0	0	0	0	0	0	0	0	1	20	0	0	0	90	20	0	131	1414
5:40 PM	0	0	0	0	0	0	0	0	0	14	0	0	0	81	10	0	105	1438
5:45 PM	0	0	0	0	0	0	0	0	3	16	0	0	0	68	9	0	96	1434
5:50 PM	0	0	0	0	0	0	0	0	1	10	0	0	0	86	13	0	110	1431
5:55 PM	0	0	0	0	0	0	0	0	4	11	0	0	0	58	6	0	79	1382

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	0	0	0	0	0	0	0	0	20	196	0	0	0	1288	48	0	1552
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	28	4		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

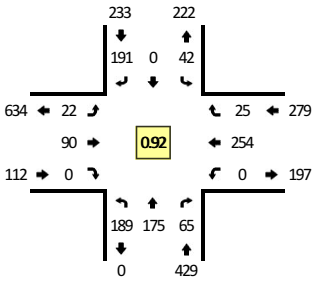
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

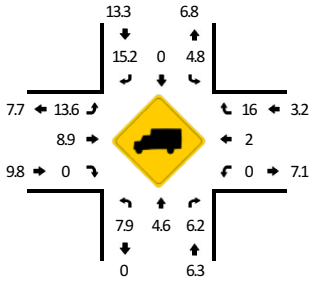
LOCATION: NE 10th Avenue -- NE 179th Street
CITY/STATE: Clark, WA

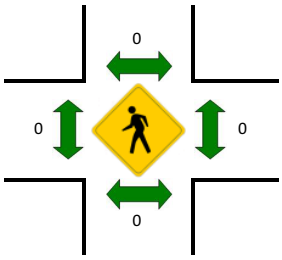
QC JOB #: 16889609
DATE: Wed, Jan 22 2025

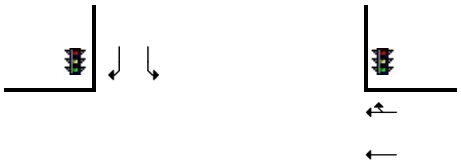
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:20 AM -- 7:35 AM

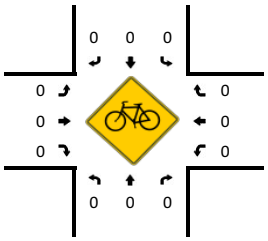


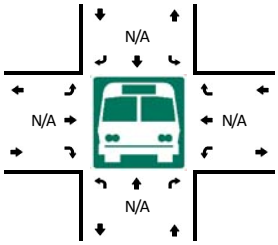


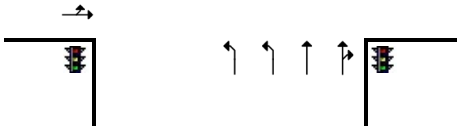


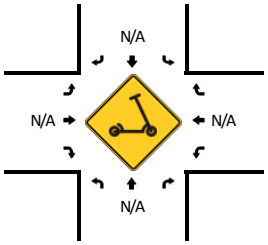












5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	10	3	0	0	0	15	0	2	10	0	0	0	25	1	0	74	
7:05 AM	12	8	3	0	4	0	10	0	2	7	0	0	0	21	2	0	69	
7:10 AM	21	12	5	0	2	0	18	0	2	4	0	0	0	19	3	0	86	
7:15 AM	18	20	7	0	4	0	19	0	2	3	0	0	0	19	2	0	94	
7:20 AM	20	14	8	0	1	0	27	0	2	7	0	0	0	19	1	0	99	
7:25 AM	17	13	8	0	8	0	12	0	4	8	0	0	0	22	1	0	93	
7:30 AM	16	14	5	0	2	0	14	0	1	12	0	0	0	29	1	0	94	
7:35 AM	14	12	4	0	2	0	19	0	1	6	0	0	0	27	3	0	88	
7:40 AM	19	9	6	0	4	0	12	0	1	6	0	0	0	27	0	0	84	
7:45 AM	17	11	7	0	4	0	13	0	0	6	0	0	0	22	1	0	81	
7:50 AM	18	9	6	0	1	0	18	0	2	4	0	0	0	20	5	0	83	
7:55 AM	14	11	9	0	2	0	22	0	2	11	0	0	0	18	3	0	92	1037
8:00 AM	14	13	4	0	4	0	15	0	1	10	0	0	0	11	2	0	74	1037
8:05 AM	11	22	4	0	3	0	10	0	4	6	0	0	0	18	2	0	80	1048
8:10 AM	18	23	2	0	6	0	12	0	1	6	0	0	0	19	2	0	89	1051
8:15 AM	11	24	2	0	5	0	17	0	3	8	0	0	0	22	4	0	96	1053
8:20 AM	7	14	5	0	2	0	23	0	0	6	0	0	0	18	5	0	80	1034
8:25 AM	22	23	6	0	1	0	15	0	1	5	0	0	0	22	8	0	103	1044
8:30 AM	17	12	8	0	3	0	18	0	2	4	0	0	0	22	3	0	89	1039
8:35 AM	17	13	2	0	1	0	23	0	4	2	0	0	0	16	6	0	84	1035
8:40 AM	12	16	9	0	3	0	21	0	3	4	0	0	0	18	4	0	90	1041
8:45 AM	15	11	8	0	7	0	13	0	3	6	0	0	0	14	7	0	84	1044
8:50 AM	20	16	3	0	4	0	7	0	1	11	0	0	0	17	2	0	81	1042
8:55 AM	9	13	7	0	5	0	11	0	2	15	0	0	0	14	3	0	79	1029

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	212	164	84	0	44	0	212	0	28	108	0	0	0	280	12	0	1144
Heavy Trucks	20	8	12		0	0	48		12	0	0		0	12	0		112
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

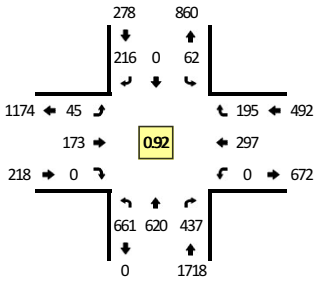
Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

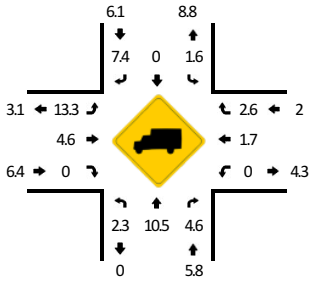
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

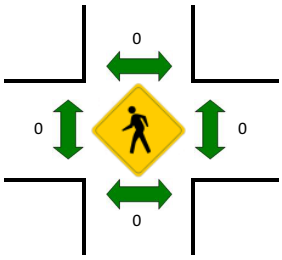
LOCATION: NE 10th Avenue -- NE 179th Street | **QC JOB #:** 16889610
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

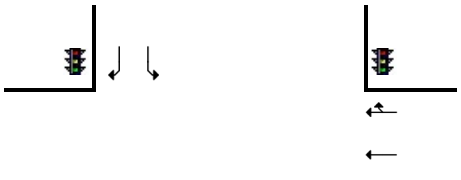
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:50 PM -- 5:05 PM

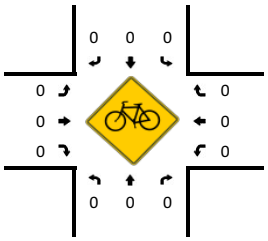


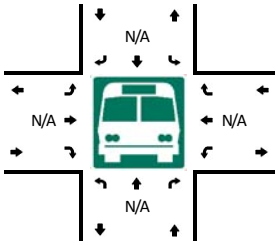


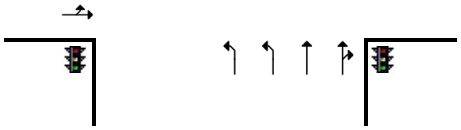


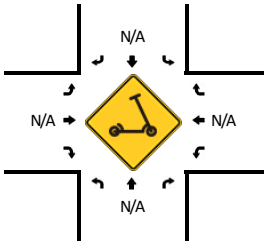












5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	24	25	10	0	7	0	15	0	1	11	0	0	0	24	6	0	123	
4:05 PM	19	31	14	0	8	0	17	0	1	10	0	0	0	18	6	0	124	
4:10 PM	21	26	10	0	7	0	19	0	0	14	0	0	0	17	8	0	122	
4:15 PM	31	35	17	0	6	0	12	0	2	17	0	0	0	21	8	0	149	
4:20 PM	38	43	16	0	9	0	17	0	2	13	0	0	0	14	8	0	160	
4:25 PM	20	23	13	0	2	0	15	0	1	18	0	0	0	16	10	0	118	
4:30 PM	24	29	14	0	5	0	26	0	3	10	0	0	0	13	6	0	130	
4:35 PM	34	47	14	0	2	0	15	0	2	11	0	0	0	17	3	0	145	
4:40 PM	34	73	19	0	5	0	12	0	1	15	0	0	0	6	7	0	172	
4:45 PM	36	65	19	0	6	0	14	0	5	12	0	0	0	23	16	0	196	
4:50 PM	57	95	14	0	5	0	13	0	9	13	0	0	0	21	18	0	245	
4:55 PM	71	62	33	0	12	0	15	0	7	16	0	0	0	12	14	0	242	1926
5:00 PM	58	63	47	0	3	0	17	0	2	21	0	0	0	26	13	0	250	2053
5:05 PM	39	40	41	0	8	0	23	0	1	18	0	0	0	16	14	0	200	2129
5:10 PM	80	52	65	0	4	0	22	0	3	17	0	0	0	27	9	0	279	2286
5:15 PM	60	44	52	0	4	0	21	0	2	12	0	0	0	20	7	0	222	2359
5:20 PM	54	27	48	0	4	0	18	0	3	12	0	0	0	30	16	0	212	2411
5:25 PM	65	36	31	0	0	0	18	0	4	14	0	0	0	20	18	0	206	2499
5:30 PM	54	52	39	0	9	0	10	0	4	9	0	0	0	34	19	0	230	2599
5:35 PM	47	39	28	0	5	0	30	0	3	15	0	0	0	31	23	0	221	2675
5:40 PM	40	45	20	0	2	0	15	0	2	14	0	0	0	37	28	0	203	2706
5:45 PM	33	44	10	0	3	0	14	0	6	14	0	0	0	29	24	0	177	2687
5:50 PM	47	55	17	0	3	0	19	0	0	10	0	0	0	33	26	0	210	2652
5:55 PM	42	64	15	0	4	0	7	0	4	6	0	0	0	16	19	0	177	2587

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	744	880	376	0	80	0	180	0	72	200	0	0	0	236	180	0	2948
Heavy Trucks	8	96	12		0	0	12		12	8	0		0	8	8		164
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

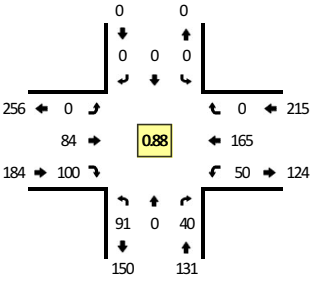
Type of peak hour being reported: Intersection Peak

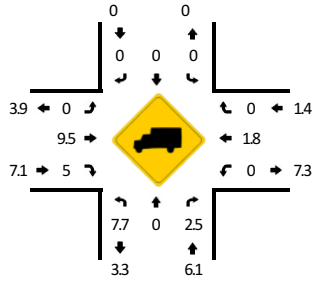
Method for determining peak hour: Total Entering Volume

LOCATION: NE 15th Avenue -- NE 179th Street
CITY/STATE: Mount Vista, WA

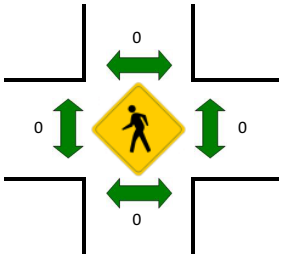
QC JOB #: 16889607
DATE: Wed, Jan 22 2025

Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:25 AM -- 7:40 AM

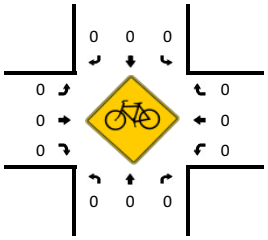


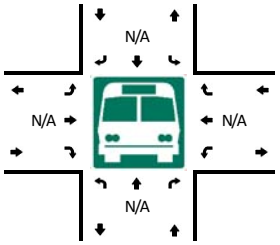


TRUE DATA TO IMPROVE MOBILITY

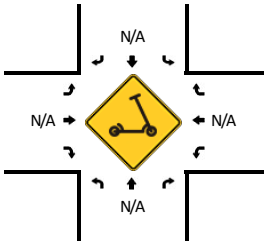












5-Min Count Period Beginning At	NE 15th Avenue (Northbound)				NE 15th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	11	0	3	0	0	0	0	0	0	9	2	0	3	15	0	0	43	
7:05 AM	5	0	2	0	0	0	0	0	0	7	9	0	2	12	0	0	37	
7:10 AM	6	0	3	0	0	0	0	0	0	6	5	0	2	15	0	0	37	
7:15 AM	6	0	3	0	0	0	0	0	0	5	8	0	4	12	0	0	38	
7:20 AM	5	0	0	0	0	0	0	0	0	9	7	0	3	18	0	0	42	
7:25 AM	5	0	4	0	0	0	0	0	0	10	11	0	2	14	0	0	46	
7:30 AM	7	0	3	0	0	0	0	0	0	7	12	0	7	20	0	0	56	
7:35 AM	8	0	3	0	0	0	0	0	0	7	6	0	6	19	0	0	49	
7:40 AM	7	0	3	0	0	0	0	0	0	4	9	0	5	18	0	0	46	
7:45 AM	6	0	3	0	0	0	0	0	0	13	5	0	6	12	0	0	45	
7:50 AM	10	0	4	0	0	0	0	0	0	7	4	0	3	13	0	0	41	
7:55 AM	9	0	3	0	0	0	0	0	0	12	9	0	3	10	0	0	46	526
8:00 AM	7	0	2	0	0	0	0	0	0	5	9	0	3	9	0	0	35	518
8:05 AM	4	0	5	0	0	0	0	0	0	4	7	0	1	10	0	0	31	512
8:10 AM	7	0	2	0	0	0	0	0	0	6	7	0	6	14	0	0	42	517
8:15 AM	9	0	5	0	0	0	0	0	0	2	13	0	3	13	0	0	45	524
8:20 AM	12	0	3	0	0	0	0	0	0	7	8	0	5	13	0	0	48	530
8:25 AM	6	0	1	0	0	0	0	0	0	5	4	0	3	19	0	0	38	522
8:30 AM	11	0	2	0	0	0	0	0	0	6	5	0	4	13	0	0	41	507
8:35 AM	8	0	1	0	0	0	0	0	0	4	4	0	2	12	0	0	31	489
8:40 AM	5	0	1	0	0	0	0	0	0	7	6	0	4	12	0	0	35	478
8:45 AM	8	0	5	0	0	0	0	0	0	14	4	0	6	10	0	0	47	480
8:50 AM	7	0	1	0	0	0	0	0	0	8	8	0	4	9	0	0	37	476
8:55 AM	8	0	0	0	0	0	0	0	0	12	10	0	3	13	0	0	46	476

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	80	0	40	0	0	0	0	0	0	96	116	0	60	212	0	0	604
Heavy Trucks	4	0	0		0	0	0		0	12	0		0	4	0		20
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

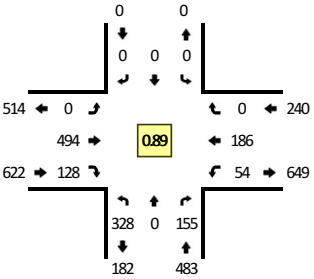
Type of peak hour being reported: Intersection Peak

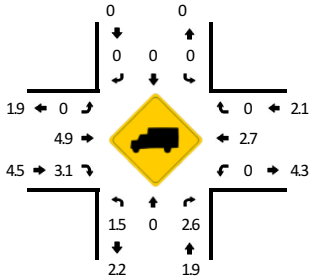
Method for determining peak hour: Total Entering Volume

LOCATION: NE 15th Avenue -- NE 179th Street
CITY/STATE: Mount Vista, WA

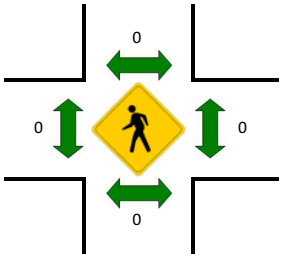
QC JOB #: 16889608
DATE: Wed, Jan 22 2025

Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

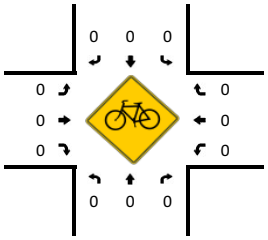


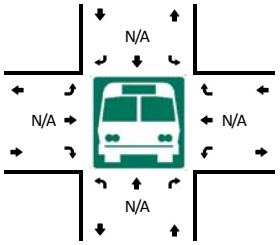


TRUE DATA TO IMPROVE MOBILITY

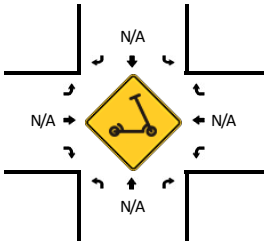












5-Min Count Period Beginning At	NE 15th Avenue (Northbound)				NE 15th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	13	0	6	0	0	0	0	0	0	10	12	0	6	16	0	0	63	
4:05 PM	14	0	2	0	0	0	0	0	0	18	13	0	2	13	0	0	62	
4:10 PM	13	0	6	0	0	0	0	0	0	11	15	0	1	11	0	0	57	
4:15 PM	11	0	4	0	0	0	0	0	0	14	19	0	2	14	0	0	64	
4:20 PM	12	0	10	0	0	0	0	0	0	23	14	0	0	12	0	0	71	
4:25 PM	11	0	8	0	0	0	0	0	0	18	10	0	3	13	0	0	63	
4:30 PM	12	0	4	0	0	0	0	0	0	19	9	0	7	7	0	0	58	
4:35 PM	6	0	8	0	0	0	0	0	0	15	9	0	7	11	0	0	56	
4:40 PM	11	0	7	0	0	0	0	0	0	25	12	0	2	6	0	0	63	
4:45 PM	25	0	8	0	0	0	0	0	0	21	13	0	5	7	0	0	79	
4:50 PM	25	0	8	0	0	0	0	0	0	23	10	0	3	9	0	0	78	
4:55 PM	29	0	12	0	0	0	0	0	0	38	9	0	5	8	0	0	101	815
5:00 PM	20	0	13	0	0	0	0	0	0	67	6	0	4	10	0	0	120	872
5:05 PM	15	0	10	0	0	0	0	0	0	59	12	0	5	16	0	0	117	927
5:10 PM	21	0	21	0	0	0	0	0	0	54	13	0	3	12	0	0	124	994
5:15 PM	19	0	13	0	0	0	0	0	0	52	8	0	4	9	0	0	105	1035
5:20 PM	27	0	9	0	0	0	0	0	0	48	4	0	5	21	0	0	114	1078
5:25 PM	28	0	8	0	0	0	0	0	0	35	14	0	6	15	0	0	106	1121
5:30 PM	34	0	12	0	0	0	0	0	0	35	17	0	0	15	0	0	113	1176
5:35 PM	49	0	17	0	0	0	0	0	0	39	13	0	4	11	0	0	133	1253
5:40 PM	35	0	11	0	0	0	0	0	0	34	14	0	6	32	0	0	132	1322
5:45 PM	26	0	14	0	0	0	0	0	0	15	8	0	5	23	0	0	91	1334
5:50 PM	25	0	15	0	0	0	0	0	0	18	10	0	7	14	0	0	89	1345
5:55 PM	21	0	10	0	0	0	0	0	0	17	6	0	5	17	0	0	76	1320

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	472	0	160	0	0	0	0	0	0	432	176	0	40	232	0	0	1512
Heavy Trucks	8	0	8		0	0	0		0	32	0		0	8	0		56
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

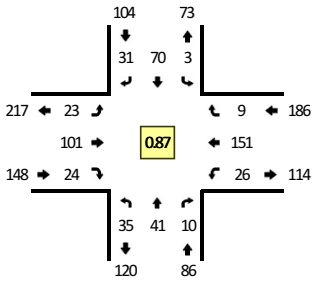
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

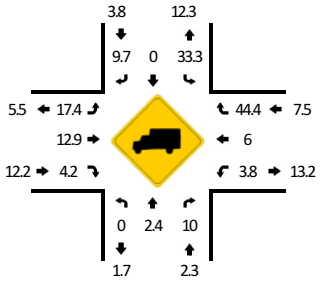
LOCATION: NE 29th Ave -- NE 179th St
CITY/STATE: Vancouver, WA

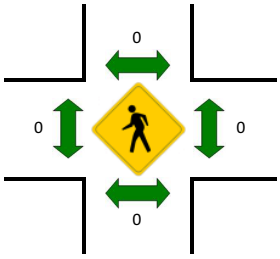
QC JOB #: 17179801
DATE: Wed, Aug 6 2025

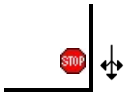
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:35 AM -- 8:50 AM

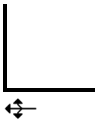


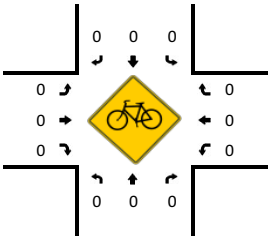


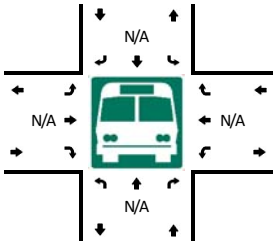


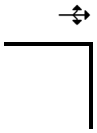


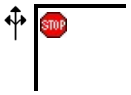


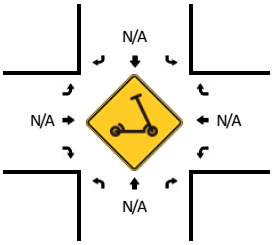












5-Min Count Period Beginning At	NE 29th Ave (Northbound)				NE 29th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	1	1	0	0	3	3	0	2	7	2	0	3	6	0	0	29	
7:05 AM	3	4	0	0	2	1	1	0	2	6	1	0	0	13	0	0	33	
7:10 AM	0	4	0	0	0	10	1	0	2	10	0	0	1	6	0	0	34	
7:15 AM	2	2	4	0	1	11	3	0	1	4	0	0	1	6	1	0	36	
7:20 AM	0	3	2	0	0	6	4	0	3	11	1	0	3	18	0	0	51	
7:25 AM	2	4	1	0	0	6	2	0	2	13	1	0	2	9	2	0	44	
7:30 AM	1	1	3	0	0	7	2	0	0	2	2	0	1	14	0	0	33	
7:35 AM	5	6	0	0	0	5	1	0	5	11	4	0	3	15	0	0	55	
7:40 AM	1	2	4	0	0	10	3	0	2	5	0	0	0	11	0	0	38	
7:45 AM	1	1	2	0	0	8	9	0	1	6	0	0	4	12	0	0	44	
7:50 AM	2	4	0	0	0	11	0	0	5	5	1	0	0	19	0	0	47	
7:55 AM	1	1	2	0	3	3	3	0	2	8	2	0	2	11	1	0	39	483
8:00 AM	4	5	0	0	0	7	3	0	1	12	2	0	2	11	1	0	48	502
8:05 AM	2	4	1	0	1	6	1	0	4	6	1	0	1	13	0	0	40	509
8:10 AM	6	2	0	0	0	7	0	0	2	8	1	0	2	16	0	0	44	519
8:15 AM	3	4	0	0	0	3	3	0	2	6	4	0	0	12	0	0	37	520
8:20 AM	4	5	0	0	0	5	5	0	1	12	2	0	2	8	0	0	44	513
8:25 AM	1	1	0	0	0	5	2	0	3	5	0	0	2	6	0	0	25	494
8:30 AM	3	2	1	0	0	6	5	0	4	4	2	0	4	14	0	0	45	506
8:35 AM	5	3	1	0	0	5	1	0	2	10	1	0	1	13	3	0	45	496
8:40 AM	3	4	3	0	0	7	3	0	1	11	2	0	5	18	0	0	57	515
8:45 AM	1	4	0	0	1	8	3	0	0	9	4	0	2	14	2	0	48	519
8:50 AM	0	5	1	0	0	7	4	0	1	9	2	0	3	12	0	0	44	516
8:55 AM	3	2	3	0	1	4	1	0	2	9	3	0	2	14	3	0	47	524

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	36	44	16	0	4	80	28	0	12	120	28	0	32	180	20	0	600
Heavy Trucks	0	0	0		0	0	0		4	12	0		0	4	12		32
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 8/12/2025 2:49 PM

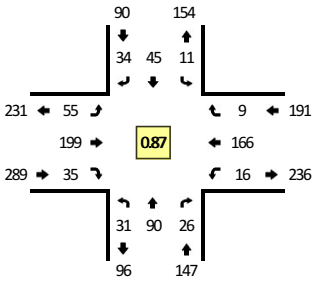
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

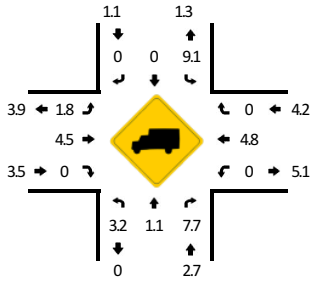
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: NE 29th Ave -- NE 179th St
CITY/STATE: Vancouver, WA

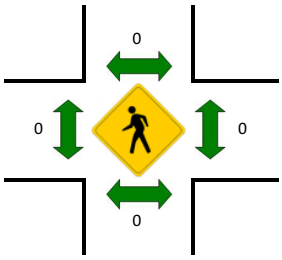
QC JOB #: 17179802
DATE: Tue, Aug 5 2025

Peak-Hour: 4:15 PM -- 5:15 PM
Peak 15-Min: 4:15 PM -- 4:30 PM

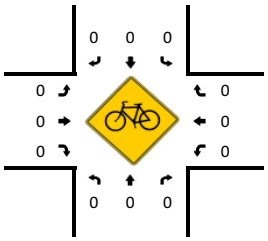


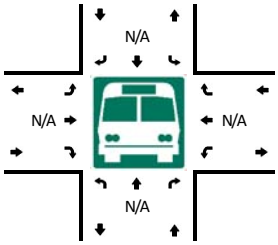


TRUE DATA TO IMPROVE MOBILITY

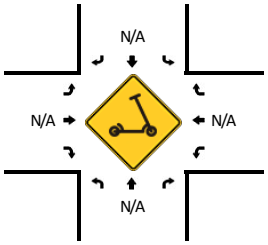












5-Min Count Period Beginning At	NE 29th Ave (Northbound)				NE 29th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	6	3	0	1	5	3	0	5	17	5	0	0	12	2	0	61	
4:05 PM	1	2	1	0	1	6	6	0	2	11	10	0	0	10	0	0	50	
4:10 PM	1	2	2	0	2	6	3	0	5	12	2	0	3	15	1	0	54	
4:15 PM	4	15	3	0	0	2	4	0	7	17	1	0	2	15	0	0	70	
4:20 PM	0	7	1	0	0	2	7	0	7	25	2	0	2	19	0	0	72	
4:25 PM	3	8	3	0	0	5	6	0	3	17	5	0	1	11	1	0	63	
4:30 PM	1	7	4	0	1	3	3	0	5	21	3	0	3	7	0	0	58	
4:35 PM	0	9	3	0	1	3	4	0	2	17	5	0	0	13	0	0	57	
4:40 PM	5	7	1	0	0	7	1	0	5	11	2	0	0	15	0	0	54	
4:45 PM	5	8	1	0	2	1	1	0	2	16	3	0	2	15	1	0	57	
4:50 PM	3	8	1	0	1	4	3	0	5	15	4	0	2	14	0	0	60	
4:55 PM	2	5	2	0	2	3	0	0	6	7	4	0	1	10	3	0	45	701
5:00 PM	1	5	2	0	0	4	0	0	7	16	2	0	1	13	2	0	53	693
5:05 PM	4	3	3	0	3	4	3	0	3	14	1	0	1	13	2	0	54	697
5:10 PM	3	8	2	0	1	7	2	0	3	23	3	0	1	21	0	0	74	717
5:15 PM	2	4	3	0	2	7	1	0	9	20	3	0	0	14	0	0	65	712
5:20 PM	1	12	2	0	1	4	5	0	3	14	7	0	1	13	1	0	64	704
5:25 PM	4	5	1	0	1	9	4	0	7	14	7	0	1	11	1	0	65	706
5:30 PM	1	7	4	0	1	5	5	0	7	15	2	0	2	15	0	0	64	712
5:35 PM	1	9	3	0	1	2	1	0	3	19	2	0	2	9	1	0	53	708
5:40 PM	4	8	4	0	0	4	2	0	4	19	5	0	1	9	0	0	60	714
5:45 PM	0	5	2	0	0	5	3	0	3	17	2	0	2	13	0	0	52	709
5:50 PM	0	2	5	0	1	7	4	0	2	19	3	0	3	12	1	0	59	708
5:55 PM	3	2	1	0	0	2	2	0	2	8	5	0	1	19	1	0	46	709

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	28	120	28	0	0	36	68	0	68	236	32	0	20	180	4	0	820
Heavy Trucks	4	0	0		0	0	0		0	12	0		0	4	0		20
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 8/12/2025 2:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

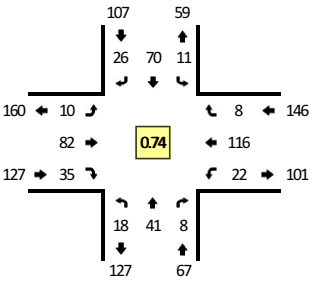
Type of peak hour being reported: Intersection Peak

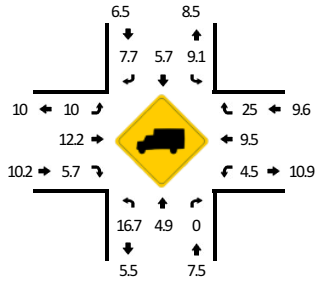
Method for determining peak hour: Total Entering Volume

LOCATION: NE 50th Ave -- NE 179th St
CITY/STATE: Vancouver, WA

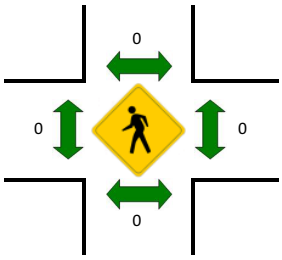
QC JOB #: 17179803
DATE: Wed, Aug 6 2025

Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

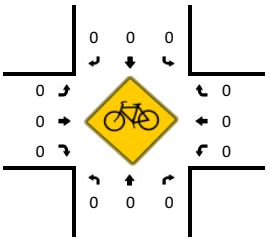


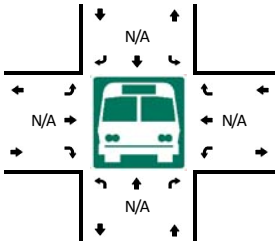


TRUE DATA TO IMPROVE MOBILITY

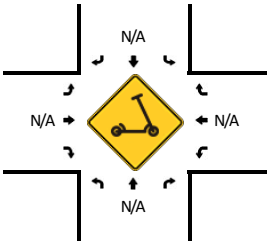












5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	4	0	0	0	1	2	0	0	3	2	0	2	5	1	0	24	
7:05 AM	2	1	0	0	1	3	1	0	0	6	2	0	0	7	0	0	23	
7:10 AM	0	3	0	0	0	5	1	0	2	5	1	0	0	6	0	0	23	
7:15 AM	0	1	1	0	2	4	3	0	0	5	1	0	1	8	1	0	27	
7:20 AM	4	1	0	0	0	3	2	0	3	9	1	0	1	16	0	0	40	
7:25 AM	2	3	1	0	2	4	2	0	1	7	3	0	1	5	1	0	32	
7:30 AM	2	4	1	0	1	3	2	0	2	5	1	0	1	10	0	0	32	
7:35 AM	2	4	1	0	3	6	1	0	2	7	1	0	3	10	0	0	40	
7:40 AM	3	3	0	0	4	10	2	0	0	6	2	0	2	7	0	0	39	
7:45 AM	0	7	2	0	0	11	0	0	0	3	1	0	3	13	0	0	40	
7:50 AM	1	2	1	0	2	2	1	0	4	9	1	0	0	10	1	0	34	
7:55 AM	5	4	0	0	1	5	0	0	0	7	2	0	3	12	0	0	39	393
8:00 AM	1	3	0	0	0	0	4	0	0	8	2	0	2	8	0	0	28	397
8:05 AM	0	3	0	0	0	7	1	0	0	9	2	0	0	10	0	0	32	406
8:10 AM	0	3	0	0	2	5	2	0	0	5	3	0	1	11	0	0	32	415
8:15 AM	2	2	0	0	2	5	1	0	0	7	4	0	3	7	2	0	35	423
8:20 AM	0	3	1	0	1	4	2	0	2	6	2	0	2	2	1	0	26	409
8:25 AM	2	1	1	0	2	7	4	0	1	4	2	0	1	9	0	0	34	411
8:30 AM	2	3	0	0	0	4	2	0	0	1	3	0	3	8	0	0	26	405
8:35 AM	3	5	1	0	1	5	3	0	2	6	3	0	2	8	0	0	39	404
8:40 AM	2	4	1	0	0	2	4	0	0	10	4	0	0	15	1	0	43	408
8:45 AM	2	1	0	0	2	9	0	0	1	11	3	0	1	7	3	0	40	408
8:50 AM	2	5	2	0	0	9	1	0	1	6	4	0	4	15	1	0	50	424
8:55 AM	2	8	2	0	1	13	2	0	3	9	3	0	3	16	0	0	62	447

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	24	56	16	0	12	124	12	0	20	104	40	0	32	152	16	0	608
Heavy Trucks	4	4	0		0	8	0		0	20	0		0	8	4		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 8/12/2025 2:49 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

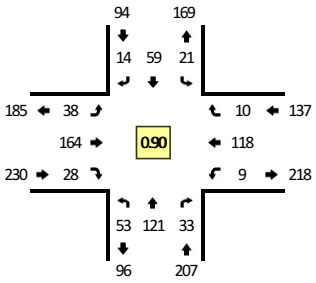
Type of peak hour being reported: Intersection Peak

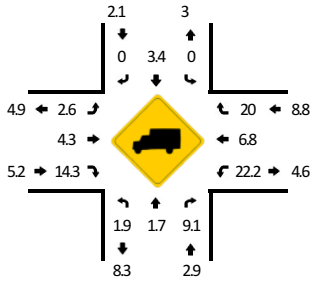
Method for determining peak hour: Total Entering Volume

LOCATION: NE 50th Ave -- NE 179th St
CITY/STATE: Vancouver, WA

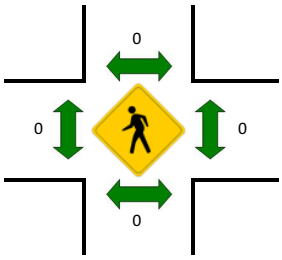
QC JOB #: 17179804
DATE: Tue, Aug 5 2025

Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

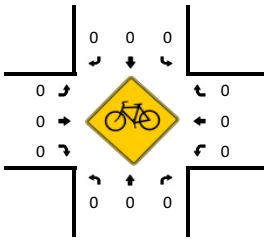


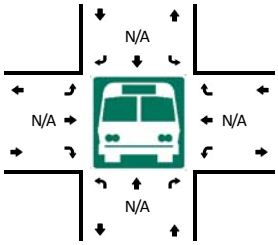


TRUE DATA TO IMPROVE MOBILITY

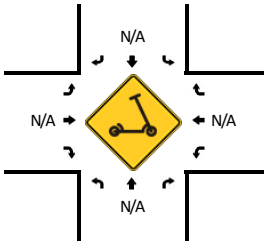












5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	7	2	0	1	4	2	0	6	16	3	0	2	8	1	0	53	
4:05 PM	1	4	1	0	1	7	5	0	3	11	4	0	1	9	1	0	48	
4:10 PM	6	5	1	0	1	5	0	0	3	9	3	0	4	8	3	0	48	
4:15 PM	7	7	1	0	3	5	3	0	4	9	2	0	1	13	3	0	58	
4:20 PM	4	7	1	0	0	7	3	0	3	15	3	0	1	13	2	0	59	
4:25 PM	1	9	0	0	0	5	0	0	4	16	4	0	0	13	3	0	55	
4:30 PM	4	8	1	0	0	2	0	0	1	14	2	0	2	7	2	0	43	
4:35 PM	0	10	3	0	2	1	1	0	2	18	3	0	0	5	2	0	47	
4:40 PM	6	7	4	0	0	2	4	0	2	6	2	0	0	10	1	0	44	
4:45 PM	5	6	4	0	3	6	0	0	2	13	4	0	1	12	1	0	57	
4:50 PM	4	18	3	0	2	4	0	0	0	8	4	0	2	14	0	0	59	
4:55 PM	3	9	3	0	4	5	0	0	4	6	6	0	2	11	0	0	53	624
5:00 PM	6	13	3	0	1	7	1	0	4	12	2	0	2	9	0	0	60	631
5:05 PM	4	11	1	0	0	7	1	0	2	11	0	0	0	8	1	0	46	629
5:10 PM	5	12	1	0	4	5	2	0	3	20	1	0	1	13	0	0	67	648
5:15 PM	4	10	2	0	2	6	2	0	6	24	3	0	0	11	2	0	72	662
5:20 PM	4	13	1	0	2	4	0	0	3	14	0	0	0	5	1	0	47	650
5:25 PM	6	10	5	0	1	4	2	0	2	7	2	0	1	9	0	0	49	644
5:30 PM	4	6	3	0	0	5	3	0	2	17	2	0	0	14	1	0	57	658
5:35 PM	5	6	4	0	1	3	1	0	3	18	2	0	0	5	0	0	48	659
5:40 PM	3	7	3	0	1	3	2	0	7	14	2	0	0	7	4	0	53	668
5:45 PM	3	6	3	0	0	3	2	0	5	9	4	0	0	9	2	0	46	657
5:50 PM	1	5	1	0	2	4	1	0	6	9	4	0	1	13	1	0	48	646
5:55 PM	1	5	1	0	1	3	1	0	1	4	1	0	1	14	0	0	33	626

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	52	140	16	0	32	60	16	0	48	232	16	0	4	116	12	0	744
Heavy Trucks	4	8	4		0	4	0		0	8	0		0	20	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

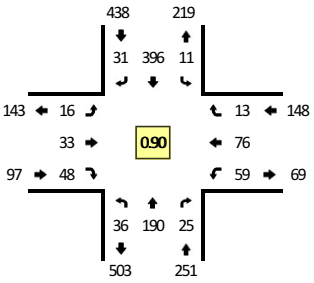
Report generated on 8/12/2025 2:49 PM

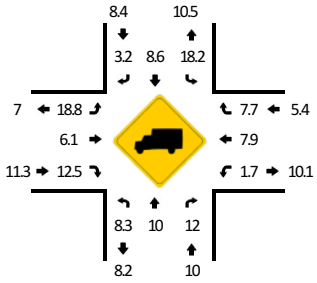
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

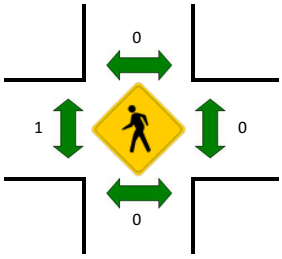
LOCATION: 2. NE 72nd Ave -- NE 179th St | **QC JOB #:** 17157903
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Jul 15 2025

Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

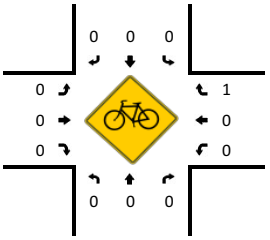


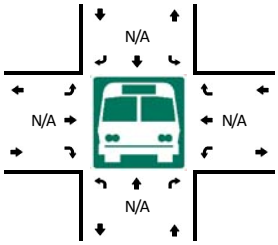


TRUE DATA TO IMPROVE MOBILITY

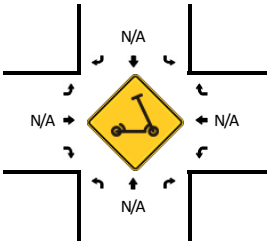












5-Min Count Period Beginning At	2. NE 72nd Ave (Northbound)				2. NE 72nd Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	14	1	0	2	33	2	0	2	2	1	0	3	7	0	0	71	
7:05 AM	4	8	1	0	2	36	0	0	2	2	0	0	5	4	1	0	65	
7:10 AM	4	11	1	0	0	29	4	0	1	4	3	0	6	8	0	0	71	
7:15 AM	3	11	2	0	0	44	2	0	1	1	7	0	1	8	2	0	82	
7:20 AM	1	20	2	0	1	31	1	0	2	2	3	0	5	5	1	0	74	
7:25 AM	0	21	2	0	0	46	1	0	3	0	6	0	7	7	0	0	93	
7:30 AM	3	9	1	0	0	27	5	0	1	4	1	0	5	7	1	0	64	
7:35 AM	3	18	1	0	1	28	3	0	1	2	2	0	4	3	3	0	69	
7:40 AM	3	21	3	0	2	40	2	0	1	0	4	0	4	7	0	0	87	
7:45 AM	2	16	3	0	3	30	2	0	2	3	3	0	5	7	2	0	78	
7:50 AM	6	17	3	0	3	43	4	0	2	3	5	0	4	4	0	0	94	
7:55 AM	2	16	3	0	0	38	0	0	0	2	2	0	7	8	0	0	78	926
8:00 AM	3	6	1	0	1	22	3	0	0	4	0	0	3	9	0	0	52	907
8:05 AM	3	18	5	0	0	35	2	0	0	4	8	0	7	5	3	0	90	932
8:10 AM	1	20	1	0	0	16	2	0	3	2	5	0	4	7	1	0	62	923
8:15 AM	5	16	1	0	1	34	5	0	1	3	5	0	4	4	3	0	82	923
8:20 AM	5	12	1	0	0	37	2	0	2	6	7	0	5	8	0	0	85	934
8:25 AM	0	19	4	0	0	26	2	0	1	6	4	0	2	3	1	0	68	909
8:30 AM	1	11	1	0	0	22	2	0	0	2	5	0	7	3	1	0	55	900
8:35 AM	1	20	1	0	0	32	3	0	2	7	2	0	1	6	1	0	76	907
8:40 AM	4	17	1	0	1	28	0	0	2	3	3	0	6	6	1	0	72	892
8:45 AM	3	16	2	0	4	37	3	0	3	2	6	0	5	6	1	0	88	902
8:50 AM	4	16	1	0	2	22	4	0	2	4	6	0	5	8	0	0	74	882
8:55 AM	1	8	2	0	0	23	0	0	0	1	4	0	3	6	0	0	48	852

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	44	216	36	0	32	452	32	0	20	24	48	0	52	72	8	0	1036
Heavy Trucks	4	12	4		4	28	0		8	0	12		0	4	0		76
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/22/2025 2:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

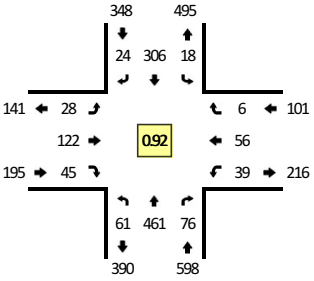
Type of peak hour being reported: Intersection Peak

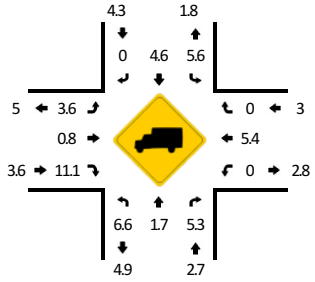
Method for determining peak hour: Total Entering Volume

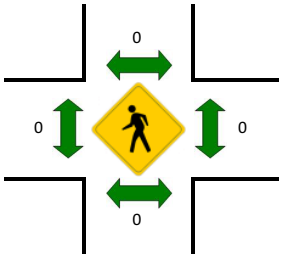
LOCATION: 2. NE 72nd Ave -- NE 179th St
CITY/STATE: Mount Vista, WA

QC JOB #: 17157904
DATE: Tue, Jul 15 2025

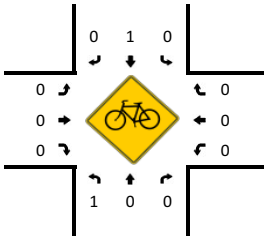
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

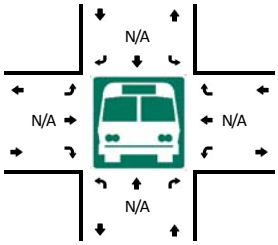




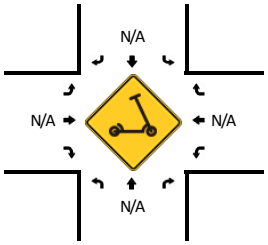












5-Min Count Period Beginning At	2. NE 72nd Ave (Northbound)				2. NE 72nd Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	24	5	0	2	29	4	0	0	11	2	0	6	1	0	0	88	
4:05 PM	3	42	10	0	1	23	2	0	3	10	5	0	3	5	2	0	109	
4:10 PM	8	45	5	0	1	28	1	0	0	5	2	0	1	4	2	0	102	
4:15 PM	2	33	5	0	2	30	1	0	2	10	2	0	2	4	1	0	94	
4:20 PM	5	41	5	0	1	31	1	0	3	8	4	0	0	3	1	0	103	
4:25 PM	5	52	3	0	5	26	1	0	1	7	1	0	2	3	0	0	106	
4:30 PM	4	32	3	0	0	23	4	0	2	9	4	0	3	5	1	0	90	
4:35 PM	2	35	2	0	0	20	0	0	2	11	5	0	7	4	1	0	89	
4:40 PM	6	46	10	0	2	25	3	0	0	15	2	0	2	7	1	0	119	
4:45 PM	6	40	4	0	2	23	0	0	5	5	6	0	8	7	1	0	107	
4:50 PM	3	39	10	0	0	29	1	0	2	8	3	0	3	4	1	0	103	
4:55 PM	6	38	3	0	0	34	2	0	1	12	2	0	4	3	1	0	106	1216
5:00 PM	5	25	2	0	2	19	4	0	1	10	7	0	1	3	0	0	79	1207
5:05 PM	7	33	4	0	4	20	0	0	2	13	2	0	4	6	0	0	95	1193
5:10 PM	7	35	5	0	2	25	2	0	3	13	3	0	4	4	1	0	104	1195
5:15 PM	4	52	12	0	0	40	3	0	3	10	1	0	3	1	0	0	129	1230
5:20 PM	5	40	6	0	3	20	3	0	5	6	6	0	1	4	0	0	99	1226
5:25 PM	2	39	8	0	1	30	3	0	2	11	5	0	2	8	0	0	111	1231
5:30 PM	7	36	7	0	2	18	0	0	2	12	2	0	6	3	1	0	96	1237
5:35 PM	3	38	5	0	0	23	3	0	2	7	6	0	1	6	0	0	94	1242
5:40 PM	2	25	0	0	0	21	1	0	1	12	1	0	2	3	0	0	68	1191
5:45 PM	4	35	3	0	1	27	1	0	1	4	5	0	0	3	0	0	84	1168
5:50 PM	3	32	8	0	1	16	0	0	2	17	5	0	4	12	2	0	102	1167
5:55 PM	5	27	6	0	0	20	1	0	5	6	2	0	3	2	1	0	78	1139

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	44	524	104	0	16	360	36	0	40	108	48	0	24	52	0	0	1356
Heavy Trucks	8	8	12		0	4	0		0	4	8		0	0	0		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

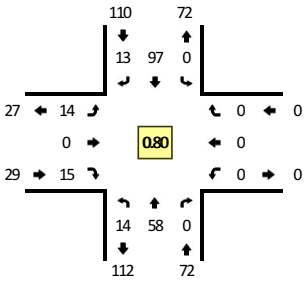
Report generated on 7/22/2025 2:26 PM

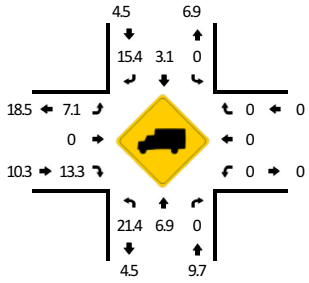
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

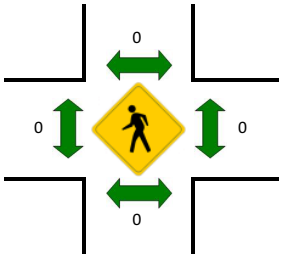
LOCATION: 4. NE 50th Ave -- NE 174th St | **QC JOB #:** 17157907
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Jul 15 2025

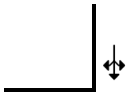
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

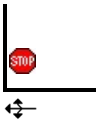


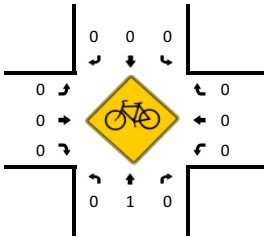


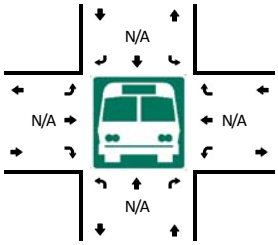
TRUE DATA TO IMPROVE MOBILITY

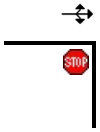


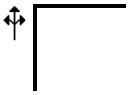


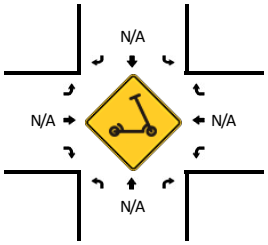












5-Min Count Period Beginning At	4. NE 50th Ave (Northbound)				4. NE 50th Ave (Southbound)				NE 174th St (Eastbound)				NE 174th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	4	0	0	0	3	2	0	1	0	0	0	0	0	0	0	12	
7:05 AM	1	5	0	0	0	1	0	0	0	0	2	0	0	0	0	0	9	
7:10 AM	2	4	0	0	0	7	1	0	0	0	0	0	0	0	0	0	14	
7:15 AM	0	2	0	0	0	9	1	0	0	0	1	0	1	0	0	0	14	
7:20 AM	0	3	0	0	0	5	1	0	0	0	0	0	0	0	0	0	9	
7:25 AM	2	3	0	0	0	8	1	0	1	0	2	0	0	0	0	0	17	
7:30 AM	2	7	0	0	0	4	0	0	1	0	1	0	0	0	0	0	15	
7:35 AM	0	6	0	0	0	8	1	0	0	0	1	0	0	0	0	0	16	
7:40 AM	1	2	0	0	0	9	0	0	0	0	1	0	0	0	0	0	13	
7:45 AM	0	3	0	0	0	9	0	0	0	0	0	0	0	0	0	0	12	
7:50 AM	2	4	0	0	0	11	1	0	0	0	1	0	0	0	0	0	19	
7:55 AM	0	7	0	0	0	7	0	0	0	0	1	0	0	0	0	0	15	165
8:00 AM	4	1	0	0	0	10	1	0	0	0	1	0	0	0	0	0	17	170
8:05 AM	0	5	0	0	0	4	3	0	2	0	3	0	0	0	0	0	17	178
8:10 AM	0	7	0	0	0	8	2	0	0	0	3	0	0	0	0	0	20	184
8:15 AM	1	6	0	0	0	7	1	0	0	0	3	0	0	0	0	0	18	188
8:20 AM	0	0	0	0	0	8	0	0	1	0	1	0	0	0	0	0	10	189
8:25 AM	2	4	0	0	0	12	0	0	4	0	2	0	0	0	0	0	24	196
8:30 AM	1	8	0	0	0	5	1	0	2	0	0	0	0	0	0	0	17	198
8:35 AM	0	5	0	0	0	4	0	0	1	0	0	0	0	0	0	0	10	192
8:40 AM	0	5	0	0	0	5	2	0	0	0	0	0	0	0	0	0	12	191
8:45 AM	2	4	0	0	0	12	0	0	2	0	0	0	0	0	0	0	20	199
8:50 AM	2	7	0	0	0	12	3	0	1	0	0	0	0	0	0	0	25	205
8:55 AM	2	6	0	0	0	10	0	0	1	0	2	0	0	0	0	0	21	211

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	24	68	0	0	0	136	12	0	16	0	8	0	0	0	0	0	264
Heavy Trucks	8	0	0		0	4	0		4	0	0		0	0	0		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/22/2025 2:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

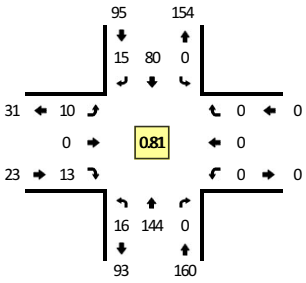
Type of peak hour being reported: Intersection Peak

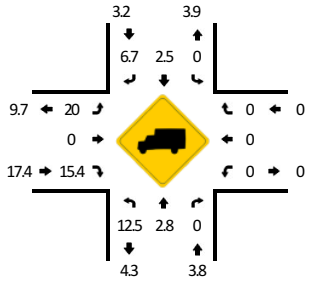
Method for determining peak hour: Total Entering Volume

LOCATION: 4. NE 50th Ave -- NE 174th St
CITY/STATE: Mount Vista, WA

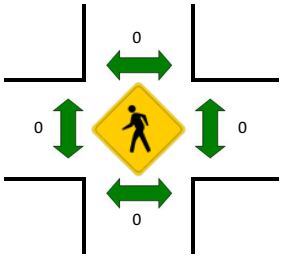
QC JOB #: 17157908
DATE: Tue, Jul 15 2025

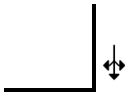
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:35 PM -- 4:50 PM

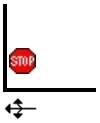


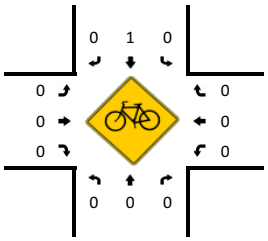


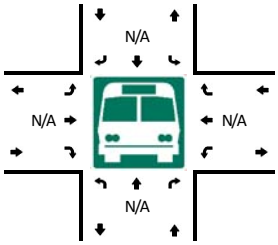
TRUE DATA TO IMPROVE MOBILITY

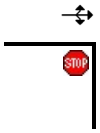


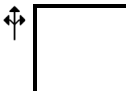


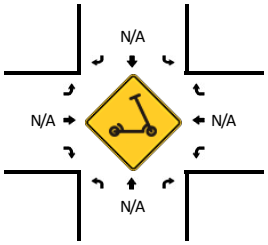












5-Min Count Period Beginning At	4. NE 50th Ave (Northbound)				4. NE 50th Ave (Southbound)				NE 174th St (Eastbound)				NE 174th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	12	0	0	0	6	1	0	1	0	2	0	0	0	0	0	23	
4:05 PM	0	12	0	0	0	5	2	0	1	0	3	0	0	0	0	0	23	
4:10 PM	2	14	0	0	0	8	0	0	2	0	0	0	0	0	0	0	26	
4:15 PM	1	11	0	0	0	9	2	0	2	0	0	0	0	0	0	0	25	
4:20 PM	1	13	0	0	0	9	0	0	1	0	1	0	0	0	0	0	25	
4:25 PM	0	15	0	0	0	5	1	0	1	0	0	0	0	0	0	0	22	
4:30 PM	0	8	0	0	0	6	1	0	1	0	1	0	0	0	0	0	17	
4:35 PM	3	11	0	0	0	9	2	0	0	0	2	0	0	0	0	0	27	
4:40 PM	3	17	0	0	0	11	1	0	0	0	2	0	0	0	0	0	34	
4:45 PM	2	14	0	0	0	4	5	0	0	0	0	0	0	0	0	0	25	
4:50 PM	1	7	0	0	0	5	0	0	1	0	1	0	0	0	0	0	15	
4:55 PM	2	10	0	0	0	3	0	0	0	0	1	0	0	0	0	0	16	278
5:00 PM	1	16	0	0	0	3	0	0	0	0	1	0	0	0	0	0	21	276
5:05 PM	0	11	0	0	0	10	1	0	0	0	0	0	0	0	0	0	22	275
5:10 PM	4	7	0	0	0	6	0	0	2	0	3	0	0	0	0	0	22	271
5:15 PM	3	14	0	0	0	4	1	0	1	0	0	0	0	0	0	0	23	269
5:20 PM	3	15	0	0	0	3	3	0	1	0	1	0	0	0	0	0	26	270
5:25 PM	0	7	0	0	0	5	1	0	1	0	2	0	0	0	0	0	16	264
5:30 PM	0	11	0	0	0	5	1	0	1	0	1	0	0	0	0	0	19	266
5:35 PM	1	18	0	0	0	9	1	0	4	0	2	0	0	0	0	0	35	274
5:40 PM	0	6	0	0	0	4	2	0	0	0	1	0	0	0	0	0	13	253
5:45 PM	0	8	0	0	0	5	1	0	0	0	0	0	0	0	0	0	14	242
5:50 PM	1	14	0	0	0	11	0	0	1	0	2	0	0	0	0	0	29	256
5:55 PM	0	7	0	0	0	3	0	0	1	0	0	0	0	0	0	0	11	251

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	32	168	0	0	0	96	32	0	0	0	16	0	0	0	0	0	344
Heavy Trucks	4	4	0		0	4	4		0	0	0		0	0	0		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/22/2025 2:26 PM

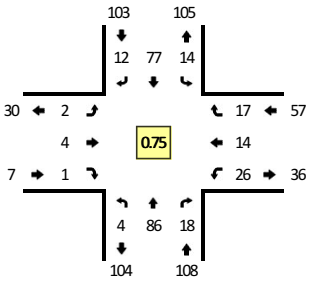
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

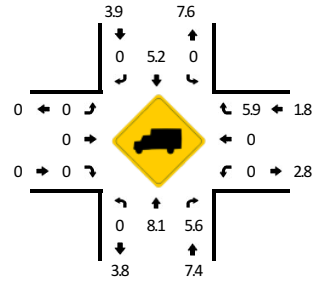
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

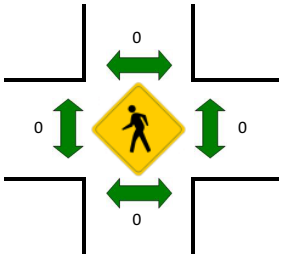
LOCATION: 5. NE 50th Ave -- NE 159th St
CITY/STATE: Mount Vista, WA

QC JOB #: 17157909
DATE: Tue, Jul 15 2025

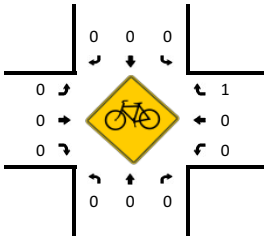
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

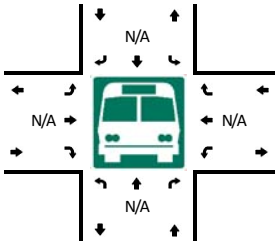


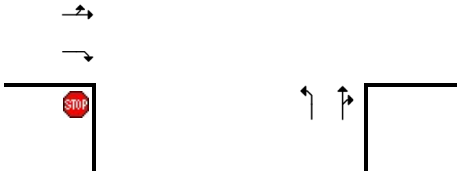


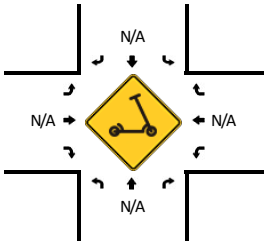












5-Min Count Period Beginning At	5. NE 50th Ave (Northbound)				5. NE 50th Ave (Southbound)				NE 159th St (Eastbound)				NE 159th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	6	0	0	1	4	0	0	0	0	0	0	1	2	1	0	15	
7:05 AM	1	5	0	0	0	4	0	0	0	1	0	0	4	0	1	0	16	
7:10 AM	0	7	0	0	1	5	0	0	0	0	0	0	1	0	1	0	15	
7:15 AM	0	0	1	0	0	9	0	0	0	0	0	0	2	0	1	0	13	
7:20 AM	1	5	0	0	1	9	0	0	0	0	0	0	3	1	0	0	20	
7:25 AM	0	6	0	0	2	3	2	0	0	0	0	0	5	1	1	0	20	
7:30 AM	1	7	1	0	0	6	0	0	0	0	0	0	4	0	2	0	21	
7:35 AM	0	8	1	0	1	6	0	0	0	0	0	0	2	0	0	0	18	
7:40 AM	1	2	0	0	1	8	1	0	0	0	0	0	2	0	2	0	17	
7:45 AM	0	4	1	0	0	9	0	0	0	1	0	0	3	0	0	0	18	
7:50 AM	0	6	2	0	1	5	0	0	0	0	0	0	1	0	2	0	17	
7:55 AM	0	7	2	0	2	10	2	0	0	0	0	0	2	0	1	0	26	216
8:00 AM	1	7	0	0	1	5	2	0	0	0	0	0	2	2	1	0	21	222
8:05 AM	0	5	2	0	2	4	1	0	0	1	0	0	2	1	1	0	19	225
8:10 AM	0	8	2	0	2	8	2	0	0	0	0	0	3	1	0	0	26	236
8:15 AM	0	6	1	0	1	7	2	0	0	0	0	0	3	0	0	0	20	243
8:20 AM	0	1	2	0	0	6	0	0	0	1	0	0	1	2	0	0	13	236
8:25 AM	1	4	1	0	1	8	2	0	0	0	0	0	4	1	3	0	25	241
8:30 AM	1	6	0	0	3	5	1	0	1	1	0	0	3	1	1	0	23	243
8:35 AM	1	7	4	0	1	3	1	0	1	1	1	0	2	1	1	0	24	249
8:40 AM	0	4	2	0	0	4	1	0	0	0	0	0	0	1	0	0	12	244
8:45 AM	0	11	2	0	0	8	0	0	0	0	0	0	2	2	1	0	26	252
8:50 AM	0	12	0	0	0	9	0	0	0	0	0	0	2	0	4	0	27	262
8:55 AM	0	15	2	0	3	10	0	0	0	0	0	0	2	2	5	0	39	275

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	0	152	16	0	12	108	0	0	0	0	0	0	24	16	40	0	368
Heavy Trucks	0	4	0		0	4	0		0	0	0		0	0	4		12
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/22/2025 2:26 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

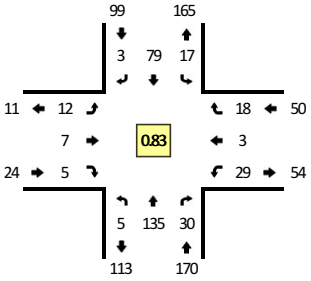
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: 5. NE 50th Ave -- NE 159th St
CITY/STATE: Mount Vista, WA

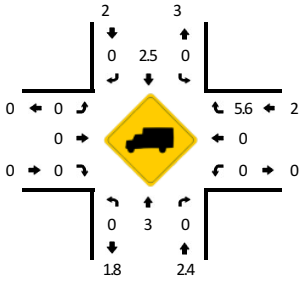
QC JOB #: 17157910
DATE: Tue, Jul 15 2025

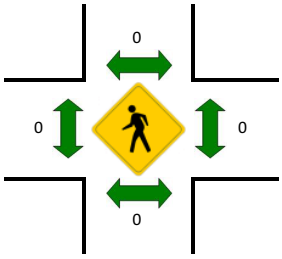
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:35 PM -- 4:50 PM



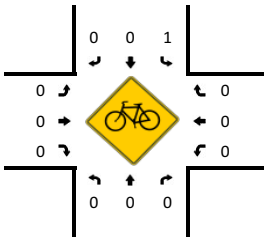


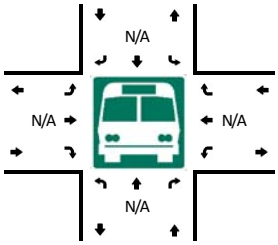
TRUE DATA TO IMPROVE MOBILITY

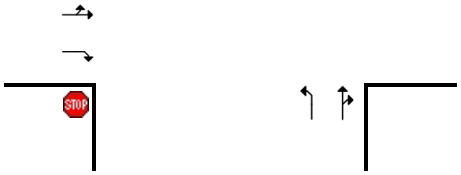


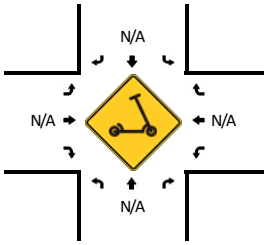












5-Min Count Period Beginning At	5. NE 50th Ave (Northbound)				5. NE 50th Ave (Southbound)				NE 159th St (Eastbound)				NE 159th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	11	2	0	0	10	0	0	0	0	1	0	3	0	1	0	28	
4:05 PM	0	13	1	0	0	7	0	0	1	0	0	0	1	0	2	0	25	
4:10 PM	1	13	5	0	3	7	0	0	2	0	1	0	3	0	0	0	35	
4:15 PM	0	8	3	0	0	7	1	0	0	0	0	0	2	0	5	0	26	
4:20 PM	0	11	6	0	2	9	0	0	0	0	0	0	2	0	4	0	34	
4:25 PM	0	10	0	0	1	3	0	0	1	0	1	0	4	1	1	0	22	
4:30 PM	0	13	0	0	2	4	0	0	0	1	0	0	2	0	1	0	23	
4:35 PM	0	16	2	0	1	10	1	0	1	0	0	0	1	0	0	0	32	
4:40 PM	0	14	3	0	4	10	0	0	1	2	1	0	3	1	1	0	40	
4:45 PM	0	11	3	0	2	4	1	0	1	2	0	0	5	0	2	0	31	
4:50 PM	2	7	4	0	2	5	0	0	3	1	0	0	2	0	1	0	27	
4:55 PM	2	8	1	0	0	3	0	0	2	1	1	0	1	1	0	0	20	343
5:00 PM	0	12	0	0	1	2	1	0	0	1	0	0	2	1	1	0	21	336
5:05 PM	1	10	1	0	2	10	0	0	1	0	2	0	1	1	0	0	29	340
5:10 PM	0	10	2	0	4	10	0	0	2	0	1	0	3	0	1	0	33	338
5:15 PM	2	15	1	0	1	4	0	0	1	3	1	0	1	0	2	0	31	343
5:20 PM	0	12	2	0	2	3	0	0	2	1	0	0	2	0	0	0	24	333
5:25 PM	0	5	4	0	1	7	0	0	0	0	1	0	2	0	2	0	22	333
5:30 PM	0	8	3	0	0	7	0	0	0	0	2	0	1	0	2	0	23	333
5:35 PM	0	17	3	0	1	8	0	0	0	0	0	0	3	0	0	0	32	333
5:40 PM	0	9	2	0	0	7	0	0	0	0	0	0	1	0	0	0	19	312
5:45 PM	0	12	2	0	1	4	0	0	0	1	0	0	3	0	3	0	26	307
5:50 PM	0	10	2	0	0	8	0	0	0	1	0	0	1	0	0	0	22	302
5:55 PM	0	4	4	0	0	8	0	0	0	1	0	0	1	0	1	0	19	301

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	0	164	32	0	28	96	8	0	12	16	4	0	36	4	12	0	412
Heavy Trucks	0	4	0		0	4	0		0	0	0		0	0	0		8
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/22/2025 2:26 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

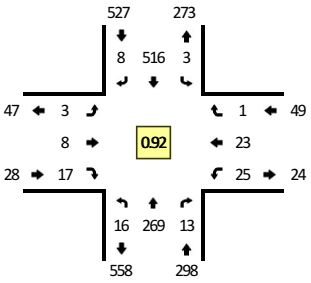
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

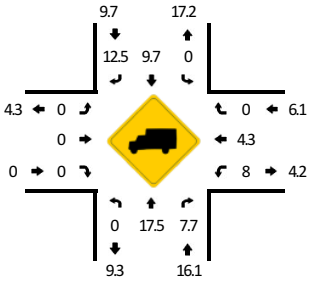
LOCATION: 3. NE 72nd Ave -- NE 159th Str
CITY/STATE: Mount Vista, WA

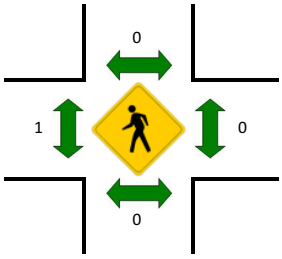
QC JOB #: 17157905
DATE: Tue, Jul 15 2025

Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

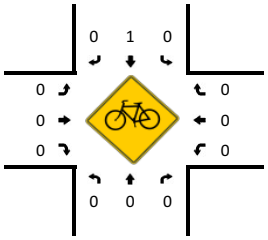


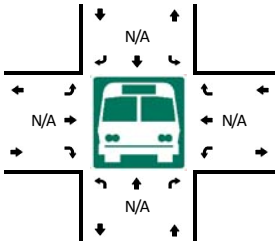




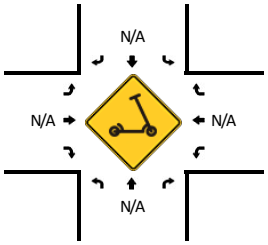












5-Min Count Period Beginning At	3. NE 72nd Ave (Northbound)				3. NE 72nd Ave (Southbound)				NE 159th Str (Eastbound)				NE 159th Str (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	19	2	0	1	36	0	0	0	1	0	0	4	0	0	0	66	
7:05 AM	1	16	2	0	0	38	0	0	0	0	2	0	2	4	0	0	65	
7:10 AM	0	22	1	0	0	44	2	0	0	0	1	0	1	0	0	0	71	
7:15 AM	1	18	0	0	0	43	1	0	0	0	2	0	2	0	0	0	67	
7:20 AM	2	29	0	0	0	46	0	0	0	0	0	0	2	4	0	0	83	
7:25 AM	3	23	0	0	0	56	0	0	0	0	2	0	0	4	0	0	88	
7:30 AM	0	23	1	0	0	36	1	0	0	0	1	0	1	2	0	0	65	
7:35 AM	0	20	1	0	0	35	0	0	0	1	1	0	7	3	0	0	68	
7:40 AM	2	27	1	0	1	46	1	0	0	1	1	0	2	0	0	0	82	
7:45 AM	0	20	3	0	1	34	1	0	1	1	2	0	1	2	1	0	67	
7:50 AM	1	25	3	0	0	56	0	0	1	1	1	0	4	4	0	0	96	
7:55 AM	4	21	2	0	1	42	1	0	1	3	1	0	1	2	0	0	79	897
8:00 AM	2	12	0	0	0	35	1	0	0	0	2	0	2	2	0	0	56	887
8:05 AM	1	29	1	0	0	43	0	0	0	1	3	0	2	0	0	0	80	902
8:10 AM	1	18	1	0	1	32	0	0	0	0	1	0	3	3	1	0	61	892
8:15 AM	1	18	2	0	0	35	0	0	0	0	5	0	1	3	0	0	65	890
8:20 AM	3	23	2	0	1	50	0	0	3	0	2	0	1	1	0	0	86	893
8:25 AM	2	20	3	0	2	36	1	0	0	1	0	0	2	2	0	0	69	874
8:30 AM	1	17	0	0	0	23	2	0	0	1	4	0	2	0	0	0	50	859
8:35 AM	1	19	2	0	0	39	1	0	0	2	3	0	2	3	0	0	72	863
8:40 AM	1	22	3	0	0	37	0	0	2	1	0	0	1	0	0	0	67	848
8:45 AM	3	18	1	0	0	51	0	0	0	3	2	0	2	2	0	0	82	863
8:50 AM	7	19	0	0	0	33	0	0	0	0	1	0	2	3	2	0	67	834
8:55 AM	4	17	5	0	0	27	0	0	0	1	3	0	1	1	0	0	59	814

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	12	288	28	0	8	544	8	0	8	12	16	0	28	24	4	0	980
Heavy Trucks	0	36	0		0	44	0		0	0	0		0	4	0		84
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

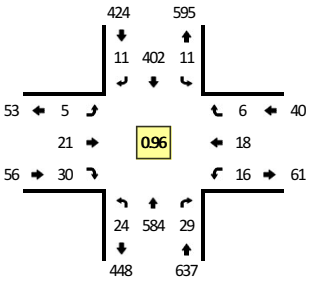
Report generated on 7/22/2025 2:26 PM

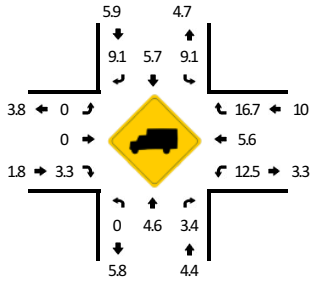
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

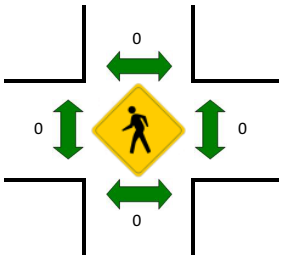
LOCATION: 3. NE 72nd Ave -- NE 159th Str | **QC JOB #:** 17157906
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Jul 15 2025

Peak-Hour: 4:05 PM -- 5:05 PM
Peak 15-Min: 4:40 PM -- 4:55 PM

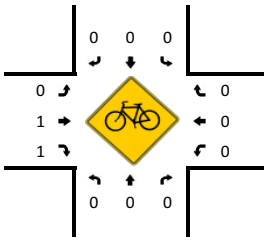


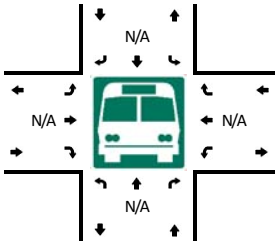


TRUE DATA TO IMPROVE MOBILITY

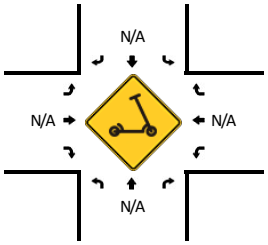












5-Min Count Period Beginning At	3. NE 72nd Ave (Northbound)				3. NE 72nd Ave (Southbound)				NE 159th Str (Eastbound)				NE 159th Str (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	33	3	0	0	31	1	0	0	1	2	0	1	2	0	0	74	
4:05 PM	3	71	1	0	2	37	1	0	1	1	3	0	3	3	0	0	126	
4:10 PM	2	40	2	0	1	26	0	0	1	1	3	0	1	0	1	0	78	
4:15 PM	3	45	1	0	0	35	0	0	1	2	1	0	2	2	0	0	92	
4:20 PM	4	45	3	0	0	36	2	0	0	2	3	0	0	2	1	0	98	
4:25 PM	3	54	4	0	0	35	0	0	0	2	1	0	4	1	0	0	104	
4:30 PM	0	50	1	0	1	35	1	0	0	2	1	0	0	3	1	0	95	
4:35 PM	0	42	2	0	0	31	0	0	0	3	2	0	3	1	0	0	84	
4:40 PM	3	59	4	0	0	27	2	0	0	3	1	0	0	2	0	0	101	
4:45 PM	2	49	1	0	3	32	5	0	0	2	6	0	2	2	2	0	106	
4:50 PM	1	45	3	0	2	39	0	0	0	0	4	0	0	0	1	0	95	
4:55 PM	1	46	5	0	0	35	0	0	2	2	3	0	0	1	0	0	95	1148
5:00 PM	2	38	2	0	2	34	0	0	0	1	2	0	1	1	0	0	83	1157
5:05 PM	3	47	4	0	2	16	0	0	0	1	2	0	3	1	0	0	79	1110
5:10 PM	0	51	3	0	1	40	0	0	0	3	4	0	1	2	1	0	106	1138
5:15 PM	2	50	0	0	0	35	0	0	0	1	5	0	0	1	0	0	94	1140
5:20 PM	0	59	4	0	0	29	2	0	1	3	3	0	0	0	1	0	102	1144
5:25 PM	3	46	2	0	0	35	0	0	0	2	2	0	1	2	0	0	93	1133
5:30 PM	2	48	1	0	0	27	0	0	2	3	0	0	1	2	1	0	87	1125
5:35 PM	0	41	3	0	0	40	0	0	1	1	1	0	1	1	0	0	89	1130
5:40 PM	2	29	2	0	0	21	0	0	0	2	2	0	2	1	0	0	61	1090
5:45 PM	3	46	1	0	1	29	3	0	1	2	0	0	0	3	0	0	89	1073
5:50 PM	2	47	3	0	0	24	1	0	2	0	3	0	2	0	1	0	85	1063
5:55 PM	2	31	3	0	0	21	1	0	0	2	0	0	4	0	0	0	64	1032

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	24	612	32	0	20	392	28	0	0	20	44	0	8	16	12	0	1208
Heavy Trucks	0	20	0		4	20	4		0	0	4		8	0	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

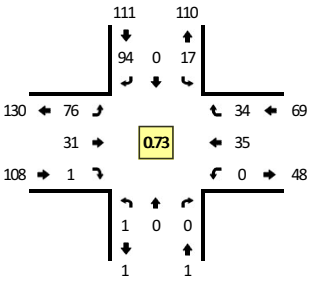
Comments:

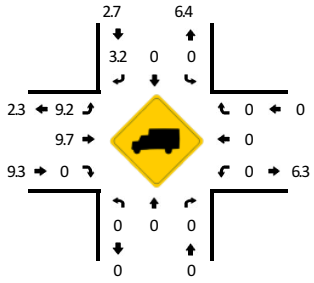
Report generated on 7/22/2025 2:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

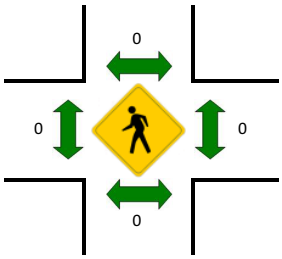
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

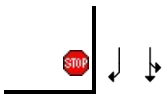
LOCATION: 6. NE 50th Ave -- NE Salmon Creek St | **QC JOB #:** 17157911
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Jul 15 2025

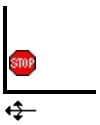
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:45 AM -- 9:00 AM

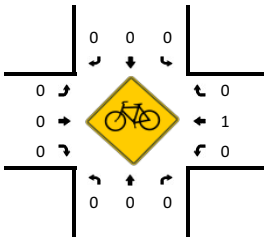


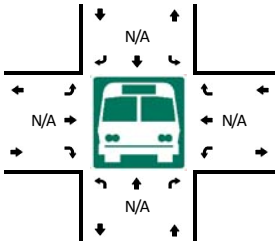


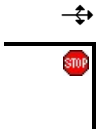


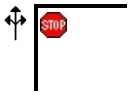


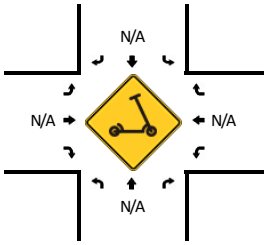












5-Min Count Period Beginning At	6. NE 50th Ave (Northbound)				6. NE 50th Ave (Southbound)				NE Salmon Creek St (Eastbound)				NE Salmon Creek St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	1	0	5	0	3	0	0	0	0	3	1	0	13	
7:05 AM	0	0	0	0	1	0	3	0	3	1	0	0	0	0	2	0	10	
7:10 AM	0	0	0	0	2	0	8	0	3	1	0	0	0	2	5	0	21	
7:15 AM	0	0	0	0	2	0	9	0	1	3	0	0	0	2	0	0	17	
7:20 AM	0	0	0	0	2	0	10	0	3	2	0	0	0	3	2	0	22	
7:25 AM	0	0	0	0	1	0	6	0	3	1	0	0	0	1	3	0	15	
7:30 AM	0	0	0	0	2	0	9	0	5	0	0	0	0	1	3	0	20	
7:35 AM	0	0	0	0	1	0	8	0	6	0	0	0	0	3	3	0	21	
7:40 AM	0	0	0	0	2	0	7	0	2	2	0	0	0	6	2	0	21	
7:45 AM	0	0	0	0	3	0	10	0	4	4	0	0	0	6	1	0	28	
7:50 AM	0	0	0	0	3	0	5	0	5	0	0	0	0	2	4	0	19	
7:55 AM	0	0	0	0	2	0	8	0	8	2	0	0	0	4	3	0	27	234
8:00 AM	1	0	0	0	0	0	8	0	6	1	0	0	0	1	2	0	19	240
8:05 AM	0	0	0	0	1	0	8	0	5	1	0	0	0	6	2	0	23	253
8:10 AM	0	0	0	0	1	0	7	0	7	4	0	0	0	2	5	0	26	258
8:15 AM	0	0	0	0	1	0	11	0	2	2	0	0	0	0	1	0	17	258
8:20 AM	0	0	0	0	4	0	5	0	5	4	0	0	0	2	0	0	20	256
8:25 AM	0	0	0	0	1	0	11	0	3	2	0	0	0	1	2	0	20	261
8:30 AM	0	0	0	0	0	0	8	0	5	5	0	0	0	2	5	0	25	266
8:35 AM	0	0	0	0	2	0	5	0	7	3	0	0	0	6	4	0	27	272
8:40 AM	0	0	0	0	0	0	3	0	4	3	0	0	0	2	1	0	13	264
8:45 AM	0	0	0	0	1	0	8	0	8	0	0	0	0	5	5	0	27	263
8:50 AM	0	0	0	0	2	0	12	0	13	4	0	0	0	4	5	0	40	284
8:55 AM	0	0	0	0	4	0	8	0	11	2	1	0	0	4	2	0	32	289

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	0	0	0	0	28	0	112	0	128	24	4	0	0	52	48	0	396
Heavy Trucks	0	0	0		0	0	0		4	8	0		0	0	0		12
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4
Scooters																	

Comments:

Report generated on 7/22/2025 2:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

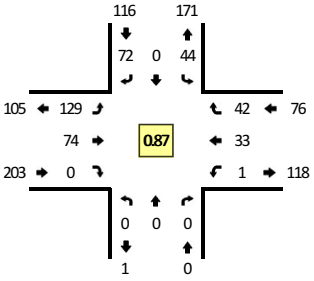
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

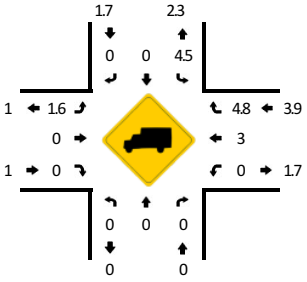
LOCATION: 6. NE 50th Ave -- NE Salmon Creek St
CITY/STATE: Mount Vista, WA

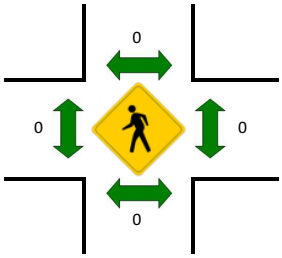
QC JOB #: 17157912
DATE: Tue, Jul 15 2025

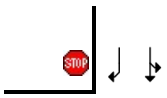
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

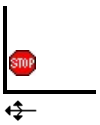


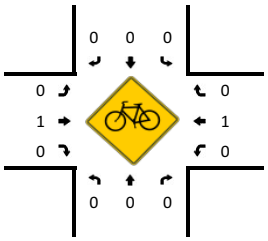


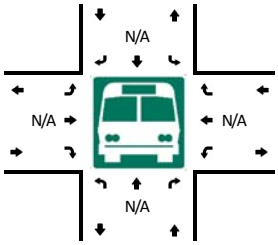


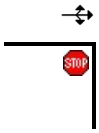


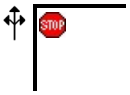


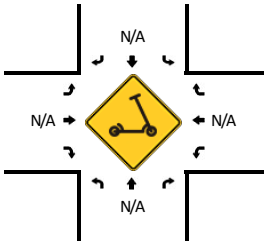












5-Min Count Period Beginning At	6. NE 50th Ave (Northbound)				6. NE 50th Ave (Southbound)				NE Salmon Creek St (Eastbound)				NE Salmon Creek St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	3	0	10	0	7	5	0	0	0	3	6	0	34	
4:05 PM	0	0	0	0	4	0	4	0	10	8	0	0	0	4	5	0	35	
4:10 PM	0	0	0	0	5	0	9	0	16	8	0	0	0	2	4	0	44	
4:15 PM	0	0	0	0	4	0	4	0	11	6	0	0	0	1	2	0	28	
4:20 PM	0	0	0	0	5	0	8	0	9	5	0	0	0	3	3	0	33	
4:25 PM	0	0	0	0	2	0	5	0	7	7	0	0	0	3	3	0	27	
4:30 PM	0	0	0	0	1	0	4	0	9	5	0	0	0	7	3	0	29	
4:35 PM	0	0	0	0	7	0	5	0	20	4	0	0	1	0	5	0	42	
4:40 PM	0	0	0	0	6	0	8	0	9	4	0	0	0	3	3	0	33	
4:45 PM	0	0	0	0	2	0	4	0	12	7	0	0	0	3	2	0	30	
4:50 PM	0	0	0	0	3	0	7	0	11	10	0	0	0	1	2	0	34	
4:55 PM	0	0	0	0	2	0	4	0	8	5	0	0	0	3	4	0	26	395
5:00 PM	0	0	0	0	0	0	3	0	9	4	0	0	0	5	3	0	24	385
5:05 PM	0	0	0	0	4	0	6	0	7	10	0	0	0	1	4	0	32	382
5:10 PM	0	0	0	0	3	0	14	0	12	9	0	0	0	6	2	0	46	384
5:15 PM	0	0	0	0	2	0	5	0	15	4	0	0	0	5	3	0	34	390
5:20 PM	0	0	0	0	0	0	5	0	11	3	0	0	0	8	3	0	30	387
5:25 PM	0	0	0	0	2	0	7	0	8	4	0	0	0	1	4	0	26	386
5:30 PM	0	0	0	0	3	0	5	0	7	2	0	0	0	4	2	0	23	380
5:35 PM	0	0	0	0	6	0	8	0	16	4	0	0	0	6	5	0	45	383
5:40 PM	0	0	0	0	4	0	5	0	7	8	0	0	0	3	3	0	30	380
5:45 PM	0	0	0	0	2	0	1	0	13	8	0	0	0	7	3	0	34	384
5:50 PM	0	0	0	0	1	0	12	0	8	4	0	0	0	3	2	0	30	380
5:55 PM	0	0	0	0	4	0	6	0	9	5	0	0	0	5	2	0	31	385

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	0	0	0	0	48	0	92	0	132	84	0	0	0	36	60	0	452
Heavy Trucks	0	0	0		0	0	0		4	0	0		0	0	4		8
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	4	0		0	0	0		4
Scooters																	

Comments:

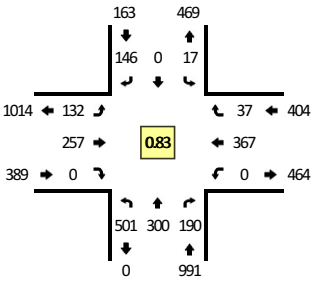
Report generated on 7/22/2025 2:26 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

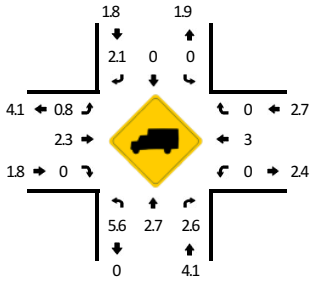
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

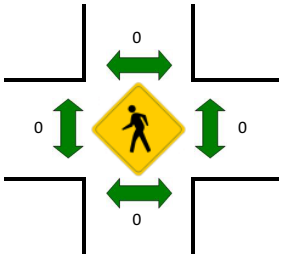
LOCATION: 9. NE 23rd Ave/I-205 NB Off-Ramp -- NE 134th St | **QC JOB #:** 17157917
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Jul 15 2025

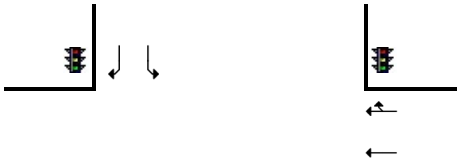
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:40 AM -- 7:55 AM

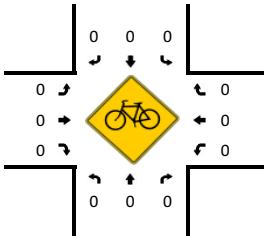


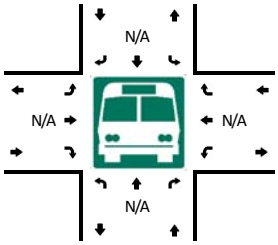
TRUE DATA TO IMPROVE MOBILITY

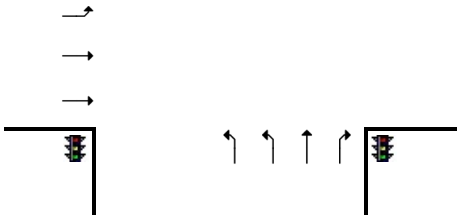


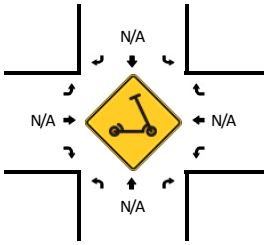












5-Min Count Period Beginning At	9. NE 23rd Ave/I-205 NB Off-Ramp (Northbound)				9. NE 23rd Ave/I-205 NB Off-Ramp (Southbound)				NE 134th St (Eastbound)				NE 134th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	32	14	9	0	2	0	10	0	7	16	0	0	0	18	4	0	112	
7:05 AM	24	16	14	0	1	0	9	0	3	14	0	0	0	27	1	0	109	
7:10 AM	17	11	6	0	1	0	9	0	9	17	0	0	0	25	1	0	96	
7:15 AM	45	28	7	0	1	0	13	0	13	16	0	0	0	17	1	0	141	
7:20 AM	35	21	15	0	1	0	13	0	13	19	0	0	0	25	3	0	145	
7:25 AM	34	21	14	0	0	0	13	0	12	12	0	0	0	19	2	0	127	
7:30 AM	35	30	17	0	1	0	7	0	7	13	0	0	0	30	4	0	144	
7:35 AM	32	13	15	0	1	0	24	0	14	23	0	0	0	26	6	0	154	
7:40 AM	41	32	15	0	0	0	18	0	13	24	0	0	0	47	3	0	193	
7:45 AM	62	38	15	0	3	0	13	0	8	12	0	0	0	35	4	0	190	
7:50 AM	58	41	19	0	2	0	17	0	10	24	0	0	0	31	3	0	205	
7:55 AM	46	31	21	0	2	0	12	0	18	25	0	0	0	28	5	0	188	1804
8:00 AM	42	26	16	0	3	0	5	0	8	20	0	0	0	23	2	0	145	1837
8:05 AM	37	23	13	0	1	0	12	0	9	25	0	0	0	37	3	0	160	1888
8:10 AM	18	18	14	0	0	0	11	0	9	15	0	0	0	31	1	0	117	1909
8:15 AM	38	14	16	0	2	0	8	0	13	24	0	0	0	33	2	0	150	1918
8:20 AM	56	21	14	0	1	0	9	0	5	22	0	0	0	24	1	0	153	1926
8:25 AM	36	13	15	0	1	0	10	0	18	30	0	0	0	22	3	0	148	1947
8:30 AM	29	15	14	0	2	0	7	0	11	21	0	0	0	36	3	0	138	1941
8:35 AM	58	20	10	0	0	0	7	0	3	19	0	0	0	30	2	0	149	1936
8:40 AM	42	21	9	0	2	0	20	0	5	32	0	0	0	34	4	0	169	1912
8:45 AM	25	9	13	0	3	0	15	0	16	22	0	0	0	27	1	0	131	1853
8:50 AM	56	24	15	0	2	0	15	0	8	27	0	0	0	34	2	0	183	1831
8:55 AM	49	23	19	0	3	0	9	0	9	22	0	0	0	17	4	0	155	1798

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	644	444	196	0	20	0	192	0	124	240	0	0	0	452	40	0	2352
Heavy Trucks	28	0	8		0	0	0		0	0	0		0	20	0		56
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

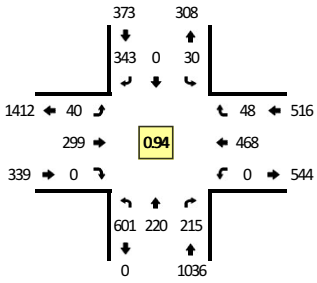
Comments:

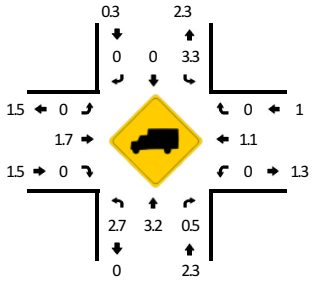
Report generated on 7/22/2025 2:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

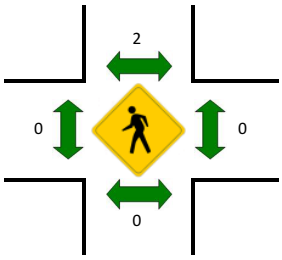
LOCATION: 9. NE 23rd Ave/I-205 NB Off-Ramp -- NE 134th St | **QC JOB #:** 17157918
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Jul 15 2025

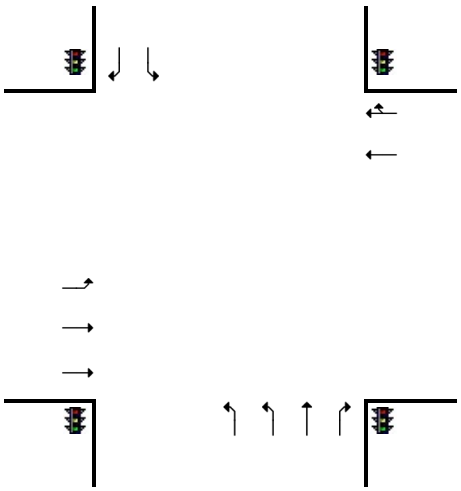
Peak-Hour: 4:25 PM -- 5:25 PM
Peak 15-Min: 4:25 PM -- 4:40 PM

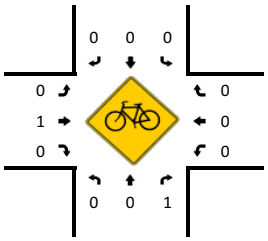


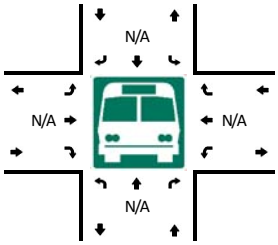


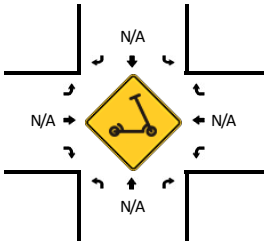
TRUE DATA TO IMPROVE MOBILITY











5-Min Count Period Beginning At	9. NE 23rd Ave/I-205 NB Off-Ramp (Northbound)				9. NE 23rd Ave/I-205 NB Off-Ramp (Southbound)				NE 134th St (Eastbound)				NE 134th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	41	20	13	0	6	0	18	0	10	22	0	0	0	54	0	0	184	
4:05 PM	36	18	15	0	3	0	27	0	5	27	0	0	0	45	5	0	181	
4:10 PM	63	31	17	0	0	0	30	0	5	21	0	0	0	29	4	0	200	
4:15 PM	34	18	19	0	6	0	15	0	5	20	0	0	0	25	2	0	144	
4:20 PM	35	16	18	0	2	0	15	0	7	39	0	0	0	35	1	0	168	
4:25 PM	58	32	21	0	3	0	26	0	2	28	0	0	0	36	2	0	208	
4:30 PM	57	20	12	0	4	0	37	0	3	15	0	0	0	34	4	0	186	
4:35 PM	36	16	20	0	2	0	39	0	3	28	0	0	0	58	3	0	205	
4:40 PM	53	16	24	0	1	0	37	0	6	23	0	0	0	24	7	0	191	
4:45 PM	56	19	25	0	6	0	25	0	1	30	0	0	0	28	3	0	193	
4:50 PM	47	16	18	0	2	0	14	0	4	30	0	0	0	35	5	0	171	
4:55 PM	46	17	17	0	3	0	21	0	4	26	0	0	0	42	2	0	178	2209
5:00 PM	54	22	9	0	3	0	19	0	2	25	0	0	0	34	3	0	171	2196
5:05 PM	39	14	15	0	4	0	47	0	5	29	0	0	0	40	7	0	200	2215
5:10 PM	43	11	20	0	0	0	27	0	2	23	0	0	0	57	6	0	189	2204
5:15 PM	64	26	18	0	0	0	26	0	5	20	0	0	0	35	4	0	198	2258
5:20 PM	48	11	16	0	2	0	25	0	3	22	0	0	0	45	2	0	174	2264
5:25 PM	43	14	18	0	4	0	23	0	6	25	0	0	0	34	3	0	170	2226
5:30 PM	47	18	15	0	3	0	18	0	8	27	0	0	0	37	4	0	177	2217
5:35 PM	47	23	19	0	4	0	33	0	6	25	0	0	0	33	4	0	194	2206
5:40 PM	60	16	25	0	2	0	26	0	5	29	0	0	0	28	2	0	193	2208
5:45 PM	64	25	22	0	0	0	12	0	1	20	0	0	0	23	2	0	169	2184
5:50 PM	51	15	20	0	2	0	18	0	1	24	0	0	0	24	1	0	156	2169
5:55 PM	43	11	13	0	0	0	15	0	0	28	0	0	0	31	2	0	143	2134

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	604	272	212	0	36	0	408	0	32	284	0	0	0	512	36	0	2396
Heavy Trucks	16	4	0		0	0	0		0	8	0		0	8	0		36
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

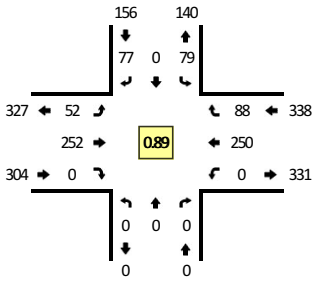
Report generated on 7/22/2025 2:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

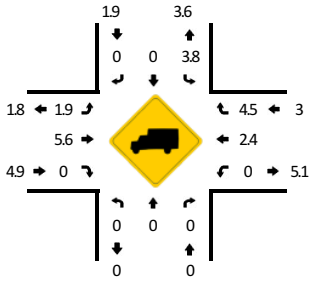
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

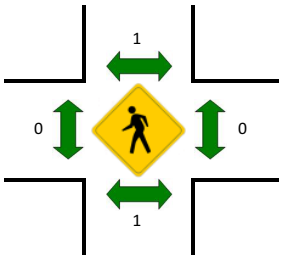
LOCATION: 8. NE 29th Ave -- NE 134th St
CITY/STATE: Mount Vista, WA

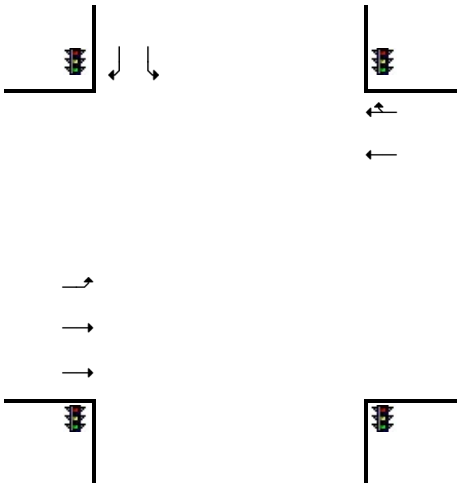
QC JOB #: 17157915
DATE: Tue, Jul 15 2025

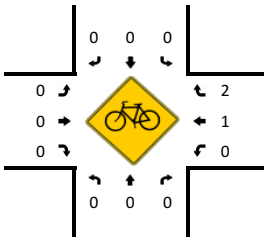
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:40 AM -- 8:55 AM

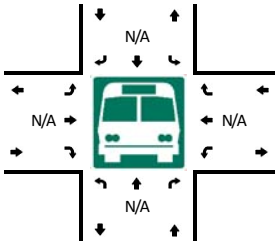


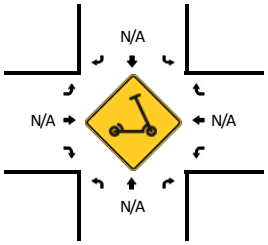












5-Min Count Period Beginning At	8. NE 29th Ave (Northbound)				8. NE 29th Ave (Southbound)				NE 134th St (Eastbound)				NE 134th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	2	0	4	0	3	6	0	0	0	13	4	0	32	
7:05 AM	0	0	0	0	1	0	5	0	4	6	0	0	0	14	5	0	35	
7:10 AM	0	0	0	0	3	0	6	0	5	12	0	0	0	14	10	0	50	
7:15 AM	0	0	0	0	1	0	8	0	0	11	0	0	0	16	9	0	45	
7:20 AM	0	0	0	0	3	0	5	0	2	9	0	0	0	23	7	0	49	
7:25 AM	0	0	0	0	1	0	7	0	5	12	0	0	0	12	7	0	44	
7:30 AM	0	0	0	0	0	0	5	0	7	6	0	0	0	25	9	0	52	
7:35 AM	0	0	0	0	4	0	12	0	3	11	0	0	0	19	7	0	56	
7:40 AM	0	0	0	0	2	0	6	0	6	12	0	0	0	35	9	0	70	
7:45 AM	0	0	0	0	3	0	9	0	4	12	0	0	0	28	14	0	70	
7:50 AM	0	0	0	0	10	0	8	0	9	17	0	0	0	20	12	0	76	
7:55 AM	0	0	0	0	9	0	8	0	4	11	0	0	0	19	8	0	59	638
8:00 AM	0	0	0	0	2	0	6	0	5	32	0	0	0	18	2	0	65	671
8:05 AM	0	0	0	0	9	0	4	0	5	16	0	0	0	32	11	0	77	713
8:10 AM	0	0	0	0	7	0	7	0	4	13	0	0	0	26	8	0	65	728
8:15 AM	0	0	0	0	6	0	8	0	3	26	0	0	0	16	4	0	63	746
8:20 AM	0	0	0	0	5	0	3	0	2	17	0	0	0	19	8	0	54	751
8:25 AM	0	0	0	0	8	0	4	0	11	17	0	0	0	15	5	0	60	767
8:30 AM	0	0	0	0	9	0	10	0	2	16	0	0	0	18	9	0	64	779
8:35 AM	0	0	0	0	4	0	6	0	4	22	0	0	0	24	4	0	64	787
8:40 AM	0	0	0	0	6	0	11	0	1	24	0	0	0	21	9	0	72	789
8:45 AM	0	0	0	0	10	0	7	0	3	18	0	0	0	8	6	0	52	771
8:50 AM	0	0	0	0	6	0	6	0	6	36	0	0	0	37	9	0	100	795
8:55 AM	0	0	0	0	7	0	5	0	6	15	0	0	0	16	13	0	62	798

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	0	0	0	0	88	0	96	0	40	312	0	0	0	264	96	0	896
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	4	4		24
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

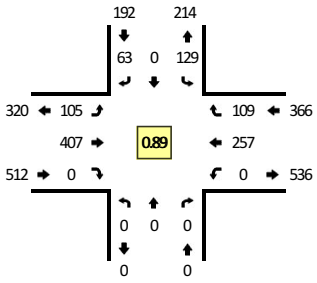
Report generated on 7/22/2025 2:26 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

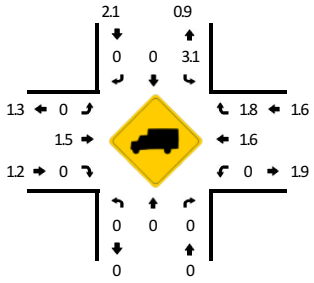
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

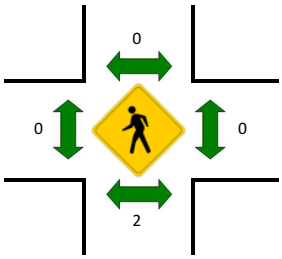
LOCATION: 8. NE 29th Ave -- NE 134th St | **QC JOB #:** 17157916
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Jul 15 2025

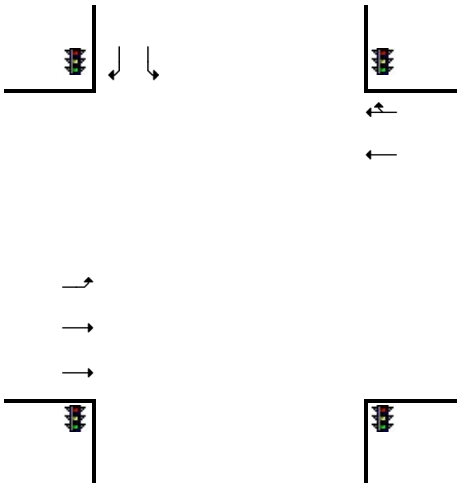
Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

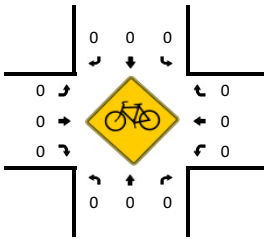


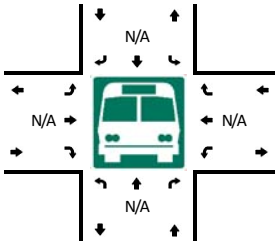


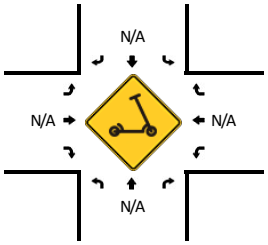












5-Min Count Period Beginning At	8. NE 29th Ave (Northbound)				8. NE 29th Ave (Southbound)				NE 134th St (Eastbound)				NE 134th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	10	0	7	0	5	29	0	0	0	24	15	0	90	
4:05 PM	0	0	0	0	13	0	5	0	7	20	0	0	0	22	14	0	81	
4:10 PM	0	0	0	0	6	0	7	0	15	39	0	0	0	21	12	0	100	
4:15 PM	0	0	0	0	12	0	4	0	5	30	0	0	0	13	6	0	70	
4:20 PM	0	0	0	0	16	0	2	0	9	36	0	0	0	16	7	0	86	
4:25 PM	0	0	0	0	7	0	7	0	7	40	0	0	0	23	10	0	94	
4:30 PM	0	0	0	0	13	0	3	0	6	27	0	0	0	19	11	0	79	
4:35 PM	0	0	0	0	3	0	3	0	5	35	0	0	0	21	9	0	76	
4:40 PM	0	0	0	0	9	0	2	0	9	36	0	0	0	19	9	0	84	
4:45 PM	0	0	0	0	14	0	5	0	12	36	0	0	0	16	8	0	91	
4:50 PM	0	0	0	0	14	0	5	0	14	30	0	0	0	20	5	0	88	
4:55 PM	0	0	0	0	11	0	9	0	4	37	0	0	0	20	9	0	90	1029
5:00 PM	0	0	0	0	8	0	2	0	8	34	0	0	0	20	8	0	80	1019
5:05 PM	0	0	0	0	11	0	7	0	8	31	0	0	0	30	11	0	98	1036
5:10 PM	0	0	0	0	11	0	9	0	10	28	0	0	0	20	12	0	90	1026
5:15 PM	0	0	0	0	12	0	9	0	13	37	0	0	0	33	10	0	114	1070
5:20 PM	0	0	0	0	7	0	11	0	9	22	0	0	0	14	15	0	78	1062
5:25 PM	0	0	0	0	7	0	4	0	13	23	0	0	0	21	6	0	74	1042
5:30 PM	0	0	0	0	14	0	5	0	11	35	0	0	0	24	10	0	99	1062
5:35 PM	0	0	0	0	18	0	1	0	10	30	0	0	0	13	9	0	81	1067
5:40 PM	0	0	0	0	10	0	6	0	5	40	0	0	0	18	7	0	86	1069
5:45 PM	0	0	0	0	6	0	7	0	17	28	0	0	0	14	10	0	82	1060
5:50 PM	0	0	0	0	9	0	7	0	10	36	0	0	0	16	9	0	87	1059
5:55 PM	0	0	0	0	3	0	7	0	15	28	0	0	0	19	12	0	84	1053

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	0	0	0	0	136	0	100	0	124	384	0	0	0	332	132	0	1208
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	4	0		8
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

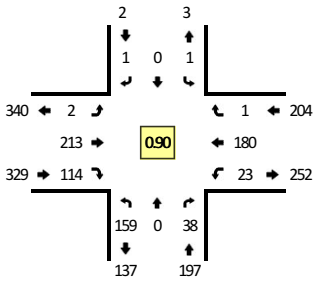
Comments:

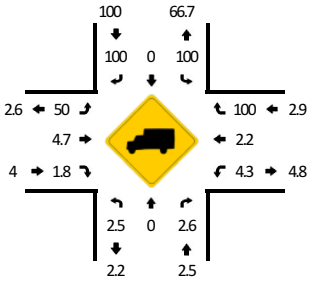
Report generated on 7/22/2025 2:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

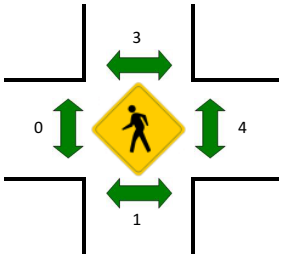
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

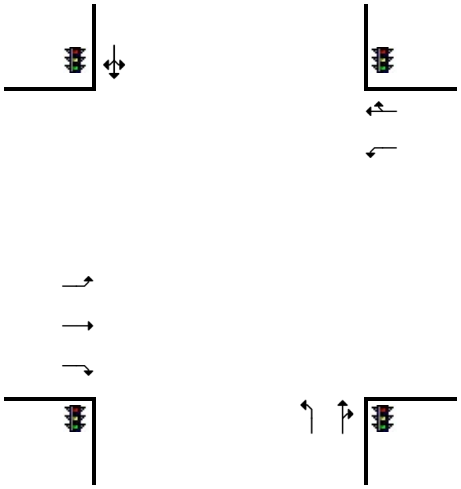
LOCATION: 7. NE Salmon Creek Ave -- NE 134th St | **QC JOB #:** 17157913
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Jul 15 2025

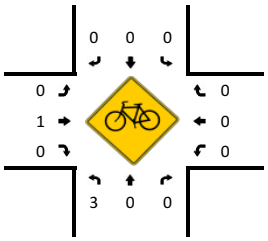
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:40 AM -- 8:55 AM

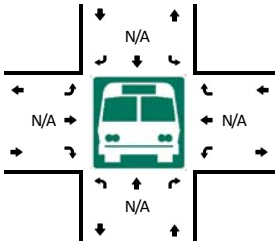


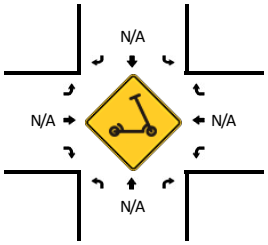












5-Min Count Period Beginning At	7. NE Salmon Creek Ave (Northbound)				7. NE Salmon Creek Ave (Southbound)				NE 134th St (Eastbound)				NE 134th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	7	0	0	0	0	0	0	0	0	5	3	0	2	10	0	0	27	
7:05 AM	15	0	0	0	0	0	0	0	0	5	2	0	0	10	0	0	32	
7:10 AM	8	0	0	0	0	0	0	0	0	9	6	0	1	10	0	0	34	
7:15 AM	14	0	1	0	0	0	0	0	0	7	5	0	2	11	0	0	40	
7:20 AM	9	0	1	0	0	0	0	0	0	8	4	0	2	21	0	0	45	
7:25 AM	9	0	0	0	0	0	0	0	0	8	4	0	3	10	0	0	34	
7:30 AM	19	0	4	0	0	0	0	0	0	4	2	0	1	18	0	0	48	
7:35 AM	11	0	2	0	0	0	0	0	0	13	3	0	0	12	0	0	41	
7:40 AM	14	0	1	0	0	0	0	0	0	9	3	0	2	30	0	0	59	
7:45 AM	24	0	1	0	0	0	0	0	0	11	5	0	1	19	0	0	61	
7:50 AM	12	0	3	0	0	0	0	0	0	16	7	0	2	21	0	0	61	
7:55 AM	9	0	2	0	0	0	0	0	0	16	9	0	2	17	0	0	55	537
8:00 AM	12	0	2	0	0	0	0	0	0	22	10	0	1	11	0	0	58	568
8:05 AM	20	0	8	0	0	0	0	0	0	20	5	0	5	19	0	0	77	613
8:10 AM	16	0	2	0	0	0	0	0	0	13	9	0	3	18	0	0	61	640
8:15 AM	10	0	2	0	0	0	0	0	0	19	8	0	1	12	0	0	52	652
8:20 AM	11	0	1	0	0	0	0	0	0	17	9	0	2	17	0	0	57	664
8:25 AM	9	0	1	0	0	0	0	0	0	13	11	0	0	9	0	0	43	673
8:30 AM	15	0	3	0	0	0	1	0	1	15	8	0	3	17	0	0	63	688
8:35 AM	8	0	3	0	0	0	0	0	0	20	8	0	2	13	0	0	54	701
8:40 AM	15	0	4	0	0	0	0	0	0	19	11	0	1	15	0	0	65	707
8:45 AM	11	0	2	0	0	0	0	0	1	12	15	0	1	7	0	0	49	695
8:50 AM	17	0	5	0	0	0	0	0	0	32	10	0	2	23	1	0	90	724
8:55 AM	15	0	5	0	1	0	0	0	0	11	10	0	2	19	0	0	63	732

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	172	0	44	0	0	0	0	0	4	252	144	0	16	180	4	0	816
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	4	4		20
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

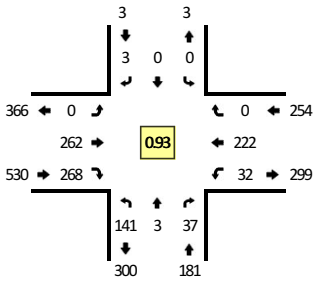
Comments:

Report generated on 7/22/2025 2:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

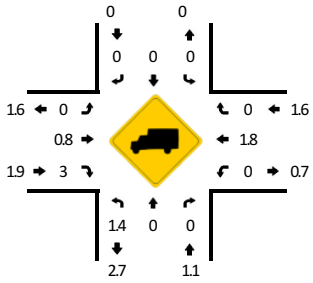
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

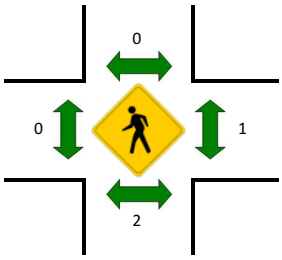
LOCATION: 7. NE Salmon Creek Ave -- NE 134th St | **QC JOB #:** 17157914
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Jul 15 2025

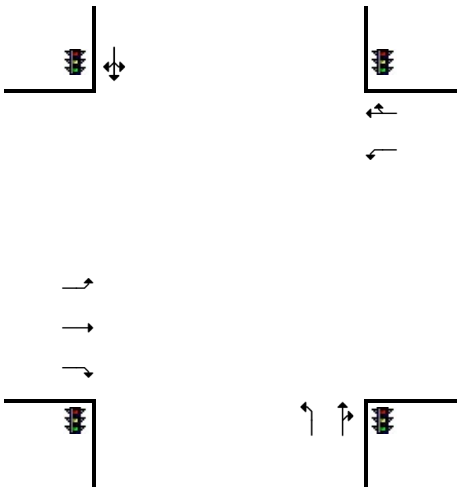
Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

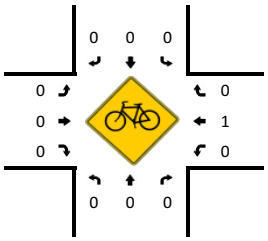


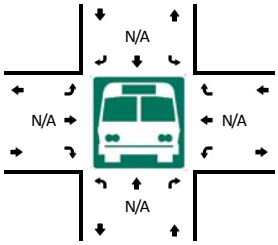


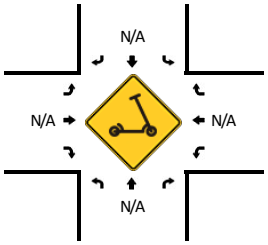










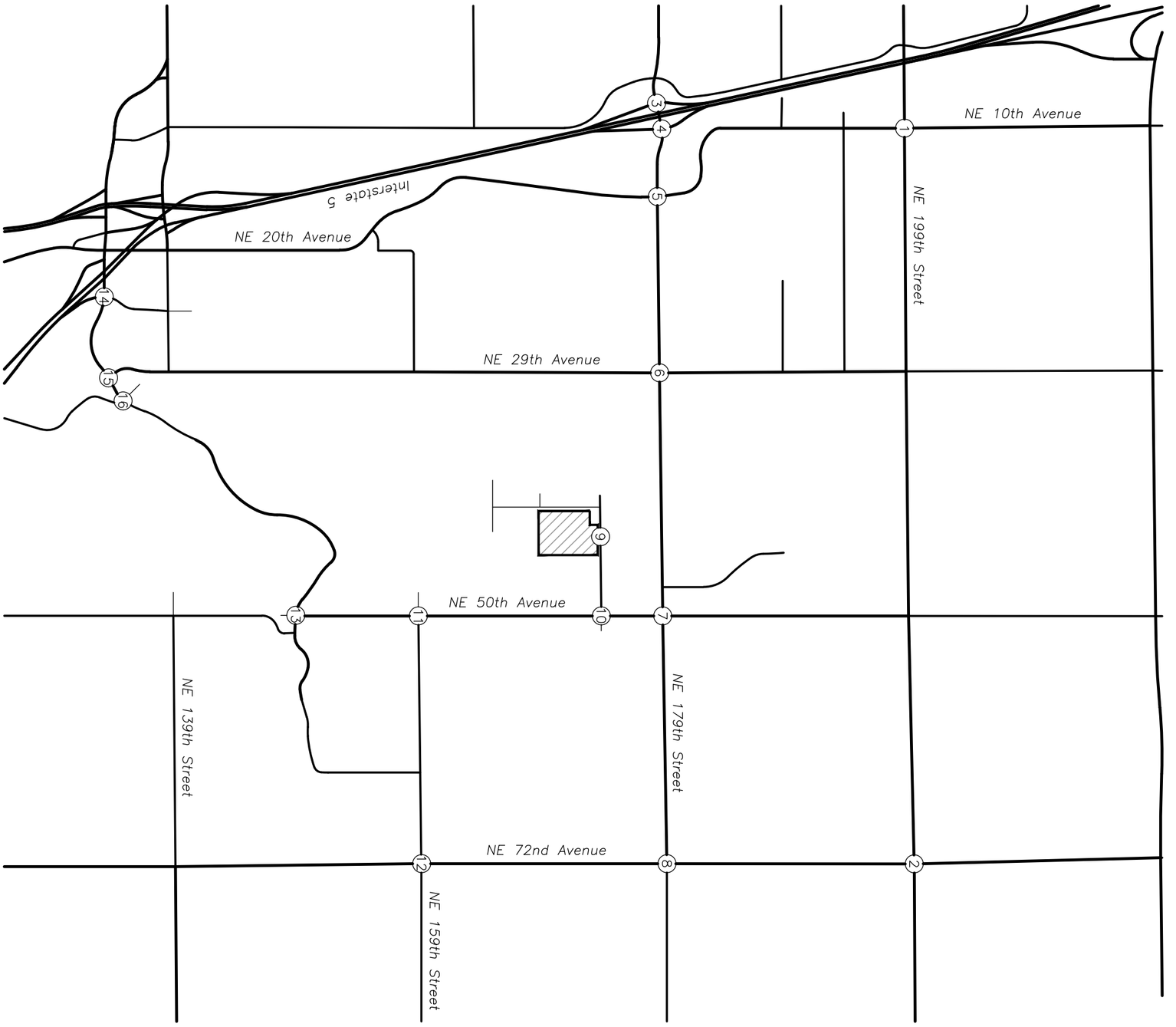


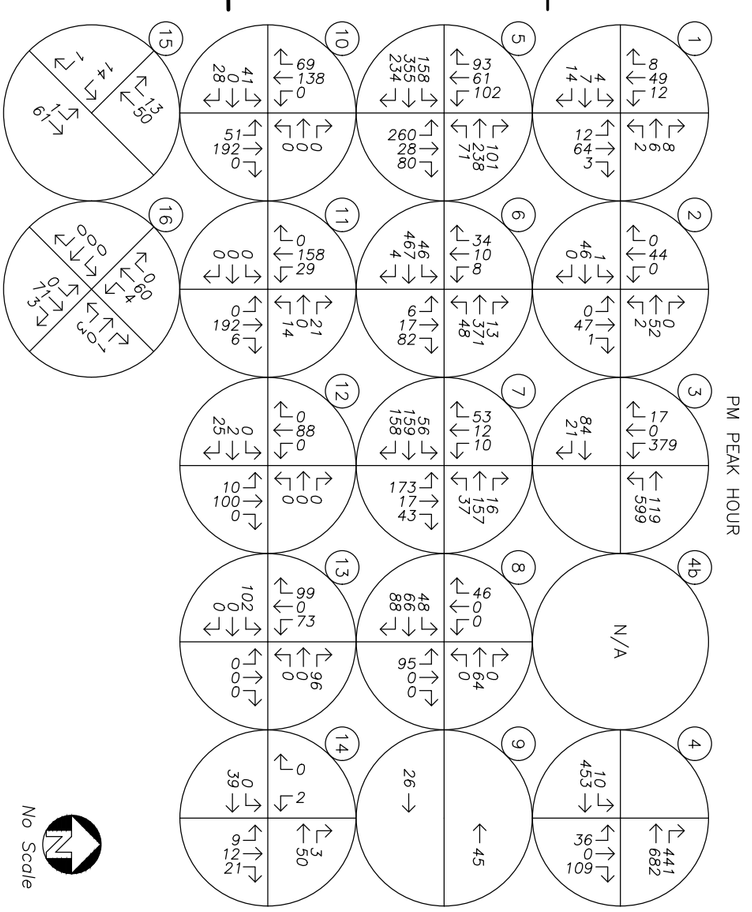
5-Min Count Period Beginning At	7. NE Salmon Creek Ave (Northbound)				7. NE Salmon Creek Ave (Southbound)				NE 134th St (Eastbound)				NE 134th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	21	0	5	0	0	0	0	0	0	16	23	0	4	22	0	0	91	
4:05 PM	9	0	4	0	0	0	0	0	0	15	15	0	3	25	0	0	71	
4:10 PM	11	0	2	0	0	0	0	0	0	25	25	0	3	22	0	0	88	
4:15 PM	4	0	7	0	0	0	0	0	0	24	18	0	0	13	0	0	66	
4:20 PM	6	0	1	0	0	0	0	0	0	21	29	0	0	16	0	0	73	
4:25 PM	17	0	2	0	0	0	0	0	0	25	22	0	3	17	0	0	86	
4:30 PM	13	1	2	0	0	0	1	0	0	19	20	0	0	18	0	0	74	
4:35 PM	16	0	5	0	0	0	0	0	0	27	15	0	4	16	0	0	83	
4:40 PM	12	0	2	0	0	0	0	0	0	22	21	0	4	13	0	0	74	
4:45 PM	8	2	2	0	0	0	0	0	0	22	27	0	4	18	0	0	83	
4:50 PM	7	0	4	0	0	0	0	0	0	20	28	0	2	15	0	0	76	
4:55 PM	12	0	1	0	0	0	0	0	0	21	23	0	4	18	0	0	79	944
5:00 PM	10	0	4	0	0	0	1	0	0	23	24	0	1	16	0	0	79	932
5:05 PM	15	0	4	0	0	0	0	0	0	22	19	0	4	26	0	0	90	951
5:10 PM	11	0	3	0	0	0	1	0	0	19	18	0	3	23	0	0	78	941
5:15 PM	14	0	7	0	0	0	0	0	0	21	22	0	3	26	0	0	93	968
5:20 PM	10	0	2	0	0	0	0	0	0	21	16	0	2	19	0	0	70	965
5:25 PM	11	0	3	0	0	0	0	0	0	14	16	0	2	17	0	0	63	942
5:30 PM	10	0	2	0	0	0	0	0	0	23	22	0	4	24	0	0	85	953
5:35 PM	7	0	2	0	0	0	0	0	0	18	33	0	4	17	0	0	81	951
5:40 PM	7	0	2	0	0	0	0	0	0	27	24	0	2	15	0	0	77	954
5:45 PM	13	0	2	0	0	0	0	0	0	23	14	0	1	15	0	0	68	939
5:50 PM	9	0	0	0	0	0	0	0	0	27	15	0	3	15	0	0	69	932
5:55 PM	15	0	9	0	0	0	0	0	0	16	18	0	4	17	0	0	79	932

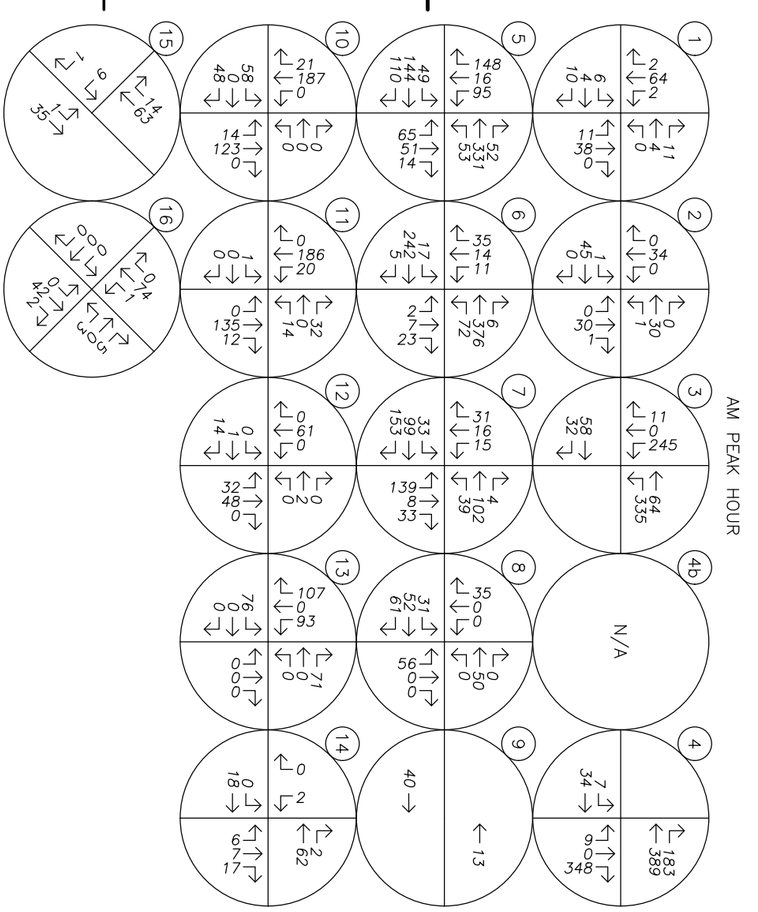
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	160	0	56	0	0	0	4	0	0	248	236	0	40	300	0	0	1044
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	4	0		4
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/22/2025 2:26 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212







TRAFFIC VOLUMES

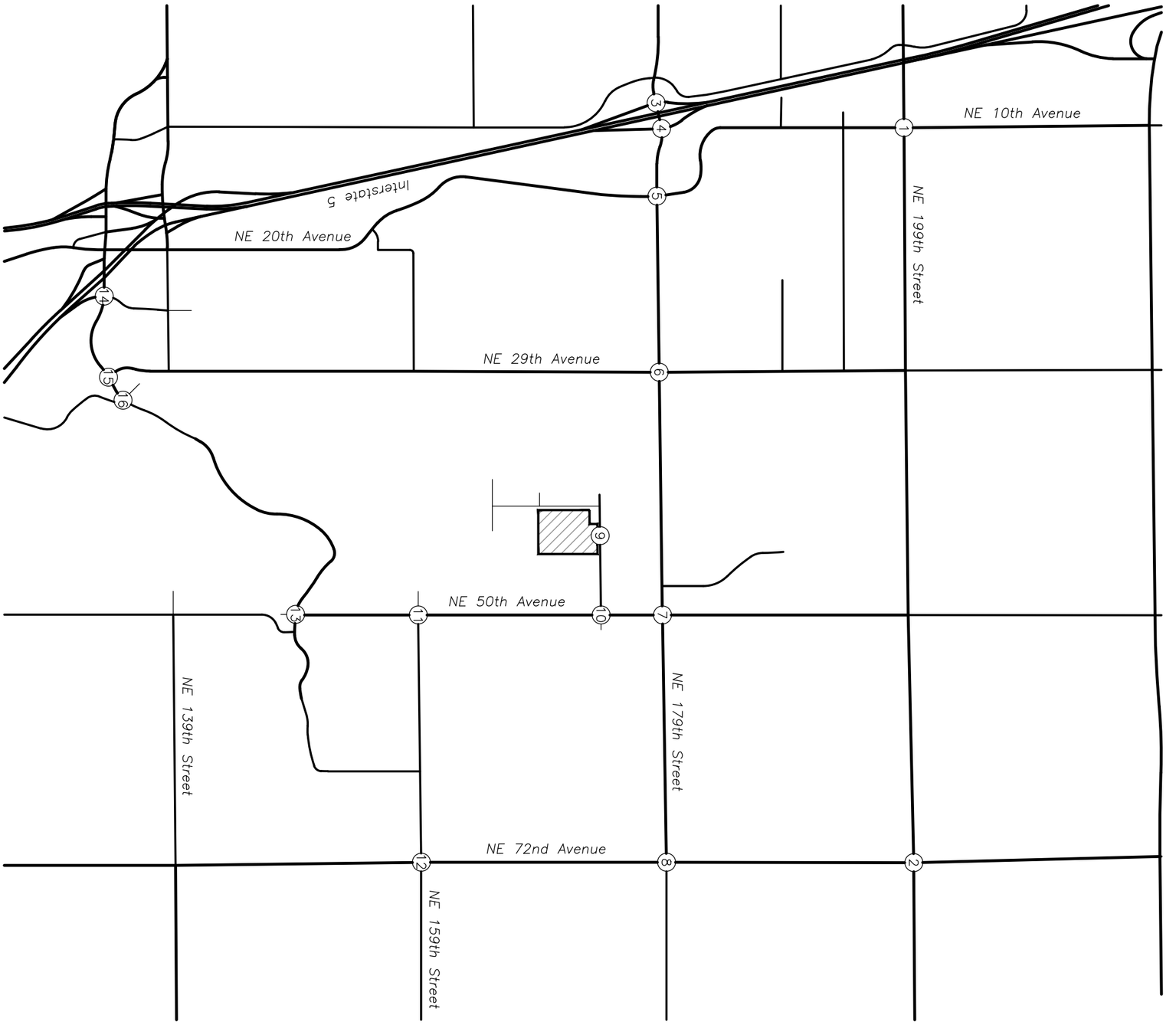
In-Process Development Trips

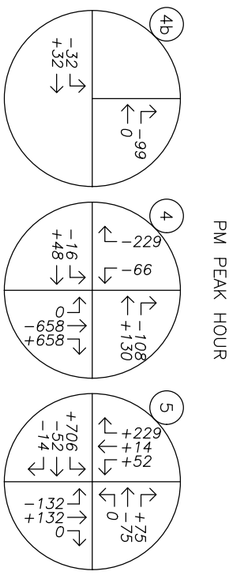
AM & PM Peak Hours

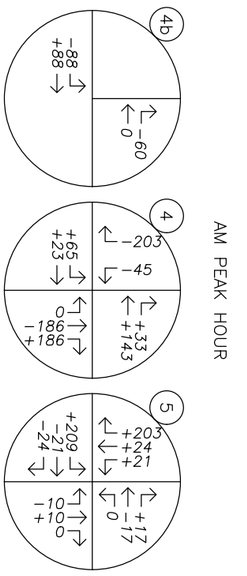
Figure A

174th Street Subdivision

12/4/2025







No Scale

TRAFFIC VOLUMES

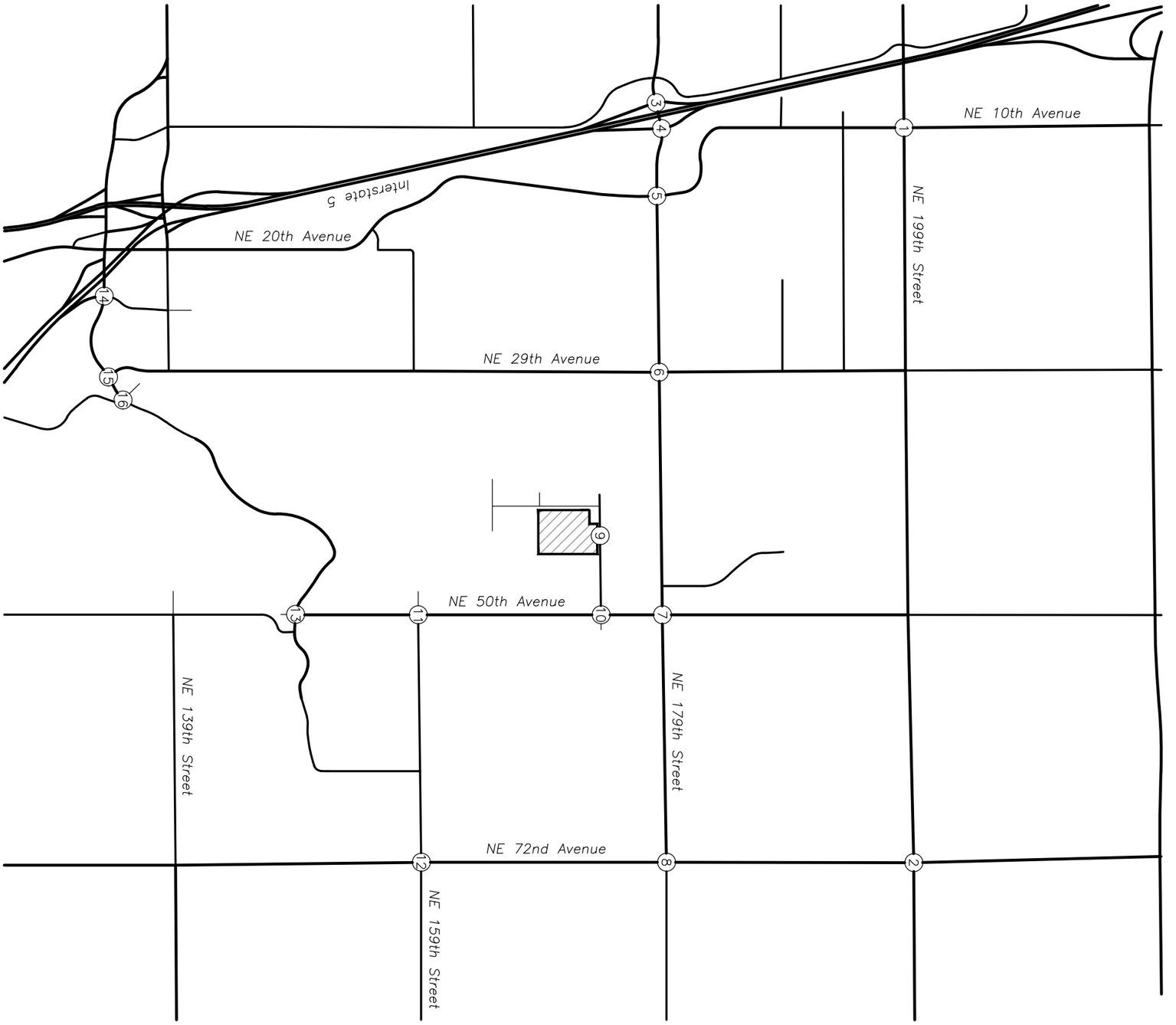
Rerouted Volumes - I-5 NB Ramp & NE 10th Avenue (No In-Process Added)

AM & PM Peak Hours

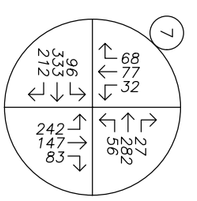
Figure B

174th Street Subdivision

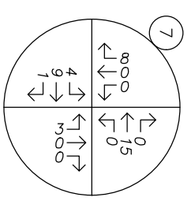
12/4/2025



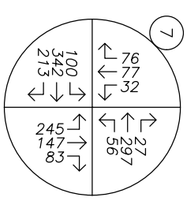
2028 Buildout Condition



Three Creeks East PUD Trips



2028 Buildout Condition with Three Creeks East PUD Trips



No Scale



lancaster mobley

TRAFFIC VOLUMES

2028 Buildout Condition with Three Creeks East PUD Trips

PM Peak Hour

Figure C

174th Street Subdivision

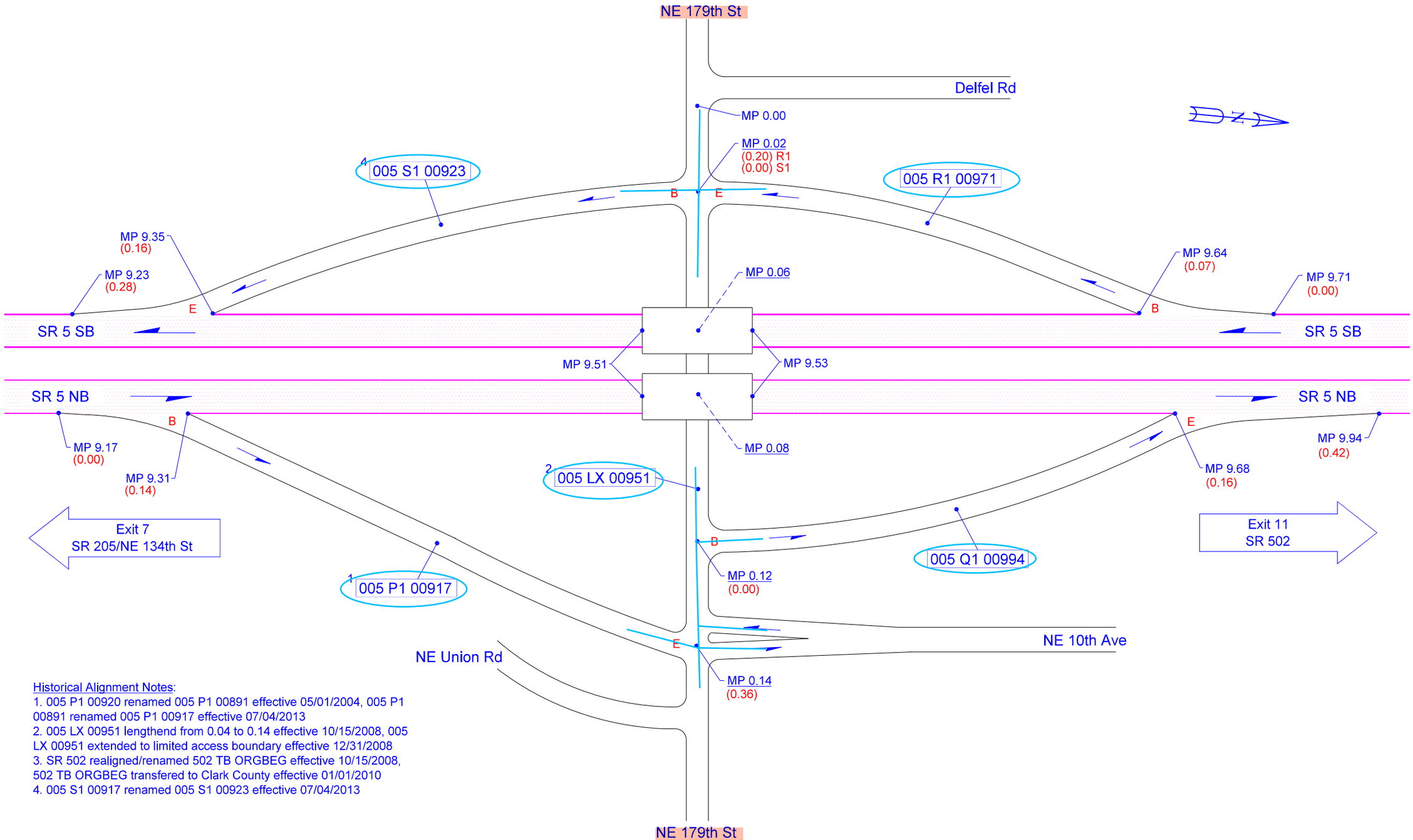
12/4/2025

Appendix E – Safety Analysis

Crash History Data

Left-Turn Lane Warrant Analysis

Preliminary Signal Warrant Analysis

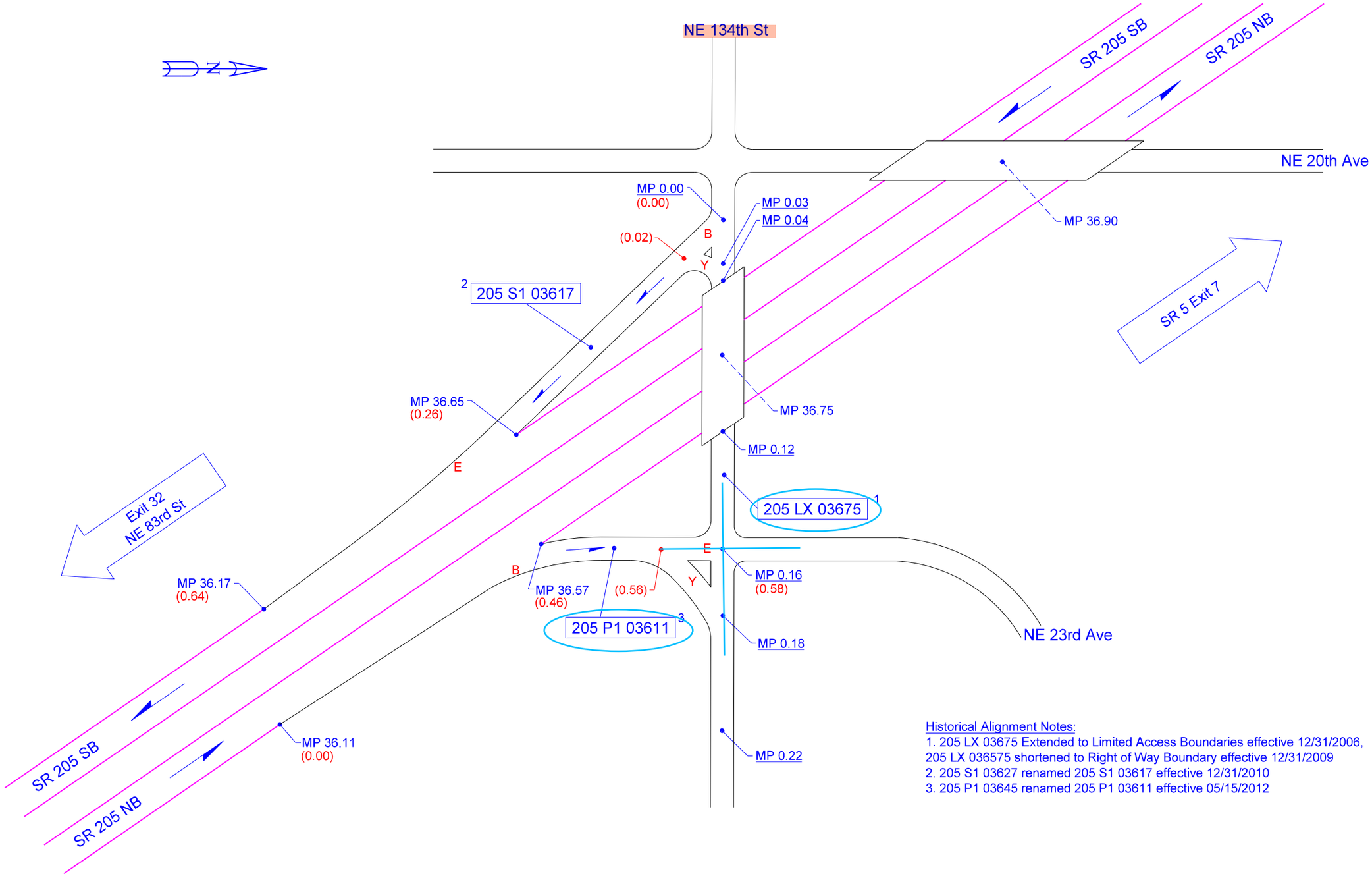


Historical Alignment Notes:

1. 005 P1 00920 renamed 005 P1 00891 effective 05/01/2004, 005 P1 00891 renamed 005 P1 00917 effective 07/04/2013
2. 005 LX 00951 lengthend from 0.04 to 0.14 effective 10/15/2008, 005 LX 00951 extended to limited access boundary effective 12/31/2008
3. SR 502 realigned/renamed 502 TB ORGBEG effective 10/15/2008, 502 TB ORGBEG transfered to Clark County effective 01/01/2010
4. 005 S1 00917 renamed 005 S1 00923 effective 07/04/2013

Not To Scale

02/16/2017	KLK	WSDOT SOUTHWEST REGION	CLARK COUNTY	JUNCTION NE 179TH ST	SR 5 - EXIT 9



Historical Alignment Notes:
1. 205 LX 03675 Extended to Limited Access Boundaries effective 12/31/2006, 205 LX 036575 shortened to Right of Way Boundary effective 12/31/2009
2. 205 S1 03627 renamed 205 S1 03617 effective 12/31/2010
3. 205 P1 03645 renamed 205 P1 03611 effective 05/15/2012

Not To Scale

01/11/2017	KLK	WSDOT SOUTHWEST REGION	CLARK COUNTY	JUNCTION NE 134TH ST	SR 205 - EXIT 36

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

199th St (Co Rd # 43680, mp 2.980 - 3.020) @ 10th Ave (Co Rd # 41761, mp 0.970 - 1.010)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		41761		43680	3.000					0.990		No	ED94311	08/30/2023	00:12	No Apparent Injury	0	0	1	0	0	Passenger Car		At Intersection and Related	Clear	Wet	Dark-Street Lights Off
County Road	Clark		41761		43680	3.000					0.990		No	EA63223	09/04/2020	17:13	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		41761		43680	3.000					0.990		No	ED20085	12/21/2022	22:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear	Dry	Dark-No Street Lights
County Road	Clark		43680		41761	0.990					3.000		No	EC09596	01/07/2022	07:32	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet	Dawn
County Road	Clark		43680		41761	0.990					3.000		No	ED88116	07/23/2023	20:30	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		At Intersection and Related	Clear	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

199th St (Co Rd # 43680, mp 2.980 - 3.020) @ 10th Ave (Co Rd # 41761, mp 0.970 - 1.010)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Signal Pole	Making Left Turn		East	South			Exceeding Reas. Safe Speed									Past the Outside Shoulder of Primary Trafficway	1088796.35	165036.74
From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	South	North	South	North	Operating Defective Equipment			None						Lane of Primary Trafficway	1088791.82	164728.78
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1088796.35	165036.74
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1088796.35	165036.74
Utility Box	Making Right Turn		South	East			Under Influence of Alcohol									Past the Outside Shoulder of Primary Trafficway	1088796.35	165036.74

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) @ SR 005 SB on-off ramps

SR 005R100971 (SR 005 SB off-ramp, mp 0.13 - 0.20) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) - *No Reported Crashes*

SR 005S100923 (SR 005 SB on-ramp, mp 0.00 - 0.08) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
State Route	Clark		005LX00951								0.00		No	ED91868	07/24/2023	12:52	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) @ SR 005 SB on-off ramps

SR 005R100971 (SR 005 SB off-ramp, mp 0.13 - 0.20) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) - *No Reported Crashes*

SR 005S100923 (SR 005 SB on-ramp, mp 0.00 - 0.08) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Making Left Turn	Going Straight Ahead	North	East	West	East	Did Not Grant RW to Vehicle			None						Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088036.25	159686.66

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

SR 005P100917 (SR 005 NB off-ramp, mp 0.28 - 0.36) @ SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) - *No Reported Crashes*

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
State Route	Clark		005LX00951								0.12		No	ED04036	11/12/2022	21:45	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Intersection Related but Not at Intersection	Overcast	Dry	Dark-Street Lights On
State Route	Clark		005LX00951								0.12		No	EC17012	02/02/2022	16:58	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Daylight
State Route	Clark		005LX00951								0.14		No	EC94425	10/16/2022	15:05	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	ED15354	12/14/2022	14:06	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	ED31404	01/29/2023	15:53	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	EC21583	02/07/2022	14:48	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	EC06793	12/23/2021	22:09	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On
State Route	Clark		005LX00951								0.14		No	EB89575	11/13/2021	13:55	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Overcast	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

SR 005P100917 (SR 005 NB off-ramp, mp 0.28 - 0.36) @ SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) - *No Reported Crashes*

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Going Straight Ahead	West	East	West	East	Under Influence of Alcohol	Other Contributing Circ Not Listed		None						Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088623.21	159792.89
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	North	East	West	Did Not Grant RW to Vehicle			None						Lane 1 LX Decreasing Milepost	1088598.62	159796.09
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Unknown Distraction	Disregard Traffic Sign and Signals		None						Lane 2 LX Decreasing Milepost	1088704.33	159814.79
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane 1 LX Decreasing Milepost	1088704.33	159814.79
From same direction - one right turn - one straight	Making Right Turn	Going Straight Ahead	South	East	South	East	Improper Turn/Merge			None						Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088723.3	159814.68
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane 1 LX Decreasing Milepost	1088721.82	159822.1
From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	South	North	North	East	Under Influence of Alcohol	Disregard Traffic Sign and Signals		None						Lane 1 LX Decreasing Milepost	1088703.59	159812.87
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	West	North	East	West	Improper Turn/Merge			None						Lane 2 LX Decreasing Milepost	1088718.52	159822.31

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.260 - 0.300) @ 15th Ave (Co Rd # 43110, mp 2.490 - 2.510)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		94360		43110	2.510					0.280		No	EC80219	08/15/2022	12:02	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,etc)	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EC07748	01/02/2022	12:41	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	ED88656	06/02/2023	07:30	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,etc)	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EA75716	10/22/2020	16:34	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.260 - 0.300) @ 15th Ave (Co Rd # 43110, mp 2.490 - 2.510)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	South	West	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1090128.54	159720.94
Entering at angle	Making Right Turn	Going Straight Ahead	South	East	East	West	Exceeding Reas. Safe Speed			None						Lane of Primary Trafficway	1090128.54	159720.94
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	South	West	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1090128.54	159720.94
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1090128.54	159720.94

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		43330		94360	0.990					2.260		No	ED16740	12/18/2022	14:53	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Wet	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EC37890	03/25/2022	15:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	ED48528	03/28/2023	21:40	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
County Road	Clark		94360		43330	2.260					0.990		No	ED10607	11/28/2022	17:28	Possible Injury	1	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Fog or Smog or Smoke	Wet	Dark-No Street Lights
County Road	Clark		94360		43330	2.260					0.990		No	EB76046	09/10/2021	17:42	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EA47114	07/07/2020	09:56	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EA78834	10/30/2020	13:00	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EC53355	05/25/2022	19:43	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Entering Roundabout	Clear	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	ED57928	05/02/2023	14:25	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	ED31158	01/23/2023	16:32	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Dry	Dusk

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	North	South	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Making Left Turn	Going Straight Ahead	East	South	South	Vehicle Stopped	Distracted by Adjusting Vehicle Cntrls			None						Intersecting Trafficway	1078172.95	159926.58
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	West	East	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	West	East	East	South	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Starting in Traffic Lane	Starting in Traffic Lane	East	West	North	South	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1093914.43	159639.32
From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	East	West	East	West	Unknown Distraction			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	Distracted by Other Occupant			None						Lane of Primary Trafficway	1131730.85	119503.08
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	North	South	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	West	East	South	North	Unknown Distraction			Unknown Distraction						Lane of Primary Trafficway	1093914.19	159640.78

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		94360		43330	2.260					0.990		No	EC19856	02/07/2022	13:33	Possible Injury	1	0	2	0	0	Truck (Flatbad,Van,etc)	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EE25446	10/31/2023	07:26	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear	Dry	Dark - Unknown Lightin

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	South	North	West	East	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 1.960 - 2.000) @ 50th Ave (Co Rd # 44390, mp 3.970 - 4.010)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		44390		94360	1.980					3.990		No	ED57814	05/03/2023	12:39	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		44390	3.990					1.980		No	EA68510	09/24/2020	18:05	Unknown	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		44390	3.990					1.980		No	EA10126	01/07/2020	21:20	No Apparent Injury	0	0	2	0	0	Passenger Car	Not Stated	At Intersection and Related	Raining	Wet	Dark-No Street Lights
County Road	Clark		94360		44390	3.990					1.980		No	EA07424	01/23/2020	06:51	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
County Road	Clark		94360		44390	3.990					1.980		No	EE30428	12/05/2023	06:15	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 1.960 - 2.000) @ 50th Ave (Co Rd # 44390, mp 3.970 - 4.010)

01/01/2020 - 12/31/2023 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	North	South	North	South	Operating Handheld Cell Phone	Follow Too Closely		None						Lane of Primary Trafficway	1099144.5	159629.66
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1099143.9	159575.37
Entering at angle	Going Straight Ahead	Making Right Turn	East	West	South	West	Unknown Distraction			Other Contributing Circ Not Listed						Lane of Primary Trafficway	1099143.9	159575.37
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Unknown Distraction			None						Lane of Primary Trafficway	1099143.9	159575.37
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1099143.63	159574.99

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

INTERSECTIONS

50TH AVE (CO RD #44390, MP 4.220 - 4.260) @ 174TH ST (CO RD #44580, MP 0.000 - 0.020)

01/01/2020 - 12/31/2023 *See 2nd tab below for road information*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A/B	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

INTERSECTIONS

50TH AVE (CO RD #44390, MP 4.220 - 4.260) @ 174TH ST (CO RD #44580, MP 0.000 - 0.020)

01/01/2020 - 12/31/2023 *See 2nd tab below for road information*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

INTERSECTIONS

50TH AVE (CO RD #44390, MP 4.970 - 5.010) @ 159TH ST (CO RD #44460, MP 0.610 - 0.630)

01/01/2020 - 12/31/2023 *See 2nd tab below for road information*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A/B	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		44390	4.990									No	EA05401	01/13/2020	14:23	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Daylight
County Road	Clark		44390	4.990									No	EC93459	10/11/2022	13:36	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear	Dry	Daylight
County Road	Clark		44390	4.990									No	3873654	08/30/2022	16:19	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Driveway within Major Intersection	Clear	Dry	Daylight
County Road	Clark		44390	4.990			44460	0.630					No	EC80254	09/01/2022	16:28	No Apparent Injury	0	0	2	0	0	Passenger Car	School Bus	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

INTERSECTIONS

50TH AVE (CO RD #44390, MP 4.970 - 5.010) @ 159TH ST (CO RD #44460, MP 0.610 - 0.630)

01/01/2020 - 12/31/2023 *See 2nd tab below for road information*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	North	South	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	#########	154319.25
Entering at angle	Starting in Traffic Lane	Going Straight Ahead	West	East	South	North	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	#########	154319.59
Entering at angle	Starting in Traffic Lane	Going Straight Ahead	East	West	North	South	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	#########	154319.59
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	#########	154319.59

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

199TH ST (CO RD #43680, MP 2.980 - 3.020) @ 10TH AVE (CO RD #41761, MP 0.970 - 1.010)

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER
County Road	Clark		43680	3.000				41761	0.990					No	EF43790	10/30/2024	16:32	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining
County Road	Clark		43680	3.000				41761	0.990					No	EF30452	10/29/2024	13:10	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

199TH ST (CO RD #43680, MP 2.980 - 3.020) @ 10TH AVE (CO RD #41761, MP 0.970 - 1.010)

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Wet	Dusk	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	West	North	East	West	Did Not Grant RW to Vehicle			None			Lane of Primary Trafficway	1088796.35	165036.74
Dry	Daylight	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None			Lane of Primary Trafficway	1088796.35	165036.74

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTES

SR 005LX00951 (aka 179th St, MP 0.00 - 0.04) @ SB SR 5 ON/OFF-RAMPS

SR 005R100971 (MP 0.18 - 0.20) @ 179TH ST

SR 005S100923 (MP 0.00 - 0.02) @ 179TH ST

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER
State Route	Clark		005LX00951	0.00		0.00								No	EE97595	07/17/2024	07:43	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTES

SR 005LX00951 (aka 179th St, MP 0.00 - 0.04) @ SB SR 5 ON/OFF-RAMPS

SR 005R100971 (MP 0.18 - 0.20) @ 179TH ST

SR 005S100923 (MP 0.00 - 0.02) @ 179TH ST

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Dry	Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	North	East	East	West	Did Not Grant RW to Vehicle			None			Lane 1 LX Decreasing Milepost	1088035.39	159683.65

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTES

SR 005LX00951 (aka 179th St, MP 0.10 - 0.14) @ NB SR 5 ON/OFF-RAMPS & 10TH AVE

SR 005P100917 (MP 0.34 - 0.36) @ 179TH ST & 10TH AVE

SR 005Q100994 (MP 0.00 - 0.02) @ 179TH ST

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER
State Route	Clark		005LX00951	0.12		0.12								No	EE53383	02/18/2024	12:25	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy
State Route	Clark		005LX00951	0.14		0.14								No	EE74078	04/29/2024	11:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTES

SR 005LX00951 (aka 179th St, MP 0.10 - 0.14) @ NB SR 5 ON/OFF-RAMPS & 10TH AVE

SR 005P100917 (MP 0.34 - 0.36) @ 179TH ST & 10TH AVE

SR 005Q100994 (MP 0.00 - 0.02) @ 179TH ST

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Dry	Daylight	From same direction - all others	Backing	Stopped for Traffic	West	Vehicle Backing	West	Vehicle Stopped	Improper Backing			None			Left Turn Lane LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane	1088596.51	159795.69
Dry	Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None			Lane 1 LX Decreasing Milepost	1088702.83	159822.34

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

179TH ST (CO RD #94360, MP 0.260 - 0.300) @ 15TH AVE (CO RD #43110, MP 2.490 - 2.530)

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER
County Road	Clark		94360	0.280				43110	2.510					No	EE68818	03/23/2024	18:02	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

179TH ST (CO RD #94360, MP 0.260 - 0.300) @ 15TH AVE (CO RD #43110, MP 2.490 - 2.530)

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Wet	Daylight	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Other Distractions			None			Lane of Primary Trafficway	1090128.54	159720.94

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

179TH ST (CO RD #94360, MP 0.970 - 1.010) @ 29TH AVE (CO RD #43330, MP 2.240 - 2.280)

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER
County Road	Clark		94360	0.990				43330	2.260					No	EE95856	07/14/2024	22:23	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

179TH ST (CO RD #94360, MP 0.970 - 1.010) @ 29TH AVE (CO RD #43330, MP 2.240 - 2.280)

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Dry	Dark-No Street Lights	Entering at angle	Going Straight Ahead	Going Straight Ahead	South	North	West	East	Under Influence of Alcohol	Unknown Distraction		None			Lane of Primary Trafficway	1093914.19	159640.78

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

159TH ST (CO RD #44460, MP 0.610 - 0.650) @ 50TH AVE (CO RD #44390, MP 4.970 - 5.010) - *No Reported Crashes*

174TH ST (CO RD #44580, MP 0.000 - 0.020) @ 50TH AVE (CO RD #44390, MP 4.220 - 4.260) - *No Reported Crashes*

179TH ST (CO RD #94360, MP 1.960 - 2.000) @ 50TH AVE (CO RD #44390, MP 3.970 - 4.010) - *No Reported Crashes*

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

159TH ST (CO RD #44460, MP 0.610 - 0.650) @ 50TH AVE (CO RD #44390, MP 4.970 - 5.010) - *No Reported Crashes*

174TH ST (CO RD #44580, MP 0.000 - 0.020) @ 50TH AVE (CO RD #44390, MP 4.220 - 4.260) - *No Reported Crashes*

179TH ST (CO RD #94360, MP 1.960 - 2.000) @ 50TH AVE (CO RD #44390, MP 3.970 - 4.010) - *No Reported Crashes*

01/01/2024 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

199TH ST - *east leg* (CO RD #50900, MP 2.490 - 2.530) @ 72ND AVE (CO RD #91250, MP 7.250 - 7.290)

199TH ST - *west leg* (CO RD #43680, MP 0.000 - 0.020) @ 72ND AVE (CO RD #91250, MP 7.250 - 7.290)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION
County Road	Clark		43680	0.000				91250	7.270					No	ED21827	12/16/2022	07:10	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Fog or Smog or Smoke	Ice
County Road	Clark		43680	0.000				91250	7.270					No	EB04562	02/08/2021	11:12	Died in Hospital	1	1	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Overcast	Wet
County Road	Clark		50900	2.510				91250	7.270					No	EB38275	06/09/2021	17:18	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Clear or Partly Cloudy	Dry
County Road	Clark		91250	7.270				43680	0.000					No	EE71760	04/11/2024	07:50	No Apparent Injury	0	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Clear	Dry
County Road	Clark		91250	7.270				50900	2.510					No	EC35151	03/23/2022	14:35	Suspected Minor Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet
County Road	Clark		91250	7.270				50900	2.510					No	EF48000	12/03/2024	16:16	Suspected Minor Injury	1	0	4	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Clear	Dry

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

199TH ST - *east leg* (CO RD #50900, MP 2.490 - 2.530) @ 72ND AVE (CO RD #91250, MP 7.250 - 7.290)

199TH ST - *west leg* (CO RD #43680, MP 0.000 - 0.020) @ 72ND AVE (CO RD #91250, MP 7.250 - 7.290)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Dawn	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	West	East	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None			Lane of Primary Trafficway	1104622.52	164822.55
Daylight	Entering at angle	Making Left Turn	Going Straight Ahead	West	North	North	South	Under Influence of Alcohol	Under Influence of Drugs	Disregard Traffic Sign and Signals	None			Lane of Primary Trafficway	1104622.52	164822.55
Daylight	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic	East	West	Vehicle Stopped	Vehicle Stopped	Disregard Traffic Sign and Signals			None			Lane of Primary Trafficway	1104722.6	164821.66
Daylight	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	North	South	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None			Lane of Primary Trafficway	1104619.18	165622.71
Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	South	North	East	West	Disregard Traffic Sign and Signals			None			Lane of Primary Trafficway	1104622.52	164822.55
Daylight	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic	South	North	South	Vehicle Stopped	Unknown Distraction			None			Lane of Primary Trafficway	1104615.15	164624.86

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

179TH ST (CO RD #94360, MP 2.970 - 3.010) @ 72ND AVE (CO RD #91250, MP 6.250 - 6.290)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION
County Road	Clark		91250	6.270				94360	2.990					No	EA25685	02/03/2020	14:50	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry
County Road	Clark		91250	6.270				94360	2.990					No	EA05039	01/13/2020	12:30	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet
County Road	Clark		91250	6.270				94360	2.990					No	EE42516	01/20/2024	18:28	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Overcast	Wet
County Road	Clark		91250	6.270				94360	2.990					No	EE62536	03/23/2024	18:15	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Overcast	Dry
County Road	Clark		91250	6.270				94360	2.990					No	EA09837	01/30/2020	11:01	Possible Injury	2	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Overcast	Dry
County Road	Clark		91250	6.270				94360	2.990					No	EE06910	09/22/2023	14:15	No Apparent Injury	0	0	3	0	0	Passenger Car	Passenger Car	Intersection Related but Not at Intersection	Clear	Dry
County Road	Clark		91250	6.270				94360	2.990					No	EC94035	10/16/2022	12:34	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		At Intersection and Related	Clear	Dry
County Road	Clark		94360	2.990				91250	6.270					No	EA84757	09/12/2020	15:22	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Fog or Smog or Smoke	Dry
County Road	Clark		94360	2.990				91250	6.270					No	EB60743	08/13/2021	18:53	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

179TH ST (CO RD #94360, MP 2.970 - 3.010) @ 72ND AVE (CO RD #91250, MP 6.250 - 6.290)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	North	South	Disregard Traffic Sign and Signals			None			Lane of Primary Trafficway	1104342.36	154251.49
Daylight	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	South	North	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None			Lane of Primary Trafficway	1104474.44	159538.15
Dark-No Street Lights	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	North	South	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None			Lane of Primary Trafficway	1104480.49	159738.4
Daylight	Entering at angle	Overtaking and Passing	Going Straight Ahead	South	North	East	West	Exceeding Reas. Safe Speed	Improper Passing		None			Lane of Primary Trafficway	1104474.91	159537.4
Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	South	North	East	West	Disregard Traffic Sign and Signals			None			Lane of Primary Trafficway	1104474.44	159538.15
Daylight	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic	South	North	South	Vehicle Stopped	Unknown Distraction			None			Lane of Primary Trafficway	1104446.31	158537.59
Daylight	Earth Bank or Ledge	Going Straight Ahead		South	North			Disregard Traffic Sign and Signals						Past the Outside Shoulder of Primary Trafficway	1104474.91	159537.4
Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	North	South	West	East	Disregard Traffic Sign and Signals			None			Lane of Primary Trafficway	1104474.91	159537.4
Daylight	Entering at angle	Going Straight Ahead	Starting in Traffic Lane	North	South	East	West	Distractions Outside Vehicle			None			Lane of Primary Trafficway	1104474.91	159537.4

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

179TH ST (CO RD #94360, MP 2.970 - 3.010) @ 72ND AVE (CO RD #91250, MP 6.250 - 6.290)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION
County Road	Clark		94360	2.990				91250	6.270					No	EB88701	11/11/2021	16:20	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

179TH ST (CO RD #94360, MP 2.970 - 3.010) @ 72ND AVE (CO RD #91250, MP 6.250 - 6.290)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	West	East	Vehicle Stopped	Vehicle Stopped	Under Influence of Alcohol			None			Lane of Primary Trafficway	1104474.91	159537.4

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

159TH ST - *east leg* (CO RD #50460, MP 0.000 - 0.020) @ 72ND AVE (CO RD #91250, MP 5.250 - 5.290)

159TH ST - *west leg* (CO RD #94130, MP 4.160 - 4.180) @ 72ND AVE (CO RD #91250, MP 5.250 - 5.290)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION
County Road	Clark		50460	0.000				91250	5.270					No	EE64864	03/15/2024	13:29	Suspected Minor Injury	1	0	2	0	0	Truck (Flatbad,Van,etc)	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry
County Road	Clark		50460	0.000				91250	5.270					No	EC71486	07/18/2022	19:13	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry
County Road	Clark		91250	5.270				50460	0.000					No	EB30186	04/26/2021	15:39	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Truck (Flatbad,Van,etc)	At Intersection and Related	Clear or Partly Cloudy	Dry
County Road	Clark		91250	5.270				50460	0.000					No	ED00218	10/29/2022	23:35	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Motorcycle	At Intersection and Related	Raining	Wet
County Road	Clark		91250	5.270				50460	0.000					No	EF25601	10/09/2024	16:28	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry
County Road	Clark		91250	5.270				94130	4.180					No	EA13659	02/06/2020	16:33	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet
County Road	Clark		91250	5.270				94130	4.180					No	EA08102	01/27/2020	09:59	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Wet
County Road	Clark		91250	5.270				94130	4.180					No	EF07358	07/30/2024	19:04	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry
County Road	Clark		94130	4.180				91250	5.270					No	EC19685	01/19/2022	18:45	Suspected Minor Injury	4	0	3	0	0	Truck (Flatbad,Van,etc)	Passenger Car	At Intersection and Related	Raining	Wet

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

159TH ST - *east leg* (CO RD #50460, MP 0.000 - 0.020) @ 72ND AVE (CO RD #91250, MP 5.250 - 5.290)

159TH ST - *west leg* (CO RD #94130, MP 4.160 - 4.180) @ 72ND AVE (CO RD #91250, MP 5.250 - 5.290)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Daylight	Entering at angle	Making Left Turn	Stopped at Signal or Stop Sign	North	East	East	Vehicle Stopped	Improper Turn/Merge			None			Intersecting Trafficway	1104342.23	154251.85
Daylight	From opposite direction - one left turn - one right turn	Making Left Turn	Making Right Turn	East	South	West	South	Failing to Signal			None			Lane of Primary Trafficway	1104342.23	154251.85
Daylight	From same direction - one right turn - one straight	Going Straight Ahead	Making Right Turn	South	North	South	East	Other Distractions			None			Lane of Primary Trafficway	1104342.23	154251.85
Dark-No Street Lights	From same direction - one right turn - one straight	Other*	Making Right Turn	South	North	South	East	Under Influence of Alcohol			None			Lane of Primary Trafficway	1104342.23	154251.85
Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Did Not Grant RW to Vehicle			None			Lane of Primary Trafficway	1104342.23	154251.85
Daylight	Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	North	South	Did Not Grant RW to Vehicle			None			Lane of Primary Trafficway	1104342.36	154251.49
Daylight	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	North	South	South	West	Improper Passing	Operating Recklessly or Aggressively		None			Lane of Primary Trafficway	1104342.36	154251.49
Daylight	Entering at angle	Starting in Traffic Lane	Going Straight Ahead	East	West	North	South	Did Not Grant RW to Vehicle			None			Lane of Primary Trafficway	1104342.23	154251.85
Dark-Street Lights On	Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	Did Not Grant RW to Vehicle			None			Lane of Primary Trafficway	1104342.23	154251.85

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

SALMON CREEK AVE (CO RD #94130, MP 2.310 - 2.350) @ 50TH AVE - north (CO RD #44390, MP 5.460 - 5.480)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION
County Road	Clark		44390	5.480				94130	2.330					No	EA97121	01/02/2021	16:10	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

SALMON CREEK AVE (CO RD #94130, MP 2.310 - 2.350) @ 50TH AVE - north (CO RD #44390, MP 5.460 - 5.480)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Dark-Street Lights Off	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	East	West	West	North	Unknown Distraction			Unknown Distraction			Lane of Primary Trafficway	1098937.24	151701.65

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTES

SR 205LX03675 (aka 134th St, MP 0.14 - 0.18) @ NB SR 205 OFF-RAMP & 23RD AVE

SR 205P103611 (MP 0.56 - 0.58) @ 134TH ST & 23RD AVE

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION
State Route	Clark		205LX03675	0.16		0.16								No	EA08817	01/13/2020	16:47	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet
State Route	Clark		205LX03675	0.16		0.16								No	EB98388	12/08/2021	07:23	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet
State Route	Clark		205LX03675	0.16		0.16								No	ED54831	04/21/2023	14:28	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Dry
State Route	Clark		205LX03675	0.16		0.16								No	EC82362	09/05/2022	19:21	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Dry
State Route	Clark		205LX03675	0.16		0.16								No	EE78805	05/16/2024	08:05	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry
State Route	Clark		205LX03675	0.16		0.16								No	EA92389	12/23/2020	11:18	Possible Injury	1	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Dry
State Route	Clark		205LX03675	0.16		0.16								No	EA03940	01/16/2020	12:02	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Overcast	Wet
State Route	Clark		205LX03675	0.16		0.16								No	EB15037	03/16/2021	15:16	Suspected Minor Injury	1	0	1	0	0	Motorcycle		At Intersection and Related	Clear	Dry
State Route	Clark		205LX03675	0.16		0.16								No	EB53833	07/23/2021	09:22	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear	Dry

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STATE ROUTES

SR 205LX03675 (aka 134th St, MP 0.14 - 0.18) @ NB SR 205 OFF-RAMP & 23RD AVE

SR 205P103611 (MP 0.56 - 0.58) @ 134TH ST & 23RD AVE

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Dark-Street Lights On	Entering at angle	Going Straight Ahead	Going Straight Ahead	South	North	East	West	Apparently Asleep or Fatigued	Other Distractions		None			Lane 2 LX Decreasing Milepost	1091944.17	147767.4
Dawn	Entering at angle	Making Right Turn	Going Straight Ahead	North	West	East	West	Did Not Grant RW to Vehicle			None			Lane 2 LX Decreasing Milepost	1091944.17	147767.21
Daylight	From same direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	South	West	South	North	Operating Recklessly or Aggressively			None			Lane 1 LX Increasing Milepost	1091943.89	147767.32
Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	South	North	South	Vehicle Stopped	Lost in Thought / Day Dreaming			None			Left Turn Lane Off Ramp Increasing Milepost Side of Mainline	1091945.88	147765.85
Daylight	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	East	West	West	North	None			Disregard Traffic Sign and Signals			Lane 1 LX Decreasing Milepost	1091948.85	147757.81
Daylight	Entering at angle	Going Straight Ahead	Making Left Turn	West	East	South	West	Other Contributing Circ Not Listed			None			Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane	1091944.14	147766.38
Daylight	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	West	North	East	West	Improper Turn/Merge	Disregard Traffic Sign and Signals		None			Lane 2 LX Decreasing Milepost	1091949.18	147758.49
Daylight	Vehicle overturned	Starting in Traffic Lane		East	West			None						Lane 1 LX Decreasing Milepost	1091944.86	147767.54
Daylight	Entering at angle	Going Straight Ahead	Making Right Turn	West	East	South	East	Other Contributing Circ Not Listed			None			Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane	1091944.17	147767.4

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTES

SR 205LX03675 (aka 134th St, MP 0.14 - 0.18) @ NB SR 205 OFF-RAMP & 23RD AVE

SR 205P103611 (MP 0.56 - 0.58) @ 134TH ST & 23RD AVE

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY ACCUMULATIVE ROUTE MILEPOST (ARM)	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION
State Route	Clark		205LX03675	0.18		0.18								No	EE76789	05/02/2024	13:37	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Overcast	Dry
State Route	Clark		205P103611	0.56		0.56								No	EB08689	02/16/2021	17:10	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Intersection Related but Not at Intersection	Overcast	Wet
State Route	Clark		205P103611	0.57		0.57								No	EC83703	09/13/2022	15:04	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Overcast	Dry
State Route	Clark		205P103611	0.58		0.58								No	EA35526	05/18/2020	13:30	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet
State Route	Clark		205P103611	0.58		0.58								No	EB49330	07/12/2021	13:12	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry
State Route	Clark		205P103611	0.58		0.58								No	EE66556	04/08/2024	08:42	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Dry

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTES

SR 205LX03675 (aka 134th St, MP 0.14 - 0.18) @ NB SR 205 OFF-RAMP & 23RD AVE

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Daylight	Entering at angle	Making Right Turn	Going Straight Ahead	South	East	West	East	Did Not Grant RW to Vehicle			None			Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane	1092081.3	147756.33
Daylight	From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Going Straight Ahead	South	North	South	West	Follow Too Closely			Unknown Distraction			Left Turn Lane Off Ramp Increasing Milepost Side of Mainline	1091962.53	147648.65
Daylight	Same direction -- both turning right -- one stopped -- rear end	Making Right Turn	Stopped for Traffic	South	East	South	Vehicle Stopped	Exceeding Reas. Safe Speed			None			Lane 1 Off Ramp Increasing Milepost Side of Mainline	1092016.86	147717.15
Daylight	From same direction - all others	Backing	Stopped for Traffic	South	North	South	Vehicle Stopped	Other Contributing Circ Not Listed			None			Lane 2 Off Ramp Increasing Milepost Side of Mainline	1091944.36	147765.22
Daylight	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	South	North	South	North	Follow Too Closely			None			Left Turn Lane Off Ramp Increasing Milepost Side of Mainline	1091945.38	147767.53
Daylight	Same direction -- both turning right -- both moving -- rear end	Going Straight Ahead	Slowing	South	North	South	North	Follow Too Closely			None			Lane 1 Off Ramp Increasing Milepost Side of Mainline	1091948.88	147767.91

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

134TH ST (CO RD #43140, MP 0.070 - 0.110) @ 29TH AVE (CO RD #43330, MP 0.000 - 0.020)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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County Road	Clark		43140	0.090				43330	0.000					No	ED34099	02/08/2023	12:11	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Overcast	Dry
County Road	Clark		43140	0.100				43330	0.000					No	ED93377	08/20/2023	01:36	No Apparent Injury	0	0	1	0	0	Passenger Car		At Intersection and Related	Clear	Dry
County Road	Clark		43330	0.000				43140	0.090					No	EB16886	03/12/2021	04:50	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		At Intersection and Related	Clear	Dry

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

134TH ST (CO RD #43140, MP 0.070 - 0.110) @ 29TH AVE (CO RD #43330, MP 0.000 - 0.020)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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Daylight	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	West	North	East	West	Unknown Distraction			Unknown Distraction			Lane of Primary Trafficway	1093737.34	147832.79
Dark-Street Lights On	Vehicle overturned	Making Left Turn		North	East			None						Past the Outside Shoulder of Primary Trafficway	1093737.34	147832.79
Dark-Street Lights On	Signal Pole	Going Straight Ahead		North	South			Under Influence of Drugs	Exceeding Reas. Safe Speed	Operating Recklessly or Aggressively				Other Location (City/County/Misc. Trafficway)	1093737.34	147832.79

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

134TH ST (CO RD #43140, MP 0.000 - 0.020) @ SALMON CREEK AVE (CO RD #94130, MP 0.890 - 0.930)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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County Road	Clark		43140	0.000				94130	0.910					No	EC02871	12/07/2021	16:16	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet
County Road	Clark		43140	0.000				94130	0.910					No	ED36775	02/08/2023	15:10	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	Intersection Related but Not at Intersection	Clear or Partly Cloudy	Dry
County Road	Clark		94130	0.910				43140	0.000					No	EF51584	12/23/2024	23:15	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet
County Road	Clark		94130	0.910				43140	0.000					No	EC80255	08/13/2022	17:26	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear	Dry

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROADS

134TH ST (CO RD #43140, MP 0.000 - 0.020) @ SALMON CREEK AVE (CO RD #94130, MP 0.890 - 0.930)

01/01/2020 - 12/31/2024 *See 2nd tab below for road information & interchange drawing for reference*

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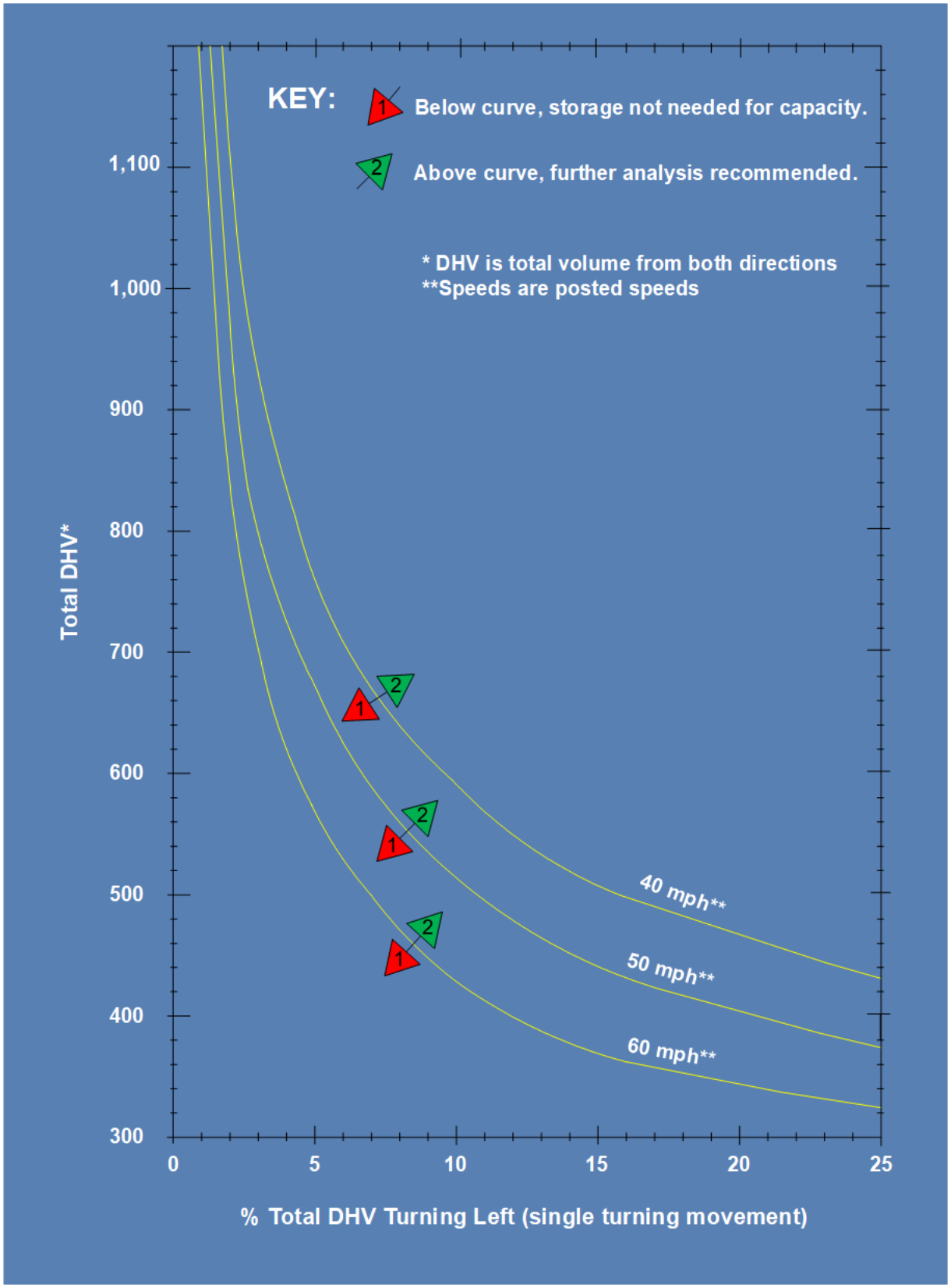
Daylight	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	East	West	East	West	Distractions Outside Vehicle			None			Lane of Primary Trafficway	1094245.21	148163.13
Daylight	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead	Northeast	Southeast	Northeast	Southeast	Did Not Grant RW to Vehicle			None			Lane of Primary Trafficway	1094036.88	147982.77
Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	Southwest	Northeast	Southwest	Vehicle Stopped	Unknown Distraction			None			Lane of Primary Trafficway	1094203.55	148105.78
Daylight	Entering at angle	Stopped at Signal or Stop Sign	Making Right Turn	South	West	West	South	None			Other Contributing Circ Not Listed			Intersecting Trafficway	1094203.55	148105.78

Exhibit 1310-9 Left-Turn Storage Guidelines: Two-Lane, Unsignalized



Traffic Signal Warrant Analysis

Project: NE 174th Street Subdivision
Date: 9/8/2025
Scenario: 2028 Buildout Conditions

Major Street:	NE 179th Street	Minor Street:	NE 50th Avenue
Number of Lanes:	2	Number of Lanes:	1
PM Peak Hour Volumes:	1006	PM Peak Hour Volumes:	451

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)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

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

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	10,060	10,600	
Minor Street*	4,510	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	10,060	15,900	
Minor Street*	4,510	1,350	**No**
Combination Warrant			
Major Street	10,060	12,720	
Minor Street*	4,510	2,120	**No**

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

Traffic Signal Warrant Analysis

Project: NE 174th Street Subdivision
Date: 9/8/2025
Scenario: 2028 Buildout Conditions

Major Street:	NE 50th Avenue	Minor Street:	NE 174th Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	781	PM Peak Hour Volumes:	115

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)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

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

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	7,810	8,850	
Minor Street*	1,150	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	7,810	13,300	
Minor Street*	1,150	1,350	**No**
Combination Warrant			
Major Street	7,810	10,640	
Minor Street*	1,150	2,120	**No**

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

Traffic Signal Warrant Analysis

Project: NE 174th Street Subdivision
Date: 9/8/2025
Scenario: 2028 Buildout Conditions

Major Street:	NE 50th Avenue	Minor Street:	NE 159th Street
Number of Lanes:	2	Number of Lanes:	1
PM Peak Hour Volumes:	685	PM Peak Hour Volumes:	82

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)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

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

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	6,850	10,600	
Minor Street*	820	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	6,850	15,900	
Minor Street*	820	1,350	**No**
Combination Warrant			
Major Street	6,850	12,720	
Minor Street*	820	2,120	**No**

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

Traffic Signal Warrant Analysis

Project: NE 174th Street Subdivision
Date: 9/8/2025
Scenario: 2028 Buildout Conditions

Major Street:	NE 72nd Avenue	Minor Street:	NE 159th Street
Number of Lanes:	2	Number of Lanes:	1
PM Peak Hour Volumes:	1330	PM Peak Hour Volumes:	74

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)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

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

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	13,300	7,400	
Minor Street*	740	1,850	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	13,300	11,100	
Minor Street*	740	950	**No**
Combination Warrant			
Major Street	13,300	8,880	
Minor Street*	740	1,480	**No**

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

Traffic Signal Warrant Analysis

Project: NE 174th Street Subdivision
Date: 9/8/2025
Scenario: 2028 Buildout Conditions

Major Street:	NE Salmon Creek Street	Minor Street:	NE 50th Avenue
Number of Lanes:	1	Number of Lanes:	2
PM Peak Hour Volumes:	515	PM Peak Hour Volumes:	261

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)	
WARRANT 1, CONDITION A		100% Warrants	70% Warrants	100% Warrants	70% Warrants
Major St.	Minor St.				
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

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

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	5,150	8,850	
Minor Street*	2,610	3,550	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	5,150	13,300	
Minor Street*	2,610	1,750	**No**
Combination Warrant			
Major Street	5,150	10,640	
Minor Street*	2,610	2,840	**No**

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

Appendix F – Operation Analysis

Level of Service Descriptions

Synchro Capacity Reports

Sidra Capacity Reports

LEVEL OF SERVICE

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

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

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

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

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

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

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

LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

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

LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	61	31	129	95	21	108	66	95	14	65	51
Future Volume (veh/h)	29	61	31	129	95	21	108	66	95	14	65	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1737	1737	1737	1767	1767	1767	1678	1678	1678
Adj Flow Rate, veh/h	33	69	13	145	107	17	121	74	45	16	73	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	7	11	11	11	9	9	9	15	15	15
Cap, veh/h	242	320	50	382	182	24	186	282	171	33	237	62
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.11	0.27	0.27	0.02	0.18	0.18
Sat Flow, veh/h	272	1220	190	676	694	92	1682	1029	625	1598	1284	334
Grp Volume(v), veh/h	115	0	0	269	0	0	121	0	119	16	0	92
Grp Sat Flow(s),veh/h/ln	1682	0	0	1463	0	0	1682	0	1654	1598	0	1618
Q Serve(g_s), s	0.0	0.0	0.0	3.0	0.0	0.0	1.9	0.0	1.5	0.3	0.0	1.3
Cycle Q Clear(g_c), s	1.4	0.0	0.0	4.4	0.0	0.0	1.9	0.0	1.5	0.3	0.0	1.3
Prop In Lane	0.29		0.11	0.54		0.06	1.00		0.38	1.00		0.21
Lane Grp Cap(c), veh/h	612	0	0	588	0	0	186	0	453	33	0	298
V/C Ratio(X)	0.19	0.00	0.00	0.46	0.00	0.00	0.65	0.00	0.26	0.48	0.00	0.31
Avail Cap(c_a), veh/h	1408	0	0	1307	0	0	559	0	1343	295	0	1074
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.9	0.0	0.0	11.6	0.0	7.7	13.1	0.0	9.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	3.8	0.0	0.3	10.2	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.3	0.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.0	0.0	0.0	9.5	0.0	0.0	15.4	0.0	8.0	23.3	0.0	10.1
LnGrp LOS	A			A			B		A	C		B
Approach Vol, veh/h		115			269			240			108	
Approach Delay, s/veh		8.0			9.5			11.7			12.1	
Approach LOS		A			A			B			B	

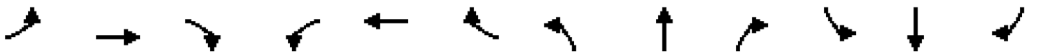
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	11.4		11.1	7.0	9.0		11.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	22.0		21.0	9.0	18.0		21.0				
Max Q Clear Time (g_c+I1), s	2.3	3.5		3.4	3.9	3.3		6.4				
Green Ext Time (p_c), s	0.0	0.5		0.5	0.1	0.3		1.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	10.4	
HCM 7th LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	80	18	113	167	29	10	149	53	16	334	5
Future Volume (veh/h)	1	80	18	113	167	29	10	149	53	16	334	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1826	1826	1826	1633	1633	1633	1737	1737	1737
Adj Flow Rate, veh/h	1	92	10	130	192	30	11	171	46	18	384	5
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	10	10	10	5	5	5	18	18	18	11	11	11
Cap, veh/h	1	125	14	166	245	38	22	345	93	37	490	6
Arrive On Green	0.08	0.08	0.08	0.25	0.25	0.25	0.01	0.28	0.28	0.02	0.29	0.29
Sat Flow, veh/h	17	1537	167	652	963	151	1555	1240	333	1654	1711	22
Grp Volume(v), veh/h	103	0	0	352	0	0	11	0	217	18	0	389
Grp Sat Flow(s),veh/h/ln	1721	0	0	1766	0	0	1555	0	1573	1654	0	1733
Q Serve(g_s), s	2.6	0.0	0.0	8.2	0.0	0.0	0.3	0.0	5.1	0.5	0.0	9.1
Cycle Q Clear(g_c), s	2.6	0.0	0.0	8.2	0.0	0.0	0.3	0.0	5.1	0.5	0.0	9.1
Prop In Lane	0.01		0.10	0.37		0.09	1.00		0.21	1.00		0.01
Lane Grp Cap(c), veh/h	140	0	0	450	0	0	22	0	438	37	0	496
V/C Ratio(X)	0.74	0.00	0.00	0.78	0.00	0.00	0.49	0.00	0.50	0.48	0.00	0.78
Avail Cap(c_a), veh/h	703	0	0	762	0	0	177	0	786	188	0	866
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	0.0	15.3	0.0	0.0	21.5	0.0	13.3	21.3	0.0	14.5
Incr Delay (d2), s/veh	7.3	0.0	0.0	3.0	0.0	0.0	16.0	0.0	0.9	9.5	0.0	2.8
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	1.1	0.0	0.0	2.7	0.0	0.0	0.2	0.0	1.4	0.2	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.1	0.0	0.0	18.3	0.0	0.0	37.5	0.0	14.2	30.8	0.0	17.2
LnGrp LOS	C			B			D		B	C		B
Approach Vol, veh/h		103			352			228			407	
Approach Delay, s/veh		27.1			18.3			15.3			17.8	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	16.3		7.6	4.6	16.6		15.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		19.0				
Max Q Clear Time (g_c+I1), s	2.5	7.1		4.6	2.3	11.1		10.2				
Green Ext Time (p_c), s	0.0	0.9		0.3	0.0	1.5		1.2				

Intersection Summary		
HCM 7th Control Delay, s/veh		18.3
HCM 7th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	137	474	328	269	0	0	0	0	52	2	73
Future Volume (veh/h)	0	137	474	328	269	0	0	0	0	52	2	73
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1811	1811	1781	1781	0				1752	1752	1752
Adj Flow Rate, veh/h	0	144	0	349	277	0				55	2	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	6	6	8	8	0				10	10	10
Cap, veh/h	0	298		933	490	0				266	10	245
Arrive On Green	0.00	0.16	0.00	0.27	0.27	0.00				0.16	0.16	0.16
Sat Flow, veh/h	0	1811	1535	3393	1781	0				1613	59	1485
Grp Volume(v), veh/h	0	144	0	349	277	0				57	0	13
Grp Sat Flow(s),veh/h/ln	0	1811	1535	1697	1781	0				1671	0	1485
Q Serve(g_s), s	0.0	2.2	0.0	2.5	4.1	0.0				0.9	0.0	0.2
Cycle Q Clear(g_c), s	0.0	2.2	0.0	2.5	4.1	0.0				0.9	0.0	0.2
Prop In Lane	0.00		1.00	1.00		0.00				0.96		1.00
Lane Grp Cap(c), veh/h	0	298		933	490	0				275	0	245
V/C Ratio(X)	0.00	0.48		0.37	0.57	0.00				0.21	0.00	0.05
Avail Cap(c_a), veh/h	0	1194		2069	1086	0				1074	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.5	0.0	8.9	9.4	0.0				11.0	0.0	10.7
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.2	1.0	0.0				0.4	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.0	0.6	1.0	0.0				0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.7	0.0	9.1	10.5	0.0				11.3	0.0	10.8
LnGrp LOS		B		A	B					B		B
Approach Vol, veh/h		144			626						70	
Approach Delay, s/veh		12.7			9.7						11.2	
Approach LOS		B			A						B	

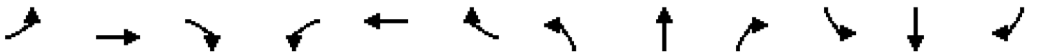
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				9.0		9.0		12.3				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				20.0		19.5		18.5				
Max Q Clear Time (g_c+I1), s				4.2		2.9		6.1				
Green Ext Time (p_c), s				0.6		0.2		2.3				

Intersection Summary		
HCM 7th Control Delay, s/veh	10.4	
HCM 7th LOS	B	

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	90	0	0	254	25	189	175	65	42	0	191
Future Volume (veh/h)	22	90	0	0	254	25	189	175	65	42	0	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	0	0	1856	1856	1811	1811	1811	1707	0	1707
Adj Flow Rate, veh/h	24	98	0	0	276	13	205	190	14	46	0	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	0	0	3	3	6	6	6	13	0	13
Cap, veh/h	195	267	0	0	653	31	485	598	44	299	0	0
Arrive On Green	0.19	0.19	0.00	0.00	0.19	0.19	0.14	0.18	0.18	0.18	0.00	0.00
Sat Flow, veh/h	189	1402	0	0	3521	161	3346	3251	238	1626	46	
Grp Volume(v), veh/h	122	0	0	0	141	148	205	100	104	46	9.5	
Grp Sat Flow(s),veh/h/ln	1591	0	0	0	1763	1827	1673	1721	1768	1626	A	
Q Serve(g_s), s	0.0	0.0	0.0	0.0	1.9	1.9	1.5	1.4	1.4	0.6		
Cycle Q Clear(g_c), s	1.9	0.0	0.0	0.0	1.9	1.9	1.5	1.4	1.4	0.6		
Prop In Lane	0.20		0.00	0.00		0.09	1.00		0.13	1.00		
Lane Grp Cap(c), veh/h	462	0	0	0	336	348	485	317	325	299		
V/C Ratio(X)	0.26	0.00	0.00	0.00	0.42	0.42	0.42	0.32	0.32	0.15		
Avail Cap(c_a), veh/h	1214	0	0	0	1200	1243	4125	1171	1204	658		
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.6	0.0	0.0	0.0	9.7	9.7	10.6	9.6	9.6	9.3		
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.8	0.8	0.6	0.6	0.6	0.2		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.0	0.5	0.5	0.3	0.3	0.3	0.1		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.9	0.0	0.0	0.0	10.5	10.5	11.2	10.2	10.2	9.5		
LnGrp LOS	A				B	B	B	B	B	A		
Approach Vol, veh/h		122			289			409				
Approach Delay, s/veh		9.9			10.5			10.7				
Approach LOS		A			B			B				

Timer - Assigned Phs	1	2		4	5			8				
Phs Duration (G+Y+Rc), s	9.0	9.0		9.2	7.9			9.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0				
Max Green Setting (Gmax), s	11.0	18.5		18.5	33.5			18.5				
Max Q Clear Time (g_c+I1), s	2.6	3.4		3.9	3.5			3.9				
Green Ext Time (p_c), s	0.0	0.8		0.5	0.7			1.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			10.4									
HCM 7th LOS			B									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	84	100	50	165	91	40
Future Volume (vph)	84	100	50	165	91	40
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	0.93			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	1645			1860	1703	1524
Flt Permitted	1.00			0.91	0.95	1.00
Satd. Flow (perm)	1645			1704	1703	1524
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	95	114	57	188	103	45
RTOR Reduction (vph)	52	0	0	0	0	36
Lane Group Flow (vph)	157	0	0	245	103	9
Heavy Vehicles (%)	7%	7%	1%	1%	6%	6%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	16.8			16.8	6.1	6.1
Effective Green, g (s)	16.8			16.8	6.1	6.1
Actuated g/C Ratio	0.54			0.54	0.20	0.20
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	894			926	336	300
v/s Ratio Prot	0.10					
v/s Ratio Perm				c0.14	c0.06	0.01
v/c Ratio	0.18			0.26	0.31	0.03
Uniform Delay, d1	3.6			3.8	10.6	10.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.1			0.2	0.5	0.0
Delay (s)	3.7			3.9	11.1	10.1
Level of Service	A			A	B	B
Approach Delay (s/veh)	3.7			3.9	10.8	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	30.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	101	24	26	151	9	35	41	10	3	70	31
Future Vol, veh/h	23	101	24	26	151	9	35	41	10	3	70	31
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	12	12	12	8	8	8	2	2	2	4	4	4
Mvmt Flow	26	116	28	30	174	10	40	47	11	3	80	36
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.3	9.7	8.9	8.8
HCM LOS	A	A	A	A

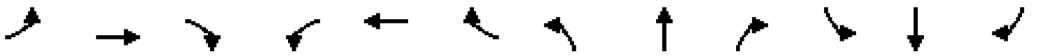
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	41%	16%	14%	3%
Vol Thru, %	48%	68%	81%	67%
Vol Right, %	12%	16%	5%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	86	148	186	104
LT Vol	35	23	26	3
Through Vol	41	101	151	70
RT Vol	10	24	9	31
Lane Flow Rate	99	170	214	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.138	0.228	0.284	0.161
Departure Headway (Hd)	5.025	4.835	4.78	4.85
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	710	738	748	735
Service Time	3.085	2.889	2.831	2.907
HCM Lane V/C Ratio	0.139	0.23	0.286	0.163
HCM Control Delay, s/veh	8.9	9.3	9.7	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.9	1.2	0.6

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	82	35	22	116	8	18	41	8	11	70	26
Future Vol, veh/h	10	82	35	22	116	8	18	41	8	11	70	26
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	10	10	10	10	10	10	8	8	8	7	7	7
Mvmt Flow	13	103	44	28	145	10	23	51	10	14	88	33
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	9.3	9.6	8.8	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	27%	100%	0%	100%	0%	10%
Vol Thru, %	61%	0%	70%	0%	94%	65%
Vol Right, %	12%	0%	30%	0%	6%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	10	117	22	124	107
LT Vol	18	10	0	22	0	11
Through Vol	41	0	82	0	116	70
RT Vol	8	0	35	0	8	26
Lane Flow Rate	84	13	146	28	155	134
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.118	0.021	0.211	0.045	0.229	0.181
Departure Headway (Hd)	5.068	5.907	5.192	5.875	5.326	4.878
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	704	604	689	607	671	733
Service Time	3.123	3.662	2.947	3.629	3.08	2.928
HCM Lane V/C Ratio	0.119	0.022	0.212	0.046	0.231	0.183
HCM Control Delay, s/veh	8.8	8.8	9.3	8.9	9.7	9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.1	0.8	0.1	0.9	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	33	48	59	76	13	36	190	25	11	396	31
Future Volume (veh/h)	16	33	48	59	76	13	36	190	25	11	396	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	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	1737	1737	1737	1826	1826	1826	1752	1752	1752	1781	1781	1781
Adj Flow Rate, veh/h	18	37	10	66	84	8	40	211	21	12	440	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	11	11	11	5	5	5	10	10	10	8	8	8
Cap, veh/h	208	159	37	270	138	12	80	646	64	27	628	43
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.41	0.41	0.02	0.38	0.38
Sat Flow, veh/h	309	1068	250	606	929	82	1668	1567	156	1697	1649	112
Grp Volume(v), veh/h	65	0	0	158	0	0	40	0	232	12	0	470
Grp Sat Flow(s),veh/h/ln	1627	0	0	1617	0	0	1668	0	1723	1697	0	1761
Q Serve(g_s), s	0.0	0.0	0.0	1.6	0.0	0.0	0.7	0.0	2.6	0.2	0.0	6.4
Cycle Q Clear(g_c), s	1.0	0.0	0.0	2.6	0.0	0.0	0.7	0.0	2.6	0.2	0.0	6.4
Prop In Lane	0.28		0.15	0.42		0.05	1.00		0.09	1.00		0.06
Lane Grp Cap(c), veh/h	404	0	0	420	0	0	80	0	711	27	0	670
V/C Ratio(X)	0.16	0.00	0.00	0.38	0.00	0.00	0.50	0.00	0.33	0.44	0.00	0.70
Avail Cap(c_a), veh/h	1139	0	0	1180	0	0	294	0	1519	299	0	1552
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	0.0	0.0	11.3	0.0	0.0	13.2	0.0	5.7	13.8	0.0	7.4
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	4.8	0.0	0.3	11.1	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.6	0.0	0.0	0.3	0.0	0.3	0.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.9	0.0	0.0	11.9	0.0	0.0	18.0	0.0	5.9	24.9	0.0	8.8
LnGrp LOS	B			B			B		A	C		A
Approach Vol, veh/h		65			158			272			482	
Approach Delay, s/veh		10.9			11.9			7.7			9.2	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	15.7		8.2	5.4	14.8		8.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	25.0		18.0	5.0	25.0		18.0				
Max Q Clear Time (g_c+I1), s	2.2	4.6		3.0	2.7	8.4		4.6				
Green Ext Time (p_c), s	0.0	1.1		0.2	0.0	2.3		0.5				

Intersection Summary		
HCM 7th Control Delay, s/veh	9.3	
HCM 7th LOS	A	

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	0	15	0	0	0	14	58	0	0	97	13
Future Vol, veh/h	14	0	15	0	0	0	14	58	0	0	97	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	10	10	10	0	0	0	10	10	10	5	5	5
Mvmt Flow	18	0	19	0	0	0	18	73	0	0	121	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	237	237	129	229	245	73	138	0	0	73	0	0
Stage 1	129	129	-	108	108	-	-	-	-	-	-	-
Stage 2	108	108	-	121	138	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.1	6.5	6.2	4.2	-	-	4.15	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.5	4	3.3	2.29	-	-	2.245	-	-
Pot Cap-1 Maneuver	701	650	899	731	661	995	1398	-	-	1509	-	-
Stage 1	855	774	-	903	810	-	-	-	-	-	-	-
Stage 2	879	791	-	888	787	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	692	642	899	706	652	995	1398	-	-	1509	-	-
Mov Cap-2 Maneuver	692	642	-	706	652	-	-	-	-	-	-	-
Stage 1	855	774	-	891	800	-	-	-	-	-	-	-
Stage 2	867	781	-	869	787	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.8	0	1.48	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	350	-	-	786	-	1509	-	-
HCM Lane V/C Ratio	0.013	-	-	0.046	-	-	-	-
HCM Ctrl Dly (s/v)	7.6	0	-	9.8	0	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	4	1	26	14	17	4	86	18	14	77	12
Future Vol, veh/h	2	4	1	26	14	17	4	86	18	14	77	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	-	130	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	0	0	0	2	2	2	7	7	7	4	4	4
Mvmt Flow	3	5	1	33	18	21	5	108	23	18	96	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	265	279	104	263	275	119	111	0	0	130	0	0
Stage 1	139	139	-	129	129	-	-	-	-	-	-	-
Stage 2	126	140	-	134	146	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.17	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.263	-	-	2.236	-	-
Pot Cap-1 Maneuver	692	633	956	690	632	933	1448	-	-	1443	-	-
Stage 1	869	786	-	875	790	-	-	-	-	-	-	-
Stage 2	882	785	-	870	776	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	647	623	956	673	622	933	1448	-	-	1443	-	-
Mov Cap-2 Maneuver	647	623	-	673	622	-	-	-	-	-	-	-
Stage 1	859	776	-	872	787	-	-	-	-	-	-	-
Stage 2	840	782	-	852	767	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.49	10.56	0.28	1.02
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	631	956	719	1443	-	-
HCM Lane V/C Ratio	0.003	-	-	0.012	0.001	0.099	0.012	-	-
HCM Ctrl Dly (s/v)	7.5	-	-	10.8	8.8	10.6	7.5	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0.3	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	8	17	25	23	1	16	269	13	3	516	8
Future Vol, veh/h	3	8	17	25	23	1	16	269	13	3	516	8
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	65	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	6	6	6	16	16	16	10	10	10
Mvmt Flow	3	9	18	27	25	1	17	292	14	3	561	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	912	914	566	906	911	299	571	0	0	307	0	0
Stage 1	573	573	-	334	334	-	-	-	-	-	-	-
Stage 2	340	341	-	572	577	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.56	6.26	4.26	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4.054	3.354	2.344	-	-	2.29	-	-
Pot Cap-1 Maneuver	257	275	527	253	270	731	936	-	-	1210	-	-
Stage 1	508	507	-	671	636	-	-	-	-	-	-	-
Stage 2	679	642	-	498	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	227	269	527	231	264	731	935	-	-	1210	-	-
Mov Cap-2 Maneuver	227	269	-	231	264	-	-	-	-	-	-	-
Stage 1	506	505	-	659	624	-	-	-	-	-	-	-
Stage 2	639	630	-	471	493	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.53	23.33	0.48	0.05
HCM LOS	C	C		

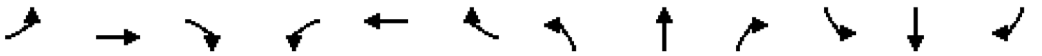
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	935	-	-	372	249	1210	-	-
HCM Lane V/C Ratio	0.019	-	-	0.082	0.214	0.003	-	-
HCM Ctrl Dly (s/v)	8.9	-	-	15.5	23.3	8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.8	0	-	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	31	1	0	35	34	1	0	0	17	0	94
Future Vol, veh/h	76	31	1	0	35	34	1	0	0	17	0	94
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	9	9	9	0	0	0	0	0	0	3	3	3
Mvmt Flow	95	39	1	0	44	43	1	0	0	21	0	118
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	8.6	7.5	7.9	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	70%	0%	100%	0%
Vol Thru, %	0%	29%	51%	0%	0%
Vol Right, %	0%	1%	49%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	108	69	17	94
LT Vol	1	76	0	17	0
Through Vol	0	31	35	0	0
RT Vol	0	1	34	0	94
Lane Flow Rate	1	135	86	21	118
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.002	0.173	0.098	0.033	0.142
Departure Headway (Hd)	4.868	4.6	4.08	5.562	4.357
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	737	783	881	646	825
Service Time	2.888	2.612	2.094	3.277	2.072
HCM Lane V/C Ratio	0.001	0.172	0.098	0.033	0.143
HCM Control Delay, s/veh	7.9	8.6	7.5	8.5	7.8
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0	0.6	0.3	0.1	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	257	0	0	367	37	501	300	190	17	0	146
Future Volume (veh/h)	132	257	0	0	367	37	501	300	190	17	0	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1856	1856	1841	1841	1841	1870	0	1870
Adj Flow Rate, veh/h	159	310	0	0	442	33	604	361	0	20	0	17
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	0	0	3	3	4	4	4	2	0	2
Cap, veh/h	629	2255	0	0	1664	124	825	446		0	0	0
Arrive On Green	0.07	0.63	0.00	0.00	0.50	0.50	0.24	0.24	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	0	0	3419	248	3401	1841	1560		0	
Grp Volume(v), veh/h	159	310	0	0	234	241	604	361	0		0.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1763	1811	1700	1841	1560			
Q Serve(g_s), s	2.5	2.3	0.0	0.0	5.0	5.0	10.6	12.0	0.0			
Cycle Q Clear(g_c), s	2.5	2.3	0.0	0.0	5.0	5.0	10.6	12.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.14	1.00		1.00			
Lane Grp Cap(c), veh/h	629	2255	0	0	882	906	825	446				
V/C Ratio(X)	0.25	0.14	0.00	0.00	0.26	0.27	0.73	0.81				
Avail Cap(c_a), veh/h	637	2255	0	0	882	906	942	510				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	6.1	4.8	0.0	0.0	9.4	9.4	22.7	23.2	0.0			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	0.2	0.2	2.6	8.4	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			
%ile BackOfQ(50%),veh/ln	0.7	0.6	0.0	0.0	1.6	1.7	4.2	5.8	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.3	4.9	0.0	0.0	9.5	9.5	25.2	31.6	0.0			
LnGrp LOS	A	A			A	A	C	C				
Approach Vol, veh/h		469			475			965				
Approach Delay, s/veh		5.4			9.5			27.6				
Approach LOS		A			A			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		45.2			8.7	36.5		19.8				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		29.0			5.0	20.0		18.0				
Max Q Clear Time (g_c+I1), s		4.3			4.5	7.0		14.0				
Green Ext Time (p_c), s		1.9			0.0	2.2		1.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	17.6
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	79	77	52	252	250	88
Future Volume (veh/h)	79	77	52	252	250	88
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
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	1826	1826	1856	1856
Adj Flow Rate, veh/h	89	11	58	283	281	62
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	5	5	3	3
Cap, veh/h	123	110	861	2766	1948	422
Arrive On Green	0.07	0.07	0.05	0.80	0.68	0.68
Sat Flow, veh/h	1781	1585	1739	3561	2961	622
Grp Volume(v), veh/h	89	11	58	283	171	172
Grp Sat Flow(s),veh/h/ln	1781	1585	1739	1735	1763	1727
Q Serve(g_s), s	2.9	0.4	0.5	1.1	2.1	2.1
Cycle Q Clear(g_c), s	2.9	0.4	0.5	1.1	2.1	2.1
Prop In Lane	1.00	1.00	1.00			0.36
Lane Grp Cap(c), veh/h	123	110	861	2766	1197	1173
V/C Ratio(X)	0.72	0.10	0.07	0.10	0.14	0.15
Avail Cap(c_a), veh/h	594	528	917	2766	1197	1173
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	0.94	0.94
Uniform Delay (d), s/veh	27.4	26.2	1.9	1.3	3.4	3.4
Incr Delay (d2), s/veh	7.7	0.4	0.0	0.1	0.2	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	1.4	0.4	0.1	0.1	0.5	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	35.0	26.6	1.9	1.4	3.7	3.7
LnGrp LOS	D	C	A	A	A	A
Approach Vol, veh/h	100			341	343	
Approach Delay, s/veh	34.1			1.5	3.7	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		51.8		8.2	7.1	44.7
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		32.0		20.0	5.0	23.0
Max Q Clear Time (g_c+I1), s		3.1		4.9	2.5	4.1
Green Ext Time (p_c), s		1.8		0.2	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	6.6
HCM 7th LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	159	0	38	2	213	114	23	180	1
Future Volume (veh/h)	1	0	1	159	0	38	2	213	114	23	180	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.35		1.00	1.00		0.95	1.00		0.98	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	418	418	418	1856	1856	1856	1841	1841	1841	1856	1856	1856
Adj Flow Rate, veh/h	1	0	0	177	0	6	2	237	69	26	200	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	100	100	100	3	3	3	4	4	4	3	3	3
Cap, veh/h	112	1	0	274	0	132	835	1169	968	780	1220	6
Arrive On Green	0.00	0.00	0.00	0.09	0.00	0.09	0.00	0.64	0.64	0.03	0.66	0.66
Sat Flow, veh/h	398	418	0	1767	0	1487	1753	1841	1524	1767	1845	9
Grp Volume(v), veh/h	1	0	0	177	0	6	2	237	69	26	0	201
Grp Sat Flow(s),veh/h/ln	398	418	0	1767	0	1487	1753	1841	1524	1767	0	1854
Q Serve(g_s), s	0.1	0.0	0.0	6.0	0.0	0.2	0.0	3.5	1.1	0.3	0.0	2.7
Cycle Q Clear(g_c), s	0.1	0.0	0.0	6.0	0.0	0.2	0.0	3.5	1.1	0.3	0.0	2.7
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	112	1	0	274	0	132	835	1169	968	780	0	1226
V/C Ratio(X)	0.01	0.00	0.00	0.65	0.00	0.05	0.00	0.20	0.07	0.03	0.00	0.16
Avail Cap(c_a), veh/h	142	116	0	274	0	435	965	1169	968	865	0	1226
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	0.00	1.00	0.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	0.0	28.0	0.0	27.1	4.3	5.0	4.5	3.8	0.0	4.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.2	0.0	0.1	0.0	0.4	0.1	0.0	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.9	0.0	0.1	0.0	1.1	0.3	0.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.4	0.0	0.0	33.2	0.0	27.3	4.3	5.4	4.7	3.8	0.0	4.5
LnGrp LOS	C			C		C	A	A	A	A		A
Approach Vol, veh/h		1			183			308			227	
Approach Delay, s/veh		32.4			33.0			5.2			4.4	
Approach LOS		C			C			A			A	

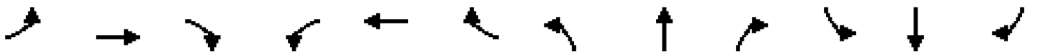
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	45.3	10.0	3.8	4.2	47.0	4.1	9.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	20.0	6.0	18.0	5.0	20.0	5.0	19.0
Max Q Clear Time (g_c+I1), s	2.3	5.5	8.0	0.0	2.0	4.7	2.1	2.2
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	0.8	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	12.1
HCM 7th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	110	40	99	88	25	118	436	221	36	83	58
Future Volume (veh/h)	44	110	40	99	88	25	118	436	221	36	83	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1781	1781	1781	1811	1811	1811
Adj Flow Rate, veh/h	47	118	28	106	95	19	127	469	212	39	89	24
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	3	3	3	8	8	8	6	6	6
Cap, veh/h	163	221	47	256	149	26	162	562	254	75	594	160
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.10	0.48	0.48	0.04	0.43	0.43
Sat Flow, veh/h	300	1210	256	696	814	143	1697	1162	525	1725	1374	370
Grp Volume(v), veh/h	193	0	0	220	0	0	127	0	681	39	0	113
Grp Sat Flow(s),veh/h/ln	1767	0	0	1653	0	0	1697	0	1687	1725	0	1744
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	3.0	0.0	14.5	0.9	0.0	1.6
Cycle Q Clear(g_c), s	4.0	0.0	0.0	4.9	0.0	0.0	3.0	0.0	14.5	0.9	0.0	1.6
Prop In Lane	0.24		0.15	0.48		0.09	1.00		0.31	1.00		0.21
Lane Grp Cap(c), veh/h	431	0	0	431	0	0	162	0	816	75	0	754
V/C Ratio(X)	0.45	0.00	0.00	0.51	0.00	0.00	0.78	0.00	0.83	0.52	0.00	0.15
Avail Cap(c_a), veh/h	844	0	0	801	0	0	409	0	1221	208	0	1052
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.5	0.0	0.0	15.8	0.0	0.0	18.3	0.0	9.3	19.4	0.0	7.1
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.9	0.0	0.0	8.1	0.0	3.3	5.4	0.0	0.1
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	1.4	0.0	0.0	1.5	0.0	0.0	1.3	0.0	3.2	0.4	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.2	0.0	0.0	16.7	0.0	0.0	26.4	0.0	12.5	24.8	0.0	7.2
LnGrp LOS	B			B			C		B	C		A
Approach Vol, veh/h		193			220			808			152	
Approach Delay, s/veh		16.2			16.7			14.7			11.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	24.1		11.6	8.0	21.9		11.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	30.0		18.0	10.0	25.0		18.0				
Max Q Clear Time (g_c+I1), s	2.9	16.5		6.0	5.0	3.6		6.9				
Green Ext Time (p_c), s	0.0	3.6		0.7	0.1	0.4		0.8				

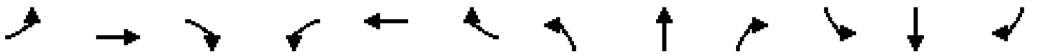
Intersection Summary			
HCM 7th Control Delay, s/veh		14.9	
HCM 7th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	239	20	107	164	39	22	348	140	30	236	7
Future Volume (veh/h)	10	239	20	107	164	39	22	348	140	30	236	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1752	1752	1752
Adj Flow Rate, veh/h	11	266	19	119	182	37	24	387	140	33	262	7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	10	10	10
Cap, veh/h	13	313	22	137	209	43	46	437	158	56	587	16
Arrive On Green	0.19	0.19	0.19	0.22	0.22	0.22	0.03	0.34	0.34	0.03	0.35	0.35
Sat Flow, veh/h	67	1632	117	630	963	196	1753	1290	467	1668	1698	45
Grp Volume(v), veh/h	296	0	0	338	0	0	24	0	527	33	0	269
Grp Sat Flow(s),veh/h/ln	1816	0	0	1789	0	0	1753	0	1757	1668	0	1744
Q Serve(g_s), s	11.5	0.0	0.0	13.4	0.0	0.0	1.0	0.0	20.8	1.4	0.0	8.7
Cycle Q Clear(g_c), s	11.5	0.0	0.0	13.4	0.0	0.0	1.0	0.0	20.8	1.4	0.0	8.7
Prop In Lane	0.04		0.06	0.35		0.11	1.00		0.27	1.00		0.03
Lane Grp Cap(c), veh/h	349	0	0	389	0	0	46	0	595	56	0	603
V/C Ratio(X)	0.85	0.00	0.00	0.87	0.00	0.00	0.52	0.00	0.89	0.59	0.00	0.45
Avail Cap(c_a), veh/h	446	0	0	464	0	0	120	0	767	114	0	761
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	0.0	0.0	27.7	0.0	0.0	35.2	0.0	22.9	34.9	0.0	18.5
Incr Delay (d2), s/veh	11.7	0.0	0.0	14.2	0.0	0.0	8.7	0.0	10.0	9.7	0.0	0.5
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	5.6	0.0	0.0	6.6	0.0	0.0	0.5	0.0	8.9	0.7	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.3	0.0	0.0	41.9	0.0	0.0	44.0	0.0	32.8	44.6	0.0	19.1
LnGrp LOS	D			D			D		C	D		B
Approach Vol, veh/h		296			338			551			302	
Approach Delay, s/veh		40.3			41.9			33.3			21.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	28.8		18.1	5.9	29.4		19.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	32.0		18.0	5.0	32.0		19.0				
Max Q Clear Time (g_c+I1), s	3.4	22.8		13.5	3.0	10.7		15.4				
Green Ext Time (p_c), s	0.0	2.1		0.6	0.0	1.3		0.6				

Intersection Summary												
HCM 7th Control Delay, s/veh			34.3									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	158	319	252	840	0	0	0	0	84	4	149
Future Volume (veh/h)	0	158	319	252	840	0	0	0	0	84	4	149
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1870	1870	0				1856	1856	1856
Adj Flow Rate, veh/h	0	178	0	283	944	0				94	4	27
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89				0.89	0.89	0.89
Percent Heavy Veh, %	0	3	3	2	2	0				3	3	3
Cap, veh/h	0	295		705	1481	0				222	9	206
Arrive On Green	0.00	0.16	0.00	0.40	0.40	0.00				0.13	0.13	0.13
Sat Flow, veh/h	0	1856	1572	1781	3741	0				1698	72	1572
Grp Volume(v), veh/h	0	178	0	283	944	0				98	0	27
Grp Sat Flow(s),veh/h/ln	0	1856	1572	1781	1870	0				1771	0	1572
Q Serve(g_s), s	0.0	3.4	0.0	4.4	7.8	0.0				1.9	0.0	0.6
Cycle Q Clear(g_c), s	0.0	3.4	0.0	4.4	7.8	0.0				1.9	0.0	0.6
Prop In Lane	0.00		1.00	1.00		0.00				0.96		1.00
Lane Grp Cap(c), veh/h	0	295		705	1481	0				232	0	206
V/C Ratio(X)	0.00	0.60		0.40	0.64	0.00				0.42	0.00	0.13
Avail Cap(c_a), veh/h	0	899		980	2058	0				858	0	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.9	0.0	8.3	9.3	0.0				15.3	0.0	14.7
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.4	0.5	0.0				1.2	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	0.0	1.1	2.0	0.0				0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	16.9	0.0	8.7	9.8	0.0				16.5	0.0	15.0
LnGrp LOS		B		A	A					B		B
Approach Vol, veh/h		178			1227						125	
Approach Delay, s/veh		16.9			9.5						16.1	
Approach LOS		B			A						B	

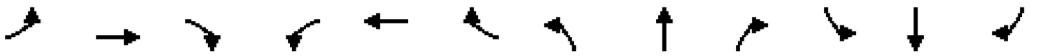
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				10.1		9.0		19.1				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				18.5		18.5		21.0				
Max Q Clear Time (g_c+I1), s				5.4		3.9		9.8				
Green Ext Time (p_c), s				0.7		0.4		5.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	10.9
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	173	0	0	297	195	661	620	437	62	0	216
Future Volume (veh/h)	45	173	0	0	297	195	661	620	437	62	0	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	0	0	1870	1870	1811	1811	1811	1811	0	1811
Adj Flow Rate, veh/h	49	188	0	0	323	58	718	674	267	67	0	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	0	0	2	2	6	6	6	6	0	6
Cap, veh/h	142	285	0	0	665	118	1003	911	361	203	0	0
Arrive On Green	0.22	0.22	0.00	0.00	0.22	0.22	0.30	0.38	0.38	0.12	0.00	0.00
Sat Flow, veh/h	181	1294	0	0	3109	535	3346	2407	953	1725	67	
Grp Volume(v), veh/h	237	0	0	0	189	192	718	482	459	67	18.1	
Grp Sat Flow(s),veh/h/ln	1475	0	0	0	1777	1774	1673	1721	1639	1725	B	
Q Serve(g_s), s	2.5	0.0	0.0	0.0	3.9	4.0	8.1	10.3	10.3	1.5		
Cycle Q Clear(g_c), s	6.5	0.0	0.0	0.0	3.9	4.0	8.1	10.3	10.3	1.5		
Prop In Lane	0.21		0.00	0.00		0.30	1.00		0.58	1.00		
Lane Grp Cap(c), veh/h	428	0	0	0	392	391	1003	652	621	203		
V/C Ratio(X)	0.55	0.00	0.00	0.00	0.48	0.49	0.72	0.74	0.74	0.33		
Avail Cap(c_a), veh/h	762	0	0	0	779	778	2634	892	850	301		
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.2	0.0	0.0	0.0	14.4	14.5	13.2	11.4	11.4	17.2		
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.0	0.9	1.0	1.0	2.1	2.3	0.9		
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		
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.0	1.3	1.4	2.2	2.7	2.6	0.5		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.3	0.0	0.0	0.0	15.3	15.4	14.2	13.5	13.6	18.1		
LnGrp LOS	B				B	B	B	B	B	B		
Approach Vol, veh/h		237			381			1659				
Approach Delay, s/veh		16.3			15.4			13.9				
Approach LOS		B			B			B				

Timer - Assigned Phs	1	2		4	5			8				
Phs Duration (G+Y+Rc), s	9.0	20.1		13.4	16.7			13.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0				
Max Green Setting (Gmax), s	7.4	22.0		18.6	33.4			18.6				
Max Q Clear Time (g_c+I1), s	3.5	12.3		8.5	10.1			6.0				
Green Ext Time (p_c), s	0.0	3.8		0.9	2.6			1.6				

Intersection Summary												
HCM 7th Control Delay, s/veh			14.5									
HCM 7th LOS			B									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	494	128	54	186	328	155
Future Volume (vph)	494	128	54	186	328	155
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	0.97			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	1759			1842	1770	1583
Flt Permitted	1.00			0.70	0.95	1.00
Satd. Flow (perm)	1759			1311	1770	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	555	144	61	209	369	174
RTOR Reduction (vph)	16	0	0	0	0	119
Lane Group Flow (vph)	683	0	0	270	369	56
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	23.6			23.6	14.8	14.8
Effective Green, g (s)	23.6			23.6	14.8	14.8
Actuated g/C Ratio	0.51			0.51	0.32	0.32
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	894			666	564	504
v/s Ratio Prot	c0.39					
v/s Ratio Perm				0.21	c0.21	0.04
v/c Ratio	0.76			0.41	0.65	0.11
Uniform Delay, d1	9.2			7.1	13.6	11.2
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	3.9			0.4	2.7	0.1
Delay (s)	13.1			7.5	16.3	11.2
Level of Service	B			A	B	B
Approach Delay (s/veh)	13.1			7.5	14.7	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	199	35	16	166	9	31	90	26	11	45	34
Future Vol, veh/h	55	199	35	16	166	9	31	90	26	11	45	34
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	4	4	4	4	4	4	3	3	3	1	1	1
Mvmt Flow	63	229	40	18	191	10	36	103	30	13	52	39
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	12.4	10.6	10.4	9.5
HCM LOS	B	B	B	A

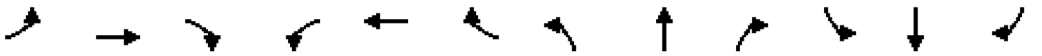
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	19%	8%	12%
Vol Thru, %	61%	69%	87%	50%
Vol Right, %	18%	12%	5%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	289	191	90
LT Vol	31	55	16	11
Through Vol	90	199	166	45
RT Vol	26	35	9	34
Lane Flow Rate	169	332	220	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.258	0.466	0.317	0.156
Departure Headway (Hd)	5.488	5.051	5.2	5.442
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	654	718	692	658
Service Time	3.525	3.051	3.231	3.484
HCM Lane V/C Ratio	0.258	0.462	0.318	0.157
HCM Control Delay, s/veh	10.4	12.4	10.6	9.5
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1	2.5	1.4	0.6

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	164	28	9	118	10	53	121	33	21	59	14
Future Vol, veh/h	38	164	28	9	118	10	53	121	33	21	59	14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	5	5	5	9	9	9	3	3	3	2	2	2
Mvmt Flow	42	182	31	10	131	11	59	134	37	23	66	16
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	10.8	10.3	10.9	9.4
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	26%	100%	0%	100%	0%	22%
Vol Thru, %	58%	0%	85%	0%	92%	63%
Vol Right, %	16%	0%	15%	0%	8%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	207	38	192	9	128	94
LT Vol	53	38	0	9	0	21
Through Vol	121	0	164	0	118	59
RT Vol	33	0	28	0	10	14
Lane Flow Rate	230	42	213	10	142	104
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.335	0.073	0.333	0.018	0.232	0.157
Departure Headway (Hd)	5.239	6.231	5.621	6.436	5.873	5.406
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	690	576	640	557	612	663
Service Time	3.239	3.958	3.348	4.165	3.603	3.437
HCM Lane V/C Ratio	0.333	0.073	0.333	0.018	0.232	0.157
HCM Control Delay, s/veh	10.9	9.5	11.1	9.3	10.4	9.4
HCM Lane LOS	B	A	B	A	B	A
HCM 95th-tile Q	1.5	0.2	1.5	0.1	0.9	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	122	45	39	56	6	61	461	76	18	306	24
Future Volume (veh/h)	28	122	45	39	56	6	61	461	76	18	306	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
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	1841	1841	1841	1856	1856	1856	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	30	133	29	42	61	2	66	501	74	20	333	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	3	3	3	3	3	3	4	4	4
Cap, veh/h	162	222	45	243	206	6	123	666	98	45	646	43
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.07	0.42	0.42	0.03	0.38	0.38
Sat Flow, veh/h	178	1285	260	486	1190	33	1767	1575	233	1753	1705	113
Grp Volume(v), veh/h	192	0	0	105	0	0	66	0	575	20	0	355
Grp Sat Flow(s),veh/h/ln	1723	0	0	1708	0	0	1767	0	1808	1753	0	1818
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	0.0	1.1	0.0	8.5	0.4	0.0	4.8
Cycle Q Clear(g_c), s	3.2	0.0	0.0	1.6	0.0	0.0	1.1	0.0	8.5	0.4	0.0	4.8
Prop In Lane	0.16		0.15	0.40		0.02	1.00		0.13	1.00		0.06
Lane Grp Cap(c), veh/h	430	0	0	455	0	0	123	0	765	45	0	689
V/C Ratio(X)	0.45	0.00	0.00	0.23	0.00	0.00	0.54	0.00	0.75	0.45	0.00	0.52
Avail Cap(c_a), veh/h	1096	0	0	1057	0	0	334	0	1425	276	0	1375
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	0.0	11.5	0.0	0.0	14.3	0.0	7.7	15.2	0.0	7.6
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.3	0.0	0.0	3.6	0.0	1.5	6.9	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	0.4	0.0	0.0	0.4	0.0	1.4	0.2	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.9	0.0	0.0	11.8	0.0	0.0	17.9	0.0	9.3	22.1	0.0	8.2
LnGrp LOS	B			B			B		A	C		A
Approach Vol, veh/h		192			105			641			375	
Approach Delay, s/veh		12.9			11.8			10.1			8.9	
Approach LOS		B			B			B			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.8	17.4		9.5	6.2	16.0		9.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	25.0		18.0	6.0	24.0		18.0				
Max Q Clear Time (g_c+I1), s	2.4	10.5		5.2	3.1	6.8		3.6				
Green Ext Time (p_c), s	0.0	2.9		0.7	0.0	1.7		0.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	10.3
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	0	13	0	0	0	16	144	0	0	80	15
Future Vol, veh/h	10	0	13	0	0	0	16	144	0	0	80	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	17	17	17	0	0	0	4	4	4	3	3	3
Mvmt Flow	12	0	16	0	0	0	20	178	0	0	99	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	325	325	108	316	335	178	117	0	0	178	0	0
Stage 1	108	108	-	217	217	-	-	-	-	-	-	-
Stage 2	217	217	-	99	117	-	-	-	-	-	-	-
Critical Hdwy	7.27	6.67	6.37	7.1	6.5	6.2	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.27	5.67	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.27	5.67	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.653	4.153	3.453	3.5	4	3.3	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	600	569	907	641	589	870	1459	-	-	1392	-	-
Stage 1	862	778	-	790	727	-	-	-	-	-	-	-
Stage 2	752	696	-	913	802	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	591	560	907	620	580	870	1459	-	-	1392	-	-
Mov Cap-2 Maneuver	591	560	-	620	580	-	-	-	-	-	-	-
Stage 1	862	778	-	778	716	-	-	-	-	-	-	-
Stage 2	741	686	-	896	802	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.09	0	0.75	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	180	-	-	736	-	1392	-	-
HCM Lane V/C Ratio	0.014	-	-	0.039	-	-	-	-
HCM Ctrl Dly (s/v)	7.5	0	-	10.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	7	5	29	3	18	5	135	30	17	79	3
Future Vol, veh/h	12	7	5	29	3	18	5	135	30	17	79	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	-	130	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	8	6	35	4	22	6	163	36	20	95	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	314	349	97	333	333	181	99	0	0	199	0	0
Stage 1	138	138	-	193	193	-	-	-	-	-	-	-
Stage 2	177	211	-	140	140	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	642	578	965	620	587	862	1494	-	-	1374	-	-
Stage 1	870	786	-	809	741	-	-	-	-	-	-	-
Stage 2	830	732	-	863	781	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	610	567	965	596	576	862	1494	-	-	1374	-	-
Mov Cap-2 Maneuver	610	567	-	596	576	-	-	-	-	-	-	-
Stage 1	857	775	-	806	738	-	-	-	-	-	-	-
Stage 2	802	729	-	835	769	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.77	10.91	0.22	1.32
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1494	-	-	594	965	669	1374	-	-
HCM Lane V/C Ratio	0.004	-	-	0.039	0.006	0.09	0.015	-	-
HCM Ctrl Dly (s/v)	7.4	-	-	11.3	8.8	10.9	7.7	-	-
HCM Lane LOS	A	-	-	B	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.3	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	21	30	16	18	6	24	584	29	11	402	11
Future Vol, veh/h	5	21	30	16	18	6	24	584	29	11	402	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	65	-	-	85	-	-
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, %	2	2	2	10	10	10	4	4	4	6	6	6
Mvmt Flow	5	22	31	17	19	6	25	608	30	11	419	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1115	1136	424	1126	1127	623	430	0	0	639	0	0
Stage 1	447	447	-	673	673	-	-	-	-	-	-	-
Stage 2	668	689	-	453	453	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.14	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.236	-	-	2.254	-	-
Pot Cap-1 Maneuver	185	202	630	176	198	472	1119	-	-	926	-	-
Stage 1	590	573	-	432	442	-	-	-	-	-	-	-
Stage 2	448	447	-	571	556	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	160	195	630	144	191	472	1119	-	-	926	-	-
Mov Cap-2 Maneuver	160	195	-	144	191	-	-	-	-	-	-	-
Stage 1	583	566	-	422	432	-	-	-	-	-	-	-
Stage 2	413	437	-	516	550	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	19.87	30.35	0.31	0.23
HCM LOS	C	D		

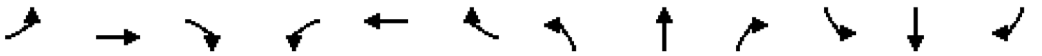
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1119	-	-	300	183	926	-	-
HCM Lane V/C Ratio	0.022	-	-	0.194	0.227	0.012	-	-
HCM Ctrl Dly (s/v)	8.3	-	-	19.9	30.4	8.9	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	0.8	0	-	-

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	129	74	0	1	33	42	0	0	0	44	0	72
Future Vol, veh/h	129	74	0	1	33	42	0	0	0	44	0	72
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	1	1	4	4	4	0	0	0	2	2	2
Mvmt Flow	148	85	0	1	38	48	0	0	0	51	0	83
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	9.3	7.7	0	8.3
HCM LOS	A	A	-	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	64%	1%	100%	0%
Vol Thru, %	100%	36%	43%	0%	0%
Vol Right, %	0%	0%	55%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	203	76	44	72
LT Vol	0	129	1	44	0
Through Vol	0	74	33	0	0
RT Vol	0	0	42	0	72
Lane Flow Rate	0	233	87	51	83
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0	0.29	0.103	0.081	0.105
Departure Headway (Hd)	4.904	4.467	4.227	5.762	4.555
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	807	849	623	787
Service Time	2.938	2.484	2.248	3.488	2.281
HCM Lane V/C Ratio	0	0.289	0.102	0.082	0.105
HCM Control Delay, s/veh	7.9	9.3	7.7	9	7.8
HCM Lane LOS	N	A	A	A	A
HCM 95th-tile Q	0	1.2	0.3	0.3	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	299	0	0	468	48	601	220	215	30	0	343
Future Volume (veh/h)	40	299	0	0	468	48	601	220	215	30	0	343
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1885	1885	1870	1870	1870	1900	0	1900
Adj Flow Rate, veh/h	43	318	0	0	498	40	639	234	0	32	0	199
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, %	2	2	0	0	1	1	2	2	2	0	0	0
Cap, veh/h	585	2293	0	0	1821	146	800	433		0	0	0
Arrive On Green	0.04	0.65	0.00	0.00	0.54	0.54	0.23	0.23	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	0	0	3452	269	3456	1870	1585		0	
Grp Volume(v), veh/h	43	318	0	0	265	273	639	234	0		0.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1791	1836	1728	1870	1585			
Q Serve(g_s), s	0.6	2.3	0.0	0.0	5.2	5.2	11.3	7.1	0.0			
Cycle Q Clear(g_c), s	0.6	2.3	0.0	0.0	5.2	5.2	11.3	7.1	0.0			
Prop In Lane	1.00		0.00	0.00		0.15	1.00		1.00			
Lane Grp Cap(c), veh/h	585	2293	0	0	971	996	800	433				
V/C Ratio(X)	0.07	0.14	0.00	0.00	0.27	0.27	0.80	0.54				
Avail Cap(c_a), veh/h	648	2293	0	0	971	996	957	518				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	5.4	4.5	0.0	0.0	8.0	8.0	23.5	21.9	0.0			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.1	4.1	1.0	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			
%ile BackOfQ(50%),veh/ln	0.2	0.6	0.0	0.0	1.6	1.7	4.7	3.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.4	4.6	0.0	0.0	8.1	8.1	27.6	23.0	0.0			
LnGrp LOS	A	A			A	A	C	C				
Approach Vol, veh/h		361			538			873				
Approach Delay, s/veh		4.7			8.1			26.4				
Approach LOS		A			A			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		45.9			6.7	39.2		19.1				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		27.0			5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s		4.3			2.6	7.2		13.3				
Green Ext Time (p_c), s		1.9			0.0	2.3		1.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	16.4
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	129	63	105	407	257	109
Future Volume (veh/h)	129	63	105	407	257	109
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1885	1885	1870	1870
Adj Flow Rate, veh/h	145	11	118	457	289	68
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	1	1	2	2
Cap, veh/h	194	172	843	2715	1775	411
Arrive On Green	0.11	0.11	0.07	0.76	0.62	0.62
Sat Flow, veh/h	1781	1585	1795	3676	2958	663
Grp Volume(v), veh/h	145	11	118	457	177	180
Grp Sat Flow(s),veh/h/ln	1781	1585	1795	1791	1777	1751
Q Serve(g_s), s	4.7	0.4	1.2	2.1	2.5	2.6
Cycle Q Clear(g_c), s	4.7	0.4	1.2	2.1	2.5	2.6
Prop In Lane	1.00	1.00	1.00			0.38
Lane Grp Cap(c), veh/h	194	172	843	2715	1101	1085
V/C Ratio(X)	0.75	0.06	0.14	0.17	0.16	0.17
Avail Cap(c_a), veh/h	594	528	924	2715	1101	1085
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	0.96	0.96
Uniform Delay (d), s/veh	25.9	24.0	2.6	2.0	4.8	4.8
Incr Delay (d2), s/veh	5.7	0.2	0.1	0.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.4	0.2	0.3	0.7	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	31.6	24.1	2.7	2.2	5.1	5.2
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	156			575	357	
Approach Delay, s/veh	31.1			2.3	5.1	
Approach LOS	C			A	A	

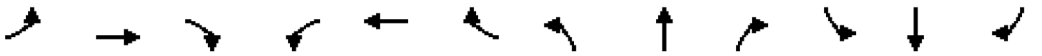
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		49.5		10.5	8.3	41.2
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		32.0		20.0	7.0	21.0
Max Q Clear Time (g_c+I1), s		4.1		6.7	3.2	4.6
Green Ext Time (p_c), s		3.1		0.3	0.1	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	7.3
HCM 7th LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	3	141	3	37	0	262	268	32	222	0
Future Volume (veh/h)	0	0	3	141	3	37	0	262	268	32	222	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1900	1900	1900	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	152	3	8	0	282	166	34	239	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	1	1	1	2	2	2	2	2	2
Cap, veh/h	114	3	0	249	35	93	916	1315	1113	786	1496	0
Arrive On Green	0.00	0.00	0.00	0.08	0.08	0.08	0.00	0.70	0.70	0.04	0.80	0.00
Sat Flow, veh/h	1810	1900	0	1795	452	1206	1781	1870	1583	1781	1870	0
Grp Volume(v), veh/h	0	0	0	152	0	11	0	282	166	34	239	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1795	0	1659	1781	1870	1583	1781	1870	0
Q Serve(g_s), s	0.0	0.0	0.0	5.0	0.0	0.4	0.0	3.4	2.3	0.3	1.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	5.0	0.0	0.4	0.0	3.4	2.3	0.3	1.9	0.0
Prop In Lane	1.00		0.00	1.00		0.73	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	114	3	0	249	0	128	916	1315	1113	786	1496	0
V/C Ratio(X)	0.00	0.00	0.00	0.61	0.00	0.09	0.00	0.21	0.15	0.04	0.16	0.00
Avail Cap(c_a), veh/h	250	526	0	249	0	459	1050	1315	1113	860	1496	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)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.98	0.98	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	30.1	0.0	27.9	0.0	3.4	3.2	2.0	1.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.3	0.0	0.3	0.0	0.4	0.3	0.0	0.2	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	0.0	0.0	0.0	2.5	0.0	0.2	0.0	0.9	0.5	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	34.5	0.0	28.2	0.0	3.7	3.5	2.0	1.7	0.0
LnGrp LOS				C		C		A	A	A	A	
Approach Vol, veh/h		0			163			448			273	
Approach Delay, s/veh		0.0			34.0			3.6			1.8	
Approach LOS					C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	49.7	9.0	0.0	0.0	56.0	0.0	9.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	21.0	5.0	18.0	5.0	21.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	5.4	7.0	0.0	0.0	3.9	0.0	2.4
Green Ext Time (p_c), s	0.0	1.9	0.0	0.0	0.0	1.1	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	8.7
HCM 7th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	69	43	137	105	33	126	108	101	17	133	56
Future Volume (veh/h)	37	69	43	137	105	33	126	108	101	17	133	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1737	1737	1737	1767	1767	1767	1678	1678	1678
Adj Flow Rate, veh/h	40	75	22	149	114	28	137	117	57	18	145	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	11	11	11	9	9	9	15	15	15
Cap, veh/h	238	309	74	364	190	39	194	321	156	37	253	61
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.12	0.29	0.29	0.02	0.19	0.19
Sat Flow, veh/h	281	1121	268	636	689	141	1682	1122	546	1598	1306	315
Grp Volume(v), veh/h	137	0	0	291	0	0	137	0	174	18	0	180
Grp Sat Flow(s),veh/h/ln	1671	0	0	1466	0	0	1682	0	1668	1598	0	1621
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	2.3	0.0	2.4	0.3	0.0	2.9
Cycle Q Clear(g_c), s	1.8	0.0	0.0	5.0	0.0	0.0	2.3	0.0	2.4	0.3	0.0	2.9
Prop In Lane	0.29		0.16	0.51		0.10	1.00		0.33	1.00		0.19
Lane Grp Cap(c), veh/h	622	0	0	592	0	0	194	0	477	37	0	314
V/C Ratio(X)	0.22	0.00	0.00	0.49	0.00	0.00	0.71	0.00	0.36	0.48	0.00	0.57
Avail Cap(c_a), veh/h	1257	0	0	1174	0	0	466	0	1327	276	0	1121
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	0.0	0.0	9.3	0.0	0.0	12.3	0.0	8.2	13.9	0.0	10.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	4.6	0.0	0.5	9.4	0.0	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.8	0.0	0.0	0.7	0.0	0.4	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.4	0.0	0.0	9.9	0.0	0.0	17.0	0.0	8.7	23.4	0.0	12.2
LnGrp LOS	A			A			B		A	C		B
Approach Vol, veh/h		137			291			311			198	
Approach Delay, s/veh		8.4			9.9			12.3			13.2	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	12.3		12.0	7.3	9.6		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	23.0		20.0	8.0	20.0		20.0				
Max Q Clear Time (g_c+I1), s	2.3	4.4		3.8	4.3	4.9		7.0				
Green Ext Time (p_c), s	0.0	0.7		0.6	0.1	0.7		1.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			11.2									
HCM 7th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	130	19	121	207	31	11	188	57	17	388	5
Future Volume (veh/h)	2	130	19	121	207	31	11	188	57	17	388	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1826	1826	1826	1633	1633	1633	1737	1737	1737
Adj Flow Rate, veh/h	2	141	14	132	225	30	12	204	49	18	422	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	5	5	5	18	18	18	11	11	11
Cap, veh/h	3	188	19	159	271	36	24	366	88	36	506	5
Arrive On Green	0.12	0.12	0.12	0.26	0.26	0.26	0.02	0.29	0.29	0.02	0.29	0.29
Sat Flow, veh/h	22	1547	154	604	1030	137	1555	1273	306	1654	1718	16
Grp Volume(v), veh/h	157	0	0	387	0	0	12	0	253	18	0	426
Grp Sat Flow(s),veh/h/ln	1723	0	0	1771	0	0	1555	0	1578	1654	0	1734
Q Serve(g_s), s	4.6	0.0	0.0	10.8	0.0	0.0	0.4	0.0	7.1	0.6	0.0	12.1
Cycle Q Clear(g_c), s	4.6	0.0	0.0	10.8	0.0	0.0	0.4	0.0	7.1	0.6	0.0	12.1
Prop In Lane	0.01		0.09	0.34		0.08	1.00		0.19	1.00		0.01
Lane Grp Cap(c), veh/h	210	0	0	467	0	0	24	0	455	36	0	511
V/C Ratio(X)	0.75	0.00	0.00	0.83	0.00	0.00	0.50	0.00	0.56	0.49	0.00	0.83
Avail Cap(c_a), veh/h	591	0	0	641	0	0	148	0	662	158	0	727
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	0.0	18.2	0.0	0.0	25.6	0.0	15.8	25.4	0.0	17.3
Incr Delay (d2), s/veh	5.3	0.0	0.0	6.5	0.0	0.0	15.6	0.0	1.1	10.0	0.0	5.8
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	0.0	4.3	0.0	0.0	0.2	0.0	2.1	0.3	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.6	0.0	0.0	24.8	0.0	0.0	41.2	0.0	16.9	35.4	0.0	23.1
LnGrp LOS	C			C			D		B	D		C
Approach Vol, veh/h		157			387			265			444	
Approach Delay, s/veh		27.6			24.8			18.0			23.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	19.1		10.4	4.8	19.5		17.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		19.0				
Max Q Clear Time (g_c+I1), s	2.6	9.1		6.6	2.4	14.1		12.8				
Green Ext Time (p_c), s	0.0	1.0		0.5	0.0	1.4		1.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	23.3	
HCM 7th LOS	C	

Intersection	
Intersection Delay, s/veh	20
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	186	190	62	225	12	158	52	41	27	90	59
Future Vol, veh/h	44	186	190	62	225	12	158	52	41	27	90	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	8	8	8	7	7	7
Mvmt Flow	48	202	207	67	245	13	172	57	45	29	98	64
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	26	16.5	18	14.5
HCM LOS	D	C	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	63%	100%	0%	100%	0%	15%
Vol Thru, %	21%	0%	49%	0%	95%	51%
Vol Right, %	16%	0%	51%	0%	5%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	251	44	376	62	237	176
LT Vol	158	44	0	62	0	27
Through Vol	52	0	186	0	225	90
RT Vol	41	0	190	0	12	59
Lane Flow Rate	273	48	409	67	258	191
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.535	0.1	0.759	0.146	0.519	0.379
Departure Headway (Hd)	7.055	7.561	6.686	7.797	7.247	7.123
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	510	473	539	458	495	503
Service Time	5.13	5.329	4.453	5.573	5.022	5.206
HCM Lane V/C Ratio	0.535	0.101	0.759	0.146	0.521	0.38
HCM Control Delay, s/veh	18	11.2	27.7	11.9	17.7	14.5
HCM Lane LOS	C	B	D	B	C	B
HCM 95th-tile Q	3.1	0.3	6.7	0.5	2.9	1.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	87	112	63	131	14	94	202	27	12	420	68
Future Volume (veh/h)	48	87	112	63	131	14	94	202	27	12	420	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	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	1737	1737	1737	1826	1826	1826	1752	1752	1752	1781	1781	1781
Adj Flow Rate, veh/h	48	87	54	63	131	9	94	202	21	12	420	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	11	11	11	5	5	5	10	10	10	8	8	8
Cap, veh/h	189	154	83	216	221	14	146	689	72	27	564	81
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.09	0.44	0.44	0.02	0.37	0.37
Sat Flow, veh/h	294	846	456	410	1216	75	1668	1560	162	1697	1524	218
Grp Volume(v), veh/h	189	0	0	203	0	0	94	0	223	12	0	480
Grp Sat Flow(s),veh/h/ln	1596	0	0	1702	0	0	1668	0	1722	1697	0	1742
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	2.8	0.2	0.0	8.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	3.5	0.0	0.0	1.8	0.0	2.8	0.2	0.0	8.0
Prop In Lane	0.25		0.29	0.31		0.04	1.00		0.09	1.00		0.13
Lane Grp Cap(c), veh/h	426	0	0	451	0	0	146	0	760	27	0	644
V/C Ratio(X)	0.44	0.00	0.00	0.45	0.00	0.00	0.65	0.00	0.29	0.45	0.00	0.75
Avail Cap(c_a), veh/h	957	0	0	1016	0	0	301	0	1297	255	0	1259
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.5	0.0	0.0	12.5	0.0	0.0	14.7	0.0	6.0	16.2	0.0	9.1
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.7	0.0	0.0	4.7	0.0	0.2	11.3	0.0	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	0.9	0.0	0.0	0.7	0.0	0.4	0.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.3	0.0	0.0	13.2	0.0	0.0	19.4	0.0	6.2	27.5	0.0	10.8
LnGrp LOS	B			B			B		A	C		B
Approach Vol, veh/h		189			203			317			492	
Approach Delay, s/veh		13.3			13.2			10.1			11.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.5	18.7		10.0	6.9	16.3		10.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	25.0		18.0	6.0	24.0		18.0
Max Q Clear Time (g_c+I1), s	2.2	4.8		5.4	3.8	10.0		5.5
Green Ext Time (p_c), s	0.0	1.0		0.7	0.0	2.3		0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	11.6
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	0	64	0	0	0	29	185	0	0	290	35
Future Vol, veh/h	73	0	64	0	0	0	29	185	0	0	290	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	0	0	0	10	10	10	5	5	5
Mvmt Flow	79	0	70	0	0	0	32	201	0	0	315	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	598	598	334	579	617	201	353	0	0	201	0	0
Stage 1	334	334	-	264	264	-	-	-	-	-	-	-
Stage 2	264	264	-	315	353	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.1	6.5	6.2	4.2	-	-	4.15	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.5	4	3.3	2.29	-	-	2.245	-	-
Pot Cap-1 Maneuver	402	405	690	429	408	845	1162	-	-	1353	-	-
Stage 1	663	629	-	745	694	-	-	-	-	-	-	-
Stage 2	724	676	-	700	634	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	391	394	690	375	397	845	1162	-	-	1353	-	-
Mov Cap-2 Maneuver	391	394	-	375	397	-	-	-	-	-	-	-
Stage 1	663	629	-	725	675	-	-	-	-	-	-	-
Stage 2	704	657	-	629	634	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.51	0	1.11	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1162	-	-	491	-	1353	-	-
HCM Lane V/C Ratio	0.027	-	-	0.304	-	-	-	-
HCM Ctrl Dly (s/v)	8.2	-	-	15.5	0	0	-	-
HCM Lane LOS	A	-	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	-	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	4	1	42	15	50	4	226	31	35	268	13
Future Vol, veh/h	3	4	1	42	15	50	4	226	31	35	268	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	-	130	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	7	7	7	4	4	4
Mvmt Flow	3	4	1	46	16	54	4	246	34	38	291	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	637	663	298	641	653	263	305	0	0	279	0	0
Stage 1	374	374	-	271	271	-	-	-	-	-	-	-
Stage 2	263	288	-	370	382	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.17	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.263	-	-	2.236	-	-
Pot Cap-1 Maneuver	393	384	746	388	387	776	1227	-	-	1272	-	-
Stage 1	651	621	-	735	685	-	-	-	-	-	-	-
Stage 2	747	677	-	650	613	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	338	372	746	370	374	776	1227	-	-	1272	-	-
Mov Cap-2 Maneuver	338	372	-	370	374	-	-	-	-	-	-	-
Stage 1	631	602	-	732	683	-	-	-	-	-	-	-
Stage 2	676	675	-	626	595	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	14.63	14.6	0.12	0.88
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1227	-	-	357	746	491	1272	-	-
HCM Lane V/C Ratio	0.004	-	-	0.021	0.001	0.237	0.03	-	-
HCM Ctrl Dly (s/v)	7.9	-	-	15.3	9.8	14.6	7.9	-	-
HCM Lane LOS	A	-	-	C	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.9	0.1	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	9	32	27	26	1	49	333	14	3	609	8
Future Vol, veh/h	3	9	32	27	26	1	49	333	14	3	609	8
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	65	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	6	6	6	16	16	16	10	10	10
Mvmt Flow	3	9	32	27	26	1	49	333	14	3	609	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1064	1065	614	1058	1062	340	618	0	0	347	0	0
Stage 1	620	620	-	438	438	-	-	-	-	-	-	-
Stage 2	444	445	-	620	624	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.56	6.26	4.26	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4.054	3.354	2.344	-	-	2.29	-	-
Pot Cap-1 Maneuver	202	224	496	199	220	693	898	-	-	1169	-	-
Stage 1	479	483	-	590	572	-	-	-	-	-	-	-
Stage 2	597	578	-	469	472	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	168	211	495	169	207	693	897	-	-	1169	-	-
Mov Cap-2 Maneuver	168	211	-	169	207	-	-	-	-	-	-	-
Stage 1	477	481	-	557	541	-	-	-	-	-	-	-
Stage 2	536	546	-	429	470	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	16.69	31.67	1.14	0.04
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	897	-	-	352	188	1169	-	-
HCM Lane V/C Ratio	0.055	-	-	0.125	0.287	0.003	-	-
HCM Ctrl Dly (s/v)	9.2	-	-	16.7	31.7	8.1	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	1.1	0	-	-

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	157	33	1	0	37	107	1	0	0	111	0	207
Future Vol, veh/h	157	33	1	0	37	107	1	0	0	111	0	207
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	9	9	9	0	0	0	0	0	0	3	3	3
Mvmt Flow	171	36	1	0	40	116	1	0	0	121	0	225
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	10.5	8.7	8.6	9.7
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	82%	0%	100%	0%
Vol Thru, %	0%	17%	26%	0%	0%
Vol Right, %	0%	1%	74%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	191	144	111	207
LT Vol	1	157	0	111	0
Through Vol	0	33	37	0	0
RT Vol	0	1	107	0	207
Lane Flow Rate	1	208	157	121	225
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.002	0.301	0.198	0.199	0.296
Departure Headway (Hd)	5.534	5.212	4.548	5.938	4.728
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	640	687	784	602	756
Service Time	3.628	3.269	2.608	3.699	2.489
HCM Lane V/C Ratio	0.002	0.303	0.2	0.201	0.298
HCM Control Delay, s/veh	8.6	10.5	8.7	10.2	9.5
HCM Lane LOS	A	B	A	B	A
HCM 95th-tile Q	0	1.3	0.7	0.7	1.2

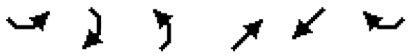


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	291	0	0	451	41	538	325	219	20	0	155
Future Volume (veh/h)	140	291	0	0	451	41	538	325	219	20	0	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1856	1856	1841	1841	1841	1870	0	1870
Adj Flow Rate, veh/h	152	316	0	0	490	35	585	353	0	22	0	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	3	3	4	4	4	2	0	2
Cap, veh/h	607	2267	0	0	1684	120	813	440		0	0	0
Arrive On Green	0.07	0.64	0.00	0.00	0.50	0.50	0.24	0.24	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	0	0	3430	238	3401	1841	1560		0	
Grp Volume(v), veh/h	152	316	0	0	258	267	585	353	0		0.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1763	1813	1700	1841	1560			
Q Serve(g_s), s	2.4	2.3	0.0	0.0	5.5	5.6	10.3	11.7	0.0			
Cycle Q Clear(g_c), s	2.4	2.3	0.0	0.0	5.5	5.6	10.3	11.7	0.0			
Prop In Lane	1.00		0.00	0.00		0.13	1.00		1.00			
Lane Grp Cap(c), veh/h	607	2267	0	0	889	914	813	440				
V/C Ratio(X)	0.25	0.14	0.00	0.00	0.29	0.29	0.72	0.80				
Avail Cap(c_a), veh/h	615	2267	0	0	889	914	942	510				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	6.0	4.7	0.0	0.0	9.4	9.4	22.7	23.3	0.0			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	0.2	0.2	2.3	7.9	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			
%ile BackOfQ(50%),veh/ln	0.7	0.6	0.0	0.0	1.8	1.9	4.0	5.6	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.2	4.8	0.0	0.0	9.5	9.5	25.0	31.2	0.0			
LnGrp LOS	A	A			A	A	C	C				
Approach Vol, veh/h		468			525			938				
Approach Delay, s/veh		5.3			9.5			27.3				
Approach LOS		A			A			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		45.5			8.7	36.8		19.5				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		29.0			5.0	20.0		18.0				
Max Q Clear Time (g_c+I1), s		4.3			4.4	7.6		13.7				
Green Ext Time (p_c), s		2.0			0.0	2.4		1.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	17.1
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	93	83	56	302	328	107
Future Volume (veh/h)	93	83	56	302	328	107
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
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	1826	1826	1856	1856
Adj Flow Rate, veh/h	101	12	61	328	357	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	5	5	3	3
Cap, veh/h	139	124	787	2735	1899	430
Arrive On Green	0.08	0.08	0.05	0.79	0.67	0.67
Sat Flow, veh/h	1781	1585	1739	3561	2934	644
Grp Volume(v), veh/h	101	12	61	328	220	219
Grp Sat Flow(s),veh/h/ln	1781	1585	1739	1735	1763	1722
Q Serve(g_s), s	3.3	0.4	0.5	1.3	2.8	2.9
Cycle Q Clear(g_c), s	3.3	0.4	0.5	1.3	2.8	2.9
Prop In Lane	1.00	1.00	1.00			0.37
Lane Grp Cap(c), veh/h	139	124	787	2735	1178	1151
V/C Ratio(X)	0.72	0.10	0.08	0.12	0.19	0.19
Avail Cap(c_a), veh/h	594	528	840	2735	1178	1151
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	0.94	0.94
Uniform Delay (d), s/veh	27.0	25.7	2.1	1.5	3.8	3.8
Incr Delay (d2), s/veh	6.9	0.3	0.0	0.1	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.4	0.1	0.1	0.7	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	34.0	26.0	2.1	1.6	4.1	4.1
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	113			389	439	
Approach Delay, s/veh	33.1			1.7	4.1	
Approach LOS	C			A	A	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	51.3		8.7	7.2	44.1
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	32.0		20.0	5.0	23.0
Max Q Clear Time (g_c+I1), s	3.3		5.3	2.5	4.9
Green Ext Time (p_c), s	2.1		0.2	0.0	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	6.6
HCM 7th LOS	A



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	172	0	45	2	268	123	25	265	1
Future Volume (veh/h)	1	0	1	172	0	45	2	268	123	25	265	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.35		1.00	1.00		0.95	1.00		0.98	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	418	418	418	1856	1856	1856	1841	1841	1841	1856	1856	1856
Adj Flow Rate, veh/h	1	0	0	172	0	7	2	268	67	25	265	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	100	100	100	3	3	3	4	4	4	3	3	3
Cap, veh/h	112	1	0	274	0	131	777	1171	970	755	1222	5
Arrive On Green	0.00	0.00	0.00	0.09	0.00	0.09	0.00	0.64	0.64	0.03	0.66	0.66
Sat Flow, veh/h	398	418	0	1767	0	1487	1753	1841	1524	1767	1847	7
Grp Volume(v), veh/h	1	0	0	172	0	7	2	268	67	25	0	266
Grp Sat Flow(s),veh/h/ln	398	418	0	1767	0	1487	1753	1841	1524	1767	0	1854
Q Serve(g_s), s	0.1	0.0	0.0	6.0	0.0	0.3	0.0	4.0	1.1	0.3	0.0	3.7
Cycle Q Clear(g_c), s	0.1	0.0	0.0	6.0	0.0	0.3	0.0	4.0	1.1	0.3	0.0	3.7
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	112	1	0	274	0	131	777	1171	970	755	0	1226
V/C Ratio(X)	0.01	0.00	0.00	0.63	0.00	0.05	0.00	0.23	0.07	0.03	0.00	0.22
Avail Cap(c_a), veh/h	142	116	0	274	0	435	907	1171	970	841	0	1226
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	0.00	1.00	0.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	0.0	27.9	0.0	27.1	4.3	5.0	4.5	3.8	0.0	4.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.5	0.0	0.2	0.0	0.5	0.1	0.0	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.8	0.0	0.1	0.0	1.2	0.3	0.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.4	0.0	0.0	32.4	0.0	27.3	4.3	5.5	4.6	3.9	0.0	4.8
LnGrp LOS	C			C		C	A	A	A	A		A
Approach Vol, veh/h		1			179			337			291	
Approach Delay, s/veh		32.4			32.2			5.3			4.7	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	45.4	10.0	3.8	4.2	47.0	4.1	9.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.8	20.0	6.0	18.0	5.0	20.0	5.0	19.0
Max Q Clear Time (g_c+I1), s	2.3	6.0	8.0	0.0	2.0	5.7	2.1	2.3
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.0	1.2	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	11.1
HCM 7th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	124	56	107	99	35	137	527	238	50	137	70
Future Volume (veh/h)	51	124	56	107	99	35	137	527	238	50	137	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1781	1781	1781	1811	1811	1811
Adj Flow Rate, veh/h	51	124	37	107	99	25	137	527	215	50	137	44
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	8	8	8	6	6	6
Cap, veh/h	152	213	57	238	149	33	175	606	247	88	594	191
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.10	0.50	0.50	0.05	0.45	0.45
Sat Flow, veh/h	302	1157	309	670	807	179	1697	1203	491	1725	1313	422
Grp Volume(v), veh/h	212	0	0	231	0	0	137	0	742	50	0	181
Grp Sat Flow(s),veh/h/ln	1768	0	0	1657	0	0	1697	0	1693	1725	0	1735
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	3.6	0.0	17.8	1.3	0.0	2.9
Cycle Q Clear(g_c), s	4.9	0.0	0.0	5.7	0.0	0.0	3.6	0.0	17.8	1.3	0.0	2.9
Prop In Lane	0.24		0.17	0.46		0.11	1.00		0.29	1.00		0.24
Lane Grp Cap(c), veh/h	423	0	0	420	0	0	175	0	854	88	0	784
V/C Ratio(X)	0.50	0.00	0.00	0.55	0.00	0.00	0.78	0.00	0.87	0.57	0.00	0.23
Avail Cap(c_a), veh/h	759	0	0	722	0	0	405	0	1101	187	0	903
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.4	0.0	0.0	17.6	0.0	0.0	20.2	0.0	10.1	21.4	0.0	7.7
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.0	7.3	0.0	6.2	5.6	0.0	0.1
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	0.0	1.9	0.0	0.0	1.5	0.0	4.8	0.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.3	0.0	0.0	18.7	0.0	0.0	27.5	0.0	16.3	26.9	0.0	7.9
LnGrp LOS	B			B			C		B	C		A
Approach Vol, veh/h		212			231			879			231	
Approach Delay, s/veh		18.3			18.7			18.0			12.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	27.3		12.5	8.8	24.9		12.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	30.0		18.0	11.0	24.0		18.0				
Max Q Clear Time (g_c+I1), s	3.3	19.8		6.9	5.6	4.9		7.7				
Green Ext Time (p_c), s	0.0	3.4		0.8	0.1	0.8		0.8				

Intersection Summary			
HCM 7th Control Delay, s/veh		17.3	
HCM 7th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	300	21	116	226	41	23	416	150	32	294	7
Future Volume (veh/h)	12	300	21	116	226	41	23	416	150	32	294	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1752	1752	1752
Adj Flow Rate, veh/h	12	300	19	116	226	36	23	416	136	32	294	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	10	10	10
Cap, veh/h	13	336	21	128	249	40	43	451	148	52	593	12
Arrive On Green	0.20	0.20	0.20	0.23	0.23	0.23	0.02	0.34	0.34	0.03	0.35	0.35
Sat Flow, veh/h	66	1648	104	552	1074	171	1753	1328	434	1668	1711	35
Grp Volume(v), veh/h	331	0	0	378	0	0	23	0	552	32	0	300
Grp Sat Flow(s),veh/h/ln	1819	0	0	1797	0	0	1753	0	1763	1668	0	1746
Q Serve(g_s), s	14.7	0.0	0.0	17.0	0.0	0.0	1.1	0.0	24.9	1.6	0.0	11.2
Cycle Q Clear(g_c), s	14.7	0.0	0.0	17.0	0.0	0.0	1.1	0.0	24.9	1.6	0.0	11.2
Prop In Lane	0.04		0.06	0.31		0.10	1.00		0.25	1.00		0.02
Lane Grp Cap(c), veh/h	371	0	0	416	0	0	43	0	599	52	0	605
V/C Ratio(X)	0.89	0.00	0.00	0.91	0.00	0.00	0.53	0.00	0.92	0.61	0.00	0.50
Avail Cap(c_a), veh/h	395	0	0	434	0	0	106	0	660	101	0	653
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	0.0	31.0	0.0	0.0	39.9	0.0	26.3	39.6	0.0	21.4
Incr Delay (d2), s/veh	20.9	0.0	0.0	22.3	0.0	0.0	9.6	0.0	17.5	10.9	0.0	0.6
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	8.0	0.0	0.0	9.2	0.0	0.0	0.5	0.0	12.1	0.8	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.0	0.0	0.0	53.2	0.0	0.0	49.5	0.0	43.8	50.5	0.0	22.0
LnGrp LOS	D			D			D		D	D		C
Approach Vol, veh/h		331			378			575			332	
Approach Delay, s/veh		53.0			53.2			44.0			24.7	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	32.1		20.9	6.1	32.7		23.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	31.0		18.0	5.0	31.0		20.0				
Max Q Clear Time (g_c+I1), s	3.6	26.9		16.7	3.1	13.2		19.0				
Green Ext Time (p_c), s	0.0	1.2		0.2	0.0	1.4		0.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	44.1
HCM 7th LOS	D

Intersection	
Intersection Delay, s/veh	66.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	333	188	47	282	27	229	145	78	32	75	68
Future Vol, veh/h	96	333	188	47	282	27	229	145	78	32	75	68
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	5	5	5	9	9	9	3	3	3	2	2	2
Mvmt Flow	96	333	188	47	282	27	229	145	78	32	75	68
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	63.1	29.8	63.7	18.8
HCM LOS	F	D	F	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	51%	100%	0%	100%	0%	18%
Vol Thru, %	32%	0%	64%	0%	91%	43%
Vol Right, %	17%	0%	36%	0%	9%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	452	96	521	47	309	175
LT Vol	229	96	0	47	0	32
Through Vol	145	0	333	0	282	75
RT Vol	78	0	188	0	27	68
Lane Flow Rate	452	96	521	47	309	175
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.968	0.234	1.156	0.118	0.73	0.422
Departure Headway (Hd)	8.082	8.772	7.99	9.53	8.943	9.229
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	452	409	453	378	408	392
Service Time	6.082	6.543	5.761	7.23	6.643	7.229
HCM Lane V/C Ratio	1	0.235	1.15	0.124	0.757	0.446
HCM Control Delay, s/veh	63.7	14.2	119.5	13.5	32.3	18.8
HCM Lane LOS	F	B	F	B	D	C
HCM 95th-tile Q	11.9	0.9	18.9	0.4	5.7	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	195	136	41	123	6	160	489	81	19	325	71
Future Volume (veh/h)	78	195	136	41	123	6	160	489	81	19	325	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
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	1841	1841	1841	1856	1856	1856	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	78	195	106	41	123	4	160	489	72	19	325	58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	4	4	4	3	3	3	3	3	3	4	4	4
Cap, veh/h	176	275	133	181	429	12	206	612	90	42	448	80
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.12	0.39	0.39	0.02	0.30	0.30
Sat Flow, veh/h	236	948	460	242	1482	42	1767	1576	232	1753	1515	270
Grp Volume(v), veh/h	379	0	0	168	0	0	160	0	561	19	0	383
Grp Sat Flow(s),veh/h/ln	1644	0	0	1766	0	0	1767	0	1808	1753	0	1785
Q Serve(g_s), s	5.2	0.0	0.0	0.0	0.0	0.0	3.5	0.0	11.1	0.4	0.0	7.7
Cycle Q Clear(g_c), s	8.5	0.0	0.0	2.9	0.0	0.0	3.5	0.0	11.1	0.4	0.0	7.7
Prop In Lane	0.21		0.28	0.24		0.02	1.00		0.13	1.00		0.15
Lane Grp Cap(c), veh/h	584	0	0	623	0	0	206	0	702	42	0	528
V/C Ratio(X)	0.65	0.00	0.00	0.27	0.00	0.00	0.78	0.00	0.80	0.46	0.00	0.73
Avail Cap(c_a), veh/h	837	0	0	870	0	0	351	0	1123	218	0	976
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	11.2	0.0	0.0	17.3	0.0	10.9	19.4	0.0	12.7
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.2	0.0	0.0	6.2	0.0	2.2	7.6	0.0	1.9
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	2.2	0.0	0.0	0.8	0.0	0.0	1.4	0.0	2.9	0.2	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.3	0.0	0.0	11.4	0.0	0.0	23.5	0.0	13.1	27.0	0.0	14.6
LnGrp LOS	B			B			C		B	C		B
Approach Vol, veh/h		379			168			721			402	
Approach Delay, s/veh		14.3			11.4			15.4			15.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	19.6		15.7	8.7	15.9		15.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	25.0		18.0	8.0	22.0		18.0				
Max Q Clear Time (g_c+I1), s	2.4	13.1		10.5	5.5	9.7		4.9				
Green Ext Time (p_c), s	0.0	2.5		1.2	0.1	1.6		0.6				

Intersection Summary	
HCM 7th Control Delay, s/veh	14.7
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	0	42	0	0	0	68	345	0	0	223	85
Future Vol, veh/h	52	0	42	0	0	0	68	345	0	0	223	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	17	17	17	0	0	0	4	4	4	3	3	3
Mvmt Flow	57	0	46	0	0	0	74	375	0	0	242	92

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	811	811	289	765	858	375	335	0	0	375	0	0
Stage 1	289	289	-	523	523	-	-	-	-	-	-	-
Stage 2	523	523	-	242	335	-	-	-	-	-	-	-
Critical Hdwy	7.27	6.67	6.37	7.1	6.5	6.2	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.27	5.67	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.27	5.67	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.653	4.153	3.453	3.5	4	3.3	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	281	297	716	322	297	676	1213	-	-	1178	-	-
Stage 1	688	647	-	541	534	-	-	-	-	-	-	-
Stage 2	511	507	-	766	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	264	279	716	283	279	676	1213	-	-	1178	-	-
Mov Cap-2 Maneuver	264	279	-	283	279	-	-	-	-	-	-	-
Stage 1	688	647	-	508	501	-	-	-	-	-	-	-
Stage 2	480	476	-	717	646	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	18.52	0	1.34	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1213	-	-	368	-	1178	-	-
HCM Lane V/C Ratio	0.061	-	-	0.278	-	-	-	-
HCM Ctrl Dly (s/v)	8.2	-	-	18.5	0	0	-	-
HCM Lane LOS	A	-	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	-	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	7	5	45	3	40	5	335	38	47	242	3
Future Vol, veh/h	13	7	5	45	3	40	5	335	38	47	242	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	-	130	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	8	5	49	3	43	5	364	41	51	263	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	743	783	265	765	764	385	266	0	0	405	0	0
Stage 1	367	367	-	396	396	-	-	-	-	-	-	-
Stage 2	377	416	-	369	368	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	333	328	779	320	334	663	1298	-	-	1153	-	-
Stage 1	657	626	-	630	604	-	-	-	-	-	-	-
Stage 2	649	595	-	651	621	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	294	312	779	296	318	663	1298	-	-	1153	-	-
Mov Cap-2 Maneuver	294	312	-	296	318	-	-	-	-	-	-	-
Stage 1	628	598	-	627	602	-	-	-	-	-	-	-
Stage 2	601	593	-	610	594	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	16.29	16.95	0.1	1.33
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1298	-	-	300	779	396	1153	-	-
HCM Lane V/C Ratio	0.004	-	-	0.073	0.007	0.241	0.044	-	-
HCM Ctrl Dly (s/v)	7.8	-	-	17.9	9.7	16.9	8.3	-	-
HCM Lane LOS	A	-	-	C	A	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.9	0.1	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	24	57	17	19	6	35	720	31	12	515	12
Future Vol, veh/h	5	24	57	17	19	6	35	720	31	12	515	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	65	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	10	10	10	4	4	4	6	6	6
Mvmt Flow	5	24	57	17	19	6	35	720	31	12	515	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1345	1366	521	1357	1357	736	527	0	0	751	0	0
Stage 1	545	545	-	806	806	-	-	-	-	-	-	-
Stage 2	800	821	-	551	551	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.14	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.236	-	-	2.254	-	-
Pot Cap-1 Maneuver	129	147	555	121	144	406	1030	-	-	841	-	-
Stage 1	523	519	-	364	384	-	-	-	-	-	-	-
Stage 2	379	389	-	505	503	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	105	140	555	87	137	406	1030	-	-	841	-	-
Mov Cap-2 Maneuver	105	140	-	87	137	-	-	-	-	-	-	-
Stage 1	515	511	-	352	371	-	-	-	-	-	-	-
Stage 2	342	375	-	425	495	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	24.73	50.34	0.38	0.21
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1030	-	-	267	120	841	-	-
HCM Lane V/C Ratio	0.034	-	-	0.322	0.35	0.014	-	-
HCM Ctrl Dly (s/v)	8.6	-	-	24.7	50.3	9.3	-	-
HCM Lane LOS	A	-	-	C	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	1.4	0	-	-

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	239	79	0	1	35	141	0	0	0	120	0	175
Future Vol, veh/h	239	79	0	1	35	141	0	0	0	120	0	175
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	4	4	4	0	0	0	2	2	2
Mvmt Flow	260	86	0	1	38	153	0	0	0	130	0	190
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	13.1	9.5	0	10.3
HCM LOS	B	A	-	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	75%	1%	100%	0%
Vol Thru, %	100%	25%	20%	0%	0%
Vol Right, %	0%	0%	80%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	318	177	120	175
LT Vol	0	239	1	120	0
Through Vol	0	79	35	0	0
RT Vol	0	0	141	0	175
Lane Flow Rate	0	346	192	130	190
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0	0.49	0.254	0.232	0.27
Departure Headway (Hd)	5.94	5.104	4.752	6.415	5.101
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	698	746	563	694
Service Time	3.943	3.187	2.847	4.115	2.901
HCM Lane V/C Ratio	0	0.496	0.257	0.231	0.274
HCM Control Delay, s/veh	8.9	13.1	9.5	11	9.8
HCM Lane LOS	N	B	A	B	A
HCM 95th-tile Q	0	2.7	1	0.9	1.1

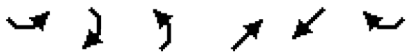


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	356	0	0	547	54	647	245	249	34	0	364
Future Volume (veh/h)	42	356	0	0	547	54	647	245	249	34	0	364
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1885	1885	1870	1870	1870	1900	0	1900
Adj Flow Rate, veh/h	42	356	0	0	547	43	647	245	0	34	0	206
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	0	0	1	1	2	2	2	0	0	0
Cap, veh/h	556	2286	0	0	1819	143	808	437		0	0	0
Arrive On Green	0.04	0.64	0.00	0.00	0.54	0.54	0.23	0.23	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	0	0	3458	264	3456	1870	1585		0	
Grp Volume(v), veh/h	42	356	0	0	291	299	647	245	0		0.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1791	1837	1728	1870	1585			
Q Serve(g_s), s	0.6	2.6	0.0	0.0	5.8	5.8	11.5	7.5	0.0			
Cycle Q Clear(g_c), s	0.6	2.6	0.0	0.0	5.8	5.8	11.5	7.5	0.0			
Prop In Lane	1.00		0.00	0.00		0.14	1.00		1.00			
Lane Grp Cap(c), veh/h	556	2286	0	0	968	993	808	437				
V/C Ratio(X)	0.08	0.16	0.00	0.00	0.30	0.30	0.80	0.56				
Avail Cap(c_a), veh/h	621	2286	0	0	968	993	957	518				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	5.5	4.6	0.0	0.0	8.2	8.2	23.5	22.0	0.0			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.2	4.2	1.1	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			
%ile BackOfQ(50%),veh/ln	0.2	0.7	0.0	0.0	1.8	1.9	4.7	3.2	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.6	4.7	0.0	0.0	8.4	8.4	27.7	23.1	0.0			
LnGrp LOS	A	A			A	A	C	C				
Approach Vol, veh/h		398			590			892				
Approach Delay, s/veh		4.8			8.4			26.4				
Approach LOS		A			A			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		45.8			6.7	39.1		19.2				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		27.0			5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s		4.6			2.6	7.8		13.5				
Green Ext Time (p_c), s		2.2			0.0	2.5		1.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	16.2
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	151	68	112	493	323	129
Future Volume (veh/h)	151	68	112	493	323	129
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1885	1885	1870	1870
Adj Flow Rate, veh/h	164	7	122	536	351	82
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	1	1	2	2
Cap, veh/h	215	192	781	2671	1739	401
Arrive On Green	0.12	0.12	0.07	0.75	0.61	0.61
Sat Flow, veh/h	1781	1585	1795	3676	2960	662
Grp Volume(v), veh/h	164	7	122	536	216	217
Grp Sat Flow(s),veh/h/ln	1781	1585	1795	1791	1777	1751
Q Serve(g_s), s	5.3	0.2	1.3	2.7	3.3	3.3
Cycle Q Clear(g_c), s	5.3	0.2	1.3	2.7	3.3	3.3
Prop In Lane	1.00	1.00	1.00			0.38
Lane Grp Cap(c), veh/h	215	192	781	2671	1078	1063
V/C Ratio(X)	0.76	0.04	0.16	0.20	0.20	0.20
Avail Cap(c_a), veh/h	594	528	800	2671	1078	1063
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	0.95	0.95
Uniform Delay (d), s/veh	25.5	23.3	2.9	2.3	5.3	5.3
Incr Delay (d2), s/veh	5.5	0.1	0.1	0.2	0.4	0.4
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	0.2	0.2	0.4	1.0	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	31.0	23.4	3.0	2.4	5.7	5.7
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	171			658	433	
Approach Delay, s/veh	30.7			2.6	5.7	
Approach LOS	C			A	A	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	48.8	11.2	8.3	40.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	32.0	20.0	5.0	23.0
Max Q Clear Time (g_c+I1), s	4.7	7.3	3.3	5.3
Green Ext Time (p_c), s	3.7	0.3	0.0	2.3

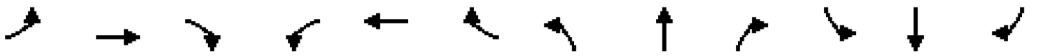
Intersection Summary	
HCM 7th Control Delay, s/veh	7.4
HCM 7th LOS	A



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	3	153	3	40	0	349	287	38	296	0
Future Volume (veh/h)	0	0	3	153	3	40	0	349	287	38	296	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1900	1900	1900	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	153	3	8	0	349	169	38	296	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	1	1	1	2	2	2	2	2	2
Cap, veh/h	114	3	0	276	42	111	855	1281	1084	720	1468	0
Arrive On Green	0.00	0.00	0.00	0.09	0.09	0.09	0.00	0.68	0.68	0.04	0.78	0.00
Sat Flow, veh/h	1810	1900	0	1795	453	1207	1781	1870	1583	1781	1870	0
Grp Volume(v), veh/h	0	0	0	153	0	11	0	349	169	38	296	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1795	0	1660	1781	1870	1583	1781	1870	0
Q Serve(g_s), s	0.0	0.0	0.0	5.5	0.0	0.4	0.0	4.7	2.4	0.3	2.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	5.5	0.0	0.4	0.0	4.7	2.4	0.3	2.6	0.0
Prop In Lane	1.00		0.00	1.00		0.73	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	114	3	0	276	0	153	855	1281	1084	720	1468	0
V/C Ratio(X)	0.00	0.00	0.00	0.55	0.00	0.07	0.00	0.27	0.16	0.05	0.20	0.00
Avail Cap(c_a), veh/h	250	526	0	276	0	485	990	1281	1084	789	1468	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)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.97	0.97	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	29.2	0.0	27.0	0.0	4.0	3.6	2.4	1.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.4	0.0	0.2	0.0	0.5	0.3	0.0	0.3	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	0.0	0.0	0.0	2.4	0.0	0.2	0.0	1.3	0.6	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	31.6	0.0	27.2	0.0	4.5	3.9	2.4	2.1	0.0
LnGrp LOS				C		C		A	A	A	A	
Approach Vol, veh/h		0			164			518			334	
Approach Delay, s/veh		0.0			31.3			4.3			2.1	
Approach LOS					C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	48.5	10.0	0.0	0.0	55.0	0.0	10.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	20.0	6.0	18.0	5.0	20.0	5.0	19.0
Max Q Clear Time (g_c+I1), s	2.3	6.7	7.5	0.0	0.0	4.6	0.0	2.4
Green Ext Time (p_c), s	0.0	2.2	0.0	0.0	0.0	1.4	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	7.9
HCM 7th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	70	43	137	106	34	127	108	101	17	134	56
Future Volume (veh/h)	37	70	43	137	106	34	127	108	101	17	134	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1737	1737	1737	1767	1767	1767	1678	1678	1678
Adj Flow Rate, veh/h	40	76	22	149	115	29	138	117	55	18	146	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	11	11	11	9	9	9	15	15	15
Cap, veh/h	238	311	74	362	190	40	195	325	153	37	255	59
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.12	0.29	0.29	0.02	0.19	0.19
Sat Flow, veh/h	279	1126	267	632	689	145	1682	1136	534	1598	1316	306
Grp Volume(v), veh/h	138	0	0	293	0	0	138	0	172	18	0	180
Grp Sat Flow(s),veh/h/ln	1672	0	0	1466	0	0	1682	0	1670	1598	0	1623
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	0.0	2.3	0.0	2.4	0.3	0.0	2.9
Cycle Q Clear(g_c), s	1.8	0.0	0.0	5.1	0.0	0.0	2.3	0.0	2.4	0.3	0.0	2.9
Prop In Lane	0.29		0.16	0.51		0.10	1.00		0.32	1.00		0.19
Lane Grp Cap(c), veh/h	622	0	0	592	0	0	195	0	478	37	0	314
V/C Ratio(X)	0.22	0.00	0.00	0.49	0.00	0.00	0.71	0.00	0.36	0.48	0.00	0.57
Avail Cap(c_a), veh/h	1204	0	0	1124	0	0	523	0	1385	276	0	1121
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	0.0	0.0	9.3	0.0	0.0	12.3	0.0	8.2	14.0	0.0	10.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	4.7	0.0	0.5	9.4	0.0	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.8	0.0	0.0	0.7	0.0	0.4	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.4	0.0	0.0	10.0	0.0	0.0	17.0	0.0	8.7	23.4	0.0	12.2
LnGrp LOS	A			A			B		A	C		B
Approach Vol, veh/h		138			293			310			198	
Approach Delay, s/veh		8.4			10.0			12.4			13.2	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	12.3		12.0	7.4	9.6		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	24.0		19.0	9.0	20.0		19.0				
Max Q Clear Time (g_c+I1), s	2.3	4.4		3.8	4.3	4.9		7.1				
Green Ext Time (p_c), s	0.0	0.7		0.5	0.1	0.7		1.2				

Intersection Summary		
HCM 7th Control Delay, s/veh		11.2
HCM 7th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	130	19	122	207	31	11	191	59	17	389	5
Future Volume (veh/h)	2	130	19	122	207	31	11	191	59	17	389	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1826	1826	1826	1633	1633	1633	1737	1737	1737
Adj Flow Rate, veh/h	2	141	14	133	225	30	12	208	51	18	423	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	5	5	5	18	18	18	11	11	11
Cap, veh/h	3	188	19	160	271	36	24	365	90	36	507	5
Arrive On Green	0.12	0.12	0.12	0.26	0.26	0.26	0.02	0.29	0.29	0.02	0.30	0.30
Sat Flow, veh/h	22	1547	154	607	1027	137	1555	1267	311	1654	1718	16
Grp Volume(v), veh/h	157	0	0	388	0	0	12	0	259	18	0	427
Grp Sat Flow(s),veh/h/ln	1723	0	0	1771	0	0	1555	0	1577	1654	0	1734
Q Serve(g_s), s	4.6	0.0	0.0	10.9	0.0	0.0	0.4	0.0	7.4	0.6	0.0	12.1
Cycle Q Clear(g_c), s	4.6	0.0	0.0	10.9	0.0	0.0	0.4	0.0	7.4	0.6	0.0	12.1
Prop In Lane	0.01		0.09	0.34		0.08	1.00		0.20	1.00		0.01
Lane Grp Cap(c), veh/h	210	0	0	467	0	0	24	0	455	36	0	512
V/C Ratio(X)	0.75	0.00	0.00	0.83	0.00	0.00	0.50	0.00	0.57	0.49	0.00	0.83
Avail Cap(c_a), veh/h	590	0	0	640	0	0	148	0	660	157	0	725
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	0.0	0.0	18.3	0.0	0.0	25.7	0.0	15.9	25.4	0.0	17.3
Incr Delay (d2), s/veh	5.3	0.0	0.0	6.6	0.0	0.0	15.6	0.0	1.1	10.0	0.0	5.8
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	0.0	4.3	0.0	0.0	0.2	0.0	2.2	0.3	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.6	0.0	0.0	24.9	0.0	0.0	41.3	0.0	17.1	35.5	0.0	23.2
LnGrp LOS	C			C			D		B	D		C
Approach Vol, veh/h		157			388			271			445	
Approach Delay, s/veh		27.6			24.9			18.1			23.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	19.2		10.4	4.8	19.5		17.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	22.0		18.0	5.0	22.0		19.0				
Max Q Clear Time (g_c+I1), s	2.6	9.4		6.6	2.4	14.1		12.9				
Green Ext Time (p_c), s	0.0	1.0		0.5	0.0	1.4		1.1				

Intersection Summary	
HCM 7th Control Delay, s/veh	23.4
HCM 7th LOS	C

Intersection	
Intersection Delay, s/veh	22.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	186	197	65	225	12	178	55	48	27	91	59
Future Vol, veh/h	44	186	197	65	225	12	178	55	48	27	91	59
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	10	10	10	10	10	10	8	8	8	7	7	7
Mvmt Flow	48	202	214	71	245	13	193	60	52	29	99	64
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	19.5	17.5	20.9	15.3
HCM LOS	D	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	63%	100%	0%	100%	0%	15%
Vol Thru, %	20%	0%	49%	0%	95%	51%
Vol Right, %	17%	0%	51%	0%	5%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	281	44	383	65	237	177
LT Vol	178	44	0	65	0	27
Through Vol	55	0	186	0	225	91
RT Vol	48	0	197	0	12	59
Lane Flow Rate	305	48	416	71	258	192
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.608	0.103	0.795	0.16	0.542	0.399
Departure Headway (Hd)	7.279	7.867	6.982	8.133	7.581	7.459
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	498	458	520	444	479	485
Service Time	5.279	5.567	4.682	5.833	5.281	5.474
HCM Lane V/C Ratio	0.612	0.105	0.8	0.16	0.539	0.396
HCM Control Delay, s/veh	20.9	11.5	31.6	12.4	18.9	15.3
HCM Lane LOS	C	B	D	B	C	C
HCM 95th-tile Q	4	0.3	7.4	0.6	3.2	1.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	89	112	63	132	14	94	202	27	12	420	70
Future Volume (veh/h)	53	89	112	63	132	14	94	202	27	12	420	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	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	1737	1737	1737	1826	1826	1826	1752	1752	1752	1781	1781	1781
Adj Flow Rate, veh/h	53	89	60	63	132	9	94	202	20	12	420	60
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	11	11	11	5	5	5	10	10	10	8	8	8
Cap, veh/h	192	153	89	215	233	14	145	689	68	27	561	80
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.09	0.44	0.44	0.02	0.37	0.37
Sat Flow, veh/h	303	811	471	400	1230	75	1668	1568	155	1697	1524	218
Grp Volume(v), veh/h	202	0	0	204	0	0	94	0	222	12	0	480
Grp Sat Flow(s),veh/h/ln	1585	0	0	1705	0	0	1668	0	1724	1697	0	1742
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.0	1.8	0.0	2.8	0.2	0.0	8.1
Cycle Q Clear(g_c), s	3.8	0.0	0.0	3.5	0.0	0.0	1.8	0.0	2.8	0.2	0.0	8.1
Prop In Lane	0.26		0.30	0.31		0.04	1.00		0.09	1.00		0.13
Lane Grp Cap(c), veh/h	435	0	0	462	0	0	145	0	757	27	0	641
V/C Ratio(X)	0.46	0.00	0.00	0.44	0.00	0.00	0.65	0.00	0.29	0.45	0.00	0.75
Avail Cap(c_a), veh/h	940	0	0	1002	0	0	297	0	1278	252	0	1240
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.6	0.0	0.0	12.5	0.0	0.0	14.9	0.0	6.1	16.4	0.0	9.3
Incr Delay (d2), s/veh	0.8	0.0	0.0	0.7	0.0	0.0	4.8	0.0	0.2	11.3	0.0	1.8
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	1.0	0.0	0.0	1.0	0.0	0.0	0.7	0.0	0.4	0.1	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.4	0.0	0.0	13.2	0.0	0.0	19.7	0.0	6.3	27.8	0.0	11.1
LnGrp LOS	B			B			B		A	C		B
Approach Vol, veh/h		202			204			316			492	
Approach Delay, s/veh		13.4			13.2			10.3			11.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	18.8		10.4	6.9	16.4		10.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	25.0		18.0	6.0	24.0		18.0				
Max Q Clear Time (g_c+I1), s	2.2	4.8		5.8	3.8	10.1		5.5				
Green Ext Time (p_c), s	0.0	1.0		0.8	0.0	2.3		0.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	11.8
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	71	0	18	42	0	53
Future Vol, veh/h	71	0	18	42	0	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	10	19	19	2	2
Mvmt Flow	77	0	20	46	0	58

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	77	0	162	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	85	-
Critical Hdwy	-	-	4.29	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.371	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1420	-	829	984
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	939	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1420	-	817	984
Mov Cap-2 Maneuver	-	-	-	-	817	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	925	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.27	8.89
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	984	-	-	540	-
HCM Lane V/C Ratio	0.059	-	-	0.014	-
HCM Ctrl Dly (s/v)	8.9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	0	87	0	0	0	36	185	0	0	290	46
Future Vol, veh/h	103	0	87	0	0	0	36	185	0	0	290	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	10	10	10	0	0	0	10	10	10	5	5	5
Mvmt Flow	112	0	95	0	0	0	39	201	0	0	315	50

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	620	620	340	595	645	201	365	0	0	201	0	0
Stage 1	340	340	-	279	279	-	-	-	-	-	-	-
Stage 2	279	279	-	315	365	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.6	6.3	7.1	6.5	6.2	4.2	-	-	4.15	-	-
Critical Hdwy Stg 1	6.2	5.6	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.6	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.09	3.39	3.5	4	3.3	2.29	-	-	2.245	-	-
Pot Cap-1 Maneuver	389	394	684	419	394	845	1151	-	-	1353	-	-
Stage 1	658	625	-	732	683	-	-	-	-	-	-	-
Stage 2	710	665	-	700	627	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	376	380	684	349	380	845	1151	-	-	1353	-	-
Mov Cap-2 Maneuver	376	380	-	349	380	-	-	-	-	-	-	-
Stage 1	658	625	-	707	660	-	-	-	-	-	-	-
Stage 2	686	643	-	603	627	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	18.34	0	1.34	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1151	-	-	474	-	1353	-	-
HCM Lane V/C Ratio	0.034	-	-	0.436	-	-	-	-
HCM Ctrl Dly (s/v)	8.2	-	-	18.3	0	0	-	-
HCM Lane LOS	A	-	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	-	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	4	1	42	15	51	4	232	31	40	286	13
Future Vol, veh/h	3	4	1	42	15	51	4	232	31	40	286	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	-	130	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	7	7	7	4	4	4
Mvmt Flow	3	4	1	46	16	55	4	252	34	43	311	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	674	699	318	678	690	269	325	0	0	286	0	0
Stage 1	405	405	-	278	278	-	-	-	-	-	-	-
Stage 2	269	295	-	400	412	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.17	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.263	-	-	2.236	-	-
Pot Cap-1 Maneuver	371	366	727	366	368	770	1207	-	-	1265	-	-
Stage 1	627	602	-	729	681	-	-	-	-	-	-	-
Stage 2	741	673	-	626	594	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	317	352	727	348	354	770	1207	-	-	1265	-	-
Mov Cap-2 Maneuver	317	352	-	348	354	-	-	-	-	-	-	-
Stage 1	605	581	-	726	678	-	-	-	-	-	-	-
Stage 2	669	670	-	599	574	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	15.21	15.17	0.12	0.94
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1207	-	-	336	727	471	1265	-	-
HCM Lane V/C Ratio	0.004	-	-	0.023	0.001	0.249	0.034	-	-
HCM Ctrl Dly (s/v)	8	-	-	16	10	15.2	7.9	-	-
HCM Lane LOS	A	-	-	C	A	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	1	0.1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	9	37	27	26	1	50	333	14	3	609	8
Future Vol, veh/h	3	9	37	27	26	1	50	333	14	3	609	8
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	65	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	6	6	6	16	16	16	10	10	10
Mvmt Flow	3	9	37	27	26	1	50	333	14	3	609	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1066	1067	614	1060	1064	340	618	0	0	347	0	0
Stage 1	620	620	-	440	440	-	-	-	-	-	-	-
Stage 2	446	447	-	620	624	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.16	6.56	6.26	4.26	-	-	4.2	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.16	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.554	4.054	3.354	2.344	-	-	2.29	-	-
Pot Cap-1 Maneuver	202	224	496	199	219	693	898	-	-	1169	-	-
Stage 1	479	483	-	588	571	-	-	-	-	-	-	-
Stage 2	595	577	-	469	472	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	167	211	495	166	206	693	897	-	-	1169	-	-
Mov Cap-2 Maneuver	167	211	-	166	206	-	-	-	-	-	-	-
Stage 1	477	481	-	555	539	-	-	-	-	-	-	-
Stage 2	534	545	-	425	470	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	16.5	32.05	1.17	0.04
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	897	-	-	362	186	1169	-	-
HCM Lane V/C Ratio	0.056	-	-	0.135	0.29	0.003	-	-
HCM Ctrl Dly (s/v)	9.3	-	-	16.5	32.1	8.1	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	1.1	0	-	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	163	33	1	0	37	107	1	0	0	112	0	224
Future Vol, veh/h	163	33	1	0	37	107	1	0	0	112	0	224
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	9	9	9	0	0	0	0	0	0	3	3	3
Mvmt Flow	177	36	1	0	40	116	1	0	0	122	0	243
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	10.7	8.8	8.7	9.9
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	83%	0%	100%	0%
Vol Thru, %	0%	17%	26%	0%	0%
Vol Right, %	0%	1%	74%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1	197	144	112	224
LT Vol	1	163	0	112	0
Through Vol	0	33	37	0	0
RT Vol	0	1	107	0	224
Lane Flow Rate	1	214	157	122	243
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.002	0.313	0.2	0.202	0.321
Departure Headway (Hd)	5.682	5.256	4.603	5.96	4.75
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	634	681	773	599	752
Service Time	3.682	3.317	2.666	3.725	2.514
HCM Lane V/C Ratio	0.002	0.314	0.203	0.204	0.323
HCM Control Delay, s/veh	8.7	10.7	8.8	10.2	9.8
HCM Lane LOS	A	B	A	B	A
HCM 95th-tile Q	0	1.3	0.7	0.7	1.4

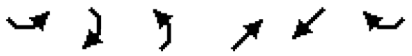


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	293	0	0	466	43	538	325	223	20	0	155
Future Volume (veh/h)	140	293	0	0	466	43	538	325	223	20	0	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1856	1856	1841	1841	1841	1870	0	1870
Adj Flow Rate, veh/h	152	318	0	0	507	37	585	353	0	22	0	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	3	3	4	4	4	2	0	2
Cap, veh/h	597	2267	0	0	1681	122	813	440		0	0	0
Arrive On Green	0.07	0.64	0.00	0.00	0.50	0.50	0.24	0.24	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	0	0	3425	243	3401	1841	1560		0	
Grp Volume(v), veh/h	152	318	0	0	268	276	585	353	0		0.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1763	1812	1700	1841	1560			
Q Serve(g_s), s	2.4	2.3	0.0	0.0	5.8	5.8	10.3	11.7	0.0			
Cycle Q Clear(g_c), s	2.4	2.3	0.0	0.0	5.8	5.8	10.3	11.7	0.0			
Prop In Lane	1.00		0.00	0.00		0.13	1.00		1.00			
Lane Grp Cap(c), veh/h	597	2267	0	0	889	914	813	440				
V/C Ratio(X)	0.25	0.14	0.00	0.00	0.30	0.30	0.72	0.80				
Avail Cap(c_a), veh/h	606	2267	0	0	889	914	942	510				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	6.0	4.7	0.0	0.0	9.4	9.4	22.7	23.3	0.0			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	0.2	0.2	2.3	7.9	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			
%ile BackOfQ(50%),veh/ln	0.7	0.6	0.0	0.0	1.9	2.0	4.0	5.6	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.3	4.8	0.0	0.0	9.6	9.6	25.0	31.2	0.0			
LnGrp LOS	A	A			A	A	C	C				
Approach Vol, veh/h		470			544			938				
Approach Delay, s/veh		5.3			9.6			27.3				
Approach LOS		A			A			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		45.5			8.7	36.8		19.5				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		29.0			5.0	20.0		18.0				
Max Q Clear Time (g_c+I1), s		4.3			4.4	7.8		13.7				
Green Ext Time (p_c), s		2.0			0.0	2.5		1.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	17.1
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	93	83	56	308	345	107
Future Volume (veh/h)	93	83	56	308	345	107
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98
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	1826	1826	1856	1856
Adj Flow Rate, veh/h	101	12	61	335	375	84
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	5	5	3	3
Cap, veh/h	139	124	775	2735	1909	422
Arrive On Green	0.08	0.08	0.05	0.79	0.67	0.67
Sat Flow, veh/h	1781	1585	1739	3561	2948	632
Grp Volume(v), veh/h	101	12	61	335	230	229
Grp Sat Flow(s),veh/h/ln	1781	1585	1739	1735	1763	1725
Q Serve(g_s), s	3.3	0.4	0.5	1.4	3.0	3.0
Cycle Q Clear(g_c), s	3.3	0.4	0.5	1.4	3.0	3.0
Prop In Lane	1.00	1.00	1.00			0.37
Lane Grp Cap(c), veh/h	139	124	775	2735	1178	1153
V/C Ratio(X)	0.72	0.10	0.08	0.12	0.19	0.20
Avail Cap(c_a), veh/h	594	528	827	2735	1178	1153
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	0.94	0.94
Uniform Delay (d), s/veh	27.0	25.7	2.1	1.5	3.8	3.8
Incr Delay (d2), s/veh	6.9	0.3	0.0	0.1	0.3	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.4	0.1	0.1	0.8	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	34.0	26.0	2.1	1.6	4.1	4.2
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	113			396	459	
Approach Delay, s/veh	33.1			1.7	4.2	
Approach LOS	C			A	A	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	51.3		8.7	7.2	44.1
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	32.0		20.0	5.0	23.0
Max Q Clear Time (g_c+I1), s	3.4		5.3	2.5	5.0
Green Ext Time (p_c), s	2.2		0.2	0.0	2.5

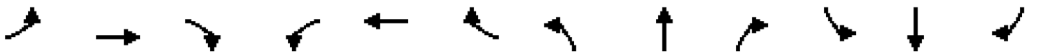
Intersection Summary	
HCM 7th Control Delay, s/veh	6.5
HCM 7th LOS	A



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	1	0	1	172	0	45	2	274	123	25	282	1
Future Volume (veh/h)	1	0	1	172	0	45	2	274	123	25	282	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	0.35		1.00	1.00		0.95	1.00		0.98	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	418	418	418	1856	1856	1856	1841	1841	1841	1856	1856	1856
Adj Flow Rate, veh/h	1	0	0	172	0	7	2	274	68	25	282	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	100	100	100	3	3	3	4	4	4	3	3	3
Cap, veh/h	112	1	0	274	0	131	762	1171	970	749	1222	4
Arrive On Green	0.00	0.00	0.00	0.09	0.00	0.09	0.00	0.64	0.64	0.03	0.66	0.66
Sat Flow, veh/h	398	418	0	1767	0	1487	1753	1841	1524	1767	1848	7
Grp Volume(v), veh/h	1	0	0	172	0	7	2	274	68	25	0	283
Grp Sat Flow(s),veh/h/ln	398	418	0	1767	0	1487	1753	1841	1524	1767	0	1854
Q Serve(g_s), s	0.1	0.0	0.0	6.0	0.0	0.3	0.0	4.1	1.1	0.3	0.0	4.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	6.0	0.0	0.3	0.0	4.1	1.1	0.3	0.0	4.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	112	1	0	274	0	131	762	1171	970	749	0	1227
V/C Ratio(X)	0.01	0.00	0.00	0.63	0.00	0.05	0.00	0.23	0.07	0.03	0.00	0.23
Avail Cap(c_a), veh/h	142	116	0	274	0	435	893	1171	970	836	0	1227
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	0.00	1.00	0.00	1.00	0.99	0.99	0.99	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	0.0	27.9	0.0	27.1	4.3	5.1	4.5	3.9	0.0	4.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.5	0.0	0.2	0.0	0.5	0.1	0.0	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.8	0.0	0.1	0.0	1.3	0.3	0.1	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.4	0.0	0.0	32.4	0.0	27.3	4.3	5.5	4.6	3.9	0.0	4.8
LnGrp LOS	C			C		C	A	A	A	A		A
Approach Vol, veh/h		1			179			344			308	
Approach Delay, s/veh		32.4			32.2			5.3			4.8	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	45.4	10.0	3.8	4.2	47.0	4.1	9.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.8	20.0	6.0	18.0	5.0	20.0	5.0	19.0
Max Q Clear Time (g_c+I1), s	2.3	6.1	8.0	0.0	2.0	6.0	2.1	2.3
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	1.2	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	10.9
HCM 7th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	125	57	107	100	36	138	527	238	50	138	70
Future Volume (veh/h)	51	125	57	107	100	36	138	527	238	50	138	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1781	1781	1781	1811	1811	1811
Adj Flow Rate, veh/h	51	125	38	107	100	26	138	527	215	50	138	44
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	8	8	8	6	6	6
Cap, veh/h	152	215	58	236	150	34	177	606	247	88	593	189
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.10	0.50	0.50	0.05	0.45	0.45
Sat Flow, veh/h	298	1156	314	662	808	185	1697	1203	491	1725	1316	420
Grp Volume(v), veh/h	214	0	0	233	0	0	138	0	742	50	0	182
Grp Sat Flow(s),veh/h/ln	1768	0	0	1654	0	0	1697	0	1693	1725	0	1736
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	3.7	0.0	17.9	1.3	0.0	3.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	5.8	0.0	0.0	3.7	0.0	17.9	1.3	0.0	3.0
Prop In Lane	0.24		0.18	0.46		0.11	1.00		0.29	1.00		0.24
Lane Grp Cap(c), veh/h	425	0	0	421	0	0	177	0	853	88	0	782
V/C Ratio(X)	0.50	0.00	0.00	0.55	0.00	0.00	0.78	0.00	0.87	0.57	0.00	0.23
Avail Cap(c_a), veh/h	756	0	0	719	0	0	403	0	1097	186	0	900
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.4	0.0	0.0	17.6	0.0	0.0	20.2	0.0	10.1	21.5	0.0	7.8
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.0	7.3	0.0	6.3	5.6	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.9	0.0	0.0	1.5	0.0	4.9	0.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.3	0.0	0.0	18.8	0.0	0.0	27.5	0.0	16.4	27.0	0.0	8.0
LnGrp LOS	B			B			C		B	C		A
Approach Vol, veh/h		214			233			880			232	
Approach Delay, s/veh		18.3			18.8			18.2			12.1	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	27.3		12.6	8.8	24.9		12.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	30.0		18.0	11.0	24.0		18.0				
Max Q Clear Time (g_c+I1), s	3.3	19.9		7.0	5.7	5.0		7.8				
Green Ext Time (p_c), s	0.0	3.4		0.8	0.1	0.8		0.8				

Intersection Summary		
HCM 7th Control Delay, s/veh		17.4
HCM 7th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	300	21	119	226	41	23	418	152	32	297	7
Future Volume (veh/h)	12	300	21	119	226	41	23	418	152	32	297	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1752	1752	1752
Adj Flow Rate, veh/h	12	300	19	119	226	36	23	418	138	32	297	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	10	10	10
Cap, veh/h	13	336	21	130	248	39	43	452	149	52	595	12
Arrive On Green	0.20	0.20	0.20	0.23	0.23	0.23	0.02	0.34	0.34	0.03	0.35	0.35
Sat Flow, veh/h	66	1648	104	561	1066	170	1753	1325	437	1668	1711	35
Grp Volume(v), veh/h	331	0	0	381	0	0	23	0	556	32	0	303
Grp Sat Flow(s),veh/h/ln	1819	0	0	1797	0	0	1753	0	1762	1668	0	1746
Q Serve(g_s), s	14.8	0.0	0.0	17.3	0.0	0.0	1.1	0.0	25.4	1.6	0.0	11.4
Cycle Q Clear(g_c), s	14.8	0.0	0.0	17.3	0.0	0.0	1.1	0.0	25.4	1.6	0.0	11.4
Prop In Lane	0.04		0.06	0.31		0.09	1.00		0.25	1.00		0.02
Lane Grp Cap(c), veh/h	370	0	0	418	0	0	43	0	601	52	0	607
V/C Ratio(X)	0.89	0.00	0.00	0.91	0.00	0.00	0.53	0.00	0.93	0.61	0.00	0.50
Avail Cap(c_a), veh/h	392	0	0	430	0	0	105	0	654	100	0	648
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.4	0.0	0.0	31.2	0.0	0.0	40.3	0.0	26.5	40.0	0.0	21.5
Incr Delay (d2), s/veh	21.4	0.0	0.0	23.2	0.0	0.0	9.7	0.0	18.3	11.0	0.0	0.6
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	8.1	0.0	0.0	9.5	0.0	0.0	0.6	0.0	12.4	0.8	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.8	0.0	0.0	54.4	0.0	0.0	49.9	0.0	44.8	51.0	0.0	22.1
LnGrp LOS	D			D			D		D	D		C
Approach Vol, veh/h		331			381			579			335	
Approach Delay, s/veh		53.8			54.4			45.0			24.9	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	32.5		21.0	6.1	33.0		23.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	31.0		18.0	5.0	31.0		20.0				
Max Q Clear Time (g_c+I1), s	3.6	27.4		16.8	3.1	13.4		19.3				
Green Ext Time (p_c), s	0.0	1.1		0.2	0.0	1.4		0.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	44.9
HCM 7th LOS	D

Intersection	
Intersection Delay, s/veh	78.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	333	212	56	282	27	242	147	83	32	77	68
Future Vol, veh/h	96	333	212	56	282	27	242	147	83	32	77	68
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	5	5	5	9	9	9	3	3	3	2	2	2
Mvmt Flow	96	333	212	56	282	27	242	147	83	32	77	68
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	124.6	30.6	74.1	19.5
HCM LOS	F	D	F	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	51%	100%	0%	100%	0%	18%
Vol Thru, %	31%	0%	61%	0%	91%	44%
Vol Right, %	18%	0%	39%	0%	9%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	472	96	545	56	309	177
LT Vol	242	96	0	56	0	32
Through Vol	147	0	333	0	282	77
RT Vol	83	0	212	0	27	68
Lane Flow Rate	472	96	545	56	309	177
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	1.008	0.233	1.221	0.142	0.738	0.431
Departure Headway (Hd)	8.227	8.977	8.173	9.735	9.147	9.499
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	444	402	447	371	399	382
Service Time	6.227	6.677	5.873	7.435	6.847	7.499
HCM Lane V/C Ratio	1.063	0.239	1.219	0.151	0.774	0.463
HCM Control Delay, s/veh	74.1	14.4	144	14	33.6	19.5
HCM Lane LOS	F	B	F	B	D	C
HCM 95th-tile Q	13.1	0.9	21.5	0.5	5.8	2.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	196	136	41	126	6	160	489	81	19	325	77
Future Volume (veh/h)	82	196	136	41	126	6	160	489	81	19	325	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.98
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	1841	1841	1841	1856	1856	1856	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	82	196	107	41	126	4	160	489	72	19	325	63
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	4	4	4	3	3	3	3	3	3	4	4	4
Cap, veh/h	180	275	134	180	437	12	206	610	90	42	440	85
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.12	0.39	0.39	0.02	0.29	0.29
Sat Flow, veh/h	247	936	456	238	1490	41	1767	1576	232	1753	1492	289
Grp Volume(v), veh/h	385	0	0	171	0	0	160	0	561	19	0	388
Grp Sat Flow(s),veh/h/ln	1639	0	0	1769	0	0	1767	0	1808	1753	0	1781
Q Serve(g_s), s	5.4	0.0	0.0	0.0	0.0	0.0	3.6	0.0	11.2	0.4	0.0	8.0
Cycle Q Clear(g_c), s	8.7	0.0	0.0	2.9	0.0	0.0	3.6	0.0	11.2	0.4	0.0	8.0
Prop In Lane	0.21		0.28	0.24		0.02	1.00		0.13	1.00		0.16
Lane Grp Cap(c), veh/h	588	0	0	629	0	0	206	0	700	42	0	525
V/C Ratio(X)	0.65	0.00	0.00	0.27	0.00	0.00	0.78	0.00	0.80	0.46	0.00	0.74
Avail Cap(c_a), veh/h	828	0	0	865	0	0	348	0	1113	216	0	965
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	11.2	0.0	0.0	17.4	0.0	11.0	19.6	0.0	12.9
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.2	0.0	0.0	6.2	0.0	2.2	7.6	0.0	2.1
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	2.3	0.0	0.0	0.8	0.0	0.0	1.4	0.0	3.0	0.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.4	0.0	0.0	11.4	0.0	0.0	23.6	0.0	13.3	27.2	0.0	15.0
LnGrp LOS	B			B			C		B	C		B
Approach Vol, veh/h		385			171			721			407	
Approach Delay, s/veh		14.4			11.4			15.6			15.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	19.7		15.9	8.7	16.0		15.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	25.0		18.0	8.0	22.0		18.0				
Max Q Clear Time (g_c+I1), s	2.4	13.2		10.7	5.6	10.0		4.9				
Green Ext Time (p_c), s	0.0	2.5		1.2	0.1	1.6		0.6				

Intersection Summary		
HCM 7th Control Delay, s/veh	14.9	
HCM 7th LOS	B	

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	50	0	60	78	0	35
Future Vol, veh/h	50	0	60	78	0	35
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	92	92	92	92	92	92
Heavy Vehicles, %	17	17	10	10	2	2
Mvmt Flow	54	0	65	85	0	38

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	54	0	270	54
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	-	-	4.2	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.29	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1501	-	720	1013
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1501	-	687	1013
Mov Cap-2 Maneuver	-	-	-	-	687	-
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	783	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.26	8.69
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1013	-	-	783	-
HCM Lane V/C Ratio	0.038	-	-	0.043	-
HCM Ctrl Dly (s/v)	8.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	0	57	0	0	0	93	345	0	0	223	120
Future Vol, veh/h	72	0	57	0	0	0	93	345	0	0	223	120
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	17	17	17	0	0	0	4	4	4	3	3	3
Mvmt Flow	78	0	62	0	0	0	101	375	0	0	242	130

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	885	885	308	820	950	375	373	0	0	375	0	0
Stage 1	308	308	-	577	577	-	-	-	-	-	-	-
Stage 2	577	577	-	242	373	-	-	-	-	-	-	-
Critical Hdwy	7.27	6.67	6.37	7.1	6.5	6.2	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.27	5.67	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.27	5.67	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.653	4.153	3.453	3.5	4	3.3	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	250	269	699	296	262	676	1175	-	-	1178	-	-
Stage 1	671	634	-	505	505	-	-	-	-	-	-	-
Stage 2	477	478	-	766	622	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	229	245	699	247	240	676	1175	-	-	1178	-	-
Mov Cap-2 Maneuver	229	245	-	247	240	-	-	-	-	-	-	-
Stage 1	671	634	-	462	461	-	-	-	-	-	-	-
Stage 2	436	437	-	698	622	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	24.19	0	1.77	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1175	-	-	325	-	1178	-	-
HCM Lane V/C Ratio	0.086	-	-	0.431	-	-	-	-
HCM Ctrl Dly (s/v)	8.4	-	-	24.2	0	0	-	-
HCM Lane LOS	A	-	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.1	-	0	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	7	5	45	3	45	5	335	38	50	254	3
Future Vol, veh/h	33	7	5	45	3	45	5	335	38	50	254	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	110	-	-	-	130	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	8	5	49	3	49	5	364	41	54	276	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	763	803	278	784	784	385	279	0	0	405	0	0
Stage 1	386	386	-	396	396	-	-	-	-	-	-	-
Stage 2	377	416	-	389	388	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	323	319	766	311	325	663	1283	-	-	1153	-	-
Stage 1	641	613	-	630	604	-	-	-	-	-	-	-
Stage 2	649	595	-	635	609	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	281	303	766	286	308	663	1283	-	-	1153	-	-
Mov Cap-2 Maneuver	281	303	-	286	308	-	-	-	-	-	-	-
Stage 1	611	585	-	627	602	-	-	-	-	-	-	-
Stage 2	595	593	-	593	580	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	18.76	17.2	0.1	1.35
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1283	-	-	285	766	396	1153	-	-
HCM Lane V/C Ratio	0.004	-	-	0.153	0.007	0.256	0.047	-	-
HCM Ctrl Dly (s/v)	7.8	-	-	19.9	9.7	17.2	8.3	-	-
HCM Lane LOS	A	-	-	C	A	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0	1	0.1	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	24	60	17	19	6	40	720	31	12	515	12
Future Vol, veh/h	5	24	60	17	19	6	40	720	31	12	515	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	65	-	-	85	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	10	10	10	4	4	4	6	6	6
Mvmt Flow	5	24	60	17	19	6	40	720	31	12	515	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1355	1376	521	1367	1367	736	527	0	0	751	0	0
Stage 1	545	545	-	816	816	-	-	-	-	-	-	-
Stage 2	810	831	-	551	551	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.14	-	-	4.16	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.236	-	-	2.254	-	-
Pot Cap-1 Maneuver	127	145	555	119	142	406	1030	-	-	841	-	-
Stage 1	523	519	-	360	380	-	-	-	-	-	-	-
Stage 2	374	384	-	505	503	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	102	137	555	84	134	406	1030	-	-	841	-	-
Mov Cap-2 Maneuver	102	137	-	84	134	-	-	-	-	-	-	-
Stage 1	515	511	-	346	365	-	-	-	-	-	-	-
Stage 2	336	370	-	423	495	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	24.92	52.01	0.44	0.21
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1030	-	-	268	117	841	-	-
HCM Lane V/C Ratio	0.039	-	-	0.332	0.359	0.014	-	-
HCM Ctrl Dly (s/v)	8.6	-	-	24.9	52	9.3	-	-
HCM Lane LOS	A	-	-	C	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	1.5	0	-	-

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	258	79	0	1	35	142	0	0	0	121	0	186
Future Vol, veh/h	258	79	0	1	35	142	0	0	0	121	0	186
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	1	1	1	4	4	4	0	0	0	2	2	2
Mvmt Flow	280	86	0	1	38	154	0	0	0	132	0	202
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	13.9	9.7	0	10.6
HCM LOS	B	A	-	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	0%	77%	1%	100%	0%
Vol Thru, %	100%	23%	20%	0%	0%
Vol Right, %	0%	0%	80%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	337	178	121	186
LT Vol	0	258	1	121	0
Through Vol	0	79	35	0	0
RT Vol	0	0	142	0	186
Lane Flow Rate	0	366	193	132	202
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0	0.523	0.265	0.237	0.296
Departure Headway (Hd)	6.044	5.25	4.931	6.483	5.268
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	0	692	733	556	685
Service Time	4.066	3.25	2.931	4.192	2.977
HCM Lane V/C Ratio	0	0.529	0.263	0.237	0.295
HCM Control Delay, s/veh	9.1	13.9	9.7	11.2	10.2
HCM Lane LOS	N	B	A	B	B
HCM 95th-tile Q	0	3.1	1.1	0.9	1.2

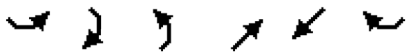


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	362	0	0	557	55	647	245	261	35	0	364
Future Volume (veh/h)	42	362	0	0	557	55	647	245	261	35	0	364
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1885	1885	1870	1870	1870	1900	0	1900
Adj Flow Rate, veh/h	42	362	0	0	557	44	647	245	0	35	0	207
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	0	0	1	1	2	2	2	0	0	0
Cap, veh/h	551	2286	0	0	1818	143	808	437		0	0	0
Arrive On Green	0.04	0.64	0.00	0.00	0.54	0.54	0.23	0.23	0.00	0.00	0.00	0.00
Sat Flow, veh/h	1781	3647	0	0	3457	265	3456	1870	1585		0	
Grp Volume(v), veh/h	42	362	0	0	296	305	647	245	0		0.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1791	1837	1728	1870	1585			
Q Serve(g_s), s	0.6	2.6	0.0	0.0	5.9	5.9	11.5	7.5	0.0			
Cycle Q Clear(g_c), s	0.6	2.6	0.0	0.0	5.9	5.9	11.5	7.5	0.0			
Prop In Lane	1.00		0.00	0.00		0.14	1.00		1.00			
Lane Grp Cap(c), veh/h	551	2286	0	0	968	993	808	437				
V/C Ratio(X)	0.08	0.16	0.00	0.00	0.31	0.31	0.80	0.56				
Avail Cap(c_a), veh/h	615	2286	0	0	968	993	957	518				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00			
Uniform Delay (d), s/veh	5.5	4.6	0.0	0.0	8.2	8.2	23.5	22.0	0.0			
Incr Delay (d2), s/veh	0.1	0.1	0.0	0.0	0.2	0.2	4.2	1.1	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			
%ile BackOfQ(50%),veh/ln	0.2	0.7	0.0	0.0	1.9	1.9	4.7	3.2	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.6	4.8	0.0	0.0	8.4	8.4	27.7	23.1	0.0			
LnGrp LOS	A	A			A	A	C	C				
Approach Vol, veh/h		404			601			892				
Approach Delay, s/veh		4.8			8.4			26.4				
Approach LOS		A			A			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		45.8			6.7	39.1		19.2				
Change Period (Y+Rc), s		4.0			4.0	4.0		4.0				
Max Green Setting (Gmax), s		27.0			5.0	18.0		18.0				
Max Q Clear Time (g_c+I1), s		4.6			2.6	7.9		13.5				
Green Ext Time (p_c), s		2.2			0.0	2.5		1.7				

Intersection Summary	
HCM 7th Control Delay, s/veh	16.1
HCM 7th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (veh/h)	151	68	112	512	334	129
Future Volume (veh/h)	151	68	112	512	334	129
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1885	1885	1870	1870
Adj Flow Rate, veh/h	164	7	122	557	363	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	1	1	2	2
Cap, veh/h	215	192	771	2671	1734	406
Arrive On Green	0.12	0.12	0.07	0.75	0.61	0.61
Sat Flow, veh/h	1781	1585	1795	3676	2951	669
Grp Volume(v), veh/h	164	7	122	557	224	225
Grp Sat Flow(s),veh/h/ln	1781	1585	1795	1791	1777	1750
Q Serve(g_s), s	5.3	0.2	1.3	2.8	3.4	3.5
Cycle Q Clear(g_c), s	5.3	0.2	1.3	2.8	3.4	3.5
Prop In Lane	1.00	1.00	1.00			0.38
Lane Grp Cap(c), veh/h	215	192	771	2671	1078	1062
V/C Ratio(X)	0.76	0.04	0.16	0.21	0.21	0.21
Avail Cap(c_a), veh/h	594	528	790	2671	1078	1062
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	0.95	0.95
Uniform Delay (d), s/veh	25.5	23.3	2.9	2.3	5.3	5.3
Incr Delay (d2), s/veh	5.5	0.1	0.1	0.2	0.4	0.4
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	0.2	0.2	0.4	1.0	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	31.0	23.4	3.0	2.5	5.7	5.8
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	171			679	449	
Approach Delay, s/veh	30.7			2.6	5.7	
Approach LOS	C			A	A	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	48.8	11.2	8.3	40.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	32.0	20.0	5.0	23.0
Max Q Clear Time (g_c+I1), s	4.8	7.3	3.3	5.5
Green Ext Time (p_c), s	3.8	0.3	0.0	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	7.4
HCM 7th LOS	A



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	3	153	3	40	0	368	287	38	307	0
Future Volume (veh/h)	0	0	3	153	3	40	0	368	287	38	307	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	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	1900	1900	1900	1885	1885	1885	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	153	3	7	0	368	170	38	307	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	1	1	1	2	2	2	2	2	2
Cap, veh/h	114	3	0	249	38	90	864	1310	1108	722	1496	0
Arrive On Green	0.00	0.00	0.00	0.08	0.08	0.08	0.00	0.70	0.70	0.04	0.80	0.00
Sat Flow, veh/h	1810	1900	0	1795	500	1166	1781	1870	1583	1781	1870	0
Grp Volume(v), veh/h	0	0	0	153	0	10	0	368	170	38	307	0
Grp Sat Flow(s),veh/h/ln	1810	1900	0	1795	0	1666	1781	1870	1583	1781	1870	0
Q Serve(g_s), s	0.0	0.0	0.0	5.0	0.0	0.4	0.0	4.8	2.3	0.3	2.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	5.0	0.0	0.4	0.0	4.8	2.3	0.3	2.6	0.0
Prop In Lane	1.00		0.00	1.00		0.70	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	114	3	0	249	0	128	864	1310	1108	722	1496	0
V/C Ratio(X)	0.00	0.00	0.00	0.61	0.00	0.08	0.00	0.28	0.15	0.05	0.21	0.00
Avail Cap(c_a), veh/h	250	526	0	249	0	461	999	1310	1108	791	1496	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)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.97	0.97	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	30.2	0.0	27.9	0.0	3.6	3.3	2.1	1.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.5	0.0	0.3	0.0	0.5	0.3	0.0	0.3	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	0.0	0.0	0.0	2.6	0.0	0.1	0.0	1.2	0.5	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	34.6	0.0	28.1	0.0	4.2	3.6	2.2	1.9	0.0
LnGrp LOS				C		C		A	A	A	A	
Approach Vol, veh/h		0			163			538			345	
Approach Delay, s/veh		0.0			34.2			4.0			1.9	
Approach LOS					C			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	49.5	9.0	0.0	0.0	56.0	0.0	9.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	21.0	5.0	18.0	5.0	21.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	2.3	6.8	7.0	0.0	0.0	4.6	0.0	2.4
Green Ext Time (p_c), s	0.0	2.4	0.0	0.0	0.0	1.5	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	8.0
HCM 7th LOS	A

Intersection	
Intersection Delay, s/veh	60.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	100	342	213	56	297	27	245	147	83	32	77	76
Future Vol, veh/h	100	342	213	56	297	27	245	147	83	32	77	76
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	5	5	5	9	9	9	3	3	3	2	2	2
Mvmt Flow	100	342	213	56	297	27	245	147	83	32	77	76
Number of Lanes	1	1	0	1	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay, s/veh	117.9	30.4	22.5	20.4
HCM LOS	F	D	C	C

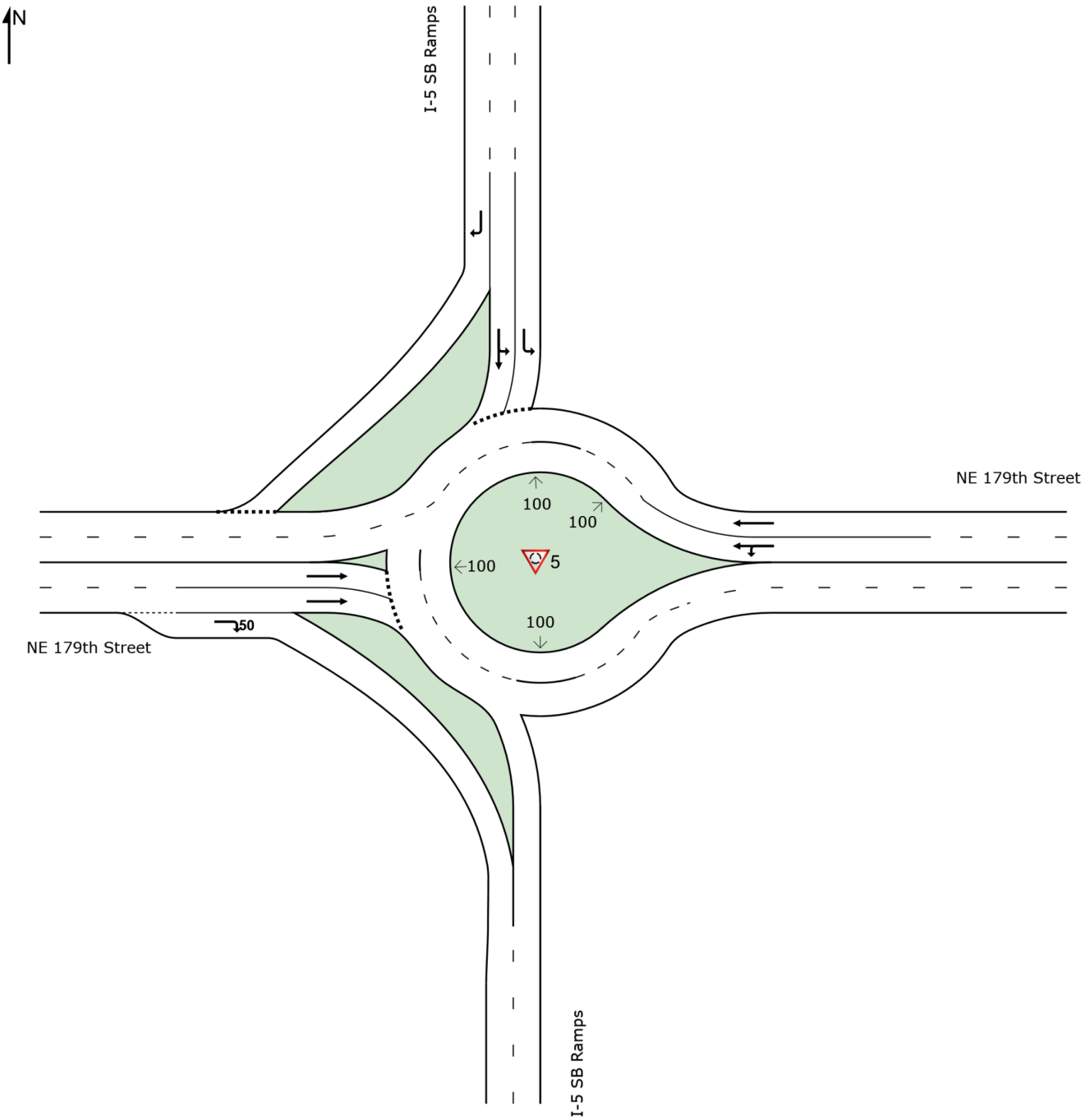
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	100%	0%	17%
Vol Thru, %	0%	64%	0%	62%	0%	92%	42%
Vol Right, %	0%	36%	0%	38%	0%	8%	41%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	230	100	555	56	324	185
LT Vol	245	0	100	0	56	0	32
Through Vol	0	147	0	342	0	297	77
RT Vol	0	83	0	213	0	27	76
Lane Flow Rate	245	230	100	555	56	324	185
Geometry Grp	5	5	5	5	5	5	4b
Degree of Util (X)	0.599	0.514	0.239	1.205	0.138	0.748	0.459
Departure Headway (Hd)	9.312	8.53	8.611	7.815	9.348	8.765	9.568
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	390	426	417	466	386	415	379
Service Time	7.012	6.23	6.359	5.563	7.048	6.465	7.568
HCM Lane V/C Ratio	0.628	0.54	0.24	1.191	0.145	0.781	0.488
HCM Control Delay, s/veh	25	19.9	14.1	136.6	13.5	33.3	20.4
HCM Lane LOS	C	C	B	F	B	D	C
HCM 95th-tile Q	3.8	2.9	0.9	21.4	0.5	6.1	2.3

SITE LAYOUT

Site: 5 [Int 3 BGAM (Site Folder: Int 3 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 5 [Int 3 BGAM (Site Folder: Int 3 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	683	7.9	683	7.9	0.530	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	34.9
6	T1	349	7.9	349	7.9	0.318	4.1	LOS A	0.0	0.0	0.00	0.38	0.00	38.1
Approach		1032	7.9	1032	7.9	0.530	8.0	LOS A	0.0	0.0	0.00	0.56	0.00	35.9
North: I-5 SB Ramps														
7	L2	300	10.2	300	10.2	0.166	13.0	LOS B	0.7	18.3	0.57	0.83	0.57	33.3
4	T1	2	10.2	2	10.2	0.166	6.7	LOS A	0.7	18.3	0.56	0.81	0.56	33.5
14	R2	88	10.2	88	10.2	0.071	5.2	LOS A	0.3	7.8	0.37	0.53	0.37	35.6
Approach		390	10.2	390	10.2	0.166	11.2	LOS B	0.7	18.3	0.52	0.76	0.52	33.8
West: NE 179th Street														
2	T1	203	5.9	203	5.9	0.117	7.4	LOS A	0.6	15.0	0.63	0.68	0.63	35.7
12	R2	535	5.9	535	5.9	0.338	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	36.9
Approach		738	5.9	738	5.9	0.338	4.9	LOS A	0.6	15.0	0.17	0.51	0.17	36.5
All Vehicles		2160	7.6	2160	7.6	0.530	7.5	LOS A	0.7	18.3	0.15	0.58	0.15	35.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [Int 3 BGPM (Site Folder: Int 3 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	866	1.6	941	1.6	0.747	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	35.3
6	T1	1010	1.6	1098	1.6	0.747	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		1876	1.6	2039	1.6	0.747	6.7	LOS A	0.0	0.0	0.00	0.52	0.00	36.7
North: I-5 SB Ramps														
7	L2	468	3.4	509	3.4	0.331	16.0	LOS B	1.8	45.2	0.76	0.94	0.82	32.1
4	T1	4	3.4	4	3.4	0.331	9.5	LOS A	1.8	45.2	0.78	0.94	0.81	32.4
14	R2	175	3.4	190	3.4	0.193	8.3	LOS A	1.0	26.8	0.68	0.76	0.68	34.4
Approach		647	3.4	703	3.4	0.331	13.9	LOS B	1.8	45.2	0.74	0.89	0.79	32.7
West: NE 179th Street														
2	T1	252	2.9	274	2.9	0.200	9.8	LOS A	1.2	30.4	0.79	0.85	0.79	34.8
12	R2	360	2.9	391	2.9	0.240	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		612	2.9	665	2.9	0.240	6.3	LOS A	1.2	30.4	0.33	0.61	0.33	36.1
All Vehicles		3135	2.2	3408	2.2	0.747	8.1	LOS A	1.8	45.2	0.22	0.61	0.23	35.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [Int 3 STAM (Site Folder: Int 3 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	694	7.9	694	7.9	0.538	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	34.9
6	T1	351	7.9	351	7.9	0.321	4.1	LOS A	0.0	0.0	0.00	0.38	0.00	38.1
Approach		1045	7.9	1045	7.9	0.538	8.0	LOS A	0.0	0.0	0.00	0.57	0.00	35.9
North: I-5 SB Ramps														
7	L2	302	10.2	302	10.2	0.168	13.0	LOS B	0.7	18.6	0.57	0.83	0.57	33.3
4	T1	2	10.2	2	10.2	0.168	6.8	LOS A	0.7	18.6	0.56	0.82	0.56	33.5
14	R2	88	10.2	88	10.2	0.071	5.2	LOS A	0.3	7.8	0.37	0.54	0.37	35.6
Approach		392	10.2	392	10.2	0.168	11.2	LOS B	0.7	18.6	0.53	0.77	0.53	33.8
West: NE 179th Street														
2	T1	203	5.9	203	5.9	0.118	7.4	LOS A	0.6	15.2	0.64	0.69	0.64	35.7
12	R2	535	5.9	535	5.9	0.338	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	36.9
Approach		738	5.9	738	5.9	0.338	4.9	LOS A	0.6	15.2	0.18	0.51	0.18	36.5
All Vehicles		2175	7.6	2175	7.6	0.538	7.5	LOS A	0.7	18.6	0.15	0.58	0.15	35.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
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HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [Int 3 STPM (Site Folder: Int 3 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	873	1.6	949	1.6	0.751	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	35.3
6	T1	1012	1.6	1100	1.6	0.751	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		1885	1.6	2049	1.6	0.751	6.7	LOS A	0.0	0.0	0.00	0.52	0.00	36.7
North: I-5 SB Ramps														
7	L2	474	3.4	515	3.4	0.337	16.2	LOS B	1.8	46.6	0.76	0.94	0.84	32.1
4	T1	4	3.4	4	3.4	0.337	9.6	LOS A	1.8	46.6	0.78	0.94	0.83	32.3
14	R2	175	3.4	190	3.4	0.193	8.3	LOS A	1.1	27.0	0.69	0.76	0.69	34.4
Approach		653	3.4	710	3.4	0.337	14.0	LOS B	1.8	46.6	0.74	0.90	0.80	32.6
West: NE 179th Street														
2	T1	254	2.9	276	2.9	0.204	9.9	LOS A	1.2	31.1	0.80	0.85	0.80	34.8
12	R2	360	2.9	391	2.9	0.240	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		614	2.9	667	2.9	0.240	6.4	LOS A	1.2	31.1	0.33	0.62	0.33	36.1
All Vehicles		3152	2.2	3426	2.2	0.751	8.2	LOS A	1.8	46.6	0.22	0.61	0.23	35.7

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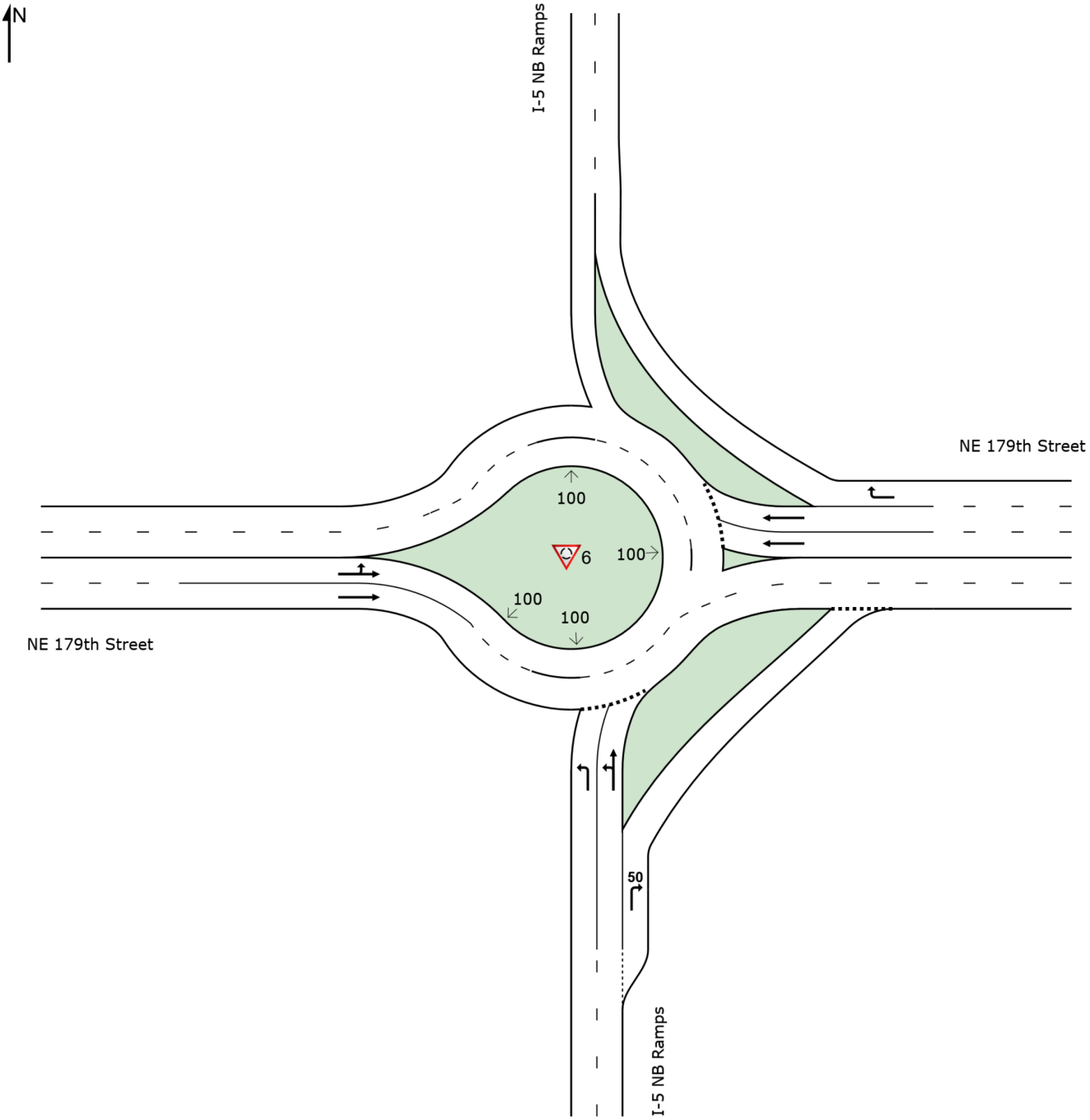
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 6 [Int 4 BGAM (Site Folder: Int 4 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 6 [Int 4 BGAM (Site Folder: Int 4 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	210	6.3	210	6.3	0.082	10.6	LOS B	0.3	7.3	0.28	0.65	0.28	34.3
8	T1	1	6.3	1	6.3	0.082	4.7	LOS A	0.3	7.3	0.27	0.65	0.27	34.3
18	R2	603	6.3	603	6.3	0.421	4.7	LOS A	2.1	55.1	0.31	0.51	0.31	35.9
Approach		814	6.3	814	6.3	0.421	6.2	LOS A	2.1	55.1	0.30	0.55	0.30	35.4
East: NE 179th Street														
6	T1	802	3.2	802	3.2	0.313	5.0	LOS A	1.4	36.3	0.40	0.47	0.40	36.6
16	R2	243	3.2	243	3.2	0.150	3.8	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1045	3.2	1045	3.2	0.313	4.8	LOS A	1.4	36.3	0.30	0.46	0.30	36.7
West: NE 179th Street														
5	L2	95	9.8	95	9.8	0.098	9.9	LOS A	0.0	0.0	0.00	0.62	0.00	35.5
2	T1	153	9.8	153	9.8	0.098	4.1	LOS A	0.0	0.0	0.00	0.42	0.00	37.6
Approach		248	9.8	248	9.8	0.098	6.3	LOS A	0.0	0.0	0.00	0.50	0.00	36.8
All Vehicles		2107	5.2	2107	5.2	0.421	5.5	LOS A	2.1	55.1	0.27	0.50	0.27	36.2

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Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
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MOVEMENT SUMMARY

Site: 6 [Int 4 BGPM (Site Folder: Int 4 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	737	5.8	737	5.8	0.337	11.9	LOS B	1.3	35.3	0.51	0.80	0.51	33.7
8	T1	1	5.8	1	5.8	0.337	5.8	LOS A	1.3	35.3	0.50	0.78	0.50	33.7
18	R2	1231	5.8	1231	5.8	1.126	69.8	LOS F	57.9	1516.0	1.00	3.15	6.46	17.6
Approach		1969	5.8	1969	5.8	1.126	48.1	LOS D	57.9	1516.0	0.82	2.27	4.23	21.6
East: NE 179th Street														
6	T1	1127	2.0	1127	2.0	0.549	7.1	LOS A	3.5	89.7	0.69	0.71	0.81	35.5
16	R2	540	2.0	540	2.0	0.329	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1667	2.0	1667	2.0	0.549	6.0	LOS A	3.5	89.7	0.47	0.62	0.55	36.0
West: NE 179th Street														
5	L2	42	6.4	42	6.4	0.279	9.9	LOS A	0.0	0.0	0.00	0.43	0.00	37.8
2	T1	685	6.4	685	6.4	0.279	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		727	6.4	727	6.4	0.279	4.4	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
All Vehicles		4363	4.4	4363	4.4	1.126	24.7	LOS C	57.9	1516.0	0.55	1.33	2.12	27.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Int 4 STAM (Site Folder: Int 4 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	210	6.3	210	6.3	0.082	10.6	LOS B	0.3	7.3	0.28	0.65	0.28	34.3
8	T1	1	6.3	1	6.3	0.082	4.7	LOS A	0.3	7.3	0.28	0.65	0.28	34.3
18	R2	607	6.3	607	6.3	0.425	4.7	LOS A	2.1	55.7	0.31	0.51	0.31	35.9
Approach		818	6.3	818	6.3	0.425	6.2	LOS A	2.1	55.7	0.30	0.55	0.30	35.4
East: NE 179th Street														
6	T1	815	3.2	815	3.2	0.318	5.0	LOS A	1.4	37.1	0.40	0.47	0.40	36.6
16	R2	248	3.2	248	3.2	0.153	3.8	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1063	3.2	1063	3.2	0.318	4.8	LOS A	1.4	37.1	0.31	0.47	0.31	36.7
West: NE 179th Street														
5	L2	95	9.8	95	9.8	0.099	9.9	LOS A	0.0	0.0	0.00	0.62	0.00	35.6
2	T1	155	9.8	155	9.8	0.099	4.1	LOS A	0.0	0.0	0.00	0.42	0.00	37.6
Approach		250	9.8	250	9.8	0.099	6.3	LOS A	0.0	0.0	0.00	0.50	0.00	36.8
All Vehicles		2131	5.2	2131	5.2	0.425	5.5	LOS A	2.1	55.7	0.27	0.50	0.27	36.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Int 4 STPM (Site Folder: Int 4 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	737	5.8	737	5.8	0.337	11.9	LOS B	1.4	35.4	0.51	0.80	0.51	33.7
8	T1	1	5.8	1	5.8	0.337	5.8	LOS A	1.4	35.4	0.50	0.78	0.50	33.7
18	R2	1244	5.8	1244	5.8	1.138	74.6	LOS F	61.6	1610.6	1.00	3.29	6.83	16.9
Approach		1982	5.8	1982	5.8	1.138	51.2	LOS D	61.6	1610.6	0.82	2.36	4.48	20.9
East: NE 179th Street														
6	T1	1136	2.0	1136	2.0	0.553	7.1	LOS A	3.6	91.2	0.70	0.71	0.82	35.5
16	R2	543	2.0	543	2.0	0.331	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1679	2.0	1679	2.0	0.553	6.1	LOS A	3.6	91.2	0.47	0.63	0.55	36.0
West: NE 179th Street														
5	L2	42	6.4	42	6.4	0.282	9.9	LOS A	0.0	0.0	0.00	0.42	0.00	37.8
2	T1	693	6.4	693	6.4	0.282	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		735	6.4	735	6.4	0.282	4.4	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
All Vehicles		4396	4.4	4396	4.4	1.138	26.2	LOS C	61.6	1610.6	0.55	1.37	2.23	27.4

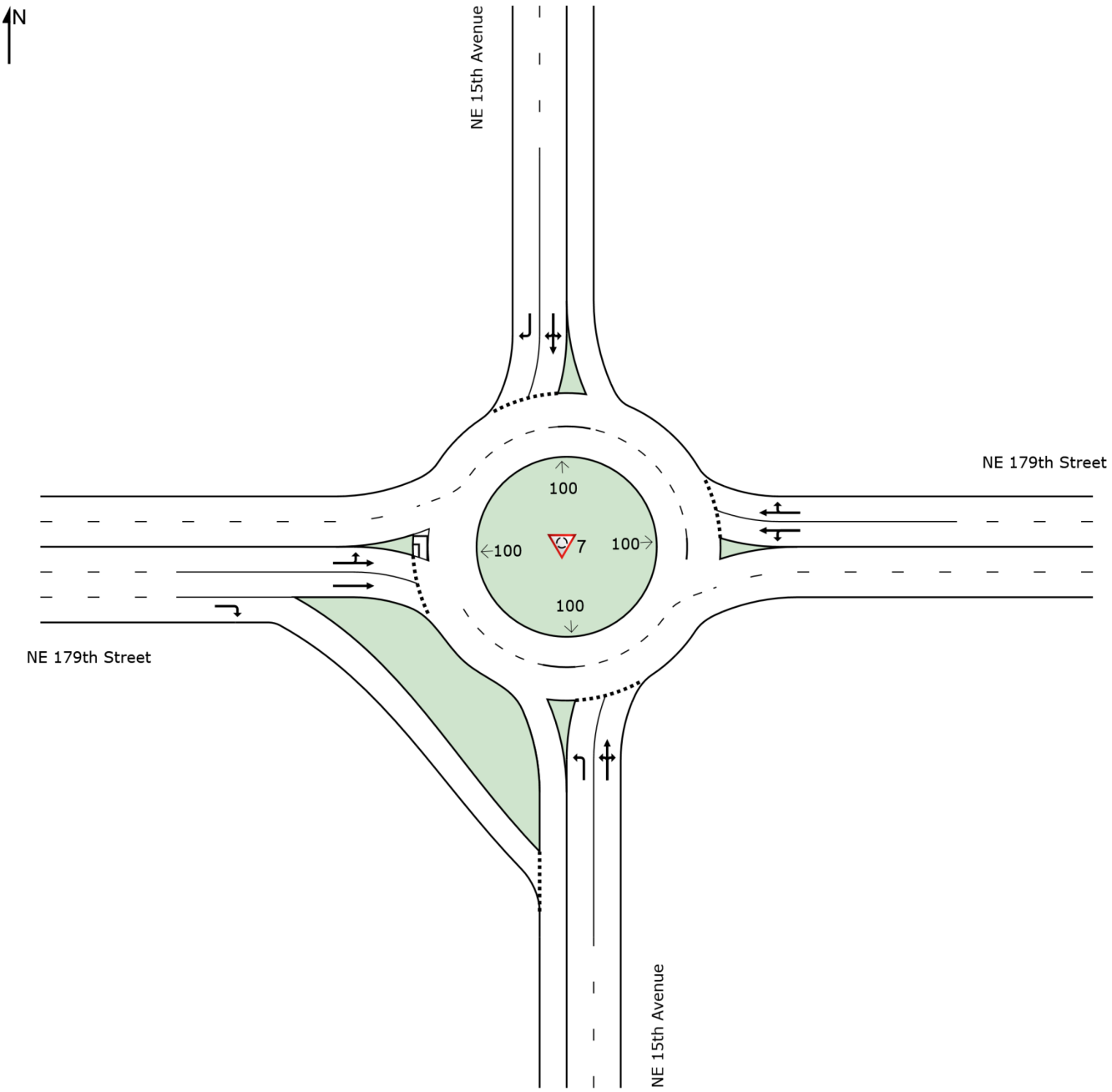
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 7 [Int 5 BGAM (Site Folder: Int 5 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 7 [Int 5 BGAM (Site Folder: Int 5 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	152	6.1	165	6.1	0.164	11.8	LOS B	0.6	16.6	0.50	0.77	0.50	34.1
8	T1	61	6.1	66	6.1	0.164	5.8	LOS A	0.6	16.6	0.50	0.64	0.50	36.0
18	R2	56	6.1	61	6.1	0.164	5.9	LOS A	0.6	16.6	0.50	0.64	0.50	34.7
Approach		269	6.1	292	6.1	0.164	9.2	LOS A	0.6	16.6	0.50	0.71	0.50	34.6
East: NE 179th Street														
1	L2	106	1.4	115	1.4	0.366	12.0	LOS B	1.7	43.1	0.55	0.67	0.55	35.5
6	T1	489	1.4	532	1.4	0.366	6.1	LOS A	1.7	43.8	0.54	0.62	0.54	35.8
16	R2	69	1.4	75	1.4	0.366	6.0	LOS A	1.7	43.8	0.54	0.58	0.54	35.0
Approach		664	1.4	722	1.4	0.366	7.0	LOS A	1.7	43.8	0.54	0.62	0.54	35.7
North: NE 15th Avenue														
7	L2	116	13.3	126	13.3	0.362	13.2	LOS B	1.6	43.1	0.61	0.83	0.65	34.4
4	T1	40	13.3	43	13.3	0.362	7.4	LOS A	1.6	43.1	0.61	0.83	0.65	34.5
14	R2	351	13.3	382	13.3	0.362	7.1	LOS A	1.6	43.9	0.61	0.80	0.64	34.5
Approach		507	13.3	551	13.3	0.362	8.5	LOS A	1.6	43.9	0.61	0.81	0.64	34.4
West: NE 179th Street														
5	L2	258	7.1	280	7.1	0.230	11.2	LOS B	1.3	35.5	0.48	0.68	0.48	33.8
2	T1	212	7.1	230	7.1	0.223	5.7	LOS A	1.2	32.9	0.50	0.53	0.50	36.2
12	R2	192	7.1	209	7.1	0.156	4.7	LOS A	0.8	22.2	0.33	0.49	0.33	35.8
Approach		662	7.1	720	7.1	0.230	7.6	LOS A	1.3	35.5	0.44	0.58	0.44	35.1
All Vehicles		2102	6.7	2285	6.7	0.366	7.8	LOS A	1.7	43.9	0.52	0.67	0.53	35.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 7 [Int 5 BGPM (Site Folder: Int 5 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	476	1.9	476	1.9	1.175	114.2	LOS F	34.5	875.7	1.00	2.21	5.01	13.6
8	T1	160	1.9	160	1.9	1.175	105.7	LOS F	34.5	875.7	1.00	2.39	5.41	13.9
18	R2	244	1.9	244	1.9	1.175	105.8	LOS F	34.5	875.7	1.00	2.39	5.41	13.7
Approach		880	1.9	880	1.9	1.175	110.3	LOS F	34.5	875.7	1.00	2.29	5.20	13.7
East: NE 179th Street														
1	L2	128	2.1	128	2.1	0.700	25.7	LOS C	5.3	135.0	0.92	1.13	1.45	29.5
6	T1	360	2.1	360	2.1	0.700	18.8	LOS B	6.0	151.6	0.94	1.14	1.46	30.2
16	R2	176	2.1	176	2.1	0.700	17.8	LOS B	6.0	151.6	0.95	1.14	1.47	30.1
Approach		664	2.1	664	2.1	0.700	19.8	LOS B	6.0	151.6	0.94	1.14	1.46	30.0
North: NE 15th Avenue														
7	L2	154	6.1	154	6.1	0.362	13.3	LOS B	1.7	43.4	0.65	0.84	0.69	34.2
4	T1	75	6.1	75	6.1	0.362	7.5	LOS A	1.7	43.4	0.65	0.84	0.69	34.2
14	R2	322	6.1	322	6.1	0.362	7.1	LOS A	1.7	44.9	0.65	0.81	0.67	34.7
Approach		551	6.1	551	6.1	0.362	8.9	LOS A	1.7	44.9	0.65	0.82	0.68	34.5
West: NE 179th Street														
5	L2	864	4.5	864	4.5	0.769	15.4	LOS B	10.8	278.8	0.87	0.90	1.08	32.5
2	T1	827	4.5	827	4.5	0.769	10.8	LOS B	10.8	278.8	0.89	0.92	1.15	34.1
12	R2	356	4.5	356	4.5	0.269	5.0	LOS A	1.7	43.9	0.43	0.53	0.43	35.6
Approach		2047	4.5	2047	4.5	0.769	11.7	LOS B	10.8	278.8	0.80	0.84	0.99	33.6
All Vehicles		4142	3.8	4142	3.8	1.175	33.6	LOS C	34.5	875.7	0.85	1.20	1.92	25.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 7 [Int 5 STAM (Site Folder: Int 5 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	152	6.1	165	6.1	0.165	11.9	LOS B	0.6	16.7	0.51	0.77	0.51	34.1
8	T1	61	6.1	66	6.1	0.165	5.8	LOS A	0.6	16.7	0.50	0.64	0.50	35.9
18	R2	56	6.1	61	6.1	0.165	5.9	LOS A	0.6	16.7	0.50	0.64	0.50	34.7
Approach		269	6.1	292	6.1	0.165	9.3	LOS A	0.6	16.7	0.50	0.72	0.50	34.6
East: NE 179th Street														
1	L2	107	1.4	116	1.4	0.377	12.0	LOS B	1.8	44.8	0.55	0.67	0.55	35.5
6	T1	507	1.4	551	1.4	0.377	6.1	LOS A	1.8	45.5	0.55	0.62	0.55	35.8
16	R2	70	1.4	76	1.4	0.377	6.0	LOS A	1.8	45.5	0.55	0.59	0.55	35.0
Approach		684	1.4	743	1.4	0.377	7.0	LOS A	1.8	45.5	0.55	0.63	0.55	35.7
North: NE 15th Avenue														
7	L2	117	13.3	127	13.3	0.367	13.3	LOS B	1.6	44.0	0.62	0.84	0.66	34.4
4	T1	40	13.3	43	13.3	0.367	7.5	LOS A	1.6	44.0	0.62	0.84	0.66	34.4
14	R2	351	13.3	382	13.3	0.367	7.2	LOS A	1.6	45.0	0.61	0.81	0.65	34.4
Approach		508	13.3	552	13.3	0.367	8.6	LOS A	1.6	45.0	0.62	0.82	0.65	34.4
West: NE 179th Street														
5	L2	258	7.1	280	7.1	0.231	11.2	LOS B	1.4	35.7	0.48	0.68	0.48	33.8
2	T1	218	7.1	237	7.1	0.229	5.8	LOS A	1.3	34.0	0.50	0.53	0.50	36.1
12	R2	192	7.1	209	7.1	0.156	4.8	LOS A	0.8	22.3	0.34	0.49	0.34	35.8
Approach		668	7.1	726	7.1	0.231	7.6	LOS A	1.4	35.7	0.45	0.58	0.45	35.1
All Vehicles		2129	6.6	2314	6.6	0.377	7.9	LOS A	1.8	45.5	0.53	0.67	0.54	35.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 7 [Int 5 STPM (Site Folder: Int 5 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	476	1.9	476	1.9	1.210	128.7	LOS F	38.3	971.1	1.00	2.31	5.35	12.5
8	T1	160	1.9	160	1.9	1.210	120.3	LOS F	38.3	971.1	1.00	2.52	5.81	12.7
18	R2	245	1.9	245	1.9	1.210	120.4	LOS F	38.3	971.1	1.00	2.52	5.81	12.6
Approach		881	1.9	881	1.9	1.210	124.9	LOS F	38.3	971.1	1.00	2.40	5.56	12.6
East: NE 179th Street														
1	L2	128	2.1	128	2.1	0.714	26.0	LOS C	5.5	140.6	0.93	1.14	1.48	29.3
6	T1	372	2.1	372	2.1	0.714	19.1	LOS B	6.2	158.1	0.94	1.15	1.49	30.1
16	R2	177	2.1	177	2.1	0.714	18.2	LOS B	6.2	158.1	0.95	1.16	1.50	30.0
Approach		677	2.1	677	2.1	0.714	20.2	LOS C	6.2	158.1	0.94	1.15	1.49	29.9
North: NE 15th Avenue														
7	L2	156	6.1	156	6.1	0.364	13.3	LOS B	1.7	43.9	0.66	0.85	0.69	34.2
4	T1	75	6.1	75	6.1	0.364	7.5	LOS A	1.7	43.9	0.66	0.85	0.69	34.2
14	R2	322	6.1	322	6.1	0.364	7.1	LOS A	1.7	45.4	0.65	0.81	0.68	34.7
Approach		553	6.1	553	6.1	0.364	8.9	LOS A	1.7	45.4	0.66	0.82	0.69	34.5
West: NE 179th Street														
5	L2	864	4.5	864	4.5	0.781	15.7	LOS B	11.3	292.2	0.88	0.91	1.11	32.4
2	T1	848	4.5	848	4.5	0.781	11.2	LOS B	11.3	292.2	0.90	0.94	1.18	33.9
12	R2	356	4.5	356	4.5	0.269	5.0	LOS A	1.7	43.9	0.43	0.53	0.43	35.6
Approach		2068	4.5	2068	4.5	0.781	12.0	LOS B	11.3	292.2	0.81	0.86	1.02	33.5
All Vehicles		4179	3.8	4179	3.8	1.210	36.7	LOS D	38.3	971.1	0.85	1.23	2.01	24.5

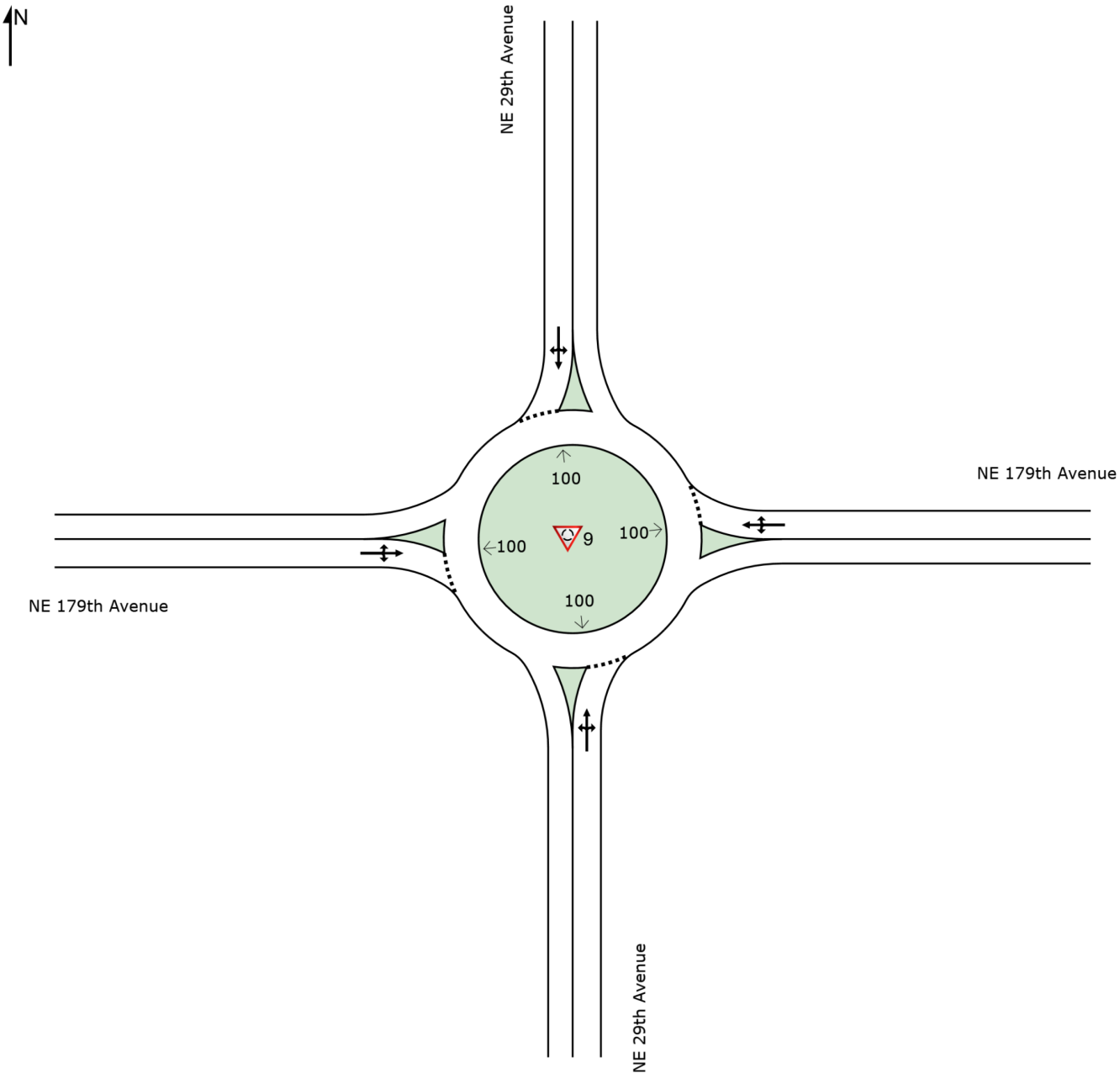
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 9 [Int 6 BGAM (Site Folder: Int 6 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 9 [Int 6 BGAM (Site Folder: Int 6 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	39	2.3	42	2.3	0.155	12.2	LOS B	0.8	21.3	0.59	0.68	0.59	35.4
8	T1	51	2.3	55	2.3	0.155	6.2	LOS A	0.8	21.3	0.59	0.68	0.59	35.3
18	R2	34	2.3	37	2.3	0.155	6.3	LOS A	0.8	21.3	0.59	0.68	0.59	34.3
Approach		124	2.3	135	2.3	0.155	8.1	LOS A	0.8	21.3	0.59	0.68	0.59	35.1
East: NE 179th Avenue														
1	L2	100	7.5	109	7.5	0.653	11.4	LOS B	5.8	154.9	0.58	0.56	0.58	35.6
6	T1	536	7.5	583	7.5	0.653	5.4	LOS A	5.8	154.9	0.58	0.56	0.58	35.6
16	R2	16	7.5	17	7.5	0.653	5.5	LOS A	5.8	154.9	0.58	0.56	0.58	34.5
Approach		652	7.5	709	7.5	0.653	6.3	LOS A	5.8	154.9	0.58	0.56	0.58	35.6
North: NE 29th Avenue														
7	L2	14	3.8	15	3.8	0.291	15.0	LOS B	1.8	47.3	0.80	0.84	0.80	34.9
4	T1	88	3.8	96	3.8	0.291	9.0	LOS A	1.8	47.3	0.80	0.84	0.80	34.8
14	R2	68	3.8	74	3.8	0.291	9.1	LOS A	1.8	47.3	0.80	0.84	0.80	33.8
Approach		170	3.8	185	3.8	0.291	9.5	LOS A	1.8	47.3	0.80	0.84	0.80	34.4
West: NE 179th Avenue														
5	L2	41	12.2	45	12.2	0.473	11.7	LOS B	3.1	85.1	0.54	0.58	0.54	35.7
2	T1	349	12.2	379	12.2	0.473	5.7	LOS A	3.1	85.1	0.54	0.58	0.54	35.8
12	R2	30	12.2	33	12.2	0.473	5.8	LOS A	3.1	85.1	0.54	0.58	0.54	34.6
Approach		420	12.2	457	12.2	0.473	6.3	LOS A	3.1	85.1	0.54	0.58	0.54	35.7
All Vehicles		1366	8.0	1485	8.0	0.653	6.9	LOS A	5.8	154.9	0.60	0.61	0.60	35.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 9 [Int 6 BGPM (Site Folder: Int 6 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	39	2.7	42	2.7	0.553	20.4	LOS C	4.9	124.2	0.97	1.07	1.21	32.0
8	T1	113	2.7	123	2.7	0.553	14.5	LOS B	4.9	124.2	0.97	1.07	1.21	32.0
18	R2	110	2.7	120	2.7	0.553	14.6	LOS B	4.9	124.2	0.97	1.07	1.21	31.1
Approach		262	2.7	285	2.7	0.553	15.4	LOS B	4.9	124.2	0.97	1.07	1.21	31.6
East: NE 179th Avenue														
1	L2	65	4.2	71	4.2	0.693	13.8	LOS B	7.4	190.6	0.77	0.77	0.87	35.1
6	T1	547	4.2	595	4.2	0.693	7.8	LOS A	7.4	190.6	0.77	0.77	0.87	35.1
16	R2	23	4.2	25	4.2	0.693	7.9	LOS A	7.4	190.6	0.77	0.77	0.87	34.0
Approach		635	4.2	690	4.2	0.693	8.4	LOS A	7.4	190.6	0.77	0.77	0.87	35.0
North: NE 29th Avenue														
7	L2	20	1.1	22	1.1	0.244	14.1	LOS B	1.6	39.3	0.79	0.81	0.79	35.1
4	T1	58	1.1	63	1.1	0.244	8.2	LOS A	1.6	39.3	0.79	0.81	0.79	35.0
14	R2	70	1.1	76	1.1	0.244	8.2	LOS A	1.6	39.3	0.79	0.81	0.79	34.0
Approach		148	1.1	161	1.1	0.244	9.0	LOS A	1.6	39.3	0.79	0.81	0.79	34.5
West: NE 179th Avenue														
5	L2	104	3.5	113	3.5	0.797	12.9	LOS B	10.9	280.7	0.78	0.65	0.83	35.1
2	T1	678	3.5	737	3.5	0.797	6.9	LOS A	10.9	280.7	0.78	0.65	0.83	35.1
12	R2	41	3.5	45	3.5	0.797	7.0	LOS A	10.9	280.7	0.78	0.65	0.83	34.0
Approach		823	3.5	895	3.5	0.797	7.7	LOS A	10.9	280.7	0.78	0.65	0.83	35.0
All Vehicles		1868	3.4	2030	3.4	0.797	9.1	LOS A	10.9	280.7	0.80	0.76	0.89	34.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 9 [Int 6 STAM (Site Folder: Int 6 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	39	2.3	42	2.3	0.157	12.2	LOS B	0.8	21.6	0.59	0.69	0.59	35.4
8	T1	51	2.3	55	2.3	0.157	6.3	LOS A	0.8	21.6	0.59	0.69	0.59	35.3
18	R2	34	2.3	37	2.3	0.157	6.4	LOS A	0.8	21.6	0.59	0.69	0.59	34.3
Approach		124	2.3	135	2.3	0.157	8.2	LOS A	0.8	21.6	0.59	0.69	0.59	35.1
East: NE 179th Avenue														
1	L2	100	7.5	109	7.5	0.673	11.5	LOS B	6.3	165.7	0.60	0.57	0.60	35.5
6	T1	556	7.5	604	7.5	0.673	5.5	LOS A	6.3	165.7	0.60	0.57	0.60	35.6
16	R2	16	7.5	17	7.5	0.673	5.6	LOS A	6.3	165.7	0.60	0.57	0.60	34.5
Approach		672	7.5	730	7.5	0.673	6.4	LOS A	6.3	165.7	0.60	0.57	0.60	35.5
North: NE 29th Avenue														
7	L2	14	3.8	15	3.8	0.301	15.2	LOS B	1.9	49.6	0.82	0.86	0.82	34.7
4	T1	88	3.8	96	3.8	0.301	9.3	LOS A	1.9	49.6	0.82	0.86	0.82	34.7
14	R2	68	3.8	74	3.8	0.301	9.4	LOS A	1.9	49.6	0.82	0.86	0.82	33.6
Approach		170	3.8	185	3.8	0.301	9.8	LOS A	1.9	49.6	0.82	0.86	0.82	34.3
West: NE 179th Avenue														
5	L2	41	12.2	45	12.2	0.482	11.7	LOS B	3.2	87.6	0.55	0.58	0.55	35.7
2	T1	356	12.2	387	12.2	0.482	5.7	LOS A	3.2	87.6	0.55	0.58	0.55	35.8
12	R2	30	12.2	33	12.2	0.482	5.8	LOS A	3.2	87.6	0.55	0.58	0.55	34.6
Approach		427	12.2	464	12.2	0.482	6.3	LOS A	3.2	87.6	0.55	0.58	0.55	35.7
All Vehicles		1393	8.0	1514	8.0	0.673	6.9	LOS A	6.3	165.7	0.61	0.62	0.61	35.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 9 [Int 6 STPM (Site Folder: Int 6 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	39	2.7	42	2.7	0.587	22.0	LOS C	5.4	137.7	0.99	1.11	1.29	31.3
8	T1	113	2.7	123	2.7	0.587	16.1	LOS B	5.4	137.7	0.99	1.11	1.29	31.3
18	R2	110	2.7	120	2.7	0.587	16.1	LOS B	5.4	137.7	0.99	1.11	1.29	30.4
Approach		262	2.7	285	2.7	0.587	17.0	LOS B	5.4	137.7	0.99	1.11	1.29	30.9
East: NE 179th Avenue														
1	L2	65	4.2	71	4.2	0.708	14.0	LOS B	7.8	202.7	0.78	0.78	0.90	35.1
6	T1	560	4.2	609	4.2	0.708	8.0	LOS A	7.8	202.7	0.78	0.78	0.90	35.0
16	R2	23	4.2	25	4.2	0.708	8.1	LOS A	7.8	202.7	0.78	0.78	0.90	34.0
Approach		648	4.2	704	4.2	0.708	8.6	LOS A	7.8	202.7	0.78	0.78	0.90	35.0
North: NE 29th Avenue														
7	L2	20	1.1	22	1.1	0.249	14.3	LOS B	1.6	40.6	0.80	0.82	0.80	35.1
4	T1	58	1.1	63	1.1	0.249	8.3	LOS A	1.6	40.6	0.80	0.82	0.80	35.0
14	R2	70	1.1	76	1.1	0.249	8.4	LOS A	1.6	40.6	0.80	0.82	0.80	33.9
Approach		148	1.1	161	1.1	0.249	9.1	LOS A	1.6	40.6	0.80	0.82	0.80	34.5
West: NE 179th Avenue														
5	L2	104	3.5	113	3.5	0.821	13.4	LOS B	12.3	317.3	0.83	0.67	0.89	35.0
2	T1	702	3.5	763	3.5	0.821	7.4	LOS A	12.3	317.3	0.83	0.67	0.89	34.9
12	R2	41	3.5	45	3.5	0.821	7.5	LOS A	12.3	317.3	0.83	0.67	0.89	33.9
Approach		847	3.5	921	3.5	0.821	8.2	LOS A	12.3	317.3	0.83	0.67	0.89	34.9
All Vehicles		1905	3.4	2071	3.4	0.821	9.6	LOS A	12.3	317.3	0.83	0.78	0.94	34.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
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Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

lancaster mobley

Four Creeks North

Transportation Impact Study

Clark County, Washington

Date:
April 18, 2025

Prepared for:
Chad Stewart
Ginn Group

Prepared by:
Daniel Stumpf, PE

4/18/2025



Table of Contents

Executive Summary 3

Project Description 5

- Introduction 5
- Location Description 5

Site Trips 9

- Trip Generation 9
- Trip Distribution 9

Traffic Volumes 13

- Existing Conditions 13
- Background Conditions 14
- Buildout Conditions 17

Safety Analysis 21

- Crash History Review 21
- Sight Distance Evaluation 22
- Warrant Analysis 23

Operational Analysis 25

- Intersection Capacity Analysis 25
- Roadway Capacity Analysis 27

Conclusions 30

List of Appendices

Appendix A – Scoping Materials
Appendix B – Site Plan
Appendix C – Trip Generation and Distribution
Appendix D – Traffic Volumes
Appendix E – Safety Analysis
Appendix F – Operation Analysis

List of Figures

Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth) 6
Figure 2: Vicinity Map 8
Figure 3: Trip Distribution and Assignment – AM Peak Hour 11
Figure 4: Trip Distribution and Assignment – PM Peak Hour 12
Figure 5: Year 2025 Existing Conditions 18
Figure 6: Year 2028 Background Conditions 19
Figure 7: Year 2028 Buildout Conditions 20

List of Tables

Table 1: Vicinity Roadway Descriptions 6
Table 2: Study Intersection Descriptions 7
Table 3: Trip Generation Summary 9
Table 4: Crash Type Summary 21
Table 5: Crash Severity and Rate Summary 22
Table 6: Intersection Capacity Analysis Summary 27
Table 7: Roadway Capacity Analysis Summary 28

Executive Summary

1. The proposed Four Creeks North project will include the construction of a residential subdivision on two properties addressed at/near 18320 NE 29th Avenue in unincorporated Clark County, Washington. The proposal will include the construction of 39 single-family detached houses, removing one existing house for a net increase of 38 houses. Access to the site will be provided via a proposed public street connection along NE 29th Avenue.
2. The trip generation calculations show that the proposed subdivision is projected to generate an additional 27 AM peak hour trips, 36 PM peak hour trips, and 358 average weekday trips.
3. The intersection of NE 179th Street at NE 29th Avenue was found to be nearing a crash rate of 1.00 CMEV. The intersection is planned for reconstruction as a roundabout sometime between 2025 through 2028. According to WSDOT, roundabouts often reduce the overall number of recurring crashes at signalized and stop-controlled intersections. Therefore, the overall crash rate at the intersection is expected to decrease well below the 1.00 CMEV threshold after this intersection improvement has been implemented. No additional mitigation is necessary or recommended.

   No significant trends or crash patterns were identified at any of the other study intersections that are indicative of safety concerns. Accordingly, no crash-related mitigation is necessary or recommended as part of the Four Creeks North application.
4. Adequate intersection and stopping sight distances are available at the proposed site access intersection to allow for safe and efficient operation along NE 29th Avenue. No sight distance related mitigation is necessary or recommended.
5. Left-turn lane warrants are not projected to be met at the proposed site access intersection along NE 29th Street. Therefore, no new left-turn lanes are necessary or recommended as part of the proposed development application.
6. All study intersections are currently operating acceptably per Clark County standards and are projected to continue operating acceptably through the 2028 buildout year of the site. Accordingly, no operational mitigation is necessary or recommended at the study intersections as part of the proposed development application.
7. Several roadway segments within the study area are projected to exceed Clark County's roadway v/c ratio threshold under year 2028 conditions. Although these roadway segments are projected to operate with v/c ratios in excess of 0.90 during the PM peak hour, no mitigation as part of the proposed development application is recommended for several reasons including, but not limited to, the following:
   a. Relevant study intersections along the higher demand roadway segments are projected to operate within acceptable Clark County LOS standards. Therefore, the increased v/c ratio on applicable roadway segments are not expected to create significant impacts to the operation or safety of the nearby transportation system.

b. For relevant roadway segments, the high v/c ratios occur under year 2028 background conditions, without impacts from the proposed development. Therefore, the Four Creeks North project alone does not cause these roadway segment to exceed the 0.90 v/c ratio threshold.

c. For some roadway segments, the proposed development will add little to no additional peak hour trips to these roadway segments. In these cases any increase in peak hour trips will be minor, can be considered as equivalent to daily fluctuations in traffic, and will minimally increase the roadway's single travel direction v/c ratios. Any additional mitigation to increase the vehicle carrying capacity of these roadway segments would be disproportionate to the impacts created by the proposed development.

All other relevant roadway segments are projected to operate acceptably per Clark County standards through the 2028 buildout year of the site during both the AM and PM peak hours. Accordingly, no roadway capacity related mitigation is necessary or recommended at these roadway segments as part of the proposed development application.

Project Description

Introduction

The proposed Four Creeks North project will include the construction of a residential subdivision on two properties addressed at/near 18320 NE 29th Avenue in unincorporated Clark County, Washington. The proposal will include the construction of 39 single-family detached houses, removing one existing house for a net increase of 38 houses. Access to the site will be provided via a proposed public street connection along NE 29th Avenue.

Based on correspondence with Clark County staff, this report conducts safety and capacity/level of service analyses at the following intersections:

1. Interstate 5 (I-5) Southbound Ramps at NE 179th Street
2. I-5 Northbound Ramps at NE 179th Street
3. NE 179th Street at NE 15th Avenue
4. NE 179th Street at NE 29th Avenue
5. Site Access at NE 29th Avenue

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

Location Description

The project site is located north of NE 179th Street, south of NE 189th Street, east of NE 10th Avenue, and west of NE 29th Avenue in unincorporated Clark County, Washington. The site consists of two properties (assessor parcels 181291000 and 181225000), which encompass an approximate total of five acres. Located within a developing area of Clark County, the site is surrounded by low-density residential uses to the north, south, and east, and undeveloped/forested land to the west. Notable land uses within an approximate one-mile distance of the site include the Clark County Fairgrounds and Amphitheatre to the southwest.

Figure 1 presents an aerial image of the nearby vicinity with the project site outlined in yellow.



Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth)

Vicinity Streets

The study area is composed of four roadways near the site. Table 1 provides a description of each vicinity roadway.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Speed (MPH)	On-Street Parking	Curbs & Sidewalks	Bicycle Lanes
NE 179th Street	Clark County	Principal Arterial	40/50	Not Permitted	Partial Both Sides	None
NE 10th Avenue	Clark County	Minor Arterial	50	Not Permitted	None	None
NE 15th Avenue	Clark County	Minor Arterial	40	Not Permitted	Both Sides	Both Sides
NE 29th Avenue	Clark County	Minor Arterial	35/40	Not Permitted	Partial Both Sides	None

Table Notes: Functional classification based on Clark County MapsOnline GIS website.

Study Intersections

Based on correspondence with Clark County staff, an analysis of four existing nearby intersections of significance was conducted. A summarized description of these study intersections under their existing lane configurations is provided in Table 2.

Table 2: Study Intersection Descriptions

Number	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	I-5 Southbound Ramps at NE 179th Street	Four-Legged	Traffic Signal	Split EB/WB Phasing
2	I-5 Northbound Ramps at NE 179th Street	Four-Legged	Traffic Signal	Protected NB/SB Left-turn Lanes, Overlap SB Right-turn Lane
3	NE 179th Street at NE 15th Avenue	Three-Legged	Traffic Signal	Permitted NB Left-turn Lane
4	NE 179th Street at NE 29th Avenue	Four-Legged	Stop-Controlled	All-Way Stop-Controlled

A vicinity map showing the project site, vicinity streets, and study intersection configurations are shown in Figure 2.

Figure 2
Four Creeks North
4/18/2025

LEGEND

- STUDY INTERSECTION
- STOP SIGN
- TRAFFIC SIGNAL
- ROUNDABOUT/ TRAFFIC CIRCLE
- BIKE LANE
- PROJECT SITE
- ARTERIAL ROADWAY
- COLLECTOR ROADWAY
- FUTURE/PROPOSED ROADWAY

NE 199th Street

NE 194th Street

NE 189th Street

NE 179th Street

NE 10th Avenue

NE 10th Avenue

NE 15th Avenue

NE 29th Avenue

NE 50th Avenue

Interstate 5

1 2b 2 3 4 5 6

EXISTING INTERSECTION CONFIGURATIONS

PLANNED INTERSECTION CONFIGURATIONS

No Scale

VICINITY MAP

lancaster mobley

Site Trips

Trip Generation

The proposed Four Creeks North subdivision will include the construction of 39 single-family detached houses, removing one existing single-family house for a net increase of 38 houses. To estimate the number of trips that are and will be generated by the existing and proposed uses, trip rates from the *Trip Generation Manual, 11th Edition*[1] were used. Data from the land use code 210, *Single-Family Detached Housing*, was used to estimate site trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision is projected to generate an additional 27 AM peak hour trips, 36 PM peak hour trips, and 358 average weekday trips. The trip generation estimates are summarized in Table 3. Detailed trip generation calculations are included in the technical appendix.

Table 3: Trip Generation Summary

ITE Land Use Code		Size	AM Peak Hour			PM Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Existing Conditions									
210	Single-Family Detached Housing	1 units	0	0*	0*	1	0	1	10
Proposed Conditions									
210	Single-Family Detached Housing	39 units	7	20	27	23	14	37	368
Net Change In Site Trip Generation									
Net New Trips		**38 units**	**7**	**20**	**27**	**22**	**14**	**36**	**358**

* *Trip generation reduced to match ITE trip generation calculations associated with the development of 38 single-family houses.*

Trip Distribution

The trip distribution used for the proposed development was referenced from the *1932 NE 179th Street Apartments Transportation Impact Analysis* (TIA), dated May 2020, where the apartments are located to the southwest of the project site. According to the TIA, the trip distribution was derived using the Southwest Washington Regional Transportation Council (RTC) transportation system model, where a select zone analysis was conducted for the nearby Transportation Analysis Zone (TAZ) #1982 (formerly #547), noting TAZ #1982 is located immediately to the east of the project site.

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

The following trip distribution is projected:

- Approximately 4% of site trips will travel to/from the west along NE 199th Street, west of NE 29th Avenue.
- Approximately 9% of site trips will travel to/from the north along NE 29th Avenue, north of NE 119th Street.
- Approximately 5% of site trips will travel to/from the east along NE 199th Street, east of NE 29th Avenue.
- Approximately 6% of site trips will travel to/from the west along NE 179th Street, west of I-5.
- Approximately 10% of site trips will travel to/from the north along I-5, north of NE 179th Street.
- Approximately 21% of site trips will travel to/from the south along I-5, south of NE 179th Street.
- Approximately 3% of site trips will travel to/from the south along NE 15th Avenue, south of NE 179th Street.
- Approximately 27% of site trips will travel to/from the south along NE 29th Avenue, south of NE 179th Street.
- Approximately 13% of site trips will travel to/from the east along NE 179th Street, east of NE 50th Avenue.
- Approximately 2% of site trips will travel to/from the south along NE 50th Avenue, south of NE 179th Street.

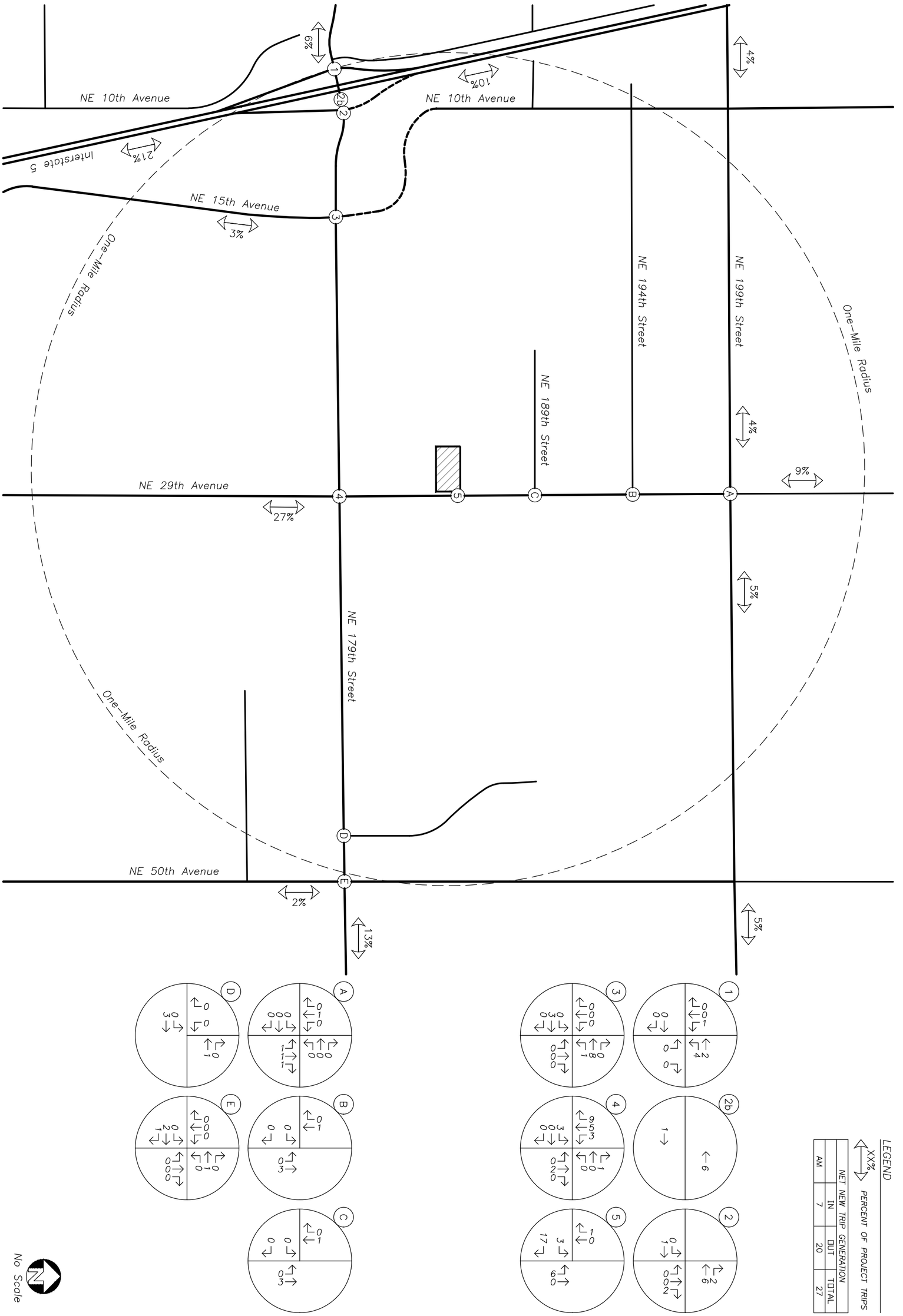
Although generally within a one-mile radius of the site, several regionally significant intersections were determined as not requiring analysis based on limited site trip impacts. The following intersections were determined as not requiring analysis with explanation for removal provided:

The minor-street approaches of the following unsignalized intersections will not be impacted by five or more approaching peak hour trips. Therefore, no capacity-related mitigation can be required as part of the application per Clark County Unified Development Code 40.350.020.G.1.c, not-with-standing safety improvements which may be necessary per section 40.350.030(B)(6):

A. NE 199th Street at NE 29th Avenue
B. NE 194th Street at NE 29th Avenue
C. NE 189th Street at NE 29th Avenue
D. NE 179th Street at NE 47th Avenue
E. NE 179th Street at NE 50th Avenue

Additionally, the intersection of NE 179th Street at NE 50th Avenue is located outside a one-mile distance of the project site. Since the proposed development will generate fewer than 50 peak hour trips, no detailed analysis is required at the intersection per Clark County Unified Development Code 40.350.020.D.5.

The trip distribution and assignment for the site trips generated during the AM and PM peak hours are shown in Figure 3 and Figure 4 for the AM and PM peak hours, respectively. Trip assignment is depicted for both the study intersections and the aforementioned intersections that do not require detailed capacity or safety analysis.



SITE TRIP DISTRIBUTION & ASSIGNMENT

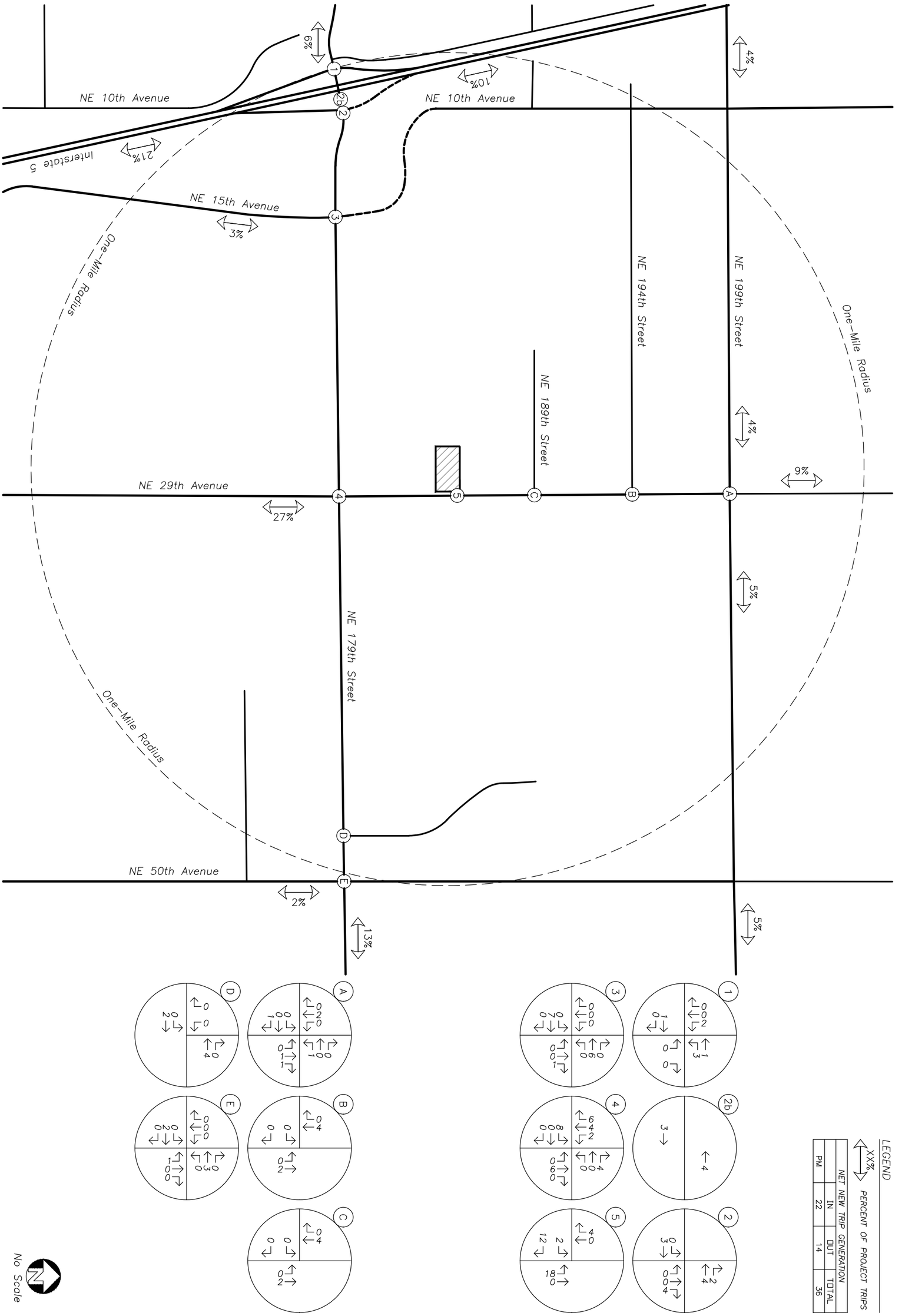
Proposed Development Plan - Site Trips

AM Peak Hour

Figure 3

Four Creeks North

4/18/2025



SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

PM Peak Hour

Figure 4

Four Creeks North

4/18/2025

Traffic Volumes

Existing Conditions

Traffic Count Data Collection

Traffic counts were conducted at the study intersections on the following dates from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM:

- Tuesday, March 28, 2023
- Wednesday, January 22, 2025

Data was used from each intersection's respective AM and PM peak hours.

Note additional traffic counts were collected at the intersection of NE 179th Street at NE 50th Avenue at the same time/dates as those listed above. The intent of collecting these counts was to review and address potential rerouting of traffic associated with the temporary closure of NE 179th Street between NE 29th Avenue and NE 50th Avenue (refer to the *NE 179th Street Closure* section below).

NE 179th Street Closure

At the time of data collection, the segment of NE 179th Street between NE 29th Avenue and NE 50th Avenue was closed to non-local vehicular access due to construction. This closure had likely affected traffic volumes and travel patterns in the immediate area relative to normal conditions. In order to estimate current year 2025 traffic conditions without impacts associated with this closure, traffic counts collected in 2023 and 2025 at the intersections of NE 179th Street at NE 29th Avenue and NE 179th Street at NE 50th Avenue were compared.

Based on a comparison of the 2023 traffic counts (plus an additional 2% per year growth factor) and the 2025 traffic counts, an approximate 80% to 95% reduction in eastbound/westbound through movement traffic at both intersections was observed during the AM and PM peak hours. Although some of this traffic is assumed to have detoured from NE 179th Avenue to travel along NE 29th Avenue, NE 199th Street, and NE 50th Avenue, the count data suggests the possibility that some vehicles may have diverted from these intersections entirely to travel by way of other routes outside the study area. This is made apparent by some relevant intersection turning movement volumes either not increasing to reasonable levels to offset rerouted eastbound/westbound through volumes or increasing far beyond a reasonable offset.

Given the inconsistent changes in the year 2025 volumes recorded at the two intersections, for the purposes of this analysis intersection turning movement volumes at the intersection of NE 179th Street at NE 29th Avenue were increased/decreased to closer match the grown 2023 count data. The applicable turning movement volumes were adjusted to within a net difference of 50 peak hour trips between the grown 2023 volumes and the 2025 volumes when the following criteria were met:

- Turning movement volumes were increased if:
    - The turning movement experienced an approximate reduction of 50 or more peak hour trips between 2023 and 2025; AND
    - A reduction in traffic of 30% or more was observed for the turning movement.

- Turning movement volumes were decreased if:
    - The turning movement experienced an approximate increase of 50 or more peak hour trips between 2023 and 2025; AND
    - An increase in traffic of 50% or more was observed for the turning movement.

The rerouted/adjusted AM and PM peak hours volumes are depicted in Figure A in the appendix.

Site Access Intersection Volumes

To estimate major street traffic volumes at the proposed site access location along NE 29th Avenue, volumes were balanced with those recorded at the intersection of NE 179th Street at NE 29th Avenue.

Figure 5 shows the year 2025 existing traffic volumes at the study intersections during the AM and PM peak hours.

Background Conditions

Volume Growth

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. In order to approximate the future year 2028 traffic volumes at the study intersections, a compounding growth rate of two percent per year for an assumed buildout condition of three years was applied to the year 2025 existing traffic volumes.

In-Process Data

In addition to the traffic volume growth described above, there are several in-process developments that are currently approved/proposed for construction within the site vicinity that are expected to impact nearby study intersections. These in-process developments include the following:

- South Ridge Central Apartments
- Mountain View Ridge PUD
- Skyview Station Shopping Center (approximately 70% constructed and occupied)
- Skyview Station East
- Mill Creek Terrace
- Mill Creek Meadows
- Washington State University Master Plan
- Mountain Estates Cluster Subdivision
- Whipple Creek Village Subdivision (approximately 95% constructed and occupied)
- Three Creeks North Phase 1 & 2
- 179th Street Commercial Center Phase 1 & 2
- Woodbrook Subdivision (aka Mill Creek PUD, approximately 20% constructed and occupied)

- M&H Subdivision
- North Haven Subdivision (approximately 75% constructed and occupied)
- Trails at Whipple Creek Subdivision (approximately 20% constructed and occupied)
- DSHS NE 50th Clark County Behavioral Health
- Majestic Industrial Centre
- Martin's Meadow Subdivision (approximately 10% constructed and occupied)
- NE 29th Avenue Subdivision
- Viers Subdivision
- The Highlands at Whipple Creek
- Maletis Distribution Center
- Mt Vista Logistics

The in-process developments are not currently/fully contributing trips to the transportation system but may potentially be by the assumed 2028 buildout year of the site. Additional trips corresponding to each in-process development were added to the existing year traffic volumes in addition to the three years of traffic growth at each of the applicable study intersections. To maintain a conservative analysis of operation at the study intersections, all in-process developments were assumed to be constructed by year 2028.

Although initially suggested for inclusion in developing the future volume projections, several development projects were found to have been fully constructed around the time the 2025 intersection counts were collected. Based on field visits and reviewing development application documents, the following development projects were considered fully constructed and occupied at the time traffic counts were collected:

- NE 179th Street Apartments – West
- NE 179th Street Apartments – East
- Summit Body & Equipment
- Peterson Machinery Expansion
- Dicky RV & Resort

Figure B in the technical appendix shows the in-process development trips at the study intersections during the AM and PM peak hours.

Planned Transportation Infrastructure Revisions

Several planned transportation improvement projects were analyzed under future year traffic conditions. According to the Clark County's *Northeast 179th Street Corridor Improvements* project website[2], the Washington Department of Transportation's (WSDOT) *I-5 – 179th Street Interchange – Interchange Improvements* website[3] project, and the 2025-2030 Transportation Improvement Program (TIP), these projects include the following:

- The I-5 northbound on-ramp will be reconstructed opposite the existing I-5 off-ramp location along NE 179th Street.
- Reconstruct the I-5/NE 179th Street interchange as roundabouts at the ramp terminals. According to WSDOT, the interchange design phase will begin in Spring 2025, construction is expected to begin in 2028 and be completed by 2031.
- NE 10th Avenue, just north of NE 179th Street and opposite of the I-5 northbound off-ramp, will be closed and reconstructed at a location opposite of NE 15th Avenue along NE 179th Street (2025-2030 TIP Project C). Clark County's *179th Street Circulation and Access Management Plan*, dated July 2023, indicates the intersection of NE 15th Avenue at NE 179th Street will be reconstructed as a roundabout. The anticipated lane configuration of the intersection was referenced from a WSDOT concept design for the NE 179th Street interchange improvement project. Construction is estimated to occur between 2028 and 2030.
- The intersection of NE 179th Street at NE 29th Avenue will be reconstructed as a roundabout (2025-2030 TIP Project G). The initial design will include a single circulating lane but will be sized to be expandable as a multilane roundabout once NE 179th Street is widened to four lanes. The design phase of the project is currently ongoing, and construction is estimated to occur sometime between 2025 and 2028.
- NE 179th Street will be widened to accommodate two eastbound travel lanes, two westbound travel lanes, and a center median/turn lane. This roadway widening project will occur in phases
    - Between NE 10th Avenue and NE 15th Avenue (2025-2030 TIP Project A). The project will be constructed in collaboration with WSDOT as part of the I-5 interchange improvement project. Construction is estimated to occur sometime between 2028 and 2029.
    - Between NE 15th Avenue and NE 26th Avenue (2025-2030 TIP Project F). Construction is estimated to occur sometime between 2028 and 2030.
    - Between NE 29th Avenue and NE 50th Avenue (2025-2030 TIP Project 3). Construction is estimated to occur post-2030.

[2] "Northeast 179th Street Corridor Improvements | Clark County." Clark County, clark.wa.gov/public-works/northeast-179th-street-corridor-improvements.

[3] I-5 - 179th St. Interchange - Interchange Improvements | WSDOT. 17 June 2024, wsdot.wa.gov/construction-planning/search-projects/i-5-179th-st-interchange-interchange-improvements.

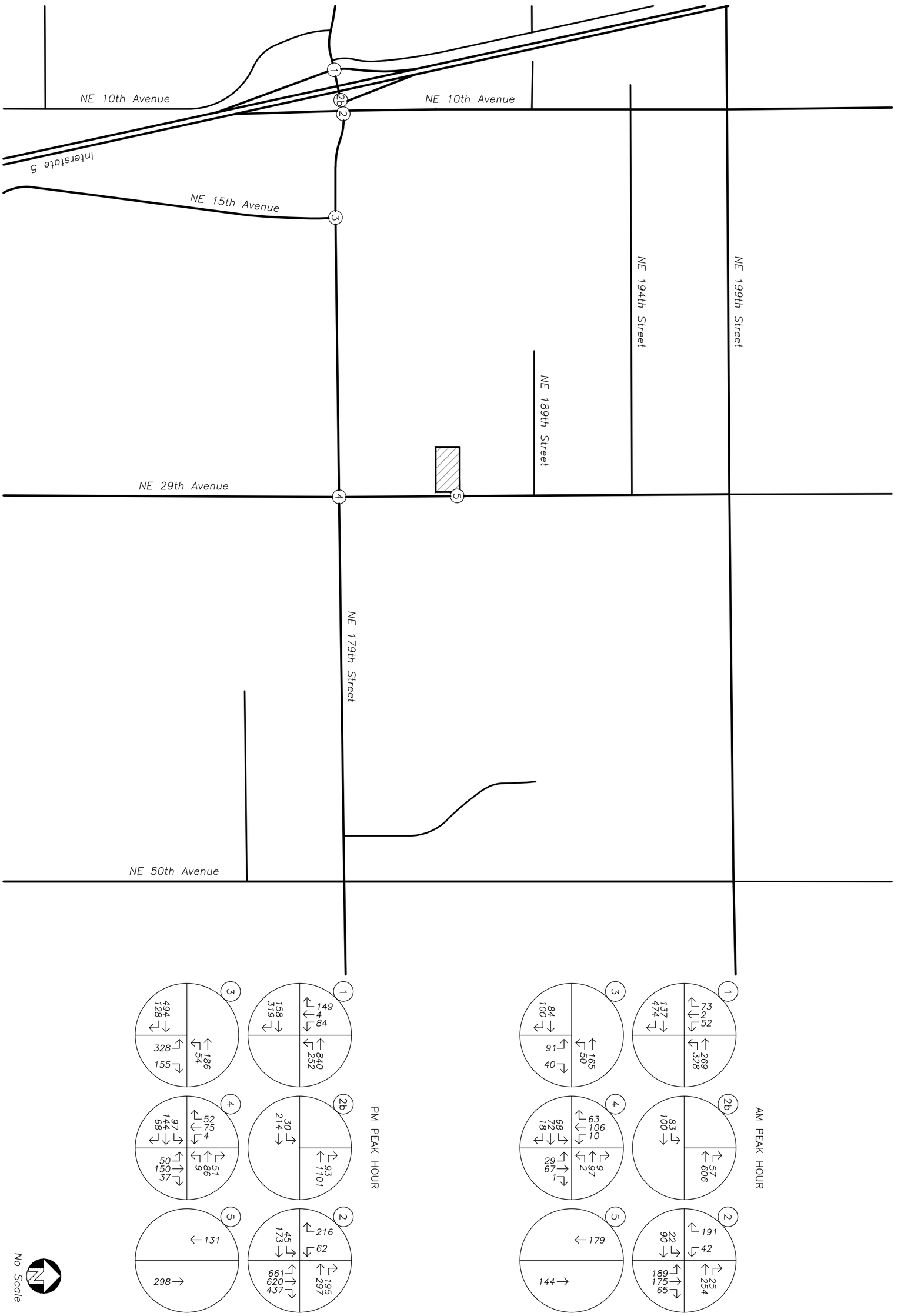
It is assumed that the future year 2028 conditions would reflect the aforementioned revisions to the transportation system, excluding the NE 179th Street widening project between NE 29th Avenue and NE 50th Avenue, which is estimated to occur well after construction of the proposed Four Creeks North project. Rerouted peak hour traffic volumes associated with the relocation of NE 10th Avenue and the I-5 northbound on-ramp are shown in Figure C in the technical appendix. Note that Figure C shows the rerouted 2028 volumes after applying the annual two percent per year growth rates over a three-year period.

Figure 2 presents the future planned intersection configurations. Figure 6 shows the projected year 2028 background traffic volumes at the study intersections during the AM and PM peak hours.

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 projected year 2028 background traffic volumes to obtain the expected 2028 site buildout volumes. Specific to the proposed site access intersection along NE 29th Avenue, site trips generated by the existing single-family house were rerouted and assigned to the proposed access intersection in a manner consistent with the trip generation and distribution methodologies described in the *Site Trips* section.

Figure 7 show the year 2028 buildout traffic volumes at the study intersections during the AM and PM peak hours.



TRAFFIC VOLUMES

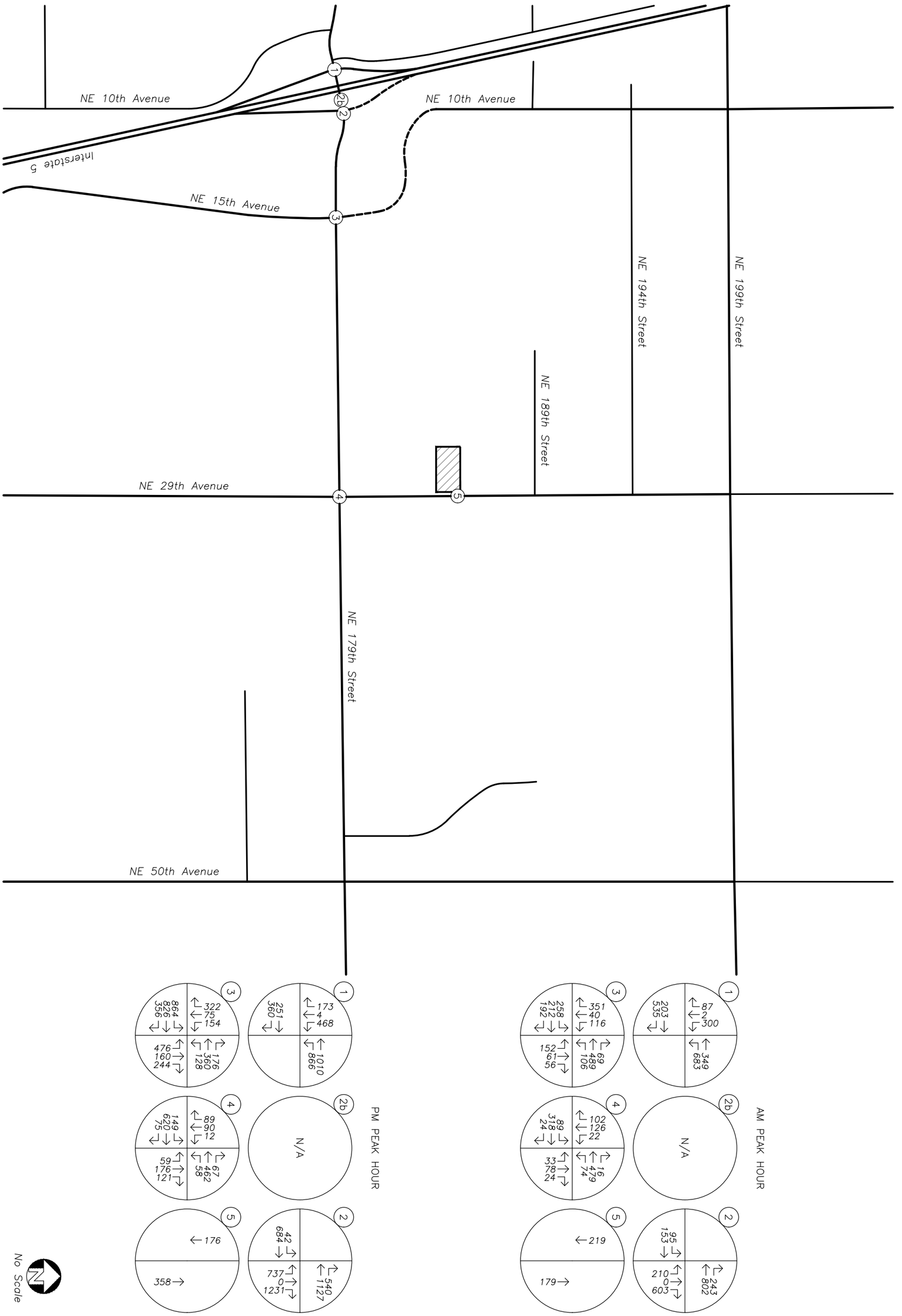
Year 2025 Existing Conditions

AM & PM Peak Hours

Figure 5

Four Creeks North

4/18/2025



TRAFFIC VOLUMES

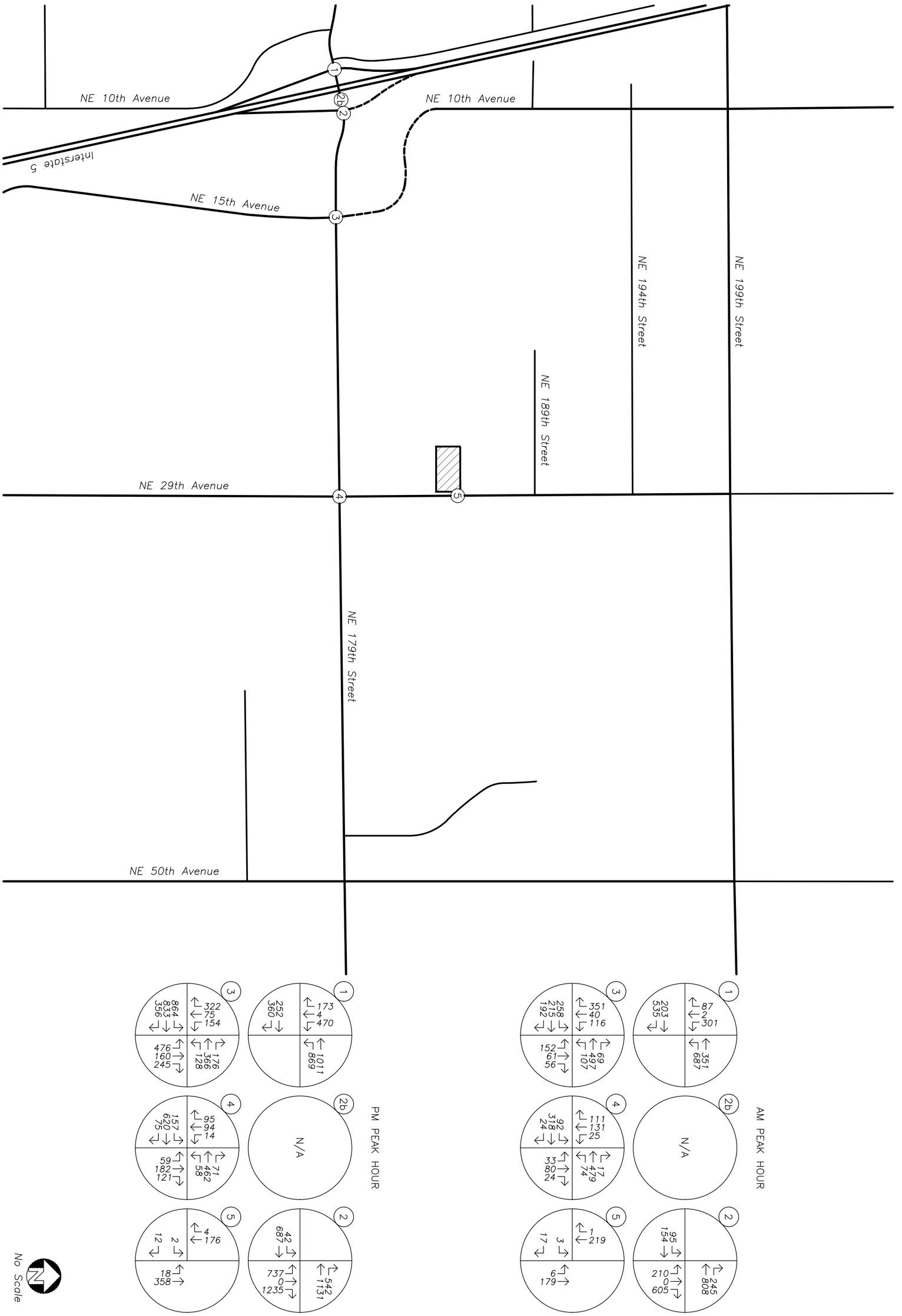
Year 2028 Background Conditions

AM & PM Peak Hours

Figure 6

Four Creeks North

4/18/2025



TRAFFIC VOLUMES

Year 2028 Buildout Conditions

AM & PM Peak Hours

Figure 7

Four Creeks North

4/18/2025

Safety Analysis

Crash History Review

Using data obtained from the Washington Department of Transportation (WSDOT) Crash Data and Reporting Branch, a review of the most recent available five to six years of crash history (January 2019 to June 2024) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection.

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the PM 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.

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

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

Table 4 provides a summary of crash types while Table 5 summarizes crash severities and rates for each of the applicable study intersections. Due to the close proximity of the I-5 northbound off and on-ramp intersections (i.e., Intersection 2 and 2b), crash data was consolidated between the two intersections. Crash data is included in the technical appendix to this report.

Table 4: Crash Type Summary

No.	Intersection	Crash Type							Total
		Rear End	Turn	Angle	Fixed Object	Side swipe	Ped/ Bike	Other	
1	I-5 SB Ramps at NE 179th Street	0	2	0	0	1	0	0	3
2b	I-5 NB On-Ramp at NE 179th Street	1	4	5	0	0	0	1	11
2	I-5 NB Off-Ramp/NE 10th Avenue at NE 179th Street								
3	NE 179th Street at NE 15th Avenue	0	7	0	0	0	0	0	7
4	NE 179th Street at NE 29th Avenue	1	5	9	0	0	0	0	15

Table 5: Crash Severity and Rate Summary

No.	Intersection	Crash Severity					Total Crashes	AADT	Crash Rate
		NA	P	SM	SS	Unknown			
1	I-5 SB Ramps at NE 179th Street	3	0	0	0	0	3	18,060	0.08
2b	I-5 NB On-Ramp at NE 179th Street	7	2	2	0	0	11	27,060	0.20
2	I-5 NB Off-Ramp/ NE 10th Ave at NE 179th Street								
3	NE 179th Street at NE 15th Avenue	5	2	0	0	0	7	13,450	0.26
4	NE 179th Street at NE 29th Avenue	9	5	1	0	0	15	8,230	0.91

Table Notes: AADT at Intersection 2 (not 2b) was utilized to calculate the crash rate.

Per Table 5, the intersection of NE 179th Street at NE 29th Avenue was found to be nearing a crash rate of 1.00 CMEV. All but one of the reported collisions at the intersection were either turning movement or angle type crashes. The intersection is planned for reconstruction as a roundabout sometime between 2025 through 2028. Per WSDOT's Traffic Safety Methods website.[4] roundabouts often reduce the overall number of recurring crashes at signalized and stop-controlled intersections by approximately 37 percent. Therefore, the overall crash rate at the intersection is expected to decrease to approximately 0.57 CMEV after this intersection improvement has been implemented. No additional mitigation is necessary or recommended.

No significant trends or crash patterns were identified at any of the other study intersections that are indicative of safety concerns. Accordingly, no crash-related mitigation is necessary or recommended as part of the Four Creeks North application.

Sight Distance Evaluation

Sight Distance Definitions and Methodologies

Intersection and stopping sight distances were measured at the proposed site access intersection along NE 29th Avenue. Sight distances were measured and evaluated at the intersection in accordance with standards established in *A Policy of Geometric Design of Highways and Streets*.[5], as well as per Clark County standards.

Intersection sight distance is an operational measure, intended to provide sufficient line of sight along the major-street so that a driver can enter the roadway without impeding the flow of through traffic. For intersection sight distance, the driver's eye is assumed to be 15 feet from the near edge of the nearest travel lane (or traveled way) of the intersecting street and at a height of 3.5 feet above the minor-street approach

[4] Traffic Safety Methods | WSDOT. 1 August 2024, https://wsdot.wa.gov/travel/traffic-safety-methods.

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

pavement. The oncoming vehicle driver's eye height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

Stopping sight distance is considered the minimum requirement to ensure safe operation of an intersection with respect to sight lines. This distance allows the driver of a vehicle traveling on the major-street to react to a turning vehicle or other object in the roadway and, if necessary, come to a complete stop to avoid a collision. To ensure safe operation, the extent of available intersection sight distance must at least equal the minimum required stopping sight distance. For stopping sight distance, the major-street approaching driver's eye height is 3.5 feet while an object height of 2 feet above the street pavement is used.

According to Clark County Unified Development Code section 40.350.030.B.8, the minimum recommended intersection sight distance is based on ten times the posted/statutory speed of the roadway. However, alternative standards may be considered provided intersection sight distance cannot reasonably be met. Stopping sight distances were based on Table 40.350.030-7 of the County's code.

Based on a posted speed of 40 mph along NE 29th Avenue, the following minimum intersection and stopping sight distances are applicable to the proposed site access intersection:

- Intersection Sight Distance: 400 feet to the north and south.
- Stopping Sight Distance: 305 feet to the north and south, considering the major-street northbound and southbound approach grades are less than 3.0% over a 350-foot distance.

Sight Distance Measurements

Field measurements were conducted at the proposed site access intersection on Friday, April 18, 2025. Due to a roadside ditch and on-site fence near the proposed access location, sight distances were measured along the edge of the roadway rather than the standard 15 feet behind the edge of the traveled way. However, no other obstructions were noted either on-site or along the roadway which would reduce sight distances to less than those measured in the field if measurements had been conducted at the standard 15-foot distance. Intersection and stopping sight distances to the north and south of the site access location were measured to be in excess of 400 feet. Accordingly, no sight distance related mitigation is necessary or recommended.

Analysis Summary

Based on the sight distance analysis, adequate intersection and stopping sight distances are available at the proposed site access intersection to allow for safe and efficient operation along NE 29th Avenue. No sight distance related mitigation is necessary or recommended.

Warrant Analysis

Left-turn lane warrants were examined at the proposed site access intersection along NE 29th Avenue. A left-turn refuge lane is primarily a safety consideration for the major-street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants used were developed from the *National Cooperative Highway Research Project's* (NCHRP) *Report 457*. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles as well as the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are not projected to be met at the proposed site access intersection along NE 29th Street. Therefore, no new left-turn lanes are necessary or recommended as part of the proposed development application.

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).[6]. 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

According to Clark County's Unified Development Code, Title 40.350 – *Transportation and Circulation*, Clark County's 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.

The I-5 ramp intersections along NE 179th Street operate under the jurisdiction of WSDOT. According to the Revised Code of Washington (RCW) 47.06.140(2):

> *The department of transportation, in consultation with local governments, shall set level of service standards for state highways and state ferry routes of statewide significance. Although the department shall consult with local governments when setting level of service standards, the department retains authority to make final decisions regarding level of service standards for state highways and state ferry routes of statewide significance. In establishing level of service standards for state highways and state ferry routes of statewide significance, the department shall consider the necessary balance between providing for the free interjurisdictional movement of people and goods and the needs of local communities using these facilities…*

Consistent with other transportation studies conducted in the nearby vicinity, it was assumed the I-5 ramp intersections along NE 179th Street would defer to Clark County mobility standards.

[6] Transportation Research Board, *Highway Capacity Manual 7th Edition*, 2022.

Delay & Capacity Analysis

The study intersections were analyzed utilizing methodologies and parameters detailed in the *WSDOT Synchro & SimTraffic Protocol* document. Of specific note, the following peak hour factors (PHF) were incorporated in the analysis models:

- For existing year conditions, a PHF of no less than 0.80 was applied to each study intersection.
- For future year conditions, for study intersections where count data recorded a PHF of 0.90 or greater, the PHF was increased to 1.0. In order to avoid showing a future year scenario with lower delays than under existing conditions, for study intersections where count data recorded a PHF of 0.89 or less the PHF was increased to 0.92.

Specific to the intersection of NE 179th Street at NE 29th Avenue, which is impacted by the closure of NE 179th Street, heavy vehicle percentages from the 2023 counts were utilized in the capacity analysis models. The intent for utilizing these percentages is to avoid applying the abnormally high heavy vehicle percentages associated with construction traffic traveling to/from the closed segment of NE 179th Street, which is atypical of standard intersection/roadway traffic conditions.

Due to the lane configurations at the signalized study intersection of NE 179th Street at NE 15th Avenue (i.e. non-NEMA phasing), the HCM 7th Edition methodology utilizing Trafficware's Synchro 12 software does not provide capacity outputs for this intersection under existing conditions. Therefore, the reported results at this intersection are based on HCM 2000 methodologies.

For future year 2028 conditions, the following intersections were modeled as roundabouts.

1. I-5 Southbound Ramps at NE 179th Street
2. I-5 Northbound Ramps at NE 179th Street
3. NE 179th Street at NE 15th Avenue
4. NE 179th Street at NE 29th Avenue

Sidra software was used to model these intersections in accordance with the *WSDOT Synchro & SimTraffic Protocol* and *WSDOT Sidra Policy Settings* documents.

The LOS, delay, and v/c results of the capacity analysis are shown in Table 6 for the AM and PM peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 6: Intersection Capacity Analysis Summary

Analysis Scenario	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1. I-5 Southbound Ramps at NE 179th Street						
2025 Existing Conditions	B	10	-	B	11	-
2028 Background Conditions[1]	A	8	0.53	A	8	0.75
2028 Buildout Conditions[1]	A	8	0.53	A	8	0.75
2. I-5 Northbound Ramps at NE 179th Street						
2025 Existing Conditions	B	10	-	B	14	-
2028 Background Conditions[1]	A	6	0.42	C	25	>1.00
2028 Buildout Conditions[1]	A	6	0.42	C	25	>1.00
3. NE 179th Street at NE 15th Avenue						
2025 Existing Conditions	A	6	0.28	B	13	0.72
2028 Background Conditions[1]	A	8	0.37	C	34	>1.00
2028 Buildout Conditions[1]	A	8	0.37	C	35	>1.00
4. NE 179th Street at NE 29th Avenue						
2025 Existing Conditions	A	9	0.26	B	13	0.56
2028 Background Conditions[1]	A	8	0.62	B	14	0.86
2028 Buildout Conditions[1]	A	8	0.62	B	16	0.88
5. Site Access at NE 29th Avenue						
2028 Buildout Conditions	A	10	0.03	A	10	0.02

Table Notes: [1] *Intersection analyzed as a roundabout.*

Based on the results of the operational analysis, all study intersections are currently operating acceptably per Clark County standards and are projected to continue operating acceptably through the 2028 buildout year of the site. Accordingly, no operational mitigation is necessary or recommended at the study intersections as part of the proposed development application.

Roadway Capacity Analysis

In accordance with Clark County Code Section 40.350.020(G) – *Level of Service Standards*, a capacity analysis was conducted for roadway segments requested by Clark County staff. The code section requires all collector and arterial roadway segments located within the Vancouver Urban Growth Area, but outside Vancouver city limits, as well as state highways of regional significance to have a maximum v/c ratio no greater than 0.90, measured independently for each direction of travel. Roadway volumes were determined utilizing the year 2028 site buildout volumes during the AM and PM peak hours. Roadway capacities were determined per Table 40.350.020-1 of the Clark County code based on the County roadway designation and classification.

The results of the roadway capacity analysis for the projected year 2028 traffic conditions with buildout of the proposed development are shown in Table 7. The maximum calculated v/c ratio along each roadway segment is reported for both the AM and PM peak hours.

Table 7: Roadway Capacity Analysis Summary

Roadway	From	To	Classification	Capacity (veh/hr)	Volume/Capacity	
					AM	PM
NE 179th Street	NE Delfel Road	Interstate 5	Pr-4cb	1,800	0.577	**1.044**
	Interstate 5	NE 15th Avenue	Pr-4cb	1,800	0.585	**1.141**
	NE 15th Avenue	NE 29th Avenue	Pr-4cb	1,800	0.374	0.684
	NE 29th Avenue	NE 50th Avenue	Pr-4cb	1,800	0.317	0.419
NE 10th Avenue	NE 189th Street	NE 179th Street	M-2cb	900	0.563	**1.333**
NE 15th Avenue	NE 179th Street	NE 174th Street	M-2cb	900	0.377	**0.979**
NE 29th Avenue	NE 189th Street	NE 179th Street	M-4cb	1,800	0.148	0.228
	NE 179th Street	NE 159th Street	M-2cb	900	0.254	0.402

Table Notes: ***BOLDED*** *text indicates a roadway capacity in excess of 0.90.*

Based on the results of the roadway capacity analysis, there are several roadway segments that are projected to exceed Clark County's roadway segment v/c ratio threshold under year 2028 conditions. Although these roadway segments are projected to operate with a v/c ratio in excess of 0.90 during the PM peak hour, no mitigation as part of the proposed development application is recommended. These segments and reasons for not needing development specific mitigation include the following:

NE 179th Street, between NE Delfel Road and I-5 and I-5 NE 15th Avenue

- As part of Clark County's *Northeast 179th Street Corridor Improvements* project, WSDOT's *I-5 – 179th Street Interchange – Interchange Improvements* project, and the 2025-2030 TIP (Project A), roadway improvements are planned along NE 179th Street that are expected to increase the carrying capacity of these street segments near the I-5 interchange.
- These segments of NE 179th Street are projected to operate with v/c ratios above 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the proposed Four Creeks North project alone does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The study intersections along NE 179th Street, between NE Delfel Road and NE 15th Avenue, are projected to operate at no lower than LOS C during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersections.

NE 10th Avenue, between NE 189th Street and NE 179th Street

- The proposed Four Creeks North project is expected to add a nominal number of peak hour trips to this segment of roadway. Therefore, the proposed development does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The study intersection of NE 179th Street at NE 15th Avenue (i.e., the relocated roadway of NE 10th Avenue) is projected to operate at no lower than LOS C during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersections.

NE 15th Avenue, between NE 179th Street and NE 174th Street

- This segment of NE 15th Avenue is projected to operate with v/c ratios above 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the proposed Four Creeks North project alone does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The intersection of NE 179th Street at NE 15th Avenue is projected to operate at no lower than LOS C during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersection.

All other relevant roadway segments are projected to operate acceptably per Clark County standards through the 2028 buildout year of the site. Accordingly, no additional roadway capacity related mitigation is necessary or recommended beyond currently planned improvement projects as part of the proposed development application.

Conclusions

The intersection of NE 179th Street at NE 29th Avenue was found to be nearing a crash rate of 1.00 CMEV. The intersection is planned for reconstruction as a roundabout sometime between 2025 through 2028. According to WSDOT, roundabouts often reduce the overall number of recurring crashes at signalized and stop-controlled intersections. Therefore, the overall crash rate at the intersection is expected to decrease well below the 1.00 CMEV threshold after this intersection improvement has been implemented. No additional mitigation is necessary or recommended.

No significant trends or crash patterns were identified at any of the other study intersections that are indicative of safety concerns. Accordingly, no crash-related mitigation is necessary or recommended as part of the Four Creeks North application.

Adequate intersection and stopping sight distances are available at the proposed site access intersection to allow for safe and efficient operation along NE 29th Avenue. No sight distance related mitigation is necessary or recommended.

Left-turn lane warrants are not projected to be met at the proposed site access intersection along NE 29th Street. Therefore, no new left-turn lanes are necessary or recommended as part of the proposed development application.

All study intersections are currently operating acceptably per Clark County standards and are projected to continue operating acceptably through the 2028 buildout year of the site. Accordingly, no operational mitigation is necessary or recommended at the study intersections as part of the proposed development application.

Several roadway segments within the study area are projected to exceed Clark County's roadway v/c ratio threshold under year 2028 conditions. Although these roadway segments are projected to operate with v/c ratios in excess of 0.90 during the PM peak hour, no mitigation as part of the proposed development application is recommended for several reasons including, but not limited to, the following:

- Relevant study intersections along the higher demand roadway segments are projected to operate within acceptable Clark County LOS standards. Therefore, the increased v/c ratio on applicable roadway segments are not expected to create significant impacts to the operation or safety of the nearby transportation system.
- For relevant roadway segments, the high v/c ratios occur under year 2028 background conditions, without impacts from the proposed development. Therefore, the Four Creeks North project alone does not cause these roadway segment to exceed the 0.90 v/c ratio threshold.
- For some roadway segments, the proposed development will add little to no additional peak hour trips to these roadway segments. In these cases any increase in peak hour trips will be minor, can be considered as equivalent to daily fluctuations in traffic, and will minimally increase the roadway's single travel direction v/c ratios. Any additional mitigation to increase the vehicle carrying capacity of these roadway segments would be disproportionate to the impacts created by the proposed development.

All other relevant roadway segments are projected to operate acceptably per Clark County standards through the 2028 buildout year of the site during both the AM and PM peak hours. Accordingly, no roadway capacity related mitigation is necessary or recommended at these roadway segments as part of the proposed development application.

Appendix A – Scoping Materials

Scoping Memorandum

Clark County Response

1130 SW Morrison St., Suite 318
Portland, OR 97205
503.248.0313
lancastermobley.com

Memorandum

To: **Craig Kathol, Clark County**
David Jardin, Clark County

From: **Daniel Stumpf, PE**

Date: **January 13, 2025**

Subject: **Four Creeks North**
Scoping Memorandum

Introduction

This memorandum details a proposed scope of work for a Transportation Impact Study (TIS) related to the *Four Creeks North* project. The project site is located on two properties (assessor parcels 181291000 and 181225000) addressed at 18320 NE 29th Avenue in unincorporated Clark County, Washington. The proposal will include the construction of 37 single-family detached houses, removing one existing single-family house for a net increase of 36 houses. Access to the site will be provided via a proposed public street connection along NE 29th Avenue.

Trip Generation

To estimate the number of trips that will be generated by the proposed development, trip rates from the *Trip Generation Manual* were used. Data from the land use code 210, *Single-Family Detached Housing*, was used to estimate site trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision is projected to generate an additional 25 AM peak hour trips, 34 PM peak hour trips, and 338 average weekday trips. The trip generation estimates are summarized in Table 1. Detailed trip generation calculations are included as an attachment to this memorandum.

Table 1: Trip Generation Summary

ITE Land Use Code		Size	AM Peak Hour			PM Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Existing Conditions									
210	Single-Family Detached Housing	1 unit	0	1	1	1	0	1	10
Proposed Conditions									
210	Single-Family Detached Housing	37 units	7	19	26	22	13	35	348
Net Change in Site Trip Generation									
Net New Trips		**36 units**	**7**	**18**	**25**	**21**	**13**	**34**	**338**

Trip Distribution

The trip distribution used for the proposed development was referenced from the *NE 29th Avenue Subdivision Transportation Impact Analysis* (TIA), dated October 2022, where the subdivision is located adjacent and to the south of the project site. According to the TIA, the trip distribution was derived using the Southwest Washington Regional Transportation Council (RTC) transportation system model, where a select zone analysis was conducted for the nearby Transportation Analysis Zone (TAZ) #1982 (formerly #547). The following trip distribution is projected:

- Approximately 4% of site trips will travel to/from the west along NE 199th Street, west of NE 29th Avenue.
- Approximately 9% of site trips will travel to/from the north along NE 29th Avenue, north of NE 119th Street.
- Approximately 5% of site trips will travel to/from the east along NE 199th Street, east of NE 29th Avenue.
- Approximately 6% of site trips will travel to/from the west along NE 179th Street, west of Interstate 5 (I-5).
- Approximately 10% of site trips will travel to/from the north along I-5, north of NE 179th Street.
- Approximately 21% of site trips will travel to/from the south along I-5, south of NE 179th Street.
- Approximately 3% of site trips will travel to/from the south along NE 15th Avenue, south of NE 179th Street.
- Approximately 27% of site trips will travel to/from the south along NE 29th Avenue, south of NE 179th Street.
- Approximately 13% of site trips will travel to/from the east along NE 179th Street, east of NE 50th Avenue.
- Approximately 2% of site trips will travel to/from the south along NE 50th Avenue, south of NE 179th Street.

Figure A in the attachments depicts site trip assignment at the nearby vicinity intersections during the AM and PM peak hours.

Proposed Study Intersections

According to the project's Pre-Application Final Report:

> *Any development generating 10 or more peak hour trips is required to complete a transportation impact study. A general outline is provided in the concurrency administrative manual. A traffic impact study shall analyze impacts according to the following:*
>
> *- 50 or less new peak hour trips; one mile from site*
>
> *- 51-250 new peak hour trips; two miles from the site*
>
> *- 251 or more new peak hour trips; three miles from the site*

Based on the projected trips generated, the preliminary trip distribution, and the anticipated impacts to the transportation system, the following study intersections are suggested for analysis (refer to Figure A for the numbering convention of listed intersections):

4. Site Access at NE 29th Avenue – 25 AM and 34 PM peak hour trip impact.
5. I-5 Southbound Ramps at NE 179th Street – 7 AM and 7 PM peak hour trip impact.
6. I-5 Northbound Ramps at NE 179th Street – 10 AM and 12 PM peak hour trip impact.
7. NE 179th Street at NE 15th Avenue – 11 AM and 13 PM peak hour trip impact.
8. NE 179th Street at NE 29th Avenue – 21 AM and 28 PM peak hour trip impact.

While considered higher classification intersections within a one-mile radius of the site, several regionally significant intersections are recommended for removal from analysis. These intersections, with explanations for removal from study, are provided below.

Although impacted by 5 or more peak hour trips, each stop-controlled approach of the following unsignalized County intersections will be impacted by less than 5 approaching trips whereby no mitigation can be required as part of the application per Clark County Unified Development Code 40.350.020.G.1.c., not-with-standing safety improvements which may be necessary per section 40.350.030(B)(6). Accordingly, the following intersections are recommended for removal from requiring analysis.

1. NE 199th Street at NE 29th Avenue – 4 AM and 6 PM peak hour trip impact.
2. NE 194th Street at NE 29th Avenue – 4 AM and 6 PM peak hour trip impact.
3. NE 189th Street at NE 29th Avenue – 4 AM and 6 PM peak hour trip impact.
9. NE 179th Street at NE 47th Avenue – 3 AM and 6 PM peak hour trip impact.

Other Considerations

In-Process Development

Please provide in-process development data which should be incorporated in the TIS. If available, the traffic studies for these projects are requested.

Lancaster Mobley currently has access to data for the following projects (please let me know if any of the following can be removed):

- Dicky RV & Resort
- Trails at Whipple Creek Subdivision
- Three Creeks North Phase 1 & 2
- 179th Street Commercial Center Phase 1 & 2 (aka Killian Phase 1 & 2)
- M&H Subdivision
- North Haven Subdivision
- Woodbrook Subdivision (aka Mill Creek PUD)
- Skyview Station Shopping Center
- NE 29th Avenue Subdivision
- The Highlands at Whipple Creek
- Maletis Distribution Center
- Viers Subdivision
- Mountain Estates Cluster Subdivision
- Mill Creek Terrace Subdivision
- Mountain View Farm (Mountain View Ridge PUD)
- DSHS NE 50th Avenue (48 Bed Behavioral Health)
- Mt Vista Logistics
- Mill Creek Meadows

Conclusions

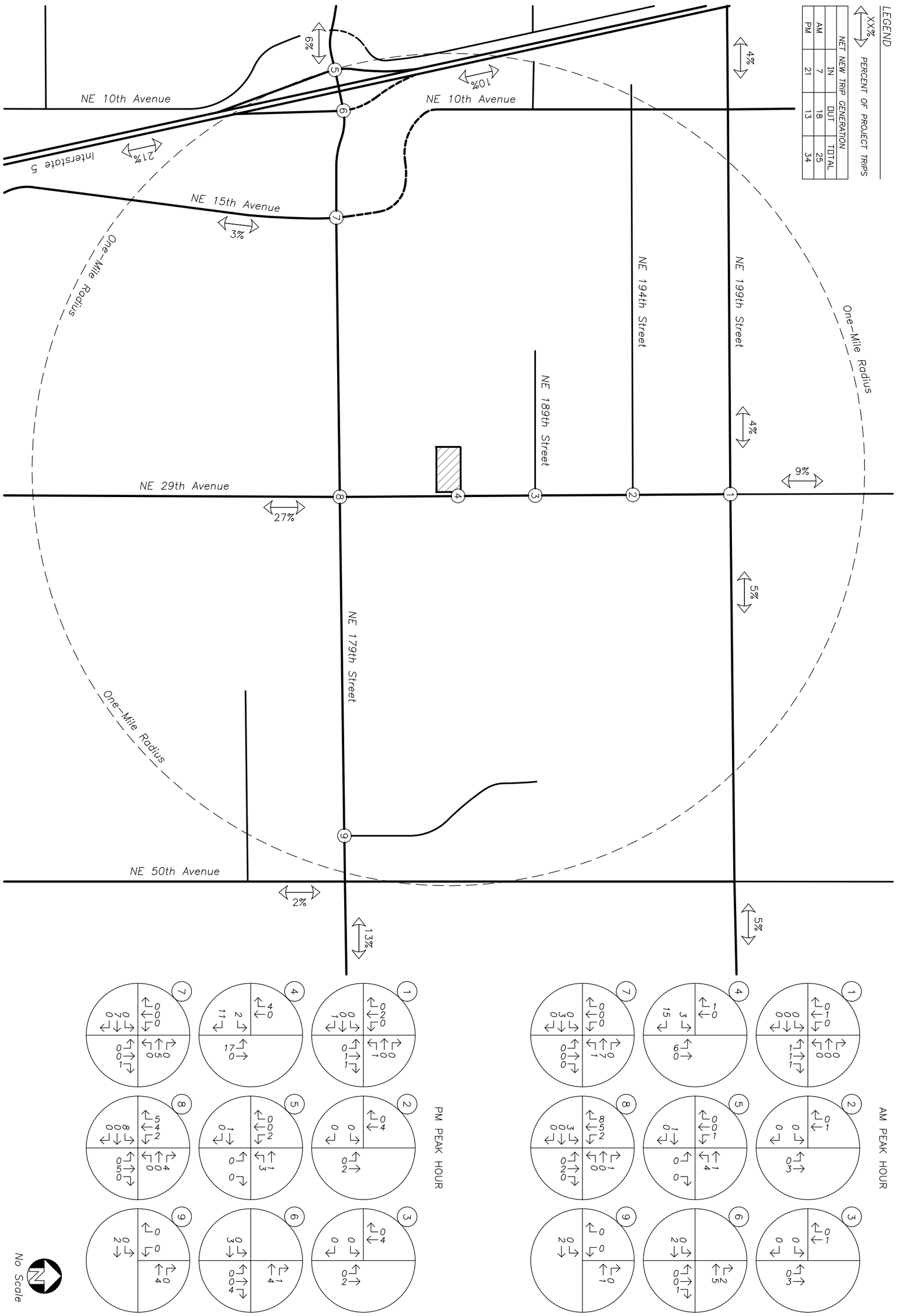
Based on the projected trips generated, the preliminary trip distribution, and the anticipated impacts to the transportation system, the following study intersections are suggested for analysis:

4. Site Access at NE 29th Avenue
5. I-5 Southbound Ramps at NE 179th Street
6. I-5 Northbound Ramps at NE 179th Street
7. NE 179th Street at NE 15th Avenue
8. NE 179th Street at NE 29th Avenue

Please confirm if the above study area is sufficient for the TIS. Also, please confirm the following:

- In addition to those listed above, are there any other in-process development projects that should be incorporated in the TIS? If yes, could their traffic studies be provided?

If you have any questions regarding the preparation of this scoping memorandum, please don't hesitate to contact us.



SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

AM & PM Peak Hours

Figure A

Three Creeks East PUD

1/13/2025

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Existing Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	1

WARNING: Variable Quantity is less than Minimum Survey Size for Peak Hours

AM PEAK HOUR

Trip Rate: 0.7

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

PM PEAK HOUR

Trip Rate: 0.94

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

WEEKDAY

Trip Rate: 9.43

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

SATURDAY

Trip Rate: 9.48

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

Source: Trip Generation Manual, 11th Edition

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Proposed Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	37

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	7	19	26

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	22	13	35

WEEKDAY

Trip Rate: 9.43

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	174	174	348

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	175	175	350

Source: Trip Generation Manual, 11th Edition

lancaster mobley

Daniel Stumpf <daniel@lancastermobley.com>

Four Creeks North - Traffic Study Scoping Request

Daniel Stumpf <daniel@lancastermobley.com> Mon, Jan 13, 2025 at 11:38 AM
To: Craig Kathol <Craig.Kathol@clark.wa.gov>
Cc: "Jardin, David" <david.jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Good morning Craig,

I was wondering if you could review a scoping memo I prepared for the Four Creek North project, located on two properties (assessor parcels 181291000 and 181225000) at 18320 NE 29th Avenue. The proposal will include the construction of 37 single-family detached houses, removing one existing single-family house for a net increase of 36 houses. I believe the project had a pre-app last week and I wanted to get a headstart on the traffic study scoping.

Attached is a scoping memo which includes trip gen calcs and a trip assignment figure for the AM & PM peak hours. To summarize main points:

- Please confirm if the study area is acceptable (i.e., 4 intersections plus the site access intersection described in the memo).
- I'll conduct trip assignment in the TIS for County intersections that are impacted by 5+ peak hour trips but do not require detailed capacity/safety analyses.
- Are there any additional in-process projects not listed in the scoping memo that should be included in the study? If yes, can their traffic studies be sent my way?

Let me know if you have any questions or need additional information.

Thanks,

Daniel

--
Daniel Stumpf, PE
Transportation Engineer
lancaster mobley
300 W 15th Street, Suite 206 | Vancouver, WA 98660
Office: 360-284-2660 ext. 330
Website: lancastermobley.com
Offices: Portland, OR | Bend, OR | Vancouver, WA

Four Creeks North Scoping Memo_011325.pdf
475K

lancaster mobley

Daniel Stumpf <daniel@lancastermobley.com>

Four Creeks North - Traffic Study Scoping Request

Craig Kathol <Craig.Kathol@clark.wa.gov> Mon, Jan 27, 2025 at 1:02 PM
To: Daniel Stumpf <daniel@lancastermobley.com>
Cc: David Jardin <David.Jardin@clark.wa.gov>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>, Chad Stewart <chad@ginngrp.com>

Good afternoon Daniel,

Concurrency staff has reviewed your information and generally agrees with your findings. Please retain the regionally significant intersections that will have at least 5 trips in the intersection showing trip assignments as an illustration for why CCC 40.350.020 G.1.c is applicable. Because of the study radius proximity, please include the intersection of NE 179th Street/NE 50th Avenue to the trip assignment illustrations for why CCC 40.350.020 G.1.c is applicable. The traffic study shall comply with Clark County Code (CCC) 40.350.020.

The following intersections shall be shown with the trip assignments as illustrations for why CCC 40.350.020 G.1.c is applicable:

NE 199th Street/NE 29th Avenue
NE 194th Street/NE 29th Avenue
NE 189th Street/NE 29th Avenue
NE 179th Street/NE 47th Avenue
NE 179th Street/NE 50th Avenue (Please be aware that the intersection lane geometry in this intersection has been updated recently. See attached.)

Staff generally agrees with the in-process information you provided. Please see below for sites that may be removed and sites that need to be added.

Remove
NE 29th Ave Subdivision

Add
PSR-2024-00049 Skyview East (See attached PDF for trip generation, assignment, and distribution)

Please let me know if you have any questions.

Thank you,

Craig Kathol, E.I.T.
Transportation Concurrency Engineer
Clark County Public Works

Cell: 360.553.8247

From: Daniel Stumpf <daniel@lancastermobley.com>
Sent: Monday, January 27, 2025 12:08 PM
To: Craig Kathol <Craig.Kathol@clark.wa.gov>
Cc: David Jardin <David.Jardin@clark.wa.gov>; Alexis Pam <alexis@ginngrp.com>; Jayson Taylor <jayson@plsengineering.com>; Chad Stewart <chad@ginngrp.com>
Subject: Re: Four Creeks North - Traffic Study Scoping Request

EXTERNAL: This email originated from outside of Clark County. Do not click links or open attachments unless you recognize the sender and know the content is safe.

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> [Quoted text hidden]
> [Quoted text hidden]
> [Quoted text hidden]

300 W 15th Street, Suite 206 | Vancouver, WA 98660
Office: 360-284-2660 ext. 330
Website: lancastermobley.com

Offices: Portland, OR | Bend, OR | Vancouver, WA

CAUTION: This email is from OUTSIDE our organization

"

--

Daniel Stumpf, PE

Transportation Engineer

[Quoted text hidden]

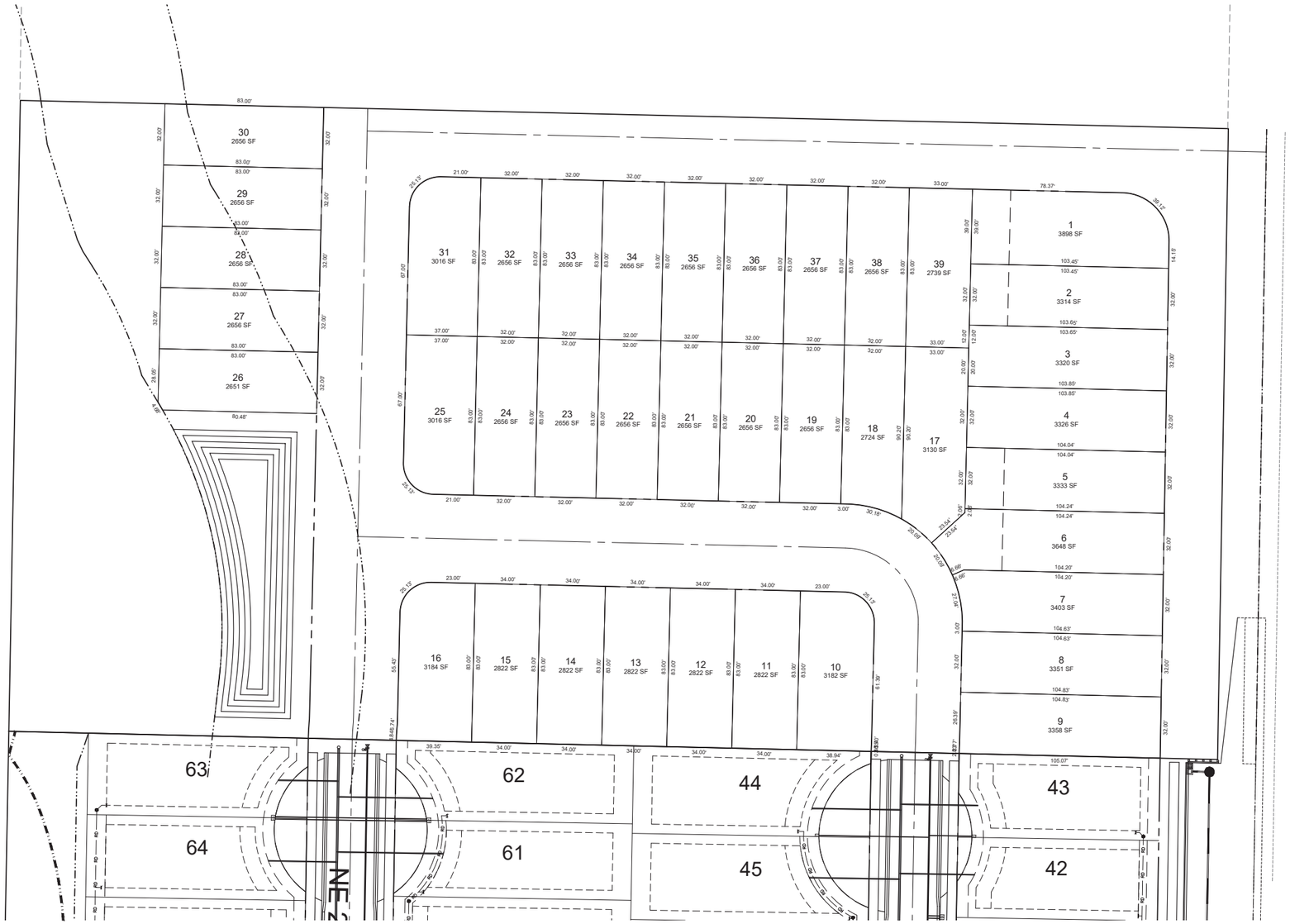
2 attachments

Interim Lane Geometry - Constructed 2024.pdf
4999K

PSR-2024-00049 Skyview Station East Trip gen-Dist-Assign.pdf
1676K

Appendix B – Site Plan

Site Plan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3130 SF
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3184 SF
15
2822 SF
14
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13
2822 SF
12
2822 SF
11
2822 SF
10
3182 SF
63
62
64
61
44
43
45
42
NE 2

Appendix C – Trip Generation and Distribution

Trip Generation Calculations

1932 NE 179th Street Apartments – Trip Distribution Figure

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Existing Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	1

WARNING: Variable Quantity is less than Minimum Survey Size for Peak Hours

AM PEAK HOUR

Trip Rate: 0.7

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

PM PEAK HOUR

Trip Rate: 0.94

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

WEEKDAY

Trip Rate: 9.43

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

SATURDAY

Trip Rate: 9.48

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

Source: Trip Generation Manual, 11th Edition

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Proposed Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	39

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	7	20	27

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	23	14	37

WEEKDAY

Trip Rate: 9.43

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

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	185	185	370

Source: Trip Generation Manual, 11th Edition

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Net New Trip Generation

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	38

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	7	20	27

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	23	13	36

WEEKDAY

Trip Rate: 9.43

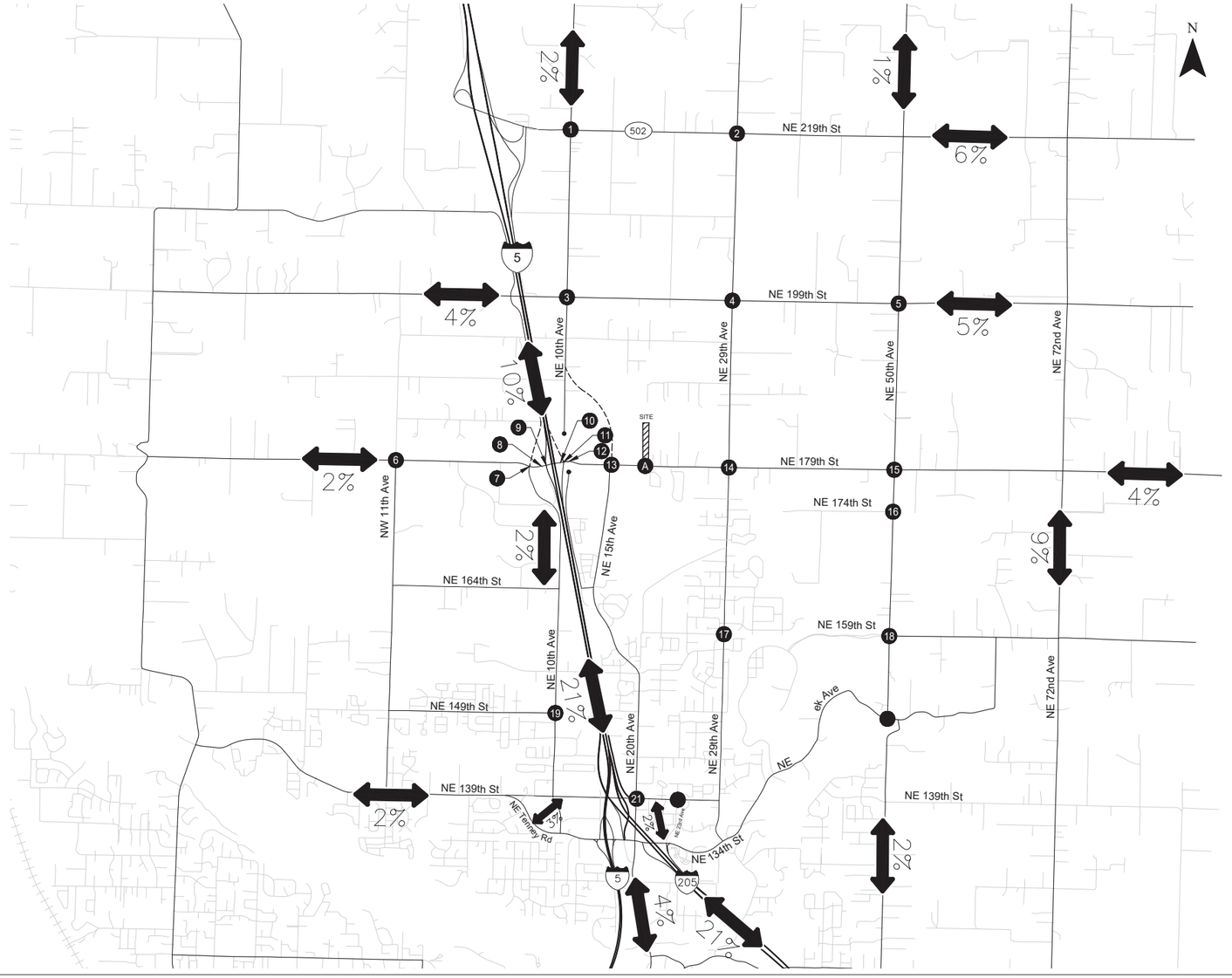
	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	179	179	358

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	180	180	360

Source: Trip Generation Manual, 11th Edition



Estimated Trip Distribution Pattern
Clark County, Washington

Figure
9

KITTELSON & ASSOCIATES

C:\KAI Applications\Autodesk\TEMP\AcPublish_20768\24315_1932 179th St Apartments_Figures_NP_2020-05-22.dwg May 22, 2020 - 12:33pm - nick Layout Tab: 09

Appendix D – Traffic Volumes

Traffic Counts (2023)

Traffic Counts (2025)

Figure A – Rerouted Volumes (NE 179th Street Closure)

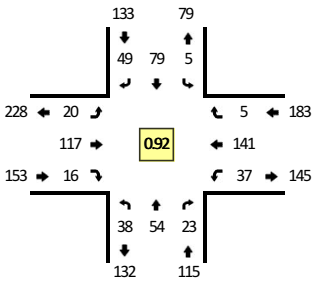
Figure B – In-Process Trips

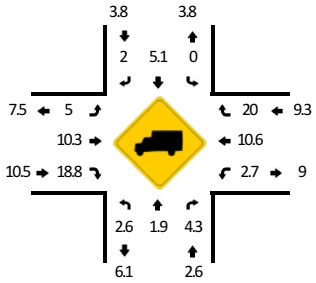
Figure C – Rerouted Volumes (I-5 NB Ramp)

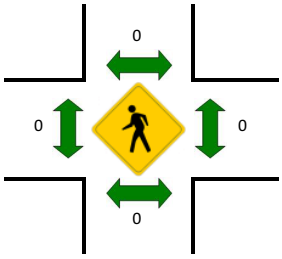
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: NE 29th Ave -- NE 179th St | **QC JOB #:** 16134427
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Mar 28 2023

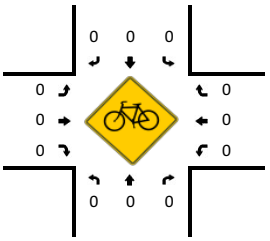
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

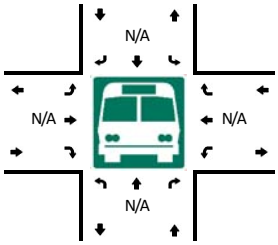




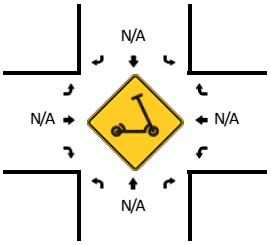












5-Min Count Period Beginning At	NE 29th Ave (Northbound)				NE 29th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	2	1	0	0	3	5	0	5	6	0	0	3	6	1	0	35	
7:05 AM	2	0	1	0	0	1	1	0	1	12	1	0	2	7	1	0	29	
7:10 AM	3	2	2	0	0	12	7	0	1	5	0	0	1	5	0	0	38	
7:15 AM	2	3	0	0	0	6	6	0	3	8	0	0	1	10	0	0	39	
7:20 AM	4	4	2	0	0	4	7	0	1	12	1	0	2	12	1	0	50	
7:25 AM	7	4	5	0	1	8	4	0	1	12	1	0	1	2	1	0	47	
7:30 AM	3	3	4	0	1	9	3	0	1	7	2	0	1	6	0	0	40	
7:35 AM	7	5	3	0	0	6	1	0	2	7	2	0	4	13	0	0	50	
7:40 AM	5	8	3	0	0	6	4	0	4	8	1	0	4	11	1	0	55	
7:45 AM	4	3	2	0	1	12	3	0	1	10	0	0	1	11	0	0	48	
7:50 AM	2	1	1	0	0	6	7	0	2	11	1	0	2	9	0	0	42	
7:55 AM	4	2	1	0	1	7	2	0	3	4	3	0	6	14	1	0	48	521
8:00 AM	1	3	3	0	1	6	2	0	0	10	3	0	4	9	0	0	42	528
8:05 AM	2	4	3	0	0	2	4	0	2	10	2	0	4	10	1	0	44	543
8:10 AM	1	5	0	0	0	5	6	0	1	18	1	0	3	12	0	0	52	557
8:15 AM	3	4	2	0	2	11	4	0	2	7	0	0	3	13	0	0	51	569
8:20 AM	4	8	0	0	0	7	5	0	1	11	1	0	4	15	0	0	56	575
8:25 AM	3	6	3	0	0	5	7	0	2	9	1	0	2	7	0	0	45	573
8:30 AM	2	5	2	0	0	6	4	0	0	12	1	0	0	17	2	0	51	584
8:35 AM	3	5	1	0	0	9	6	0	3	3	2	0	0	10	0	0	42	576
8:40 AM	3	6	2	0	0	8	3	0	1	11	2	0	4	10	0	0	50	571
8:45 AM	2	6	1	0	0	8	1	0	0	8	4	0	6	13	2	0	51	574
8:50 AM	3	2	0	0	0	8	5	0	2	10	2	0	2	7	0	0	41	573
8:55 AM	3	4	2	0	0	3	6	0	3	13	1	0	0	4	0	0	39	564

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	32	68	8	0	8	92	60	0	16	144	8	0	40	160	0	0	636
Heavy Trucks	0	0	0		0	4	4		0	20	0		4	4	0		36
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

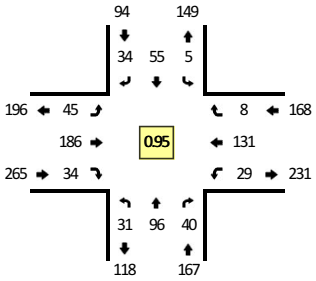
Comments:

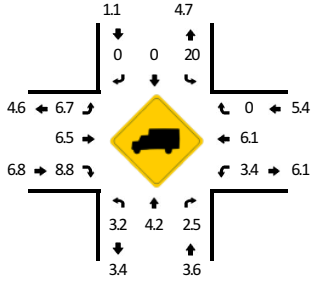
Report generated on 7/16/2024 10:00 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

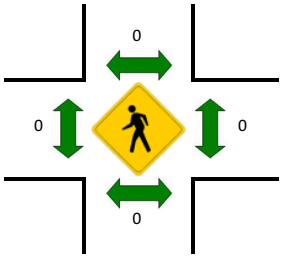
LOCATION: NE 29th Ave -- NE 179th St | **QC JOB #:** 16134428
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Mar 28 2023

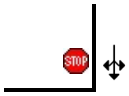
Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:55 PM -- 5:10 PM

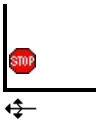


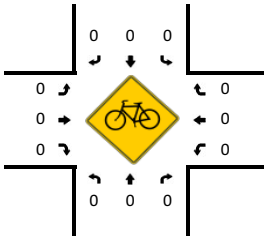


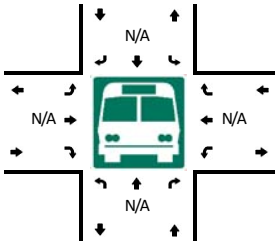
TRUE DATA TO IMPROVE MOBILITY

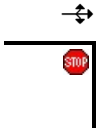


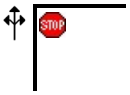


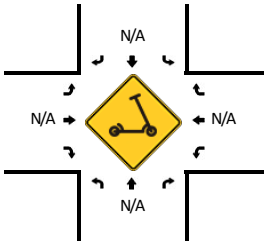












5-Min Count Period Beginning At	NE 29th Ave (Northbound)				NE 29th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	11	3	0	0	6	2	0	4	20	3	0	3	9	1	0	65	
4:05 PM	6	5	2	0	1	6	1	0	4	12	4	0	2	11	0	0	54	
4:10 PM	4	8	4	0	1	3	6	0	3	19	3	0	4	16	0	0	71	
4:15 PM	2	6	5	0	0	4	3	0	3	15	3	0	4	7	0	0	52	
4:20 PM	1	11	4	0	0	5	4	0	5	20	1	0	0	6	2	0	59	
4:25 PM	2	4	2	0	0	4	2	0	5	20	2	0	1	11	0	0	53	
4:30 PM	2	8	7	0	0	7	1	0	4	8	3	0	1	15	0	0	56	
4:35 PM	4	10	2	0	1	1	4	0	5	11	1	0	3	8	0	0	50	
4:40 PM	3	12	3	0	0	3	2	0	3	19	4	0	2	12	1	0	64	
4:45 PM	3	4	3	0	1	9	4	0	3	16	4	0	1	10	1	0	59	
4:50 PM	2	5	0	0	0	5	2	0	5	13	4	0	1	10	0	0	47	
4:55 PM	1	6	2	0	0	4	2	0	3	12	3	0	4	15	2	0	54	684
5:00 PM	1	8	4	0	0	4	0	0	3	11	1	0	5	7	1	0	45	664
5:05 PM	6	14	4	0	2	6	4	0	3	22	5	0	3	14	1	0	84	694
5:10 PM	5	13	7	0	0	1	0	0	4	9	1	0	2	12	1	0	55	678
5:15 PM	3	9	3	0	0	3	1	0	5	14	1	0	2	8	3	0	52	678
5:20 PM	0	4	3	0	0	3	0	0	2	17	1	0	1	14	0	0	45	664
5:25 PM	2	6	4	0	2	3	1	0	5	12	5	0	2	6	0	0	48	659
5:30 PM	3	9	0	0	0	7	2	0	1	17	2	0	3	14	0	0	58	661
5:35 PM	0	8	3	0	0	4	0	0	5	12	4	0	0	13	0	0	49	660
5:40 PM	1	4	3	0	0	3	1	0	2	10	0	0	3	13	0	0	40	636
5:45 PM	2	3	2	0	0	8	2	0	0	14	2	0	1	7	1	0	42	619
5:50 PM	3	2	2	0	0	4	2	0	4	13	7	0	1	6	0	0	44	616
5:55 PM	0	3	2	0	0	3	1	0	2	5	4	0	0	7	0	0	27	589

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	32	112	40	0	8	56	24	0	36	180	36	0	48	144	16	0	732
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	8	0		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

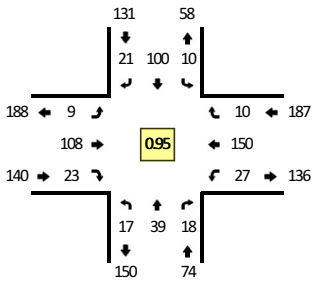
Comments:

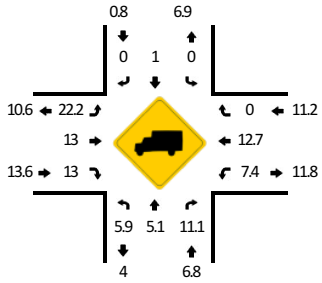
Report generated on 7/16/2024 10:00 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

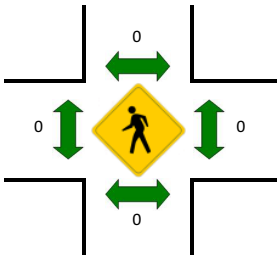
LOCATION: NE 50th Ave -- NE 179th St | **QC JOB #:** 16134429
CITY/STATE: Clark, WA | **DATE:** Tue, Mar 28 2023

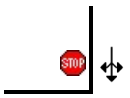
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

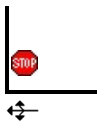


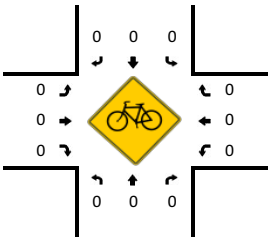


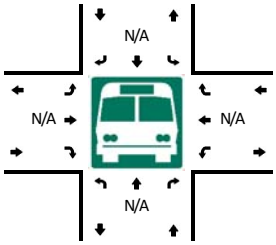
TRUE DATA TO IMPROVE MOBILITY

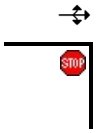


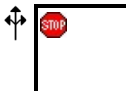


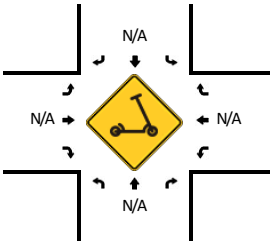












5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	2	0	0	1	4	0	0	2	5	1	0	1	12	0	0	28	
7:05 AM	2	2	0	0	0	1	1	0	0	7	1	0	0	4	0	0	18	
7:10 AM	2	1	1	0	3	2	1	0	0	8	0	0	0	6	0	0	24	
7:15 AM	0	2	1	0	1	5	1	0	0	4	1	0	0	7	1	0	23	
7:20 AM	0	6	1	0	0	4	3	0	5	8	2	0	0	10	0	0	39	
7:25 AM	2	2	0	0	0	7	0	0	1	11	0	0	0	5	1	0	29	
7:30 AM	0	2	0	0	2	10	0	0	1	13	0	0	4	9	0	1	42	
7:35 AM	2	5	1	0	1	6	3	0	0	9	1	0	3	12	1	0	44	
7:40 AM	0	5	1	0	0	9	0	0	2	7	2	0	2	18	4	0	50	
7:45 AM	1	2	2	0	0	9	0	0	0	11	1	0	2	12	2	0	42	
7:50 AM	0	2	1	0	0	8	1	0	0	9	1	0	1	9	0	0	32	
7:55 AM	2	2	2	0	0	10	3	0	1	11	1	0	3	11	0	0	46	417
8:00 AM	1	4	4	0	0	8	0	0	0	8	1	0	5	13	1	0	45	434
8:05 AM	1	7	2	0	0	7	2	0	1	6	0	0	1	15	1	0	43	459
8:10 AM	0	2	2	0	3	6	1	0	1	11	2	0	1	13	0	0	42	477
8:15 AM	4	3	2	0	1	9	3	0	3	10	4	0	1	12	0	0	52	506
8:20 AM	3	2	0	0	2	6	4	0	1	15	1	0	2	10	0	0	46	513
8:25 AM	1	3	0	0	2	10	3	0	0	5	3	0	1	9	1	0	38	522
8:30 AM	2	2	1	0	1	12	1	0	0	6	6	0	5	16	0	0	52	532
8:35 AM	1	8	0	0	0	6	2	0	0	6	4	0	1	5	0	0	33	521
8:40 AM	2	3	2	0	0	8	1	0	2	5	3	0	1	15	1	0	43	514
8:45 AM	1	7	0	0	0	7	4	0	1	7	2	0	1	13	1	0	44	516
8:50 AM	2	3	0	0	1	15	0	0	1	3	7	0	2	7	0	0	41	525
8:55 AM	1	5	0	0	0	14	0	0	3	3	5	0	1	2	1	0	35	514

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	28	28	16	0	24	84	32	0	20	144	28	0	16	140	0	0	560
Heavy Trucks	4	0	0		0	0	0		8	32	4		0	12	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

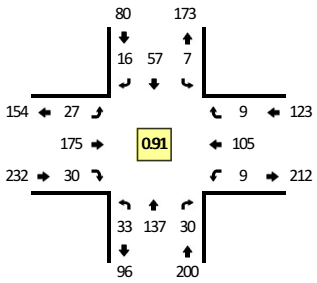
Comments:

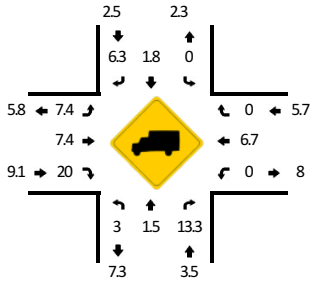
Report generated on 7/16/2024 10:00 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

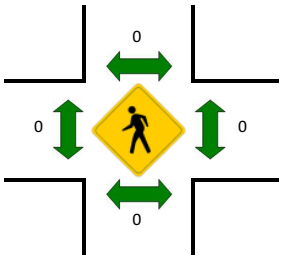
LOCATION: NE 50th Ave -- NE 179th St | **QC JOB #:** 16134430
CITY/STATE: Clark, WA | **DATE:** Tue, Mar 28 2023

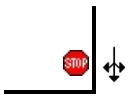
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:10 PM -- 4:25 PM

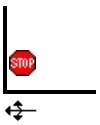


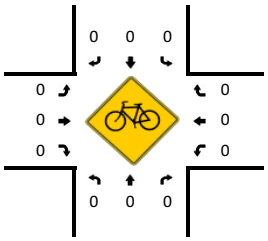


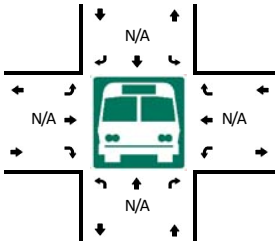
TRUE DATA TO IMPROVE MOBILITY

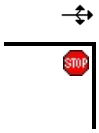


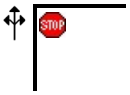


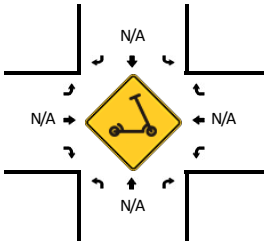












5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	9	0	0	1	6	1	0	2	22	2	0	0	7	0	0	52	
4:05 PM	3	11	2	0	0	8	2	0	2	12	2	0	0	10	1	0	53	
4:10 PM	5	10	6	0	1	2	1	0	2	15	5	0	0	11	0	0	58	
4:15 PM	3	19	4	0	1	4	2	0	3	11	7	0	1	5	1	0	61	
4:20 PM	3	14	2	0	1	7	0	0	3	18	1	0	0	5	1	0	55	
4:25 PM	1	14	3	0	0	5	3	0	1	20	2	0	1	6	1	0	57	
4:30 PM	1	6	1	0	0	3	2	0	3	13	2	0	1	10	3	0	45	
4:35 PM	3	10	2	0	0	3	1	0	4	10	0	0	1	10	0	0	44	
4:40 PM	2	7	1	0	1	4	1	0	3	15	0	0	1	9	1	0	45	
4:45 PM	0	17	1	0	0	3	0	0	0	18	1	0	2	8	0	0	50	
4:50 PM	3	10	3	0	2	3	2	0	0	10	3	0	2	12	1	0	51	
4:55 PM	7	10	5	0	0	9	1	0	4	11	5	0	0	12	0	0	64	635
5:00 PM	1	11	2	0	1	1	0	0	1	13	3	0	0	10	1	0	44	627
5:05 PM	4	12	3	0	1	1	1	0	5	13	6	0	0	7	0	0	53	627
5:10 PM	1	20	1	0	2	2	1	0	2	13	2	0	0	14	0	0	58	627
5:15 PM	1	10	3	0	2	5	0	0	4	9	1	0	0	18	1	0	54	620
5:20 PM	0	10	2	0	0	5	1	0	5	15	5	0	0	8	0	0	51	616
5:25 PM	1	6	2	0	0	6	0	0	2	10	1	0	0	8	0	0	36	595
5:30 PM	1	7	2	0	2	6	1	0	3	12	1	0	1	8	2	0	46	596
5:35 PM	3	9	4	0	2	3	0	0	3	8	1	0	1	11	0	0	45	597
5:40 PM	2	8	5	0	1	4	3	0	5	6	1	0	0	10	1	0	46	598
5:45 PM	2	2	1	0	0	3	0	0	3	9	1	0	1	4	1	0	27	575
5:50 PM	0	2	4	0	1	2	0	0	2	11	2	0	0	5	0	0	29	553
5:55 PM	3	2	1	0	1	3	4	0	2	4	2	0	0	5	1	0	28	517

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	44	172	48	0	12	52	12	0	32	176	52	0	4	84	8	0	696
Heavy Trucks	4	4	4		0	0	4		4	16	8		0	0	0		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/16/2024 10:00 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

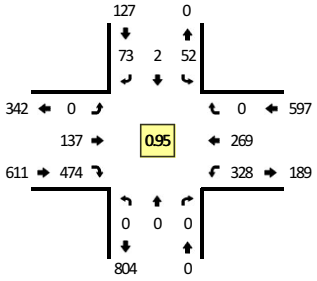
Type of peak hour being reported: Intersection Peak

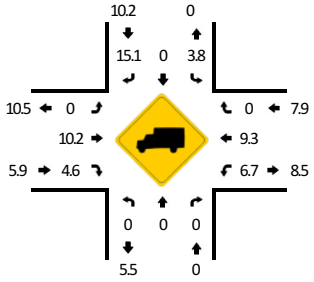
Method for determining peak hour: Total Entering Volume

LOCATION: I-5 SB Ramps -- NE 179th Street
CITY/STATE: Clark, WA

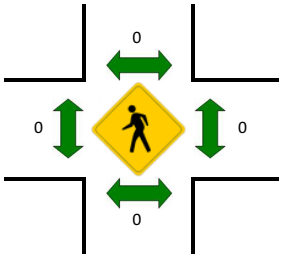
QC JOB #: 16889613
DATE: Wed, Jan 22 2025

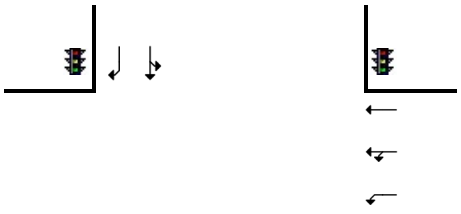
Peak-Hour: 7:05 AM -- 8:05 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

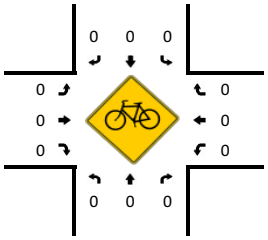


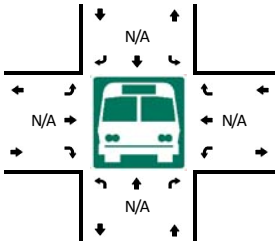


TRUE DATA TO IMPROVE MOBILITY

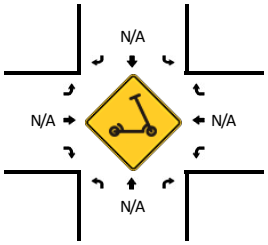












5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	4	0	11	0	0	11	19	0	22	15	0	0	82	
7:05 AM	0	0	0	0	4	1	1	0	0	12	39	0	18	16	0	0	91	
7:10 AM	0	0	0	0	4	0	7	0	0	5	39	0	26	27	0	0	108	
7:15 AM	0	0	0	0	2	1	4	0	0	15	43	0	29	23	0	0	117	
7:20 AM	0	0	0	0	6	0	8	0	0	10	39	0	35	25	0	0	123	
7:25 AM	0	0	0	0	6	0	4	0	0	11	30	0	27	22	0	0	100	
7:30 AM	0	0	0	0	9	0	5	0	0	10	46	0	27	24	0	0	121	
7:35 AM	0	0	0	0	2	0	3	0	0	11	47	0	39	24	0	0	126	
7:40 AM	0	0	0	0	3	0	5	0	0	9	37	0	30	20	0	0	104	
7:45 AM	0	0	0	0	1	0	14	0	0	11	44	0	29	20	0	0	119	
7:50 AM	0	0	0	0	4	0	11	0	0	14	42	0	24	25	0	0	120	
7:55 AM	0	0	0	0	8	0	7	0	0	15	33	0	28	22	0	0	113	1324
8:00 AM	0	0	0	0	3	0	4	0	0	14	35	0	16	21	0	0	93	1335
8:05 AM	0	0	0	0	4	1	10	0	0	11	25	0	23	17	0	0	91	1335
8:10 AM	0	0	0	0	3	0	4	0	0	14	37	0	23	17	0	0	98	1325
8:15 AM	0	0	0	0	4	0	1	0	0	14	26	0	27	21	0	0	93	1301
8:20 AM	0	0	0	0	4	0	10	0	0	8	30	0	24	21	0	0	97	1275
8:25 AM	0	0	0	0	3	0	4	0	0	11	38	0	22	31	0	0	109	1284
8:30 AM	0	0	0	0	0	0	5	0	0	12	29	0	26	25	0	0	97	1260
8:35 AM	0	0	0	0	2	0	4	0	0	10	35	0	23	24	0	0	98	1232
8:40 AM	0	0	0	0	2	0	7	0	0	11	40	0	29	22	0	0	111	1239
8:45 AM	0	0	0	0	4	0	10	0	0	12	40	0	20	16	0	0	102	1222
8:50 AM	0	0	0	0	6	0	1	0	0	11	50	0	15	24	0	0	107	1209
8:55 AM	0	0	0	0	13	0	3	0	0	9	41	0	12	22	0	0	100	1196

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	0	0	0	0	52	0	128	0	0	160	476	0	324	268	0	0	1408
Heavy Trucks	0	0	0		4	0	16		0	8	16		16	24	0		84
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

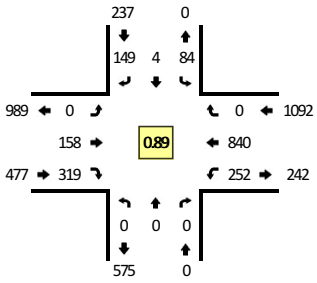
Type of peak hour being reported: Intersection Peak

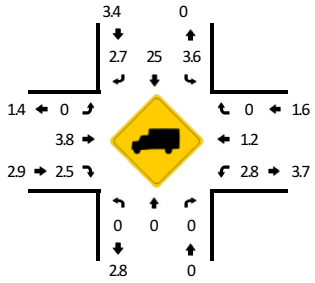
Method for determining peak hour: Total Entering Volume

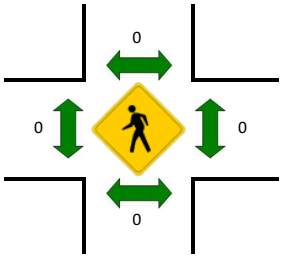
LOCATION: I-5 SB Ramps -- NE 179th Street
CITY/STATE: Clark, WA

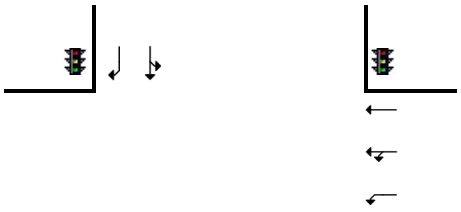
QC JOB #: 16889614
DATE: Wed, Jan 22 2025

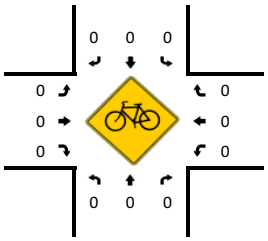
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

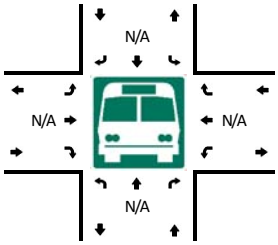




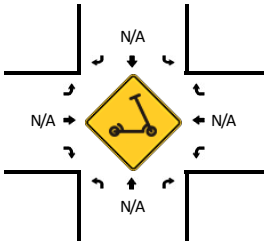












5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	2	1	10	0	0	16	35	0	22	34	0	0	120	
4:05 PM	0	0	0	0	6	1	5	0	0	14	31	0	19	28	0	0	104	
4:10 PM	0	0	0	0	4	1	11	0	0	18	27	0	22	31	0	0	114	
4:15 PM	0	0	0	0	14	0	8	0	0	10	31	0	16	46	0	0	125	
4:20 PM	0	0	0	0	11	0	10	0	0	9	31	0	24	49	0	0	134	
4:25 PM	0	0	0	0	8	1	6	0	0	22	34	0	24	27	0	0	122	
4:30 PM	0	0	0	0	8	0	9	0	0	13	30	0	27	29	0	0	116	
4:35 PM	0	0	0	0	7	0	6	0	0	20	39	0	23	34	0	0	129	
4:40 PM	0	0	0	0	6	0	7	0	0	21	33	0	13	41	0	0	121	
4:45 PM	0	0	0	0	9	1	8	0	0	16	35	0	22	44	0	0	135	
4:50 PM	0	0	0	0	8	0	8	0	0	15	28	0	15	61	0	0	135	
4:55 PM	0	0	0	0	3	2	12	0	0	24	27	0	14	79	0	0	161	1516
5:00 PM	0	0	0	0	11	0	15	0	0	12	28	0	21	82	0	0	169	1565
5:05 PM	0	0	0	0	7	1	20	0	0	12	28	0	22	64	0	0	154	1615
5:10 PM	0	0	0	0	10	0	18	0	0	10	27	0	30	88	0	0	183	1684
5:15 PM	0	0	0	0	2	0	13	0	0	13	29	0	24	79	0	0	160	1719
5:20 PM	0	0	0	0	7	0	15	0	0	13	30	0	26	73	0	0	164	1749
5:25 PM	0	0	0	0	9	0	10	0	0	13	24	0	17	75	0	0	148	1775
5:30 PM	0	0	0	0	3	0	11	0	0	9	22	0	12	73	0	0	130	1789
5:35 PM	0	0	0	0	10	0	11	0	0	13	21	0	21	66	0	0	142	1802
5:40 PM	0	0	0	0	5	0	8	0	0	8	20	0	28	56	0	0	125	1806
5:45 PM	0	0	0	0	9	0	13	0	0	12	22	0	19	45	0	0	120	1791
5:50 PM	0	0	0	0	6	1	9	0	0	6	26	0	25	61	0	0	134	1790
5:55 PM	0	0	0	0	3	0	9	0	0	13	17	0	17	40	0	0	99	1728

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	0	0	0	0	76	0	184	0	0	144	344	0	320	960	0	0	2028
Heavy Trucks	0	0	0		0	0	8		0	8	20		12	16	0		64
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

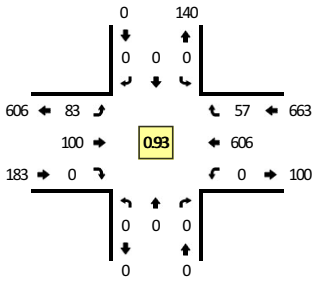
Report generated on 1/29/2025 2:01 PM

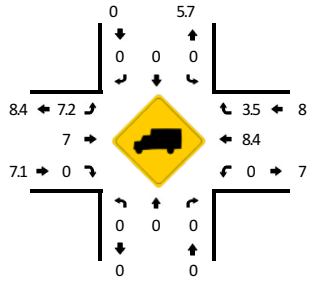
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

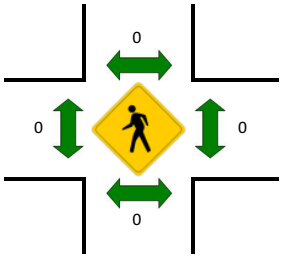
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

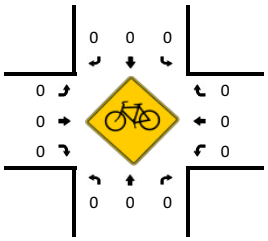
LOCATION: I-5 NB On-Ramp -- NE 179th Street | **QC JOB #:** 16889611
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

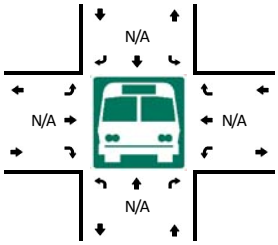
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

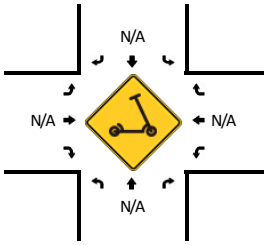












5-Min Count Period Beginning At	I-5 NB On-Ramp (Northbound)				I-5 NB On-Ramp (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	4	11	0	0	0	39	9	0	63	
7:05 AM	0	0	0	0	0	0	0	0	6	8	0	0	0	37	6	0	57	
7:10 AM	0	0	0	0	0	0	0	0	4	6	0	0	0	55	3	0	68	
7:15 AM	0	0	0	0	0	0	0	0	12	5	0	0	0	54	2	0	73	
7:20 AM	0	0	0	0	0	0	0	0	3	9	0	0	0	62	3	0	77	
7:25 AM	0	0	0	0	0	0	0	0	4	11	0	0	0	47	5	0	67	
7:30 AM	0	0	0	0	0	0	0	0	8	13	0	0	0	54	5	0	80	
7:35 AM	0	0	0	0	0	0	0	0	8	7	0	0	0	59	3	0	77	
7:40 AM	0	0	0	0	0	0	0	0	4	8	0	0	0	51	7	0	70	
7:45 AM	0	0	0	0	0	0	0	0	7	5	0	0	0	49	3	0	64	
7:50 AM	0	0	0	0	0	0	0	0	13	5	0	0	0	49	7	0	74	
7:55 AM	0	0	0	0	0	0	0	0	10	12	0	0	0	50	4	0	76	846
8:00 AM	0	0	0	0	0	0	0	0	4	13	0	0	0	38	2	0	57	840
8:05 AM	0	0	0	0	0	0	0	0	7	9	0	0	0	37	2	0	55	838
8:10 AM	0	0	0	0	0	0	0	0	10	8	0	0	0	46	2	0	66	836
8:15 AM	0	0	0	0	0	0	0	0	7	11	0	0	0	46	5	0	69	832
8:20 AM	0	0	0	0	0	0	0	0	6	6	0	0	0	46	3	0	61	816
8:25 AM	0	0	0	0	0	0	0	0	8	5	0	0	0	53	7	0	73	822
8:30 AM	0	0	0	0	0	0	0	0	7	6	0	0	0	52	5	0	70	812
8:35 AM	0	0	0	0	0	0	0	0	2	6	0	0	0	51	6	0	65	800
8:40 AM	0	0	0	0	0	0	0	0	8	9	0	0	0	46	4	0	67	797
8:45 AM	0	0	0	0	0	0	0	0	4	11	0	0	0	39	4	0	58	791
8:50 AM	0	0	0	0	0	0	0	0	7	10	0	0	0	42	2	0	61	778
8:55 AM	0	0	0	0	0	0	0	0	4	17	0	0	0	30	3	0	54	756

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	0	0	0	0	0	0	0	0	80	112	0	0	0	656	60	0	908
Heavy Trucks	0	0	0		0	0	0		4	4	0		0	52	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

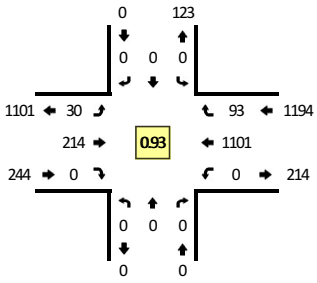
Comments:

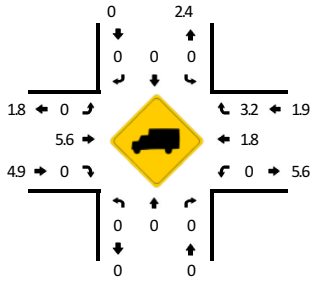
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

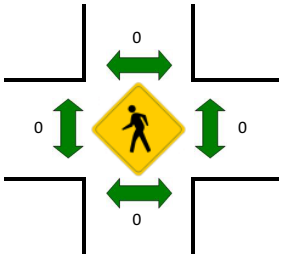
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: I-5 NB On-Ramp -- NE 179th Street | **QC JOB #:** 16889612
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

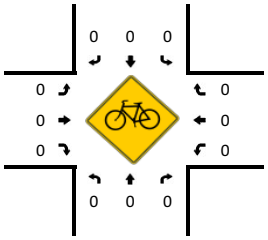
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

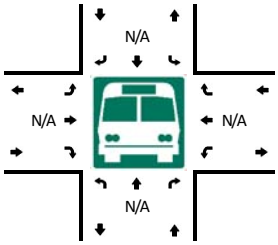




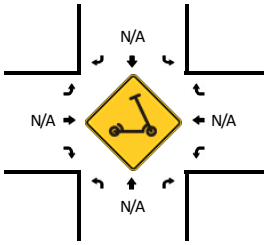












5-Min Count Period Beginning At	I-5 NB On-Ramp (Northbound)				I-5 NB On-Ramp (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	7	12	0	0	0	59	3	0	81	
4:05 PM	0	0	0	0	0	0	0	0	9	11	0	0	0	47	11	0	78	
4:10 PM	0	0	0	0	0	0	0	0	8	14	0	0	0	53	4	0	79	
4:15 PM	0	0	0	0	0	0	0	0	5	20	0	0	0	62	2	0	89	
4:20 PM	0	0	0	0	0	0	0	0	5	14	0	0	0	70	2	0	91	
4:25 PM	0	0	0	0	0	0	0	0	13	18	0	0	0	46	5	0	82	
4:30 PM	0	0	0	0	0	0	0	0	5	14	0	0	0	58	6	0	83	
4:35 PM	0	0	0	0	0	0	0	0	14	13	0	0	0	60	5	0	92	
4:40 PM	0	0	0	0	0	0	0	0	12	15	0	0	0	52	2	0	81	
4:45 PM	0	0	0	0	0	0	0	0	8	18	0	0	0	67	7	0	100	
4:50 PM	0	0	0	0	0	0	0	0	4	19	0	0	0	85	5	0	113	
4:55 PM	0	0	0	0	0	0	0	0	6	23	0	0	0	96	3	0	128	1097
5:00 PM	0	0	0	0	0	0	0	0	1	23	0	0	0	105	3	0	132	1148
5:05 PM	0	0	0	0	0	0	0	0	0	19	0	0	0	79	2	0	100	1170
5:10 PM	0	0	0	0	0	0	0	0	0	20	0	0	0	127	1	0	148	1239
5:15 PM	0	0	0	0	0	0	0	0	2	13	0	0	0	97	6	0	118	1268
5:20 PM	0	0	0	0	0	0	0	0	3	16	0	0	0	98	5	0	122	1299
5:25 PM	0	0	0	0	0	0	0	0	3	17	0	0	0	90	17	0	127	1344
5:30 PM	0	0	0	0	0	0	0	0	2	12	0	0	0	86	14	0	114	1375
5:35 PM	0	0	0	0	0	0	0	0	1	20	0	0	0	90	20	0	131	1414
5:40 PM	0	0	0	0	0	0	0	0	0	14	0	0	0	81	10	0	105	1438
5:45 PM	0	0	0	0	0	0	0	0	3	16	0	0	0	68	9	0	96	1434
5:50 PM	0	0	0	0	0	0	0	0	1	10	0	0	0	86	13	0	110	1431
5:55 PM	0	0	0	0	0	0	0	0	4	11	0	0	0	58	6	0	79	1382

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	0	0	0	0	0	0	0	0	20	196	0	0	0	1288	48	0	1552
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	28	4		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

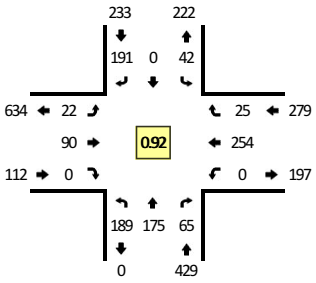
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

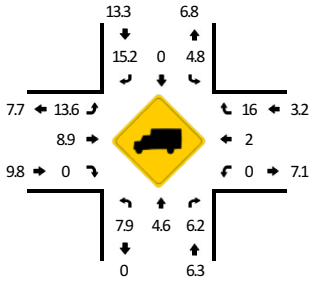
LOCATION: NE 10th Avenue -- NE 179th Street
CITY/STATE: Clark, WA

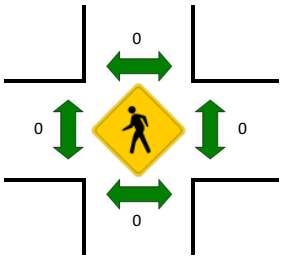
QC JOB #: 16889609
DATE: Wed, Jan 22 2025

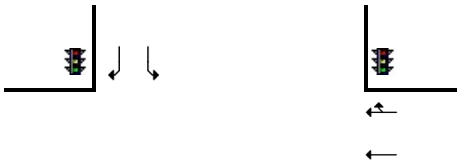
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:20 AM -- 7:35 AM

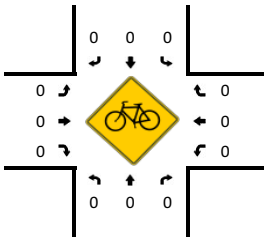


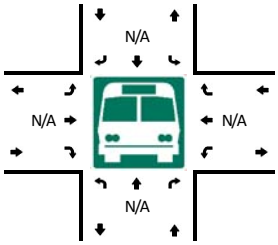


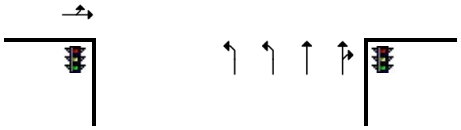


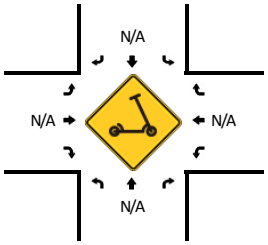












5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	10	3	0	0	0	15	0	2	10	0	0	0	25	1	0	74	
7:05 AM	12	8	3	0	4	0	10	0	2	7	0	0	0	21	2	0	69	
7:10 AM	21	12	5	0	2	0	18	0	2	4	0	0	0	19	3	0	86	
7:15 AM	18	20	7	0	4	0	19	0	2	3	0	0	0	19	2	0	94	
7:20 AM	20	14	8	0	1	0	27	0	2	7	0	0	0	19	1	0	99	
7:25 AM	17	13	8	0	8	0	12	0	4	8	0	0	0	22	1	0	93	
7:30 AM	16	14	5	0	2	0	14	0	1	12	0	0	0	29	1	0	94	
7:35 AM	14	12	4	0	2	0	19	0	1	6	0	0	0	27	3	0	88	
7:40 AM	19	9	6	0	4	0	12	0	1	6	0	0	0	27	0	0	84	
7:45 AM	17	11	7	0	4	0	13	0	0	6	0	0	0	22	1	0	81	
7:50 AM	18	9	6	0	1	0	18	0	2	4	0	0	0	20	5	0	83	
7:55 AM	14	11	9	0	2	0	22	0	2	11	0	0	0	18	3	0	92	1037
8:00 AM	14	13	4	0	4	0	15	0	1	10	0	0	0	11	2	0	74	1037
8:05 AM	11	22	4	0	3	0	10	0	4	6	0	0	0	18	2	0	80	1048
8:10 AM	18	23	2	0	6	0	12	0	1	6	0	0	0	19	2	0	89	1051
8:15 AM	11	24	2	0	5	0	17	0	3	8	0	0	0	22	4	0	96	1053
8:20 AM	7	14	5	0	2	0	23	0	0	6	0	0	0	18	5	0	80	1034
8:25 AM	22	23	6	0	1	0	15	0	1	5	0	0	0	22	8	0	103	1044
8:30 AM	17	12	8	0	3	0	18	0	2	4	0	0	0	22	3	0	89	1039
8:35 AM	17	13	2	0	1	0	23	0	4	2	0	0	0	16	6	0	84	1035
8:40 AM	12	16	9	0	3	0	21	0	3	4	0	0	0	18	4	0	90	1041
8:45 AM	15	11	8	0	7	0	13	0	3	6	0	0	0	14	7	0	84	1044
8:50 AM	20	16	3	0	4	0	7	0	1	11	0	0	0	17	2	0	81	1042
8:55 AM	9	13	7	0	5	0	11	0	2	15	0	0	0	14	3	0	79	1029

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	212	164	84	0	44	0	212	0	28	108	0	0	0	280	12	0	1144
Heavy Trucks	20	8	12		0	0	48		12	0	0		0	12	0		112
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

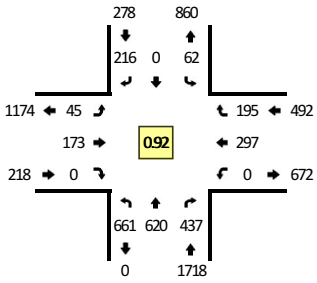
Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

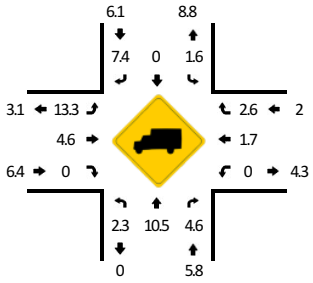
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

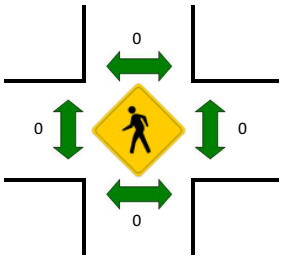
LOCATION: NE 10th Avenue -- NE 179th Street | **QC JOB #:** 16889610
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

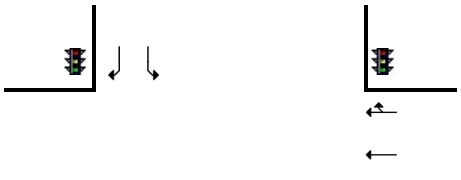
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:50 PM -- 5:05 PM

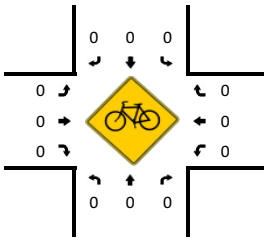


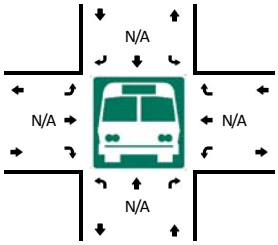


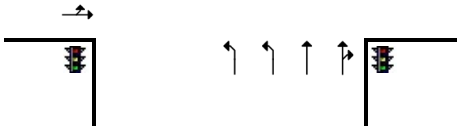


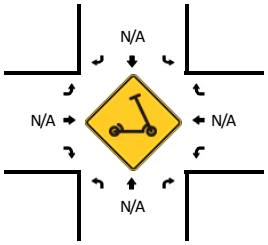












5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	24	25	10	0	7	0	15	0	1	11	0	0	0	24	6	0	123	
4:05 PM	19	31	14	0	8	0	17	0	1	10	0	0	0	18	6	0	124	
4:10 PM	21	26	10	0	7	0	19	0	0	14	0	0	0	17	8	0	122	
4:15 PM	31	35	17	0	6	0	12	0	2	17	0	0	0	21	8	0	149	
4:20 PM	38	43	16	0	9	0	17	0	2	13	0	0	0	14	8	0	160	
4:25 PM	20	23	13	0	2	0	15	0	1	18	0	0	0	16	10	0	118	
4:30 PM	24	29	14	0	5	0	26	0	3	10	0	0	0	13	6	0	130	
4:35 PM	34	47	14	0	2	0	15	0	2	11	0	0	0	17	3	0	145	
4:40 PM	34	73	19	0	5	0	12	0	1	15	0	0	0	6	7	0	172	
4:45 PM	36	65	19	0	6	0	14	0	5	12	0	0	0	23	16	0	196	
4:50 PM	57	95	14	0	5	0	13	0	9	13	0	0	0	21	18	0	245	
4:55 PM	71	62	33	0	12	0	15	0	7	16	0	0	0	12	14	0	242	1926
5:00 PM	58	63	47	0	3	0	17	0	2	21	0	0	0	26	13	0	250	2053
5:05 PM	39	40	41	0	8	0	23	0	1	18	0	0	0	16	14	0	200	2129
5:10 PM	80	52	65	0	4	0	22	0	3	17	0	0	0	27	9	0	279	2286
5:15 PM	60	44	52	0	4	0	21	0	2	12	0	0	0	20	7	0	222	2359
5:20 PM	54	27	48	0	4	0	18	0	3	12	0	0	0	30	16	0	212	2411
5:25 PM	65	36	31	0	0	0	18	0	4	14	0	0	0	20	18	0	206	2499
5:30 PM	54	52	39	0	9	0	10	0	4	9	0	0	0	34	19	0	230	2599
5:35 PM	47	39	28	0	5	0	30	0	3	15	0	0	0	31	23	0	221	2675
5:40 PM	40	45	20	0	2	0	15	0	2	14	0	0	0	37	28	0	203	2706
5:45 PM	33	44	10	0	3	0	14	0	6	14	0	0	0	29	24	0	177	2687
5:50 PM	47	55	17	0	3	0	19	0	0	10	0	0	0	33	26	0	210	2652
5:55 PM	42	64	15	0	4	0	7	0	4	6	0	0	0	16	19	0	177	2587

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	744	880	376	0	80	0	180	0	72	200	0	0	0	236	180	0	2948
Heavy Trucks	8	96	12		0	0	12		12	8	0		0	8	8		164
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

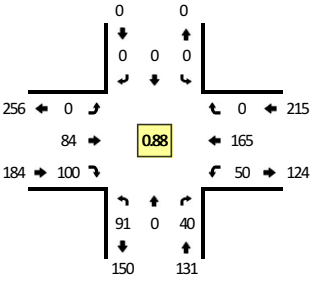
Type of peak hour being reported: Intersection Peak

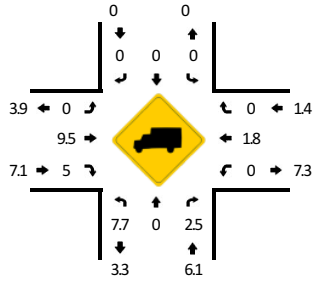
Method for determining peak hour: Total Entering Volume

LOCATION: NE 15th Avenue -- NE 179th Street
CITY/STATE: Mount Vista, WA

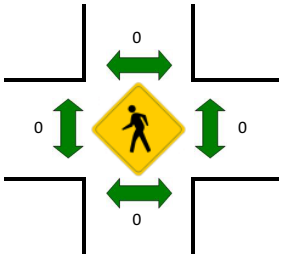
QC JOB #: 16889607
DATE: Wed, Jan 22 2025

Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:25 AM -- 7:40 AM

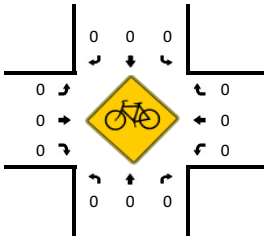


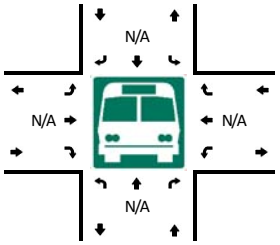


TRUE DATA TO IMPROVE MOBILITY

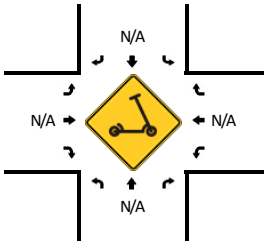












5-Min Count Period Beginning At	NE 15th Avenue (Northbound)				NE 15th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	11	0	3	0	0	0	0	0	0	9	2	0	3	15	0	0	43	
7:05 AM	5	0	2	0	0	0	0	0	0	7	9	0	2	12	0	0	37	
7:10 AM	6	0	3	0	0	0	0	0	0	6	5	0	2	15	0	0	37	
7:15 AM	6	0	3	0	0	0	0	0	0	5	8	0	4	12	0	0	38	
7:20 AM	5	0	0	0	0	0	0	0	0	9	7	0	3	18	0	0	42	
7:25 AM	5	0	4	0	0	0	0	0	0	10	11	0	2	14	0	0	46	
7:30 AM	7	0	3	0	0	0	0	0	0	7	12	0	7	20	0	0	56	
7:35 AM	8	0	3	0	0	0	0	0	0	7	6	0	6	19	0	0	49	
7:40 AM	7	0	3	0	0	0	0	0	0	4	9	0	5	18	0	0	46	
7:45 AM	6	0	3	0	0	0	0	0	0	13	5	0	6	12	0	0	45	
7:50 AM	10	0	4	0	0	0	0	0	0	7	4	0	3	13	0	0	41	
7:55 AM	9	0	3	0	0	0	0	0	0	12	9	0	3	10	0	0	46	526
8:00 AM	7	0	2	0	0	0	0	0	0	5	9	0	3	9	0	0	35	518
8:05 AM	4	0	5	0	0	0	0	0	0	4	7	0	1	10	0	0	31	512
8:10 AM	7	0	2	0	0	0	0	0	0	6	7	0	6	14	0	0	42	517
8:15 AM	9	0	5	0	0	0	0	0	0	2	13	0	3	13	0	0	45	524
8:20 AM	12	0	3	0	0	0	0	0	0	7	8	0	5	13	0	0	48	530
8:25 AM	6	0	1	0	0	0	0	0	0	5	4	0	3	19	0	0	38	522
8:30 AM	11	0	2	0	0	0	0	0	0	6	5	0	4	13	0	0	41	507
8:35 AM	8	0	1	0	0	0	0	0	0	4	4	0	2	12	0	0	31	489
8:40 AM	5	0	1	0	0	0	0	0	0	7	6	0	4	12	0	0	35	478
8:45 AM	8	0	5	0	0	0	0	0	0	14	4	0	6	10	0	0	47	480
8:50 AM	7	0	1	0	0	0	0	0	0	8	8	0	4	9	0	0	37	476
8:55 AM	8	0	0	0	0	0	0	0	0	12	10	0	3	13	0	0	46	476

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	80	0	40	0	0	0	0	0	0	96	116	0	60	212	0	0	604
Heavy Trucks	4	0	0		0	0	0		0	12	0		0	4	0		20
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

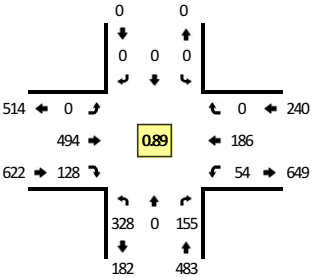
Type of peak hour being reported: Intersection Peak

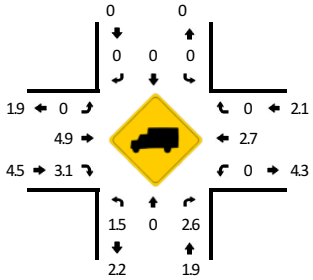
Method for determining peak hour: Total Entering Volume

LOCATION: NE 15th Avenue -- NE 179th Street
CITY/STATE: Mount Vista, WA

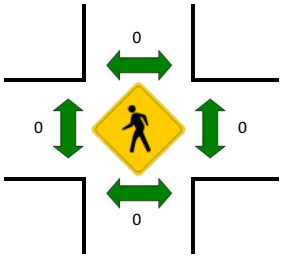
QC JOB #: 16889608
DATE: Wed, Jan 22 2025

Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

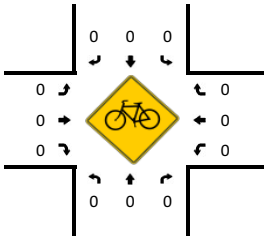


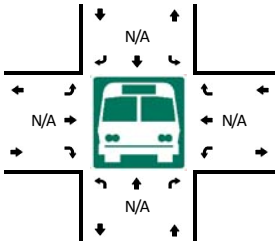


TRUE DATA TO IMPROVE MOBILITY

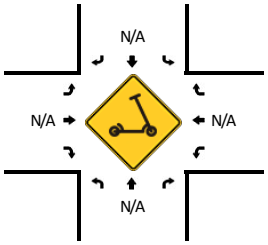












5-Min Count Period Beginning At	NE 15th Avenue (Northbound)				NE 15th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	13	0	6	0	0	0	0	0	0	10	12	0	6	16	0	0	63	
4:05 PM	14	0	2	0	0	0	0	0	0	18	13	0	2	13	0	0	62	
4:10 PM	13	0	6	0	0	0	0	0	0	11	15	0	1	11	0	0	57	
4:15 PM	11	0	4	0	0	0	0	0	0	14	19	0	2	14	0	0	64	
4:20 PM	12	0	10	0	0	0	0	0	0	23	14	0	0	12	0	0	71	
4:25 PM	11	0	8	0	0	0	0	0	0	18	10	0	3	13	0	0	63	
4:30 PM	12	0	4	0	0	0	0	0	0	19	9	0	7	7	0	0	58	
4:35 PM	6	0	8	0	0	0	0	0	0	15	9	0	7	11	0	0	56	
4:40 PM	11	0	7	0	0	0	0	0	0	25	12	0	2	6	0	0	63	
4:45 PM	25	0	8	0	0	0	0	0	0	21	13	0	5	7	0	0	79	
4:50 PM	25	0	8	0	0	0	0	0	0	23	10	0	3	9	0	0	78	
4:55 PM	29	0	12	0	0	0	0	0	0	38	9	0	5	8	0	0	101	815
5:00 PM	20	0	13	0	0	0	0	0	0	67	6	0	4	10	0	0	120	872
5:05 PM	15	0	10	0	0	0	0	0	0	59	12	0	5	16	0	0	117	927
5:10 PM	21	0	21	0	0	0	0	0	0	54	13	0	3	12	0	0	124	994
5:15 PM	19	0	13	0	0	0	0	0	0	52	8	0	4	9	0	0	105	1035
5:20 PM	27	0	9	0	0	0	0	0	0	48	4	0	5	21	0	0	114	1078
5:25 PM	28	0	8	0	0	0	0	0	0	35	14	0	6	15	0	0	106	1121
5:30 PM	34	0	12	0	0	0	0	0	0	35	17	0	0	15	0	0	113	1176
5:35 PM	49	0	17	0	0	0	0	0	0	39	13	0	4	11	0	0	133	1253
5:40 PM	35	0	11	0	0	0	0	0	0	34	14	0	6	32	0	0	132	1322
5:45 PM	26	0	14	0	0	0	0	0	0	15	8	0	5	23	0	0	91	1334
5:50 PM	25	0	15	0	0	0	0	0	0	18	10	0	7	14	0	0	89	1345
5:55 PM	21	0	10	0	0	0	0	0	0	17	6	0	5	17	0	0	76	1320

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	472	0	160	0	0	0	0	0	0	432	176	0	40	232	0	0	1512
Heavy Trucks	8	0	8		0	0	0		0	32	0		0	8	0		56
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

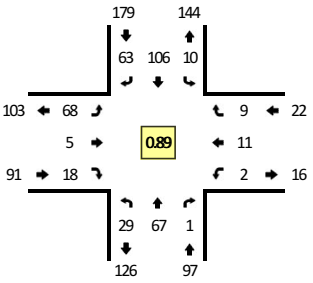
Report generated on 1/29/2025 2:01 PM

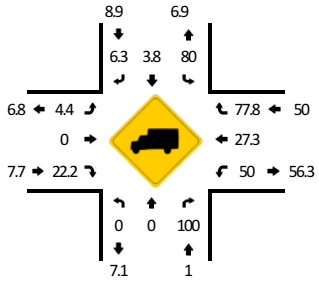
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

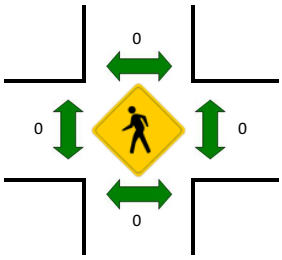
LOCATION: NE 29th Avenue -- NE 179th Street | **QC JOB #:** 16889605
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

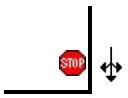
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

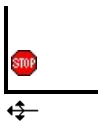


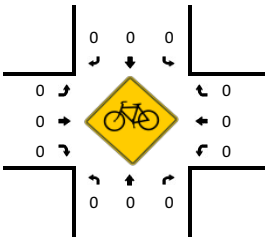


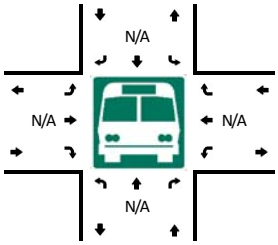
TRUE DATA TO IMPROVE MOBILITY

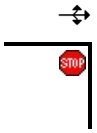


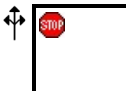


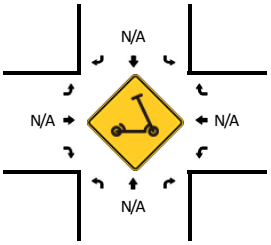












5-Min Count Period Beginning At	NE 29th Avenue (Northbound)				NE 29th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	3	1	0	0	4	8	0	8	2	2	0	0	1	0	0	30	
7:05 AM	2	2	0	0	0	4	6	0	6	0	1	0	0	1	0	0	22	
7:10 AM	3	1	1	0	0	4	4	0	4	0	3	0	0	1	0	0	21	
7:15 AM	1	7	1	0	0	10	4	0	5	1	0	0	0	0	0	0	29	
7:20 AM	3	2	0	0	1	6	4	0	6	0	0	0	0	2	0	0	24	
7:25 AM	3	3	0	0	0	5	3	0	8	2	1	0	0	0	0	0	25	
7:30 AM	2	7	0	0	0	1	8	0	5	0	0	0	0	1	2	0	26	
7:35 AM	3	5	0	0	3	8	3	0	6	0	1	0	1	1	0	0	31	
7:40 AM	5	10	0	0	0	7	7	0	11	0	1	0	0	1	0	0	42	
7:45 AM	0	2	0	0	0	9	8	0	5	2	2	0	0	1	3	0	32	
7:50 AM	3	4	0	0	1	10	4	0	9	1	1	0	0	0	0	0	33	
7:55 AM	0	8	0	0	0	11	1	0	7	0	1	0	0	1	0	0	29	344
8:00 AM	2	3	0	0	0	6	4	0	2	0	3	0	0	0	0	0	20	334
8:05 AM	1	5	0	0	1	5	5	0	4	0	2	0	0	0	0	0	23	335
8:10 AM	5	4	0	0	0	12	6	0	3	0	1	0	0	1	2	0	34	348
8:15 AM	3	7	0	0	5	9	10	0	7	1	1	0	0	0	0	0	43	362
8:20 AM	2	7	0	0	0	7	4	0	4	1	3	0	0	1	3	0	32	370
8:25 AM	4	6	0	0	0	12	5	0	3	0	0	0	0	4	0	0	34	379
8:30 AM	1	6	1	0	0	10	6	0	7	0	2	0	1	1	1	0	36	389
8:35 AM	3	7	0	0	0	12	5	0	2	0	0	0	1	1	0	0	31	389
8:40 AM	1	7	1	0	0	6	7	0	5	2	0	0	1	0	1	0	31	378
8:45 AM	1	5	0	0	0	11	4	0	5	0	0	0	1	0	1	0	28	374
8:50 AM	1	2	1	0	1	9	3	0	5	1	3	0	1	2	1	0	30	371
8:55 AM	3	6	0	0	0	6	4	0	4	0	5	0	0	2	1	0	31	373

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	40	72	0	0	20	112	80	0	56	8	20	0	0	8	20	0	436
Heavy Trucks	0	0	0		20	0	4		4	0	4		0	0	16		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

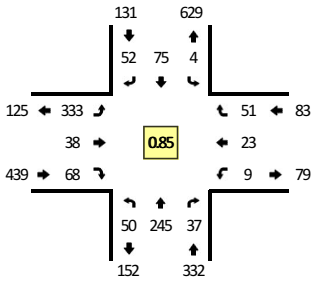
Comments:

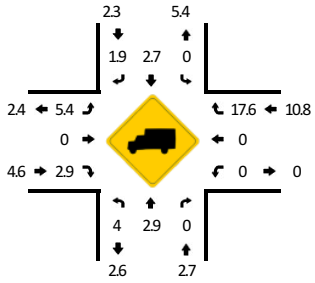
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

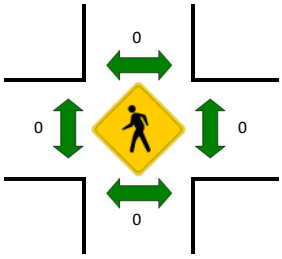
LOCATION: NE 29th Avenue -- NE 179th Street | **QC JOB #:** 16889606
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

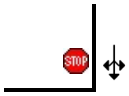
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

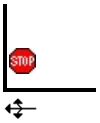


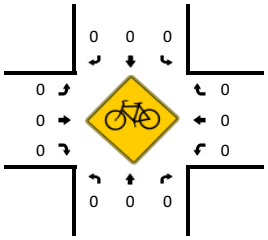


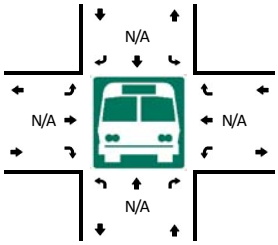
TRUE DATA TO IMPROVE MOBILITY

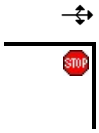


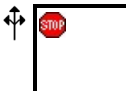


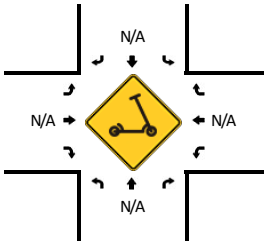












5-Min Count Period Beginning At	NE 29th Avenue (Northbound)				NE 29th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	12	1	0	2	9	5	0	3	1	3	0	0	1	0	0	42	
4:05 PM	3	5	1	0	0	7	7	0	12	0	0	0	0	3	2	0	40	
4:10 PM	3	10	0	0	2	10	7	0	8	0	1	0	0	0	1	0	42	
4:15 PM	3	5	0	0	1	12	3	0	8	3	5	0	0	1	1	0	42	
4:20 PM	3	9	0	0	1	7	6	0	6	2	6	0	0	1	5	0	46	
4:25 PM	5	7	0	0	2	6	1	0	11	1	3	0	0	1	2	0	39	
4:30 PM	3	9	0	0	0	7	6	0	4	2	4	0	0	1	0	0	36	
4:35 PM	3	11	0	0	3	2	7	0	7	0	1	0	0	0	0	0	34	
4:40 PM	4	9	0	0	1	11	5	0	19	2	6	0	0	0	1	0	58	
4:45 PM	3	22	0	0	1	6	7	0	8	2	5	0	1	0	1	0	56	
4:50 PM	3	18	0	0	1	10	4	0	17	0	1	0	0	0	0	0	54	
4:55 PM	1	15	0	0	1	2	4	0	28	0	2	0	0	1	0	0	54	543
5:00 PM	2	14	0	0	0	5	5	0	49	0	5	0	0	4	0	0	84	585
5:05 PM	3	26	3	0	0	5	4	0	44	0	5	0	0	0	0	0	90	635
5:10 PM	3	25	3	0	2	5	7	0	40	1	4	0	0	0	4	0	94	687
5:15 PM	1	37	1	0	0	11	9	0	35	2	5	0	0	1	3	0	105	750
5:20 PM	2	23	0	0	2	7	4	0	21	1	7	0	0	1	4	0	72	776
5:25 PM	2	25	4	0	0	7	4	0	16	7	5	0	2	3	3	0	78	815
5:30 PM	4	19	5	0	0	6	1	0	17	7	4	0	1	2	5	0	71	850
5:35 PM	3	20	5	0	0	5	5	0	21	5	5	0	0	5	3	0	77	893
5:40 PM	11	13	4	0	0	7	2	0	22	4	6	0	0	2	7	0	78	913
5:45 PM	8	14	7	0	0	11	4	0	21	3	5	0	2	2	9	0	86	943
5:50 PM	6	17	4	0	0	3	1	0	17	7	9	0	4	1	5	0	74	963
5:55 PM	5	12	1	0	0	3	6	0	30	1	8	0	0	2	8	0	76	985

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	28	352	28	0	8	84	80	0	476	12	56	0	0	4	28	0	1156
Heavy Trucks	4	8	0		0	8	0		20	0	0		0	0	0		40
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

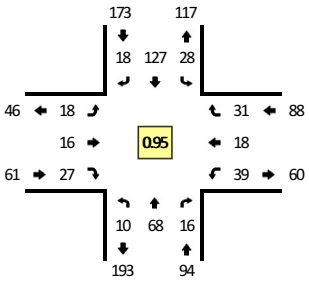
Comments:

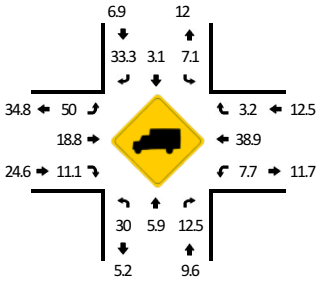
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

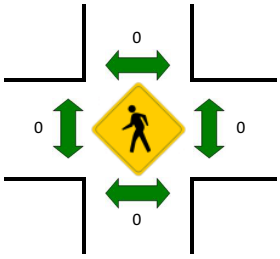
LOCATION: NE 50th Avenue -- NE 179th Street | **QC JOB #:** 16889603
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

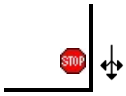
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

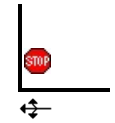


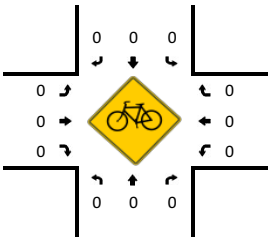


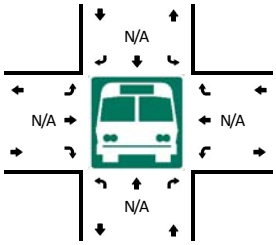
TRUE DATA TO IMPROVE MOBILITY

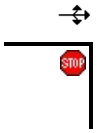


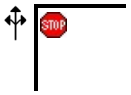


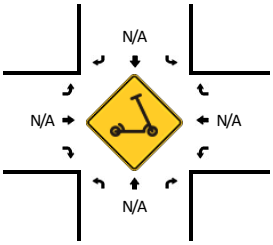












5-Min Count Period Beginning At	NE 50th Avenue (Northbound)				NE 50th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	4	0	2	5	1	0	0	0	0	0	2	3	2	0	19	
7:05 AM	0	1	1	0	1	8	4	0	3	1	4	0	2	2	0	0	27	
7:10 AM	0	3	1	0	1	6	2	0	0	2	2	0	4	1	1	0	23	
7:15 AM	1	4	2	0	0	6	2	0	0	1	0	0	3	1	1	0	21	
7:20 AM	2	3	1	0	2	9	2	0	0	1	0	0	6	0	0	0	26	
7:25 AM	0	6	0	0	3	8	0	0	1	2	0	0	4	0	0	0	24	
7:30 AM	0	3	2	0	1	9	0	0	0	0	2	0	5	1	2	0	25	
7:35 AM	0	4	1	0	2	16	3	0	1	1	2	0	3	2	2	0	37	
7:40 AM	1	5	1	0	3	13	0	0	0	1	2	0	3	1	1	0	31	
7:45 AM	0	6	1	0	3	10	3	0	1	2	1	0	6	3	4	0	40	
7:50 AM	2	5	0	0	3	14	1	0	1	1	1	0	2	2	5	0	37	
7:55 AM	3	7	2	0	3	7	1	0	1	0	0	0	7	1	1	0	33	343
8:00 AM	1	0	2	0	3	13	3	0	1	3	4	0	2	3	3	0	38	362
8:05 AM	0	6	0	0	4	6	0	0	4	2	1	0	1	3	1	0	28	363
8:10 AM	0	3	2	0	2	6	2	0	3	1	3	0	9	1	6	0	38	378
8:15 AM	0	8	1	0	2	13	1	0	3	2	2	0	0	2	2	0	36	393
8:20 AM	0	8	2	0	2	13	2	0	1	0	3	0	3	0	2	0	36	403
8:25 AM	3	9	3	0	1	8	1	0	2	1	2	0	3	0	0	0	33	412
8:30 AM	0	7	1	0	0	8	1	0	0	2	6	0	0	0	4	0	29	416
8:35 AM	1	4	3	0	1	8	1	0	2	1	2	0	3	1	3	0	30	409
8:40 AM	0	3	3	0	1	10	0	0	3	1	0	0	5	0	4	0	30	408
8:45 AM	0	5	4	0	3	14	1	0	2	1	1	0	3	1	2	0	37	405
8:50 AM	3	5	1	0	2	13	1	0	2	0	2	0	5	1	2	0	37	405
8:55 AM	3	0	2	0	5	13	1	0	0	1	0	0	6	2	3	0	36	408

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	20	72	12	0	36	124	20	0	12	12	8	0	60	24	40	0	440
Heavy Trucks	12	0	0		4	0	4		4	4	0		4	16	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

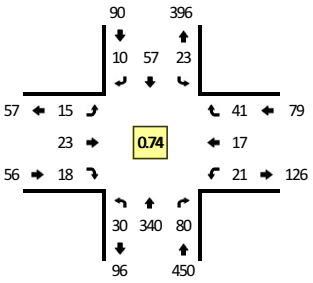
Comments:

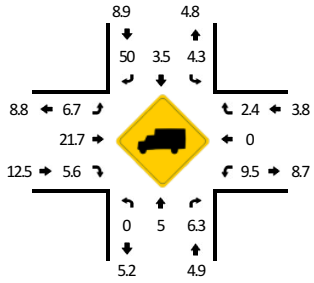
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

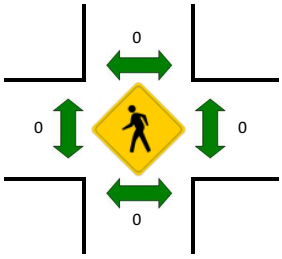
LOCATION: NE 50th Avenue -- NE 179th Street | **QC JOB #:** 16889604
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

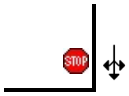
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:35 PM -- 5:50 PM

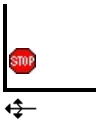


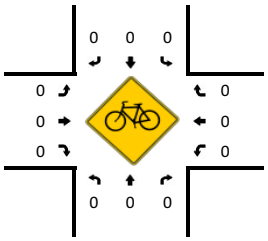


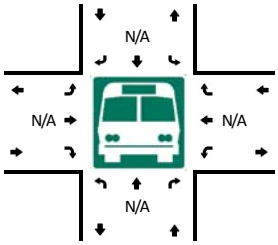
TRUE DATA TO IMPROVE MOBILITY

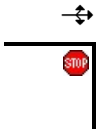


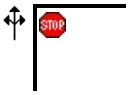


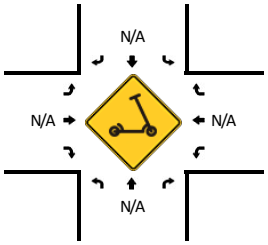












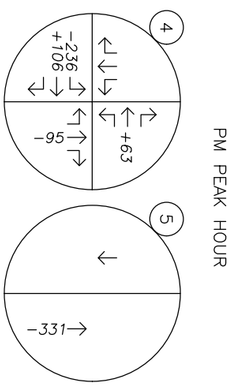
5-Min Count Period Beginning At	NE 50th Avenue (Northbound)				NE 50th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	7	5	0	5	7	2	0	2	0	3	0	2	2	5	0	44	
4:05 PM	3	14	3	0	3	4	3	0	3	3	1	0	2	0	4	0	43	
4:10 PM	4	6	2	0	2	4	6	0	3	2	0	0	5	2	3	0	39	
4:15 PM	1	10	5	0	4	2	1	0	2	4	4	0	1	0	5	0	39	
4:20 PM	6	12	9	0	2	8	6	0	5	1	3	0	1	2	3	0	58	
4:25 PM	4	14	3	0	3	3	2	0	1	2	2	0	2	0	5	0	41	
4:30 PM	3	11	3	0	3	5	4	0	3	1	3	0	2	0	3	0	41	
4:35 PM	2	13	5	0	2	7	1	0	2	0	2	0	3	1	2	0	40	
4:40 PM	1	13	7	0	1	5	2	0	4	1	2	0	2	3	0	0	41	
4:45 PM	5	13	5	0	3	5	3	0	3	1	4	0	2	4	3	0	51	
4:50 PM	0	16	6	0	1	5	1	0	2	1	1	0	4	0	4	0	41	
4:55 PM	2	15	2	0	1	4	1	0	2	1	5	0	4	0	1	0	38	516
5:00 PM	6	11	3	0	1	2	2	0	2	1	2	0	3	3	4	0	40	512
5:05 PM	3	21	6	0	5	5	0	0	1	3	3	0	2	0	1	0	50	519
5:10 PM	3	20	4	0	2	6	1	0	2	0	1	0	2	0	4	0	45	525
5:15 PM	1	18	8	0	1	10	0	0	1	1	2	0	3	1	4	0	50	536
5:20 PM	1	25	4	0	3	5	0	0	2	1	2	0	0	1	5	0	49	527
5:25 PM	3	32	5	0	1	5	1	0	1	1	1	0	2	2	4	0	58	544
5:30 PM	3	34	6	0	1	7	0	0	0	3	1	0	3	1	3	0	62	565
5:35 PM	4	42	6	0	2	2	1	0	0	2	2	0	1	0	5	0	67	592
5:40 PM	2	47	10	0	2	3	1	0	1	2	2	0	2	4	0	0	76	627
5:45 PM	1	38	16	0	3	4	3	0	2	5	0	0	1	3	8	0	84	660
5:50 PM	2	32	7	0	2	4	0	0	2	1	1	0	2	0	1	0	54	673
5:55 PM	1	20	5	0	0	4	1	0	1	3	1	0	0	2	2	0	40	675

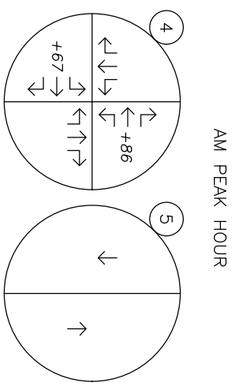
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	508	128	0	28	36	20	0	12	36	16	0	16	28	52	0	908
Heavy Trucks	0	12	8		0	4	20		0	8	0		4	0	4		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212







No Scale

TRAFFIC VOLUMES

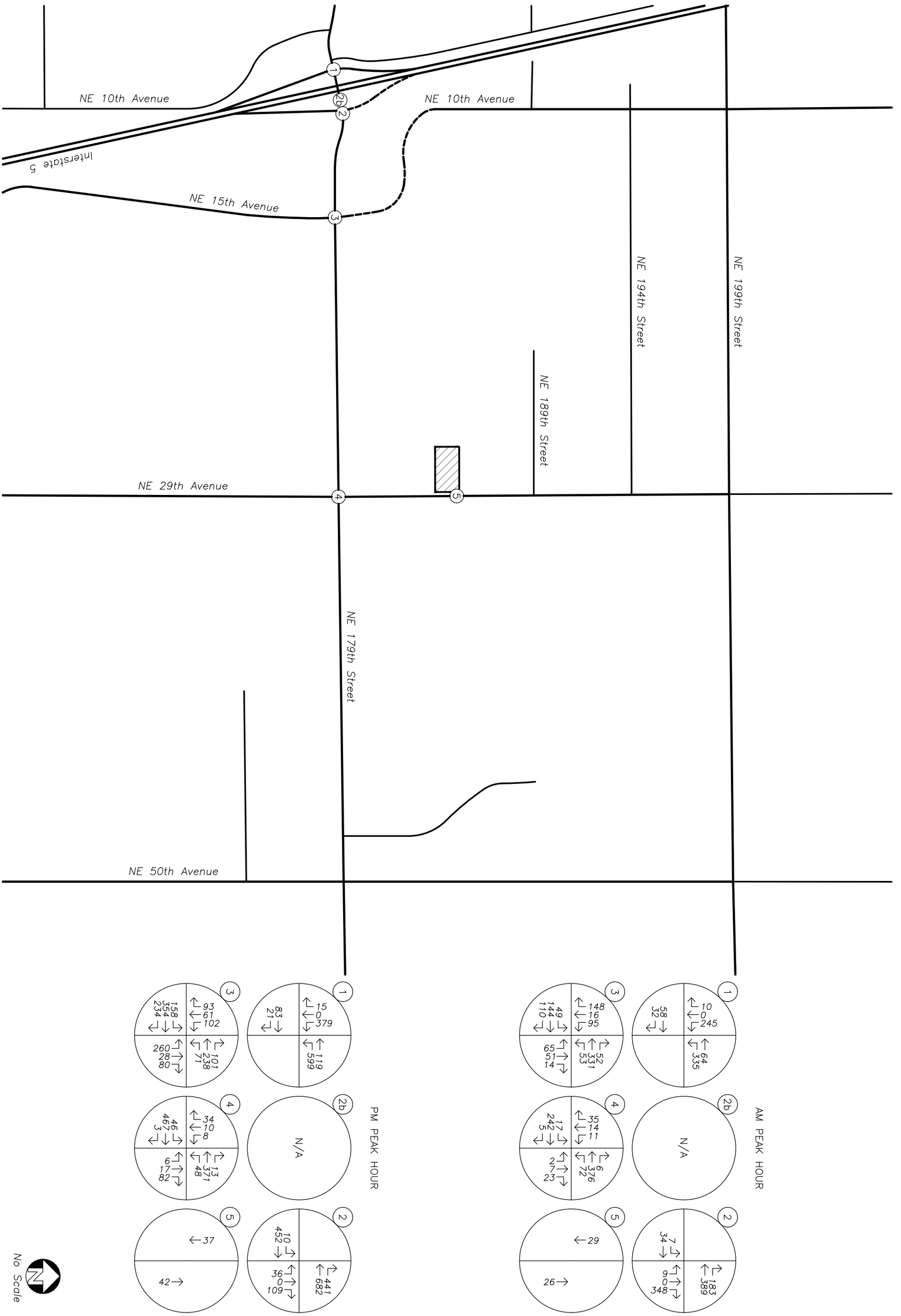
Rerouted/Adjusted Volumes - NE 179th Street Closure

AM & PM Peak Hours

Figure A

Four Creeks North

4/17/2025



TRAFFIC VOLUMES

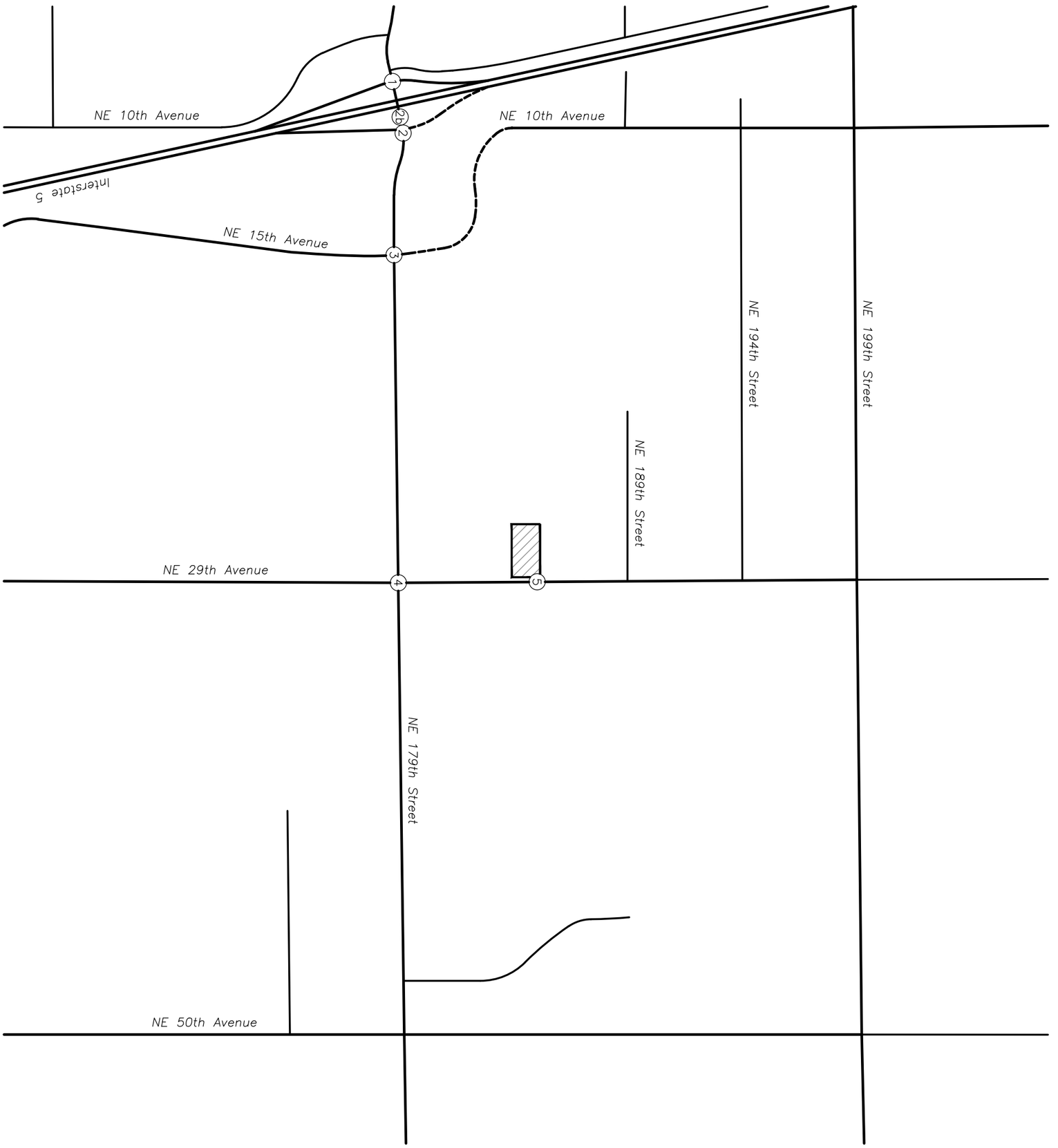
In-Process Development Trips

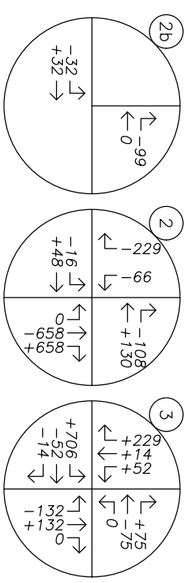
AM & PM Peak Hours

Figure B

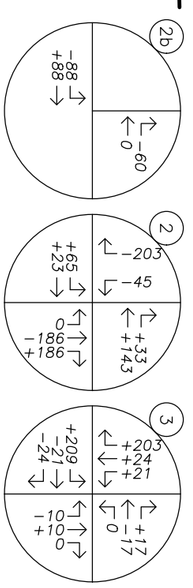
Four Creeks North

4/17/2025





PM PEAK HOUR



AM PEAK HOUR

No Scale



lancaster mobley

TRAFFIC VOLUMES

Rerouted Volumes - I-5 NB Ramp, 10th Ave, & Delfel Rd (No In-Process Added)

AM & PM Peak Hours

Figure C

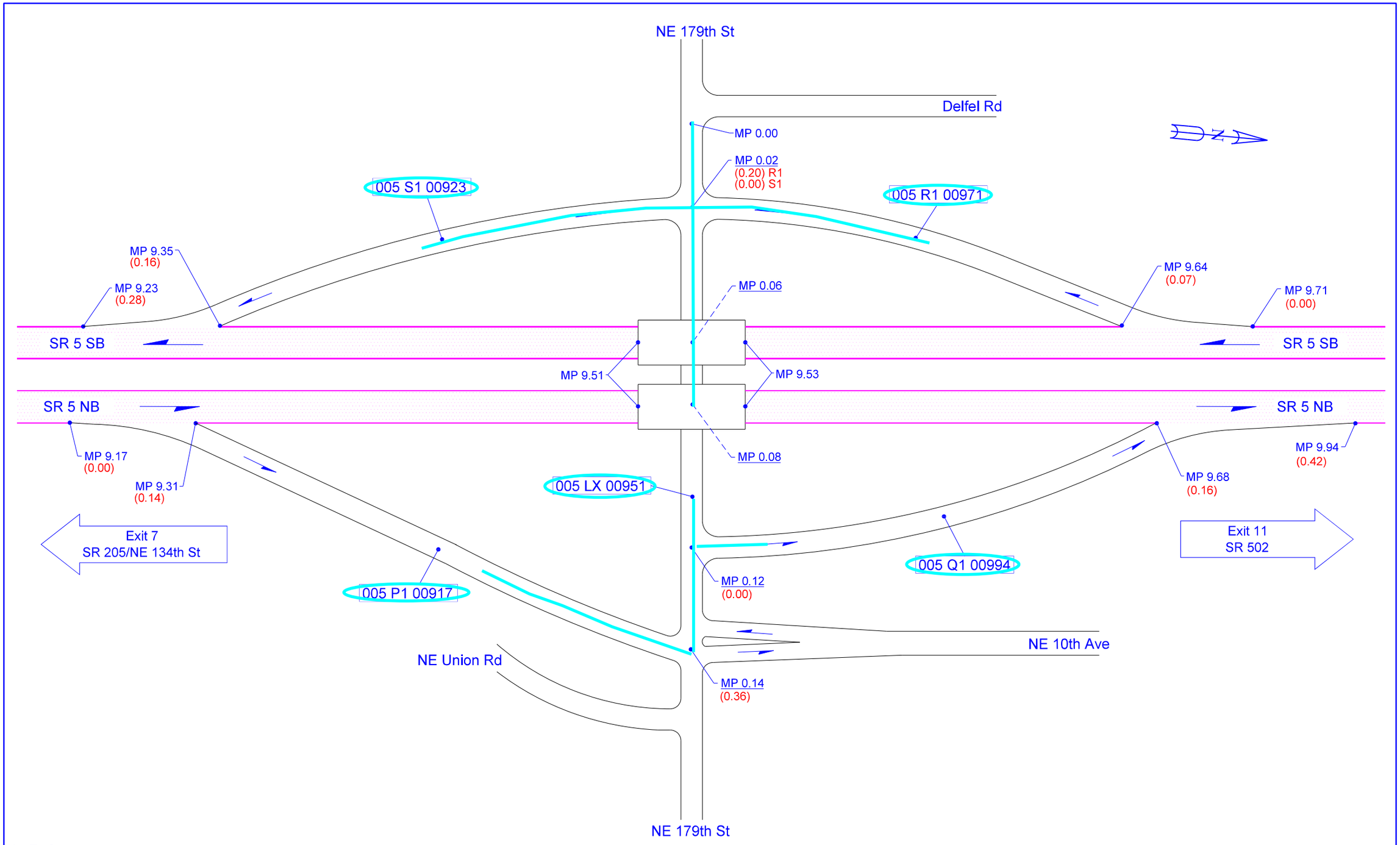
Four Creeks North

4/17/2025

Appendix E – Safety Analysis

Crash History Data

Left-Turn Lane Warrant Analysis



Not To Scale

02/16/2017	KLK	WSDOT SOUTHWEST REGION	CLARK COUNTY	JUNCTION NE 179TH ST	SR 5 - EXIT 9

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) @ SR 005 SB on-off ramps

SR 005R100971 (SR 005 SB off-ramp, mp 0.13 - 0.20) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) - *No Reported Crashes*

SR 005S100923 (SR 005 SB on-ramp, mp 0.00 - 0.08) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
State Route	Clark		005LX00951								0.00		No	E953035	08/22/2019	06:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight
State Route	Clark		005LX00951								0.00		No	ED91868	07/24/2023	12:52	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.02		No	E886512	01/16/2019	16:51	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Overcast	Dry	Dusk

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) @ SR 005 SB on-off ramps

SR 005R100971 (SR 005 SB off-ramp, mp 0.13 - 0.20) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) - *No Reported Crashes*

SR 005S100923 (SR 005 SB on-ramp, mp 0.00 - 0.08) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Making Left Turn	Going Straight Ahead	North	East	East	West	Did Not Grant RW to Vehicle			None						Lane 1 LX Decreasing Milepost	1088034.55	159688.04
Entering at angle	Making Left Turn	Going Straight Ahead	North	East	West	East	Did Not Grant RW to Vehicle			None						Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088036.25	159686.66
Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn	East	South	East	South	Improper Turn/Merge			None						Intersecting Road Increasing Milepost	1088140.76	159709.76

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

SR 005P100917 (SR 005 NB off-ramp, mp 0.28 - 0.36) @ SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) - *No Reported Crashes*

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		41761		94360	0.000					0.000		No	EE82582	05/27/2024	12:19	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.12		No	ED04036	11/12/2022	21:45	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Intersection Related but Not at Intersection	Overcast	Dry	Dark-Street Lights On
State Route	Clark		005LX00951								0.12		No	EC17012	02/02/2022	16:58	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Daylight
State Route	Clark		005LX00951								0.12		No	EE53383	02/18/2024	12:25	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	EC94425	10/16/2022	15:05	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	ED15354	12/14/2022	14:06	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	ED31404	01/29/2023	15:53	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	EC21583	02/07/2022	14:48	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	EE74078	04/29/2024	11:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

SR 005P100917 (SR 005 NB off-ramp, mp 0.28 - 0.36) @ SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) - *No Reported Crashes*

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Under Influence of Alcohol	Did Not Grant R/W to Non Motorist	Disregard Traffic Sign and Signals	None						Lane of Primary Trafficway	1088702.83	159822.35
From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Going Straight Ahead	West	East	West	East	Under Influence of Alcohol	Other Contributing Circ Not Listed		None						Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088623.21	159792.89
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	North	East	West	Did Not Grant RW to Vehicle			None						Lane 1 LX Decreasing Milepost	1088598.62	159796.09
From same direction - all others	Backing	Stopped for Traffic	West	Vehicle Backing	West	Vehicle Stopped	Improper Backing			None						Left Turn Lane LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088596.51	159795.69
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Unknown Distraction	Disregard Traffic Sign and Signals		None						Lane 2 LX Decreasing Milepost	1088704.33	159814.79
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane 1 LX Decreasing Milepost	1088704.33	159814.79
From same direction - one right turn - one straight	Making Right Turn	Going Straight Ahead	South	East	South	East	Improper Turn/Merge			None						Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088723.3	159814.68
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane 1 LX Decreasing Milepost	1088721.82	159822.1
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane 1 LX Decreasing Milepost	1088702.83	159822.34

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

SR 005P100917 (SR 005 NB off-ramp, mp 0.28 - 0.36) @ SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) - *No Reported Crashes*

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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State Route	Clark		005LX00951								0.14		No	EC06793	12/23/2021	22:09	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On
State Route	Clark		005LX00951								0.14		No	EB89575	11/13/2021	13:55	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Overcast	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

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From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	South	North	North	East	Under Influence of Alcohol	Disregard Traffic Sign and Signals		None						Lane 1 LX Decreasing Milepost	1088703.59	159812.87
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	West	North	East	West	Improper Turn/Merge			None						Lane 2 LX Decreasing Milepost	1088718.52	159822.31

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.260 - 0.300) @ 15th Ave (Co Rd # 43110, mp 2.490 - 2.510)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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County Road	Clark		94360		43110	2.510					0.280		No	E932992	06/18/2019	16:40	Possible Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EC80219	08/15/2022	12:02	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,etc)	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EE68818	03/23/2024	18:02	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EC07748	01/02/2022	12:41	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	ED88656	06/02/2023	07:30	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,etc)	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EA75716	10/22/2020	16:34	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	E989788	11/18/2019	12:18	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.260 - 0.300) @ 15th Ave (Co Rd # 43110, mp 2.490 - 2.510)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Inattention			None						Lane of Primary Trafficway	1090128.58	159722.05
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	South	West	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1090128.54	159720.94
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Other Distractions			None						Lane of Primary Trafficway	1090128.54	159720.94
Entering at angle	Making Right Turn	Going Straight Ahead	South	East	East	West	Exceeding Reas. Safe Speed			None						Lane of Primary Trafficway	1090128.54	159720.94
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	South	West	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1090128.54	159720.94
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1090128.54	159720.94
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1090128.58	159722.04

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		43330		94360	0.990					2.260		No	ED16740	12/18/2022	14:53	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Wet	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EC37890	03/25/2022	15:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	ED48528	03/28/2023	21:40	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
County Road	Clark		94360		43330	2.260					0.990		No	ED10607	11/28/2022	17:28	Possible Injury	1	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Fog or Smog or Smoke	Wet	Dark-No Street Lights
County Road	Clark		94360		43330	2.260					0.990		No	EB76046	09/10/2021	17:42	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EA47114	07/07/2020	09:56	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EA78834	10/30/2020	13:00	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EC53355	05/25/2022	19:43	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Entering Roundabout	Clear	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	E881608	01/10/2019	06:55	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
County Road	Clark		94360		43330	2.260					0.990		No	ED57928	05/02/2023	14:25	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	North	South	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Making Left Turn	Going Straight Ahead	East	South	South	Vehicle Stopped	Distracted by Adjusting Vehicle Cntrls			None						Intersecting Trafficway	1078172.95	159926.58
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	West	East	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	West	East	East	South	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Starting in Traffic Lane	Starting in Traffic Lane	East	West	North	South	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1093914.43	159639.32
From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	East	West	East	West	Unknown Distraction			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	Distracted by Other Occupant			None						Lane of Primary Trafficway	1131730.85	119503.08
Entering at angle	Making Right Turn	Starting in Traffic Lane	North	West	East	West	Disregard Stop Sign - Flashing Red	Inattention		None						Lane of Primary Trafficway	1093914.43	159639.33
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	North	South	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		94360		43330	2.260					0.990		No	ED31158	01/23/2023	16:32	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Dry	Dusk
County Road	Clark		94360		43330	2.260					0.990		No	EC19856	02/07/2022	13:33	Possible Injury	1	0	2	0	0	Truck (Flatbad,Van,etc)	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	E994831	12/12/2019	20:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights Off
County Road	Clark		94360		43330	2.260					0.990		No	E928848	06/01/2019	22:42	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Dark-Street Lights On
County Road	Clark		94360		43330	2.260					0.990		No	EE25446	10/31/2023	07:26	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear	Dry	Dark - Unknown Lightin

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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Entering at angle	Going Straight Ahead	Starting in Traffic Lane	West	East	South	North	Unknown Distraction			Unknown Distraction						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	South	North	West	East	Disregard Stop Sign - Flashing Red			None						Lane of Primary Trafficway	1093914.43	159639.32
Entering at angle	Going Straight Ahead	Making Left Turn	East	West	South	West	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1093914.43	159639.33
Entering at angle	Going Straight Ahead	Going Straight Ahead	South	North	West	East	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78

Left-Turn Lane Warrant Analysis

Project: Four Creeks North
Intersection: 5. Site Access at NE 29th Avenue
Date: 4/16/2025
Scenario: 2028 Buildout Conditions - AM Peak Hour (NB)

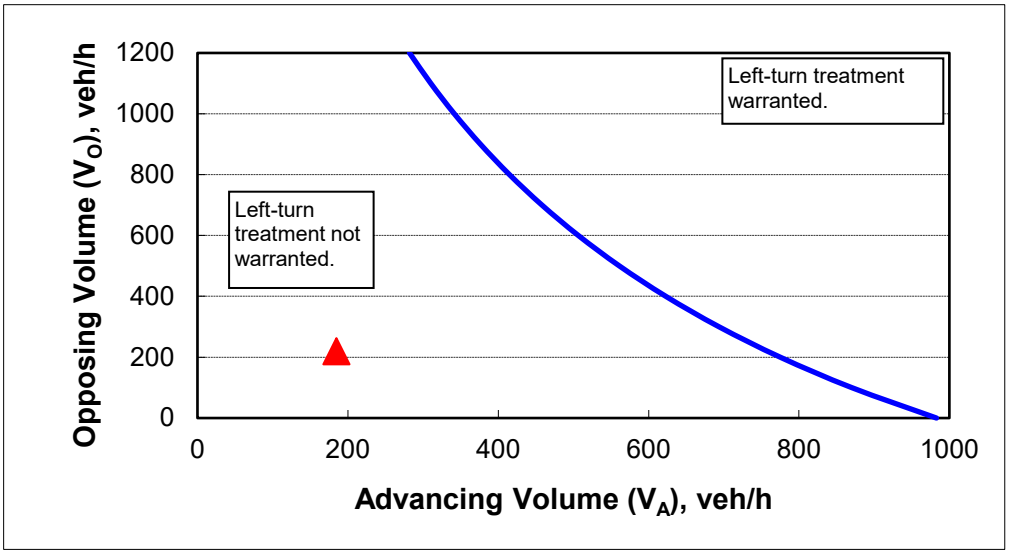
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	3%
Advancing volume (V_A), veh/h:	185
Opposing volume (V_O), veh/h:	220

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	758
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

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

Left-Turn Lane Warrant Analysis

Project: Four Creeks North
Intersection: 5. Site Access at NE 29th Avenue
Date: 4/16/2025
Scenario: 2028 Buildout Conditions - PM Peak Hour (NB)

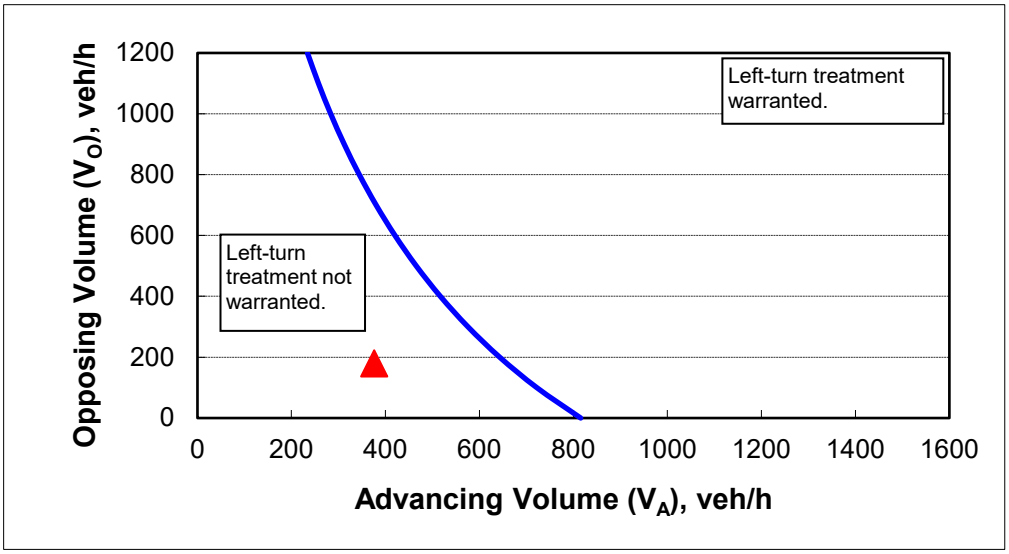
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	40
Percent of left-turns in advancing volume (V_A), %:	5%
Advancing volume (V_A), veh/h:	376
Opposing volume (V_O), veh/h:	180

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	658
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

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

Appendix F – Operation Analysis

Level of Service Descriptions

Synchro Capacity Reports

Sidra Capacity Reports

LEVEL OF SERVICE

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

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

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

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

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

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

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

LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

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

LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	137	474	328	269	0	0	0	0	52	2	73
Future Volume (veh/h)	0	137	474	328	269	0	0	0	0	52	2	73
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1811	1811	1781	1781	0				1752	1752	1752
Adj Flow Rate, veh/h	0	144	0	349	277	0				55	2	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	6	6	8	8	0				10	10	10
Cap, veh/h	0	298		933	490	0				266	10	245
Arrive On Green	0.00	0.16	0.00	0.27	0.27	0.00				0.16	0.16	0.16
Sat Flow, veh/h	0	1811	1535	3393	1781	0				1613	59	1485
Grp Volume(v), veh/h	0	144	0	349	277	0				57	0	13
Grp Sat Flow(s),veh/h/ln	0	1811	1535	1697	1781	0				1671	0	1485
Q Serve(g_s), s	0.0	2.2	0.0	2.5	4.1	0.0				0.9	0.0	0.2
Cycle Q Clear(g_c), s	0.0	2.2	0.0	2.5	4.1	0.0				0.9	0.0	0.2
Prop In Lane	0.00		1.00	1.00		0.00				0.96		1.00
Lane Grp Cap(c), veh/h	0	298		933	490	0				275	0	245
V/C Ratio(X)	0.00	0.48		0.37	0.57	0.00				0.21	0.00	0.05
Avail Cap(c_a), veh/h	0	1194		2069	1086	0				1074	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.5	0.0	8.9	9.4	0.0				11.0	0.0	10.7
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.2	1.0	0.0				0.4	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.0	0.6	1.0	0.0				0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.7	0.0	9.1	10.5	0.0				11.3	0.0	10.8
LnGrp LOS		B		A	B					B		B
Approach Vol, veh/h		144			626						70	
Approach Delay, s/veh		12.7			9.7						11.2	
Approach LOS		B			A						B	

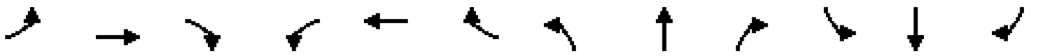
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				9.0		9.0		12.3				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				20.0		19.5		18.5				
Max Q Clear Time (g_c+I1), s				4.2		2.9		6.1				
Green Ext Time (p_c), s				0.6		0.2		2.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	10.4
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	90	0	0	254	25	189	175	65	42	0	191
Future Volume (veh/h)	22	90	0	0	254	25	189	175	65	42	0	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	0	0	1856	1856	1811	1811	1811	1707	0	1707
Adj Flow Rate, veh/h	24	98	0	0	276	13	205	190	14	46	0	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	0	0	3	3	6	6	6	13	0	13
Cap, veh/h	195	267	0	0	653	31	485	598	44	299	0	0
Arrive On Green	0.19	0.19	0.00	0.00	0.19	0.19	0.14	0.18	0.18	0.18	0.00	0.00
Sat Flow, veh/h	189	1402	0	0	3521	161	3346	3251	238	1626	46	
Grp Volume(v), veh/h	122	0	0	0	141	148	205	100	104	46	9.5	
Grp Sat Flow(s),veh/h/ln	1591	0	0	0	1763	1827	1673	1721	1768	1626	A	
Q Serve(g_s), s	0.0	0.0	0.0	0.0	1.9	1.9	1.5	1.4	1.4	0.6		
Cycle Q Clear(g_c), s	1.9	0.0	0.0	0.0	1.9	1.9	1.5	1.4	1.4	0.6		
Prop In Lane	0.20		0.00	0.00		0.09	1.00		0.13	1.00		
Lane Grp Cap(c), veh/h	462	0	0	0	336	348	485	317	325	299		
V/C Ratio(X)	0.26	0.00	0.00	0.00	0.42	0.42	0.42	0.32	0.32	0.15		
Avail Cap(c_a), veh/h	1214	0	0	0	1200	1243	4125	1171	1204	658		
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.6	0.0	0.0	0.0	9.7	9.7	10.6	9.6	9.6	9.3		
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.8	0.8	0.6	0.6	0.6	0.2		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.0	0.5	0.5	0.3	0.3	0.3	0.1		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.9	0.0	0.0	0.0	10.5	10.5	11.2	10.2	10.2	9.5		
LnGrp LOS	A				B	B	B	B	B	A		
Approach Vol, veh/h		122			289			409				
Approach Delay, s/veh		9.9			10.5			10.7				
Approach LOS		A			B			B				

Timer - Assigned Phs	1	2		4	5			8				
Phs Duration (G+Y+Rc), s	9.0	9.0		9.2	7.9			9.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0				
Max Green Setting (Gmax), s	11.0	18.5		18.5	33.5			18.5				
Max Q Clear Time (g_c+I1), s	2.6	3.4		3.9	3.5			3.9				
Green Ext Time (p_c), s	0.0	0.8		0.5	0.7			1.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			10.4									
HCM 7th LOS			B									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	84	100	50	165	91	40
Future Volume (vph)	84	100	50	165	91	40
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	0.93			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	1645			1860	1703	1524
Flt Permitted	1.00			0.91	0.95	1.00
Satd. Flow (perm)	1645			1704	1703	1524
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	95	114	57	188	103	45
RTOR Reduction (vph)	52	0	0	0	0	36
Lane Group Flow (vph)	157	0	0	245	103	9
Heavy Vehicles (%)	7%	7%	1%	1%	6%	6%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	16.8			16.8	6.1	6.1
Effective Green, g (s)	16.8			16.8	6.1	6.1
Actuated g/C Ratio	0.54			0.54	0.20	0.20
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	894			926	336	300
v/s Ratio Prot	0.10					
v/s Ratio Perm				c0.14	c0.06	0.01
v/c Ratio	0.18			0.26	0.31	0.03
Uniform Delay, d1	3.6			3.8	10.6	10.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.1			0.2	0.5	0.0
Delay (s)	3.7			3.9	11.1	10.1
Level of Service	A			A	B	B
Approach Delay (s/veh)	3.7			3.9	10.8	
Approach LOS	A			A	B	

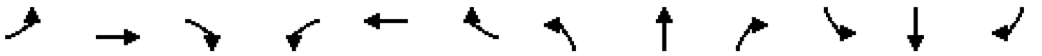
Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	30.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	72	18	2	97	9	29	67	1	10	106	63
Future Vol, veh/h	68	72	18	2	97	9	29	67	1	10	106	63
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	11	11	11	9	9	9	3	3	3	4	4	4
Mvmt Flow	76	81	20	2	109	10	33	75	1	11	119	71
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.7	9.1	9	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	43%	2%	6%
Vol Thru, %	69%	46%	90%	59%
Vol Right, %	1%	11%	8%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	158	108	179
LT Vol	29	68	2	10
Through Vol	67	72	97	106
RT Vol	1	18	9	63
Lane Flow Rate	109	178	121	201
Geometry Grp	1	1	1	1
Degree of Util (X)	0.151	0.247	0.168	0.26
Departure Headway (Hd)	5.002	5.002	4.982	4.657
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	714	716	766
Service Time	3.064	3.061	3.045	2.711
HCM Lane V/C Ratio	0.153	0.249	0.169	0.262
HCM Control Delay, s/veh	9	9.7	9.1	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	1	0.6	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	158	319	252	840	0	0	0	0	84	4	149
Future Volume (veh/h)	0	158	319	252	840	0	0	0	0	84	4	149
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1870	1870	0				1856	1856	1856
Adj Flow Rate, veh/h	0	178	0	283	944	0				94	4	27
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89				0.89	0.89	0.89
Percent Heavy Veh, %	0	3	3	2	2	0				3	3	3
Cap, veh/h	0	295		705	1481	0				222	9	206
Arrive On Green	0.00	0.16	0.00	0.40	0.40	0.00				0.13	0.13	0.13
Sat Flow, veh/h	0	1856	1572	1781	3741	0				1698	72	1572
Grp Volume(v), veh/h	0	178	0	283	944	0				98	0	27
Grp Sat Flow(s),veh/h/ln	0	1856	1572	1781	1870	0				1771	0	1572
Q Serve(g_s), s	0.0	3.4	0.0	4.4	7.8	0.0				1.9	0.0	0.6
Cycle Q Clear(g_c), s	0.0	3.4	0.0	4.4	7.8	0.0				1.9	0.0	0.6
Prop In Lane	0.00		1.00	1.00		0.00				0.96		1.00
Lane Grp Cap(c), veh/h	0	295		705	1481	0				232	0	206
V/C Ratio(X)	0.00	0.60		0.40	0.64	0.00				0.42	0.00	0.13
Avail Cap(c_a), veh/h	0	899		980	2058	0				858	0	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.9	0.0	8.3	9.3	0.0				15.3	0.0	14.7
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.4	0.5	0.0				1.2	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	0.0	1.1	2.0	0.0				0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	16.9	0.0	8.7	9.8	0.0				16.5	0.0	15.0
LnGrp LOS		B		A	A					B		B
Approach Vol, veh/h		178			1227						125	
Approach Delay, s/veh		16.9			9.5						16.1	
Approach LOS		B			A						B	

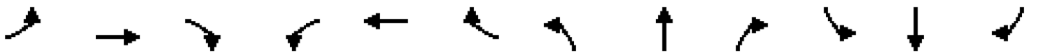
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				10.1		9.0		19.1				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				18.5		18.5		21.0				
Max Q Clear Time (g_c+I1), s				5.4		3.9		9.8				
Green Ext Time (p_c), s				0.7		0.4		5.3				

Intersection Summary												
HCM 7th Control Delay, s/veh			10.9									
HCM 7th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	173	0	0	297	195	661	620	437	62	0	216
Future Volume (veh/h)	45	173	0	0	297	195	661	620	437	62	0	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	0	0	1870	1870	1811	1811	1811	1811	0	1811
Adj Flow Rate, veh/h	49	188	0	0	323	54	718	674	267	67	0	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	0	0	2	2	6	6	6	6	0	6
Cap, veh/h	143	286	0	0	671	111	1003	912	361	204	0	0
Arrive On Green	0.22	0.22	0.00	0.00	0.22	0.22	0.30	0.38	0.38	0.12	0.00	0.00
Sat Flow, veh/h	183	1298	0	0	3145	505	3346	2407	953	1725	67	
Grp Volume(v), veh/h	237	0	0	0	187	190	718	482	459	67	18.1	
Grp Sat Flow(s),veh/h/ln	1481	0	0	0	1777	1780	1673	1721	1639	1725	B	
Q Serve(g_s), s	2.5	0.0	0.0	0.0	3.9	4.0	8.1	10.2	10.2	1.5		
Cycle Q Clear(g_c), s	6.4	0.0	0.0	0.0	3.9	4.0	8.1	10.2	10.2	1.5		
Prop In Lane	0.21		0.00	0.00		0.28	1.00		0.58	1.00		
Lane Grp Cap(c), veh/h	428	0	0	0	391	391	1003	652	621	204		
V/C Ratio(X)	0.55	0.00	0.00	0.00	0.48	0.49	0.72	0.74	0.74	0.33		
Avail Cap(c_a), veh/h	765	0	0	0	780	781	2637	893	851	301		
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.2	0.0	0.0	0.0	14.4	14.4	13.2	11.4	11.4	17.1		
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.0	0.9	0.9	1.0	2.1	2.2	0.9		
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		
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.0	1.3	1.3	2.2	2.7	2.6	0.5		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.3	0.0	0.0	0.0	15.3	15.4	14.2	13.5	13.6	18.1		
LnGrp LOS	B				B	B	B	B	B	B		
Approach Vol, veh/h		237			377			1659				
Approach Delay, s/veh		16.3			15.3			13.8				
Approach LOS		B			B			B				

Timer - Assigned Phs	1	2		4	5			8				
Phs Duration (G+Y+Rc), s	9.0	20.1		13.3	16.7			13.3				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0				
Max Green Setting (Gmax), s	7.4	22.0		18.6	33.4			18.6				
Max Q Clear Time (g_c+I1), s	3.5	12.2		8.4	10.1			6.0				
Green Ext Time (p_c), s	0.0	3.8		0.9	2.6			1.6				

Intersection Summary												
HCM 7th Control Delay, s/veh			14.4									
HCM 7th LOS			B									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	494	128	54	186	328	155
Future Volume (vph)	494	128	54	186	328	155
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	0.97			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	1759			1842	1770	1583
Flt Permitted	1.00			0.70	0.95	1.00
Satd. Flow (perm)	1759			1311	1770	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	555	144	61	209	369	174
RTOR Reduction (vph)	16	0	0	0	0	119
Lane Group Flow (vph)	683	0	0	270	369	56
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	23.6			23.6	14.8	14.8
Effective Green, g (s)	23.6			23.6	14.8	14.8
Actuated g/C Ratio	0.51			0.51	0.32	0.32
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	894			666	564	504
v/s Ratio Prot	c0.39					
v/s Ratio Perm				0.21	c0.21	0.04
v/c Ratio	0.76			0.41	0.65	0.11
Uniform Delay, d1	9.2			7.1	13.6	11.2
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	3.9			0.4	2.7	0.1
Delay (s)	13.1			7.5	16.3	11.2
Level of Service	B			A	B	B
Approach Delay (s/veh)	13.1			7.5	14.7	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	97	144	68	9	86	51	50	150	37	4	75	52
Future Vol, veh/h	97	144	68	9	86	51	50	150	37	4	75	52
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	7	7	7	5	5	5	4	4	4	1	1	1
Mvmt Flow	114	169	80	11	101	60	59	176	44	5	88	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	15.3	10.9	13.2	10.7
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	31%	6%	3%
Vol Thru, %	63%	47%	59%	57%
Vol Right, %	16%	22%	35%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	237	309	146	131
LT Vol	50	97	9	4
Through Vol	150	144	86	75
RT Vol	37	68	51	52
Lane Flow Rate	279	364	172	154
Geometry Grp	1	1	1	1
Degree of Util (X)	0.441	0.555	0.27	0.245
Departure Headway (Hd)	5.695	5.497	5.669	5.712
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	630	654	630	624
Service Time	3.758	3.554	3.741	3.784
HCM Lane V/C Ratio	0.443	0.557	0.273	0.247
HCM Control Delay, s/veh	13.2	15.3	10.9	10.7
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	2.3	3.4	1.1	1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	17	6	179	219	1
Future Vol, veh/h	3	17	6	179	219	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	4	4	4	4
Mvmt Flow	3	18	7	195	238	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	446	239	239	0	-	0
Stage 1	239	-	-	-	-	-
Stage 2	208	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.14	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.236	-	-	-
Pot Cap-1 Maneuver	570	800	1316	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	567	800	1316	-	-	-
Mov Cap-2 Maneuver	567	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	827	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.92	0.25	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	58	-	754	-	-
HCM Lane V/C Ratio	0.005	-	0.029	-	-
HCM Ctrl Dly (s/v)	7.7	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	12	18	358	176	4
Future Vol, veh/h	2	12	18	358	176	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	5	5	1	1
Mvmt Flow	2	13	20	389	191	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	622	193	196	0	-	0
Stage 1	193	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.15	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.245	-	-	-
Pot Cap-1 Maneuver	451	848	1359	-	-	-
Stage 1	839	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	442	848	1359	-	-	-
Mov Cap-2 Maneuver	442	-	-	-	-	-
Stage 1	824	-	-	-	-	-
Stage 2	657	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.9	0.37	0
HCM LOS	A		

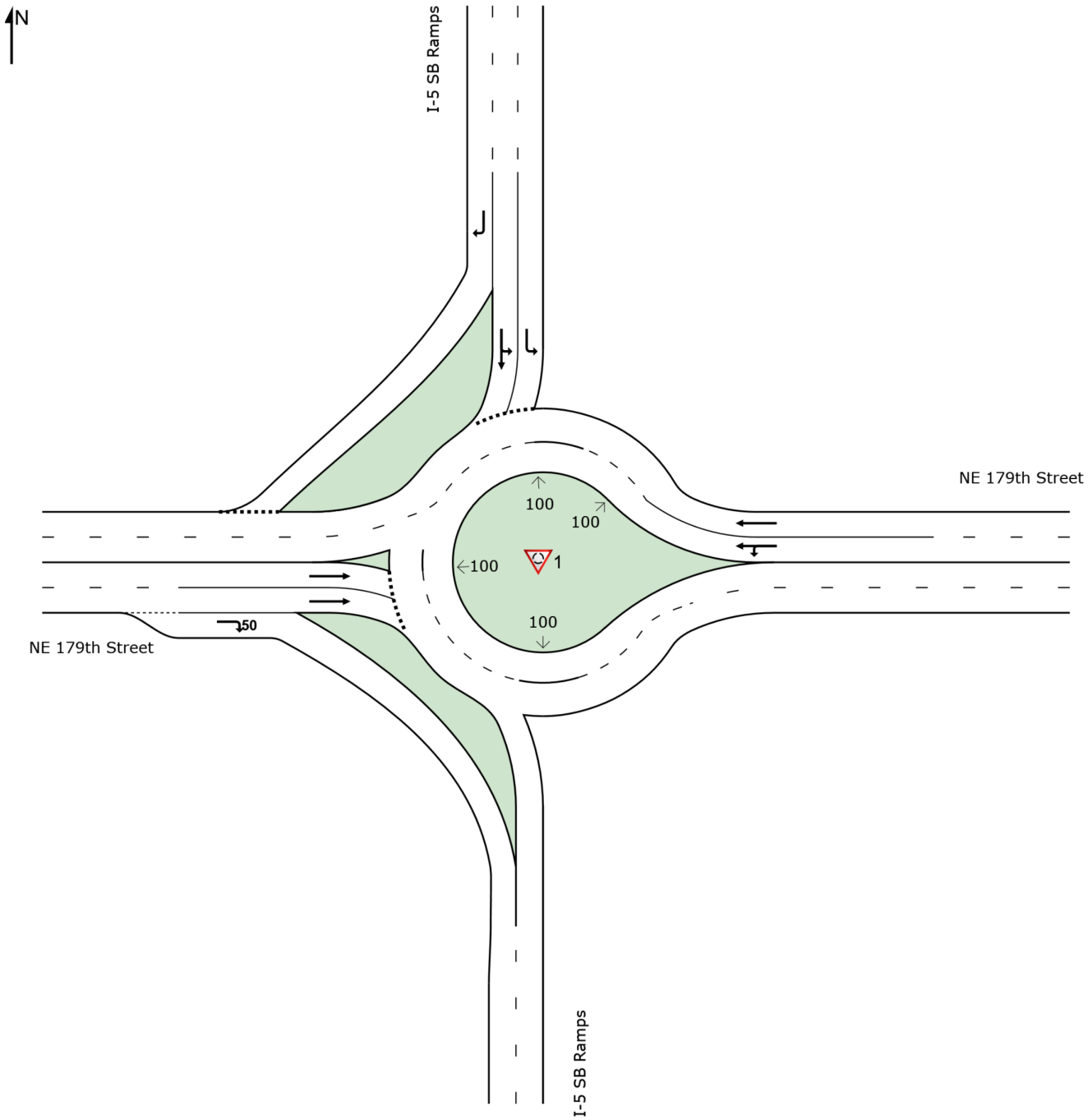
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	86	-	750	-	-
HCM Lane V/C Ratio	0.014	-	0.02	-	-
HCM Ctrl Dly (s/v)	7.7	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

SITE LAYOUT

Site: 1 [Int 1 BGAM (Site Folder: Int 1 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 1 [Int 1 BGAM (Site Folder: Int 1 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	683	7.9	683	7.9	0.530	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	34.9
6	T1	349	7.9	349	7.9	0.318	4.1	LOS A	0.0	0.0	0.00	0.38	0.00	38.1
Approach		1032	7.9	1032	7.9	0.530	8.0	LOS A	0.0	0.0	0.00	0.56	0.00	35.9
North: I-5 SB Ramps														
7	L2	300	10.2	300	10.2	0.166	13.0	LOS B	0.7	18.3	0.57	0.83	0.57	33.3
4	T1	2	10.2	2	10.2	0.166	6.7	LOS A	0.7	18.3	0.56	0.81	0.56	33.5
14	R2	87	10.2	87	10.2	0.070	5.2	LOS A	0.3	7.7	0.37	0.53	0.37	35.6
Approach		389	10.2	389	10.2	0.166	11.2	LOS B	0.7	18.3	0.52	0.76	0.52	33.8
West: NE 179th Street														
2	T1	203	5.9	203	5.9	0.117	7.4	LOS A	0.6	15.0	0.63	0.68	0.63	35.7
12	R2	535	5.9	535	5.9	0.338	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	36.9
Approach		738	5.9	738	5.9	0.338	4.9	LOS A	0.6	15.0	0.17	0.51	0.17	36.5
All Vehicles		2159	7.6	2159	7.6	0.530	7.5	LOS A	0.7	18.3	0.15	0.58	0.15	35.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Int 1 BGPM (Site Folder: Int 1 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	866	1.6	941	1.6	0.747	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	35.3
6	T1	1010	1.6	1098	1.6	0.747	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		1876	1.6	2039	1.6	0.747	6.7	LOS A	0.0	0.0	0.00	0.52	0.00	36.7
North: I-5 SB Ramps														
7	L2	468	3.4	509	3.4	0.331	16.0	LOS B	1.8	45.2	0.76	0.94	0.82	32.1
4	T1	4	3.4	4	3.4	0.331	9.5	LOS A	1.8	45.2	0.78	0.94	0.81	32.4
14	R2	173	3.4	188	3.4	0.190	8.3	LOS A	1.0	26.5	0.68	0.76	0.68	34.4
Approach		645	3.4	701	3.4	0.331	13.9	LOS B	1.8	45.2	0.74	0.89	0.79	32.7
West: NE 179th Street														
2	T1	251	2.9	273	2.9	0.199	9.7	LOS A	1.2	30.2	0.79	0.85	0.79	34.8
12	R2	360	2.9	391	2.9	0.240	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		611	2.9	664	2.9	0.240	6.3	LOS A	1.2	30.2	0.33	0.61	0.33	36.1
All Vehicles		3132	2.2	3404	2.2	0.747	8.1	LOS A	1.8	45.2	0.22	0.61	0.23	35.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Int 1 STAM (Site Folder: Int 1 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	687	7.9	687	7.9	0.533	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	34.9
6	T1	351	7.9	351	7.9	0.320	4.1	LOS A	0.0	0.0	0.00	0.38	0.00	38.1
Approach		1038	7.9	1038	7.9	0.533	8.0	LOS A	0.0	0.0	0.00	0.56	0.00	35.9
North: I-5 SB Ramps														
7	L2	301	10.2	301	10.2	0.166	13.0	LOS B	0.7	18.4	0.57	0.83	0.57	33.3
4	T1	2	10.2	2	10.2	0.166	6.7	LOS A	0.7	18.4	0.56	0.81	0.56	33.5
14	R2	87	10.2	87	10.2	0.070	5.2	LOS A	0.3	7.7	0.37	0.53	0.37	35.6
Approach		390	10.2	390	10.2	0.166	11.2	LOS B	0.7	18.4	0.52	0.77	0.52	33.8
West: NE 179th Street														
2	T1	203	5.9	203	5.9	0.117	7.4	LOS A	0.6	15.1	0.63	0.69	0.63	35.7
12	R2	535	5.9	535	5.9	0.338	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	36.9
Approach		738	5.9	738	5.9	0.338	4.9	LOS A	0.6	15.1	0.17	0.51	0.17	36.5
All Vehicles		2166	7.6	2166	7.6	0.533	7.5	LOS A	0.7	18.4	0.15	0.58	0.15	35.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 1 [Int 1 STPM (Site Folder: Int 1 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	869	1.6	945	1.6	0.749	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	35.3
6	T1	1011	1.6	1099	1.6	0.749	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		1880	1.6	2043	1.6	0.749	6.7	LOS A	0.0	0.0	0.00	0.52	0.00	36.7
North: I-5 SB Ramps														
7	L2	470	3.4	511	3.4	0.333	16.1	LOS B	1.8	45.7	0.76	0.94	0.83	32.1
4	T1	4	3.4	4	3.4	0.333	9.5	LOS A	1.8	45.7	0.78	0.94	0.82	32.4
14	R2	173	3.4	188	3.4	0.191	8.3	LOS A	1.0	26.6	0.68	0.76	0.68	34.4
Approach		647	3.4	703	3.4	0.333	14.0	LOS B	1.8	45.7	0.74	0.89	0.79	32.7
West: NE 179th Street														
2	T1	252	2.9	274	2.9	0.201	9.8	LOS A	1.2	30.5	0.79	0.85	0.79	34.8
12	R2	360	2.9	391	2.9	0.240	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		612	2.9	665	2.9	0.240	6.3	LOS A	1.2	30.5	0.33	0.61	0.33	36.1
All Vehicles		3139	2.2	3412	2.2	0.749	8.1	LOS A	1.8	45.7	0.22	0.61	0.23	35.7

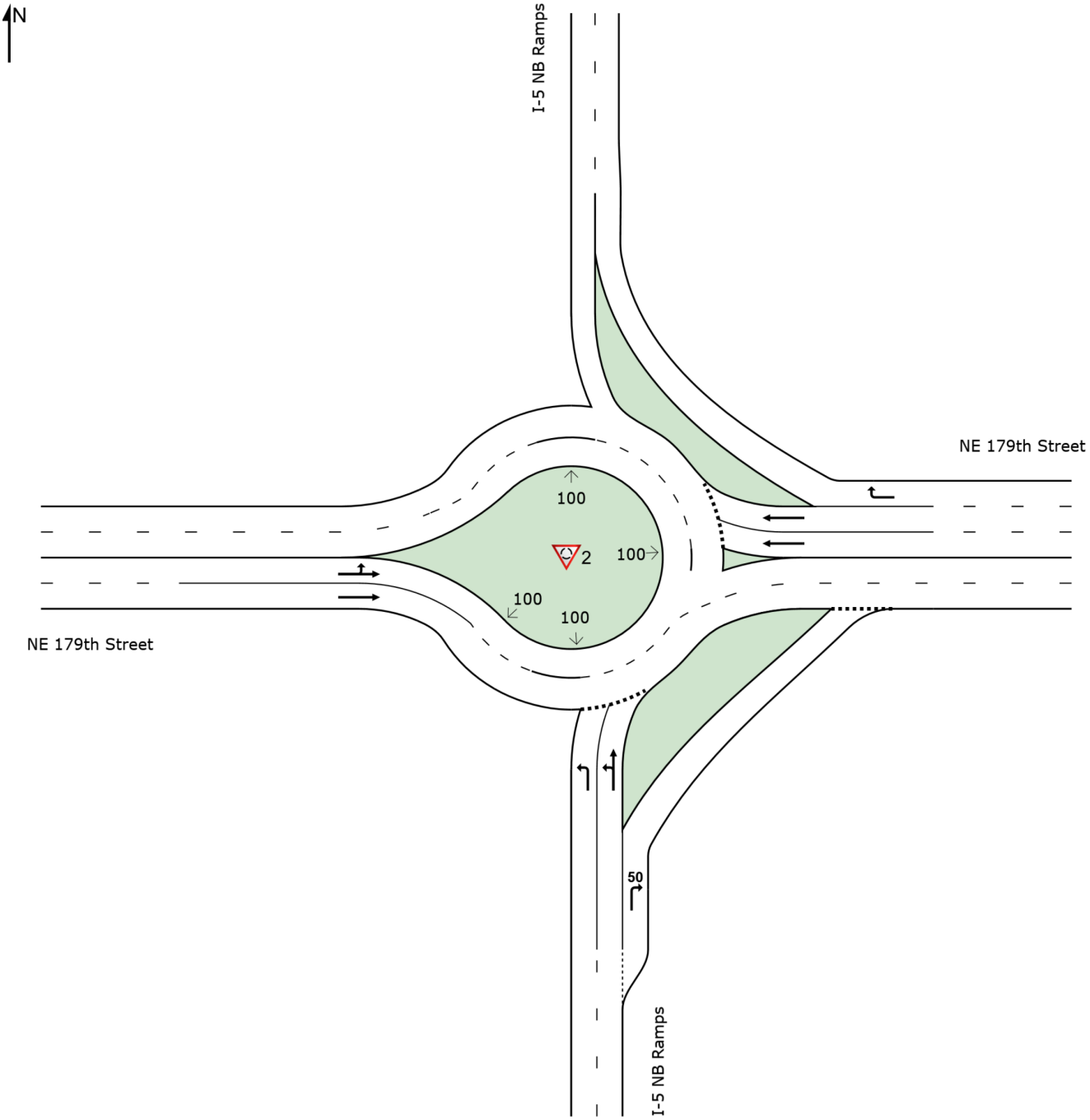
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 2 [Int 2 BGAM (Site Folder: Int 2 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 2 [Int 2 BGAM (Site Folder: Int 2 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	210	6.3	210	6.3	0.082	10.6	LOS B	0.3	7.3	0.28	0.65	0.28	34.3
8	T1	1	6.3	1	6.3	0.082	4.7	LOS A	0.3	7.3	0.27	0.65	0.27	34.3
18	R2	603	6.3	603	6.3	0.421	4.7	LOS A	2.1	55.1	0.31	0.51	0.31	35.9
Approach		814	6.3	814	6.3	0.421	6.2	LOS A	2.1	55.1	0.30	0.55	0.30	35.4
East: NE 179th Street														
6	T1	802	3.2	802	3.2	0.313	5.0	LOS A	1.4	36.3	0.40	0.47	0.40	36.6
16	R2	243	3.2	243	3.2	0.150	3.8	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1045	3.2	1045	3.2	0.313	4.8	LOS A	1.4	36.3	0.30	0.46	0.30	36.7
West: NE 179th Street														
5	L2	95	9.8	95	9.8	0.098	9.9	LOS A	0.0	0.0	0.00	0.62	0.00	35.5
2	T1	153	9.8	153	9.8	0.098	4.1	LOS A	0.0	0.0	0.00	0.42	0.00	37.6
Approach		248	9.8	248	9.8	0.098	6.3	LOS A	0.0	0.0	0.00	0.50	0.00	36.8
All Vehicles		2107	5.2	2107	5.2	0.421	5.5	LOS A	2.1	55.1	0.27	0.50	0.27	36.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [Int 2 BGPM (Site Folder: Int 2 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	737	5.8	737	5.8	0.337	11.9	LOS B	1.3	35.3	0.51	0.80	0.51	33.7
8	T1	1	5.8	1	5.8	0.337	5.8	LOS A	1.3	35.3	0.50	0.78	0.50	33.7
18	R2	1231	5.8	1231	5.8	1.126	69.8	LOS F	57.9	1515.5	1.00	3.15	6.45	17.6
Approach		1969	5.8	1969	5.8	1.126	48.1	LOS D	57.9	1515.5	0.82	2.27	4.22	21.6
East: NE 179th Street														
6	T1	1127	2.0	1127	2.0	0.549	7.1	LOS A	3.5	89.7	0.69	0.71	0.81	35.5
16	R2	540	2.0	540	2.0	0.329	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1667	2.0	1667	2.0	0.549	6.0	LOS A	3.5	89.7	0.47	0.62	0.55	36.0
West: NE 179th Street														
5	L2	42	6.4	42	6.4	0.279	9.9	LOS A	0.0	0.0	0.00	0.43	0.00	37.8
2	T1	684	6.4	684	6.4	0.279	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		726	6.4	726	6.4	0.279	4.4	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
All Vehicles		4362	4.4	4362	4.4	1.126	24.7	LOS C	57.9	1515.5	0.55	1.33	2.12	27.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [Int 2 STAM (Site Folder: Int 2 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	210	6.3	210	6.3	0.082	10.6	LOS B	0.3	7.3	0.28	0.65	0.28	34.3
8	T1	1	6.3	1	6.3	0.082	4.7	LOS A	0.3	7.3	0.27	0.65	0.27	34.3
18	R2	605	6.3	605	6.3	0.423	4.7	LOS A	2.1	55.4	0.31	0.51	0.31	35.9
Approach		816	6.3	816	6.3	0.423	6.2	LOS A	2.1	55.4	0.30	0.55	0.30	35.4
East: NE 179th Street														
6	T1	808	3.2	808	3.2	0.315	5.0	LOS A	1.4	36.6	0.40	0.47	0.40	36.6
16	R2	245	3.2	245	3.2	0.151	3.8	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1053	3.2	1053	3.2	0.315	4.8	LOS A	1.4	36.6	0.30	0.47	0.30	36.7
West: NE 179th Street														
5	L2	95	9.8	95	9.8	0.099	9.9	LOS A	0.0	0.0	0.00	0.62	0.00	35.5
2	T1	154	9.8	154	9.8	0.099	4.1	LOS A	0.0	0.0	0.00	0.42	0.00	37.6
Approach		249	9.8	249	9.8	0.099	6.3	LOS A	0.0	0.0	0.00	0.50	0.00	36.8
All Vehicles		2118	5.2	2118	5.2	0.423	5.5	LOS A	2.1	55.4	0.27	0.50	0.27	36.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 2 [Int 2 STPM (Site Folder: Int 2 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	737	5.8	737	5.8	0.337	11.9	LOS B	1.3	35.3	0.51	0.80	0.51	33.7
8	T1	1	5.8	1	5.8	0.337	5.8	LOS A	1.3	35.3	0.50	0.78	0.50	33.7
18	R2	1235	5.8	1235	5.8	1.130	71.2	LOS F	59.0	1544.7	1.00	3.19	6.57	17.4
Approach		1973	5.8	1973	5.8	1.130	49.0	LOS D	59.0	1544.7	0.82	2.30	4.30	21.4
East: NE 179th Street														
6	T1	1131	2.0	1131	2.0	0.551	7.1	LOS A	3.6	90.4	0.70	0.71	0.82	35.5
16	R2	542	2.0	542	2.0	0.330	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1673	2.0	1673	2.0	0.551	6.1	LOS A	3.6	90.4	0.47	0.62	0.55	36.0
West: NE 179th Street														
5	L2	42	6.4	42	6.4	0.280	9.9	LOS A	0.0	0.0	0.00	0.43	0.00	37.8
2	T1	687	6.4	687	6.4	0.280	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		729	6.4	729	6.4	0.280	4.4	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
All Vehicles		4375	4.4	4375	4.4	1.130	25.2	LOS C	59.0	1544.7	0.55	1.34	2.15	27.7

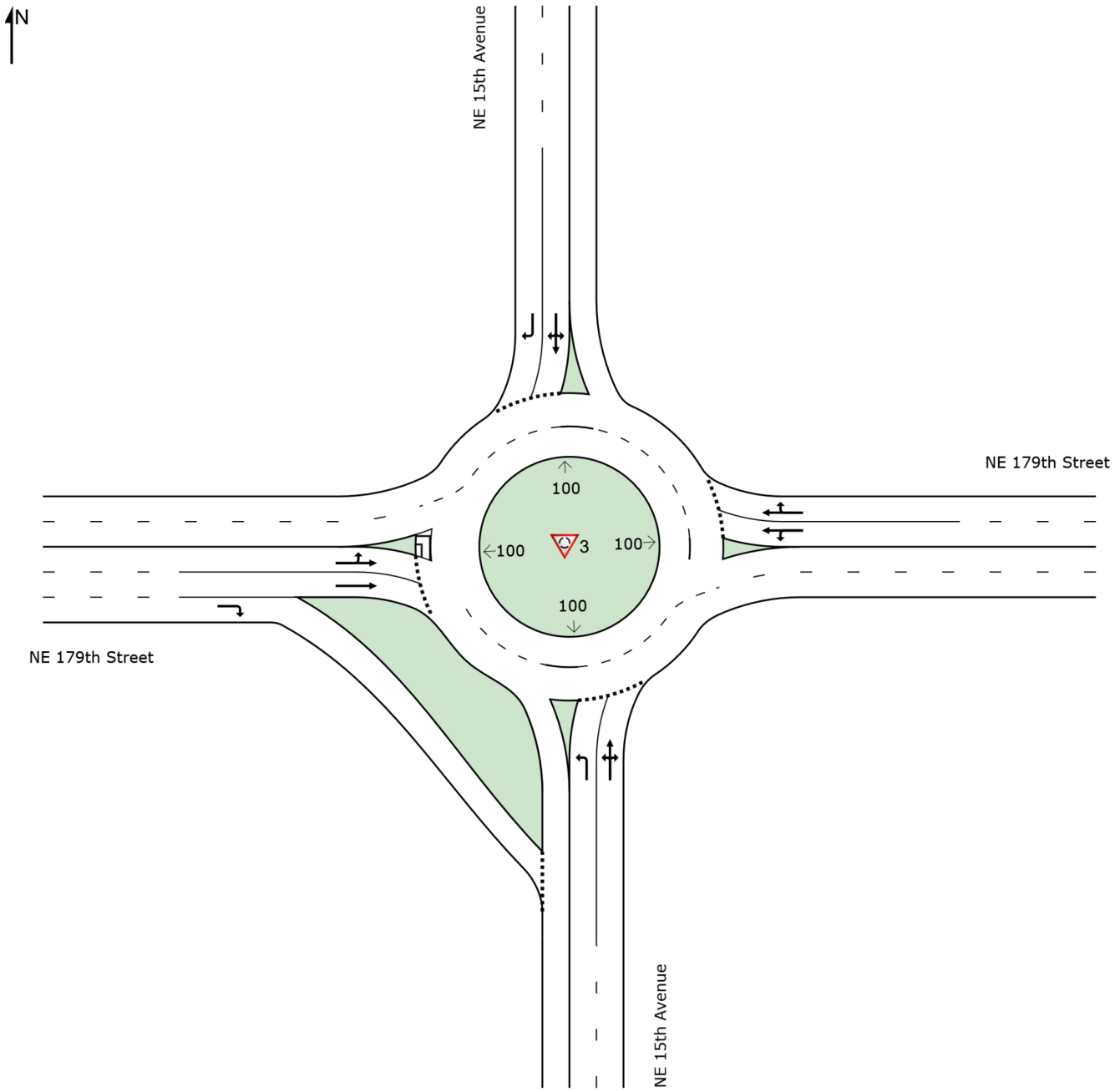
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 3 [Int 3 BGAM (Site Folder: Int 3 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 3 [Int 3 BGAM (Site Folder: Int 3 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	152	6.1	165	6.1	0.164	11.8	LOS B	0.6	16.6	0.50	0.77	0.50	34.1
8	T1	61	6.1	66	6.1	0.164	5.8	LOS A	0.6	16.6	0.50	0.64	0.50	36.0
18	R2	56	6.1	61	6.1	0.164	5.9	LOS A	0.6	16.6	0.50	0.64	0.50	34.7
Approach		269	6.1	292	6.1	0.164	9.2	LOS A	0.6	16.6	0.50	0.71	0.50	34.6
East: NE 179th Street														
1	L2	106	1.4	115	1.4	0.366	12.0	LOS B	1.7	43.1	0.55	0.67	0.55	35.5
6	T1	489	1.4	532	1.4	0.366	6.1	LOS A	1.7	43.8	0.54	0.62	0.54	35.8
16	R2	69	1.4	75	1.4	0.366	6.0	LOS A	1.7	43.8	0.54	0.58	0.54	35.0
Approach		664	1.4	722	1.4	0.366	7.0	LOS A	1.7	43.8	0.54	0.62	0.54	35.7
North: NE 15th Avenue														
7	L2	116	13.3	126	13.3	0.362	13.2	LOS B	1.6	43.1	0.61	0.83	0.65	34.4
4	T1	40	13.3	43	13.3	0.362	7.4	LOS A	1.6	43.1	0.61	0.83	0.65	34.5
14	R2	351	13.3	382	13.3	0.362	7.1	LOS A	1.6	43.9	0.61	0.80	0.64	34.5
Approach		507	13.3	551	13.3	0.362	8.5	LOS A	1.6	43.9	0.61	0.81	0.64	34.4
West: NE 179th Street														
5	L2	258	7.1	280	7.1	0.230	11.2	LOS B	1.3	35.5	0.48	0.68	0.48	33.8
2	T1	212	7.1	230	7.1	0.223	5.7	LOS A	1.2	32.9	0.50	0.53	0.50	36.2
12	R2	192	7.1	209	7.1	0.156	4.7	LOS A	0.8	22.2	0.33	0.49	0.33	35.8
Approach		662	7.1	720	7.1	0.230	7.6	LOS A	1.3	35.5	0.44	0.58	0.44	35.1
All Vehicles		2102	6.7	2285	6.7	0.366	7.8	LOS A	1.7	43.9	0.52	0.67	0.53	35.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [Int 3 BGPM (Site Folder: Int 3 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	476	1.9	476	1.9	1.173	113.7	LOS F	34.4	872.0	1.00	2.20	5.00	13.7
8	T1	160	1.9	160	1.9	1.173	105.2	LOS F	34.4	872.0	1.00	2.39	5.40	13.9
18	R2	244	1.9	244	1.9	1.173	105.2	LOS F	34.4	872.0	1.00	2.39	5.40	13.8
Approach		880	1.9	880	1.9	1.173	109.8	LOS F	34.4	872.0	1.00	2.29	5.18	13.7
East: NE 179th Street														
1	L2	128	2.1	128	2.1	0.699	25.7	LOS C	5.3	134.9	0.92	1.13	1.45	29.5
6	T1	360	2.1	360	2.1	0.699	18.8	LOS B	6.0	151.6	0.94	1.14	1.46	30.2
16	R2	176	2.1	176	2.1	0.699	17.8	LOS B	6.0	151.6	0.95	1.14	1.47	30.1
Approach		664	2.1	664	2.1	0.699	19.8	LOS B	6.0	151.6	0.94	1.14	1.46	30.0
North: NE 15th Avenue														
7	L2	154	6.1	154	6.1	0.362	13.3	LOS B	1.7	43.4	0.65	0.84	0.69	34.2
4	T1	75	6.1	75	6.1	0.362	7.5	LOS A	1.7	43.4	0.65	0.84	0.69	34.2
14	R2	322	6.1	322	6.1	0.362	7.1	LOS A	1.7	44.9	0.65	0.81	0.68	34.7
Approach		551	6.1	551	6.1	0.362	8.9	LOS A	1.7	44.9	0.65	0.82	0.68	34.5
West: NE 179th Street														
5	L2	864	4.5	864	4.5	0.769	15.4	LOS B	10.7	278.2	0.87	0.89	1.08	32.5
2	T1	826	4.5	826	4.5	0.769	10.8	LOS B	10.7	278.2	0.89	0.92	1.15	34.2
12	R2	356	4.5	356	4.5	0.269	5.0	LOS A	1.7	43.9	0.43	0.53	0.43	35.6
Approach		2046	4.5	2046	4.5	0.769	11.7	LOS B	10.7	278.2	0.80	0.84	0.99	33.7
All Vehicles		4141	3.8	4141	3.8	1.173	33.5	LOS C	34.4	872.0	0.85	1.20	1.92	25.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [Int 3 STAM (Site Folder: Int 3 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	152	6.1	165	6.1	0.165	11.8	LOS B	0.6	16.6	0.50	0.77	0.50	34.1
8	T1	61	6.1	66	6.1	0.165	5.8	LOS A	0.6	16.6	0.50	0.64	0.50	35.9
18	R2	56	6.1	61	6.1	0.165	5.9	LOS A	0.6	16.6	0.50	0.64	0.50	34.7
Approach		269	6.1	292	6.1	0.165	9.3	LOS A	0.6	16.6	0.50	0.71	0.50	34.6
East: NE 179th Street														
1	L2	107	1.4	116	1.4	0.371	12.0	LOS B	1.7	43.9	0.55	0.67	0.55	35.4
6	T1	497	1.4	540	1.4	0.371	6.1	LOS A	1.8	44.5	0.55	0.62	0.55	35.8
16	R2	69	1.4	75	1.4	0.371	6.0	LOS A	1.8	44.5	0.54	0.58	0.54	35.0
Approach		673	1.4	732	1.4	0.371	7.0	LOS A	1.8	44.5	0.55	0.63	0.55	35.7
North: NE 15th Avenue														
7	L2	116	13.3	126	13.3	0.364	13.2	LOS B	1.6	43.5	0.62	0.84	0.65	34.4
4	T1	40	13.3	43	13.3	0.364	7.4	LOS A	1.6	43.5	0.62	0.84	0.65	34.5
14	R2	351	13.3	382	13.3	0.364	7.1	LOS A	1.6	44.3	0.61	0.81	0.64	34.4
Approach		507	13.3	551	13.3	0.364	8.6	LOS A	1.6	44.3	0.61	0.81	0.65	34.4
West: NE 179th Street														
5	L2	258	7.1	280	7.1	0.231	11.2	LOS B	1.3	35.6	0.48	0.68	0.48	33.8
2	T1	215	7.1	234	7.1	0.226	5.7	LOS A	1.3	33.5	0.50	0.53	0.50	36.2
12	R2	192	7.1	209	7.1	0.156	4.8	LOS A	0.8	22.3	0.34	0.49	0.34	35.8
Approach		665	7.1	723	7.1	0.231	7.6	LOS A	1.3	35.6	0.44	0.58	0.44	35.1
All Vehicles		2114	6.6	2298	6.6	0.371	7.8	LOS A	1.8	44.5	0.52	0.67	0.53	35.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 3 [Int 3 STPM (Site Folder: Int 3 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	476	1.9	476	1.9	1.184	118.1	LOS F	35.6	902.6	1.00	2.24	5.11	13.3
8	T1	160	1.9	160	1.9	1.184	109.6	LOS F	35.6	902.6	1.00	2.43	5.53	13.6
18	R2	245	1.9	245	1.9	1.184	109.7	LOS F	35.6	902.6	1.00	2.43	5.53	13.4
Approach		881	1.9	881	1.9	1.184	114.2	LOS F	35.6	902.6	1.00	2.33	5.30	13.4
East: NE 179th Street														
1	L2	128	2.1	128	2.1	0.706	25.8	LOS C	5.4	137.3	0.93	1.14	1.46	29.4
6	T1	366	2.1	366	2.1	0.706	18.9	LOS B	6.1	154.4	0.94	1.14	1.47	30.1
16	R2	176	2.1	176	2.1	0.706	18.0	LOS B	6.1	154.4	0.95	1.15	1.48	30.0
Approach		670	2.1	670	2.1	0.706	20.0	LOS C	6.1	154.4	0.94	1.14	1.47	30.0
North: NE 15th Avenue														
7	L2	154	6.1	154	6.1	0.363	13.3	LOS B	1.7	43.6	0.66	0.84	0.69	34.2
4	T1	75	6.1	75	6.1	0.363	7.5	LOS A	1.7	43.6	0.66	0.84	0.69	34.2
14	R2	322	6.1	322	6.1	0.363	7.1	LOS A	1.7	45.1	0.65	0.81	0.68	34.7
Approach		551	6.1	551	6.1	0.363	8.9	LOS A	1.7	45.1	0.65	0.82	0.68	34.5
West: NE 179th Street														
5	L2	864	4.5	864	4.5	0.772	15.5	LOS B	10.9	282.1	0.87	0.90	1.08	32.5
2	T1	833	4.5	833	4.5	0.772	10.9	LOS B	10.9	282.1	0.89	0.93	1.16	34.1
12	R2	356	4.5	356	4.5	0.269	5.0	LOS A	1.7	43.9	0.43	0.53	0.43	35.6
Approach		2053	4.5	2053	4.5	0.772	11.8	LOS B	10.9	282.1	0.80	0.85	1.00	33.6
All Vehicles		4155	3.8	4155	3.8	1.184	34.5	LOS C	35.6	902.6	0.85	1.21	1.95	25.1

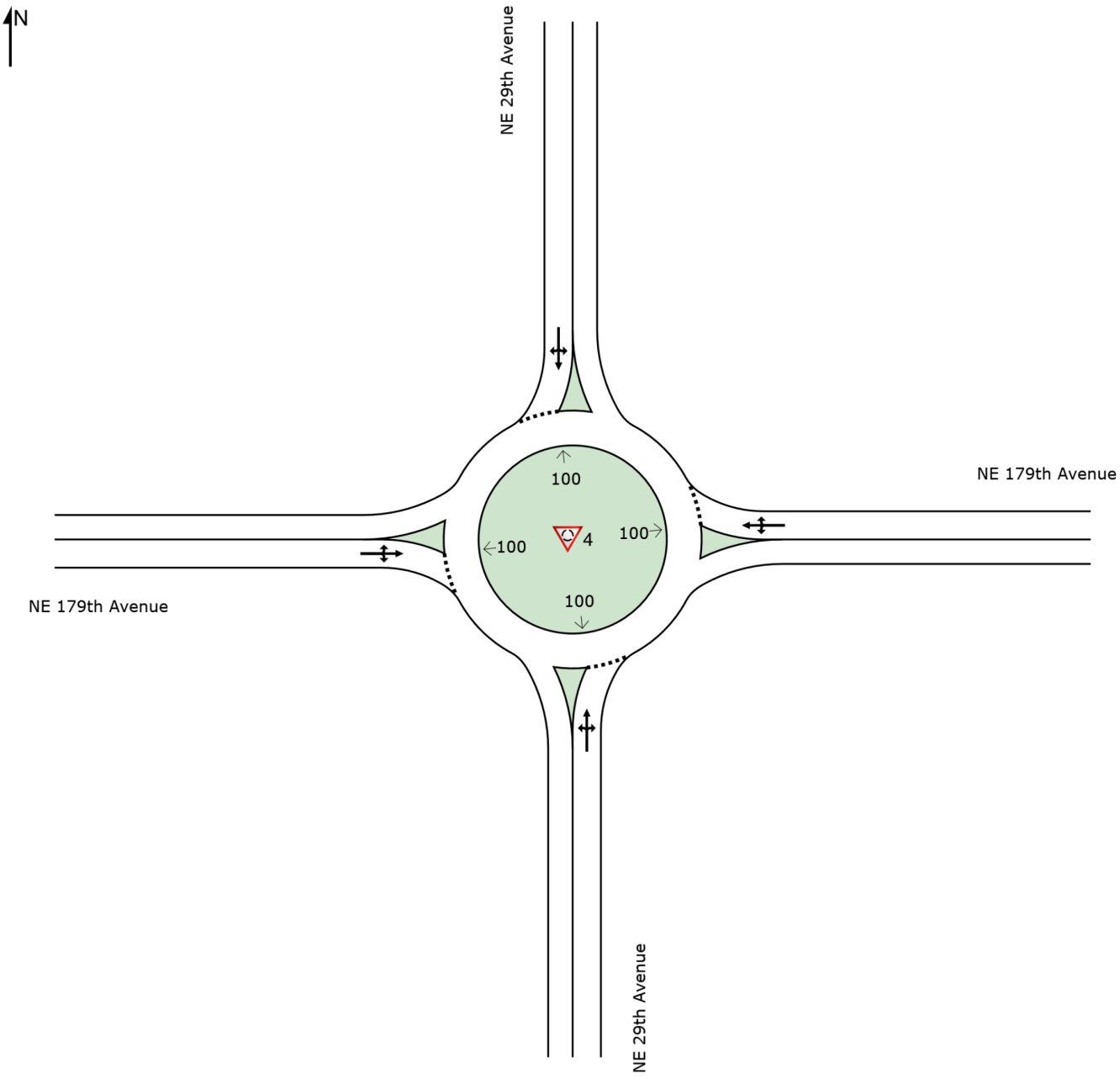
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 4 [Int 4 BGAM (Site Folder: Int 4 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 4 [Int 4 BGAM (Site Folder: Int 4 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	33	2.6	36	2.6	0.174	12.4	LOS B	1.0	24.5	0.61	0.68	0.61	35.5
8	T1	78	2.6	85	2.6	0.174	6.4	LOS A	1.0	24.5	0.61	0.68	0.61	35.4
18	R2	24	2.6	26	2.6	0.174	6.5	LOS A	1.0	24.5	0.61	0.68	0.61	34.3
Approach		135	2.6	147	2.6	0.174	7.9	LOS A	1.0	24.5	0.61	0.68	0.61	35.2
East: NE 179th Avenue														
1	L2	74	9.3	80	9.3	0.619	12.3	LOS B	5.1	138.3	0.63	0.65	0.66	35.4
6	T1	479	9.3	521	9.3	0.619	6.4	LOS A	5.1	138.3	0.63	0.65	0.66	35.4
16	R2	16	9.3	17	9.3	0.619	6.4	LOS A	5.1	138.3	0.63	0.65	0.66	34.3
Approach		569	9.3	618	9.3	0.619	7.1	LOS A	5.1	138.3	0.63	0.65	0.66	35.4
North: NE 29th Avenue														
7	L2	22	3.8	24	3.8	0.396	14.5	LOS B	2.6	67.9	0.80	0.86	0.82	35.0
4	T1	126	3.8	137	3.8	0.396	8.6	LOS A	2.6	67.9	0.80	0.86	0.82	35.0
14	R2	104	3.8	113	3.8	0.396	8.6	LOS A	2.6	67.9	0.80	0.86	0.82	33.9
Approach		252	3.8	274	3.8	0.396	9.1	LOS A	2.6	67.9	0.80	0.86	0.82	34.5
West: NE 179th Avenue														
5	L2	89	10.5	97	10.5	0.490	11.8	LOS B	3.3	90.4	0.58	0.62	0.58	35.3
2	T1	318	10.5	346	10.5	0.490	5.9	LOS A	3.3	90.4	0.58	0.62	0.58	35.4
12	R2	24	10.5	26	10.5	0.490	5.9	LOS A	3.3	90.4	0.58	0.62	0.58	34.3
Approach		431	10.5	468	10.5	0.490	7.1	LOS A	3.3	90.4	0.58	0.62	0.58	35.3
All Vehicles		1387	8.0	1508	8.0	0.619	7.6	LOS A	5.1	138.3	0.65	0.68	0.66	35.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Int 4 BGPM (Site Folder: Int 4 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	59	3.6	64	3.6	0.831	34.2	LOS C	11.1	286.3	1.00	1.29	1.79	26.8
8	T1	176	3.6	191	3.6	0.831	28.2	LOS C	11.1	286.3	1.00	1.29	1.79	26.7
18	R2	121	3.6	132	3.6	0.831	28.3	LOS C	11.1	286.3	1.00	1.29	1.79	26.1
Approach		356	3.6	387	3.6	0.831	29.2	LOS C	11.1	286.3	1.00	1.29	1.79	26.5
East: NE 179th Avenue														
1	L2	58	5.4	63	5.4	0.739	17.0	LOS B	8.8	228.6	0.89	0.98	1.17	33.7
6	T1	462	5.4	502	5.4	0.739	11.1	LOS B	8.8	228.6	0.89	0.98	1.17	33.7
16	R2	67	5.4	73	5.4	0.739	11.2	LOS B	8.8	228.6	0.89	0.98	1.17	32.7
Approach		587	5.4	638	5.4	0.739	11.7	LOS B	8.8	228.6	0.89	0.98	1.17	33.6
North: NE 29th Avenue														
7	L2	12	1.1	13	1.1	0.294	13.6	LOS B	1.9	48.4	0.77	0.79	0.77	35.5
4	T1	90	1.1	98	1.1	0.294	7.7	LOS A	1.9	48.4	0.77	0.79	0.77	35.4
14	R2	89	1.1	97	1.1	0.294	7.7	LOS A	1.9	48.4	0.77	0.79	0.77	34.3
Approach		191	1.1	208	1.1	0.294	8.1	LOS A	1.9	48.4	0.77	0.79	0.77	34.9
West: NE 179th Avenue														
5	L2	149	6.8	162	6.8	0.863	15.7	LOS D	15.8	417.7	0.95	0.79	1.11	34.1
2	T1	620	6.8	674	6.8	0.863	9.8	LOS D	15.8	417.7	0.95	0.79	1.11	34.1
12	R2	75	6.8	82	6.8	0.863	9.9	LOS D	15.8	417.7	0.95	0.79	1.11	33.1
Approach		844	6.8	917	6.8	0.863	10.8	LOS B	15.8	417.7	0.95	0.79	1.11	34.0
All Vehicles		1978	5.3	2150	5.3	0.863	14.1	LOS B	15.8	417.7	0.93	0.94	1.22	32.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 4 [Int 4 STAM (Site Folder: Int 4 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	33	2.6	36	2.6	0.178	12.4	LOS B	1.0	25.2	0.62	0.69	0.62	35.4
8	T1	80	2.6	87	2.6	0.178	6.5	LOS A	1.0	25.2	0.62	0.69	0.62	35.4
18	R2	24	2.6	26	2.6	0.178	6.6	LOS A	1.0	25.2	0.62	0.69	0.62	34.3
Approach		137	2.6	149	2.6	0.178	7.9	LOS A	1.0	25.2	0.62	0.69	0.62	35.2
East: NE 179th Avenue														
1	L2	74	9.3	80	9.3	0.623	12.5	LOS B	5.3	141.3	0.64	0.66	0.67	35.3
6	T1	479	9.3	521	9.3	0.623	6.5	LOS A	5.3	141.3	0.64	0.66	0.67	35.4
16	R2	17	9.3	18	9.3	0.623	6.6	LOS A	5.3	141.3	0.64	0.66	0.67	34.3
Approach		570	9.3	620	9.3	0.623	7.3	LOS A	5.3	141.3	0.64	0.66	0.67	35.3
North: NE 29th Avenue														
7	L2	25	3.8	27	3.8	0.420	14.9	LOS B	2.9	75.0	0.81	0.88	0.85	34.9
4	T1	131	3.8	142	3.8	0.420	8.9	LOS A	2.9	75.0	0.81	0.88	0.85	34.8
14	R2	111	3.8	121	3.8	0.420	9.0	LOS A	2.9	75.0	0.81	0.88	0.85	33.8
Approach		267	3.8	290	3.8	0.420	9.5	LOS A	2.9	75.0	0.81	0.88	0.85	34.4
West: NE 179th Avenue														
5	L2	92	10.5	100	10.5	0.498	11.9	LOS B	3.4	92.6	0.60	0.63	0.60	35.3
2	T1	318	10.5	346	10.5	0.498	5.9	LOS A	3.4	92.6	0.60	0.63	0.60	35.4
12	R2	24	10.5	26	10.5	0.498	6.0	LOS A	3.4	92.6	0.60	0.63	0.60	34.2
Approach		434	10.5	472	10.5	0.498	7.2	LOS A	3.4	92.6	0.60	0.63	0.60	35.3
All Vehicles		1408	8.0	1530	8.0	0.623	7.7	LOS A	5.3	141.3	0.66	0.69	0.68	35.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Int 4 STPM (Site Folder: Int 4 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	59	3.6	64	3.6	0.876	39.7	LOS D	13.0	333.1	1.00	1.36	1.98	25.1
8	T1	182	3.6	198	3.6	0.876	33.8	LOS D	13.0	333.1	1.00	1.36	1.98	25.1
18	R2	121	3.6	132	3.6	0.876	33.9	LOS D	13.0	333.1	1.00	1.36	1.98	24.6
Approach		362	3.6	393	3.6	0.876	34.8	LOS C	13.0	333.1	1.00	1.36	1.98	24.9
East: NE 179th Avenue														
1	L2	58	5.4	63	5.4	0.754	17.7	LOS B	9.3	241.3	0.91	1.01	1.22	33.4
6	T1	462	5.4	502	5.4	0.754	11.7	LOS B	9.3	241.3	0.91	1.01	1.22	33.4
16	R2	71	5.4	77	5.4	0.754	11.8	LOS B	9.3	241.3	0.91	1.01	1.22	32.4
Approach		591	5.4	642	5.4	0.754	12.3	LOS B	9.3	241.3	0.91	1.01	1.22	33.3
North: NE 29th Avenue														
7	L2	14	1.1	15	1.1	0.314	13.7	LOS B	2.1	52.3	0.78	0.80	0.78	35.4
4	T1	94	1.1	102	1.1	0.314	7.7	LOS A	2.1	52.3	0.78	0.80	0.78	35.3
14	R2	95	1.1	103	1.1	0.314	7.8	LOS A	2.1	52.3	0.78	0.80	0.78	34.3
Approach		203	1.1	221	1.1	0.314	8.2	LOS A	2.1	52.3	0.78	0.80	0.78	34.9
West: NE 179th Avenue														
5	L2	157	6.8	171	6.8	0.877	16.6	LOS D	17.1	451.6	0.99	0.83	1.18	33.7
2	T1	620	6.8	674	6.8	0.877	10.6	LOS D	17.1	451.6	0.99	0.83	1.18	33.7
12	R2	75	6.8	82	6.8	0.877	10.7	LOS D	17.1	451.6	0.99	0.83	1.18	32.7
Approach		852	6.8	926	6.8	0.877	11.7	LOS B	17.1	451.6	0.99	0.83	1.18	33.6
All Vehicles		2008	5.2	2183	5.2	0.877	15.7	LOS B	17.1	451.6	0.95	0.98	1.30	31.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Three Creeks East
Planned Use Development
Transportation Impact Study
Clark County, Washington



6/24/2025

Date:
June 24, 2025

Prepared for:
Chad Stewart
Ginn Group

Prepared by:
Daniel Stumpf, PE

Table of Contents

Executive Summary 3

Project Description 6

- Introduction 6
- Location Description 6

Site Trips 11

- Trip Generation 11
- Trip Distribution 11

Traffic Volumes 16

- Existing Conditions 16
- Background Conditions 17
- Buildout Conditions 20

Safety Analysis 24

- Crash History Review 24
- Sight Distance Evaluation 26
- Warrant Analysis 28

Operational Analysis 29

- Intersection Capacity Analysis 29
- Roadway Capacity Analysis 34

Conclusions 38

List of Appendices

Appendix A – Scoping Materials
Appendix B – Site Plan
Appendix C – Trip Generation and Distribution
Appendix D – Traffic Volumes
Appendix E – Safety Analysis
Appendix F – Operation Analysis

List of Figures

Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth) 7
Figure 2: Vicinity Map 10
Figure 3: Trip Distribution and Assignment – AM Peak Hour 14
Figure 4: Trip Distribution and Assignment – PM Peak Hour 15
Figure 5: Year 2025 Existing Conditions 21
Figure 6: Year 2028 Background Conditions 22
Figure 7: Year 2028 Buildout Conditions 23

List of Tables

Table 1: Vicinity Roadway Descriptions 7
Table 2: Study Intersection Descriptions 8
Table 3: Trip Generation Summary 11
Table 4: Crash Type Summary 24
Table 5: Crash Severity and Rate Summary 25
Table 6: Intersection Capacity Analysis Summary 31
Table 7: Mitigation Capacity Analysis Summary 33
Table 8: Roadway Capacity Analysis Summary 34

Executive Summary

1. The proposed Three Creeks East Planned Unit Development (PUD) project will include the construction of a residential subdivision on four properties addressed at/near 1804 NE 179th Street in unincorporated Clark County, Washington. The proposal will include the construction of 200 single-family detached houses, removing one existing house for a net increase of 199 houses. Access to the site will be provided via a proposed public street connection along NE 179th Street.

2. The trip generation calculations show that the proposed subdivision is projected to generate 139 AM peak hour trips, 187 PM peak hour trips, and 1,876 average weekday trips.

3. The intersection of NE 179th Street at NE 29th Avenue was found to be nearing a crash rate of 1.00 CMEV. The intersection is planned for reconstruction as a roundabout sometime between 2025 through 2028. According to WSDOT, roundabouts often reduce the overall number of recurring crashes at signalized and stop-controlled intersections. Therefore, the overall crash rate at the intersection is expected to decrease well below the 1.00 CMEV threshold after this intersection improvement has been implemented. No additional mitigation is necessary or recommended.

   No significant trends or crash patterns were identified at any of the other study intersections that are indicative of safety concerns. Accordingly, no crash-related mitigation is necessary or recommended as part of the Three Creeks East PUD application.

4. Provided any obstructing on-site foliage is either removed or properly maintained following redevelopment of the site, adequate intersection and stopping sight distances can be made available at the proposed site access intersection to allow for safe and efficient operation along NE 179th Street. No other sight distance related mitigation is necessary or recommended.

5. Left-turn lane warrants are projected to be met at the proposed site access intersection along NE 179th Street. However, according to the *Northeast 179th Street Corridor Improvements* project NE 179th Street along the site frontage will be widened to a four-lane cross-section with a raised median, subsequently restricting the access to right-turns only. Based on correspondence with Clark Countys staff the construction of a dedicated eastbound left-turn lane is not necessary given this future access restriction will occur. Therefore, the construction of an eastbound left-turn lane is not required at the site access intersection as part of the proposed Three Creeks East PUD project. No other left-turn lanes are necessary or recommended as part of the proposed development application.

6. Traffic signal warrants are not projected to be met at any of the applicable unsignalized study intersections by the 2028 site buildout year. Therefore, no new traffic signals are necessary or recommended as part of the proposed development application.

7. Two study intersections were found to exceed Clark County's mobility standards: the intersection of NE 179th Street at NE Delfel Road (North T-Intersection) under existing conditions, and the intersection of NE 179th Street at NE 50th Avenue under year 2028 conditions.

    a. The intersection of NE 179th Street at NE Delfel Road (North T-Intersection) will be closed and the north leg of NE Delfel Road will be relocated opposite of the south leg of NE Delfel Road (TIP Project B). Therefore, no further mitigation at the intersection beyond the implementation of TIP Project B is necessary or recommended.

    b. The intersection of NE 179th Street at NE 50th Avenue is projected to exceed Clark County standards during the PM peak hour under year 2028 conditions, regardless of whether or not the proposed development will be constructed. According to TIP Project H, additional mitigation is planned at the intersection around 2035, specifically to reconstruct the intersection as a multilane roundabout. As an interim solution, the intersection could be reconstructed with one of the following:

        i. Install a dedicated northbound right-turn lane.

        ii. Establish a Development Agreement and proportionate share fee mechanism to fund the reconstruction the intersection as a dual-lane roundabout. The Three Creeks East PUD project will subsequently contribute a fee that is proportional to impacts created by the development.

    Provided one of the aforementioned intersection improvements is implemented, the impacts created by the proposed development to the intersection will be mitigated. It is recommended that one of the aforementioned mitigation measures be implemented as a Condition of Approval for the development application.

    All other study intersections are currently operating acceptably per Clark County standards and are projected to continue operating acceptably through the 2028 buildout year of the site. Accordingly, no operational mitigation is necessary or recommended at these study intersections as part of the proposed development application.

8. Several roadway segments within the study area are projected to exceed Clark County's roadway v/c ratio threshold under year 2028 conditions. Although these roadway segments are projected to operate with v/c ratios in excess of 0.90 during the PM peak hour, no mitigation as part of the proposed development application is recommended for several reasons including, but not limited to, the following:

    a. Relevant study intersections along the higher demand roadway segments are projected to operate within acceptable Clark County LOS standards. Therefore, the increased v/c ratio on applicable roadway segments are not expected to create significant impacts to the operation or safety of the nearby transportation system.

    b. For relevant roadway segments, the high v/c ratios occur under year 2028 background conditions, without impacts from the proposed development. Therefore, the Three Creeks East PUD project alone does not cause these roadway segment to exceed the 0.90 v/c ratio threshold.

c. For some roadway segments, the proposed development will add little to no additional peak hour trips to these roadway segments. In these cases any increase in peak hour trips will be minor, can be considered as equivalent to daily fluctuations in traffic, and will minimally increase the roadway's single travel direction v/c ratios. Any additional mitigation to increase the vehicle carrying capacity of these roadway segments would be disproportionate to the impacts created by the proposed development.

All other relevant roadway segments are projected to operate acceptably per Clark County standards through the 2028 buildout year of the site during both the AM and PM peak hours. Accordingly, no roadway capacity related mitigation is necessary or recommended at these roadway segments as part of the proposed development application.

Project Description

Introduction

The proposed Three Creeks East Planned Unit Development (PUD) project will include the construction of a residential subdivision on four properties addressed at/near 1804 NE 179th Street in unincorporated Clark County, Washington. The proposal will include the construction of 200 single-family detached houses, removing one existing house for a net increase of 199 houses. Access to the site will be provided via a proposed public street connection along NE 179th Street.

Based on correspondence with Clark County and WSDOT staff, this report conducts safety and capacity/level of service analyses at the following intersections:

1. NE 199th Street at NE 10th Avenue
2. NE 199th Street at NE 29th Avenue
3. NE 199th Street at NE 50th Avenue
4. NE 179th Street at NE Delfel Road (North and South T-Intersections under Existing Conditions)
5. Interstate 5 (I-5) Southbound Ramps at NE 179th Street
6. I-5 Northbound Ramps at NE 179th Street
7. NE 179th Street at NE 15th Avenue
8. Site Access at NE 179th Street
9. NE 179th Street at NE 29th Avenue
10. NE 179th Street at NE 50th Avenue
11. NE 139th Street at NE 20th Avenue

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

Location Description

The project site is located north of NE 179th Street, south of NE 194th Street, east of NE 10th Avenue, and west of NE 29th Avenue in unincorporated Clark County, Washington. The site consists of four properties (assessor parcels 181218000, 181208000, 181209005, and 181253000), which encompass an approximate total of 38.63 acres with a net developable area of 15.78 acres. Located within a developing area of Clark County, the site is surrounded by an apartment complex/veterinary hospital to the east/southeast, a residential subdivision to the south, and low-density residential uses/undeveloped land in all other directions. Notable land uses within an approximate ½ mile distance of the site include the Clark County Fairgrounds and Amphitheatre to the southwest.

Figure 1 presents an aerial image of the nearby vicinity with the project site outlined in yellow.



Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth)

Vicinity Streets

The study area is composed of ten roadways near the site. Table 1 provides a description of each vicinity roadway.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Speed (MPH)	On-Street Parking	Curbs & Sidewalks	Bicycle Lanes
NE 199th Street	Clark County	Minor Arterial	40/50	Not Permitted	Partial South Side	None
NE 179th Street	Clark County	Principal Arterial	40/50	Not Permitted	Partial Both Sides	None
NE 139th Street	Clark County	Minor Arterial/Collector	35	Not Permitted	Both Sides	Both Sides
NE Delfel Road (South)	Clark County	Collector	35	Not Permitted	Partial Both Sides	Both Sides
NE Delfel Road (North)	Clark County	Collector	50*	Not Permitted	None	None

Table Notes: Functional classification based on Clark County MapsOnline GIS website.

** Statutory speed based on Washington State Code Section RCW 46.61.400.*

Table 1: Vicinity Roadway Descriptions (Continued)

Street Name	Jurisdiction	Functional Classification	Speed (MPH)	On-Street Parking	Curbs & Sidewalks	Bicycle Lanes
NE 10th Avenue	Clark County	Minor Arterial	50	Not Permitted	None	None
NE 15th Avenue	Clark County	Minor Arterial	40	Not Permitted	Both Sides	Both Sides
NE 20th Avenue	Clark County	Minor Arterial	40	Not Permitted	Both Sides	Both Sides
NE 29th Avenue	Clark County	Minor Arterial	35/40	Not Permitted	Partial Both Sides	None
NE 50th Avenue	Clark County	Minor Arterial	40/50	Not Permitted	Partial Both Sides	None

Table Notes: Functional classification based on Clark County MapsOnline GIS website.
** Statutory speed based on Washington State Code Section RCW 46.61.400.*

Study Intersections

Based on correspondence with Clark County and WSDOT staff, an analysis of 11 existing nearby intersections of significance was conducted. A summarized description of these study intersections under their existing lane configurations is provided in Table 2.

Table 2: Study Intersection Descriptions

Number	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	NE 199th Street at NE 10th Avenue	Four-Legged	Traffic Signal	Protected NB/SB Left-turn Lanes
2	NE 199th Street at NE 29th Avenue	Four-Legged	Stop-Controlled	All-Way Stop-Controlled
3	NE 199th Street at NE 50th Avenue	Four-Legged	Stop-Controlled	All-Way Stop-Controlled
4	NE 179th Street at NE Delfel Road (South Leg)	Three-Legged	Traffic Signal	FYA WB Left-turn Lane, Protected NB Left-turn Lane
4b	NE 179th Street at NE Delfel Road (North Leg)	Three-Legged	Stop-Controlled	SB Stop-Controlled Approach
5	I-5 SB Ramps at NE 179th Street	Four-Legged	Traffic Signal	Split EB/WB Phasing
6	I-5 NB Ramps at NE 179th Street	Four-Legged	Traffic Signal	Protected NB/SB Left-turn Lanes, Overlap SB Right-turn Lane

Table Notes: Flashing-Yellow-Arrow denoted as FYA.

Table 2: Study Intersection Descriptions (Continued)

Number	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
6b	I-5 NB On-Ramp at NE 179th Street	Three-Legged	None	Uncontrolled
7	NE 179th Street at NE 15th Avenue	Three-Legged	Traffic Signal	Permitted NB Left-turn Lane
9	NE 179th Street at NE 29th Avenue	Four-Legged	Stop-Controlled	All-Way Stop-Controlled
10	NE 179th Street at NE 50th Avenue	Four-Legged	Stop-Controlled	All-Way Stop-Controlled
11	NE 139th Street at NE 20th Avenue	Four-Legged	Traffic Signal	Protected Left-turns on all Approaches, Overlap Right-turns on all Approaches

A vicinity map showing the project site, vicinity streets, and study intersection configurations are shown in Figure 2.

No Scale

Figure 2

Three Creeks East PUD

6/24/2025

VICINITY MAP

lancaster mobley

Site Trips

Trip Generation

The proposed Three Creeks East PUD will include the construction of 200 single-family detached houses, removing one existing house for a net increase of 199 houses. To estimate the number of trips that will be generated by the proposed use, trip rates from the *Trip Generation Manual, 11th Edition*.[1] were used. Data from the land use code 210, *Single-Family Detached Housing*, was used to estimate site trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision is projected to generate 139 AM peak hour trips, 187 PM peak hour trips, and 1,876 average weekday trips. The trip generation estimates are summarized in Table 3. Detailed trip generation calculations are included in the technical appendix.

Table 3: Trip Generation Summary

ITE Land Use Code		Size	AM Peak Hour			PM Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Existing Conditions									
210	Single-Family Detached Housing	1 units	0	1	1	1	0	1	10
Proposed Conditions									
210	Single-Family Detached Housing	200 units	35	105	140	118	70	188	1,886
Net Change In Site Trip Generation									
Net New Trips		**199 units**	**35**	**104**	**139**	**117**	**70**	**187**	**1,876**

Trip Distribution

The trip distribution used for the proposed development was referenced from the *1932 NE 179th Street Apartments Transportation Impact Analysis* (TIA), dated May 2020, where the apartments are located adjacent to the east of the project site. According to the TIA, the trip distribution was derived using the Southwest Washington Regional Transportation Council (RTC) transportation system model, where a select zone analysis was conducted for the nearby Transportation Analysis Zone (TAZ) #1982 (formerly #547).

The following trip distribution is projected:

- Approximately 2% of site trips will travel to/from the north along NE 10th Avenue, north of SR-502.
- Approximately 1% of site trips will travel to/from the north along NE 50th Avenue, north of SR-502.

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

- Approximately 6% of site trips will travel to/from the east along SR-502, east of NE 50th Avenue.
- Approximately 4% of site trips will travel to/from the west along NW 199th Street, west of NE Delfel Road.
- Approximately 5% of site trips will travel to/from the east along NE 199th Street, east of NE 50th Avenue.
- Approximately 2% of site trips will travel to/from the west along NE 179th Street, west of NE Delfel Road.
- Approximately 2% of site trips will travel to/from the south along NE Delfel Road, south of NE 179th Street.
- Approximately 10% of site trips will travel to/from the north along I-5, north of NE 179th Street.
- Approximately 42% of site trips will travel to/from the south along I-5, south of NE 179th Street.
- Approximately 13% of site trips will travel to/from the east along NE 179th Street, east of NE 50th Avenue.
- Approximately 2% of site trips will travel to/from the south along NE 50th Avenue, south of NE 179th Street.
- Approximately 5% of site trips will travel to/from the west along NE 139th Street, west of NE 20th Avenue.
- Approximately 2% of site trips will travel to/from the east along NE 139th Street, east of NE 20th Avenue.
- Approximately 4% of site trips will travel to/from the south along NE 20th Street, south of NE 139th Street.

Although within a two-mile radius of the site, several regionally significant intersections were determined as not requiring analysis based on limited site trip impacts. The following intersections were determined as not requiring analysis, with explanations for removal provided:

WSDOT typically requires analysis of intersections under their jurisdiction that are impacted by ten or more peak hour trips. The following two intersections listed below are under the jurisdiction of WSDOT and will not be impacted by ten or more peak hour trips:

A. SR-502 at NE 10th Avenue

B. SR-502 at NE 29th Avenue

The minor-street approaches of the following unsignalized intersections will not be impacted by five or more approaching peak hour trips. Therefore, no capacity-related mitigation can be required as part of the application per Clark County Unified Development Code 40.350.020.G.1.c, not-with-standing safety improvements which may be necessary per section 40.350.030(B)(6):

C. NE 199th Street at NE Delfel Road

D. NE 194th Street at NE 10th Avenue

E. NE 194th Street at NE 29th Avenue

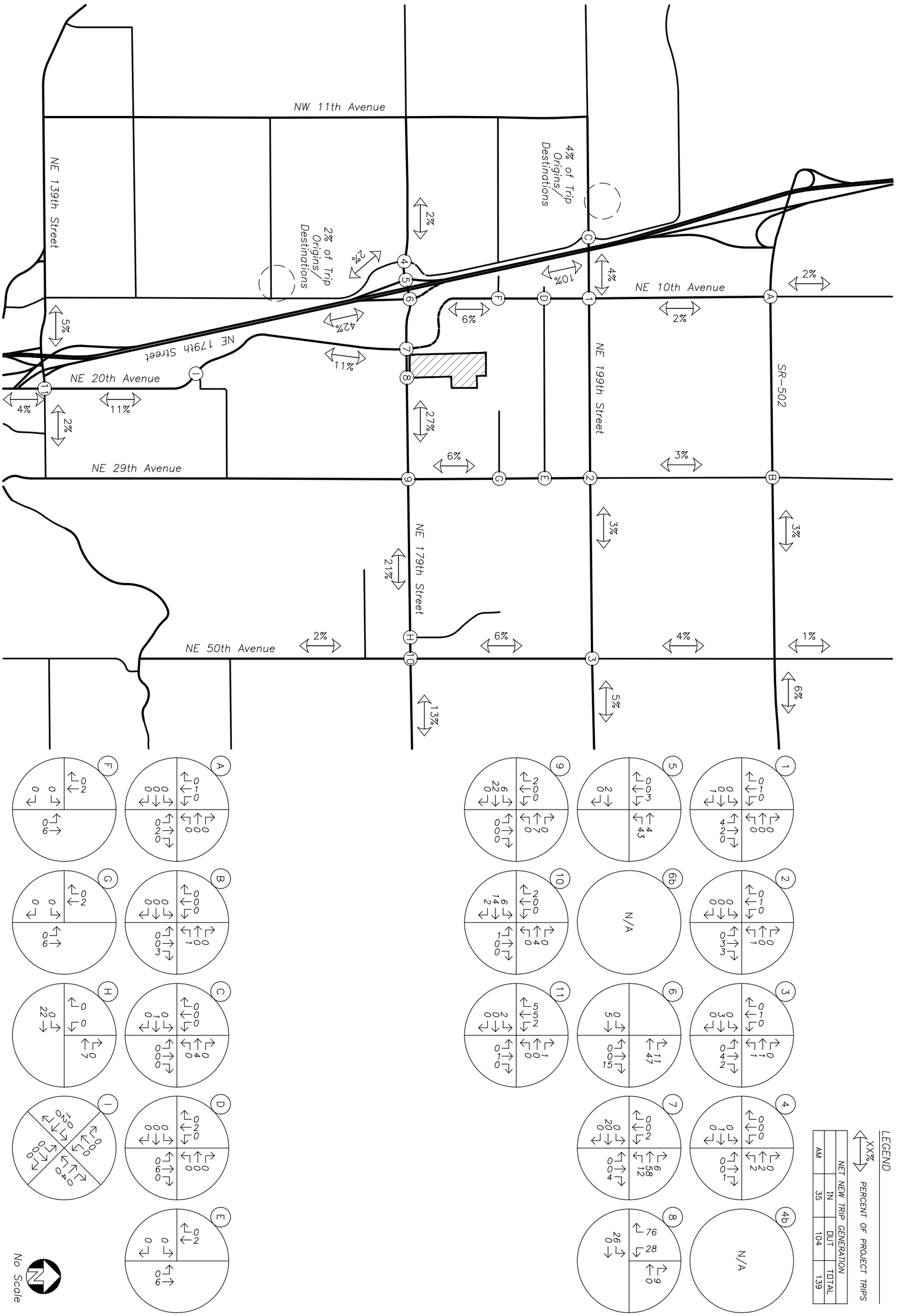
F. NE 189th Street at NE 10th Avenue

G. NE 189th Street at NE 29th Avenue

H. NE 179th Street at NE 47th Avenue

I. NE 156th Street at NE Union Road

The trip distribution and assignment for the site trips generated during the AM and PM peak hours are shown in Figure 3 and Figure 4 for the AM and PM peak hours, respectively. Trip assignment is depicted for both the study intersections and the aforementioned intersections that do not require detailed capacity or safety analysis.



SITE TRIP DISTRIBUTION & ASSIGNMENT

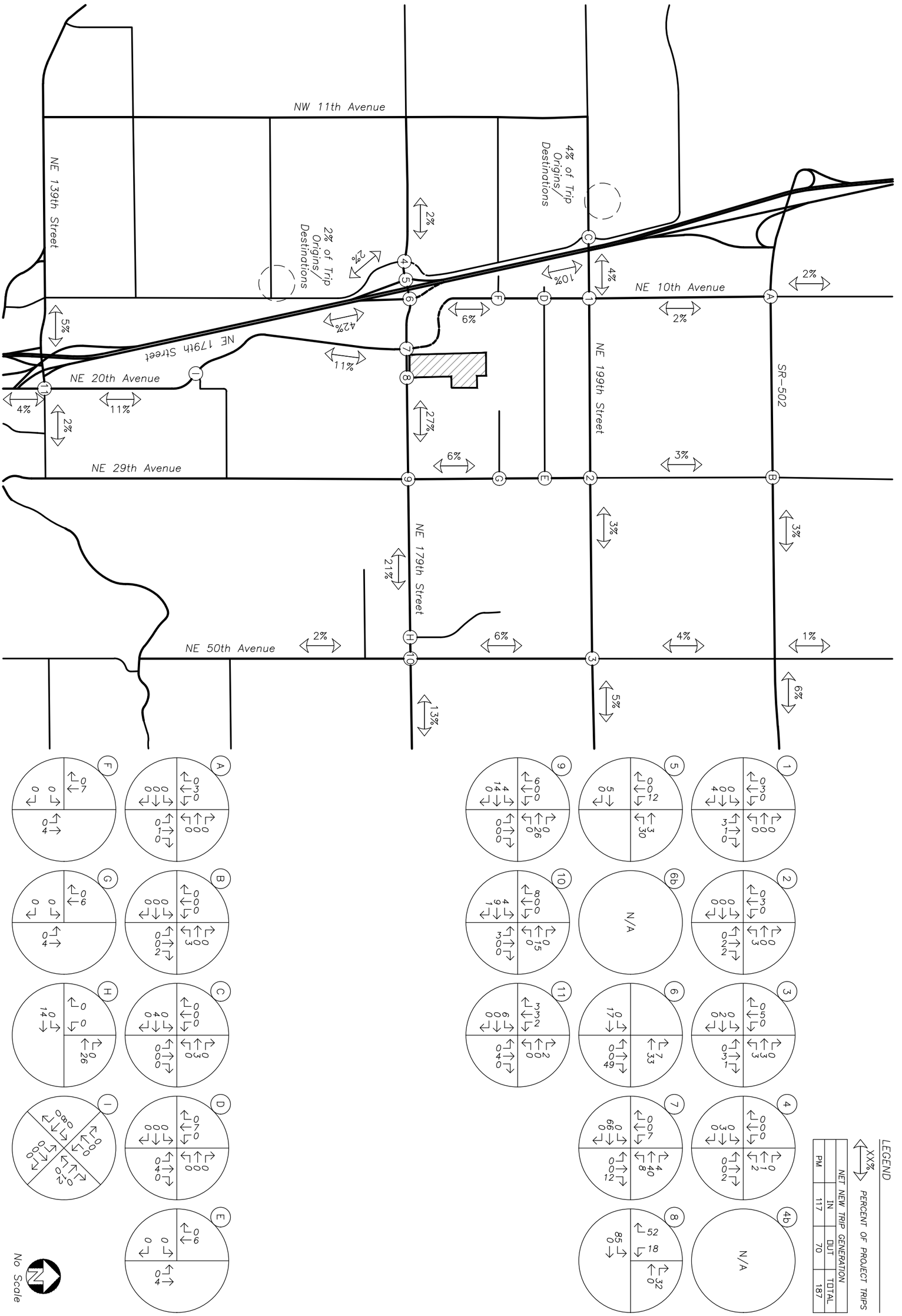
Proposed Development Plan - Site Trips

AM Peak Hour

Figure 3

Three Creeks East PUD

6/24/2025



SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

PM Peak Hour

Figure 4

Three Creeks East PUD

6/24/2025

Traffic Volumes

Existing Conditions

Traffic counts were conducted at the study intersections on the following dates from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM:

- Tuesday, March 28, 2023
- Wednesday, January 22, 2025

Data was used from each intersection's respective AM and PM peak hours.

NE 179th Street Closure

At the time of data collection, the segment of NE 179th Street between NE 29th Avenue and NE 50th Avenue was closed to non-local vehicular access due to construction. This closure had likely affected traffic volumes and travel patterns in the immediate area relative to normal conditions. In order to estimate current year 2025 traffic conditions without impacts associated with this closure, traffic counts collected in 2023 and 2025 at the intersections of NE 179th Street at NE 29th Avenue and NE 179th Street at NE 50th Avenue were compared.

Based on a comparison of the 2023 traffic counts (plus an additional 2% per year growth factor) and the 2025 traffic counts, an approximate 80% to 95% reduction in eastbound/westbound through movement traffic at both intersections was observed during the AM and PM peak hours. Although some of this traffic is assumed to have detoured from NE 179th Avenue to travel along NE 29th Avenue, NE 199th Street, and NE 50th Avenue, the count data suggests the possibility that some vehicles may have diverted from these intersections entirely to travel by way of other routes outside the study area. This is made apparent by some relevant intersection turning movement volumes either not increasing to reasonable levels to offset rerouted eastbound/westbound through volumes or increasing far beyond a reasonable offset.

Given the inconsistent changes in the year 2025 volumes recorded at the study intersections, for the purposes of this analysis intersection turning movement volumes were increased/decreased to closer match the grown 2023 count data. The applicable turning movement volumes were adjusted to within a net difference of 50 peak hour trips between the grown 2023 volumes and the 2025 volumes when the following criteria were met:

- Turning movement volumes were increased if:
    - The turning movement experienced an approximate reduction of 50 or more peak hour trips between the grown 2023 counts and the 2025 counts; AND
    - A reduction in traffic of 30% or more was observed for the turning movement.
- Turning movement volumes were decreased if:
    - The turning movement experienced an approximate increase of 50 or more peak hour trips between the grown 2023 counts and the 2025 counts; AND
    - An increase in traffic of 50% or more was observed for the turning movement.

When applicable, the rerouted/adjusted volumes were applied to the study intersections along NE 199th Street. The rerouted/adjusted AM and PM peak hours volumes are depicted in Figure A in the appendix.

Site Access Intersection Volumes

To estimate major street traffic volumes at the proposed site access location along NE 179th Street, volumes were balanced with those recorded at the intersection of NE 179th Street at NE 15th Avenue.

Figure 5 shows the year 2025 existing traffic volumes at the study intersections during the AM and PM peak hours.

Background Conditions

Volume Growth

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. In order to approximate the future year 2028 traffic volumes at the study intersections, a compounding growth rate of two percent per year for an assumed buildout condition of three years was applied to the year 2025 existing traffic volumes.

In-Process Data

In addition to the traffic volume growth described above, there are several in-process developments that are currently approved/proposed for construction within the site vicinity that are expected to impact nearby study intersections. These in-process developments include the following:

- South Ridge Central Apartments
- Mountain View Ridge PUD
- Skyview Station Shopping Center (approximately 70% constructed and occupied)
- Mill Creek Terrace
- Mill Creek Meadows
- Washington State University Master Plan
- Mountain Estates Cluster Subdivision
- Whipple Creek Village Subdivision (approximately 95% constructed and occupied)
- Three Creeks North Phase 1 & 2
- 179th Street Commercial Center Phase 1 & 2
- Woodbrook Subdivision (aka Mill Creek PUD, approximately 20% constructed and occupied)
- M&H Subdivision
- North Haven Subdivision (approximately 75% constructed and occupied)
- Trails at Whipple Creek Subdivision (approximately 20% constructed and occupied)
- DSHS NE 50th Clark County Behavioral Health
- Majestic Industrial Centre
- Martin's Meadow Subdivision (approximately 10% constructed and occupied)

- NE 29th Avenue Subdivision
- Viers Subdivision
- The Highlands at Whipple Creek
- Maletis Distribution Center
- Mt Vista Logistics

The in-process developments are not currently/fully contributing trips to the transportation system but may potentially be by the assumed 2028 buildout year of the site. Additional trips corresponding to each in-process development were added to the existing year traffic volumes in addition to the three years of traffic growth at each of the applicable study intersections. To maintain a conservative analysis of operation at the study intersections, all in-process developments were assumed to be constructed by year 2028.

Although initially suggested for inclusion in developing the future volume projections, several development projects were found to have been fully constructed around the time the 2025 intersection counts were collected. Based on field visits and reviewing development application documents, the following development projects were considered fully constructed and occupied at the time traffic counts were collected:

- NE 179th Street Apartments – West
- NE 179th Street Apartments – East
- Summit Body & Equipment
- Peterson Machinery Expansion
- Dicky RV & Resort

Figure B in the technical appendix shows the in-process development trips at the study intersections during the AM and PM peak hours.

Planned Transportation Infrastructure Revisions

Several planned transportation improvement projects were analyzed under future year traffic conditions. According to the Clark County's *Northeast 179th Street Corridor Improvements* project website[2], the Washington Department of Transportation's (WSDOT) *I-5 – 179th Street Interchange – Interchange Improvements* website[3] project, and the 2025-2030 Transportation Improvement Program (TIP), these projects include the following:

- Realign NE Delfel Road (North Leg) to a location opposite NE Delfel Road (South Leg) and reconstruct the intersection of the NE 179th Street at NE Delfel Road as a roundabout (2025-2030 TIP Project B). Construction is estimated to occur between 2028 and post-2030.
- The I-5 northbound on-ramp will be reconstructed opposite the existing I-5 off-ramp location along NE 179th Street.

[2] "Northeast 179th Street Corridor Improvements | Clark County." Clark County, clark.wa.gov/public-works/northeast-179th-street-corridor-improvements.

[3] I-5 - 179th St. Interchange - Interchange Improvements | WSDOT. 17 June 2024, wsdot.wa.gov/construction-planning/search-projects/i-5-179th-st-interchange-interchange-improvements.

- Reconstruct the I-5/NE 179th Street interchange as roundabouts at the ramp terminals. According to WSDOT, the interchange design phase will begin in Spring 2025, construction is expected to begin in 2028 and will be completed by 2031.
- NE 10th Avenue, just north of NE 179th Street and opposite of the I-5 northbound off-ramp, will be closed and reconstructed at a location opposite of NE 15th Avenue along NE 179th Street (2025-2030 TIP Project C). Clark County's *179th Street Circulation and Access Management Plan*, dated July 2023, indicates the intersection of NE 15th Avenue at NE 179th Street will be reconstructed as a roundabout. The anticipated lane configuration of the intersection was referenced from a WSDOT concept design for the NE 179th Street interchange improvement project. Construction is estimated to occur between 2028 and 2030.
- The intersection of NE 179th Street at NE 29th Avenue will be reconstructed as a roundabout (2025-2030 TIP Project G). The initial design will include a single circulating lane but will be sized to be expandable as a multilane roundabout once NE 179th Street is widened to four lanes. The design phase of the project is currently ongoing, and construction is estimated to occur sometime between 2025 and 2028.
- In the near-term, the intersection of NE 179th Street at NE 50th Avenue will be redesigned to include dedicated left-turn lanes and shared through/right-turn lanes on the eastbound and westbound approaches (2025-2030 TIP Project H). In the future the intersection will be reconstructed as a multilane roundabout; however, this is not expected to occur until post-2030. At the time of writing reconstruction of the intersection with dedicated eastbound and westbound left-turn lanes has already occurred.
- NE 179th Street will be widened to accommodate two eastbound travel lanes, two westbound travel lanes, and a center median/turn lane. This roadway widening project will occur in phases:
    - Between NE 10th Avenue and NE 15th Avenue (2025-2030 TIP Project A). The project will be constructed in collaboration with WSDOT as part of the I-5 interchange improvement project. Construction is estimated to occur sometime between 2028 and 2029.
    - Between NE 15th Avenue and NE 26th Avenue (2025-2030 TIP Project F). Construction is estimated to occur sometime between 2028 and 2030.
    - Between NE 29th Avenue and NE 50th Avenue (2025-2030 TIP Project 3). Construction is estimated to occur post-2030.

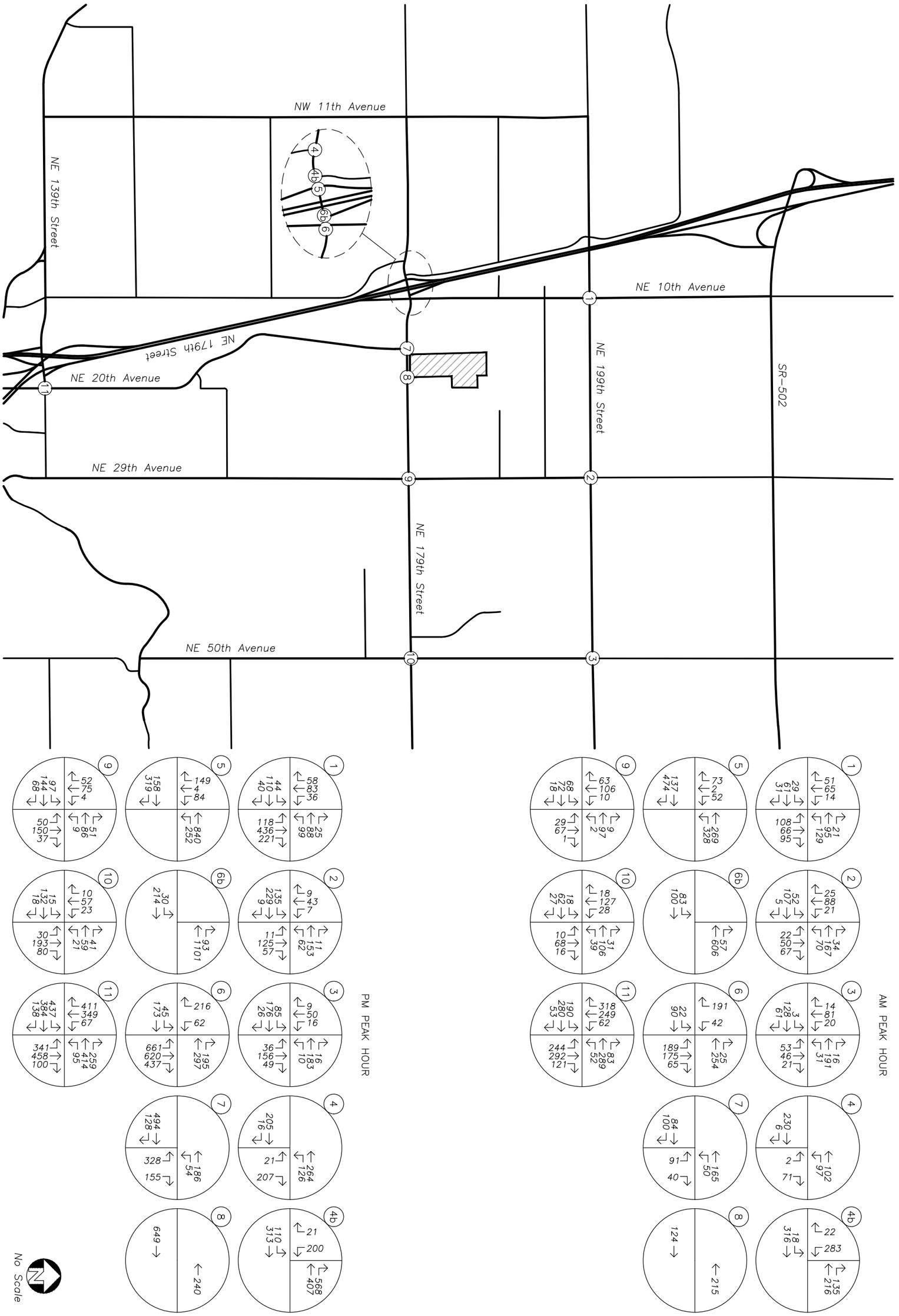
It is assumed that the future year 2028 conditions would reflect the aforementioned revisions to the transportation system, excluding the NE 179th Street widening project between NE 29th Avenue and NE 50th Avenue and the reconstruction of the NE 179th Street at NE 50th Avenue intersection as a roundabout, both of which is estimated to occur well after construction of the proposed Three Creeks East PUD project. Rerouted peak hour traffic volumes associated with the relocation of NE Delfel Road, NE 10th Avenue, and the I-5 northbound on-ramp are shown in Figure C in the technical appendix. Note that Figure C shows the rerouted 2028 volumes after applying the annual two percent per year growth rates over a three-year period to the existing year traffic volumes.

Figure 2 presents the future planned intersection configurations. Figure 6 shows the projected year 2028 background traffic volumes at the study intersections during the AM and PM peak hours.

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 projected year 2028 background traffic volumes to obtain the expected 2028 site buildout volumes.

Figure 7 show the year 2028 buildout traffic volumes at the study intersections during the AM and PM peak hours.



TRAFFIC VOLUMES

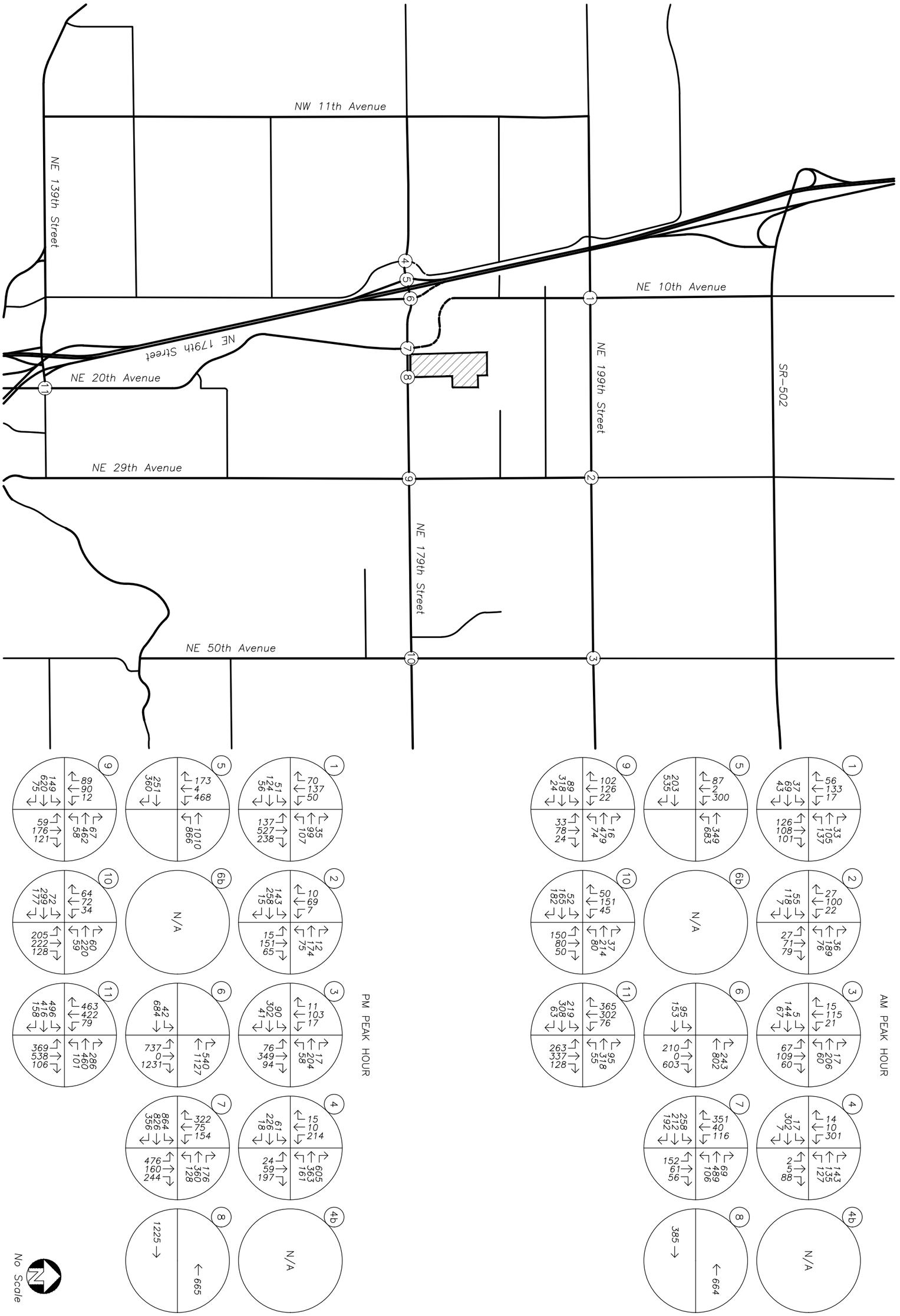
Year 2025 Existing Conditions

AM & PM Peak Hours

Figure 5

Three Creeks East PUD

6/24/2025



TRAFFIC VOLUMES

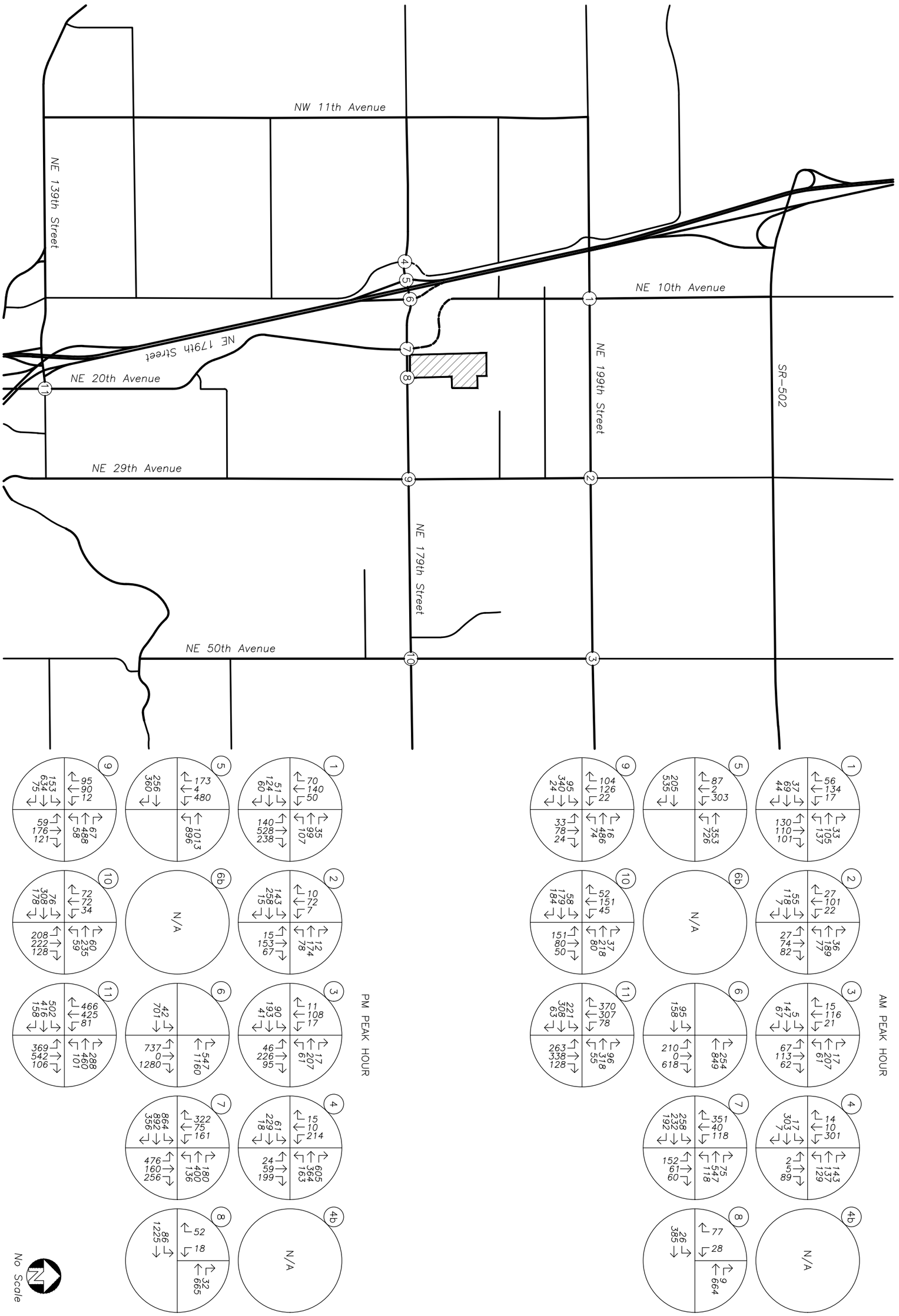
Year 2028 Background Conditions

AM & PM Peak Hours

Figure 6

Three Creeks East PUD

6/24/2025



TRAFFIC VOLUMES

Year 2028 Buildout Conditions

AM & PM Peak Hours

Figure 7

Three Creeks East PUD

6/24/2025

Safety Analysis

Crash History Review

Using data obtained from the Washington Department of Transportation (WSDOT) Crash Data and Reporting Branch, a review of the most recent available five to six years of crash history (January 2019 to June 2024) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection.

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the PM 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.

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

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

Table 4 provides a summary of crash types while Table 5 summarizes crash severities and rates for each of the applicable study intersections. Due to the close proximity of the I-5 northbound off and on-ramp intersections (i.e., Intersection 6 and 6b), crash data was consolidated between the two intersections. Crash data is included in the technical appendix to this report.

Table 4: Crash Type Summary

No.	Intersection	Crash Type							Total
		Rear End	Turn	Angle	Fixed Object	Side swipe	Ped/ Bike	Other	
1	NE 199th Street at NE 10th Avenue	1	2	0	2	0	0	0	5
2	NE 199th Street at NE 29th Avenue	0	1	0	0	0	0	0	1
3	NE 199th Street at NE 50th Avenue	0	0	1	0	0	0	0	1
4	NE 179th Street at NE Delfel Road (South Leg)	1	0	0	0	1	0	0	2

Table 4: Crash Type Summary (Continued)

No.	Intersection	Crash Type							Total
		Rear End	Turn	Angle	Fixed Object	Side swipe	Ped/ Bike	Other	
4b	NE 179th Street at NE Delfel Road (North Leg)	1	2	0	0	0	0	0	3
5	I-5 SB Ramps at NE 179th Street	0	2	0	0	1	0	0	3
6b	I-5 NB On-Ramp at NE 179th Street	1	4	5	0	0	0	1	11
6	I-5 NB Off-Ramp/NE 10th Avenue at NE 179th Street								
7	NE 179th Street at NE 15th Avenue	0	7	0	0	0	0	0	7
9	NE 179th Street at NE 29th Avenue	1	5	9	0	0	0	0	15
10	NE 179th Street at NE 50th Avenue	1	1	3	1	0	0	0	6
11	NE 139th Street at NE 20th Avenue	1	3	0	1	1	0	0	6

Table 5: Crash Severity and Rate Summary

No.	Intersection	Crash Severity					Total Crashes	AADT	Crash Rate
		NA	P	SM	SS	Unknown			
1	NE 199th Street at NE 10th Avenue	4	0	1	0	0	5	13,580	0.18
2	NE 199th Street at NE 29th Avenue	0	1	0	0	0	1	8,510	0.06
3	NE 199th Street at NE 50th Avenue	0	0	1	0	0	1	8,120	0.06
4	NE 179th Street at NE Delfel Road (South Leg)	1	0	1	0	0	2	8,390	0.12
4b	NE 179th Street at NE Delfel Road (North Leg)	3	0	0	0	0	3	16,190	0.09
5	I-5 SB Ramps at NE 179th Street	3	0	0	0	0	3	18,060	0.08
6b	I-5 NB On-Ramp at NE 179th Street	7	2	2	0	0	11	27,060	0.20
6	I-5 NB Off-Ramp/ NE 10th Ave at NE 179th Street								

Table Notes: AADT at Intersection 6 (not 6b) was utilized to calculate the crash rate.

Table 5: Crash Severity and Rate Summary (Continued)

No.	Intersection	Crash Severity					Total Crashes	AADT	Crash Rate
		NA	P	SM	SS	Unknown			
7	NE 179th Street at NE 15th Avenue	5	2	0	0	0	7	13,450	0.26
9	NE 179th Street at NE 29th Avenue	9	5	1	0	0	15	8,230	0.91
10	NE 179th Street at NE 50th Avenue	4	0	1	0	1	6	6,790	0.44
11	NE 139th Street at NE 20th Avenue	1	3	1	1	0	6	34,530	0.09

The intersection of NE 139th Street at NE 20th Avenue had one reported crash that was classified as *Suspected Serious Injury*. The crash occurred when the driver of a northbound passenger car rear-ended another passenger car that was stopped at the intersection. The driver at fault for the collision was operating their vehicle while under the influence of alcohol. One person involved in the collision was reported to have sustained injuries.

Per Table 5, the intersection of NE 179th Street at NE 29th Avenue was found to be nearing a crash rate of 1.00 CMEV. All but one of the reported collisions at the intersection were either turning movement or angle type crashes. The intersection is planned for reconstruction as a roundabout sometime between 2025 through 2028. Per WSDOT's Traffic Safety Methods website.[4] roundabouts often reduce the overall number of recurring crashes at signalized and stop-controlled intersections by approximately 37 percent. Therefore, the overall crash rate at the intersection is expected to decrease to approximately 0.57 CMEV after this intersection improvement has been implemented. No additional mitigation is necessary or recommended.

No significant trends or crash patterns were identified at any of the other study intersections that are indicative of safety concerns. Accordingly, no crash-related mitigation is necessary or recommended as part of the Three Creeks East PUD application.

Sight Distance Evaluation

Sight Distance Definitions and Methodologies

Intersection and stopping sight distances were measured at the proposed site access intersection along NE 179th Street. Sight distances were measured and evaluated at the intersection in accordance with standards established in *A Policy of Geometric Design of Highways and Streets*.[5], as well as per Clark County standards.

[4] Traffic Safety Methods | WSDOT. 1 August 2024, https://wsdot.wa.gov/travel/traffic-safety-methods.

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

Intersection sight distance is an operational measure, intended to provide sufficient line of sight along the major-street so that a driver can enter the roadway without impeding the flow of through traffic. For intersection sight distance, the driver's eye is assumed to be 15 feet from the near edge of the nearest travel lane (or traveled way) of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The oncoming vehicle driver's eye height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

Stopping sight distance is considered the minimum requirement to ensure safe operation of an intersection with respect to sight lines. This distance allows the driver of a vehicle traveling on the major-street to react to a turning vehicle or other object in the roadway and, if necessary, come to a complete stop to avoid a collision. To ensure safe operation, the extent of available intersection sight distance must at least equal the minimum required stopping sight distance. For stopping sight distance, the major-street approaching driver's eye height is 3.5 feet while an object height of 2 feet above the street pavement is used.

According to Clark County Unified Development Code section 40.350.030.B.8, the minimum recommended intersection sight distance is based on ten times the posted/statutory speed of the roadway. However, alternative standards may be considered provided intersection sight distance cannot reasonably be met. Stopping sight distances were based on Table 40.350.030-7 of the County's code.

Based on a posted speed of 40 mph along NE 179th Street, the following minimum intersection and stopping sight distances are applicable to the proposed site access intersection:

- Intersection Sight Distance: 400 feet to the east and west.
- Stopping Sight Distance: 340 feet to the east, considering the major-street westbound approach grade is approximately 7.1% downhill over a 350-foot distance.
- Stopping Sight Distance: 305 feet to the west, considering the major-street eastbound approach grade is less than 3.0% over a 350-foot distance.

Sight Distance Measurements

Field measurements were conducted at the proposed site access intersection on Saturday, March 15, 2025. Due to a roadside ditch and on-site foliage near the access, sight distances were measured along the edge of the roadway rather than the standard 15 feet behind the edge of the traveled way. However, no other obstructions were noted either on-site or along the roadway which would reduce sight distances to less than those measured in the field if measurements had been conducted at the standard 15-foot distance.

Provided any obstructing on-site foliage is either removed or properly maintained following redevelopment of the project site, intersection and stopping sight distances to the east and west of the site access location were measured to be in excess of 400 feet. No other mitigation measure is necessary or recommended.

Analysis Summary

Based on the sight distance analysis and provided any obstructing on-site foliage is either removed or properly maintained following redevelopment of the site, adequate intersection and stopping sight distances can be made available at the proposed site access intersection to allow for safe and efficient operation along NE 179th Street. No other sight distance related mitigation is necessary or recommended.

Warrant Analysis

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

Left-Turn Lane Warrants

Left-turn lane warrants were evaluated at the proposed site access intersection along NE 179th Street. A left-turn refuge lane is primarily a safety consideration for the major-street, removing left-turning vehicles from the through traffic stream. To evaluate left-turn lane warrants, section *1310.02(13) Left-Turn Lanes and Turn Radii* and *Exhibit 1310-9 Left-Turn Storage Guidelines: Two-Lane, Unsignalized* from the WSDOT Design Manual were referenced. Turn lane warrants were evaluated based on the number of advancing and opposing vehicles, the number of turning vehicles, the travel speed, and the number of through lanes.

Left-turn lane warrants are projected to be met at the proposed site access intersection along NE 179th Street. However, according to the *Northeast 179th Street Corridor Improvements* project NE 179th Street along the site frontage will be widened to a four-lane cross-section with a raised median, subsequently restricting the access to right-turns only. Based on correspondence with Clark Countys staff the construction of a dedicated eastbound left-turn lane is not necessary given this future access restriction will occur. Therefore, the construction of an eastbound left-turn lane is not required at the site access intersection as part of the proposed Three Creeks East PUD project. No other left-turn lanes are necessary or recommended as part of the proposed development application.

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for the unsignalized study intersections, where applicable, to determine whether the installation of a new traffic signal will be warranted at the intersections by the 2028 site buildout year. Based on the preliminary analysis following a review of Warrant 1 in the *Manual on Uniform Traffic Control Devices*, or MUTCD, traffic signal warrants are not projected to be met at any of the applicable unsignalized study intersections by the 2028 site buildout year. Therefore, no new traffic signals are necessary or recommended as part of the proposed development application.

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).[6] 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

According to Clark County's Unified Development Code, Title 40.350 – *Transportation and Circulation*, Clark County's 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.

The I-5 ramp intersections along NE 179th Street operate under the jurisdiction of WSDOT. According to the Revised Code of Washington (RCW) 47.06.140(2):

> *The department of transportation, in consultation with local governments, shall set level of service standards for state highways and state ferry routes of statewide significance. Although the department shall consult with local governments when setting level of service standards, the department retains authority to make final decisions regarding level of service standards for state highways and state ferry routes of statewide significance. In establishing level of service standards for state highways and state ferry routes of statewide significance, the department shall consider the necessary balance between providing for the free interjurisdictional movement of people and goods and the needs of local communities using these facilities…*

Consistent with other transportation studies conducted in the nearby vicinity, it was assumed the I-5 ramp intersections along NE 179th Street would defer to Clark County mobility standards.

[6] Transportation Research Board, *Highway Capacity Manual 7th Edition*, 2022.

Delay & Capacity Analysis

The study intersections were analyzed utilizing methodologies and parameters detailed in the *WSDOT Synchro & SimTraffic Protocol* document. Of specific note, the following peak hour factors (PHF) were incorporated in the analysis models:

- For existing year conditions, a PHF of no less than 0.80 was applied to each study intersection.
- For future year conditions, for study intersections where count data recorded a PHF of 0.90 or greater, the PHF was increased to 1.0.
- In order to avoid showing a future year scenario with lower delays than under existing conditions, for study intersections where count data recorded a PHF of 0.89 or less the PHF was increased to 0.92. The exception to this rule is when an intersection was reported to operate at LOS E or F under 2028 conditions, where the PHF was increased to 1.0.

Specific to the intersections of NE 179th Street at NE 29th Avenue and NE 179th Street at NE 50th Avenue, which are impacted by the closure of NE 179th Street between the two intersections, heavy vehicle percentages from the 2023 counts at each intersection were utilized in the capacity analysis models. The intent for utilizing these percentages is to avoid applying the abnormally high heavy vehicle percentages associated with construction traffic traveling to/from the closed segment of NE 179th Street, which is atypical of standard intersection/ roadway traffic conditions.

Due to the lane configuration at the signalized study intersection of NE 179th Street at NE 15th Avenue (i.e., non-NEMA phasing), the HCM 7th Edition methodology utilizing Trafficware's Synchro 12 software does not provide capacity outputs for this intersection under existing conditions. Therefore, the reported results at this intersection are based on HCM 2000 methodologies.

For future year 2028 conditions, the following intersections were modeled as roundabouts.

4. NE 179th Street at NE Delfel Road
5. I-5 Southbound Ramps at NE 179th Street
6. I-5 Northbound Ramps at NE 179th Street
7. NE 179th Street at NE 15th Avenue
9. NE 179th Street at NE 29th Avenue

Sidra software was used to model these intersections in accordance with the *WSDOT Synchro & SimTraffic Protocol* and *WSDOT Sidra Policy Settings* documents.

The LOS, delay, and v/c results of the capacity analysis are shown in Table 6 for the AM and PM peak hours. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

Table 6: Intersection Capacity Analysis Summary

Analysis Scenario	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
1. NE 199th Street at NE 10th Avenue						
2025 Existing Conditions	B	10	-	B	14	-
2028 Background Conditions	B	11	-	B	17	-
2028 Buildout Conditions	B	11	-	B	17	-
2. NE 199th Street at NE 29th Avenue						
2025 Existing Conditions	B	12	0.51	B	13	0.58
2028 Background Conditions	B	12	0.51*	B	14	0.63
2028 Buildout Conditions	B	12	0.51*	B	15	0.63
3. NE 199th Street at NE 50th Avenue						
2025 Existing Conditions	B	11	0.38	B	12	0.47
2028 Background Conditions	B	13	0.50	C	16	0.61
2028 Buildout Conditions	B	13	0.50	C	17	0.62
4. NE 179th Street at NE Delfel Road						
2025 Existing Conditions	B	14	-	B	12	-
2028 Background Conditions[1]	A	8	0.34	A	7	0.42
2028 Buildout Conditions[1]	A	8	0.34	A	7	0.42
4b. NE 179th Street at NE Delfel Road (North T-Intersection)						
2025 Existing Conditions	D	25	0.66	**F**	>120	>1.00
5. I-5 Southbound Ramps at NE 179th Street						
2025 Existing Conditions	B	10	-	B	11	-
2028 Background Conditions[1]	A	8	0.53	A	8	0.75
2028 Buildout Conditions[1]	A	8	0.56	A	8	0.76
6. I-5 Northbound Ramps at NE 179th Street						
2025 Existing Conditions	B	10	-	B	14	-
2028 Background Conditions[1]	A	6	0.42	C	25	>1.00
2028 Buildout Conditions[1]	A	6	0.43	C	30	>1.00

Table Notes: ***BOLDED*** *text indicates intersection operation above jurisdictional standards.*

* *Delay and/or v/c ratio increased to match previous analysis scenario.*

[1] *Intersection analyzed as a roundabout.*

Table 6: Intersection Capacity Analysis Summary (Continued)

Analysis Scenario	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
7. NE 179th Street at NE 15th Avenue						
2025 Existing Conditions	A	6	0.28	B	13	0.72
2028 Background Conditions[1]	A	8	0.37	C	34	>1.00
2028 Buildout Conditions[1]	A	8	0.41	D	39	>1.00
8. Site Access at NE 179th Street						
2028 Buildout Conditions	C	16	0.26	D	27	0.32
9. NE 179th Street at NE 29th Avenue						
2025 Existing Conditions	A	9	0.26	B	13	0.56
2028 Background Conditions[1]	A	8	0.62	B	14	0.86
2028 Buildout Conditions[1]	A	8	0.63	B	16	0.88
10. NE 179th Street at NE 50th Avenue						
2025 Existing Conditions	A	9	0.24	B	12	0.54
2028 Background Conditions	C	19	0.68	**F**	73	>1.00
2028 Buildout Conditions	C	20	0.72	**F**	79	>1.00
11. NE 139th Street at NE 20th Avenue						
2025 Existing Conditions	B	15	-	C	22	-
2028 Background Conditions	B	15	-	C	24	-
2028 Buildout Conditions	B	15	-	C	25	-

Table Notes: ***BOLDED*** *text indicates intersection operation above jurisdictional standards.*

[1] *Intersection analyzed as a roundabout.*

Based on the results of the operational analysis, two study intersections were found to exceed Clark County mobility standards:

- NE 179th Street at NE Delfel Road (North T-Intersection) under existing conditions
- NE 179th Street at NE 50th Avenue under year 2028 conditions.

The intersection of NE 179th Street at NE Delfel Road (North T-Intersection) will be closed and the north leg of NE Delfel Road will be relocated opposite of the south leg of NE Delfel Road (TIP Project B). The planned four-legged intersection will be reconstructed as a roundabout and will operate within acceptable Clark County standards. Therefore, no further mitigation at the intersection beyond the implementation of TIP Project B is necessary or recommended.

The intersection of NE 179th Street at NE 50th Avenue is projected to exceed Clark County standards during the PM peak hour under year 2028 conditions, regardless of whether or not the proposed development will be constructed. According to TIP Project H, additional mitigation is planned at the intersection post-2030, specifically to reconstruct the intersection as a multilane roundabout. As an interim solution to mitigate impacts created by the proposed Three Creeks East PUD project, one of the following mitigation measures could be implemented at the intersection:

- Install a dedicated northbound right-turn lane.
- Establish a Development Agreement and proportionate share fee mechanism to fund the reconstruction the intersection as a dual-lane roundabout (2025-2030 TIP Project H). The Three Creeks East PUD project will subsequently contribute a fee that is proportional to impacts created by the development.

Provided one of the aforementioned intersection improvements is implemented, the impacts created by the proposed development to the intersection will be mitigated. It is recommended that one of the aforementioned mitigation measures be implemented as a Condition of Approval for the development application. Table 7 below shows the operational analysis results with mitigation implemented.

Table 7: Mitigation Capacity Analysis Summary

Analysis Scenario	PM Peak Hour		
	LOS	Delay (s)	v/c
10. NE 179th Street at NE 50th Avenue			
2028 Background Conditions	**F**	73	>1.00
2028 Buildout Conditions	**F**	79	>1.00
2028 Mitigated Conditions (with NB Right-turn Lane)	**F**	60	>1.00
2028 Mitigated Conditions (with Dual-Lane Roundabout)	A	9	0.63

Table Notes: ***BOLDED*** *text indicates intersection operation above jurisdictional standards.*

All other study intersections are currently operating acceptably per Clark County standards and are projected to continue operating acceptably through the 2028 buildout year of the site. Accordingly, no operational mitigation is necessary or recommended at these study intersections as part of the proposed development application.

Roadway Capacity Analysis

In accordance with Clark County Code Section 40.350.020(G) – *Level of Service Standards*, a capacity analysis was conducted for roadway segments requested by Clark County staff. The code section requires all collector and arterial roadway segments located within the Vancouver Urban Growth Area, but outside Vancouver city limits, as well as state highways of regional significance to have a maximum v/c ratio no greater than 0.90, measured independently for each direction of travel. Roadway volumes were determined utilizing the year 2028 site buildout volumes during the AM and PM peak hours. Roadway capacities were determined per Table 40.350.020-1 of the Clark County code based on the County roadway designation and classification.

The results of the roadway capacity analysis for the projected year 2028 traffic conditions with buildout of the proposed development are shown in Table 8. The maximum calculated v/c ratio along each roadway segment is reported for both the AM and PM peak hours.

Table 8: Roadway Capacity Analysis Summary

Roadway	From	To	Classification	Capacity (veh/hr)	Volume/Capacity	
					AM	PM
NE 199th Street	NE Delfel Road	NE 10th Avenue	M-4cb	1,800	0.162	0.172
	NE 10th Avenue	NE 29th Avenue	M-4cb	1,800	0.153	0.231
	NE 29th Avenue	NE 50th Avenue	M-2cb	900	0.336	0.369
	NE 50th Avenue	NE 72nd Avenue	M-2cb	900	0.321	0.339
NE 179th Street	NW 11th Avenue	NE Delfel Road	Pr-4cb	1,800	0.182	0.224
	NE Delfel Road	Interstate 5	Pr-4cb	1,800	0.599	**1.061**
	Interstate 5	NE 15th Avenue	Pr-4cb	1,800	0.613	**1.173**
	NE 15th Avenue	NE 29th Avenue	Pr-4cb	1,800	0.412	0.728
	NE 29th Avenue	NE 50th Avenue	Pr-4cb	1,800	0.320	0.426
	NE 50th Avenue	NE 72nd Avenue	Pr-4cb	1,800	0.186	0.261
NE 139th Street	NE 10th Avenue	NE 20th Avenue	M-4cb	1,800	0.528	0.719
	NE 20th Avenue	NE 23rd Avenue	C-2cb	900	0.571	**0.943**
NE Delfel Road	NE 189th Street	NE 179th Street	C-2	800	0.406	**0.906**
	NE 179th Street	NE 159th Street	C-2cb	900	0.162	0.313
NE 10th Avenue	SR-502	NE 199th Street	M-2cb	900	0.230	0.682
	NE 199th Street	NE 194th Street	M-2cb	900	0.379	**1.007**
	NE 189th Street	NE 179th Street	M-2cb	900	0.566	**1.338**
NE 15th Avenue	NE 179th Street	NE 174th Street	M-2cb	900	0.389	**0.991**

Table Notes: ***BOLDED*** *text indicates a roadway capacity in excess of 0.90.*

Table 8: Roadway Capacity Analysis Summary (Continued)

Roadway	From	To	Classification	Capacity (veh/hr)	Volume/Capacity	
					AM	PM
NE 20th Avenue	NE 156th Street	NE 139th Street	M-4cb	1,800	0.419	0.740
	NE 139th Street	NE 134th Street	M-4cb	1,800	0.405	0.565
NE 29th Avenue	SR-502	NE 199th Street	R-2	800	0.206	0.385
	NE 199th Street	NE 194th Street	M-4cb	1,800	0.103	0.131
	NE 189th Street	NE 179th Street	M-4cb	1,800	0.140	0.220
	NE 179th Street	NE 159th Street	M-2cb	900	0.249	0.396
NE 50th Avenue	SR-502	NE 199th Street	Rm-2	800	0.190	0.416
	NE 199th Street	NE 179th Street	M-4cb	1,800	0.138	0.740
	NE 179th Street	NE 174th Street	M-2cb	900	0.461	**1.130**

Table Notes: ***BOLDED*** *text indicates a roadway capacity in excess of 0.90.*

Based on the results of the roadway capacity analysis, there are several roadway segments that are projected to exceed Clark County's roadway segment v/c ratio threshold under year 2028 conditions. Although these roadway segments are projected to operate with a v/c ratio in excess of 0.90 during the PM peak hour, no mitigation as part of the proposed development application is recommended. These segments and reasons for not needing development specific mitigation include the following:

NE 179th Street, between NE Delfel Road and I-5 and I-5 NE 15th Avenue

- As part of Clark County's *Northeast 179th Street Corridor Improvements* project, WSDOT's *I-5 – 179th Street Interchange – Interchange Improvements* project, and the 2025-2030 TIP (Project A), roadway improvements are planned along NE 179th Street that are expected to increase the carrying capacity of these street segments near the I-5 interchange.
- These segments of NE 179th Street are projected to operate with v/c ratios above 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the proposed Three Creeks East PUD project alone does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The study intersections along NE 179th Street, between NE Delfel Road and NE 15th Avenue, are projected to operate at no lower than LOS C during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersections.

NE 139th Street, between NE 20th Avenue and NE 23rd Avenue

- The intersection of NE 139th Street at NE 20th Avenue is projected to operate within acceptable Clark County LOS D standards during the PM peak hour. Therefore, this increased roadway segment v/c ratio is not expected to create significant impacts to the operation or safety of the nearby transportation system.

- This segment of NE 139th Street has a varying roadway width between three to seven travel lanes with a raised 280-foot median from NE 20th Avenue to the east. Therefore, it is reasonable to assume this roadway segment offers greater vehicle carrying capacity than its classification as a two-lane Collector with a center turn lane and bike lanes (C-2cb).
- This segment of road is projected to operate with a v/c ratio in excess of 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the Three Creeks East PUD project alone does not cause this roadway segment to exceed this v/c ratio threshold.
- The proposed development is projected to add 4 PM peak hour trips to this segment of NE 139th Street. This increase in 4 PM peak hour trips is minor, can be considered as equivalent to daily fluctuations in traffic, and will minimally increase the roadway's single travel direction v/c ratio by approximately 0.002. Therefore, impacts from the proposed development to this roadway segment should be considered minimal and any additional mitigation to increase the vehicle carrying capacity of the roadway would be disproportionate to the impacts created by the proposal.

NE Delfel Road, between NE 189th Street and NE 179th Street

- The proposed Three Creeks East PUD project is expected to add a nominal number of peak hour trips to this segment of roadway. Therefore, the proposed development does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The intersection of NE 179th Street at NE Delfel Road is projected to operate at LOS A during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersection.

NE 10th Avenue, between NE 199th Street and NE 179th Street

- This segment of NE 10th Avenue is projected to operate with v/c ratios above 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the proposed Three Creeks East PUD project alone does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The study intersections along NE 10th Avenue between NE 199th Street and NE 179th Street, are projected to operate at no lower than LOS C during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersections.

NE 15th Avenue, between NE 179th Street and NE 174th Street

- This segment of NE 15th Avenue is projected to operate with v/c ratios above 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the proposed Three Creeks East PUD project alone does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The intersection of NE 179th Street at NE 15th Avenue is projected to operate at no lower than LOS C during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersection.

NE 50th Avenue, between NE 179th Street and NE 174th Street

- This segment of NE 50th Avenue is projected to operate with v/c ratios above 0.90 under year 2028 background conditions, without impacts from the proposed development. Therefore, the proposed Three Creeks East PUD project alone does not cause this roadway segment to exceed the 0.90 v/c ratio threshold.
- The proposed development is projected to add 4 PM peak hour trips to this segment of NE 50th Street. This increase in 4 PM peak hour trips is minor, can be considered as equivalent to daily fluctuations in traffic, and will minimally increase the roadway's single travel direction v/c ratio by approximately 0.003. Therefore, impacts from the proposed development to this roadway segment should be considered minimal and any additional mitigation to increase the vehicle carrying capacity of the roadway would be disproportionate to the impacts created by the proposal.
- Once the intersection of NE 179th Street at NE 50th Avenue is reconstructed as a roundabout, the intersection is projected to operate at LOS A during the AM and PM peak hours under year 2028 buildout conditions. Therefore, the high roadway v/c ratio is not expected to create operational issues at the relevant/applicable study intersection.

All other relevant roadway segments are projected to operate acceptably per Clark County standards through the 2028 buildout year of the site. Accordingly, no additional roadway capacity related mitigation is necessary or recommended beyond currently planned improvement projects as part of the proposed development application.

Conclusions

The intersection of NE 179th Street at NE 29th Avenue was found to be nearing a crash rate of 1.00 CMEV. The intersection is planned for reconstruction as a roundabout sometime between 2025 through 2028. According to WSDOT, roundabouts often reduce the overall number of recurring crashes at signalized and stop-controlled intersections. Therefore, the overall crash rate at the intersection is expected to decrease well below the 1.00 CMEV threshold after this intersection improvement has been implemented. No additional mitigation is necessary or recommended.

No significant trends or crash patterns were identified at any of the other study intersections that are indicative of safety concerns. Accordingly, no crash-related mitigation is necessary or recommended as part of the Three Creeks East PUD application.

Provided any obstructing on-site foliage is either removed or properly maintained following redevelopment of the site, adequate intersection and stopping sight distances can be made available at the proposed site access intersection to allow for safe and efficient operation along NE 179th Street. No other sight distance related mitigation is necessary or recommended.

Left-turn lane warrants are projected to be met at the proposed site access intersection along NE 179th Street. However, according to the *Northeast 179th Street Corridor Improvements* project NE 179th Street along the site frontage will be widened to a four-lane cross-section with a raised median, subsequently restricting the access to right-turns only. Based on correspondence with Clark Countys staff the construction of a dedicated eastbound left-turn lane is not necessary given this future access restriction will occur. Therefore, the construction of an eastbound left-turn lane is not required at the site access intersection as part of the proposed Three Creeks East PUD project. No other left-turn lanes are necessary or recommended as part of the proposed development application.

Traffic signal warrants are not projected to be met at any of the applicable unsignalized study intersections by the 2028 site buildout year. Therefore, no new traffic signals are necessary or recommended as part of the proposed development application.

Two study intersections were found to exceed Clark County's mobility standards: the intersection of NE 179th Street at NE Delfel Road (North T-Intersection) under existing conditions, and the intersection of NE 179th Street at NE 50th Avenue under year 2028 conditions.

- The intersection of NE 179th Street at NE Delfel Road (North T-Intersection) will be closed and the north leg of NE Delfel Road will be relocated opposite of the south leg of NE Delfel Road (TIP Project B). Therefore, no further mitigation at the intersection beyond the implementation of TIP Project B is necessary or recommended.
- The intersection of NE 179th Street at NE 50th Avenue is projected to exceed Clark County standards during the PM peak hour under year 2028 conditions, regardless of whether or not the proposed development will be constructed. According to TIP Project H, additional mitigation is planned at the intersection around 2035, specifically to reconstruct the intersection as a multilane roundabout. As an interim solution, the intersection could be reconstructed with one of the following:

- Install a dedicated northbound right-turn lane.
- Establish a Development Agreement and proportionate share fee mechanism to fund the reconstruction the intersection as a dual-lane roundabout. The Three Creeks East PUD project will subsequently contribute a fee that is proportional to impacts created by the development.

Provided one of the aforementioned intersection improvements is implemented, the impacts created by the proposed development to the intersection will be mitigated. It is recommended that one of the aforementioned mitigation measures be implemented as a Condition of Approval for the development application.

All other study intersections are currently operating acceptably per Clark County standards and are projected to continue operating acceptably through the 2028 buildout year of the site. Accordingly, no operational mitigation is necessary or recommended at these study intersections as part of the proposed development application.

Several roadway segments within the study area are projected to exceed Clark County's roadway v/c ratio threshold under year 2028 conditions. Although these roadway segments are projected to operate with v/c ratios in excess of 0.90 during the PM peak hour, no mitigation as part of the proposed development application is recommended for several reasons including, but not limited to, the following:

- Relevant study intersections along the higher demand roadway segments are projected to operate within acceptable Clark County LOS standards. Therefore, the increased v/c ratio on applicable roadway segments are not expected to create significant impacts to the operation or safety of the nearby transportation system.
- For relevant roadway segments, the high v/c ratios occur under year 2028 background conditions, without impacts from the proposed development. Therefore, the Three Creeks East PUD project alone does not cause these roadway segment to exceed the 0.90 v/c ratio threshold.
- For some roadway segments, the proposed development will add little to no additional peak hour trips to these roadway segments. In these cases any increase in peak hour trips will be minor, can be considered as equivalent to daily fluctuations in traffic, and will minimally increase the roadway's single travel direction v/c ratios. Any additional mitigation to increase the vehicle carrying capacity of these roadway segments would be disproportionate to the impacts created by the proposed development.

All other relevant roadway segments are projected to operate acceptably per Clark County standards through the 2028 buildout year of the site during both the AM and PM peak hours. Accordingly, no roadway capacity related mitigation is necessary or recommended at these roadway segments as part of the proposed development application.

Appendix A – Scoping Materials

Scoping Memorandum

Clark County Response

lancaster mobley

1130 SW Morrison St., Suite 318
Portland, OR 97205
503.248.0313
lancastermobley.com

Memorandum

To: **Craig Kathol, Clark County**
David Jardin, Clark County
Jason Lugo, WSDOT

From: **Daniel Stumpf, PE**

Date: **November 19, 2024**

Subject: **Three Creeks East PUD**
Scoping Memorandum

Introduction

This memorandum details a proposed scope of work for a Transportation Impact Study (TIS) related to the *Three Creeks East PUD* project. The project site is located on three properties (assessor parcels 181218000, 181208000, 181253000, and 181209005) addressed at 1804 NE 179th Street in unincorporated Clark County, Washington. The proposal will include the construction of approximately 191 single-family detached houses. Access to the site will be provided via a proposed public street connection along NE 179th Street.

The project site is currently developed with one existing single-family house. The house will be maintained following redevelopment of the site and no alteration to the house's existing driveway along NE 179th Street will occur.

Trip Generation

To estimate the number of trips that will be generated by the proposed development, trip rates from the *Trip Generation Manual* were used. Data from the land use code 210, *Single-Family Detached Housing*, was used to estimate site trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed subdivision is projected to generate 134 AM peak hour trips, 180 PM peak hour trips, and 1,802 average weekday trips. The trip generation estimates are summarized in Table 1. Detailed trip generation calculations are included as an attachment to this memorandum.

Table 1: Trip Generation Summary

ITE Land Use Code		Size	AM Peak Hour			PM Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
210	Single-Family Detached Housing	191 units	34	100	134	113	67	180	1,802

Trip Distribution

The trip distribution used for the proposed development was referenced from the *1932 NE 179th Street Apartments Transportation Impact Analysis* (TIA), dated May 2020, where the apartments are located adjacent to the east of the project site. According to the TIA, the trip distribution was derived using the Southwest Washington Regional Transportation Council (RTC) transportation system model, where a select zone analysis was conducted for the nearby Transportation Analysis Zone (TAZ) #1982 (formerly #547).

The following trip distribution is projected:

- Approximately 2% of site trips will travel to/from the north along NE 10th Avenue, north of SR-502.
- Approximately 1% of site trips will travel to/from the north along NE 50th Avenue, north of SR-502.
- Approximately 6% of site trips will travel to/from the east along SR-502, east of NE 50th Avenue.
- Approximately 4% of site trips will travel to/from the west along NE 199th Street, west of NE 10th Avenue.
- Approximately 5% of site trips will travel to/from the east along NE 199th Street, east of NE 50th Avenue.
- Approximately 2% of site trips will travel to/from the west along NE 179th Street, west of NE Delfel Road.
- Approximately 2% of site trips will travel to/from the south along NE Delfel Road, south of NE 179th Street.
- Approximately 10% of site trips will travel to/from the north along Interstate 5 (I-5), north of NE 179th Street.
- Approximately 42% of site trips will travel to/from the south along I-5, south of NE 179th Street.
- Approximately 13% of site trips will travel to/from the east along NE 179th Street, east of NE 50th Avenue.
- Approximately 2% of site trips will travel to/from the south along NE 50th Avenue, south of NE 179th Street.
- Approximately 5% of site trips will travel to/from the west along NE 139th Street, west of NE 20th Avenue.
- Approximately 2% of site trips will travel to/from the east along NE 139th Street, east of NE 20th Avenue.
- Approximately 4% of site trips will travel to/from the south along NE 20th Street, south of NE 139th Street.

Figures A and B in the attachments depict site trip assignment during the AM and PM peak hours, respectively.

Proposed Study Intersections

According to the project's Pre-Application Final Report:

> *Any development generating 10 or more peak hour trips is required to complete a transportation impact study. A general outline is provided in the concurrency administrative manual. A traffic impact study shall analyze impacts according to the following:*
>
> *- 50 or less new peak hour trips; one mile from site*
>
> *- 51-250 new peak hour trips; two miles from the site*
>
> *- 251 or more new peak hour trips; three miles from the site*

Based on the projected trips generated, the preliminary trip distribution, and the anticipated impacts to the transportation system, the following study intersections are suggested for analysis (refer to Figures A and B for the numbering convention of listed intersections):

4. NE 199th Street at NE 10th Avenue – 8 AM and 11 PM peak hour trip impact.
5. NE 199th Street at NE 29th Avenue – 6 AM and 11 PM peak hour trip impact.
6. NE 199th Street at NE 50th Avenue – 12 AM and 16 PM peak hour trip impact.
11. NE 179th Street at NE Delfel Road – 6 AM and 7 PM peak hour trip impact.
12. I-5 Southbound Ramps at NE 179th Street – 51 AM and 46 PM peak hour trip impact.
13. I-5 Northbound Ramps at NE 179th Street – 75 AM and 101 PM peak hour trip impact.
14. NE 179th Street at NE 15th Avenue – 98 AM and 131 PM peak hour trip impact.
15. Site Access at NE 179th Street – 134 AM and 180 PM peak hour trip impact.
16. NE 179th Street at NE 29th Avenue – 36 AM and 49 PM peak hour trip impact.
18. NE 179th Street at NE 50th Avenue – 28 AM and 38 PM peak hour trip impact.
20. NE 139th Street at NE 20th Avenue – 15 AM and 19 PM peak hour trip impact.

While considered higher classification intersections within a two-mile radius of the site, several regionally significant intersections are recommended for removal from analysis. These intersections with explanations for removal from study are provided below.

> The following intersections, as well as other regionally significant intersections not evaluated in Figures A and B, will not be impacted by 5 or more peak hour trips. Therefore, no mitigation can be required as part of the application per Clark County Unified Development Code 40.350.020.G.1.c., not-with-standing safety improvements which may be necessary per section 40.350.030(B)(6). Note that the two intersections listed below are under the jurisdiction of WSDOT, where WSDOT typically requires analysis of intersections impacted by 10 or more peak hour trips:

1. SR-502 at NE 10th Avenue – 3 AM and 4 PM peak hour trip impact.
2. SR-502 at NE 29th Avenue – 4 AM and 6 PM peak hour trip impact.

Although impacted by 5 or more peak hour trips, the minor-street approaches of the following unsignalized County intersections will be impacted by less than 5 minor-street approaching trips whereby no mitigation can be required as part of the application per Clark County Unified Development Code 40.350.020.G.1.c., not-with-standing safety improvements which may be necessary per section 40.350.030(B)(6). Accordingly, the following intersections are recommended for removal from requiring analysis.

3. NE 199th Street at NE Delfel Road – 5 AM and 7 PM peak hour trip impact.
7. NE 194th Street at NE 10th Avenue – 8 AM and 11 PM peak hour trip impact.
8. NE 194th Street at NE 29th Avenue – 8 AM and 11 PM peak hour trip impact.
9. NE 189th Street at NE 10th Avenue – 8 AM and 11 PM peak hour trip impact.
10. NE 189th Street at NE 29th Avenue – 8 AM and 11 PM peak hour trip impact.
17. NE 179th Street at NE 47th Avenue – 28 AM and 38 PM peak hour trip impact.
19. NE 156th Street at NE Union Road – 15 AM and 19 PM peak hour trip impact.

Other Considerations

In-Process Development

Please provide in-process development data which should be incorporated in the TIS. If available, the traffic studies for these projects are requested.

Lancaster Mobley currently has access to data for the following projects (please let me know if any of the following can be removed):

- Dicky RV & Resort
- Trails at Whipple Creek Subdivision
- Three Creeks North Phase 1 & 2
- 179th Street Commercial Center Phase 1 & 2 (aka Killian Phase 1 & 2)
- M&H Subdivision
- North Haven Subdivision
- Woodbrook Subdivision (aka Mill Creek PUD)
- Skyview Station Shopping Center
- NE 29th Avenue Subdivision
- Maletis Distribution Center
- The Highlands at Whipple Creek
- Viers Subdivision PUD
- Mountain Estates Cluster Subdivision
- Mill Creek Terrace Subdivision
- Mountain View Farm (Mountain View Ridge PUD)
- DSHS NE 50th Avenue (48 Bed Behavioral Health)
- Mt Vista Logistics
- Mill Creek Meadows

Conclusions

Based on the projected trips generated, the preliminary trip distribution, and the anticipated impacts to the transportation system, the following study intersections are suggested for analysis:

4. NE 199th Street at NE 10th Avenue
5. NE 199th Street at NE 29th Avenue
6. NE 199th Street at NE 50th Avenue
11. NE 179th Street at NE Delfel Road
12. I-5 Southbound Ramps at NE 179th Street
13. I-5 Northbound Ramps at NE 179th Street
14. NE 179th Street at NE 15th Avenue
15. Site Access at NE 179th Street
16. NE 179th Street at NE 29th Avenue
18. NE 179th Street at NE 50th Avenue
20. NE 139th Street at NE 20th Avenue

Please confirm if the above study area is sufficient for the TIS. Also, please confirm the following:

- In addition to those listed on the prior page, are there any other in-process development projects that should be incorporated in the TIS? If yes, could their traffic studies be provided?

If you have any questions regarding the preparation of this scoping memorandum, please don't hesitate to contact us.

Three Creeks East Subdivision

Located in the NE ¼ of Section 11, T3N, R1E, W.M.
Vancouver, Washington

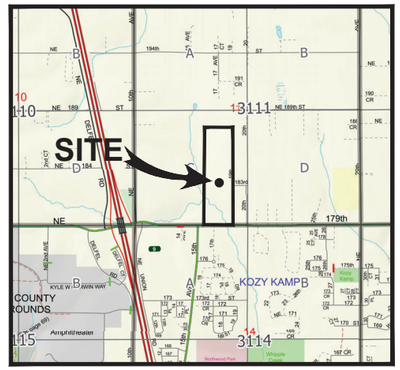
APPLICANT:
Ginn Group LLC
Alexis Pam
502 NE 72nd Street
Vancouver, WA 98685
(360) 768-5082
alexis@ginngrp.com

OWNER:
Robert Roland
1804 NE 179th Street
Vancouver, WA 98686
rcbrucelee@aol.com

CONTACT:
PLS Engineering
Travis Johnson
604 W Evergreen Blvd
Vancouver, WA 98660
(360) 944-6519
pm@plsengineering.com

Scale 1" = 40'
40 20 0 40

Legend	
Proposed Asphalt Concrete	
Proposed Cement Concrete	



VICINITY MAP
NOT TO SCALE

17TH AVE
PN: 986039944
PN: 181936000
PN: 181904000
NE 179TH STREET
PRINCIPAL ARTERIAL PER DWG 2
412'
12' DW
56'
12' DW
24' ASPHALT ROAD
60' EXTG ROW
20' ROW DEDICATION
10' GRAVEL DW
12'
TEMPORARY 20' ROADWAY DUE TO PROPOSED ELEVATION OF THE 179TH STREET IMPROVEMETNS
TEMPORARY 5' ASPHALT SIDEWALK
179TH STREET IMPROVEMENTS TO BE CONSTRUCTED BY CLARK COUNTY
PN: 181244005
PN: 181208000
100 YR FLOODPLAIN
ORDINARY HIGH WATER MARK
CAT I WETLAND
235'
RIPARIAN BUFFER
225'
CAT I WETLAND
50' BUFFER
EXTG BARN
ORDINARY HIGH WATER MARK
CAT I WETLAND
EXTG WELL HOUSE
EXTG HOUSE
EXTG SHOP
5' SIDEWALK
4' PLANTER
36' ROADWAY
54' ROW
STORMWATER FACILITY
60' GAS PIPELINE EASEMENT
NE 18TH AVE
NEIGHBORHOOD CIRCULATOR PER DWG 12
NE 183RD STREET
NEIGHBORHOOD CIRCULATOR PER DWG 12
5' SIDEWALK
4' PLANTER
36' ROADWAY
54' ROW
NE 19TH AVE
LOCAL ACCESS PER DWG 13
24' DW
EXTG SIDEWALK
EXTG SIDEWALK
PN: 181244000
PN: 181244000

	Lot	Area	Width
	8	3271 SF	76.00'
	9	2880 SF	90.00'
	10	2884 SF	90.01'
	11	2880 SF	90.00'
	12	2880 SF	90.00'
	13	2880 SF	90.00'
	14	2880 SF	90.00'
	15	2880 SF	90.00'
	16	2880 SF	90.00'
	17	2880 SF	90.00'
	18	2880 SF	90.00'
	19	2879 SF	89.97'
	89	3367 SF	114.90'
	90	3146 SF	101.03'
	91	3085 SF	99.00'
	92	3085 SF	99.00'
	93	3085 SF	99.00'
	94	3987 SF	128.00'
	95	3734 SF	119.83'
	96	2880 SF	90.00'
	97	2880 SF	90.00'
	98	2880 SF	90.00'
	99	3473 SF	111.47'
	100	3284 SF	91.33'
	101	3867 SF	113.48'
	102	4129 SF	126.49'
	103	4183 SF	128.18'
	104	4345 SF	132.29'
	105	4714 SF	144.38'
	106	2880 SF	90.00'
	107	2880 SF	90.00'
	108	2880 SF	90.00'
	109	2880 SF	90.00'
	110	2880 SF	90.00'
	111	2880 SF	90.00'
	112	3774 SF	90.00'
	113	3731 SF	89.17'
	114	2880 SF	90.00'
	115	2880 SF	90.00'
	116	2880 SF	90.00'
	117	2880 SF	90.00'
	118	2880 SF	90.00'

PLS ENGINEERING

Conceptual Plat For:
Three Creeks East Subdivision
A Site Located in Clark County, WA
Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

1	2	3	4	5	6

Project No.	3835
SCALE:	H: 1" = 40' V: N/A
DESIGNED BY:	JMT
DRAFTED BY:	JMT
REVIEWED BY:	TGJ

1
2

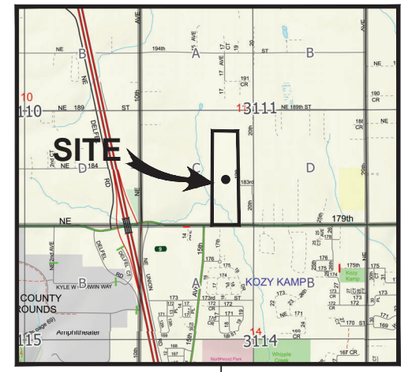
Three Creeks East Subdivision

Located in the NE ¼ of Section 11, T3N, R1E, W.M.
Vancouver, Washington

Scale 1" = 40'
40 20 0 40

Legend

Proposed Asphalt Concrete	
Proposed Cement Concrete	



VICINITY MAP
NOT TO SCALE

RIPARIAN BUFFER
STORMWATER FACILITY
WETLAND BUFFER
PN: 181207000
PN: 181253000
PN: 181209005
SHARED DW ESMT
NE 18TH AVE
NEIGHBORHOOD CIRCULATOR PER DWG 12
NE 19TH AVE
NEIGHBORHOOD CIRCULATOR PER DWG 12
NE 184TH STREET
NEIGHBORHOOD CIRCULATOR PER DWG 12
NE 185TH STREET
NEIGHBORHOOD CIRCULATOR PER DWG 12
5' SIDEWALK
4' PLANTER
28' ROADWAY
46' ROW
21.5' ROW DEDICATION
60' GAS PIPELINE EASEMENT
24' DW

ENGINEERING
PLS

Conceptual Plat For:
Three Creeks East Subdivision
A Site Located in Clark County, WA

Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

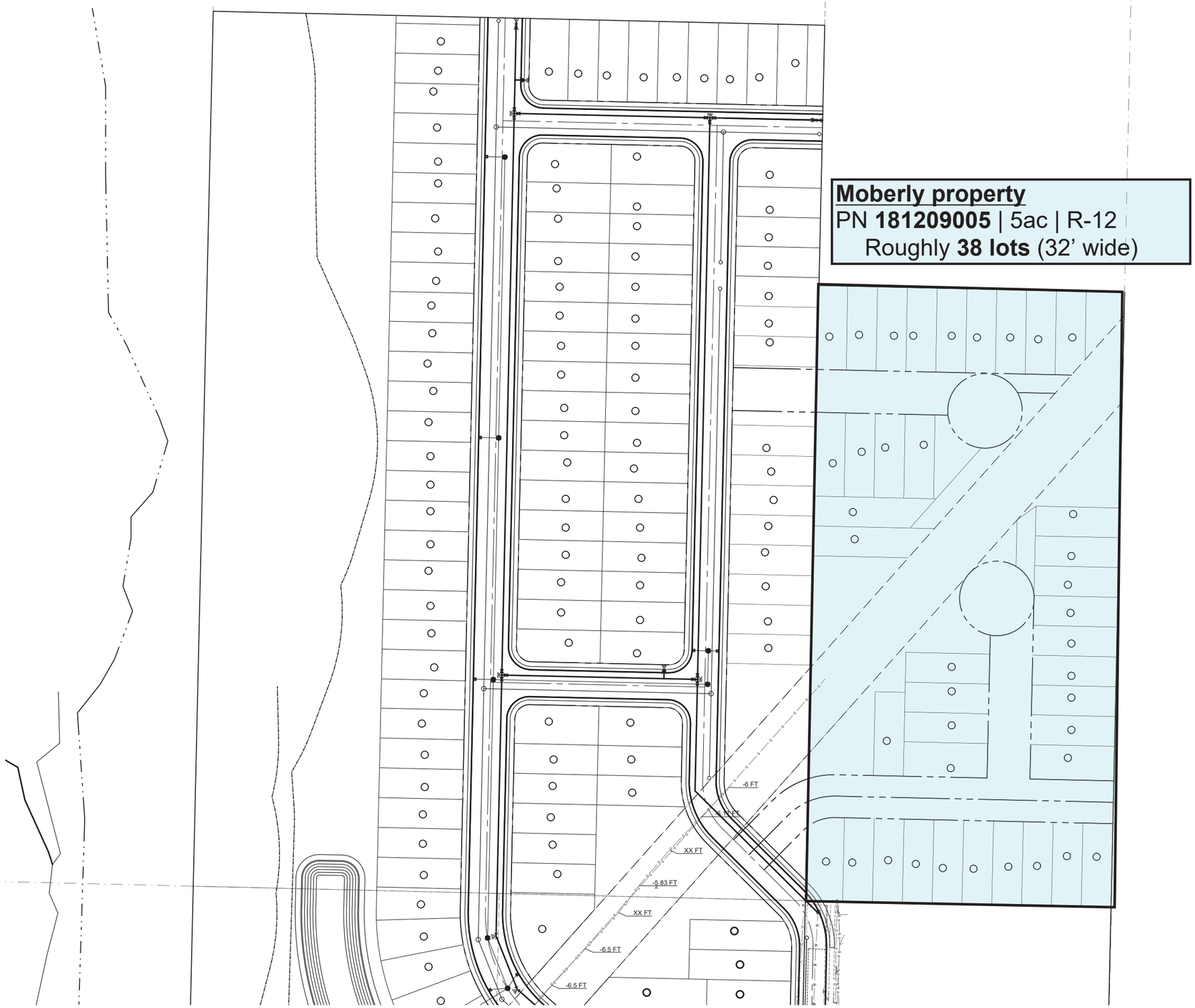
Revisions

1	2	3	4	5	6

Project No.	3835
SCALE:	H: 1" = 40' V: N/A
DESIGNED BY:	JMT
DRAFTED BY:	JMT
REVIEWED BY:	TGJ

2
2

Project: Three Creeks East



Moberly property
PN **181209005** | 5ac | R-12
Roughly **38 lots** (32' wide)

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Proposed Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	191

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	34	100	134

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	113	67	180

WEEKDAY

Trip Rate: 9.43

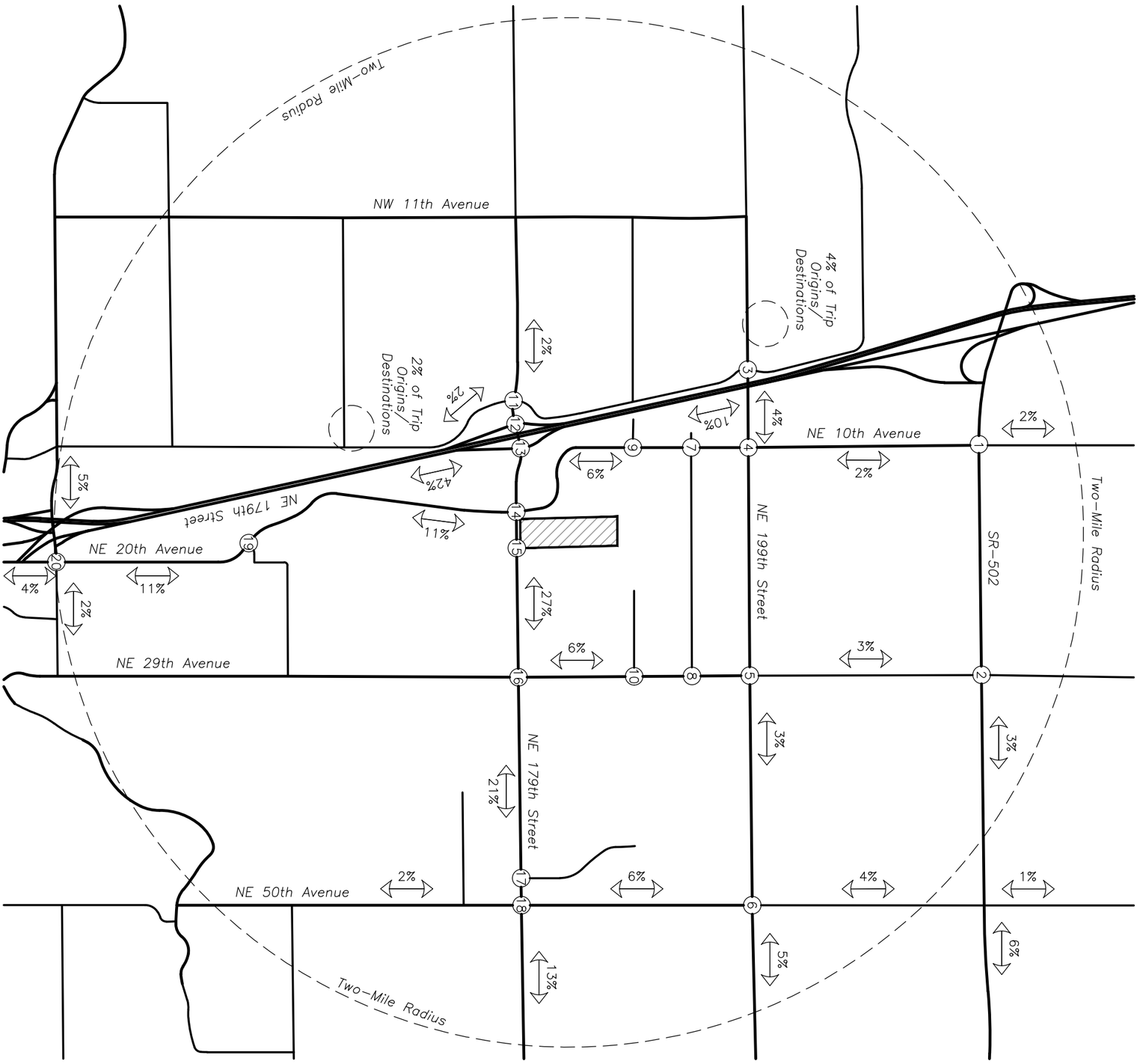
	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	901	901	1,802

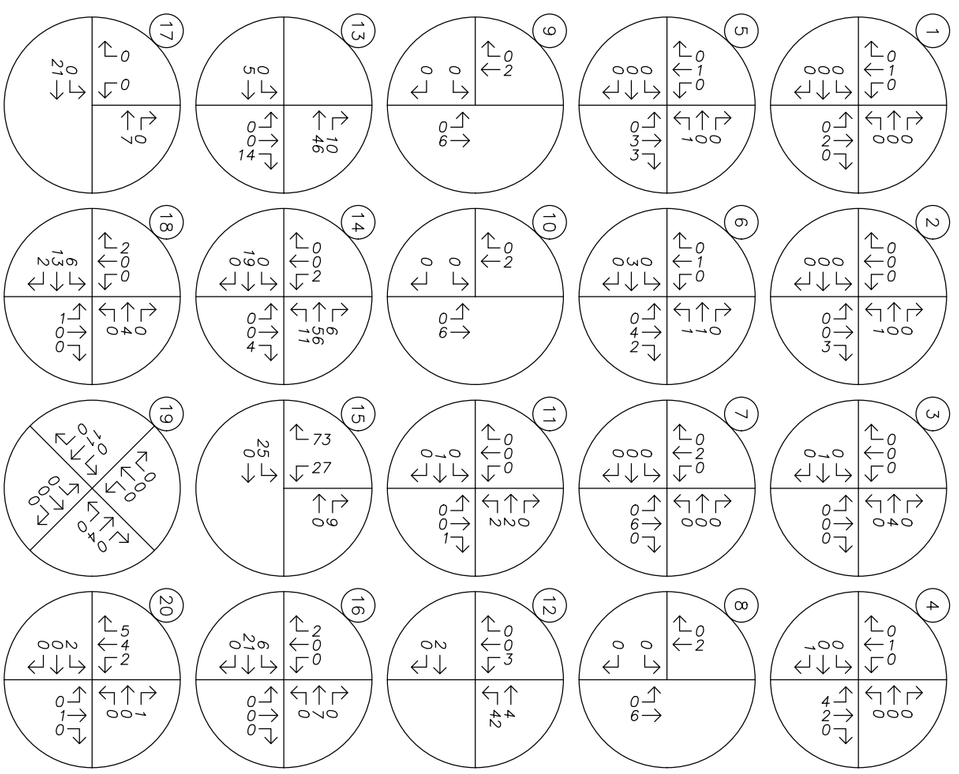
SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	905	905	1,810

Source: Trip Generation Manual, 11th Edition





LEGEND

XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	34	100	134

No Scale

SITE TRIP DISTRIBUTION & ASSIGNMENT

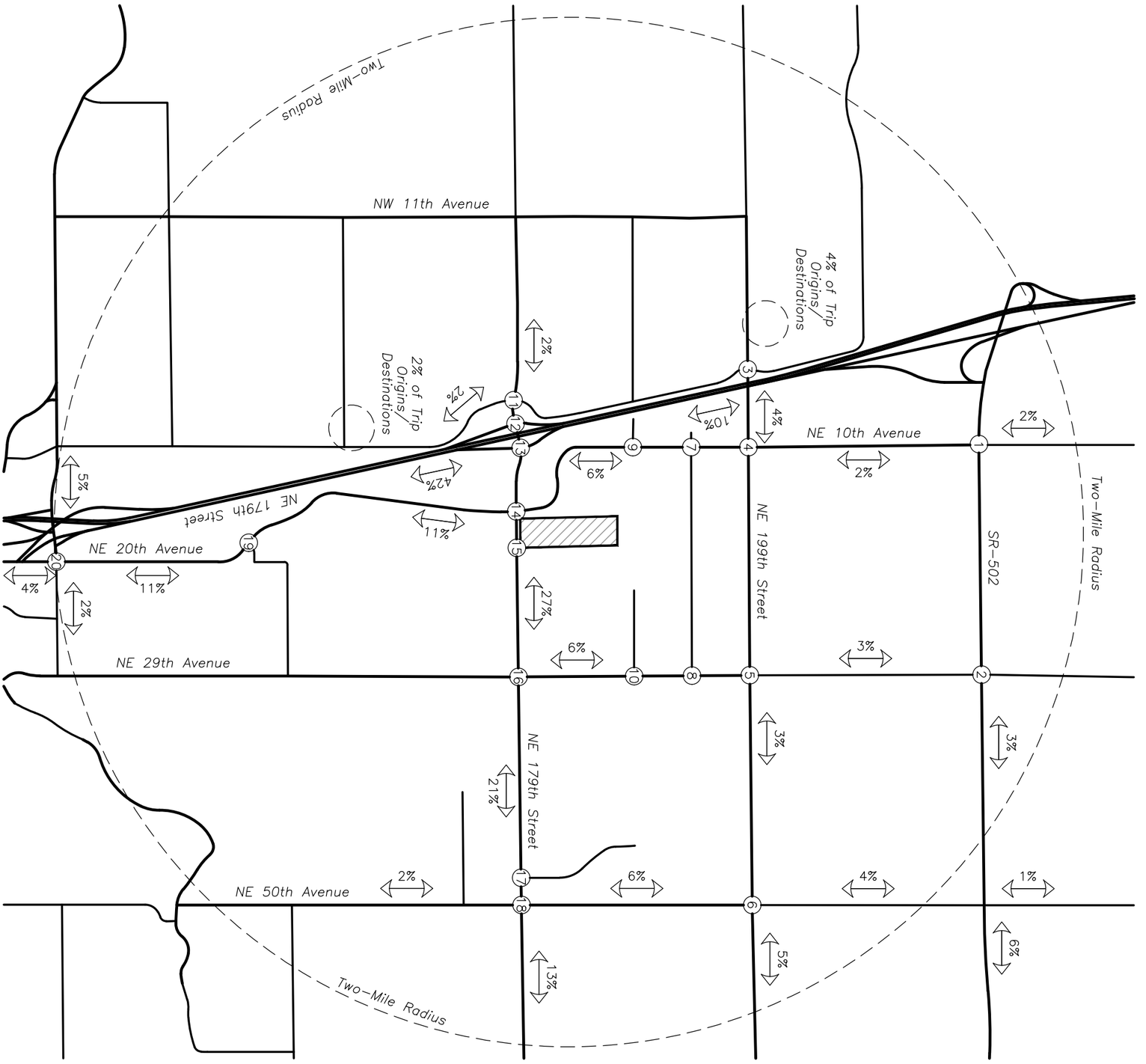
Proposed Development Plan - Site Trips

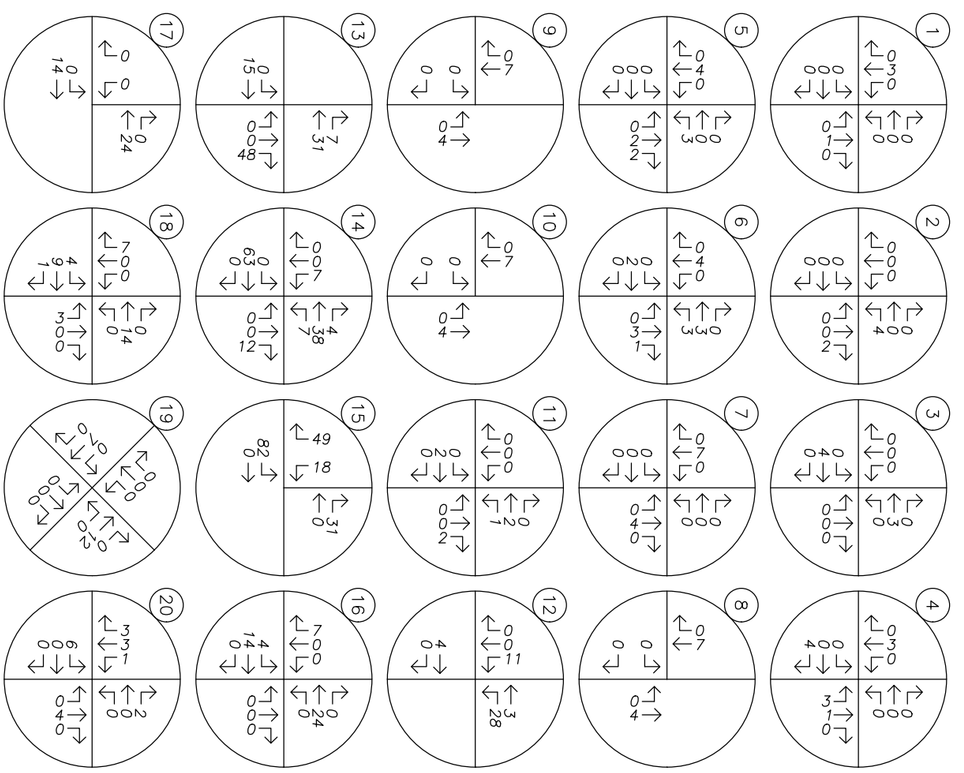
AM Peak Hour

Figure A

Three Creeks East PUD

11/12/2024





TRIP GENERATION			
	IN	OUT	TOTAL
PM	113	67	180

LEGEND

XX% PERCENT OF PROJECT TRIPS

No Scale

lancaster mobley

SITE TRIP DISTRIBUTION & ASSIGNMENT

Proposed Development Plan - Site Trips

PM Peak Hour

Figure B

Three Creeks East PUD

11/12/2024

Daniel Stumpf <daniel@lancastermobley.com>

Three Creeks East PUD/Subdivision (PAC-2024-00346) - Traffic Impact Study Scoping

16 messages

Daniel Stumpf <daniel@lancastermobley.com> Tue, Nov 19, 2024 at 2:35 PM
To: Craig Kathol <Craig.Kathol@clark.wa.gov>, "Lugo, Jason" <jason.lugo@wsdot.wa.gov>
Cc: "Jardin, David" <david.jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Good afternoon Craig and Jason,

I'm reaching out regarding the Three Creeks East PUD/Subdivision (PAC-2024-00346) project and was hoping you could provide traffic impact study scoping input. The project site is located at 1804 NE 179th Street and has recently had a pre-app earlier this month.

Attached is a scoping memo for reference which includes trip gen calcs and a trip assignment figure for the AM & PM peak hours. To summarize main points:

- Please confirm if the study area is acceptable (i.e., 11 intersections described in the memo).
  - Craig: I'll conduct trip assignment in the TIS for County intersections that are impacted by 5+ peak hour trips but do not require detailed analysis capacity/safety analyses.
  - Jason: I expect we'll need to study the I-5/179th Street interchange, but can you confirm no analysis of the SR-502 intersections will be required given peak hour impacts will be less than 10 trips?
- In addition to those listed in the scoping memo, are there any new nearby in-process projects that should be included in the study? If yes, can their traffic studies be sent my way?

Let me know if you have any questions or need additional information.

Thanks,

Daniel

--
Daniel Stumpf, PE
Transportation Engineer
lancaster mobley
300 W 15th Street, Suite 206 | Vancouver, WA 98660
Office: 360-284-2660 ext. 330
Website: lancastermobley.com
Offices: Portland, OR | Bend, OR | Vancouver, WA

Three Creeks PUD Scoping Memo_111924.pdf
2132K

Daniel Stumpf <daniel@lancastermobley.com> Tue, Dec 3, 2024 at 3:27 PM
To: Chad Stewart <chad@ginngrp.com>
Cc: Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Hi Chad,

I received a quick update from the County on this scoping request when reaching out to them on another project. This project is still on their radar, so if it is okay with you I may postpone asking them for an update until the week of December 16-20.

Thanks,

Daniel
[Quoted text hidden]

Chad Stewart <Chad@ginngrp.com> Wed, Dec 4, 2024 at 8:48 AM
To: Daniel Stumpf <daniel@lancastermobley.com>
Cc: Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Sounds good, Daniel. Encouraged to hear that the County (Craig?) is seemingly communicating better on this one. Has WSDOT (Jason) responded?

Chad

[Quoted text hidden]

CAUTION: This email is from OUTSIDE our organization

"

Daniel Stumpf <daniel@lancastermobley.com> Wed, Dec 4, 2024 at 8:53 AM
To: Chad Stewart <Chad@ginngrp.com>
Cc: Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Correct, Craig was the one who followed up with me. I haven't heard back from WSDOT (Jason) yet, but from my past experiences his responses are usually returned a few days after I've sent him a reminder email. I'll follow up with him either Friday or Monday.

Thanks,

Daniel
[Quoted text hidden]

Daniel Stumpf <daniel@lancastermobley.com> Mon, Dec 9, 2024 at 1:38 PM
To: "Lugo, Jason" <jason.lugo@wsdot.wa.gov>
Cc: "Jardin, David" <david.jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>, Craig Kathol <craig.kathol@clark.wa.gov>

Hi Jason,

I wanted to check in on this scoping request to see if the suggested WSDOT intersections/study area is acceptable for analysis.

Thanks,

Daniel

On Tue, Nov 19, 2024 at 2:35 PM Daniel Stumpf <daniel@lancastermobley.com> wrote:
[Quoted text hidden]
[Quoted text hidden]

Lugo, Jason <jason.lugo@wsdot.wa.gov> Tue, Dec 10, 2024 at 1:23 PM

To: Daniel Stumpf <daniel@lancastermobley.com>
Cc: "Jardin, David" <david.jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>, Craig Kathol <craig.kathol@clark.wa.gov>

Hi Daniel,

Absolutely. The suggested WSDOT intersections/study area is acceptable for analysis.

Thank you!

Jason Lugo | Development Review Planner, SWR

11018 NE 51st Cir

Vancouver, WA 98682-6686

360-787-3522 | Jason.Lugo@wsdot.wa.gov

Washington State Department of Transportation

ALLY

From: Daniel Stumpf <daniel@lancastermobley.com>
Sent: Monday, December 9, 2024 1:38 PM
To: Lugo, Jason <jason.lugo@wsdot.wa.gov>
Cc: Jardin, David <david.jardin@clark.wa.gov>; Chad Stewart <Chad@ginngrp.com>; Alexis Pam <alexis@ginngrp.com>; Jayson Taylor <jayson@plsengineering.com>; Craig Kathol <craig.kathol@clark.wa.gov>
Subject: [EXTERNAL] Re: Three Creeks East PUD/Subdivision (PAC-2024-00346) - Traffic Impact Study Scoping

WARNING: This email originated from outside of WSDOT. Please use caution with links and attachments.

[Quoted text hidden]

Daniel Stumpf <daniel@lancastermobley.com> Tue, Dec 10, 2024 at 1:24 PM
To: "Lugo, Jason" <jason.lugo@wsdot.wa.gov>
Cc: "Jardin, David" <david.jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>, Craig Kathol <craig.kathol@clark.wa.gov>

Sounds good and thanks for the confirmation. Have a good rest of the afternoon!

Daniel
[Quoted text hidden]

Daniel Stumpf <daniel@lancastermobley.com> Mon, Dec 16, 2024 at 10:06 AM
To: Craig Kathol <craig.kathol@clark.wa.gov>
Cc: "Jardin, David" <david.jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Good morning Craig,

I wanted to check in and see if you could provide us with a status update on this scoping request, and when you believe you'll be able to have a response ready.

Thanks,

Daniel
[Quoted text hidden]

Craig Kathol <Craig.Kathol@clark.wa.gov> Mon, Dec 16, 2024 at 11:03 AM
To: Daniel Stumpf <daniel@lancastermobley.com>
Cc: David Jardin <David.Jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Hi Daniel,

I should have a response ready for you early this week. I'm sorry for the delay and appreciate your patience.

Thank you,

Craig Kathol
Engineer II
COMMUNITY DEVELOPMENT

O: 564.397.4347

C: 360.553.8247

From: Daniel Stumpf <daniel@lancastermobley.com>
Sent: Monday, December 16, 2024 10:06 AM
To: Craig Kathol <Craig.Kathol@clark.wa.gov>
Cc: David Jardin <David.Jardin@clark.wa.gov>; Chad Stewart <Chad@ginngrp.com>; Alexis Pam

<alexis@ginngrp.com>; Jayson Taylor <jayson@plsengineering.com>
Subject: Re: [EXTERNAL] Re: Three Creeks East PUD/Subdivision (PAC-2024-00346) - Traffic Impact Study Scoping

EXTERNAL: This email originated from outside of Clark County. Do not click links or open attachments unless you recognize the sender and know the content is safe.

[Quoted text hidden]

Daniel Stumpf <daniel@lancastermobley.com> Mon, Dec 16, 2024 at 11:04 AM
To: Craig Kathol <Craig.Kathol@clark.wa.gov>
Cc: David Jardin <David.Jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Hi Craig,

Sounds good and thank you for the quick update! I'll be on the lookout for your next email.

Thanks,

Daniel
[Quoted text hidden]

---

6 attachments



image001.png
18K



image002.png
2K



image003.png
3K



image004.png
3K



image005.gif
4K

image006.png
9K

Craig Kathol <Craig.Kathol@clark.wa.gov> Tue, Dec 17, 2024 at 6:46 AM
To: Daniel Stumpf <daniel@lancastermobley.com>
Cc: David Jardin <David.Jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Hi Daniel,

Concurrency has reviewed your information and Staff generally agrees with your findings. Please retain the regionally significant intersections that will have at least 5 trips in the intersection showing trip assignments as an illustration for why CCC 40.350.020 G.1.c is applicable. The traffic study shall comply with Clark County Code (CCC) 40.350.020.

The in-process development is below:

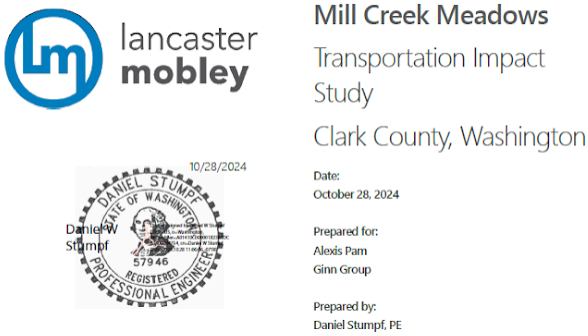
PSR-2023-00158 South Ridge Central Apartments

PLD-2023-00053 Mountain View Ridge PUD (HLA Study for James Kessi AKA Mountain View Farm TIA dated April 4 2003)

PLD-2018-00034 Skyview Station

PLD-2024-00015 Mill Creek Terrace

PLD-2024-00092 Mill Creek Meadows



In Process Development Worksheets from South Ridge Central Apartments (Attached):

Washington State University Master Plan;

Mountain Estates Cluster Subdivision;

Whipple Creek Village Subdivision;

Killian/Three Creeks Master Plan, including

- o Phase 1 NE 179th Street Commercial Center;
- o Phase 2 NE 179th Street Commercial Center;
- o Three Creeks North.

Woodbrook (formally Mill Creek Planned Unit Development);

M&H Subdivision (residential subdivision at 3801 NE 174th Street);

North Haven (residential subdivision at 807 NW 179th Street);

Peterson Machinery Expansion (equipment rental business at 16924 NE 10th Avenue);

NE 179th Street Apartments – West (residential subdivision at 1920 NE 179th Street);

NE 179th Street Apartments – East (residential subdivision at 2112 NE 179th Street);

Summit Body & Equipment (truck manufacturing and sales at 16616 NE 10th Avenue);

Trails at Whipple Creek (residential subdivision located on the northwest corner of the NW 11th Avenue/NW 164th Street intersection);

DSHS NE 50th Clark County Behavioral Health (on the northeast corner of NE 50th Avenue/ NE 159th Street);

Majestic Industrial Centre (industrial trade and storage facility located along NE 10th Avenue);

Martin's Meadow Subdivision (residential subdivision located along NW 149th Street);

NE 29th Avenue Subdivision (residential subdivision located along NE 29th Avenue); Replace this subdivision with PSR-2024-00133 Ridgefield New 5- 8 School

Viers Subdivision (residential subdivision located along NE 174th Street).

Craig Kathol
Engineer II
COMMUNITY DEVELOPMENT

O: 564.397.4347

C: 360.553.8247

From: Daniel Stumpf <daniel@lancastermobley.com>
Sent: Monday, December 16, 2024 10:06 AM
To: Craig Kathol <Craig.Kathol@clark.wa.gov>
Cc: David Jardin <David.Jardin@clark.wa.gov>; Chad Stewart <Chad@ginngrp.com>; Alexis Pam <alexis@ginngrp.com>; Jayson Taylor <jayson@plsengineering.com>
Subject: Re: [EXTERNAL] Re: Three Creeks East PUD/Subdivision (PAC-2024-00346) - Traffic Impact Study Scoping

EXTERNAL: This email originated from outside of Clark County. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Craig,

[Quoted text hidden]
[Quoted text hidden]

18 attachments

- **Skyview Trip Gen.pdf**
  777K
- **Killian PH 1 - Trip Gen-Dist-Assign.pdf**
  293K
- **7859 Three Creeks Report November 2017 Phase 2 Trip Assignment.pdf**
  516K
- **PSR-2023-00069 Salmon Creek Terrace Trip Gen-Dist-Assign.pdf**
  1353K
- **PSR-2024-00133 Ridgefield School Trip Gen-Dist-Assign.pdf**
  1108K
- **PLD-2024-00015 Mill Creek Terrace Trip Gen-Dist-Assign.pdf**
  1224K
- **South Ridge Central Apartments Trip Gen-Dist-Assign.pdf**
  1223K
- **11-8-17 Three Creeks Trip Generation North and South - Kittelson.pdf**
  1021K
- **Skyview Dist-Assign.pdf**
  882K
- **North Haven-Trip Gen-Dist-Assign.pdf**
  1027K
- **Three Creeks DA RECORDED.pdf**
  13457K
- **M&H -Trip Gen-Dist-Assign.pdf**
  684K
- **7859 Three Creeks Report November 2017 North Phase 2.pdf**
  553K
- **In Process Developments.pdf**
  4389K
- **PLD-2023-00053 Mountain View Ridge PUD Trip Gen-Dist-Assign.pdf**
  271K
- **7859 Three Creeks Report November 2017 Phase 1.pdf**
  520K
- **Woodbrook Trip Gen-Dist-Assign.pdf**
  461K
- **Killian PH 2 - Trip Gen-Dist-Assign.pdf**
  1462K

Daniel Stumpf <daniel@lancastermobley.com> Tue, Dec 17, 2024 at 8:19 AM

To: Craig Kathol <Craig.Kathol@clark.wa.gov>
Cc: David Jardin <David.Jardin@clark.wa.gov>, Chad Stewart <Chad@ginngrp.com>, Alexis Pam <alexis@ginngrp.com>, Jayson Taylor <jayson@plsengineering.com>

Good morning Craig,

Thank you for preparing this scoping response (a lot of in-process data). I should be good to go, but I'll let you know if I have any questions.

Again thanks!

Daniel
[Quoted text hidden]

---

7 attachments

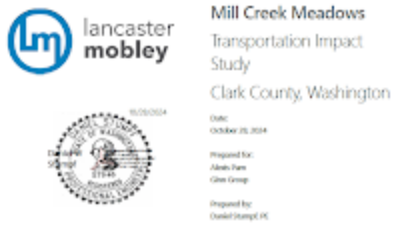


image001.png
78K



image002.png
18K



image003.png
2K



image004.png
3K



image005.png
3K



image006.gif
4K



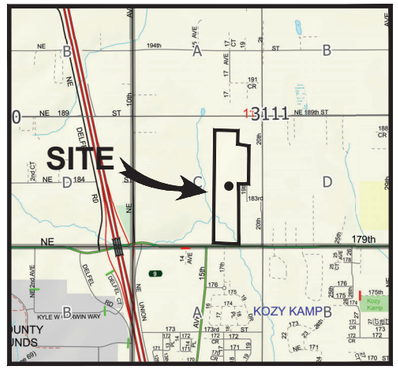
image007.png
9K

Appendix B – Site Plan

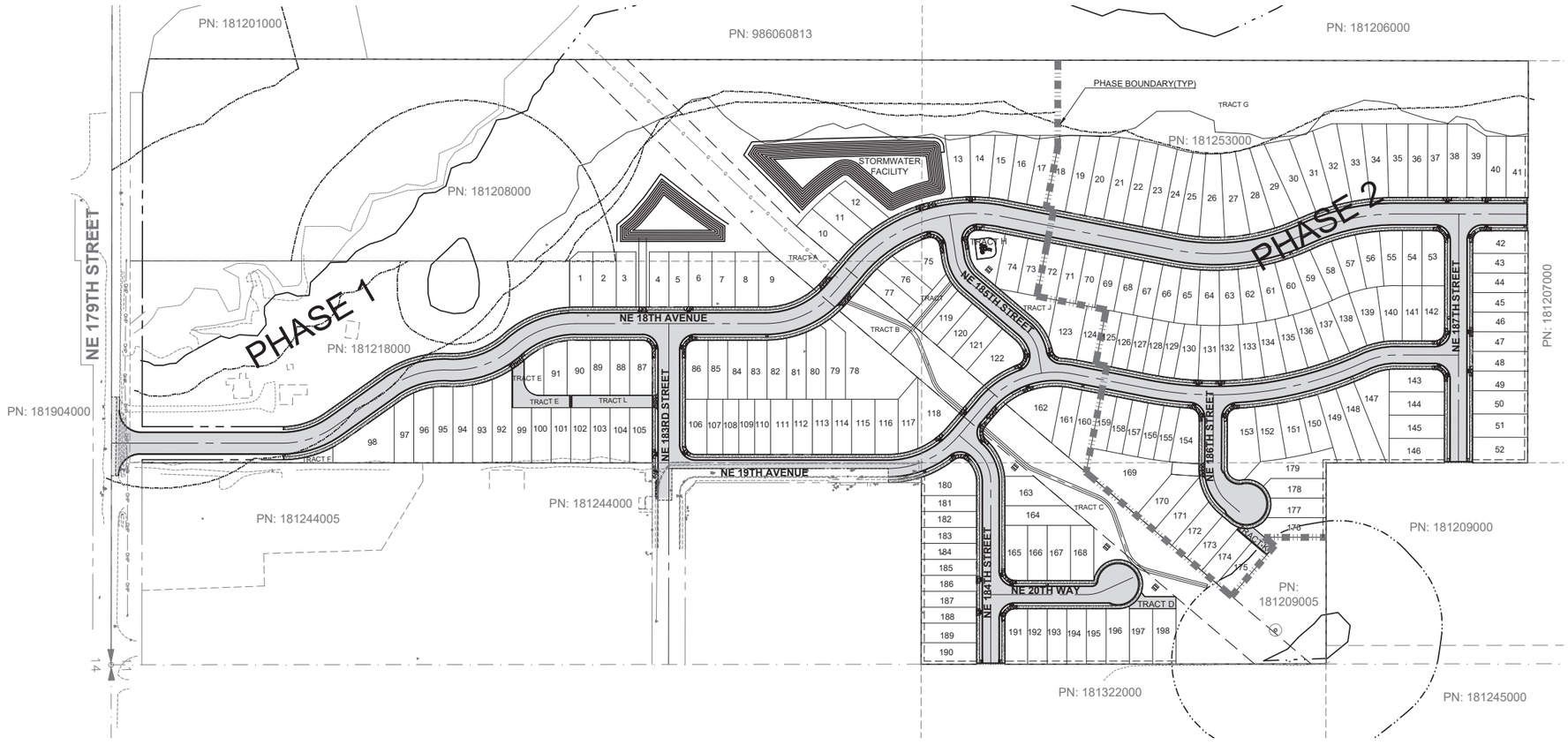
Site Plan

Three Creeks East Subdivision

Located in the SE ¼ of Section 11, T3N, R1E, W.M.
Clark County, Washington



VICINITY MAP
NOT TO SCALE



APPLICANT:
Ginn Group LLC
502 NE 72nd Street
Vancouver, WA 98685
(360) 608-6026
chad@ginngrp.com

OWNER:
Robert Roland
1804 NE 179th Street
Ridgefield, WA 98642

Terrence Wellner, Trustee
223 Westridge Drive
Lake Oswego, OR 97305

Mary Ann Moberly, Trustee
419 NW 209th Street
Ridgefield, WA 98642

CONTACT:
PLS Engineering
Travis Johnson
604 W Evergreen Blvd
Vancouver, WA 98660
(360) 944-6519
pm@plsengineering.com

OPEN SPACE AREA CALCULATIONS:

Phase 1 Net Developable Area:
1,008,922 SQFT - (23.16 Acres)

Phase 1 Open Space:
668,769 SQFT - (15.35 Acres)

Phase 1 66% Open Space

Phase 1 & 2 Net Developable Area:
1,442,478 SQFT - (33 Acres)

Phase 1 & 2 Open Space:
778,523 SQFT - (17.87 Acres)

Phase 1 & 2 54% Open Space

Scale 1" = 100'
100 50 0 100

Legend	
Proposed Asphalt Concrete	
Proposed Cement Concrete	
Future Cement Concrete	
Grind and Overlay	

Know what's **below.**
Call before you dig.

PLS ENGINEERING

Phasing Plan For:
Three Creeks East Subdivision
A Subdivision Located In Clark County, Washington
Engineering - Surveying - Planning | 604 W. Evergreen Blvd., Vancouver, WA 98660 | PH (360) 944-6519 | Fax (360) 944-6539

Revisions

1	2	3	4	5	6

Project No.	3835
SCALE:	H: 1" = 100' V: N/A
DESIGNED BY:	MAG
DRAFTED BY:	MJB
REVIEWED BY:	TGJ

01
01

Appendix C – Trip Generation and Distribution

Trip Generation Calculations

1932 NE 179th Street Apartments – Trip Distribution Figure

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Existing Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	1

WARNING: Variable Quantity is less than Minimum Survey Size for Peak Hours

AM PEAK HOUR

Trip Rate: 0.7

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

PM PEAK HOUR

Trip Rate: 0.94

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

WEEKDAY

Trip Rate: 9.43

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

SATURDAY

Trip Rate: 9.48

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

Source: Trip Generation Manual, 11th Edition

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 11th Edition
Proposed Conditions

Land Use:	Single-Family Detached Housing
Land Use Code:	210
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	Dwelling Units
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	200

AM PEAK HOUR

Trip Rate: 0.7

	Enter	Exit	Total
Directional Split	25%	75%	
Trip Ends	35	105	140

PM PEAK HOUR

Trip Rate: 0.94

	Enter	Exit	Total
Directional Split	63%	37%	
Trip Ends	118	70	188

WEEKDAY

Trip Rate: 9.43

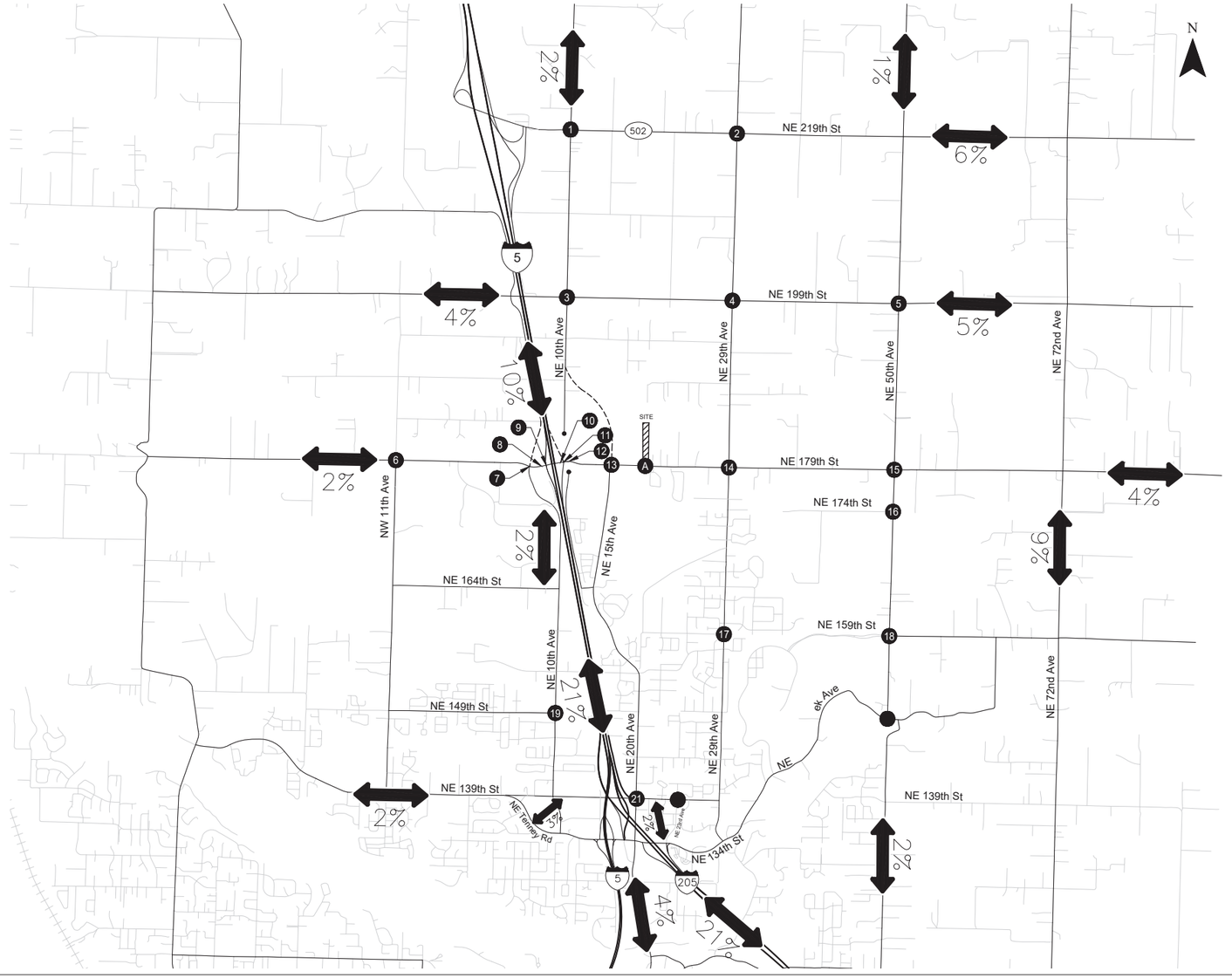
	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	943	943	1,886

SATURDAY

Trip Rate: 9.48

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	948	948	1,896

Source: Trip Generation Manual, 11th Edition



Estimated Trip Distribution Pattern
Clark County, Washington

Figure
9

KITTELSON & ASSOCIATES

C:\KAI Applications\Autodesk\TEMP\AcPublish_20768\24315_1932 179th St Apartments_Figures_NP_2020-05-22.dwg May 22, 2020 - 12:33pm - nick Layout Tab: 09

Appendix D – Traffic Volumes

Traffic Counts (2023)

Traffic Counts (2025)

Figure A – Rerouted Volumes (NE 179th Street Closure)

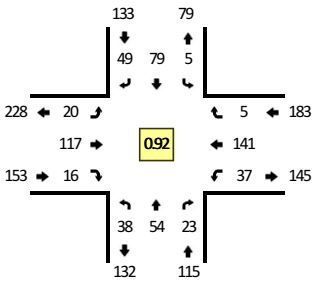
Figure B – In-Process Trips

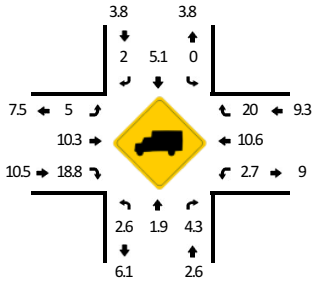
Figure C – Rerouted Volumes (I-5 NB Ramp and NE Delfel Road)

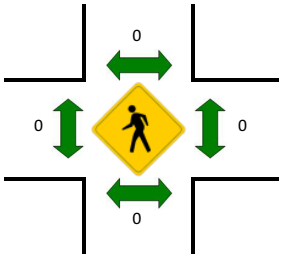
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: NE 29th Ave -- NE 179th St | **QC JOB #:** 16134427
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Mar 28 2023

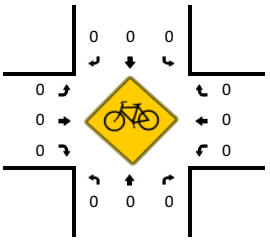
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

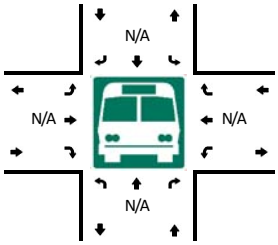




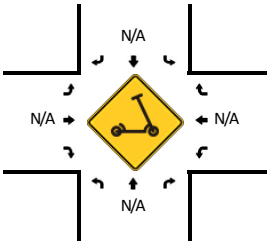












5-Min Count Period Beginning At	NE 29th Ave (Northbound)				NE 29th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	2	1	0	0	3	5	0	5	6	0	0	3	6	1	0	35	
7:05 AM	2	0	1	0	0	1	1	0	1	12	1	0	2	7	1	0	29	
7:10 AM	3	2	2	0	0	12	7	0	1	5	0	0	1	5	0	0	38	
7:15 AM	2	3	0	0	0	6	6	0	3	8	0	0	1	10	0	0	39	
7:20 AM	4	4	2	0	0	4	7	0	1	12	1	0	2	12	1	0	50	
7:25 AM	7	4	5	0	1	8	4	0	1	12	1	0	1	2	1	0	47	
7:30 AM	3	3	4	0	1	9	3	0	1	7	2	0	1	6	0	0	40	
7:35 AM	7	5	3	0	0	6	1	0	2	7	2	0	4	13	0	0	50	
7:40 AM	5	8	3	0	0	6	4	0	4	8	1	0	4	11	1	0	55	
7:45 AM	4	3	2	0	1	12	3	0	1	10	0	0	1	11	0	0	48	
7:50 AM	2	1	1	0	0	6	7	0	2	11	1	0	2	9	0	0	42	
7:55 AM	4	2	1	0	1	7	2	0	3	4	3	0	6	14	1	0	48	521
8:00 AM	1	3	3	0	1	6	2	0	0	10	3	0	4	9	0	0	42	528
8:05 AM	2	4	3	0	0	2	4	0	2	10	2	0	4	10	1	0	44	543
8:10 AM	1	5	0	0	0	5	6	0	1	18	1	0	3	12	0	0	52	557
8:15 AM	3	4	2	0	2	11	4	0	2	7	0	0	3	13	0	0	51	569
8:20 AM	4	8	0	0	0	7	5	0	1	11	1	0	4	15	0	0	56	575
8:25 AM	3	6	3	0	0	5	7	0	2	9	1	0	2	7	0	0	45	573
8:30 AM	2	5	2	0	0	6	4	0	0	12	1	0	0	17	2	0	51	584
8:35 AM	3	5	1	0	0	9	6	0	3	3	2	0	0	10	0	0	42	576
8:40 AM	3	6	2	0	0	8	3	0	1	11	2	0	4	10	0	0	50	571
8:45 AM	2	6	1	0	0	8	1	0	0	8	4	0	6	13	2	0	51	574
8:50 AM	3	2	0	0	0	8	5	0	2	10	2	0	2	7	0	0	41	573
8:55 AM	3	4	2	0	0	3	6	0	3	13	1	0	0	4	0	0	39	564

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	32	68	8	0	8	92	60	0	16	144	8	0	40	160	0	0	636
Heavy Trucks	0	0	0		0	4	4		0	20	0		4	4	0		36
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

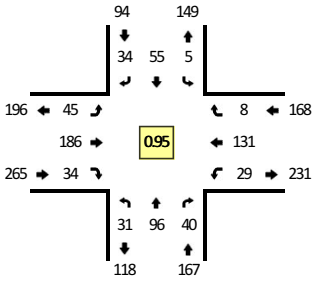
Comments:

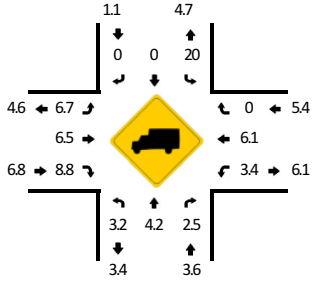
Report generated on 7/16/2024 10:00 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: NE 29th Ave -- NE 179th St | **QC JOB #:** 16134428
CITY/STATE: Mount Vista, WA | **DATE:** Tue, Mar 28 2023

Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:55 PM -- 5:10 PM





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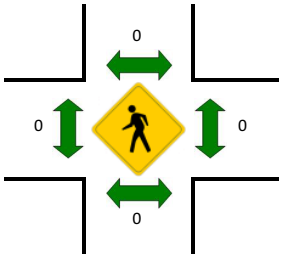

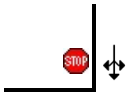

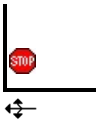

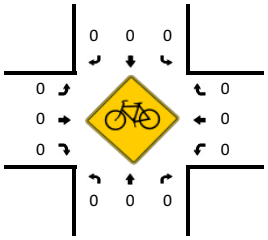

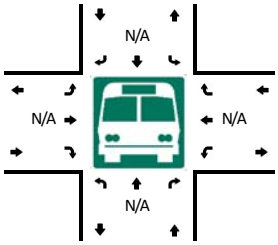

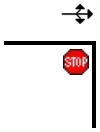

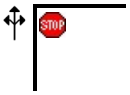

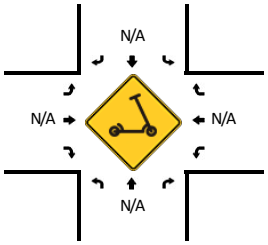

5-Min Count Period Beginning At	NE 29th Ave (Northbound)				NE 29th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	11	3	0	0	6	2	0	4	20	3	0	3	9	1	0	65	
4:05 PM	6	5	2	0	1	6	1	0	4	12	4	0	2	11	0	0	54	
4:10 PM	4	8	4	0	1	3	6	0	3	19	3	0	4	16	0	0	71	
4:15 PM	2	6	5	0	0	4	3	0	3	15	3	0	4	7	0	0	52	
4:20 PM	1	11	4	0	0	5	4	0	5	20	1	0	0	6	2	0	59	
4:25 PM	2	4	2	0	0	4	2	0	5	20	2	0	1	11	0	0	53	
4:30 PM	2	8	7	0	0	7	1	0	4	8	3	0	1	15	0	0	56	
4:35 PM	4	10	2	0	1	1	4	0	5	11	1	0	3	8	0	0	50	
4:40 PM	3	12	3	0	0	3	2	0	3	19	4	0	2	12	1	0	64	
4:45 PM	3	4	3	0	1	9	4	0	3	16	4	0	1	10	1	0	59	
4:50 PM	2	5	0	0	0	5	2	0	5	13	4	0	1	10	0	0	47	
4:55 PM	1	6	2	0	0	4	2	0	3	12	3	0	4	15	2	0	54	684
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5:10 PM	5	13	7	0	0	1	0	0	4	9	1	0	2	12	1	0	55	678
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5:35 PM	0	8	3	0	0	4	0	0	5	12	4	0	0	13	0	0	49	660
5:40 PM	1	4	3	0	0	3	1	0	2	10	0	0	3	13	0	0	40	636
5:45 PM	2	3	2	0	0	8	2	0	0	14	2	0	1	7	1	0	42	619
5:50 PM	3	2	2	0	0	4	2	0	4	13	7	0	1	6	0	0	44	616
5:55 PM	0	3	2	0	0	3	1	0	2	5	4	0	0	7	0	0	27	589

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	32	112	40	0	8	56	24	0	36	180	36	0	48	144	16	0	732
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	8	0		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/16/2024 10:00 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: NE 50th Ave -- NE 179th St | **QC JOB #:** 16134429
CITY/STATE: Clark, WA | **DATE:** Tue, Mar 28 2023

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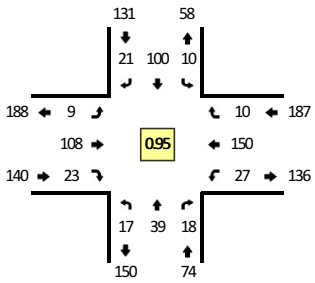
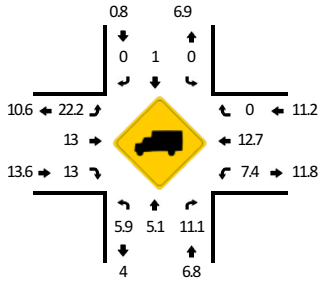
Peak 15-Min: 8:10 AM -- 8:25 AM





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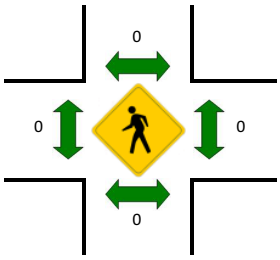
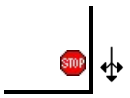
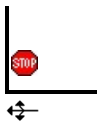
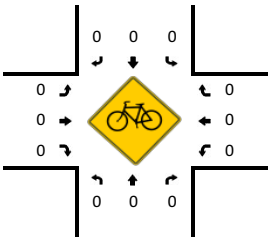
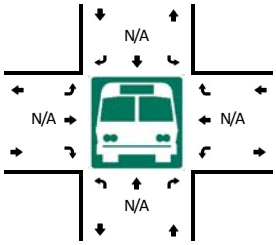
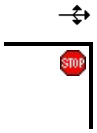


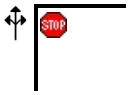


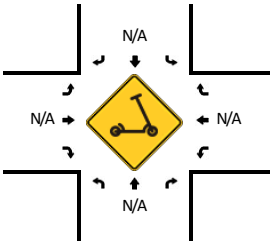












5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	2	0	0	1	4	0	0	2	5	1	0	1	12	0	0	28	
7:05 AM	2	2	0	0	0	1	1	0	0	7	1	0	0	4	0	0	18	
7:10 AM	2	1	1	0	3	2	1	0	0	8	0	0	0	6	0	0	24	
7:15 AM	0	2	1	0	1	5	1	0	0	4	1	0	0	7	1	0	23	
7:20 AM	0	6	1	0	0	4	3	0	5	8	2	0	0	10	0	0	39	
7:25 AM	2	2	0	0	0	7	0	0	1	11	0	0	0	5	1	0	29	
7:30 AM	0	2	0	0	2	10	0	0	1	13	0	0	4	9	0	1	42	
7:35 AM	2	5	1	0	1	6	3	0	0	9	1	0	3	12	1	0	44	
7:40 AM	0	5	1	0	0	9	0	0	2	7	2	0	2	18	4	0	50	
7:45 AM	1	2	2	0	0	9	0	0	0	11	1	0	2	12	2	0	42	
7:50 AM	0	2	1	0	0	8	1	0	0	9	1	0	1	9	0	0	32	
7:55 AM	2	2	2	0	0	10	3	0	1	11	1	0	3	11	0	0	46	417
8:00 AM	1	4	4	0	0	8	0	0	0	8	1	0	5	13	1	0	45	434
8:05 AM	1	7	2	0	0	7	2	0	1	6	0	0	1	15	1	0	43	459
8:10 AM	0	2	2	0	3	6	1	0	1	11	2	0	1	13	0	0	42	477
8:15 AM	4	3	2	0	1	9	3	0	3	10	4	0	1	12	0	0	52	506
8:20 AM	3	2	0	0	2	6	4	0	1	15	1	0	2	10	0	0	46	513
8:25 AM	1	3	0	0	2	10	3	0	0	5	3	0	1	9	1	0	38	522
8:30 AM	2	2	1	0	1	12	1	0	0	6	6	0	5	16	0	0	52	532
8:35 AM	1	8	0	0	0	6	2	0	0	6	4	0	1	5	0	0	33	521
8:40 AM	2	3	2	0	0	8	1	0	2	5	3	0	1	15	1	0	43	514
8:45 AM	1	7	0	0	0	7	4	0	1	7	2	0	1	13	1	0	44	516
8:50 AM	2	3	0	0	1	15	0	0	1	3	7	0	2	7	0	0	41	525
8:55 AM	1	5	0	0	0	14	0	0	3	3	5	0	1	2	1	0	35	514

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	28	28	16	0	24	84	32	0	20	144	28	0	16	140	0	0	560
Heavy Trucks	4	0	0		0	0	0		8	32	4		0	12	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

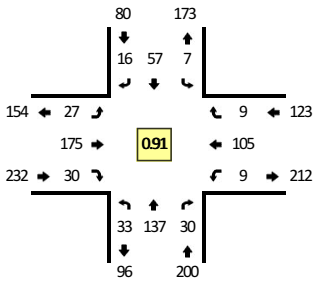
Comments:

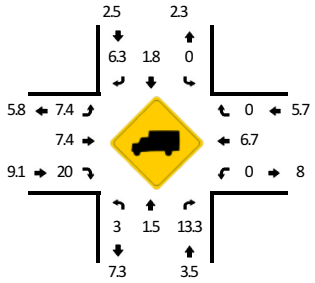
Report generated on 7/16/2024 10:00 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

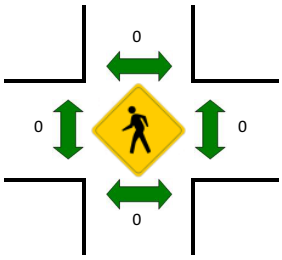
LOCATION: NE 50th Ave -- NE 179th St | **QC JOB #:** 16134430
CITY/STATE: Clark, WA | **DATE:** Tue, Mar 28 2023

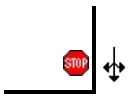
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:10 PM -- 4:25 PM

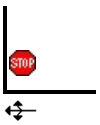


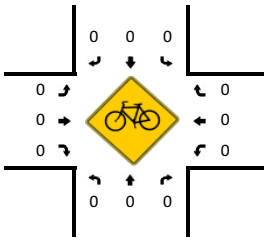


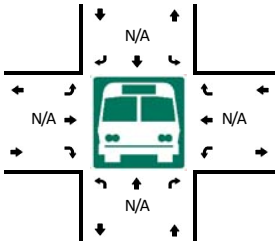
TRUE DATA TO IMPROVE MOBILITY

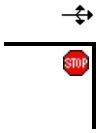


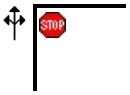


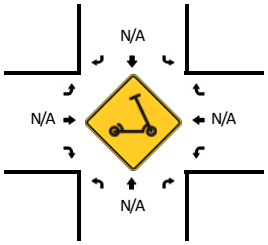












5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	9	0	0	1	6	1	0	2	22	2	0	0	7	0	0	52	
4:05 PM	3	11	2	0	0	8	2	0	2	12	2	0	0	10	1	0	53	
4:10 PM	5	10	6	0	1	2	1	0	2	15	5	0	0	11	0	0	58	
4:15 PM	3	19	4	0	1	4	2	0	3	11	7	0	1	5	1	0	61	
4:20 PM	3	14	2	0	1	7	0	0	3	18	1	0	0	5	1	0	55	
4:25 PM	1	14	3	0	0	5	3	0	1	20	2	0	1	6	1	0	57	
4:30 PM	1	6	1	0	0	3	2	0	3	13	2	0	1	10	3	0	45	
4:35 PM	3	10	2	0	0	3	1	0	4	10	0	0	1	10	0	0	44	
4:40 PM	2	7	1	0	1	4	1	0	3	15	0	0	1	9	1	0	45	
4:45 PM	0	17	1	0	0	3	0	0	0	18	1	0	2	8	0	0	50	
4:50 PM	3	10	3	0	2	3	2	0	0	10	3	0	2	12	1	0	51	
4:55 PM	7	10	5	0	0	9	1	0	4	11	5	0	0	12	0	0	64	635
5:00 PM	1	11	2	0	1	1	0	0	1	13	3	0	0	10	1	0	44	627
5:05 PM	4	12	3	0	1	1	1	0	5	13	6	0	0	7	0	0	53	627
5:10 PM	1	20	1	0	2	2	1	0	2	13	2	0	0	14	0	0	58	627
5:15 PM	1	10	3	0	2	5	0	0	4	9	1	0	0	18	1	0	54	620
5:20 PM	0	10	2	0	0	5	1	0	5	15	5	0	0	8	0	0	51	616
5:25 PM	1	6	2	0	0	6	0	0	2	10	1	0	0	8	0	0	36	595
5:30 PM	1	7	2	0	2	6	1	0	3	12	1	0	1	8	2	0	46	596
5:35 PM	3	9	4	0	2	3	0	0	3	8	1	0	1	11	0	0	45	597
5:40 PM	2	8	5	0	1	4	3	0	5	6	1	0	0	10	1	0	46	598
5:45 PM	2	2	1	0	0	3	0	0	3	9	1	0	1	4	1	0	27	575
5:50 PM	0	2	4	0	1	2	0	0	2	11	2	0	0	5	0	0	29	553
5:55 PM	3	2	1	0	1	3	4	0	2	4	2	0	0	5	1	0	28	517

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	44	172	48	0	12	52	12	0	32	176	52	0	4	84	8	0	696
Heavy Trucks	4	4	4		0	0	4		4	16	8		0	0	0		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 7/16/2024 10:00 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

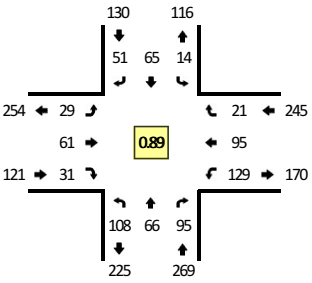
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

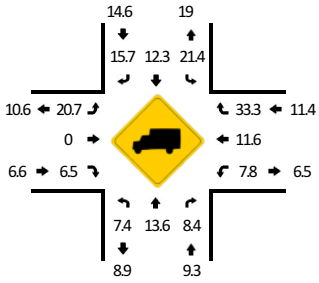
LOCATION: NE 10th Avenue -- NE 199th Street
CITY/STATE: Duluth, WA

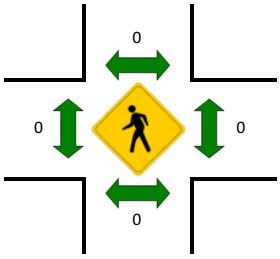
QC JOB #: 16889623
DATE: Wed, Jan 22 2025

Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 8:20 AM -- 8:35 AM

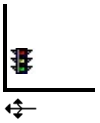


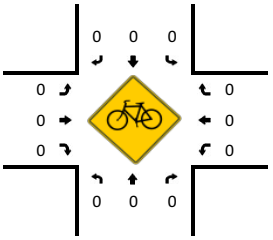


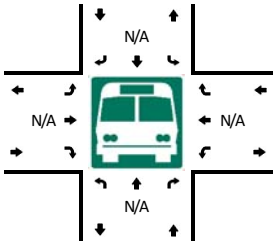


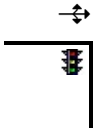


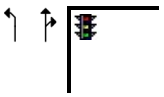


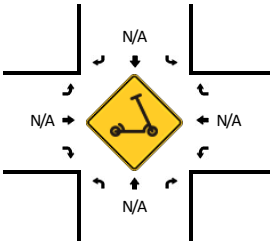












5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 199th Street (Eastbound)				NE 199th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	4	4	0	1	2	2	0	3	4	1	0	9	3	0	0	35	
7:05 AM	6	2	3	0	3	5	1	0	0	1	0	0	11	6	0	0	38	
7:10 AM	5	2	4	0	0	3	1	0	3	4	2	0	9	1	0	0	34	
7:15 AM	8	1	8	0	2	8	1	0	3	7	2	0	14	4	2	0	60	
7:20 AM	8	6	5	0	1	4	3	0	1	4	2	0	18	5	0	0	57	
7:25 AM	7	5	5	0	2	5	6	0	1	1	2	0	10	6	4	0	54	
7:30 AM	7	3	7	0	0	5	2	0	2	4	1	0	13	2	1	0	47	
7:35 AM	8	2	6	0	0	3	4	0	2	3	1	0	10	4	0	0	43	
7:40 AM	3	3	3	0	0	3	2	0	2	8	3	0	10	7	0	0	44	
7:45 AM	3	4	1	0	1	5	3	0	1	6	1	0	9	6	1	0	41	
7:50 AM	7	7	6	0	0	8	4	0	1	2	2	0	11	4	2	0	54	
7:55 AM	7	4	5	0	1	7	5	0	6	7	3	0	13	8	3	0	69	576
8:00 AM	6	3	4	0	1	3	4	0	0	4	1	0	10	3	1	0	40	581
8:05 AM	5	5	10	0	3	3	2	0	5	6	4	0	5	3	3	0	54	597
8:10 AM	6	7	19	0	0	8	2	0	0	6	1	0	8	9	1	0	67	630
8:15 AM	11	7	9	0	0	3	3	0	0	9	3	0	15	7	2	0	69	639
8:20 AM	7	7	7	0	2	3	8	0	0	6	2	0	16	7	1	0	66	648
8:25 AM	15	5	6	0	1	6	2	0	3	2	3	0	11	9	4	0	67	661
8:30 AM	18	4	8	0	1	3	3	0	5	4	2	0	12	19	2	0	81	695
8:35 AM	6	8	7	0	1	9	2	0	1	3	2	0	6	10	1	0	56	708
8:40 AM	7	3	8	0	2	10	6	0	4	9	6	0	13	7	1	0	76	740
8:45 AM	13	6	6	0	2	2	10	0	4	3	2	0	9	9	0	0	66	765
8:50 AM	4	9	3	0	0	5	3	0	5	3	4	0	7	4	1	0	48	759
8:55 AM	8	4	5	0	2	7	6	0	4	5	8	0	2	4	0	0	55	745

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	160	64	84	0	16	48	52	0	32	48	28	0	156	140	28	0	856
Heavy Trucks	8	20	8		4	4	12		12	0	0		32	12	8		120
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

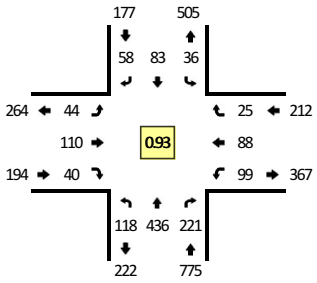
Report generated on 1/29/2025 2:01 PM

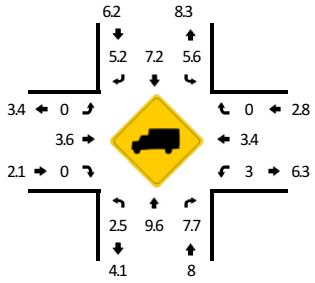
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

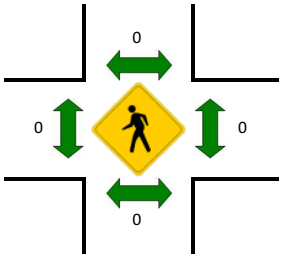
LOCATION: NE 10th Avenue -- NE 199th Street | **QC JOB #:** 16889624
CITY/STATE: Duluth, WA | **DATE:** Wed, Jan 22 2025

Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:45 PM -- 5:00 PM

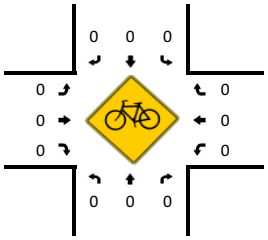


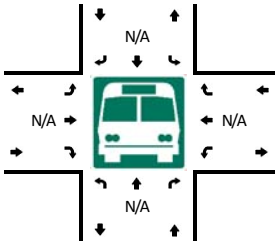


TRUE DATA TO IMPROVE MOBILITY

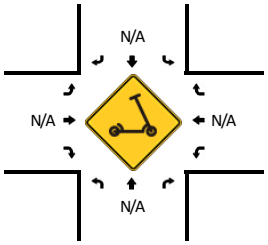












5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 199th Street (Eastbound)				NE 199th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	11	8	13	0	0	9	5	0	5	4	3	0	6	9	5	0	78	
4:05 PM	12	9	11	0	0	10	4	0	3	16	4	0	9	2	3	0	83	
4:10 PM	15	10	14	0	1	7	1	0	13	7	4	0	12	7	1	0	92	
4:15 PM	12	13	15	0	4	5	1	0	4	9	4	0	6	2	1	0	76	
4:20 PM	11	15	16	0	0	5	6	0	4	6	5	0	12	6	2	0	88	
4:25 PM	10	10	15	0	3	6	4	0	5	10	6	0	10	5	3	0	87	
4:30 PM	19	18	11	0	5	10	2	0	5	6	1	0	11	10	2	0	100	
4:35 PM	13	8	9	0	0	5	4	0	5	6	1	0	8	2	1	0	62	
4:40 PM	13	43	12	0	4	8	4	0	4	9	3	0	5	3	3	0	111	
4:45 PM	10	62	15	0	1	10	3	0	6	6	3	0	4	9	4	0	133	
4:50 PM	13	50	16	0	3	9	6	0	5	3	2	0	8	4	3	0	122	
4:55 PM	13	40	19	0	7	3	5	0	4	2	4	0	6	8	1	0	112	1144
5:00 PM	2	49	8	0	2	7	8	0	5	13	3	0	8	9	1	0	115	1181
5:05 PM	8	42	17	0	8	10	9	0	5	8	4	0	7	8	3	0	129	1227
5:10 PM	5	23	8	0	3	4	2	0	3	7	2	0	16	11	2	0	86	1221
5:15 PM	6	23	10	0	5	13	2	0	2	6	3	0	2	6	4	0	82	1227
5:20 PM	8	29	20	0	2	9	5	0	2	8	4	0	4	8	0	0	99	1238
5:25 PM	6	33	33	0	3	2	4	0	1	17	5	0	7	5	1	0	117	1268
5:30 PM	4	21	28	0	1	7	5	0	2	23	4	0	10	5	2	0	112	1280
5:35 PM	16	28	24	0	1	5	6	0	5	13	3	0	15	7	3	0	126	1344
5:40 PM	27	36	23	0	0	4	3	0	4	4	3	0	12	8	1	0	125	1358
5:45 PM	17	33	23	0	4	5	4	0	3	5	1	0	11	4	1	0	111	1336
5:50 PM	17	40	23	0	1	6	5	0	1	5	7	0	6	6	2	0	119	1333
5:55 PM	13	46	17	0	2	6	1	0	3	7	3	0	2	14	0	0	114	1335

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	144	608	200	0	44	88	56	0	60	44	36	0	72	84	32	0	1468
Heavy Trucks	0	40	16		4	0	0		0	0	0		0	0	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

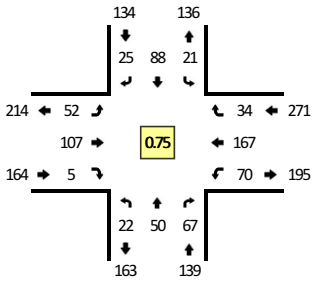
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

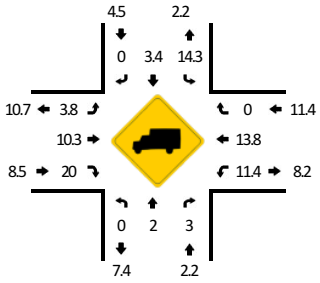
LOCATION: NE 29th Avenue -- NE 199th Street
CITY/STATE: Duluth, WA

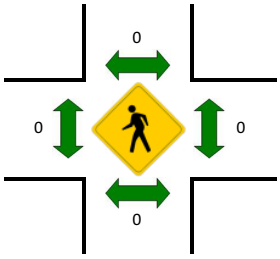
QC JOB #: 16889621
DATE: Wed, Jan 22 2025

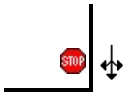
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

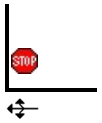


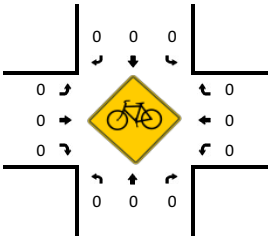
TRUE DATA TO IMPROVE MOBILITY

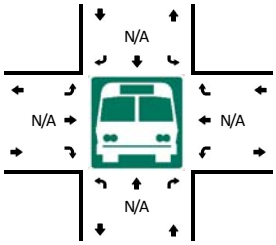


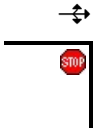


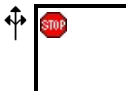


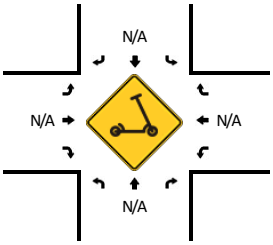












5-Min Count Period Beginning At	NE 29th Avenue (Northbound)				NE 29th Avenue (Southbound)				NE 199th Street (Eastbound)				NE 199th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	2	4	0	0	3	0	0	0	9	0	0	8	15	0	0	42	
7:05 AM	0	2	7	0	0	7	0	0	0	9	1	0	0	9	0	0	35	
7:10 AM	0	3	2	0	1	3	1	0	0	7	0	0	6	13	0	0	36	
7:15 AM	3	0	6	0	0	7	0	0	0	8	0	0	6	21	0	0	51	
7:20 AM	0	2	3	0	2	0	1	0	2	13	1	0	6	10	2	0	42	
7:25 AM	1	2	4	0	2	3	1	0	1	7	0	0	3	11	0	0	35	
7:30 AM	0	4	8	0	1	5	0	0	1	6	0	0	3	14	1	0	43	
7:35 AM	3	3	3	0	2	4	1	0	3	7	0	0	7	12	3	0	48	
7:40 AM	2	11	11	0	3	9	0	0	1	8	0	0	2	13	2	0	62	
7:45 AM	0	5	6	0	0	6	0	0	0	8	1	0	10	18	2	0	56	
7:50 AM	0	3	8	0	0	5	1	0	0	8	2	0	5	11	2	0	45	
7:55 AM	1	3	7	0	1	7	0	0	2	10	0	0	7	18	3	0	59	554
8:00 AM	1	3	9	0	0	1	0	0	0	9	0	0	2	11	0	0	36	548
8:05 AM	1	4	3	0	2	6	0	0	9	5	0	0	7	8	2	0	47	560
8:10 AM	1	4	4	0	3	14	3	0	13	10	0	0	8	12	7	0	79	603
8:15 AM	2	4	5	0	4	5	9	0	15	11	0	0	9	20	4	0	88	640
8:20 AM	3	4	5	0	2	9	7	0	7	8	1	0	5	11	6	0	68	666
8:25 AM	4	4	4	0	3	15	2	0	2	10	0	0	2	12	1	0	59	690
8:30 AM	4	2	2	0	1	7	2	0	0	13	1	0	6	21	2	0	61	708
8:35 AM	6	5	4	0	0	5	0	0	0	6	0	0	3	13	1	0	43	703
8:40 AM	1	4	5	0	2	14	3	0	1	13	1	0	6	16	0	0	66	707
8:45 AM	2	4	6	0	1	3	2	0	0	14	2	0	4	8	0	0	46	697
8:50 AM	1	4	1	0	0	8	2	0	2	3	2	0	6	9	1	0	39	691
8:55 AM	2	4	9	0	2	2	0	0	1	10	1	0	10	7	0	0	48	680

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	24	48	56	0	36	112	76	0	140	116	4	0	88	172	68	0	940
Heavy Trucks	0	4	4		4	8	0		0	12	0		20	28	0		80
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

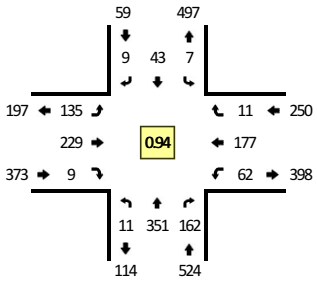
Type of peak hour being reported: Intersection Peak

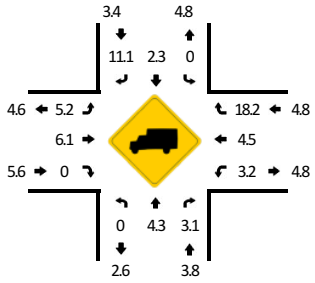
Method for determining peak hour: Total Entering Volume

LOCATION: NE 29th Avenue -- NE 199th Street
CITY/STATE: Duluth, WA

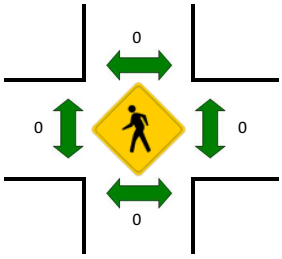
QC JOB #: 16889622
DATE: Wed, Jan 22 2025

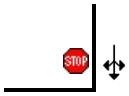
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

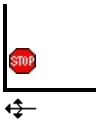


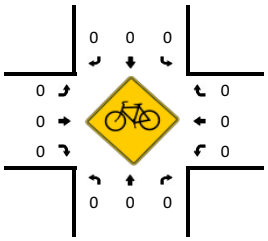


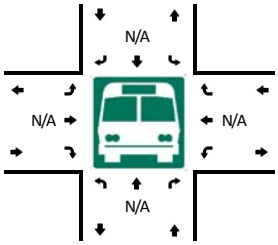
TRUE DATA TO IMPROVE MOBILITY

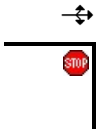


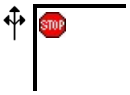


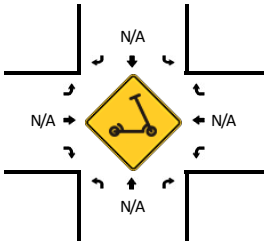












5-Min Count Period Beginning At	NE 29th Avenue (Northbound)				NE 29th Avenue (Southbound)				NE 199th Street (Eastbound)				NE 199th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	3	7	0	2	4	0	0	1	18	2	0	8	10	0	0	56	
4:05 PM	1	5	8	0	1	2	0	0	2	16	3	0	9	12	2	0	61	
4:10 PM	0	8	9	0	3	7	0	0	0	19	3	0	10	13	0	0	72	
4:15 PM	1	4	11	0	1	4	1	0	1	18	3	0	5	13	0	0	62	
4:20 PM	0	4	8	0	1	7	0	0	2	17	4	0	1	15	4	0	63	
4:25 PM	1	7	14	0	1	4	0	0	5	21	3	0	7	24	3	0	90	
4:30 PM	2	7	4	0	1	4	0	0	1	19	1	0	7	8	1	0	55	
4:35 PM	0	8	6	0	2	4	1	0	0	17	2	0	6	7	1	0	54	
4:40 PM	0	11	7	0	1	4	1	0	0	14	2	0	7	14	0	0	61	
4:45 PM	2	16	13	0	1	1	0	0	2	18	1	0	7	10	1	0	72	
4:50 PM	2	19	7	0	1	8	1	0	3	22	1	0	8	11	0	0	83	
4:55 PM	1	17	14	0	2	5	1	0	4	15	2	0	3	17	2	0	83	812
5:00 PM	0	35	16	0	2	6	0	0	11	16	1	0	5	9	1	0	102	858
5:05 PM	2	33	13	0	2	2	1	0	10	21	1	0	3	21	1	0	110	907
5:10 PM	2	31	12	0	1	5	1	0	7	8	0	0	10	14	1	0	92	927
5:15 PM	1	29	14	0	0	6	1	0	7	18	0	0	7	15	2	0	100	965
5:20 PM	1	26	17	0	0	3	1	0	8	16	1	0	8	8	0	0	89	991
5:25 PM	1	36	6	0	0	3	1	0	15	23	2	0	2	14	0	0	103	1004
5:30 PM	2	24	14	0	1	1	0	0	18	18	1	0	7	20	4	0	110	1059
5:35 PM	1	31	11	0	0	3	0	0	16	26	1	0	2	13	0	0	104	1109
5:40 PM	1	28	9	0	0	6	1	0	20	19	1	0	5	16	1	0	107	1155
5:45 PM	0	28	11	0	0	5	2	0	10	22	1	0	5	16	1	0	101	1184
5:50 PM	0	25	18	0	0	1	1	0	7	20	0	0	4	16	0	0	92	1193
5:55 PM	0	25	21	0	1	2	0	0	6	22	0	0	4	15	0	0	96	1206

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	16	332	136	0	4	40	4	0	216	252	12	0	56	196	20	0	1284
Heavy Trucks	0	16	16		0	4	0		8	20	0		0	16	4		84
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

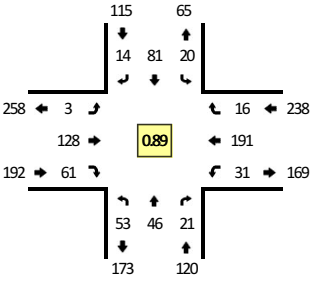
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

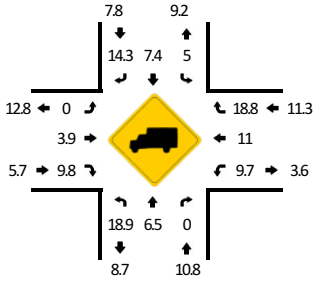
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: NE 50th Avenue -- NE 199th Street
CITY/STATE: Dollars Corner, WA

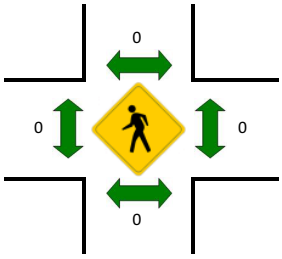
QC JOB #: 16889619
DATE: Wed, Jan 22 2025

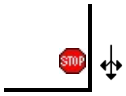
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

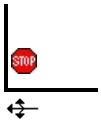


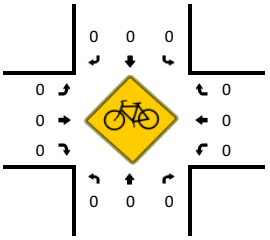


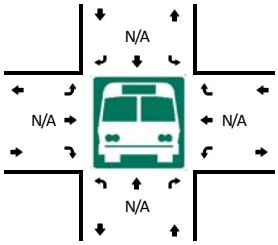
TRUE DATA TO IMPROVE MOBILITY

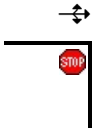


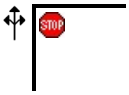


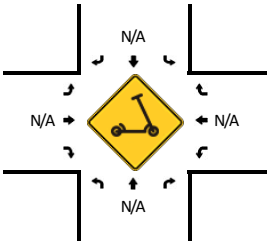












5-Min Count Period Beginning At	NE 50th Avenue (Northbound)				NE 50th Avenue (Southbound)				NE 199th Street (Eastbound)				NE 199th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	0	2	0	1	2	0	0	0	7	7	0	1	10	1	0	35	
7:05 AM	1	3	1	0	0	7	0	0	0	10	3	0	3	13	0	0	41	
7:10 AM	1	3	2	0	1	3	0	0	0	8	6	0	1	17	1	0	43	
7:15 AM	0	2	1	0	4	9	2	0	0	5	1	0	1	30	0	0	55	
7:20 AM	3	1	1	0	3	2	0	0	1	16	5	0	1	8	0	0	41	
7:25 AM	1	0	3	0	0	8	2	0	0	10	4	0	1	8	1	0	38	
7:30 AM	2	4	4	0	3	9	0	0	0	10	6	0	2	16	4	0	60	
7:35 AM	2	2	0	0	4	9	1	0	1	7	4	0	1	12	0	0	43	
7:40 AM	1	3	3	0	1	7	2	0	0	11	9	0	0	16	1	0	54	
7:45 AM	7	5	1	0	1	4	2	0	0	14	6	0	7	20	0	0	67	
7:50 AM	4	5	0	0	1	13	0	0	0	12	3	0	1	16	3	0	58	
7:55 AM	3	6	2	0	1	7	1	0	0	6	8	0	2	15	1	0	52	587
8:00 AM	4	1	1	0	0	4	0	0	0	16	5	0	4	11	2	0	48	600
8:05 AM	3	2	2	0	3	7	0	0	0	8	2	0	2	14	0	0	43	602
8:10 AM	15	2	1	0	1	3	3	0	0	11	6	0	3	22	0	0	67	626
8:15 AM	5	5	3	0	3	4	3	0	0	11	5	0	3	15	2	0	59	630
8:20 AM	4	9	1	0	1	7	0	0	2	14	4	0	4	13	2	0	61	650
8:25 AM	3	2	3	0	1	7	2	0	0	8	3	0	2	21	1	0	53	665
8:30 AM	5	5	2	0	2	6	0	0	2	12	3	0	1	15	0	0	53	658
8:35 AM	3	7	1	0	0	4	2	0	1	11	2	0	4	9	1	0	45	660
8:40 AM	7	4	0	0	1	3	3	0	1	12	2	0	2	10	0	0	45	651
8:45 AM	6	3	2	0	1	13	0	0	1	14	7	0	3	7	0	0	57	641
8:50 AM	2	6	1	0	2	10	1	0	1	7	0	0	2	12	0	0	44	627
8:55 AM	2	1	0	0	1	7	1	0	0	9	7	0	2	20	1	0	51	626

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	96	64	20	0	20	56	24	0	8	144	60	0	40	200	16	0	748
Heavy Trucks	24	8	0		0	4	8		0	8	12		4	20	4		92
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

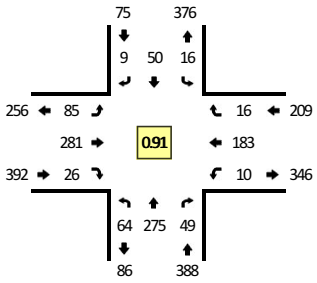
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: NE 50th Avenue -- NE 199th Street
CITY/STATE: Dollars Corner, WA

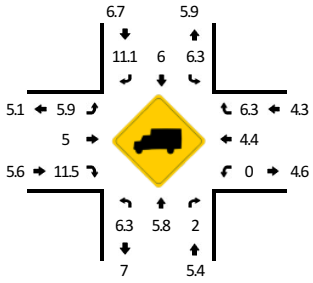
QC JOB #: 16889620
DATE: Wed, Jan 22 2025

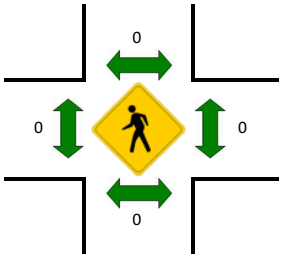
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

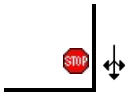


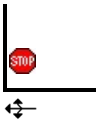


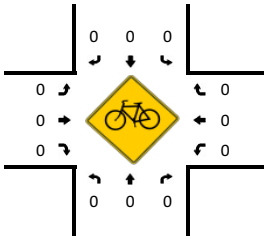
TRUE DATA TO IMPROVE MOBILITY

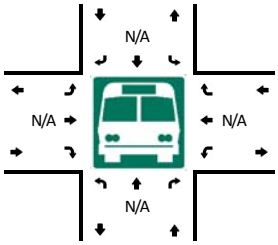


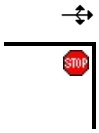


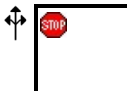


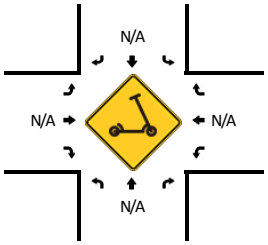












5-Min Count Period Beginning At	NE 50th Avenue (Northbound)				NE 50th Avenue (Southbound)				NE 199th Street (Eastbound)				NE 199th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	10	6	3	0	2	10	0	0	2	28	2	0	2	13	1	0	79	
4:05 PM	8	8	4	0	2	4	0	0	1	14	2	0	3	20	1	0	67	
4:10 PM	5	8	1	0	3	3	1	0	1	29	6	0	0	14	1	0	72	
4:15 PM	6	6	2	0	3	6	1	0	0	25	4	0	0	5	0	0	58	
4:20 PM	5	13	2	0	1	6	1	0	1	18	6	0	4	18	2	0	77	
4:25 PM	4	11	5	0	1	2	0	0	1	26	5	0	1	26	3	0	85	
4:30 PM	4	8	4	0	0	4	0	0	2	22	4	0	2	7	2	0	59	
4:35 PM	5	7	5	0	4	5	1	0	0	18	4	0	2	11	1	0	63	
4:40 PM	5	7	6	0	1	5	1	0	3	18	3	0	1	11	0	0	61	
4:45 PM	4	8	4	0	0	1	0	0	2	26	8	0	0	13	3	0	69	
4:50 PM	6	9	2	0	0	1	0	0	3	23	3	0	4	15	3	0	69	
4:55 PM	1	19	2	0	2	1	1	0	3	23	2	0	2	17	1	0	74	833
5:00 PM	4	9	1	0	1	0	1	0	6	22	4	0	1	9	2	0	60	814
5:05 PM	4	19	1	0	2	4	1	0	9	21	4	0	1	24	1	0	91	838
5:10 PM	6	15	4	0	0	7	1	0	7	23	2	0	2	18	2	0	87	853
5:15 PM	3	15	4	0	3	10	2	0	3	24	0	0	1	12	1	0	78	873
5:20 PM	4	19	3	0	0	3	0	0	9	22	2	0	1	12	0	0	75	871
5:25 PM	3	22	6	0	1	6	1	0	8	22	3	0	0	18	2	0	92	878
5:30 PM	6	32	3	0	3	7	1	0	10	26	1	0	0	14	2	0	105	924
5:35 PM	3	33	5	0	0	1	0	0	4	24	3	0	0	16	2	0	91	952
5:40 PM	5	35	7	0	0	3	0	0	8	18	1	0	0	19	1	0	97	988
5:45 PM	6	28	6	0	3	4	0	0	9	23	5	0	1	13	2	0	100	1019
5:50 PM	10	31	7	0	1	3	0	0	4	24	1	0	0	13	1	0	95	1045
5:55 PM	10	17	2	0	2	2	2	0	8	32	0	0	3	15	0	0	93	1064

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	56	400	60	0	12	44	4	0	88	272	20	0	0	196	20	0	1172
Heavy Trucks	0	20	4		4	0	0		12	20	8		0	12	4		84
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

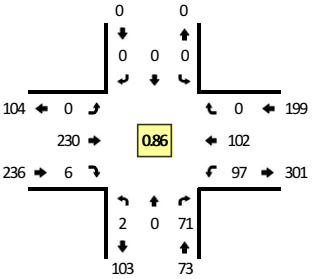
Type of peak hour being reported: Intersection Peak

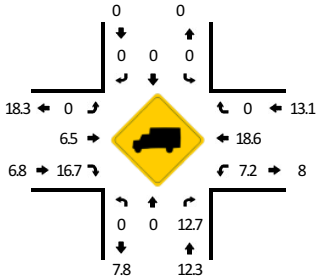
Method for determining peak hour: Total Entering Volume

LOCATION: NE Delfel Road (S) -- NE 179th Street
CITY/STATE: Clark, WA

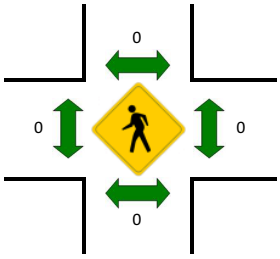
QC JOB #: 16889617
DATE: Wed, Jan 22 2025

Peak-Hour: 7:05 AM -- 8:05 AM
Peak 15-Min: 7:05 AM -- 7:20 AM

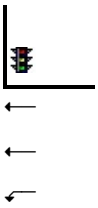


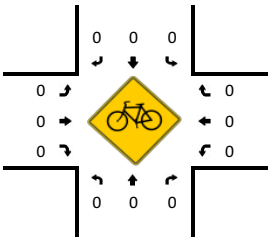


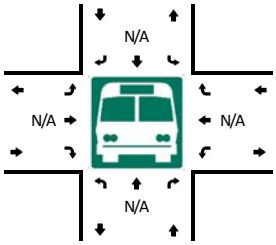
TRUE DATA TO IMPROVE MOBILITY

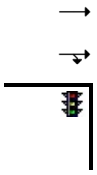


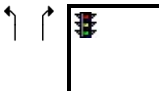


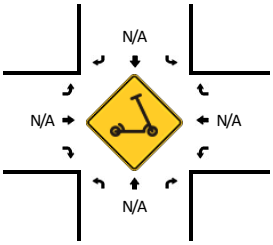












5-Min Count Period Beginning At	NE Delfel Road (S) (Northbound)				NE Delfel Road (S) (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	4	0	0	0	0	0	0	14	0	0	9	6	0	0	33	
7:05 AM	0	0	10	0	0	0	0	0	0	17	0	0	5	7	0	0	39	
7:10 AM	0	0	6	0	0	0	0	0	0	24	0	0	13	7	0	0	50	
7:15 AM	0	0	8	0	0	0	0	0	0	32	1	0	8	10	0	0	59	
7:20 AM	0	0	3	0	0	0	0	0	0	16	0	0	9	8	0	0	36	
7:25 AM	0	0	4	0	0	0	0	0	0	13	1	0	10	4	0	0	32	
7:30 AM	0	0	10	0	0	0	0	0	0	21	1	0	5	11	0	0	48	
7:35 AM	0	0	4	0	0	0	0	0	0	23	1	0	8	6	0	0	42	
7:40 AM	0	0	3	0	0	0	0	0	0	13	2	0	5	9	0	0	32	
7:45 AM	0	0	3	0	0	0	0	0	0	25	0	0	7	11	0	0	46	
7:50 AM	0	0	8	0	0	0	0	0	0	18	0	0	8	10	0	0	44	
7:55 AM	0	0	7	0	0	0	0	0	0	10	0	0	7	10	0	0	34	495
8:00 AM	2	0	5	0	0	0	0	0	0	18	0	0	12	9	0	0	46	508
8:05 AM	1	0	7	0	0	0	0	0	0	6	0	0	13	7	0	0	34	503
8:10 AM	0	0	8	0	0	0	0	0	0	20	2	0	8	8	0	0	46	499
8:15 AM	0	0	4	0	0	0	0	0	0	15	2	0	6	8	0	0	35	475
8:20 AM	0	0	4	0	0	0	0	0	0	18	0	0	12	8	0	0	42	481
8:25 AM	0	0	7	0	0	0	0	0	0	12	0	0	11	11	0	0	41	490
8:30 AM	0	0	8	0	0	0	0	0	0	18	0	0	9	4	0	0	39	481
8:35 AM	0	0	4	0	0	0	0	0	0	21	1	0	11	10	0	0	47	486
8:40 AM	0	0	8	0	0	0	0	0	0	17	0	0	3	4	0	0	32	486
8:45 AM	1	0	5	0	0	0	0	0	0	22	0	0	7	9	0	0	44	484
8:50 AM	0	0	5	0	0	0	0	0	0	21	2	0	7	8	0	0	43	483
8:55 AM	1	0	7	0	0	0	0	0	0	15	0	0	10	10	0	0	43	492

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	0	0	96	0	0	0	0	0	0	292	4	0	104	96	0	0	592
Heavy Trucks	0	0	24		0	0	0		0	24	4		0	16	0		68
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

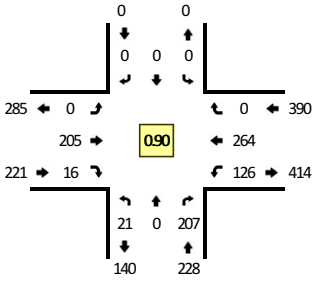
Type of peak hour being reported: Intersection Peak

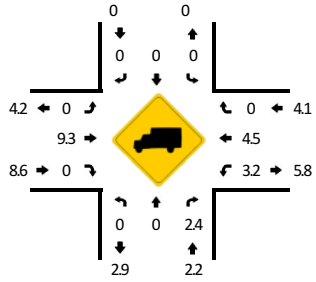
Method for determining peak hour: Total Entering Volume

LOCATION: NE Delfel Road (S) -- NE 179th Street
CITY/STATE: Clark, WA

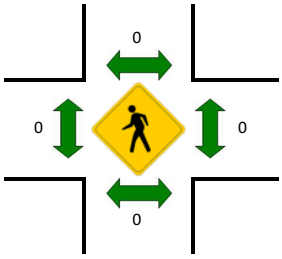
QC JOB #: 16889618
DATE: Wed, Jan 22 2025

Peak-Hour: 4:25 PM -- 5:25 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

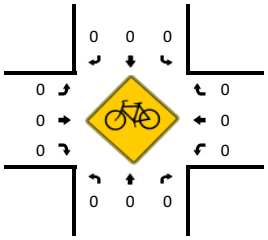


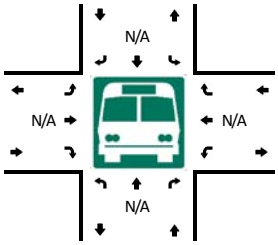


TRUE DATA TO IMPROVE MOBILITY

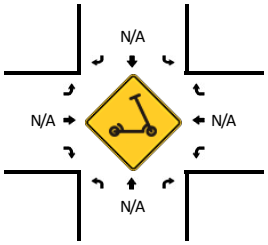












5-Min Count Period Beginning At	NE Delfel Road (S) (Northbound)				NE Delfel Road (S) (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	8	0	15	0	0	0	0	0	0	10	0	0	11	18	0	0	62	
4:05 PM	2	0	11	0	0	0	0	0	0	16	2	0	3	7	0	0	41	
4:10 PM	2	0	10	0	0	0	0	0	0	17	0	0	12	19	0	0	60	
4:15 PM	0	0	15	0	0	0	0	0	0	21	1	0	8	23	0	0	68	
4:20 PM	1	0	11	0	0	0	0	0	0	14	1	0	12	16	0	0	55	
4:25 PM	0	0	17	0	0	0	0	0	0	21	1	0	16	21	0	0	76	
4:30 PM	1	0	23	0	0	0	0	0	0	19	0	0	11	14	0	0	68	
4:35 PM	0	0	22	0	0	0	0	0	0	20	3	0	8	16	0	0	69	
4:40 PM	2	0	20	0	0	0	0	0	0	15	1	0	6	13	0	0	57	
4:45 PM	2	0	16	0	0	0	0	0	0	16	2	0	6	16	0	0	58	
4:50 PM	2	0	17	0	0	0	0	0	0	14	2	0	8	25	0	1	69	
4:55 PM	3	0	13	0	0	0	0	0	0	25	2	0	9	32	0	0	84	767
5:00 PM	0	0	13	0	0	0	0	0	0	13	0	0	7	23	0	1	57	762
5:05 PM	1	0	15	0	0	0	0	0	0	15	2	0	12	22	0	0	67	788
5:10 PM	2	0	12	0	0	0	0	0	0	14	2	0	21	23	0	0	74	802
5:15 PM	5	0	19	0	0	0	0	0	0	15	0	0	9	30	0	0	78	812
5:20 PM	3	0	20	0	0	0	0	0	0	18	1	0	11	29	0	0	82	839
5:25 PM	3	0	16	0	0	0	0	0	0	10	0	0	7	20	0	0	56	819
5:30 PM	3	0	28	0	0	0	0	0	0	11	1	0	12	20	0	0	75	826
5:35 PM	5	0	17	0	0	0	0	0	0	8	2	0	10	27	0	0	69	826
5:40 PM	3	0	20	0	0	0	0	0	0	8	2	0	8	20	0	0	61	830
5:45 PM	5	0	21	0	0	0	0	0	0	8	0	0	10	20	0	0	64	836
5:50 PM	3	0	11	0	0	0	0	0	0	8	1	0	7	23	0	0	53	820
5:55 PM	1	0	17	0	0	0	0	0	0	13	1	0	5	16	0	0	53	789

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	40	0	204	0	0	0	0	0	0	188	12	0	164	328	0	0	936
Heavy Trucks	0	0	4		0	0	0		0	20	0		8	16	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

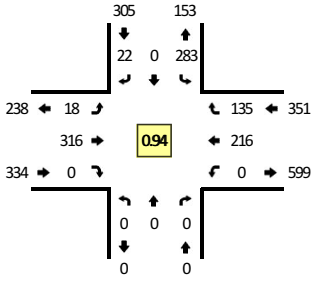
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

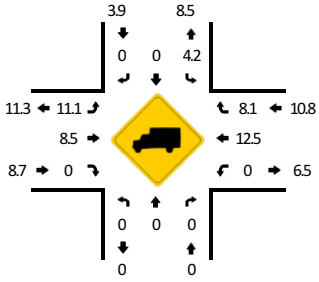
LOCATION: NE Delfel Road (N) -- NE 179th Street
CITY/STATE: Clark, WA

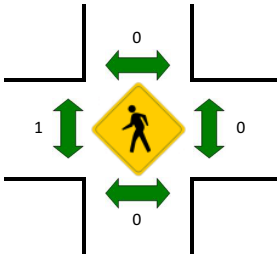
QC JOB #: 16889615
DATE: Wed, Jan 22 2025

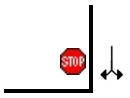
Peak-Hour: 7:10 AM -- 8:10 AM
Peak 15-Min: 7:10 AM -- 7:25 AM

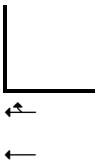


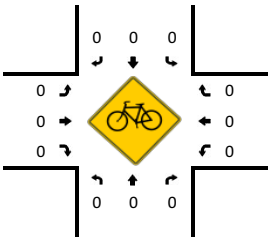
TRUE DATA TO IMPROVE MOBILITY

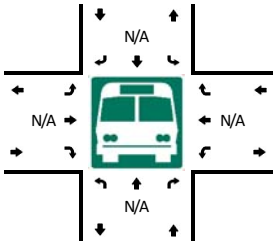


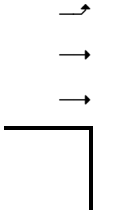




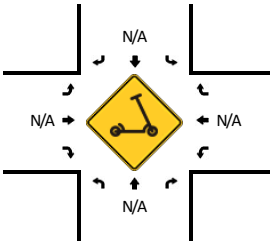












5-Min Count Period Beginning At	NE Delfel Road (N) (Northbound)				NE Delfel Road (N) (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	16	0	2	0	0	21	0	0	0	17	9	0	65	
7:05 AM	0	0	0	0	17	0	0	0	0	30	0	0	0	9	8	0	64	
7:10 AM	0	0	0	0	17	0	2	0	2	28	0	0	0	23	9	0	81	
7:15 AM	0	0	0	0	27	0	1	0	4	35	0	0	0	16	12	0	95	
7:20 AM	0	0	0	0	26	0	3	0	2	22	0	0	0	20	15	0	88	
7:25 AM	0	0	0	0	18	0	4	0	1	22	0	0	0	15	11	0	71	
7:30 AM	0	0	0	0	22	0	1	0	1	35	0	0	0	17	12	0	88	
7:35 AM	0	0	0	0	25	0	2	0	1	32	0	0	0	14	12	0	86	
7:40 AM	0	0	0	0	31	0	0	0	2	17	0	0	0	13	12	0	75	
7:45 AM	0	0	0	0	23	0	1	0	0	33	0	0	0	19	15	0	91	
7:50 AM	0	0	0	0	28	0	1	0	3	26	0	0	0	24	12	0	94	
7:55 AM	0	0	0	0	28	0	1	0	1	21	0	0	0	17	9	0	77	975
8:00 AM	0	0	0	0	23	0	3	0	1	24	0	0	0	21	7	0	79	989
8:05 AM	0	0	0	0	15	0	3	0	0	21	0	0	0	17	9	0	65	990
8:10 AM	0	0	0	0	23	0	2	0	3	30	0	0	0	14	6	0	78	987
8:15 AM	0	0	0	0	20	0	1	0	2	21	0	0	0	14	7	0	65	957
8:20 AM	0	0	0	0	10	0	3	0	0	29	0	0	0	22	10	0	74	943
8:25 AM	0	0	0	0	22	0	1	0	1	22	0	0	0	25	12	0	83	955
8:30 AM	0	0	0	0	19	0	1	0	2	25	0	0	0	13	16	0	76	943
8:35 AM	0	0	0	0	20	0	1	0	3	26	0	0	0	20	9	0	79	936
8:40 AM	0	0	0	0	27	0	1	0	6	24	0	0	0	9	14	0	81	942
8:45 AM	0	0	0	0	26	0	0	0	0	30	0	0	0	22	8	0	86	937
8:50 AM	0	0	0	0	32	0	1	0	0	31	0	0	0	16	9	0	89	932
8:55 AM	0	0	0	0	24	0	2	0	3	26	0	0	0	16	9	0	80	935

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	0	0	0	0	280	0	24	0	32	340	0	0	0	236	144	0	1056
Heavy Trucks	0	0	0		16	0	0		8	28	0		0	32	16		100
Buses																	
Pedestrians		0				0				4				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

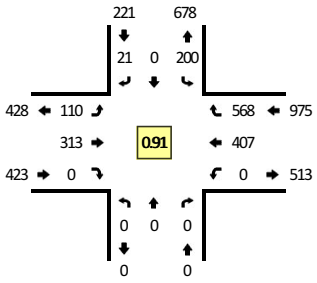
Report generated on 1/29/2025 2:01 PM

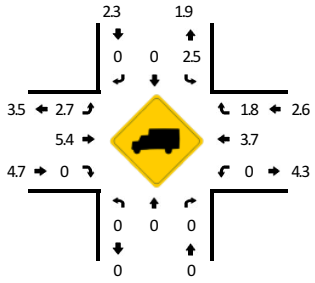
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

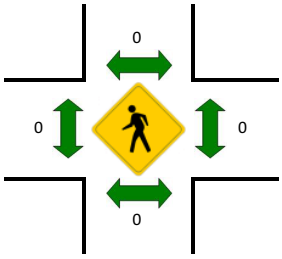
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: NE Delfel Road (N) -- NE 179th Street | **QC JOB #:** 16889616
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

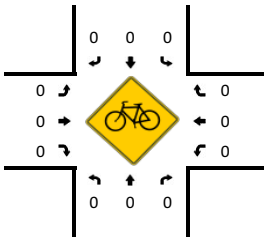
Peak-Hour: 4:40 PM -- 5:40 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

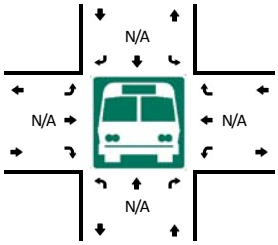




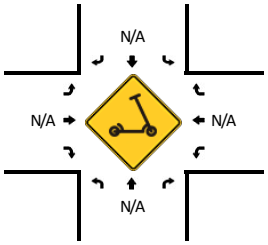












5-Min Count Period Beginning At	NE Delfel Road (N) (Northbound)				NE Delfel Road (N) (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	28	0	3	0	2	24	0	0	0	29	16	0	102	
4:05 PM	0	0	0	0	22	0	0	0	7	25	0	0	0	17	16	0	87	
4:10 PM	0	0	0	0	17	0	2	0	3	27	0	0	0	28	14	0	91	
4:15 PM	0	0	0	0	16	0	3	0	10	27	0	0	0	30	23	0	109	
4:20 PM	0	0	0	0	21	0	1	0	5	20	0	0	0	31	27	0	105	
4:25 PM	0	0	0	0	21	0	7	0	5	35	0	0	0	21	13	0	102	
4:30 PM	0	0	0	0	13	0	3	0	9	32	0	0	0	25	13	0	95	
4:35 PM	0	0	0	0	21	0	2	0	7	36	0	0	0	21	18	0	105	
4:40 PM	0	0	0	0	17	0	3	0	6	37	0	0	0	23	25	0	111	
4:45 PM	0	0	0	0	21	0	1	0	4	30	0	0	0	19	34	0	109	
4:50 PM	0	0	0	0	19	0	1	0	8	25	0	0	0	36	30	0	119	
4:55 PM	0	0	0	0	12	0	0	0	4	39	0	0	0	39	55	0	149	1284
5:00 PM	0	0	0	0	17	0	1	0	6	23	0	0	0	31	64	0	142	1324
5:05 PM	0	0	0	0	17	0	4	0	9	27	0	0	0	36	49	0	142	1379
5:10 PM	0	0	0	0	18	0	1	0	6	17	0	0	0	46	59	0	147	1435
5:15 PM	0	0	0	0	17	0	3	0	13	27	0	0	0	41	52	0	153	1479
5:20 PM	0	0	0	0	11	0	0	0	15	30	0	0	0	36	53	0	145	1519
5:25 PM	0	0	0	0	17	0	1	0	7	19	0	0	0	30	55	0	129	1546
5:30 PM	0	0	0	0	15	0	3	0	20	20	0	0	0	34	51	0	143	1594
5:35 PM	0	0	0	0	19	0	3	0	12	19	0	0	0	36	41	0	130	1619
5:40 PM	0	0	0	0	14	0	3	0	15	15	0	0	0	23	39	0	109	1617
5:45 PM	0	0	0	0	10	0	2	0	14	21	0	0	0	30	29	0	106	1614
5:50 PM	0	0	0	0	18	0	1	0	7	17	0	0	0	34	34	0	111	1606
5:55 PM	0	0	0	0	12	0	2	0	12	19	0	0	0	19	32	0	96	1553

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	0	0	0	0	184	0	16	0	136	296	0	0	0	492	656	0	1780
Heavy Trucks	0	0	0		12	0	0		0	24	0		0	28	12		76
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

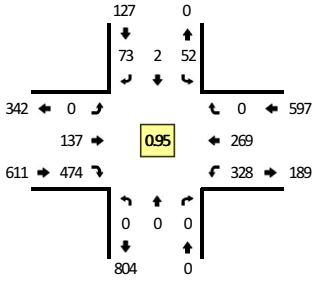
Type of peak hour being reported: Intersection Peak

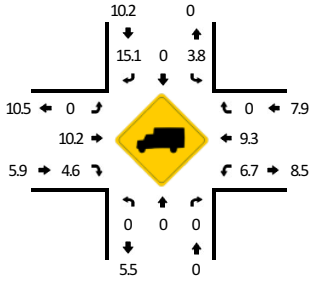
Method for determining peak hour: Total Entering Volume

LOCATION: I-5 SB Ramps -- NE 179th Street
CITY/STATE: Clark, WA

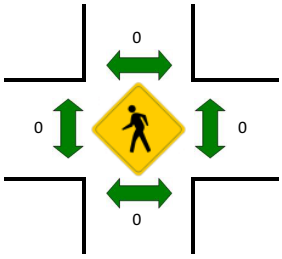
QC JOB #: 16889613
DATE: Wed, Jan 22 2025

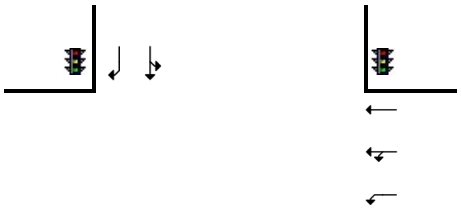
Peak-Hour: 7:05 AM -- 8:05 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

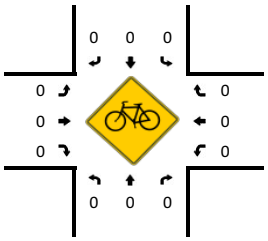


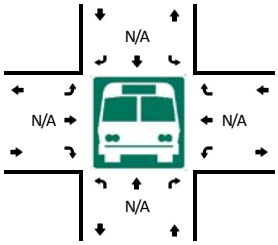


TRUE DATA TO IMPROVE MOBILITY

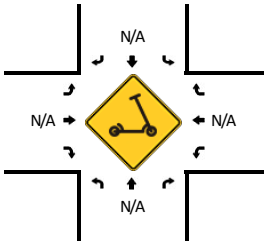












5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	4	0	11	0	0	11	19	0	22	15	0	0	82	
7:05 AM	0	0	0	0	4	1	1	0	0	12	39	0	18	16	0	0	91	
7:10 AM	0	0	0	0	4	0	7	0	0	5	39	0	26	27	0	0	108	
7:15 AM	0	0	0	0	2	1	4	0	0	15	43	0	29	23	0	0	117	
7:20 AM	0	0	0	0	6	0	8	0	0	10	39	0	35	25	0	0	123	
7:25 AM	0	0	0	0	6	0	4	0	0	11	30	0	27	22	0	0	100	
7:30 AM	0	0	0	0	9	0	5	0	0	10	46	0	27	24	0	0	121	
7:35 AM	0	0	0	0	2	0	3	0	0	11	47	0	39	24	0	0	126	
7:40 AM	0	0	0	0	3	0	5	0	0	9	37	0	30	20	0	0	104	
7:45 AM	0	0	0	0	1	0	14	0	0	11	44	0	29	20	0	0	119	
7:50 AM	0	0	0	0	4	0	11	0	0	14	42	0	24	25	0	0	120	
7:55 AM	0	0	0	0	8	0	7	0	0	15	33	0	28	22	0	0	113	1324
8:00 AM	0	0	0	0	3	0	4	0	0	14	35	0	16	21	0	0	93	1335
8:05 AM	0	0	0	0	4	1	10	0	0	11	25	0	23	17	0	0	91	1335
8:10 AM	0	0	0	0	3	0	4	0	0	14	37	0	23	17	0	0	98	1325
8:15 AM	0	0	0	0	4	0	1	0	0	14	26	0	27	21	0	0	93	1301
8:20 AM	0	0	0	0	4	0	10	0	0	8	30	0	24	21	0	0	97	1275
8:25 AM	0	0	0	0	3	0	4	0	0	11	38	0	22	31	0	0	109	1284
8:30 AM	0	0	0	0	0	0	5	0	0	12	29	0	26	25	0	0	97	1260
8:35 AM	0	0	0	0	2	0	4	0	0	10	35	0	23	24	0	0	98	1232
8:40 AM	0	0	0	0	2	0	7	0	0	11	40	0	29	22	0	0	111	1239
8:45 AM	0	0	0	0	4	0	10	0	0	12	40	0	20	16	0	0	102	1222
8:50 AM	0	0	0	0	6	0	1	0	0	11	50	0	15	24	0	0	107	1209
8:55 AM	0	0	0	0	13	0	3	0	0	9	41	0	12	22	0	0	100	1196

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	0	0	0	0	52	0	128	0	0	160	476	0	324	268	0	0	1408
Heavy Trucks	0	0	0		4	0	16		0	8	16		16	24	0		84
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

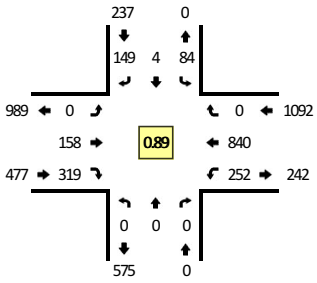
Type of peak hour being reported: Intersection Peak

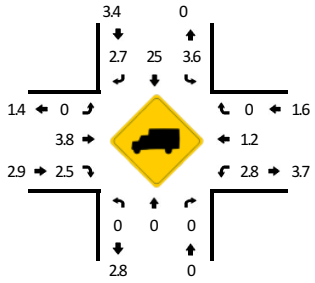
Method for determining peak hour: Total Entering Volume

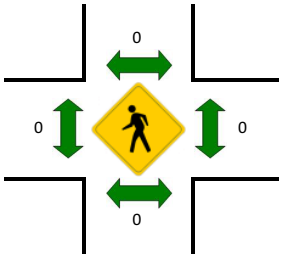
LOCATION: I-5 SB Ramps -- NE 179th Street
CITY/STATE: Clark, WA

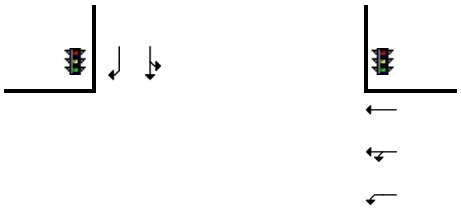
QC JOB #: 16889614
DATE: Wed, Jan 22 2025

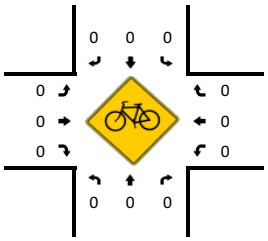
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

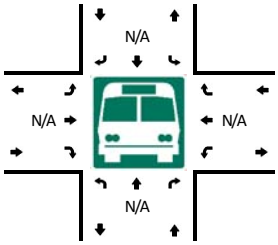




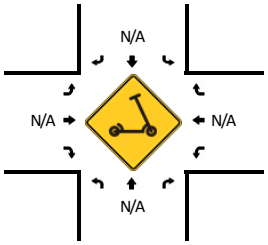












5-Min Count Period Beginning At	I-5 SB Ramps (Northbound)				I-5 SB Ramps (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	2	1	10	0	0	16	35	0	22	34	0	0	120	
4:05 PM	0	0	0	0	6	1	5	0	0	14	31	0	19	28	0	0	104	
4:10 PM	0	0	0	0	4	1	11	0	0	18	27	0	22	31	0	0	114	
4:15 PM	0	0	0	0	14	0	8	0	0	10	31	0	16	46	0	0	125	
4:20 PM	0	0	0	0	11	0	10	0	0	9	31	0	24	49	0	0	134	
4:25 PM	0	0	0	0	8	1	6	0	0	22	34	0	24	27	0	0	122	
4:30 PM	0	0	0	0	8	0	9	0	0	13	30	0	27	29	0	0	116	
4:35 PM	0	0	0	0	7	0	6	0	0	20	39	0	23	34	0	0	129	
4:40 PM	0	0	0	0	6	0	7	0	0	21	33	0	13	41	0	0	121	
4:45 PM	0	0	0	0	9	1	8	0	0	16	35	0	22	44	0	0	135	
4:50 PM	0	0	0	0	8	0	8	0	0	15	28	0	15	61	0	0	135	
4:55 PM	0	0	0	0	3	2	12	0	0	24	27	0	14	79	0	0	161	1516
5:00 PM	0	0	0	0	11	0	15	0	0	12	28	0	21	82	0	0	169	1565
5:05 PM	0	0	0	0	7	1	20	0	0	12	28	0	22	64	0	0	154	1615
5:10 PM	0	0	0	0	10	0	18	0	0	10	27	0	30	88	0	0	183	1684
5:15 PM	0	0	0	0	2	0	13	0	0	13	29	0	24	79	0	0	160	1719
5:20 PM	0	0	0	0	7	0	15	0	0	13	30	0	26	73	0	0	164	1749
5:25 PM	0	0	0	0	9	0	10	0	0	13	24	0	17	75	0	0	148	1775
5:30 PM	0	0	0	0	3	0	11	0	0	9	22	0	12	73	0	0	130	1789
5:35 PM	0	0	0	0	10	0	11	0	0	13	21	0	21	66	0	0	142	1802
5:40 PM	0	0	0	0	5	0	8	0	0	8	20	0	28	56	0	0	125	1806
5:45 PM	0	0	0	0	9	0	13	0	0	12	22	0	19	45	0	0	120	1791
5:50 PM	0	0	0	0	6	1	9	0	0	6	26	0	25	61	0	0	134	1790
5:55 PM	0	0	0	0	3	0	9	0	0	13	17	0	17	40	0	0	99	1728

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	0	0	0	0	76	0	184	0	0	144	344	0	320	960	0	0	2028
Heavy Trucks	0	0	0		0	0	8		0	8	20		12	16	0		64
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

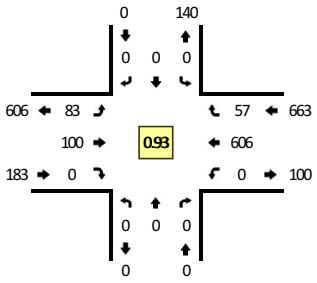
Report generated on 1/29/2025 2:01 PM

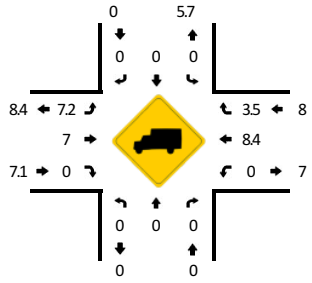
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

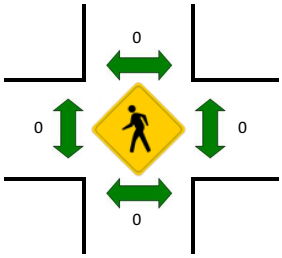
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

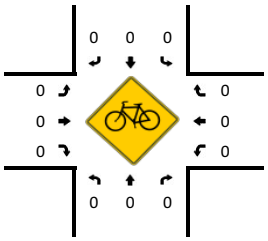
LOCATION: I-5 NB On-Ramp -- NE 179th Street | **QC JOB #:** 16889611
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

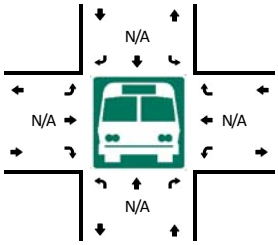
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

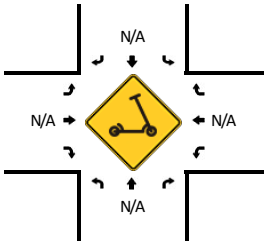












5-Min Count Period Beginning At	I-5 NB On-Ramp (Northbound)				I-5 NB On-Ramp (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	4	11	0	0	0	39	9	0	63	
7:05 AM	0	0	0	0	0	0	0	0	6	8	0	0	0	37	6	0	57	
7:10 AM	0	0	0	0	0	0	0	0	4	6	0	0	0	55	3	0	68	
7:15 AM	0	0	0	0	0	0	0	0	12	5	0	0	0	54	2	0	73	
7:20 AM	0	0	0	0	0	0	0	0	3	9	0	0	0	62	3	0	77	
7:25 AM	0	0	0	0	0	0	0	0	4	11	0	0	0	47	5	0	67	
7:30 AM	0	0	0	0	0	0	0	0	8	13	0	0	0	54	5	0	80	
7:35 AM	0	0	0	0	0	0	0	0	8	7	0	0	0	59	3	0	77	
7:40 AM	0	0	0	0	0	0	0	0	4	8	0	0	0	51	7	0	70	
7:45 AM	0	0	0	0	0	0	0	0	7	5	0	0	0	49	3	0	64	
7:50 AM	0	0	0	0	0	0	0	0	13	5	0	0	0	49	7	0	74	
7:55 AM	0	0	0	0	0	0	0	0	10	12	0	0	0	50	4	0	76	846
8:00 AM	0	0	0	0	0	0	0	0	4	13	0	0	0	38	2	0	57	840
8:05 AM	0	0	0	0	0	0	0	0	7	9	0	0	0	37	2	0	55	838
8:10 AM	0	0	0	0	0	0	0	0	10	8	0	0	0	46	2	0	66	836
8:15 AM	0	0	0	0	0	0	0	0	7	11	0	0	0	46	5	0	69	832
8:20 AM	0	0	0	0	0	0	0	0	6	6	0	0	0	46	3	0	61	816
8:25 AM	0	0	0	0	0	0	0	0	8	5	0	0	0	53	7	0	73	822
8:30 AM	0	0	0	0	0	0	0	0	7	6	0	0	0	52	5	0	70	812
8:35 AM	0	0	0	0	0	0	0	0	2	6	0	0	0	51	6	0	65	800
8:40 AM	0	0	0	0	0	0	0	0	8	9	0	0	0	46	4	0	67	797
8:45 AM	0	0	0	0	0	0	0	0	4	11	0	0	0	39	4	0	58	791
8:50 AM	0	0	0	0	0	0	0	0	7	10	0	0	0	42	2	0	61	778
8:55 AM	0	0	0	0	0	0	0	0	4	17	0	0	0	30	3	0	54	756

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	0	0	0	0	0	0	0	0	80	112	0	0	0	656	60	0	908
Heavy Trucks	0	0	0		0	0	0		4	4	0		0	52	0		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

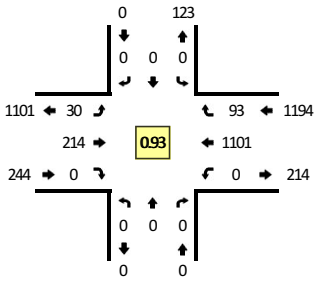
Comments:

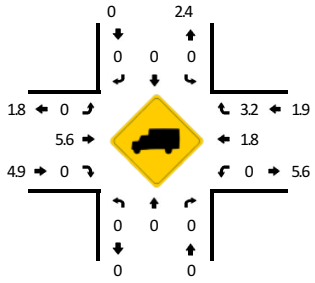
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

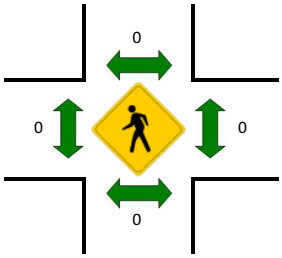
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: I-5 NB On-Ramp -- NE 179th Street | **QC JOB #:** 16889612
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

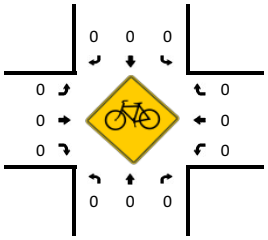
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:10 PM -- 5:25 PM

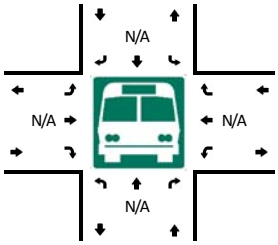




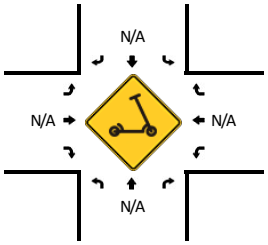












5-Min Count Period Beginning At	I-5 NB On-Ramp (Northbound)				I-5 NB On-Ramp (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	7	12	0	0	0	59	3	0	81	
4:05 PM	0	0	0	0	0	0	0	0	9	11	0	0	0	47	11	0	78	
4:10 PM	0	0	0	0	0	0	0	0	8	14	0	0	0	53	4	0	79	
4:15 PM	0	0	0	0	0	0	0	0	5	20	0	0	0	62	2	0	89	
4:20 PM	0	0	0	0	0	0	0	0	5	14	0	0	0	70	2	0	91	
4:25 PM	0	0	0	0	0	0	0	0	13	18	0	0	0	46	5	0	82	
4:30 PM	0	0	0	0	0	0	0	0	5	14	0	0	0	58	6	0	83	
4:35 PM	0	0	0	0	0	0	0	0	14	13	0	0	0	60	5	0	92	
4:40 PM	0	0	0	0	0	0	0	0	12	15	0	0	0	52	2	0	81	
4:45 PM	0	0	0	0	0	0	0	0	8	18	0	0	0	67	7	0	100	
4:50 PM	0	0	0	0	0	0	0	0	4	19	0	0	0	85	5	0	113	
4:55 PM	0	0	0	0	0	0	0	0	6	23	0	0	0	96	3	0	128	1097
5:00 PM	0	0	0	0	0	0	0	0	1	23	0	0	0	105	3	0	132	1148
5:05 PM	0	0	0	0	0	0	0	0	0	19	0	0	0	79	2	0	100	1170
5:10 PM	0	0	0	0	0	0	0	0	0	20	0	0	0	127	1	0	148	1239
5:15 PM	0	0	0	0	0	0	0	0	2	13	0	0	0	97	6	0	118	1268
5:20 PM	0	0	0	0	0	0	0	0	3	16	0	0	0	98	5	0	122	1299
5:25 PM	0	0	0	0	0	0	0	0	3	17	0	0	0	90	17	0	127	1344
5:30 PM	0	0	0	0	0	0	0	0	2	12	0	0	0	86	14	0	114	1375
5:35 PM	0	0	0	0	0	0	0	0	1	20	0	0	0	90	20	0	131	1414
5:40 PM	0	0	0	0	0	0	0	0	0	14	0	0	0	81	10	0	105	1438
5:45 PM	0	0	0	0	0	0	0	0	3	16	0	0	0	68	9	0	96	1434
5:50 PM	0	0	0	0	0	0	0	0	1	10	0	0	0	86	13	0	110	1431
5:55 PM	0	0	0	0	0	0	0	0	4	11	0	0	0	58	6	0	79	1382

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	0	0	0	0	0	0	0	0	20	196	0	0	0	1288	48	0	1552
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	28	4		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

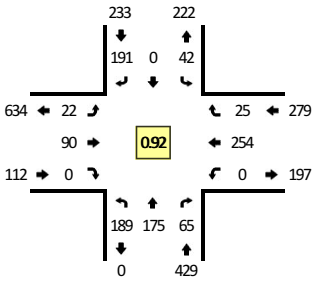
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

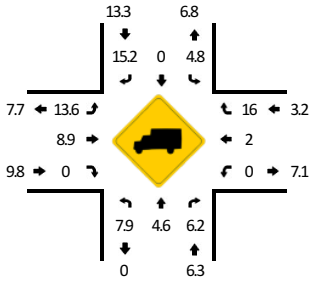
LOCATION: NE 10th Avenue -- NE 179th Street
CITY/STATE: Clark, WA

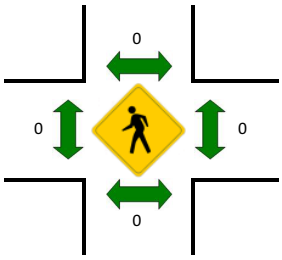
QC JOB #: 16889609
DATE: Wed, Jan 22 2025

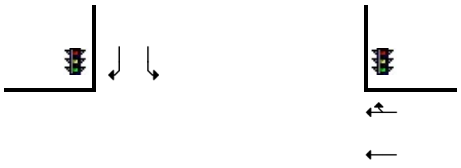
Peak-Hour: 7:20 AM -- 8:20 AM
Peak 15-Min: 7:20 AM -- 7:35 AM

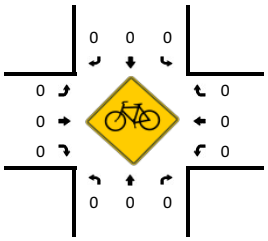


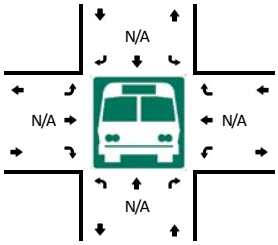


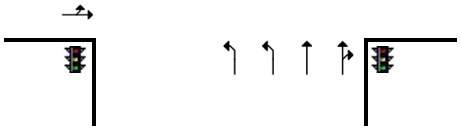


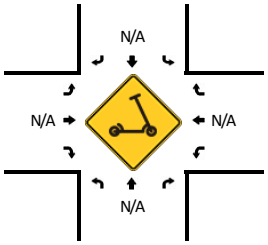












5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	10	3	0	0	0	15	0	2	10	0	0	0	25	1	0	74	
7:05 AM	12	8	3	0	4	0	10	0	2	7	0	0	0	21	2	0	69	
7:10 AM	21	12	5	0	2	0	18	0	2	4	0	0	0	19	3	0	86	
7:15 AM	18	20	7	0	4	0	19	0	2	3	0	0	0	19	2	0	94	
7:20 AM	20	14	8	0	1	0	27	0	2	7	0	0	0	19	1	0	99	
7:25 AM	17	13	8	0	8	0	12	0	4	8	0	0	0	22	1	0	93	
7:30 AM	16	14	5	0	2	0	14	0	1	12	0	0	0	29	1	0	94	
7:35 AM	14	12	4	0	2	0	19	0	1	6	0	0	0	27	3	0	88	
7:40 AM	19	9	6	0	4	0	12	0	1	6	0	0	0	27	0	0	84	
7:45 AM	17	11	7	0	4	0	13	0	0	6	0	0	0	22	1	0	81	
7:50 AM	18	9	6	0	1	0	18	0	2	4	0	0	0	20	5	0	83	
7:55 AM	14	11	9	0	2	0	22	0	2	11	0	0	0	18	3	0	92	1037
8:00 AM	14	13	4	0	4	0	15	0	1	10	0	0	0	11	2	0	74	1037
8:05 AM	11	22	4	0	3	0	10	0	4	6	0	0	0	18	2	0	80	1048
8:10 AM	18	23	2	0	6	0	12	0	1	6	0	0	0	19	2	0	89	1051
8:15 AM	11	24	2	0	5	0	17	0	3	8	0	0	0	22	4	0	96	1053
8:20 AM	7	14	5	0	2	0	23	0	0	6	0	0	0	18	5	0	80	1034
8:25 AM	22	23	6	0	1	0	15	0	1	5	0	0	0	22	8	0	103	1044
8:30 AM	17	12	8	0	3	0	18	0	2	4	0	0	0	22	3	0	89	1039
8:35 AM	17	13	2	0	1	0	23	0	4	2	0	0	0	16	6	0	84	1035
8:40 AM	12	16	9	0	3	0	21	0	3	4	0	0	0	18	4	0	90	1041
8:45 AM	15	11	8	0	7	0	13	0	3	6	0	0	0	14	7	0	84	1044
8:50 AM	20	16	3	0	4	0	7	0	1	11	0	0	0	17	2	0	81	1042
8:55 AM	9	13	7	0	5	0	11	0	2	15	0	0	0	14	3	0	79	1029

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	212	164	84	0	44	0	212	0	28	108	0	0	0	280	12	0	1144
Heavy Trucks	20	8	12		0	0	48		12	0	0		0	12	0		112
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

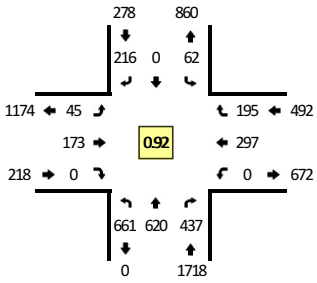
Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

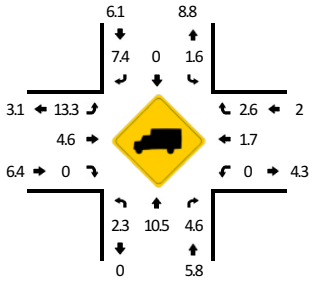
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

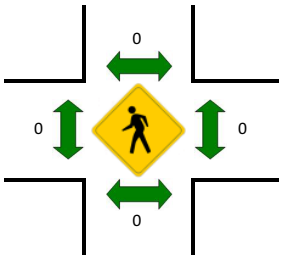
LOCATION: NE 10th Avenue -- NE 179th Street | **QC JOB #:** 16889610
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

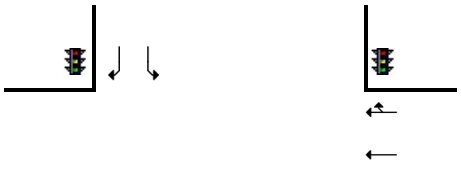
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 4:50 PM -- 5:05 PM

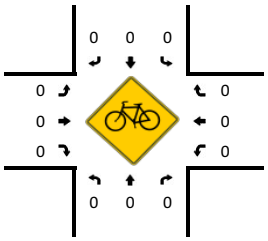


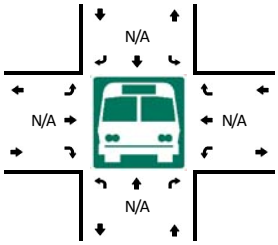


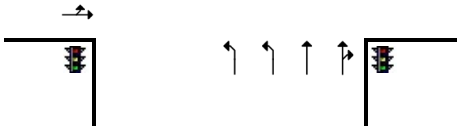


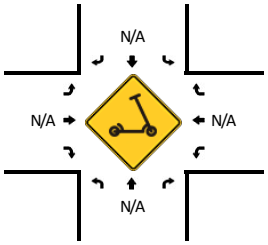












5-Min Count Period Beginning At	NE 10th Avenue (Northbound)				NE 10th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	24	25	10	0	7	0	15	0	1	11	0	0	0	24	6	0	123	
4:05 PM	19	31	14	0	8	0	17	0	1	10	0	0	0	18	6	0	124	
4:10 PM	21	26	10	0	7	0	19	0	0	14	0	0	0	17	8	0	122	
4:15 PM	31	35	17	0	6	0	12	0	2	17	0	0	0	21	8	0	149	
4:20 PM	38	43	16	0	9	0	17	0	2	13	0	0	0	14	8	0	160	
4:25 PM	20	23	13	0	2	0	15	0	1	18	0	0	0	16	10	0	118	
4:30 PM	24	29	14	0	5	0	26	0	3	10	0	0	0	13	6	0	130	
4:35 PM	34	47	14	0	2	0	15	0	2	11	0	0	0	17	3	0	145	
4:40 PM	34	73	19	0	5	0	12	0	1	15	0	0	0	6	7	0	172	
4:45 PM	36	65	19	0	6	0	14	0	5	12	0	0	0	23	16	0	196	
4:50 PM	57	95	14	0	5	0	13	0	9	13	0	0	0	21	18	0	245	
4:55 PM	71	62	33	0	12	0	15	0	7	16	0	0	0	12	14	0	242	1926
5:00 PM	58	63	47	0	3	0	17	0	2	21	0	0	0	26	13	0	250	2053
5:05 PM	39	40	41	0	8	0	23	0	1	18	0	0	0	16	14	0	200	2129
5:10 PM	80	52	65	0	4	0	22	0	3	17	0	0	0	27	9	0	279	2286
5:15 PM	60	44	52	0	4	0	21	0	2	12	0	0	0	20	7	0	222	2359
5:20 PM	54	27	48	0	4	0	18	0	3	12	0	0	0	30	16	0	212	2411
5:25 PM	65	36	31	0	0	0	18	0	4	14	0	0	0	20	18	0	206	2499
5:30 PM	54	52	39	0	9	0	10	0	4	9	0	0	0	34	19	0	230	2599
5:35 PM	47	39	28	0	5	0	30	0	3	15	0	0	0	31	23	0	221	2675
5:40 PM	40	45	20	0	2	0	15	0	2	14	0	0	0	37	28	0	203	2706
5:45 PM	33	44	10	0	3	0	14	0	6	14	0	0	0	29	24	0	177	2687
5:50 PM	47	55	17	0	3	0	19	0	0	10	0	0	0	33	26	0	210	2652
5:55 PM	42	64	15	0	4	0	7	0	4	6	0	0	0	16	19	0	177	2587

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	744	880	376	0	80	0	180	0	72	200	0	0	0	236	180	0	2948
Heavy Trucks	8	96	12		0	0	12		12	8	0		0	8	8		164
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

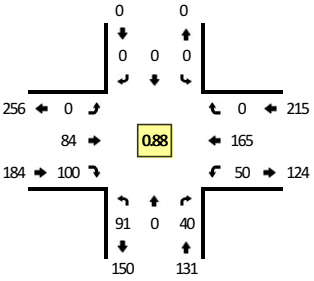
Type of peak hour being reported: Intersection Peak

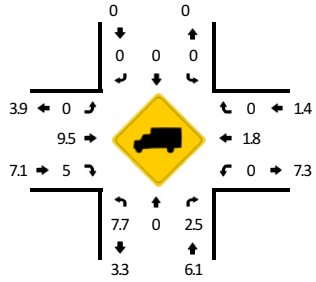
Method for determining peak hour: Total Entering Volume

LOCATION: NE 15th Avenue -- NE 179th Street
CITY/STATE: Mount Vista, WA

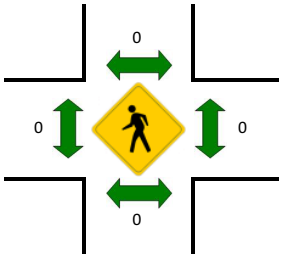
QC JOB #: 16889607
DATE: Wed, Jan 22 2025

Peak-Hour: 7:25 AM -- 8:25 AM
Peak 15-Min: 7:25 AM -- 7:40 AM

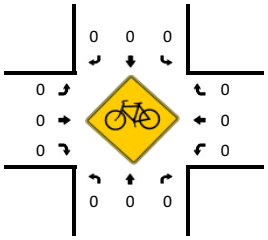


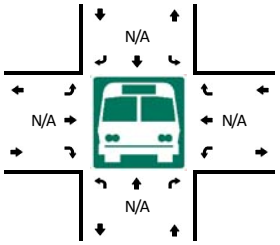


TRUE DATA TO IMPROVE MOBILITY

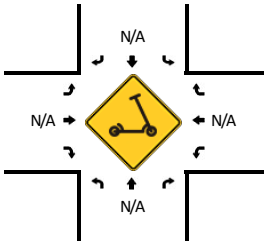












5-Min Count Period Beginning At	NE 15th Avenue (Northbound)				NE 15th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	11	0	3	0	0	0	0	0	0	9	2	0	3	15	0	0	43	
7:05 AM	5	0	2	0	0	0	0	0	0	7	9	0	2	12	0	0	37	
7:10 AM	6	0	3	0	0	0	0	0	0	6	5	0	2	15	0	0	37	
7:15 AM	6	0	3	0	0	0	0	0	0	5	8	0	4	12	0	0	38	
7:20 AM	5	0	0	0	0	0	0	0	0	9	7	0	3	18	0	0	42	
7:25 AM	5	0	4	0	0	0	0	0	0	10	11	0	2	14	0	0	46	
7:30 AM	7	0	3	0	0	0	0	0	0	7	12	0	7	20	0	0	56	
7:35 AM	8	0	3	0	0	0	0	0	0	7	6	0	6	19	0	0	49	
7:40 AM	7	0	3	0	0	0	0	0	0	4	9	0	5	18	0	0	46	
7:45 AM	6	0	3	0	0	0	0	0	0	13	5	0	6	12	0	0	45	
7:50 AM	10	0	4	0	0	0	0	0	0	7	4	0	3	13	0	0	41	
7:55 AM	9	0	3	0	0	0	0	0	0	12	9	0	3	10	0	0	46	526
8:00 AM	7	0	2	0	0	0	0	0	0	5	9	0	3	9	0	0	35	518
8:05 AM	4	0	5	0	0	0	0	0	0	4	7	0	1	10	0	0	31	512
8:10 AM	7	0	2	0	0	0	0	0	0	6	7	0	6	14	0	0	42	517
8:15 AM	9	0	5	0	0	0	0	0	0	2	13	0	3	13	0	0	45	524
8:20 AM	12	0	3	0	0	0	0	0	0	7	8	0	5	13	0	0	48	530
8:25 AM	6	0	1	0	0	0	0	0	0	5	4	0	3	19	0	0	38	522
8:30 AM	11	0	2	0	0	0	0	0	0	6	5	0	4	13	0	0	41	507
8:35 AM	8	0	1	0	0	0	0	0	0	4	4	0	2	12	0	0	31	489
8:40 AM	5	0	1	0	0	0	0	0	0	7	6	0	4	12	0	0	35	478
8:45 AM	8	0	5	0	0	0	0	0	0	14	4	0	6	10	0	0	47	480
8:50 AM	7	0	1	0	0	0	0	0	0	8	8	0	4	9	0	0	37	476
8:55 AM	8	0	0	0	0	0	0	0	0	12	10	0	3	13	0	0	46	476

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	80	0	40	0	0	0	0	0	0	96	116	0	60	212	0	0	604
Heavy Trucks	4	0	0		0	0	0		0	12	0		0	4	0		20
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

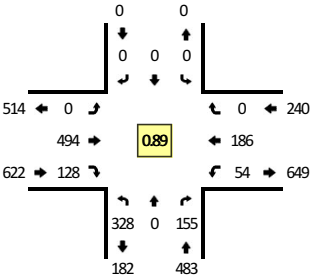
Type of peak hour being reported: Intersection Peak

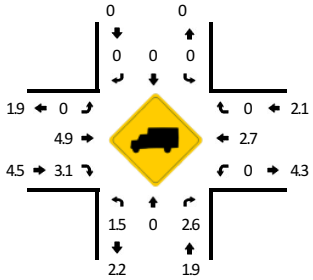
Method for determining peak hour: Total Entering Volume

LOCATION: NE 15th Avenue -- NE 179th Street
CITY/STATE: Mount Vista, WA

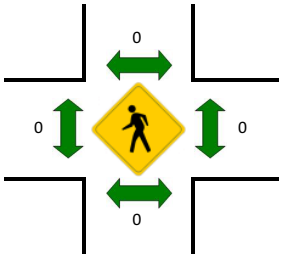
QC JOB #: 16889608
DATE: Wed, Jan 22 2025

Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

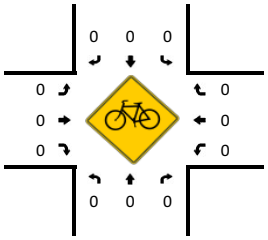


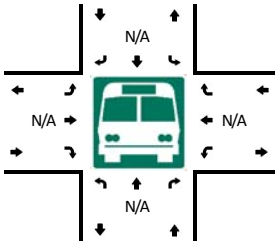


TRUE DATA TO IMPROVE MOBILITY

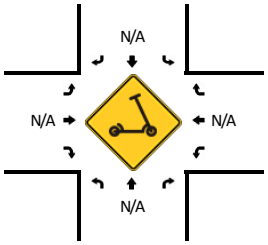












5-Min Count Period Beginning At	NE 15th Avenue (Northbound)				NE 15th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	13	0	6	0	0	0	0	0	0	10	12	0	6	16	0	0	63	
4:05 PM	14	0	2	0	0	0	0	0	0	18	13	0	2	13	0	0	62	
4:10 PM	13	0	6	0	0	0	0	0	0	11	15	0	1	11	0	0	57	
4:15 PM	11	0	4	0	0	0	0	0	0	14	19	0	2	14	0	0	64	
4:20 PM	12	0	10	0	0	0	0	0	0	23	14	0	0	12	0	0	71	
4:25 PM	11	0	8	0	0	0	0	0	0	18	10	0	3	13	0	0	63	
4:30 PM	12	0	4	0	0	0	0	0	0	19	9	0	7	7	0	0	58	
4:35 PM	6	0	8	0	0	0	0	0	0	15	9	0	7	11	0	0	56	
4:40 PM	11	0	7	0	0	0	0	0	0	25	12	0	2	6	0	0	63	
4:45 PM	25	0	8	0	0	0	0	0	0	21	13	0	5	7	0	0	79	
4:50 PM	25	0	8	0	0	0	0	0	0	23	10	0	3	9	0	0	78	
4:55 PM	29	0	12	0	0	0	0	0	0	38	9	0	5	8	0	0	101	815
5:00 PM	20	0	13	0	0	0	0	0	0	67	6	0	4	10	0	0	120	872
5:05 PM	15	0	10	0	0	0	0	0	0	59	12	0	5	16	0	0	117	927
5:10 PM	21	0	21	0	0	0	0	0	0	54	13	0	3	12	0	0	124	994
5:15 PM	19	0	13	0	0	0	0	0	0	52	8	0	4	9	0	0	105	1035
5:20 PM	27	0	9	0	0	0	0	0	0	48	4	0	5	21	0	0	114	1078
5:25 PM	28	0	8	0	0	0	0	0	0	35	14	0	6	15	0	0	106	1121
5:30 PM	34	0	12	0	0	0	0	0	0	35	17	0	0	15	0	0	113	1176
5:35 PM	49	0	17	0	0	0	0	0	0	39	13	0	4	11	0	0	133	1253
5:40 PM	35	0	11	0	0	0	0	0	0	34	14	0	6	32	0	0	132	1322
5:45 PM	26	0	14	0	0	0	0	0	0	15	8	0	5	23	0	0	91	1334
5:50 PM	25	0	15	0	0	0	0	0	0	18	10	0	7	14	0	0	89	1345
5:55 PM	21	0	10	0	0	0	0	0	0	17	6	0	5	17	0	0	76	1320

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	472	0	160	0	0	0	0	0	0	432	176	0	40	232	0	0	1512
Heavy Trucks	8	0	8		0	0	0		0	32	0		0	8	0		56
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

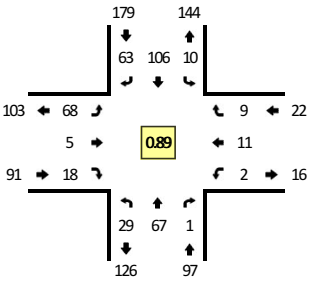
Report generated on 1/29/2025 2:01 PM

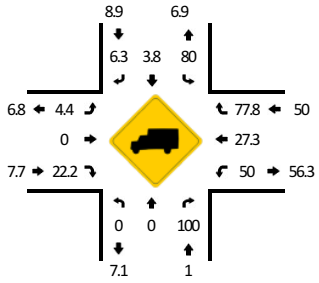
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

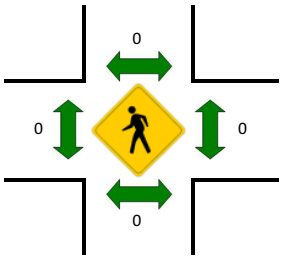
LOCATION: NE 29th Avenue -- NE 179th Street | **QC JOB #:** 16889605
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

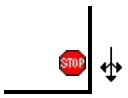
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 8:10 AM -- 8:25 AM

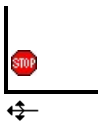


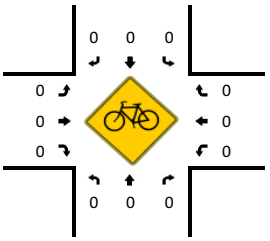


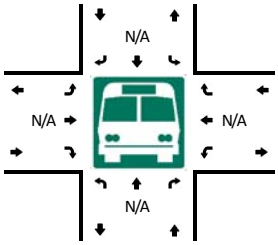
TRUE DATA TO IMPROVE MOBILITY

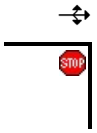


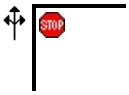


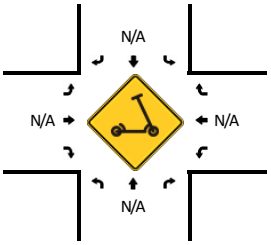












5-Min Count Period Beginning At	NE 29th Avenue (Northbound)				NE 29th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	3	1	0	0	4	8	0	8	2	2	0	0	1	0	0	30	
7:05 AM	2	2	0	0	0	4	6	0	6	0	1	0	0	1	0	0	22	
7:10 AM	3	1	1	0	0	4	4	0	4	0	3	0	0	1	0	0	21	
7:15 AM	1	7	1	0	0	10	4	0	5	1	0	0	0	0	0	0	29	
7:20 AM	3	2	0	0	1	6	4	0	6	0	0	0	0	2	0	0	24	
7:25 AM	3	3	0	0	0	5	3	0	8	2	1	0	0	0	0	0	25	
7:30 AM	2	7	0	0	0	1	8	0	5	0	0	0	0	1	2	0	26	
7:35 AM	3	5	0	0	3	8	3	0	6	0	1	0	1	1	0	0	31	
7:40 AM	5	10	0	0	0	7	7	0	11	0	1	0	0	1	0	0	42	
7:45 AM	0	2	0	0	0	9	8	0	5	2	2	0	0	1	3	0	32	
7:50 AM	3	4	0	0	1	10	4	0	9	1	1	0	0	0	0	0	33	
7:55 AM	0	8	0	0	0	11	1	0	7	0	1	0	0	1	0	0	29	344
8:00 AM	2	3	0	0	0	6	4	0	2	0	3	0	0	0	0	0	20	334
8:05 AM	1	5	0	0	1	5	5	0	4	0	2	0	0	0	0	0	23	335
8:10 AM	5	4	0	0	0	12	6	0	3	0	1	0	0	1	2	0	34	348
8:15 AM	3	7	0	0	5	9	10	0	7	1	1	0	0	0	0	0	43	362
8:20 AM	2	7	0	0	0	7	4	0	4	1	3	0	0	1	3	0	32	370
8:25 AM	4	6	0	0	0	12	5	0	3	0	0	0	0	4	0	0	34	379
8:30 AM	1	6	1	0	0	10	6	0	7	0	2	0	1	1	1	0	36	389
8:35 AM	3	7	0	0	0	12	5	0	2	0	0	0	1	1	0	0	31	389
8:40 AM	1	7	1	0	0	6	7	0	5	2	0	0	1	0	1	0	31	378
8:45 AM	1	5	0	0	0	11	4	0	5	0	0	0	1	0	1	0	28	374
8:50 AM	1	2	1	0	1	9	3	0	5	1	3	0	1	2	1	0	30	371
8:55 AM	3	6	0	0	0	6	4	0	4	0	5	0	0	2	1	0	31	373

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	40	72	0	0	20	112	80	0	56	8	20	0	0	8	20	0	436
Heavy Trucks	0	0	0		20	0	4		4	0	4		0	0	16		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

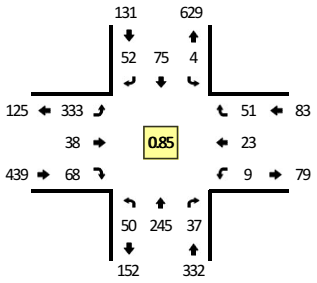
Comments:

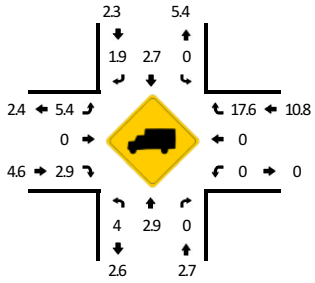
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

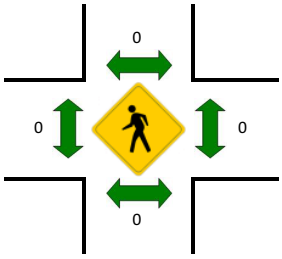
LOCATION: NE 29th Avenue -- NE 179th Street | **QC JOB #:** 16889606
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

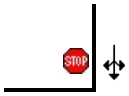
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

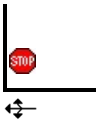


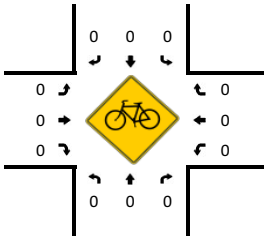


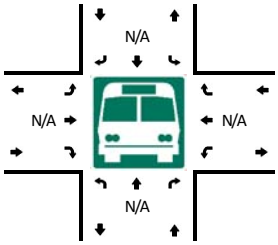
TRUE DATA TO IMPROVE MOBILITY

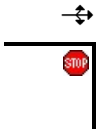


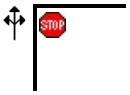


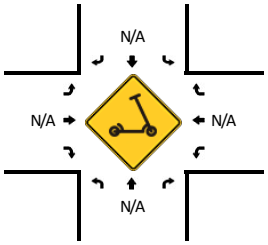












5-Min Count Period Beginning At	NE 29th Avenue (Northbound)				NE 29th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	12	1	0	2	9	5	0	3	1	3	0	0	1	0	0	42	
4:05 PM	3	5	1	0	0	7	7	0	12	0	0	0	0	3	2	0	40	
4:10 PM	3	10	0	0	2	10	7	0	8	0	1	0	0	0	1	0	42	
4:15 PM	3	5	0	0	1	12	3	0	8	3	5	0	0	1	1	0	42	
4:20 PM	3	9	0	0	1	7	6	0	6	2	6	0	0	1	5	0	46	
4:25 PM	5	7	0	0	2	6	1	0	11	1	3	0	0	1	2	0	39	
4:30 PM	3	9	0	0	0	7	6	0	4	2	4	0	0	1	0	0	36	
4:35 PM	3	11	0	0	3	2	7	0	7	0	1	0	0	0	0	0	34	
4:40 PM	4	9	0	0	1	11	5	0	19	2	6	0	0	0	1	0	58	
4:45 PM	3	22	0	0	1	6	7	0	8	2	5	0	1	0	1	0	56	
4:50 PM	3	18	0	0	1	10	4	0	17	0	1	0	0	0	0	0	54	
4:55 PM	1	15	0	0	1	2	4	0	28	0	2	0	0	1	0	0	54	543
5:00 PM	2	14	0	0	0	5	5	0	49	0	5	0	0	4	0	0	84	585
5:05 PM	3	26	3	0	0	5	4	0	44	0	5	0	0	0	0	0	90	635
5:10 PM	3	25	3	0	2	5	7	0	40	1	4	0	0	0	4	0	94	687
5:15 PM	1	37	1	0	0	11	9	0	35	2	5	0	0	1	3	0	105	750
5:20 PM	2	23	0	0	2	7	4	0	21	1	7	0	0	1	4	0	72	776
5:25 PM	2	25	4	0	0	7	4	0	16	7	5	0	2	3	3	0	78	815
5:30 PM	4	19	5	0	0	6	1	0	17	7	4	0	1	2	5	0	71	850
5:35 PM	3	20	5	0	0	5	5	0	21	5	5	0	0	5	3	0	77	893
5:40 PM	11	13	4	0	0	7	2	0	22	4	6	0	0	2	7	0	78	913
5:45 PM	8	14	7	0	0	11	4	0	21	3	5	0	2	2	9	0	86	943
5:50 PM	6	17	4	0	0	3	1	0	17	7	9	0	4	1	5	0	74	963
5:55 PM	5	12	1	0	0	3	6	0	30	1	8	0	0	2	8	0	76	985

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	28	352	28	0	8	84	80	0	476	12	56	0	0	4	28	0	1156
Heavy Trucks	4	8	0		0	8	0		20	0	0		0	0	0		40
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

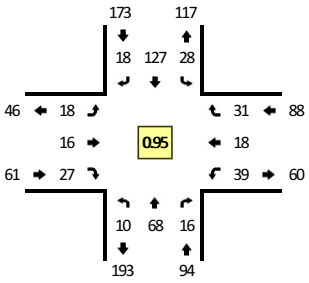
Comments:

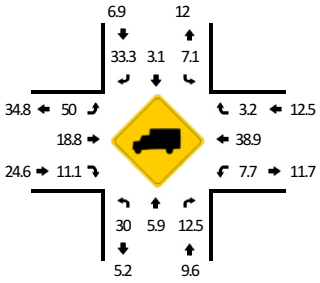
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

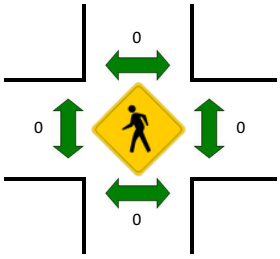
LOCATION: NE 50th Avenue -- NE 179th Street | **QC JOB #:** 16889603
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

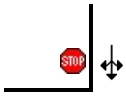
Peak-Hour: 7:35 AM -- 8:35 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

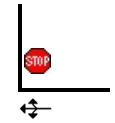


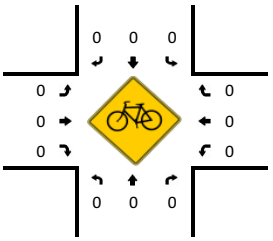


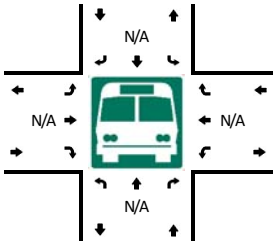
TRUE DATA TO IMPROVE MOBILITY

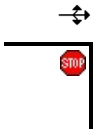


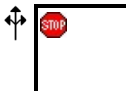


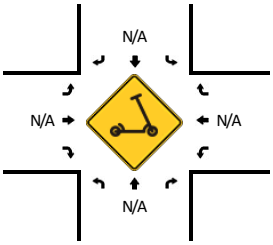












5-Min Count Period Beginning At	NE 50th Avenue (Northbound)				NE 50th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	4	0	2	5	1	0	0	0	0	0	2	3	2	0	19	
7:05 AM	0	1	1	0	1	8	4	0	3	1	4	0	2	2	0	0	27	
7:10 AM	0	3	1	0	1	6	2	0	0	2	2	0	4	1	1	0	23	
7:15 AM	1	4	2	0	0	6	2	0	0	1	0	0	3	1	1	0	21	
7:20 AM	2	3	1	0	2	9	2	0	0	1	0	0	6	0	0	0	26	
7:25 AM	0	6	0	0	3	8	0	0	1	2	0	0	4	0	0	0	24	
7:30 AM	0	3	2	0	1	9	0	0	0	0	2	0	5	1	2	0	25	
7:35 AM	0	4	1	0	2	16	3	0	1	1	2	0	3	2	2	0	37	
7:40 AM	1	5	1	0	3	13	0	0	0	1	2	0	3	1	1	0	31	
7:45 AM	0	6	1	0	3	10	3	0	1	2	1	0	6	3	4	0	40	
7:50 AM	2	5	0	0	3	14	1	0	1	1	1	0	2	2	5	0	37	
7:55 AM	3	7	2	0	3	7	1	0	1	0	0	0	7	1	1	0	33	343
8:00 AM	1	0	2	0	3	13	3	0	1	3	4	0	2	3	3	0	38	362
8:05 AM	0	6	0	0	4	6	0	0	4	2	1	0	1	3	1	0	28	363
8:10 AM	0	3	2	0	2	6	2	0	3	1	3	0	9	1	6	0	38	378
8:15 AM	0	8	1	0	2	13	1	0	3	2	2	0	0	2	2	0	36	393
8:20 AM	0	8	2	0	2	13	2	0	1	0	3	0	3	0	2	0	36	403
8:25 AM	3	9	3	0	1	8	1	0	2	1	2	0	3	0	0	0	33	412
8:30 AM	0	7	1	0	0	8	1	0	0	2	6	0	0	0	4	0	29	416
8:35 AM	1	4	3	0	1	8	1	0	2	1	2	0	3	1	3	0	30	409
8:40 AM	0	3	3	0	1	10	0	0	3	1	0	0	5	0	4	0	30	408
8:45 AM	0	5	4	0	3	14	1	0	2	1	1	0	3	1	2	0	37	405
8:50 AM	3	5	1	0	2	13	1	0	2	0	2	0	5	1	2	0	37	405
8:55 AM	3	0	2	0	5	13	1	0	0	1	0	0	6	2	3	0	36	408

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	20	72	12	0	36	124	20	0	12	12	8	0	60	24	40	0	440
Heavy Trucks	12	0	0		4	0	4		4	4	0		4	16	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

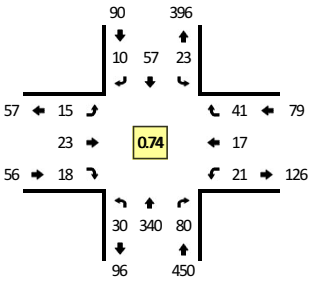
Comments:

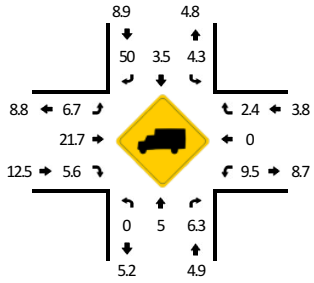
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

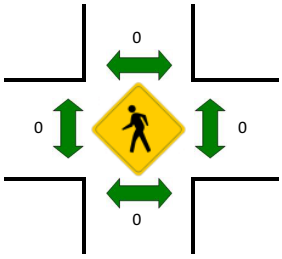
LOCATION: NE 50th Avenue -- NE 179th Street | **QC JOB #:** 16889604
CITY/STATE: Clark, WA | **DATE:** Wed, Jan 22 2025

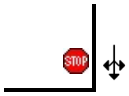
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:35 PM -- 5:50 PM

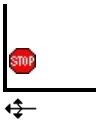


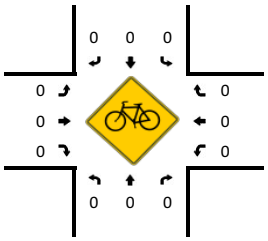


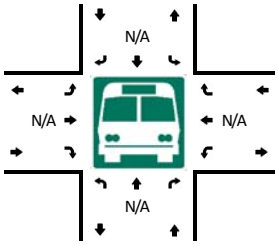
TRUE DATA TO IMPROVE MOBILITY

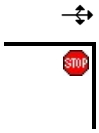


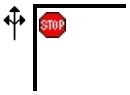


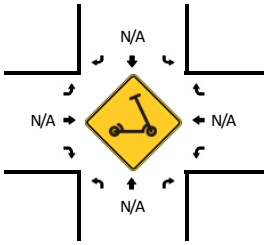












5-Min Count Period Beginning At	NE 50th Avenue (Northbound)				NE 50th Avenue (Southbound)				NE 179th Street (Eastbound)				NE 179th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	7	5	0	5	7	2	0	2	0	3	0	2	2	5	0	44	
4:05 PM	3	14	3	0	3	4	3	0	3	3	1	0	2	0	4	0	43	
4:10 PM	4	6	2	0	2	4	6	0	3	2	0	0	5	2	3	0	39	
4:15 PM	1	10	5	0	4	2	1	0	2	4	4	0	1	0	5	0	39	
4:20 PM	6	12	9	0	2	8	6	0	5	1	3	0	1	2	3	0	58	
4:25 PM	4	14	3	0	3	3	2	0	1	2	2	0	2	0	5	0	41	
4:30 PM	3	11	3	0	3	5	4	0	3	1	3	0	2	0	3	0	41	
4:35 PM	2	13	5	0	2	7	1	0	2	0	2	0	3	1	2	0	40	
4:40 PM	1	13	7	0	1	5	2	0	4	1	2	0	2	3	0	0	41	
4:45 PM	5	13	5	0	3	5	3	0	3	1	4	0	2	4	3	0	51	
4:50 PM	0	16	6	0	1	5	1	0	2	1	1	0	4	0	4	0	41	
4:55 PM	2	15	2	0	1	4	1	0	2	1	5	0	4	0	1	0	38	516
5:00 PM	6	11	3	0	1	2	2	0	2	1	2	0	3	3	4	0	40	512
5:05 PM	3	21	6	0	5	5	0	0	1	3	3	0	2	0	1	0	50	519
5:10 PM	3	20	4	0	2	6	1	0	2	0	1	0	2	0	4	0	45	525
5:15 PM	1	18	8	0	1	10	0	0	1	1	2	0	3	1	4	0	50	536
5:20 PM	1	25	4	0	3	5	0	0	2	1	2	0	0	1	5	0	49	527
5:25 PM	3	32	5	0	1	5	1	0	1	1	1	0	2	2	4	0	58	544
5:30 PM	3	34	6	0	1	7	0	0	0	3	1	0	3	1	3	0	62	565
5:35 PM	4	42	6	0	2	2	1	0	0	2	2	0	1	0	5	0	67	592
5:40 PM	2	47	10	0	2	3	1	0	1	2	2	0	2	4	0	0	76	627
5:45 PM	1	38	16	0	3	4	3	0	2	5	0	0	1	3	8	0	84	660
5:50 PM	2	32	7	0	2	4	0	0	2	1	1	0	2	0	1	0	54	673
5:55 PM	1	20	5	0	0	4	1	0	1	3	1	0	0	2	2	0	40	675

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	28	508	128	0	28	36	20	0	12	36	16	0	16	28	52	0	908
Heavy Trucks	0	12	8		0	4	20		0	8	0		4	0	4		60
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

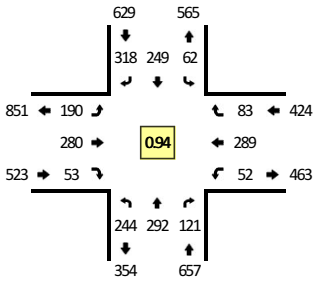
Comments:

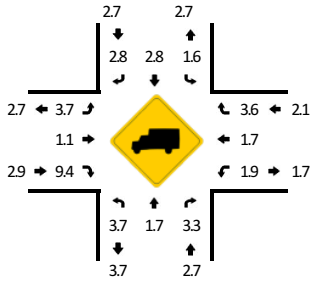
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

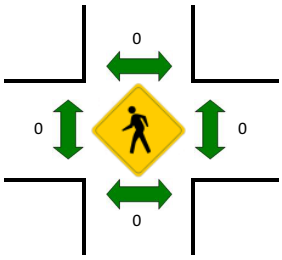
LOCATION: NE 20th Avenue -- NE 139th Street | **QC JOB #:** 16889601
CITY/STATE: Mount Vista, WA | **DATE:** Wed, Jan 22 2025

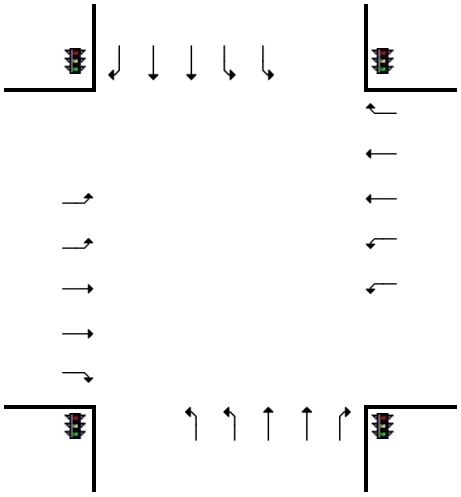
Peak-Hour: 7:30 AM -- 8:30 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

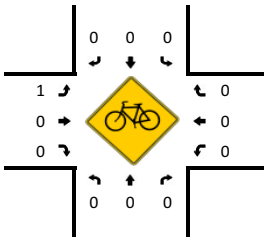


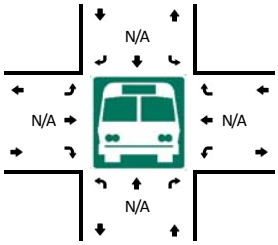


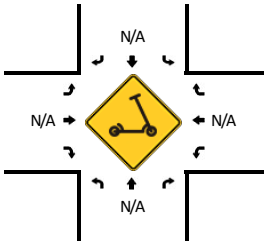
TRUE DATA TO IMPROVE MOBILITY











5-Min Count Period Beginning At	NE 20th Avenue (Northbound)				NE 20th Avenue (Southbound)				NE 139th Street (Eastbound)				NE 139th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	10	10	5	0	2	20	15	0	9	16	4	0	1	10	4	0	106	
7:05 AM	8	10	4	0	4	13	14	0	10	14	5	0	1	4	11	0	98	
7:10 AM	13	10	3	0	5	10	22	0	8	15	5	0	1	16	14	0	122	
7:15 AM	16	26	4	0	4	21	17	0	6	17	10	0	0	11	3	0	135	
7:20 AM	20	17	8	0	5	14	21	0	10	20	7	0	4	21	8	0	155	
7:25 AM	15	18	8	0	2	10	31	0	13	13	1	0	1	17	8	0	137	
7:30 AM	18	29	14	0	5	28	32	0	12	18	9	0	7	22	6	0	200	
7:35 AM	17	22	6	0	7	14	29	0	19	20	7	0	3	15	4	0	163	
7:40 AM	14	21	8	0	7	17	23	0	18	24	4	0	3	31	5	0	175	
7:45 AM	10	27	13	0	7	30	25	0	16	28	5	0	5	29	12	0	207	
7:50 AM	31	27	17	0	3	32	30	0	12	27	1	0	6	20	4	0	210	
7:55 AM	19	26	12	0	3	21	20	0	10	29	1	0	4	26	7	0	178	1886
8:00 AM	22	21	9	0	7	15	18	0	19	30	5	0	7	28	7	0	188	1968
8:05 AM	24	30	10	0	3	18	36	0	16	24	2	0	3	26	8	0	200	2070
8:10 AM	21	29	7	0	4	23	22	0	15	17	4	0	2	12	4	0	160	2108
8:15 AM	18	18	7	0	7	17	30	0	17	26	3	0	3	27	9	0	182	2155
8:20 AM	21	18	7	0	4	15	31	0	19	19	7	0	4	21	5	0	171	2171
8:25 AM	29	24	11	0	5	19	22	0	17	18	5	0	5	32	12	0	199	2233
8:30 AM	13	19	9	0	5	20	23	0	12	14	9	0	5	12	8	0	149	2182
8:35 AM	15	16	5	0	5	16	24	0	10	21	2	0	5	18	9	0	146	2165
8:40 AM	15	32	8	0	4	33	21	0	12	16	12	0	7	27	1	0	188	2178
8:45 AM	20	34	14	0	4	22	23	0	9	16	5	0	5	15	8	0	175	2146
8:50 AM	25	20	14	0	7	17	38	0	14	25	3	0	6	27	15	0	211	2147
8:55 AM	13	19	19	0	8	23	26	0	16	22	4	0	9	21	6	0	186	2155

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	240	320	168	0	52	332	300	0	152	336	28	0	60	300	92	0	2380
Heavy Trucks	8	12	8		0	4	12		0	4	0		0	8	0		56
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

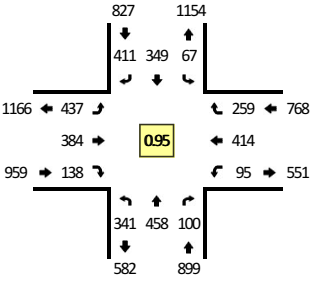
Comments:

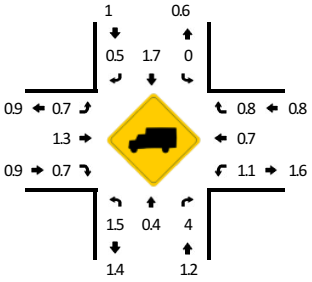
Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

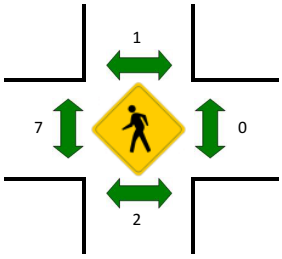
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

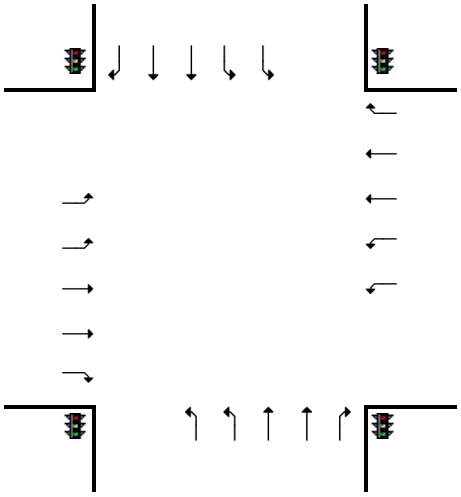
LOCATION: NE 20th Avenue -- NE 139th Street | **QC JOB #:** 16889602
CITY/STATE: Mount Vista, WA | **DATE:** Wed, Jan 22 2025

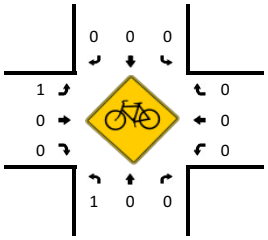
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:25 PM -- 5:40 PM

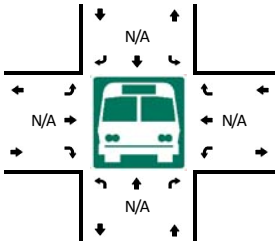


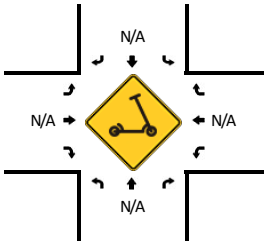










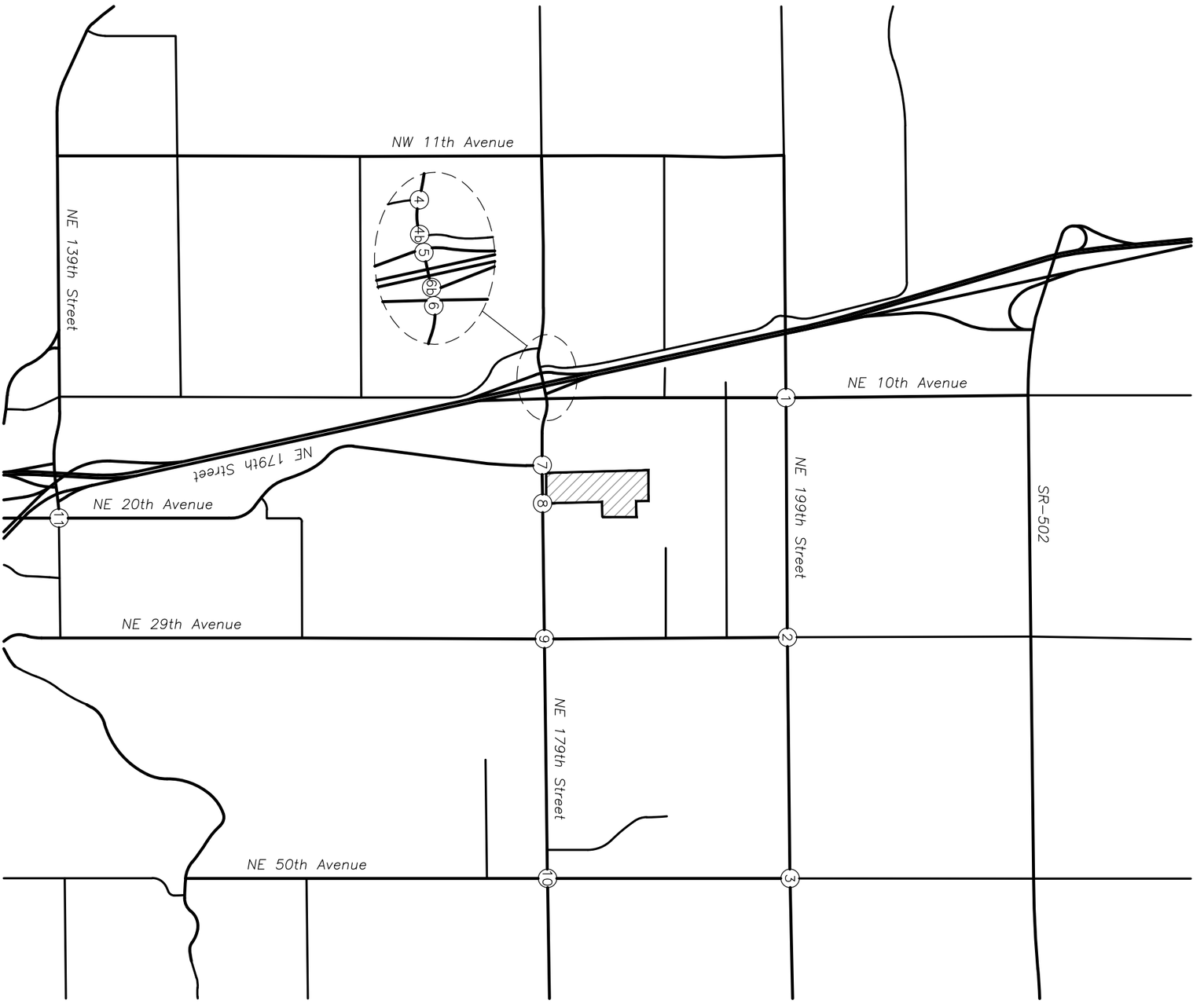


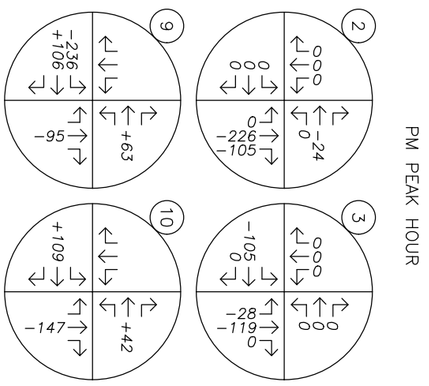
5-Min Count Period Beginning At	NE 20th Avenue (Northbound)				NE 20th Avenue (Southbound)				NE 139th Street (Eastbound)				NE 139th Street (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	40	44	9	0	5	27	19	0	23	15	11	0	13	37	12	0	255	
4:05 PM	41	30	9	0	4	34	33	0	27	26	19	0	9	35	17	0	284	
4:10 PM	51	28	4	0	5	26	32	0	32	24	5	0	9	47	7	0	270	
4:15 PM	33	24	7	0	7	32	22	0	25	26	12	0	10	55	14	0	267	
4:20 PM	29	39	9	0	5	22	27	0	23	23	11	0	4	57	20	0	269	
4:25 PM	38	32	8	0	6	40	33	0	38	21	3	0	7	25	17	0	268	
4:30 PM	26	14	5	0	5	21	40	0	23	14	11	0	13	45	11	0	228	
4:35 PM	30	27	7	0	6	35	41	0	29	32	9	0	11	53	16	0	296	
4:40 PM	29	29	4	0	8	17	35	0	31	17	6	0	12	39	26	0	253	
4:45 PM	22	24	3	0	6	26	30	0	44	22	12	0	6	39	19	0	253	
4:50 PM	31	32	3	0	6	23	38	0	37	24	16	0	8	51	19	0	288	
4:55 PM	32	49	9	0	5	33	28	0	19	28	9	0	8	39	27	0	286	3217
5:00 PM	27	40	10	0	7	34	34	0	31	25	8	0	2	26	16	0	260	3222
5:05 PM	38	31	17	0	6	22	35	0	29	28	6	0	10	47	21	0	290	3228
5:10 PM	29	25	5	0	5	46	36	0	38	34	18	0	9	47	19	0	311	3269
5:15 PM	31	40	11	0	4	28	33	0	27	33	7	0	12	33	22	0	281	3283
5:20 PM	20	43	7	0	7	42	34	0	40	43	15	0	3	13	12	0	279	3293
5:25 PM	22	35	7	0	8	18	32	0	42	51	11	0	14	41	34	0	315	3340
5:30 PM	18	39	11	0	5	21	42	0	49	43	12	0	7	22	17	0	286	3398
5:35 PM	34	50	9	0	3	30	37	0	37	27	17	0	10	24	30	0	308	3410
5:40 PM	37	50	8	0	5	26	32	0	44	26	7	0	6	32	23	0	296	3453
5:45 PM	22	17	10	0	10	21	30	0	39	36	8	0	11	27	16	0	247	3447
5:50 PM	22	37	9	0	6	26	22	0	43	25	11	0	11	34	13	0	259	3418
5:55 PM	18	57	8	0	3	28	16	0	37	27	5	0	7	30	14	0	250	3382

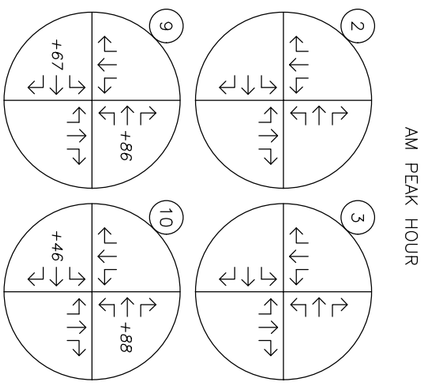
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	296	496	108	0	64	276	444	0	512	484	160	0	124	348	324	0	3636
Heavy Trucks	0	0	0		0	8	0		0	8	0		4	12	0		32
Buses																	
Pedestrians		4				0				4				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 1/29/2025 2:01 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212







No Scale

TRAFFIC VOLUMES

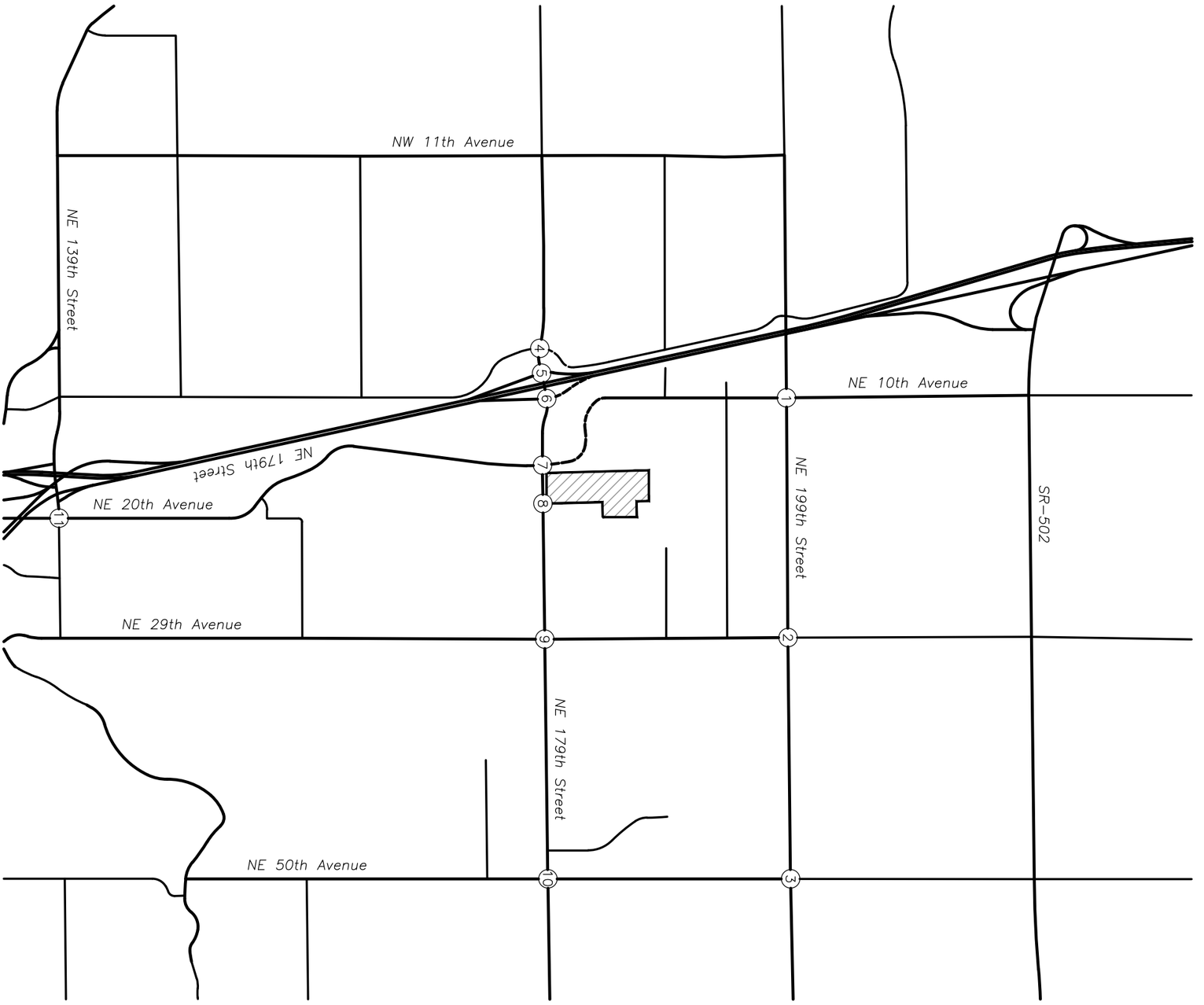
Rerouted/Adjusted Volumes - NE 179th Street Closure

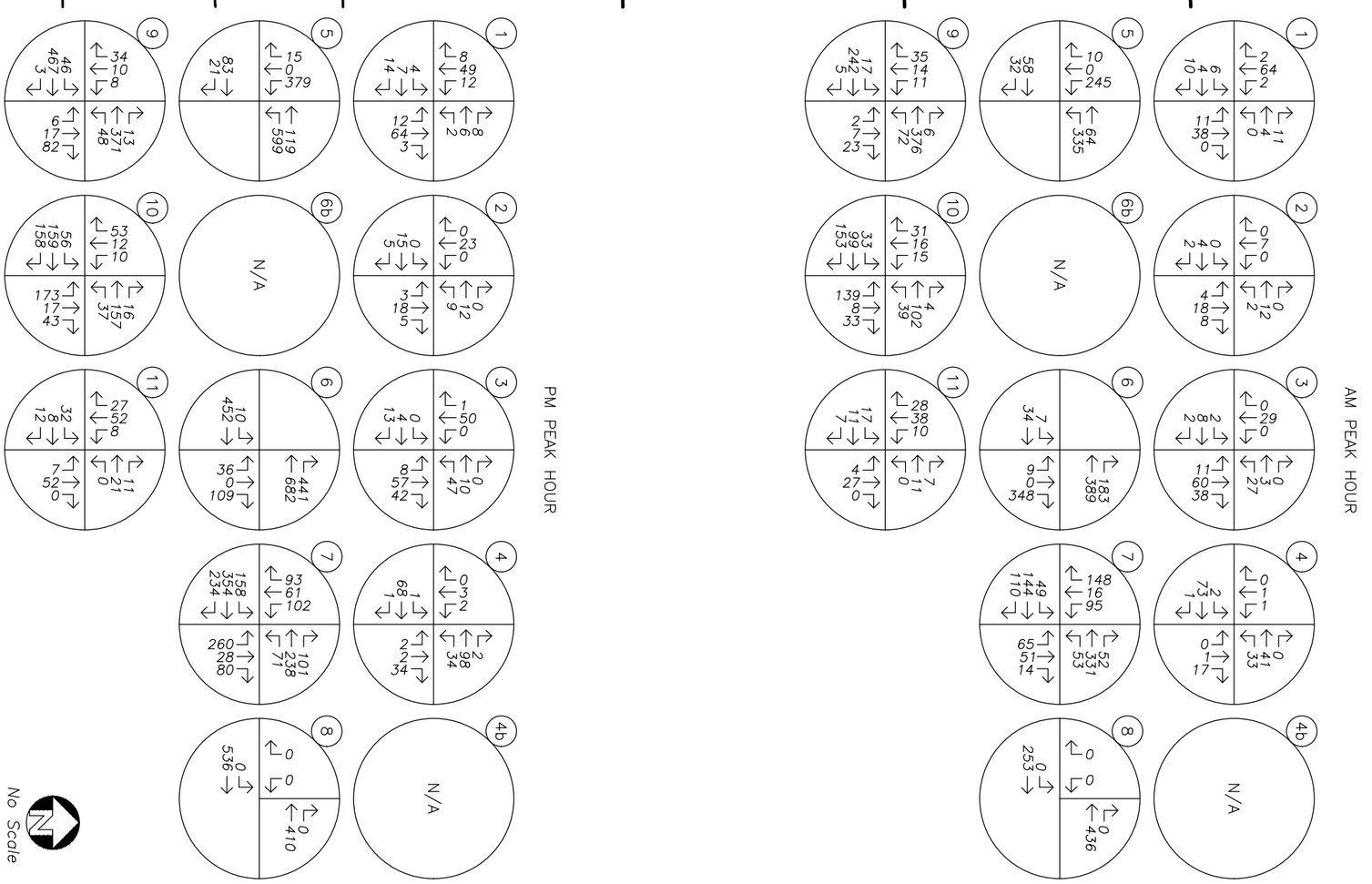
AM & PM Peak Hours

Figure A

Three Creeks East PUD

6/19/2025





TRAFFIC VOLUMES

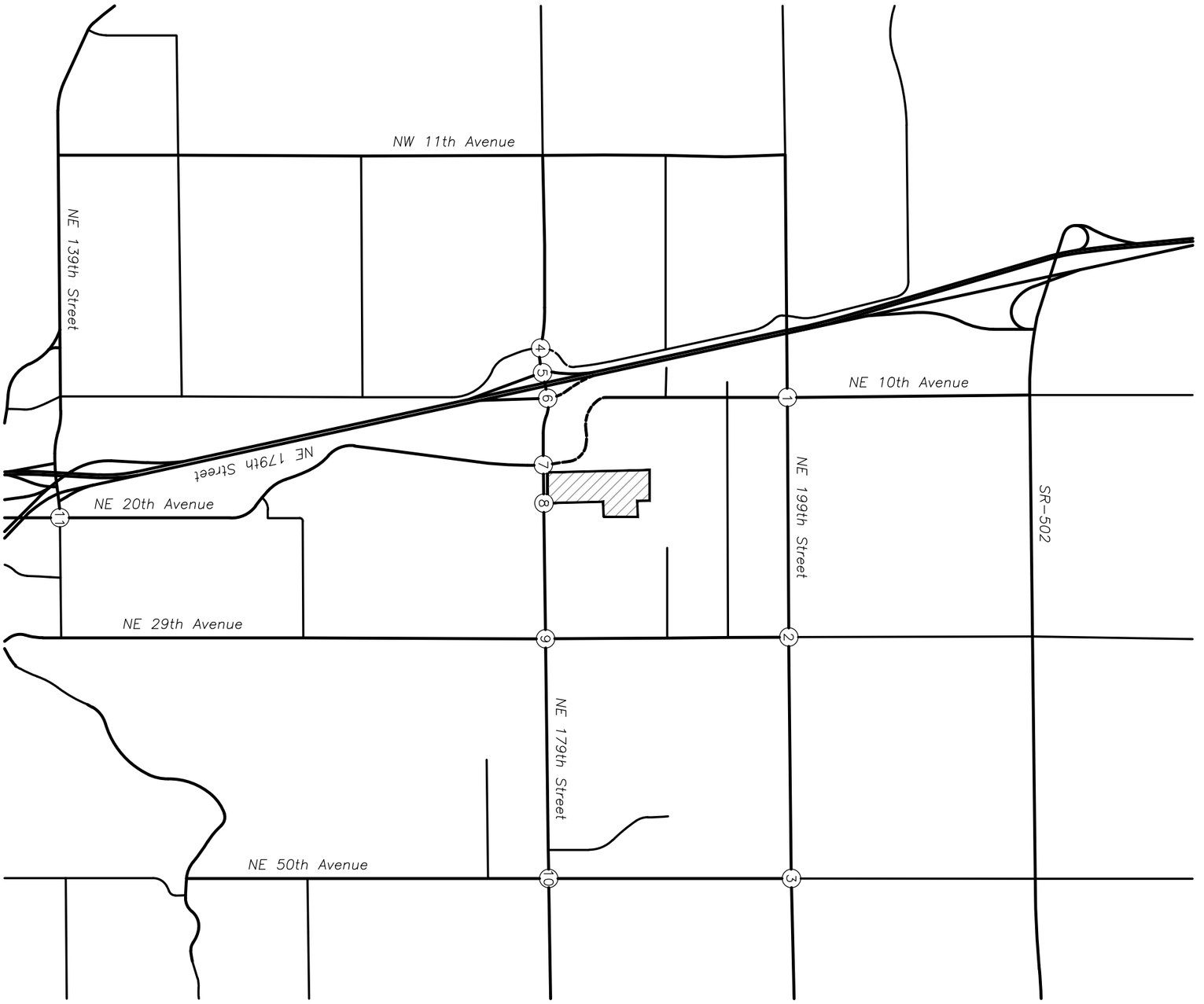
In-Process Development Trips

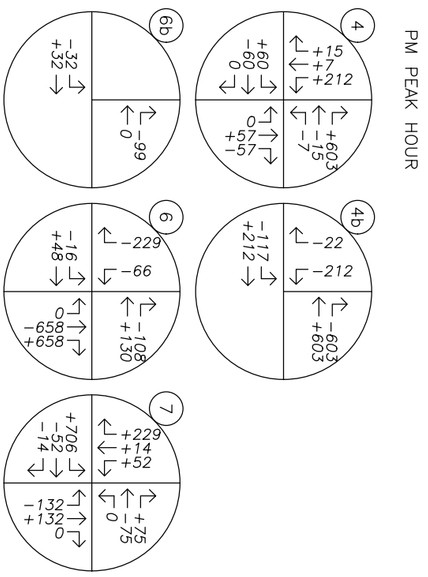
AM & PM Peak Hours

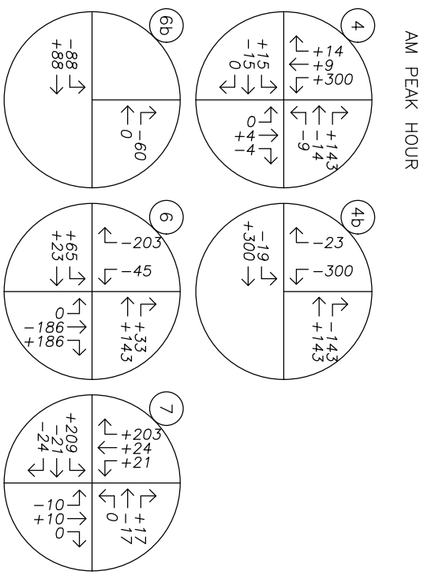
Figure B

Three Creeks East PUD

6/19/2025







TRAFFIC VOLUMES

Rerouted Volumes - I-5 NB Ramp, 10th Ave, & Delfel Rd (No In-Process Added)

AM & PM Peak Hours

Figure C

Three Creeks East PUD

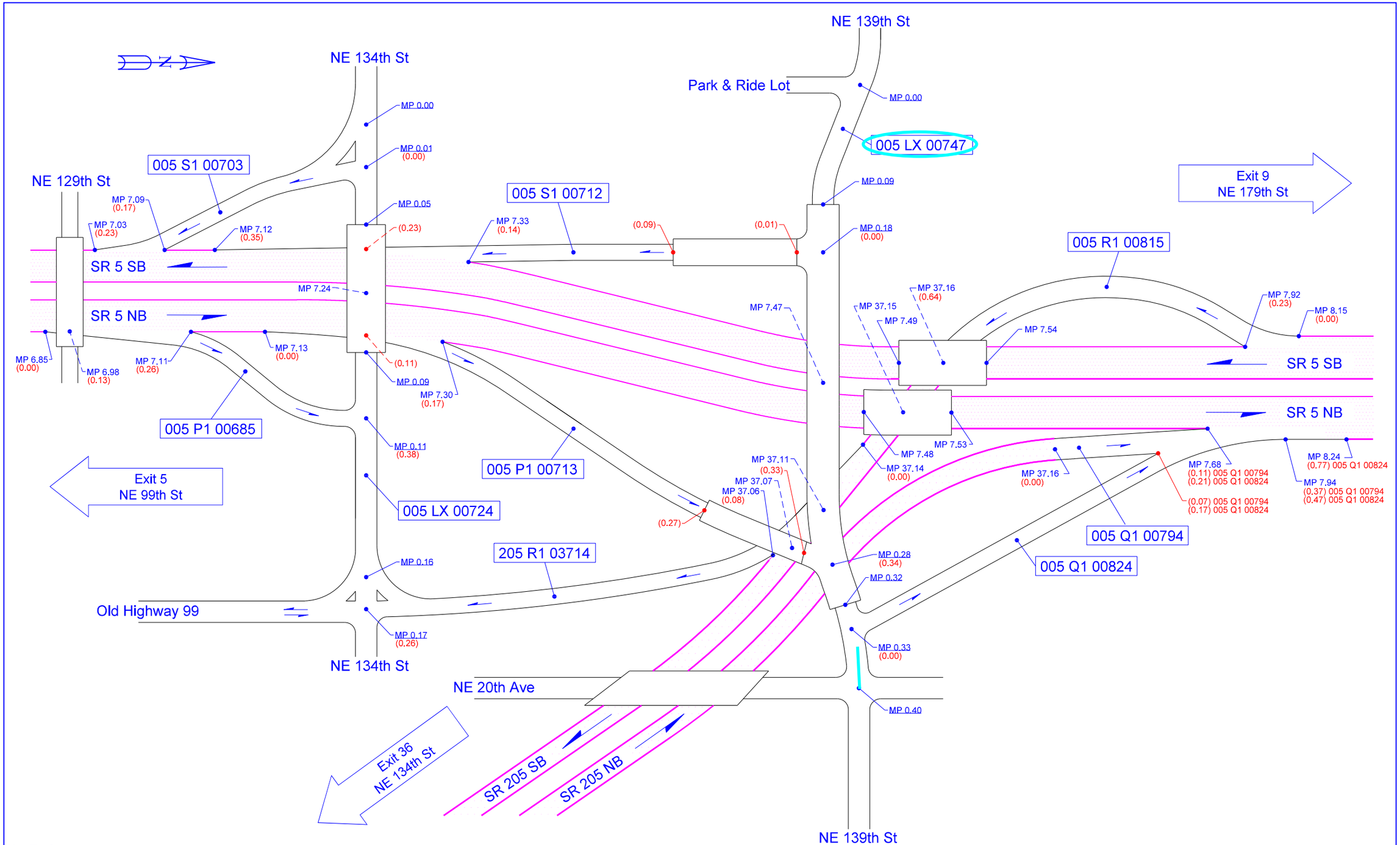
6/19/2025

Appendix E – Safety Analysis

Crash History Data

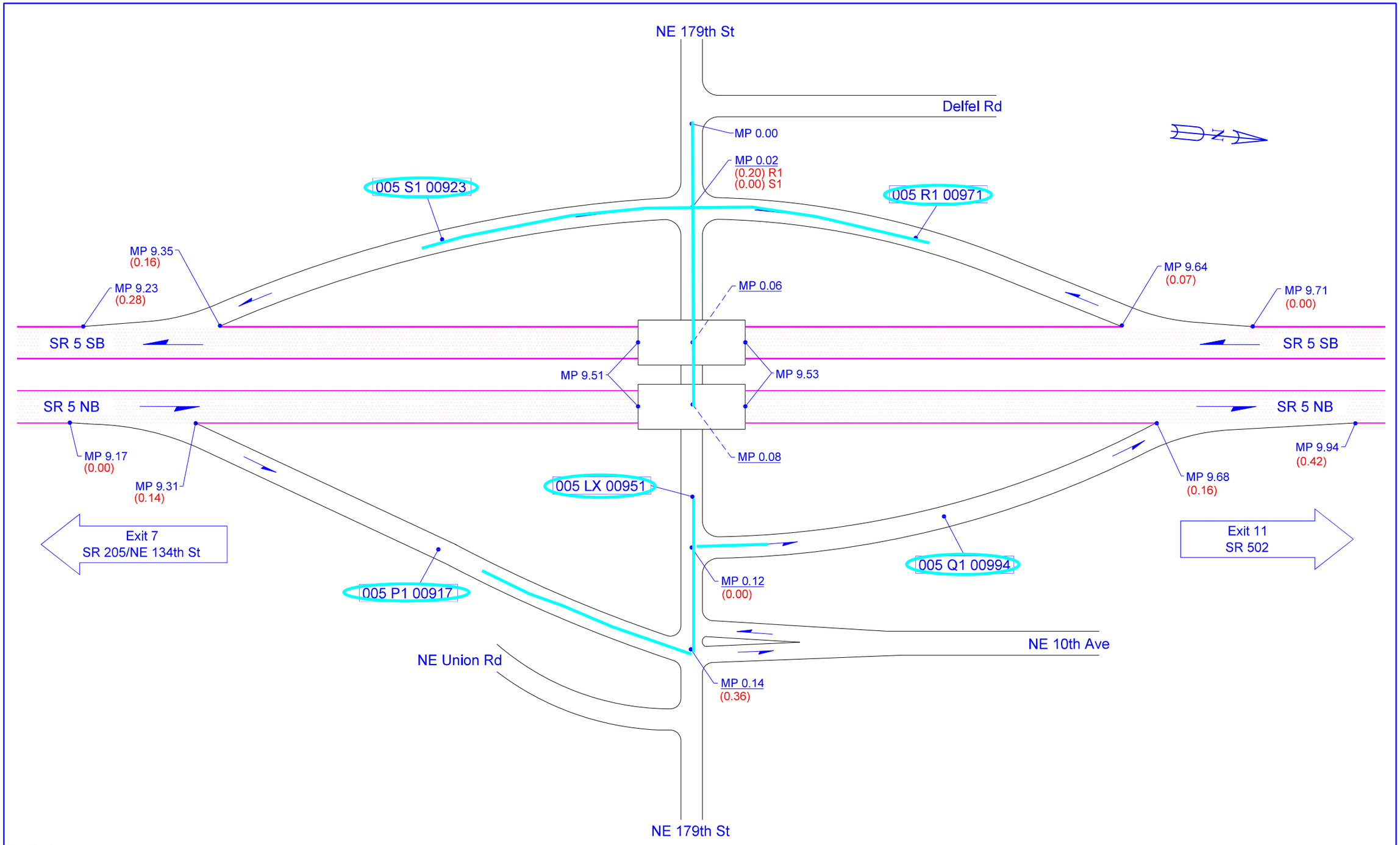
Left-Turn Lane Warrant Analysis

Preliminary Signal Warrant Analysis



Not To Scale

08/10/2016	KLK	WSDOT SOUTHWEST REGION	CLARK COUNTY	JUNCTION SR 205/NE 134TH ST/139TH ST	SR 5 - EXIT 7



Not To Scale

02/16/2017	KLK	WSDOT SOUTHWEST REGION	CLARK COUNTY	JUNCTION NE 179TH ST	SR 5 - EXIT 9

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

199th St (Co Rd # 43680, mp 2.980 - 3.020) @ 10th Ave (Co Rd # 41761, mp 0.970 - 1.010)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		41761		43680	3.000					0.990		No	ED94311	08/30/2023	00:12	No Apparent Injury	0	0	1	0	0	Passenger Car		At Intersection and Related	Clear	Wet	Dark-Street Lights Off
County Road	Clark		41761		43680	3.000					0.990		No	EA63223	09/04/2020	17:13	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		41761		43680	3.000					0.990		No	ED20085	12/21/2022	22:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear	Dry	Dark-No Street Lights
County Road	Clark		43680		41761	0.990					3.000		No	EC09596	01/07/2022	07:32	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet	Dawn
County Road	Clark		43680		41761	0.990					3.000		No	ED88116	07/23/2023	20:30	No Apparent Injury	0	0	1	0	0	Pickup,Panel Truck or Vanette under 10,000 lb		At Intersection and Related	Clear	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

199th St (Co Rd # 43680, mp 2.980 - 3.020) @ 10th Ave (Co Rd # 41761, mp 0.970 - 1.010)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Signal Pole	Making Left Turn		East	South			Exceeding Reas. Safe Speed									Past the Outside Shoulder of Primary Trafficway	1088796.35	165036.74
From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	South	North	South	North	Operating Defective Equipment			None						Lane of Primary Trafficway	1088791.82	164728.78
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1088796.35	165036.74
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1088796.35	165036.74
Utility Box	Making Right Turn		South	East			Under Influence of Alcohol									Past the Outside Shoulder of Primary Trafficway	1088796.35	165036.74

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

199th St (Co Rd # 43680, mp 1.980 - 2.020) @ 29th Ave (Co Rd # 43330, mp 3.240 - 3.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		43680		43330	3.260					2.000		No	ED88732	07/28/2023	14:05	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

199th St (Co Rd # 43680, mp 1.980 - 2.020) @ 29th Ave (Co Rd # 43330, mp 3.240 - 3.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Making Right Turn	East	West	North	West	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1094033.49	164923.41

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

199th St (Co Rd # 43680, mp 0.980 - 1.020) @ 50th Ave (Co Rd # 44390, mp 1.980 - 2.020)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		43680		44390	3.000					1.000		No	EC91427	10/08/2022	16:25	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

199th St (Co Rd # 43680, mp 0.980 - 1.020) @ 50th Ave (Co Rd # 44390, mp 1.980 - 2.020)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	South	North	Under Influence of Alcohol			None						Lane of Primary Trafficway	1099284.96	164830.76

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

Delfel Rd (Co Rd # 41471, mp 0.000 - 0.020 - South Leg) @ 179th St (Co Rd # 94300, mp 2.280 - 2.320)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

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County Road	Clark		41471		94300	2.300					0.000		No	EC53045	06/03/2022	22:43	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Raining	Wet	Dark-Street Lights On
County Road	Clark		94300		41471	0.000					2.300		No	EE75164	05/07/2024	14:39	Suspected Minor Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Intersection Related but Not at Intersection	Overcast	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

Delfel Rd (Co Rd # 41471, mp 0.000 - 0.020 - South Leg) @ 179th St (Co Rd # 94300, mp 2.280 - 2.320)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	West	East	West	East	Under Influence of Alcohol			None						Lane of Primary Trafficway	1087553.13	159699.2
From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead	East	West	East	West	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1088884.28	159835.45

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

Delfel Rd (Co Rd # 41860, mp 0.000 - 0.020 - North Leg) @ 179th St (Co Rd # 94300, mp 2.350 - 2.390)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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County Road	Clark		94300		41860	0.000					2.370		No	EC75587	08/16/2022	17:30	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94300		41860	0.000					2.370		No	EB11344	02/28/2021	15:58	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94300		41860	0.000					2.370		No	EB30674	04/26/2021	17:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Intersection Related but Not at Intersection	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

Delfel Rd (Co Rd # 41860, mp 0.000 - 0.020 - North Leg) @ 179th St (Co Rd # 94300, mp 2.350 - 2.390)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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Entering at angle	Making Right Turn	Going Straight Ahead	East	North	North	South	Under Influence of Alcohol			None						Intersecting Trafficway	1088006.14	159687.14
Entering at angle	Making Left Turn	Going Straight Ahead	North	East	East	West	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1088006.14	159687.14
From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic	West	East	Vehicle Stopped	Vehicle Stopped	Follow Too Closely			None						Lane of Primary Trafficway	1087841.97	159671.61

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) @ SR 005 SB on-off ramps

SR 005R100971 (SR 005 SB off-ramp, mp 0.13 - 0.20) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) - *No Reported Crashes*

SR 005S100923 (SR 005 SB on-ramp, mp 0.00 - 0.08) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
State Route	Clark		005LX00951								0.00		No	E953035	08/22/2019	06:45	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Wet	Daylight
State Route	Clark		005LX00951								0.00		No	ED91868	07/24/2023	12:52	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.02		No	E886512	01/16/2019	16:51	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Overcast	Dry	Dusk

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) @ SR 005 SB on-off ramps

SR 005R100971 (SR 005 SB off-ramp, mp 0.13 - 0.20) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08) - *No Reported Crashes*

SR 005S100923 (SR 005 SB on-ramp, mp 0.00 - 0.08) @ SR 005LX00951 (aka 179th St, mp 0.00 - 0.08)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Making Left Turn	Going Straight Ahead	North	East	East	West	Did Not Grant RW to Vehicle			None						Lane 1 LX Decreasing Milepost	1088034.55	159688.04
Entering at angle	Making Left Turn	Going Straight Ahead	North	East	West	East	Did Not Grant RW to Vehicle			None						Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088036.25	159686.66
Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn	East	South	East	South	Improper Turn/Merge			None						Intersecting Road Increasing Milepost	1088140.76	159709.76

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

SR 005P100917 (SR 005 NB off-ramp, mp 0.28 - 0.36) @ SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) - *No Reported Crashes*

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		41761		94360	0.000					0.000		No	EE82582	05/27/2024	12:19	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.12		No	ED04036	11/12/2022	21:45	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	Intersection Related but Not at Intersection	Overcast	Dry	Dark-Street Lights On
State Route	Clark		005LX00951								0.12		No	EC17012	02/02/2022	16:58	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Raining	Wet	Daylight
State Route	Clark		005LX00951								0.12		No	EE53383	02/18/2024	12:25	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	EC94425	10/16/2022	15:05	No Apparent Injury	0	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	ED15354	12/14/2022	14:06	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	ED31404	01/29/2023	15:53	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	EC21583	02/07/2022	14:48	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00951								0.14		No	EE74078	04/29/2024	11:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

SR 005P100917 (SR 005 NB off-ramp, mp 0.28 - 0.36) @ SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) - *No Reported Crashes*

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Under Influence of Alcohol	Did Not Grant R/W to Non Motorist	Disregard Traffic Sign and Signals	None						Lane of Primary Trafficway	1088702.83	159822.35
From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Going Straight Ahead	West	East	West	East	Under Influence of Alcohol	Other Contributing Circ Not Listed		None						Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088623.21	159792.89
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	North	East	West	Did Not Grant RW to Vehicle			None						Lane 1 LX Decreasing Milepost	1088598.62	159796.09
From same direction - all others	Backing	Stopped for Traffic	West	Vehicle Backing	West	Vehicle Stopped	Improper Backing			None						Left Turn Lane LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088596.51	159795.69
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Unknown Distraction	Disregard Traffic Sign and Signals		None						Lane 2 LX Decreasing Milepost	1088704.33	159814.79
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane 1 LX Decreasing Milepost	1088704.33	159814.79
From same direction - one right turn - one straight	Making Right Turn	Going Straight Ahead	South	East	South	East	Improper Turn/Merge			None						Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1088723.3	159814.68
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane 1 LX Decreasing Milepost	1088721.82	159822.1
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane 1 LX Decreasing Milepost	1088702.83	159822.34

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

SR 005P100917 (SR 005 NB off-ramp, mp 0.28 - 0.36) @ SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) - *No Reported Crashes*

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
State Route	Clark		005LX00951								0.14		No	EC06793	12/23/2021	22:09	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights On
State Route	Clark		005LX00951								0.14		No	EB89575	11/13/2021	13:55	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Overcast	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) @ SR 005 NB on-ramp

SR 005Q100994 (SR 005 NB on-ramp, mp 0.00 - 0.02) @ SR 005LX00951 (aka 179th St, mp 0.10 - 0.14) - *No Reported Crashes*

SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) @ SR 005 NB off-ramp / 10th Ave (Co Rd # 41761, mp 0.000 - 0.020)

SR 005P100917 (SR 005 NB off-ramp, mp 0.28 - 0.36) @ SR 005LX00951 (aka 179th St, mp 0.12 - 0.14 - West leg & Co Rd # 94360, mp 0.000 - 0.020 - East Leg) - *No Reported Crashes*

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	South	North	North	East	Under Influence of Alcohol	Disregard Traffic Sign and Signals		None						Lane 1 LX Decreasing Milepost	1088703.59	159812.87
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	West	North	East	West	Improper Turn/Merge			None						Lane 2 LX Decreasing Milepost	1088718.52	159822.31

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.260 - 0.300) @ 15th Ave (Co Rd # 43110, mp 2.490 - 2.510)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		94360		43110	2.510					0.280		No	E932992	06/18/2019	16:40	Possible Injury	2	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EC80219	08/15/2022	12:02	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,etc)	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EE68818	03/23/2024	18:02	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EC07748	01/02/2022	12:41	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Overcast	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	ED88656	06/02/2023	07:30	No Apparent Injury	0	0	2	0	0	Truck (Flatbad,Van,etc)	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	EA75716	10/22/2020	16:34	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43110	2.510					0.280		No	E989788	11/18/2019	12:18	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.260 - 0.300) @ 15th Ave (Co Rd # 43110, mp 2.490 - 2.510)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Inattention			None						Lane of Primary Trafficway	1090128.58	159722.05
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	South	West	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1090128.54	159720.94
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Other Distractions			None						Lane of Primary Trafficway	1090128.54	159720.94
Entering at angle	Making Right Turn	Going Straight Ahead	South	East	East	West	Exceeding Reas. Safe Speed			None						Lane of Primary Trafficway	1090128.54	159720.94
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	South	West	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1090128.54	159720.94
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1090128.54	159720.94
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	East	South	West	East	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1090128.58	159722.04

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		43330		94360	0.990					2.260		No	ED16740	12/18/2022	14:53	Suspected Minor Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Wet	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EC37890	03/25/2022	15:22	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	ED48528	03/28/2023	21:40	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
County Road	Clark		94360		43330	2.260					0.990		No	ED10607	11/28/2022	17:28	Possible Injury	1	0	3	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Fog or Smog or Smoke	Wet	Dark-No Street Lights
County Road	Clark		94360		43330	2.260					0.990		No	EB76046	09/10/2021	17:42	Possible Injury	2	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EA47114	07/07/2020	09:56	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EA78834	10/30/2020	13:00	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	EC53355	05/25/2022	19:43	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Entering Roundabout	Clear	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	E881608	01/10/2019	06:55	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
County Road	Clark		94360		43330	2.260					0.990		No	ED57928	05/02/2023	14:25	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	North	South	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Making Left Turn	Going Straight Ahead	East	South	South	Vehicle Stopped	Distracted by Adjusting Vehicle Cntrls			None						Intersecting Trafficway	1078172.95	159926.58
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	West	East	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	West	East	East	South	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Starting in Traffic Lane	Starting in Traffic Lane	East	West	North	South	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1093914.43	159639.32
From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	East	West	East	West	Unknown Distraction			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	Distracted by Other Occupant			None						Lane of Primary Trafficway	1131730.85	119503.08
Entering at angle	Making Right Turn	Starting in Traffic Lane	North	West	East	West	Disregard Stop Sign - Flashing Red	Inattention		None						Lane of Primary Trafficway	1093914.43	159639.33
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	North	South	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		94360		43330	2.260					0.990		No	ED31158	01/23/2023	16:32	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Dry	Dusk
County Road	Clark		94360		43330	2.260					0.990		No	EC19856	02/07/2022	13:33	Possible Injury	1	0	2	0	0	Truck (Flatbad,Van,etc)	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		43330	2.260					0.990		No	E994831	12/12/2019	20:00	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights Off
County Road	Clark		94360		43330	2.260					0.990		No	E928848	06/01/2019	22:42	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Dark-Street Lights On
County Road	Clark		94360		43330	2.260					0.990		No	EE25446	10/31/2023	07:26	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear	Dry	Dark - Unknown Lightin

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 0.970 - 1.010) @ 29th Ave (Co Rd # 43330, mp 2.240 - 2.280)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	West	East	South	North	Unknown Distraction			Unknown Distraction						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	South	North	West	East	Disregard Stop Sign - Flashing Red			None						Lane of Primary Trafficway	1093914.43	159639.32
Entering at angle	Going Straight Ahead	Making Left Turn	East	West	South	West	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1093914.43	159639.33
Entering at angle	Going Straight Ahead	Going Straight Ahead	South	North	West	East	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1093914.19	159640.78

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 1.960 - 2.000) @ 50th Ave (Co Rd # 44390, mp 3.970 - 4.010)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		44390		94360	1.980					3.990		No	ED57814	05/03/2023	12:39	No Apparent Injury	0	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		44390		94360	1.980					3.990		No	E979776	10/30/2019	15:10	Suspected Minor Injury	1	0	1	0	0	Motorcycle		At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		44390	3.990					1.980		No	EA68510	09/24/2020	18:05	Unknown	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
County Road	Clark		94360		44390	3.990					1.980		No	EA10126	01/07/2020	21:20	No Apparent Injury	0	0	2	0	0	Passenger Car	Not Stated	At Intersection and Related	Raining	Wet	Dark-No Street Lights
County Road	Clark		94360		44390	3.990					1.980		No	EA07424	01/23/2020	06:51	No Apparent Injury	0	0	3	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
County Road	Clark		94360		44390	3.990					1.980		No	EE30428	12/05/2023	06:15	No Apparent Injury	0	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

COUNTY ROAD INTERSECTIONS

179th St (Co Rd # 94360, mp 1.960 - 2.000) @ 50th Ave (Co Rd # 44390, mp 3.970 - 4.010)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	North	South	North	South	Operating Handheld Cell Phone	Follow Too Closely		None						Lane of Primary Trafficway	1099144.5	159629.66
Fence	Making Right Turn		West	South			Other Contributing Circ Not Listed									Intersecting Trafficway	1099142.27	159530.78
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1099143.9	159575.37
Entering at angle	Going Straight Ahead	Making Right Turn	East	West	South	West	Unknown Distraction			Other Contributing Circ Not Listed						Lane of Primary Trafficway	1099143.9	159575.37
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Unknown Distraction			None						Lane of Primary Trafficway	1099143.9	159575.37
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals			None						Lane of Primary Trafficway	1099143.63	159574.99

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00747 (aka 139th St, mp 0.34 - 0.40 - West Leg & Co Rd # 43180, mp 0.470 - 0.490) @ 20th Ave (Co Rd # 43110, mp, 0.380 - 0.420)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
County Road	Clark		43110								0.360		No	EE21304	11/09/2023	12:36	Possible Injury	1	0	2	0	0	Passenger Car	Passenger Car	Intersection Related but Not at Intersection	Clear	Dry	Daylight
State Route	Clark		005LX00747								0.34		No	EB10335	02/06/2021	20:20	No Apparent Injury	0	0	1	0	0	Passenger Car		At Intersection and Related	Raining	Wet	Dark-Street Lights Off
State Route	Clark		005LX00747								0.40		No	EE07544	09/23/2023	03:20	Suspected Serious Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear	Dry	Dark-Street Lights On
State Route	Clark		005LX00747								0.40		No	ED10605	12/01/2022	15:05	Possible Injury	1	0	2	0	0	Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
State Route	Clark		005LX00747								0.40		No	EB42922	06/23/2021	22:31	Possible Injury	1	0	2	0	0	Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Dark-Street Lights On
State Route	Clark		005LX00747								0.40		No	E930691	06/15/2019	22:30	Suspected Minor Injury	1	0	2	0	0	Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Dark-Street Lights On

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS IN CLARK COUNTY

STATE ROUTE INTERSECTIONS

SR 005LX00747 (aka 139th St, mp 0.34 - 0.40 - West Leg & Co Rd # 43180, mp 0.470 - 0.490) @ 20th Ave (Co Rd # 43110, mp, 0.380 - 0.420)

01/01/2019 - 06/30/2024 *See 2nd tab below for road info & interchange drawings*

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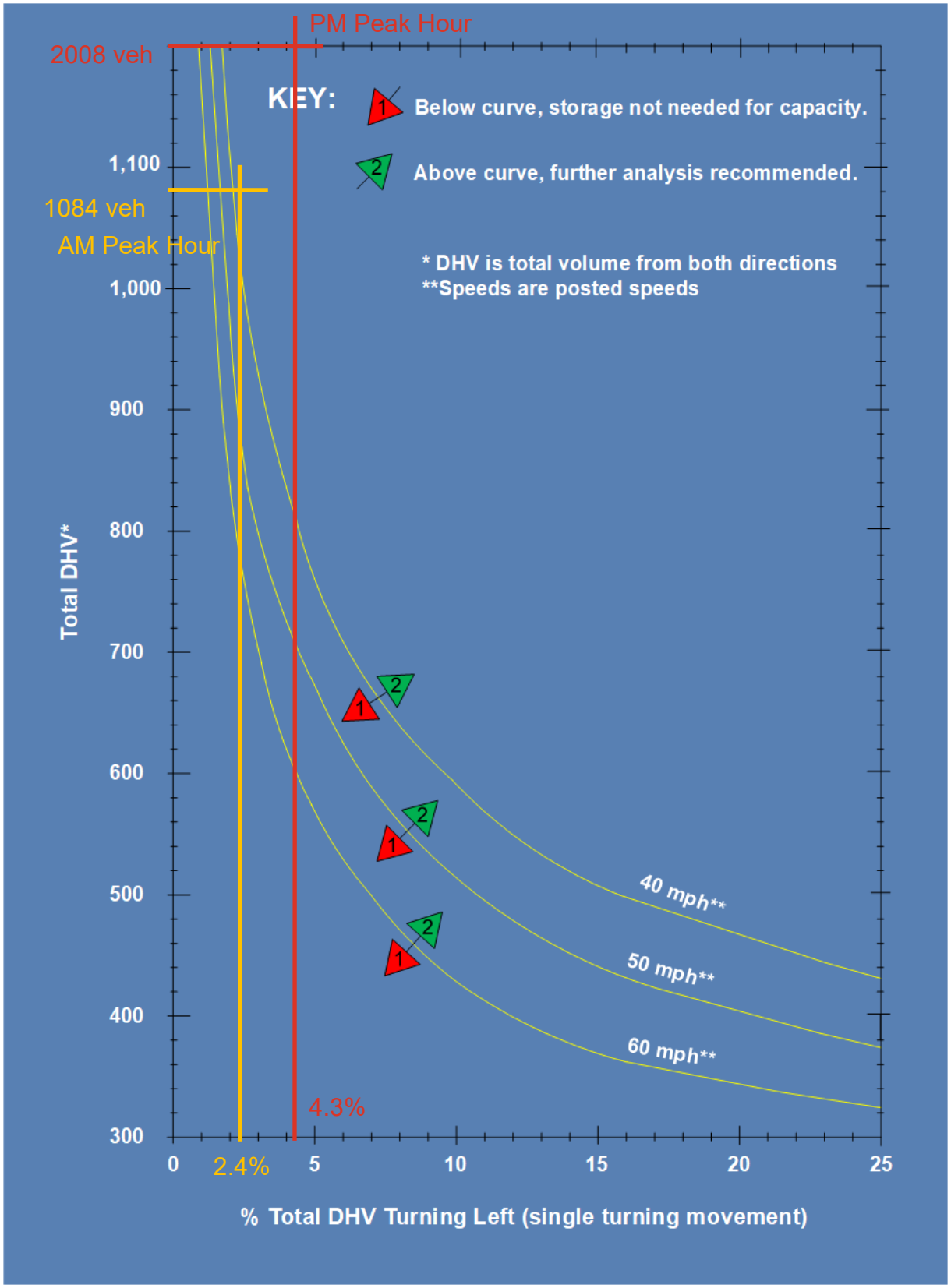
FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead	South	North	South	North	Did Not Grant RW to Vehicle			None						Lane of Primary Trafficway	1091000.32	148945.74
Guardrail - Face	Making Left Turn		West	North			Improper Turn/Merge									Right Shoulder LX Decreasing Milepost	1090668.72	149206
From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	South	Northwest	South	Northwest	Under Influence of Alcohol			None						Intersecting Road Increasing Milepost	1090964.94	149189.38
Entering at angle	Making Left Turn	Making Left Turn	West	North	South	West	Improper Turn/Merge	Other Contributing Circ Not Listed	Did Not Grant RW to Vehicle	None						Lane 1 LX Decreasing Milepost	1090964.94	149189.38
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	West	North	East	West	Distracted by Other Occupant			None						Lane 1 LX Decreasing Milepost	1090985.54	149174.1
From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead	South	West	North	South	Disregard Stop and Go Light			None						Lane 1 LX Decreasing Milepost	1090986.56	149175.47

Exhibit 1310-9 Left-Turn Storage Guidelines: Two-Lane, Unsignalized



Traffic Signal Warrant Analysis

Project: Three Creeks East PUD
Date: 4/14/2025
Scenario: 2028 Buildout Conditions

Major Street:	NE 199th Street	Minor Street:	NE 29th Avenue
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	680	PM Peak Hour Volumes:	218

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)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

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

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	6,800	8,850	
Minor Street*	2,180	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	6,800	13,300	
Minor Street*	2,180	1,350	**No**
Combination Warrant			
Major Street	6,800	10,640	
Minor Street*	2,180	2,120	**No**

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

Traffic Signal Warrant Analysis

Project: Three Creeks East PUD
Date: 4/14/2025
Scenario: 2028 Buildout Conditions

Major Street:	NE 199th Street	Minor Street:	NE 50th Avenue
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	609	PM Peak Hour Volumes:	343

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)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

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

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	6,090	8,850	
Minor Street*	3,430	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	6,090	13,300	
Minor Street*	3,430	1,350	**No**
Combination Warrant			
Major Street	6,090	10,640	
Minor Street*	3,430	2,120	**No**

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

Traffic Signal Warrant Analysis

Project: Three Creeks East PUD
Date: 4/14/2025
Scenario: 2028 Buildout Conditions

Major Street:	NE 179th Street	Minor Street:	NE 50th Avenue
Number of Lanes:	2	Number of Lanes:	1
PM Peak Hour Volumes:	916	PM Peak Hour Volumes:	526

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)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

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

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	9,160	10,600	
Minor Street*	5,260	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	9,160	15,900	
Minor Street*	5,260	1,350	**No**
Combination Warrant			
Major Street	9,160	12,720	
Minor Street*	5,260	2,120	**No**

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

Appendix F – Operation Analysis

Level of Service Descriptions

Synchro Capacity Reports

Sidra Capacity Reports

LEVEL OF SERVICE

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

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

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

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

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

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

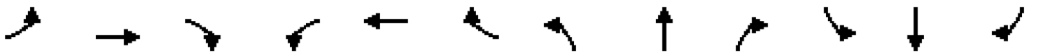
Level of service F: Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater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

LEVEL OF SERVICE CRITERIA
FOR SIGNALIZED INTERSECTIONS

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

LEVEL OF SERVICE CRITERIA
FOR UNSIGNALIZED INTERSECTIONS

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	61	31	129	95	21	108	66	95	14	65	51
Future Volume (veh/h)	29	61	31	129	95	21	108	66	95	14	65	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1737	1737	1737	1767	1767	1767	1678	1678	1678
Adj Flow Rate, veh/h	33	69	13	145	107	17	121	74	45	16	73	19
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	7	7	7	11	11	11	9	9	9	15	15	15
Cap, veh/h	242	320	50	382	182	24	186	282	171	33	237	62
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.11	0.27	0.27	0.02	0.18	0.18
Sat Flow, veh/h	272	1220	190	676	694	92	1682	1029	625	1598	1284	334
Grp Volume(v), veh/h	115	0	0	269	0	0	121	0	119	16	0	92
Grp Sat Flow(s),veh/h/ln	1682	0	0	1463	0	0	1682	0	1654	1598	0	1618
Q Serve(g_s), s	0.0	0.0	0.0	3.0	0.0	0.0	1.9	0.0	1.5	0.3	0.0	1.3
Cycle Q Clear(g_c), s	1.4	0.0	0.0	4.4	0.0	0.0	1.9	0.0	1.5	0.3	0.0	1.3
Prop In Lane	0.29		0.11	0.54		0.06	1.00		0.38	1.00		0.21
Lane Grp Cap(c), veh/h	612	0	0	588	0	0	186	0	453	33	0	298
V/C Ratio(X)	0.19	0.00	0.00	0.46	0.00	0.00	0.65	0.00	0.26	0.48	0.00	0.31
Avail Cap(c_a), veh/h	1408	0	0	1307	0	0	559	0	1343	295	0	1074
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.9	0.0	0.0	11.6	0.0	7.7	13.1	0.0	9.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	3.8	0.0	0.3	10.2	0.0	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.3	0.2	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.0	0.0	0.0	9.5	0.0	0.0	15.4	0.0	8.0	23.3	0.0	10.1
LnGrp LOS	A			A			B		A	C		B
Approach Vol, veh/h		115			269			240			108	
Approach Delay, s/veh		8.0			9.5			11.7			12.1	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	11.4		11.1	7.0	9.0		11.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	22.0		21.0	9.0	18.0		21.0				
Max Q Clear Time (g_c+I1), s	2.3	3.5		3.4	3.9	3.3		6.4				
Green Ext Time (p_c), s	0.0	0.5		0.5	0.1	0.3		1.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	10.4	
HCM 7th LOS	B	

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	107	5	70	167	34	22	50	67	21	88	25
Future Vol, veh/h	52	107	5	70	167	34	22	50	67	21	88	25
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	9	9	9	11	11	11	2	2	2	5	5	5
Mvmt Flow	65	134	6	88	209	43	28	63	84	26	110	31
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	11.3	13.8	10.5	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	32%	26%	16%
Vol Thru, %	36%	65%	62%	66%
Vol Right, %	48%	3%	13%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	164	271	134
LT Vol	22	52	70	21
Through Vol	50	107	167	88
RT Vol	67	5	34	25
Lane Flow Rate	174	205	339	168
Geometry Grp	1	1	1	1
Degree of Util (X)	0.265	0.32	0.506	0.266
Departure Headway (Hd)	5.486	5.617	5.378	5.716
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	653	638	671	626
Service Time	3.538	3.666	3.42	3.769
HCM Lane V/C Ratio	0.266	0.321	0.505	0.268
HCM Control Delay, s/veh	10.5	11.3	13.8	10.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.1	1.4	2.9	1.1

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	128	61	31	191	16	53	46	21	20	81	14
Future Vol, veh/h	3	128	61	31	191	16	53	46	21	20	81	14
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	6	6	6	11	11	11	11	11	11	8	8	8
Mvmt Flow	3	144	69	35	215	18	60	52	24	22	91	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.1	11.3	10	9.9
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	2%	13%	17%
Vol Thru, %	38%	67%	80%	70%
Vol Right, %	18%	32%	7%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	192	238	115
LT Vol	53	3	31	20
Through Vol	46	128	191	81
RT Vol	21	61	16	14
Lane Flow Rate	135	216	267	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.207	0.298	0.382	0.197
Departure Headway (Hd)	5.538	4.969	5.143	5.476
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	649	727	703	655
Service Time	3.571	2.978	3.15	3.51
HCM Lane V/C Ratio	0.208	0.297	0.38	0.197
HCM Control Delay, s/veh	10	10.1	11.3	9.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.8	1.2	1.8	0.7



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	230	6	97	102	2	71
Future Volume (veh/h)	230	6	97	102	2	71
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1796	1796	1707	1707	1722	1722
Adj Flow Rate, veh/h	267	4	113	119	2	54
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	7	7	13	13	12	12
Cap, veh/h	495	7	381	1049	804	841
Arrive On Green	0.14	0.14	0.09	0.32	0.49	0.49
Sat Flow, veh/h	3532	51	1626	3329	1640	1459
Grp Volume(v), veh/h	132	139	113	119	2	54
Grp Sat Flow(s),veh/h/ln	1706	1787	1626	1622	1640	1459
Q Serve(g_s), s	3.1	3.1	2.3	1.1	0.0	0.7
Cycle Q Clear(g_c), s	3.1	3.1	2.3	1.1	0.0	0.7
Prop In Lane		0.03	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	245	257	381	1049	804	841
V/C Ratio(X)	0.54	0.54	0.30	0.11	0.00	0.06
Avail Cap(c_a), veh/h	757	792	544	2347	804	841
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	17.0	17.0	12.4	10.2	5.6	4.0
Incr Delay (d2), s/veh	1.8	1.8	0.4	0.0	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.2	0.7	0.3	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	18.9	18.8	12.8	10.2	5.6	4.1
LnGrp LOS	B	B	B	B	A	A
Approach Vol, veh/h	271			232	56	
Approach Delay, s/veh	18.8			11.5	4.2	
Approach LOS	B			B	A	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		25.0	7.7	10.2		17.9
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		21.0	8.0	19.0		31.0
Max Q Clear Time (g_c+I1), s		2.7	4.3	5.1		3.1
Green Ext Time (p_c), s		0.1	0.1	1.1		0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	14.3
HCM 7th LOS	B

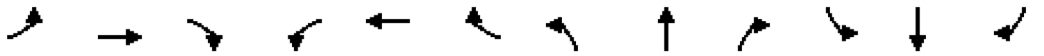
Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	316	216	135	283	22
Future Vol, veh/h	18	316	216	135	283	22
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	60	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	9	9	11	11	4	4
Mvmt Flow	19	336	230	144	301	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	373	0	-	0	509	187
Stage 1	-	-	-	-	302	-
Stage 2	-	-	-	-	207	-
Critical Hdwy	4.28	-	-	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	2.29	-	-	-	3.54	3.34
Pot Cap-1 Maneuver	1133	-	-	-	489	817
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	801	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1133	-	-	-	480	817
Mov Cap-2 Maneuver	-	-	-	-	480	-
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	801	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.44	0	25.04
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1133	-	-	-	495
HCM Lane V/C Ratio	0.017	-	-	-	0.655
HCM Ctrl Dly (s/v)	8.2	-	-	-	25
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	4.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	137	474	328	269	0	0	0	0	52	2	73
Future Volume (veh/h)	0	137	474	328	269	0	0	0	0	52	2	73
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1811	1811	1781	1781	0				1752	1752	1752
Adj Flow Rate, veh/h	0	144	0	349	277	0				55	2	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	6	6	8	8	0				10	10	10
Cap, veh/h	0	298		933	490	0				266	10	245
Arrive On Green	0.00	0.16	0.00	0.27	0.27	0.00				0.16	0.16	0.16
Sat Flow, veh/h	0	1811	1535	3393	1781	0				1613	59	1485
Grp Volume(v), veh/h	0	144	0	349	277	0				57	0	13
Grp Sat Flow(s),veh/h/ln	0	1811	1535	1697	1781	0				1671	0	1485
Q Serve(g_s), s	0.0	2.2	0.0	2.5	4.1	0.0				0.9	0.0	0.2
Cycle Q Clear(g_c), s	0.0	2.2	0.0	2.5	4.1	0.0				0.9	0.0	0.2
Prop In Lane	0.00		1.00	1.00		0.00				0.96		1.00
Lane Grp Cap(c), veh/h	0	298		933	490	0				275	0	245
V/C Ratio(X)	0.00	0.48		0.37	0.57	0.00				0.21	0.00	0.05
Avail Cap(c_a), veh/h	0	1194		2069	1086	0				1074	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.5	0.0	8.9	9.4	0.0				11.0	0.0	10.7
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.2	1.0	0.0				0.4	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.0	0.6	1.0	0.0				0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.7	0.0	9.1	10.5	0.0				11.3	0.0	10.8
LnGrp LOS		B		A	B					B		B
Approach Vol, veh/h		144			626						70	
Approach Delay, s/veh		12.7			9.7						11.2	
Approach LOS		B			A						B	

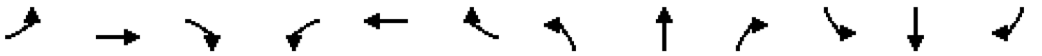
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				9.0		9.0		12.3				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				20.0		19.5		18.5				
Max Q Clear Time (g_c+I1), s				4.2		2.9		6.1				
Green Ext Time (p_c), s				0.6		0.2		2.3				

Intersection Summary												
HCM 7th Control Delay, s/veh			10.4									
HCM 7th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	90	0	0	254	25	189	175	65	42	0	191
Future Volume (veh/h)	22	90	0	0	254	25	189	175	65	42	0	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	0	0	1856	1856	1811	1811	1811	1707	0	1707
Adj Flow Rate, veh/h	24	98	0	0	276	13	205	190	14	46	0	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	0	0	3	3	6	6	6	13	0	13
Cap, veh/h	195	267	0	0	653	31	485	598	44	299	0	0
Arrive On Green	0.19	0.19	0.00	0.00	0.19	0.19	0.14	0.18	0.18	0.18	0.00	0.00
Sat Flow, veh/h	189	1402	0	0	3521	161	3346	3251	238	1626	46	
Grp Volume(v), veh/h	122	0	0	0	141	148	205	100	104	46	9.5	
Grp Sat Flow(s),veh/h/ln	1591	0	0	0	1763	1827	1673	1721	1768	1626	A	
Q Serve(g_s), s	0.0	0.0	0.0	0.0	1.9	1.9	1.5	1.4	1.4	0.6		
Cycle Q Clear(g_c), s	1.9	0.0	0.0	0.0	1.9	1.9	1.5	1.4	1.4	0.6		
Prop In Lane	0.20		0.00	0.00		0.09	1.00		0.13	1.00		
Lane Grp Cap(c), veh/h	462	0	0	0	336	348	485	317	325	299		
V/C Ratio(X)	0.26	0.00	0.00	0.00	0.42	0.42	0.42	0.32	0.32	0.15		
Avail Cap(c_a), veh/h	1214	0	0	0	1200	1243	4125	1171	1204	658		
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.6	0.0	0.0	0.0	9.7	9.7	10.6	9.6	9.6	9.3		
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.8	0.8	0.6	0.6	0.6	0.2		
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.0	0.5	0.5	0.3	0.3	0.3	0.1		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.9	0.0	0.0	0.0	10.5	10.5	11.2	10.2	10.2	9.5		
LnGrp LOS	A				B	B	B	B	B	A		
Approach Vol, veh/h		122			289			409				
Approach Delay, s/veh		9.9			10.5			10.7				
Approach LOS		A			B			B				

Timer - Assigned Phs	1	2		4	5			8				
Phs Duration (G+Y+Rc), s	9.0	9.0		9.2	7.9			9.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0				
Max Green Setting (Gmax), s	11.0	18.5		18.5	33.5			18.5				
Max Q Clear Time (g_c+I1), s	2.6	3.4		3.9	3.5			3.9				
Green Ext Time (p_c), s	0.0	0.8		0.5	0.7			1.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			10.4									
HCM 7th LOS			B									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	84	100	50	165	91	40
Future Volume (vph)	84	100	50	165	91	40
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	0.93			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	1645			1860	1703	1524
Flt Permitted	1.00			0.91	0.95	1.00
Satd. Flow (perm)	1645			1704	1703	1524
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	95	114	57	188	103	45
RTOR Reduction (vph)	52	0	0	0	0	36
Lane Group Flow (vph)	157	0	0	245	103	9
Heavy Vehicles (%)	7%	7%	1%	1%	6%	6%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	16.8			16.8	6.1	6.1
Effective Green, g (s)	16.8			16.8	6.1	6.1
Actuated g/C Ratio	0.54			0.54	0.20	0.20
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	894			926	336	300
v/s Ratio Prot	0.10					
v/s Ratio Perm				c0.14	c0.06	0.01
v/c Ratio	0.18			0.26	0.31	0.03
Uniform Delay, d1	3.6			3.8	10.6	10.0
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	0.1			0.2	0.5	0.0
Delay (s)	3.7			3.9	11.1	10.1
Level of Service	A			A	B	B
Approach Delay (s/veh)	3.7			3.9	10.8	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	30.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	68	72	18	2	97	9	29	67	1	10	106	63
Future Vol, veh/h	68	72	18	2	97	9	29	67	1	10	106	63
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	11	11	11	9	9	9	3	3	3	4	4	4
Mvmt Flow	76	81	20	2	109	10	33	75	1	11	119	71
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.7	9.1	9	9.4
HCM LOS	A	A	A	A

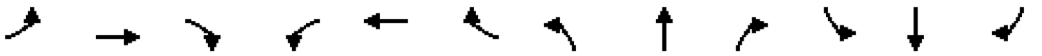
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	43%	2%	6%
Vol Thru, %	69%	46%	90%	59%
Vol Right, %	1%	11%	8%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	97	158	108	179
LT Vol	29	68	2	10
Through Vol	67	72	97	106
RT Vol	1	18	9	63
Lane Flow Rate	109	178	121	201
Geometry Grp	1	1	1	1
Degree of Util (X)	0.151	0.247	0.168	0.26
Departure Headway (Hd)	5.002	5.002	4.982	4.657
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	714	716	766
Service Time	3.064	3.061	3.045	2.711
HCM Lane V/C Ratio	0.153	0.249	0.169	0.262
HCM Control Delay, s/veh	9	9.7	9.1	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	1	0.6	1

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	62	27	39	106	31	10	68	16	28	127	18
Future Vol, veh/h	18	62	27	39	106	31	10	68	16	28	127	18
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	14	14	14	11	11	11	7	7	7	1	1	1
Mvmt Flow	19	65	28	41	112	33	11	72	17	29	134	19
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	9.1	9.5	8.8	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	11%	100%	0%	100%	0%	16%
Vol Thru, %	72%	0%	70%	0%	77%	73%
Vol Right, %	17%	0%	30%	0%	23%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	18	89	39	137	173
LT Vol	10	18	0	39	0	28
Through Vol	68	0	62	0	106	127
RT Vol	16	0	27	0	31	18
Lane Flow Rate	99	19	94	41	144	182
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.136	0.032	0.141	0.068	0.214	0.242
Departure Headway (Hd)	4.951	6.137	5.418	6.001	5.337	4.793
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	720	581	658	594	669	747
Service Time	3.005	3.903	3.184	3.762	3.097	2.839
HCM Lane V/C Ratio	0.138	0.033	0.143	0.069	0.215	0.244
HCM Control Delay, s/veh	8.8	9.1	9.1	9.2	9.6	9.4
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.5	0.2	0.8	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	280	53	52	289	83	244	292	121	62	249	318
Future Volume (veh/h)	190	280	53	52	289	83	244	292	121	62	249	318
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1856	1856	1856	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	202	298	21	55	307	26	260	311	42	66	265	199
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, %	3	3	3	2	2	2	3	3	3	3	3	3
Cap, veh/h	386	788	534	198	598	370	408	883	484	223	694	486
Arrive On Green	0.11	0.22	0.22	0.06	0.17	0.17	0.12	0.25	0.25	0.07	0.20	0.20
Sat Flow, veh/h	3428	3526	1552	3456	3554	1585	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	202	298	21	55	307	26	260	311	42	66	265	199
Grp Sat Flow(s),veh/h/ln	1714	1763	1552	1728	1777	1585	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	2.2	2.8	0.4	0.6	3.1	0.5	2.9	2.9	0.8	0.7	2.6	4.0
Cycle Q Clear(g_c), s	2.2	2.8	0.4	0.6	3.1	0.5	2.9	2.9	0.8	0.7	2.6	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	386	788	534	198	598	370	408	883	484	223	694	486
V/C Ratio(X)	0.52	0.38	0.04	0.28	0.51	0.07	0.64	0.35	0.09	0.30	0.38	0.41
Avail Cap(c_a), veh/h	519	1690	931	436	1613	823	519	1779	883	432	1690	930
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	13.1	8.7	17.9	15.0	11.8	16.7	12.2	9.8	17.7	13.8	10.8
Incr Delay (d2), s/veh	1.1	0.3	0.0	0.8	0.7	0.1	1.7	0.2	0.1	0.7	0.3	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.9	0.1	0.2	1.1	0.1	1.0	0.9	0.2	0.3	0.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.7	13.4	8.7	18.7	15.7	11.9	18.3	12.5	9.8	18.4	14.2	11.4
LnGrp LOS	B	B	A	B	B	B	B	B	A	B	B	B
Approach Vol, veh/h		521			388			613			530	
Approach Delay, s/veh		14.9			15.9			14.8			13.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	13.9	6.3	12.9	8.7	11.8	8.5	10.7
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	20.0	5.0	19.0	6.0	19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s	2.7	4.9	2.6	4.8	4.9	6.0	4.2	5.1
Green Ext Time (p_c), s	0.0	1.7	0.0	1.6	0.1	1.8	0.1	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	14.7
HCM 7th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	110	40	99	88	25	118	436	221	36	83	58
Future Volume (veh/h)	44	110	40	99	88	25	118	436	221	36	83	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1781	1781	1781	1811	1811	1811
Adj Flow Rate, veh/h	47	118	30	106	95	19	127	469	212	39	89	25
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	3	3	3	8	8	8	6	6	6
Cap, veh/h	160	218	49	254	148	26	162	569	257	75	595	167
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.10	0.49	0.49	0.04	0.44	0.44
Sat Flow, veh/h	297	1197	272	699	814	143	1697	1162	525	1725	1360	382
Grp Volume(v), veh/h	195	0	0	220	0	0	127	0	681	39	0	114
Grp Sat Flow(s),veh/h/ln	1766	0	0	1656	0	0	1697	0	1687	1725	0	1742
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	3.1	0.0	14.6	0.9	0.0	1.7
Cycle Q Clear(g_c), s	4.1	0.0	0.0	4.9	0.0	0.0	3.1	0.0	14.6	0.9	0.0	1.7
Prop In Lane	0.24		0.15	0.48		0.09	1.00		0.31	1.00		0.22
Lane Grp Cap(c), veh/h	427	0	0	428	0	0	162	0	827	75	0	763
V/C Ratio(X)	0.46	0.00	0.00	0.51	0.00	0.00	0.78	0.00	0.82	0.52	0.00	0.15
Avail Cap(c_a), veh/h	830	0	0	789	0	0	443	0	1401	205	0	1199
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	0.0	16.1	0.0	0.0	18.6	0.0	9.2	19.7	0.0	7.1
Incr Delay (d2), s/veh	0.8	0.0	0.0	1.0	0.0	0.0	7.9	0.0	2.1	5.5	0.0	0.1
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	1.4	0.0	0.0	1.6	0.0	0.0	1.3	0.0	3.0	0.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.6	0.0	0.0	17.0	0.0	0.0	26.6	0.0	11.3	25.2	0.0	7.2
LnGrp LOS	B			B			C		B	C		A
Approach Vol, veh/h		195			220			808			153	
Approach Delay, s/veh		16.6			17.0			13.7			11.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	24.7		11.7	8.0	22.5		11.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	35.0		18.0	11.0	29.0		18.0				
Max Q Clear Time (g_c+I1), s	2.9	16.6		6.1	5.1	3.7		6.9				
Green Ext Time (p_c), s	0.0	4.1		0.7	0.1	0.5		0.8				

Intersection Summary		
HCM 7th Control Delay, s/veh		14.4
HCM 7th LOS		B

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	229	9	62	153	11	11	125	57	7	43	9
Future Vol, veh/h	135	229	9	62	153	11	11	125	57	7	43	9
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
Heavy Vehicles, %	6	6	6	5	5	5	4	4	4	3	3	3
Mvmt Flow	144	244	10	66	163	12	12	133	61	7	46	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	15.1	11.4	11.3	9.7
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	36%	27%	12%
Vol Thru, %	65%	61%	68%	73%
Vol Right, %	30%	2%	5%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	193	373	226	59
LT Vol	11	135	62	7
Through Vol	125	229	153	43
RT Vol	57	9	11	9
Lane Flow Rate	205	397	240	63
Geometry Grp	1	1	1	1
Degree of Util (X)	0.319	0.575	0.36	0.104
Departure Headway (Hd)	5.597	5.213	5.384	5.978
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	641	690	668	598
Service Time	3.64	3.246	3.422	4.032
HCM Lane V/C Ratio	0.32	0.575	0.359	0.105
HCM Control Delay, s/veh	11.3	15.1	11.4	9.7
HCM Lane LOS	B	C	B	A
HCM 95th-tile Q	1.4	3.7	1.6	0.3

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	85	176	26	10	183	16	36	156	49	16	50	9
Future Vol, veh/h	85	176	26	10	183	16	36	156	49	16	50	9
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	6	6	6	4	4	4	5	5	5	7	7	7
Mvmt Flow	93	193	29	11	201	18	40	171	54	18	55	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	13.2	11.4	12.3	10
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	30%	5%	21%
Vol Thru, %	65%	61%	88%	67%
Vol Right, %	20%	9%	8%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	241	287	209	75
LT Vol	36	85	10	16
Through Vol	156	176	183	50
RT Vol	49	26	16	9
Lane Flow Rate	265	315	230	82
Geometry Grp	1	1	1	1
Degree of Util (X)	0.406	0.472	0.347	0.137
Departure Headway (Hd)	5.523	5.383	5.442	5.973
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	651	669	659	598
Service Time	3.57	3.424	3.488	4.03
HCM Lane V/C Ratio	0.407	0.471	0.349	0.137
HCM Control Delay, s/veh	12.3	13.2	11.4	10
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	2	2.5	1.5	0.5



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	205	16	126	264	21	207
Future Volume (veh/h)	205	16	126	264	21	207
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
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	1767	1767	1841	1841	1870	1870
Adj Flow Rate, veh/h	228	6	140	293	23	152
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	9	9	4	4	2	2
Cap, veh/h	443	12	413	1123	876	929
Arrive On Green	0.13	0.13	0.09	0.32	0.49	0.49
Sat Flow, veh/h	3430	88	1753	3589	1781	1585
Grp Volume(v), veh/h	114	120	140	293	23	152
Grp Sat Flow(s),veh/h/ln	1678	1751	1753	1749	1781	1585
Q Serve(g_s), s	2.7	2.7	2.7	2.7	0.3	1.9
Cycle Q Clear(g_c), s	2.7	2.7	2.7	2.7	0.3	1.9
Prop In Lane		0.05	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	223	232	413	1123	876	929
V/C Ratio(X)	0.51	0.52	0.34	0.26	0.03	0.16
Avail Cap(c_a), veh/h	746	779	575	2538	876	929
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	17.2	17.2	12.5	10.7	5.6	4.0
Incr Delay (d2), s/veh	1.8	1.8	0.5	0.1	0.1	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.0	0.9	0.8	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	19.1	19.0	13.0	10.9	5.6	4.4
LnGrp LOS	B	B	B	B	A	A
Approach Vol, veh/h	234			433	175	
Approach Delay, s/veh	19.0			11.6	4.6	
Approach LOS	B			B	A	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		25.0	8.1	9.7		17.7
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		21.0	8.0	19.0		31.0
Max Q Clear Time (g_c+I1), s		3.9	4.7	4.7		4.7
Green Ext Time (p_c), s		0.5	0.1	1.0		1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	12.2
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	43.7

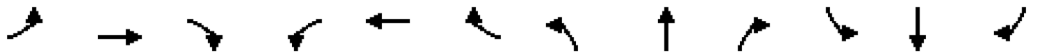
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	110	313	407	568	200	21
Future Vol, veh/h	110	313	407	568	200	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	60	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	121	344	447	624	220	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1071	0	-	0	1173	536
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	414	-
Critical Hdwy	4.2	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.25	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	629	-	-	-	~ 185	489
Stage 1	-	-	-	-	423	-
Stage 2	-	-	-	-	636	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	629	-	-	-	~ 149	489
Mov Cap-2 Maneuver	-	-	-	-	~ 149	-
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.14	0	$ 313.94
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	629	-	-	-	160
HCM Lane V/C Ratio	0.192	-	-	-	1.517
HCM Ctrl Dly (s/v)	12.1	-	-	-	$ 313.9
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	16

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	158	319	252	840	0	0	0	0	84	4	149
Future Volume (veh/h)	0	158	319	252	840	0	0	0	0	84	4	149
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1856	1856	1870	1870	0				1856	1856	1856
Adj Flow Rate, veh/h	0	178	0	283	944	0				94	4	27
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89				0.89	0.89	0.89
Percent Heavy Veh, %	0	3	3	2	2	0				3	3	3
Cap, veh/h	0	295		705	1481	0				222	9	206
Arrive On Green	0.00	0.16	0.00	0.40	0.40	0.00				0.13	0.13	0.13
Sat Flow, veh/h	0	1856	1572	1781	3741	0				1698	72	1572
Grp Volume(v), veh/h	0	178	0	283	944	0				98	0	27
Grp Sat Flow(s),veh/h/ln	0	1856	1572	1781	1870	0				1771	0	1572
Q Serve(g_s), s	0.0	3.4	0.0	4.4	7.8	0.0				1.9	0.0	0.6
Cycle Q Clear(g_c), s	0.0	3.4	0.0	4.4	7.8	0.0				1.9	0.0	0.6
Prop In Lane	0.00		1.00	1.00		0.00				0.96		1.00
Lane Grp Cap(c), veh/h	0	295		705	1481	0				232	0	206
V/C Ratio(X)	0.00	0.60		0.40	0.64	0.00				0.42	0.00	0.13
Avail Cap(c_a), veh/h	0	899		980	2058	0				858	0	762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.9	0.0	8.3	9.3	0.0				15.3	0.0	14.7
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.4	0.5	0.0				1.2	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.3	0.0	1.1	2.0	0.0				0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	16.9	0.0	8.7	9.8	0.0				16.5	0.0	15.0
LnGrp LOS		B		A	A					B		B
Approach Vol, veh/h		178			1227						125	
Approach Delay, s/veh		16.9			9.5						16.1	
Approach LOS		B			A						B	

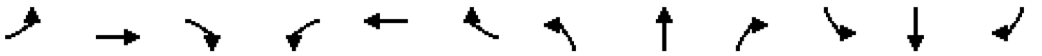
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				10.1		9.0		19.1				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				18.5		18.5		21.0				
Max Q Clear Time (g_c+I1), s				5.4		3.9		9.8				
Green Ext Time (p_c), s				0.7		0.4		5.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	10.9
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	173	0	0	297	195	661	620	437	62	0	216
Future Volume (veh/h)	45	173	0	0	297	195	661	620	437	62	0	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	0	0	1870	1870	1811	1811	1811	1811	0	1811
Adj Flow Rate, veh/h	49	188	0	0	323	54	718	674	267	67	0	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	0	0	2	2	6	6	6	6	0	6
Cap, veh/h	143	286	0	0	671	111	1003	912	361	204	0	0
Arrive On Green	0.22	0.22	0.00	0.00	0.22	0.22	0.30	0.38	0.38	0.12	0.00	0.00
Sat Flow, veh/h	183	1298	0	0	3145	505	3346	2407	953	1725	67	
Grp Volume(v), veh/h	237	0	0	0	187	190	718	482	459	67	18.1	
Grp Sat Flow(s),veh/h/ln	1481	0	0	0	1777	1780	1673	1721	1639	1725	B	
Q Serve(g_s), s	2.5	0.0	0.0	0.0	3.9	4.0	8.1	10.2	10.2	1.5		
Cycle Q Clear(g_c), s	6.4	0.0	0.0	0.0	3.9	4.0	8.1	10.2	10.2	1.5		
Prop In Lane	0.21		0.00	0.00		0.28	1.00		0.58	1.00		
Lane Grp Cap(c), veh/h	428	0	0	0	391	391	1003	652	621	204		
V/C Ratio(X)	0.55	0.00	0.00	0.00	0.48	0.49	0.72	0.74	0.74	0.33		
Avail Cap(c_a), veh/h	765	0	0	0	780	781	2637	893	851	301		
HCM Platoon Ratio	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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.2	0.0	0.0	0.0	14.4	14.4	13.2	11.4	11.4	17.1		
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.0	0.9	0.9	1.0	2.1	2.2	0.9		
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		
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.0	1.3	1.3	2.2	2.7	2.6	0.5		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.3	0.0	0.0	0.0	15.3	15.4	14.2	13.5	13.6	18.1		
LnGrp LOS	B				B	B	B	B	B	B		
Approach Vol, veh/h		237			377			1659				
Approach Delay, s/veh		16.3			15.3			13.8				
Approach LOS		B			B			B				

Timer - Assigned Phs	1	2		4	5			8				
Phs Duration (G+Y+Rc), s	9.0	20.1		13.3	16.7			13.3				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0				
Max Green Setting (Gmax), s	7.4	22.0		18.6	33.4			18.6				
Max Q Clear Time (g_c+I1), s	3.5	12.2		8.4	10.1			6.0				
Green Ext Time (p_c), s	0.0	3.8		0.9	2.6			1.6				

Intersection Summary												
HCM 7th Control Delay, s/veh			14.4									
HCM 7th LOS			B									



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	494	128	54	186	328	155
Future Volume (vph)	494	128	54	186	328	155
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	0.97			1.00	1.00	0.85
Flt Protected	1.00			0.99	0.95	1.00
Satd. Flow (prot)	1759			1842	1770	1583
Flt Permitted	1.00			0.70	0.95	1.00
Satd. Flow (perm)	1759			1311	1770	1583
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	555	144	61	209	369	174
RTOR Reduction (vph)	16	0	0	0	0	119
Lane Group Flow (vph)	683	0	0	270	369	56
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases			8		2	2
Actuated Green, G (s)	23.6			23.6	14.8	14.8
Effective Green, g (s)	23.6			23.6	14.8	14.8
Actuated g/C Ratio	0.51			0.51	0.32	0.32
Clearance Time (s)	4.0			4.0	4.0	4.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	894			666	564	504
v/s Ratio Prot	c0.39					
v/s Ratio Perm				0.21	c0.21	0.04
v/c Ratio	0.76			0.41	0.65	0.11
Uniform Delay, d1	9.2			7.1	13.6	11.2
Progression Factor	1.00			1.00	1.00	1.00
Incremental Delay, d2	3.9			0.4	2.7	0.1
Delay (s)	13.1			7.5	16.3	11.2
Level of Service	B			A	B	B
Approach Delay (s/veh)	13.1			7.5	14.7	
Approach LOS	B			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	144	68	9	86	51	50	150	37	4	75	52
Future Vol, veh/h	97	144	68	9	86	51	50	150	37	4	75	52
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	7	7	7	5	5	5	4	4	4	1	1	1
Mvmt Flow	114	169	80	11	101	60	59	176	44	5	88	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	15.3	10.9	13.2	10.7
HCM LOS	C	B	B	B

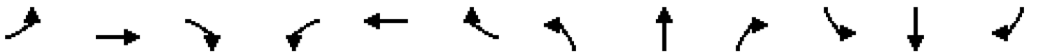
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	31%	6%	3%
Vol Thru, %	63%	47%	59%	57%
Vol Right, %	16%	22%	35%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	237	309	146	131
LT Vol	50	97	9	4
Through Vol	150	144	86	75
RT Vol	37	68	51	52
Lane Flow Rate	279	364	172	154
Geometry Grp	1	1	1	1
Degree of Util (X)	0.441	0.555	0.27	0.245
Departure Headway (Hd)	5.695	5.497	5.669	5.712
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	630	654	630	624
Service Time	3.758	3.554	3.741	3.784
HCM Lane V/C Ratio	0.443	0.557	0.273	0.247
HCM Control Delay, s/veh	13.2	15.3	10.9	10.7
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	2.3	3.4	1.1	1

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	132	18	21	59	41	30	193	80	23	57	10
Future Vol, veh/h	15	132	18	21	59	41	30	193	80	23	57	10
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles, %	9	9	9	6	6	6	4	4	4	3	3	3
Mvmt Flow	19	165	23	26	74	51	38	241	100	29	71	13
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	11.6	10.2	13.8	9.8
HCM LOS	B	B	B	A

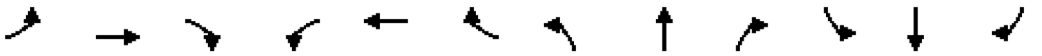
Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	100%	0%	100%	0%	26%
Vol Thru, %	64%	0%	88%	0%	59%	63%
Vol Right, %	26%	0%	12%	0%	41%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	303	15	150	21	100	90
LT Vol	30	15	0	21	0	23
Through Vol	193	0	132	0	59	57
RT Vol	80	0	18	0	41	10
Lane Flow Rate	379	19	188	26	125	113
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.535	0.035	0.32	0.05	0.208	0.175
Departure Headway (Hd)	5.081	6.742	6.149	6.793	5.992	5.603
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	708	531	585	527	599	639
Service Time	3.115	4.481	3.887	4.533	3.732	3.65
HCM Lane V/C Ratio	0.535	0.036	0.321	0.049	0.209	0.177
HCM Control Delay, s/veh	13.8	9.7	11.8	9.9	10.3	9.8
HCM Lane LOS	B	A	B	A	B	A
HCM 95th-tile Q	3.2	0.1	1.4	0.2	0.8	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	437	384	138	95	414	259	341	458	100	67	349	411
Future Volume (veh/h)	437	384	138	95	414	259	341	458	100	67	349	411
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
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	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	460	404	68	100	436	180	359	482	31	71	367	378
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	564	1013	657	235	675	392	462	1167	619	201	899	656
Arrive On Green	0.16	0.28	0.28	0.07	0.19	0.19	0.13	0.33	0.33	0.06	0.25	0.25
Sat Flow, veh/h	3483	3582	1574	3483	3582	1593	3483	3582	1567	3483	3582	1584
Grp Volume(v), veh/h	460	404	68	100	436	180	359	482	31	71	367	378
Grp Sat Flow(s),veh/h/ln	1742	1791	1574	1742	1791	1593	1742	1791	1567	1742	1791	1584
Q Serve(g_s), s	7.7	5.5	1.6	1.7	6.8	5.8	6.0	6.3	0.7	1.2	5.1	11.1
Cycle Q Clear(g_c), s	7.7	5.5	1.6	1.7	6.8	5.8	6.0	6.3	0.7	1.2	5.1	11.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	564	1013	657	235	675	392	462	1167	619	201	899	656
V/C Ratio(X)	0.82	0.40	0.10	0.43	0.65	0.46	0.78	0.41	0.05	0.35	0.41	0.58
Avail Cap(c_a), veh/h	579	1370	814	290	1072	569	463	1167	619	405	1072	733
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	17.4	10.7	26.9	22.6	19.3	25.2	15.8	11.3	27.2	18.8	13.6
Incr Delay (d2), s/veh	8.7	0.3	0.1	1.2	1.0	0.8	8.1	0.2	0.0	1.1	0.3	0.9
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	3.6	2.1	0.5	0.7	2.7	2.0	2.8	2.2	0.2	0.5	1.9	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.0	17.7	10.8	28.1	23.6	20.1	33.4	16.0	11.3	28.3	19.1	14.5
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		932			716			872			816	
Approach Delay, s/veh		24.7			23.4			23.0			17.8	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	23.6	8.1	21.0	12.0	19.1	13.7	15.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	19.0	5.0	23.0	8.0	18.0	10.0	18.0
Max Q Clear Time (g_c+I1), s	3.2	8.3	3.7	7.5	8.0	13.1	9.7	8.8
Green Ext Time (p_c), s	0.0	2.3	0.0	2.4	0.0	1.7	0.1	2.3

Intersection Summary	
HCM 7th Control Delay, s/veh	22.3
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	69	43	137	105	33	126	108	101	17	133	56
Future Volume (veh/h)	37	69	43	137	105	33	126	108	101	17	133	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1737	1737	1737	1767	1767	1767	1678	1678	1678
Adj Flow Rate, veh/h	40	75	22	149	114	28	137	117	57	18	145	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	11	11	11	9	9	9	15	15	15
Cap, veh/h	238	309	74	364	190	39	194	321	156	37	253	61
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.12	0.29	0.29	0.02	0.19	0.19
Sat Flow, veh/h	281	1121	268	636	689	141	1682	1122	546	1598	1306	315
Grp Volume(v), veh/h	137	0	0	291	0	0	137	0	174	18	0	180
Grp Sat Flow(s),veh/h/ln	1671	0	0	1466	0	0	1682	0	1668	1598	0	1621
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	2.3	0.0	2.4	0.3	0.0	2.9
Cycle Q Clear(g_c), s	1.8	0.0	0.0	5.0	0.0	0.0	2.3	0.0	2.4	0.3	0.0	2.9
Prop In Lane	0.29		0.16	0.51		0.10	1.00		0.33	1.00		0.19
Lane Grp Cap(c), veh/h	622	0	0	592	0	0	194	0	477	37	0	314
V/C Ratio(X)	0.22	0.00	0.00	0.49	0.00	0.00	0.71	0.00	0.36	0.48	0.00	0.57
Avail Cap(c_a), veh/h	1257	0	0	1174	0	0	466	0	1327	276	0	1121
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.2	0.0	0.0	9.3	0.0	0.0	12.3	0.0	8.2	13.9	0.0	10.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	4.6	0.0	0.5	9.4	0.0	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.8	0.0	0.0	0.7	0.0	0.4	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.4	0.0	0.0	9.9	0.0	0.0	17.0	0.0	8.7	23.4	0.0	12.2
LnGrp LOS	A			A			B		A	C		B
Approach Vol, veh/h		137			291			311			198	
Approach Delay, s/veh		8.4			9.9			12.3			13.2	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	12.3		12.0	7.3	9.6		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	23.0		20.0	8.0	20.0		20.0				
Max Q Clear Time (g_c+I1), s	2.3	4.4		3.8	4.3	4.9		7.0				
Green Ext Time (p_c), s	0.0	0.7		0.6	0.1	0.7		1.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	11.2	
HCM 7th LOS	B	

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	118	7	76	189	36	27	71	79	22	100	27
Future Vol, veh/h	55	118	7	76	189	36	27	71	79	22	100	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	9	9	9	11	11	11	2	2	2	5	5	5
Mvmt Flow	60	128	8	83	205	39	29	77	86	24	109	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	11.2	13.6	10.7	10.7
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	31%	25%	15%
Vol Thru, %	40%	66%	63%	67%
Vol Right, %	45%	4%	12%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	180	301	149
LT Vol	27	55	76	22
Through Vol	71	118	189	100
RT Vol	79	7	36	27
Lane Flow Rate	192	196	327	162
Geometry Grp	1	1	1	1
Degree of Util (X)	0.291	0.306	0.491	0.256
Departure Headway (Hd)	5.44	5.629	5.398	5.697
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	658	638	667	628
Service Time	3.491	3.675	3.438	3.75
HCM Lane V/C Ratio	0.292	0.307	0.49	0.258
HCM Control Delay, s/veh	10.7	11.2	13.6	10.7
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.2	1.3	2.7	1

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	144	67	60	206	17	67	109	60	21	115	15
Future Vol, veh/h	5	144	67	60	206	17	67	109	60	21	115	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	6	6	6	11	11	11	11	11	11	8	8	8
Mvmt Flow	5	157	73	65	224	18	73	118	65	23	125	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	12	14.4	13.1	11.5
HCM LOS	B	B	B	B

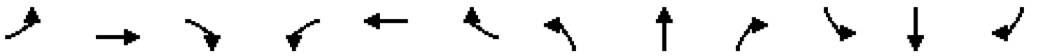
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	2%	21%	14%
Vol Thru, %	46%	67%	73%	76%
Vol Right, %	25%	31%	6%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	236	216	283	151
LT Vol	67	5	60	21
Through Vol	109	144	206	115
RT Vol	60	67	17	15
Lane Flow Rate	257	235	308	164
Geometry Grp	1	1	1	1
Degree of Util (X)	0.418	0.368	0.493	0.276
Departure Headway (Hd)	5.864	5.641	5.768	6.063
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	611	634	621	588
Service Time	3.937	3.714	3.836	4.146
HCM Lane V/C Ratio	0.421	0.371	0.496	0.279
HCM Control Delay, s/veh	13.1	12	14.4	11.5
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.1	1.7	2.7	1.1

Intersection	
Intersection Delay, s/veh	18.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	165	182	80	214	37	150	80	50	45	151	50
Future Vol, veh/h	52	165	182	80	214	37	150	80	50	45	151	50
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	14	14	14	11	11	11	7	7	7	1	1	1
Mvmt Flow	52	165	182	80	214	37	150	80	50	45	151	50
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	21.6	16.4	18.5	16.4
HCM LOS	C	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	54%	100%	0%	100%	0%	18%
Vol Thru, %	29%	0%	48%	0%	85%	61%
Vol Right, %	18%	0%	52%	0%	15%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	280	52	347	80	251	246
LT Vol	150	52	0	80	0	45
Through Vol	80	0	165	0	214	151
RT Vol	50	0	182	0	37	50
Lane Flow Rate	280	52	347	80	251	246
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.549	0.114	0.673	0.177	0.512	0.478
Departure Headway (Hd)	7.061	7.873	6.982	7.96	7.34	6.995
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	507	453	514	449	489	512
Service Time	5.143	5.652	4.76	5.746	5.124	5.081
HCM Lane V/C Ratio	0.552	0.115	0.675	0.178	0.513	0.48
HCM Control Delay, s/veh	18.5	11.7	23.1	12.5	17.7	16.4
HCM Lane LOS	C	B	C	B	C	C
HCM 95th-tile Q	3.3	0.4	5	0.6	2.9	2.6



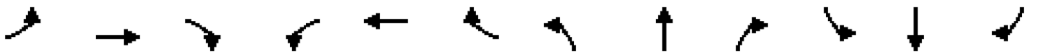
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	308	63	55	318	95	263	337	128	76	302	365
Future Volume (veh/h)	219	308	63	55	318	95	263	337	128	76	302	365
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1856	1856	1856	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	219	308	24	55	318	28	263	337	43	76	302	235
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	3	3	3
Cap, veh/h	380	786	531	196	599	379	404	931	504	241	764	515
Arrive On Green	0.11	0.22	0.22	0.06	0.17	0.17	0.12	0.26	0.26	0.07	0.22	0.22
Sat Flow, veh/h	3428	3526	1552	3456	3554	1585	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	219	308	24	55	318	28	263	337	43	76	302	235
Grp Sat Flow(s),veh/h/ln	1714	1763	1552	1728	1777	1585	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	2.5	3.1	0.4	0.6	3.4	0.6	3.0	3.2	0.8	0.9	3.0	4.9
Cycle Q Clear(g_c), s	2.5	3.1	0.4	0.6	3.4	0.6	3.0	3.2	0.8	0.9	3.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	786	531	196	599	379	404	931	504	241	764	515
V/C Ratio(X)	0.58	0.39	0.05	0.28	0.53	0.07	0.65	0.36	0.09	0.32	0.40	0.46
Avail Cap(c_a), veh/h	496	1616	897	417	1543	800	496	1701	848	414	1616	895
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.5	13.7	9.1	18.7	15.7	12.2	17.5	12.4	9.8	18.3	13.9	11.0
Incr Delay (d2), s/veh	1.4	0.3	0.0	0.8	0.7	0.1	2.2	0.2	0.1	0.7	0.3	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.0	0.1	0.2	1.2	0.2	1.1	1.0	0.2	0.3	1.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.9	14.0	9.2	19.5	16.5	12.3	19.6	12.6	9.9	19.1	14.2	11.6
LnGrp LOS	B	B	A	B	B	B	B	B	A	B	B	B
Approach Vol, veh/h		551			401			643			613	
Approach Delay, s/veh		15.7			16.6			15.3			13.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	14.9	6.3	13.2	8.9	13.0	8.6	11.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	20.0	5.0	19.0	6.0	19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s	2.9	5.2	2.6	5.1	5.0	6.9	4.5	5.4
Green Ext Time (p_c), s	0.0	1.8	0.0	1.6	0.1	2.1	0.1	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	15.2
HCM 7th LOS	B

Notes

User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	124	56	107	99	35	137	527	238	50	137	70
Future Volume (veh/h)	51	124	56	107	99	35	137	527	238	50	137	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1781	1781	1781	1811	1811	1811
Adj Flow Rate, veh/h	51	124	40	107	99	26	137	527	215	50	137	44
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	8	8	8	6	6	6
Cap, veh/h	149	212	61	233	148	34	176	615	251	88	602	193
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.10	0.51	0.51	0.05	0.46	0.46
Sat Flow, veh/h	298	1142	329	660	798	184	1697	1203	491	1725	1313	422
Grp Volume(v), veh/h	215	0	0	232	0	0	137	0	742	50	0	181
Grp Sat Flow(s),veh/h/ln	1769	0	0	1642	0	0	1697	0	1693	1725	0	1735
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	3.7	0.0	18.1	1.3	0.0	3.0
Cycle Q Clear(g_c), s	5.2	0.0	0.0	6.0	0.0	0.0	3.7	0.0	18.1	1.3	0.0	3.0
Prop In Lane	0.24		0.19	0.46		0.11	1.00		0.29	1.00		0.24
Lane Grp Cap(c), veh/h	421	0	0	415	0	0	176	0	866	88	0	796
V/C Ratio(X)	0.51	0.00	0.00	0.56	0.00	0.00	0.78	0.00	0.86	0.57	0.00	0.23
Avail Cap(c_a), veh/h	737	0	0	699	0	0	428	0	1247	181	0	1022
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	0.0	18.2	0.0	0.0	20.8	0.0	10.1	22.1	0.0	7.8
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.2	0.0	0.0	7.2	0.0	4.3	5.7	0.0	0.1
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	0.0	2.0	0.0	0.0	1.6	0.0	4.5	0.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.9	0.0	0.0	19.3	0.0	0.0	28.0	0.0	14.4	27.8	0.0	7.9
LnGrp LOS	B			B			C		B	C		A
Approach Vol, veh/h		215			232			879			231	
Approach Delay, s/veh		18.9			19.3			16.5			12.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	28.3		12.8	8.9	25.8		12.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	35.0		18.0	12.0	28.0		18.0				
Max Q Clear Time (g_c+I1), s	3.3	20.1		7.2	5.7	5.0		8.0				
Green Ext Time (p_c), s	0.0	4.2		0.8	0.2	0.8		0.8				

Intersection Summary												
HCM 7th Control Delay, s/veh			16.6									
HCM 7th LOS			B									

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	143	258	15	75	174	12	15	151	65	7	69	10
Future Vol, veh/h	143	258	15	75	174	12	15	151	65	7	69	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	6	6	6	5	5	5	4	4	4	3	3	3
Mvmt Flow	143	258	15	75	174	12	15	151	65	7	69	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	17.3	12.6	12.4	10.4
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	34%	29%	8%
Vol Thru, %	65%	62%	67%	80%
Vol Right, %	28%	4%	5%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	231	416	261	86
LT Vol	15	143	75	7
Through Vol	151	258	174	69
RT Vol	65	15	12	10
Lane Flow Rate	231	416	261	86
Geometry Grp	1	1	1	1
Degree of Util (X)	0.374	0.629	0.409	0.149
Departure Headway (Hd)	5.83	5.442	5.643	6.247
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	614	661	634	570
Service Time	3.896	3.494	3.704	4.327
HCM Lane V/C Ratio	0.376	0.629	0.412	0.151
HCM Control Delay, s/veh	12.4	17.3	12.6	10.4
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	1.7	4.4	2	0.5

Intersection	
Intersection Delay, s/veh	16.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	90	191	41	58	204	17	46	223	94	17	103	11
Future Vol, veh/h	90	191	41	58	204	17	46	223	94	17	103	11
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	6	6	6	4	4	4	5	5	5	7	7	7
Mvmt Flow	90	191	41	58	204	17	46	223	94	17	103	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	16.6	15	18	12
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	28%	21%	13%
Vol Thru, %	61%	59%	73%	79%
Vol Right, %	26%	13%	6%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	363	322	279	131
LT Vol	46	90	58	17
Through Vol	223	191	204	103
RT Vol	94	41	17	11
Lane Flow Rate	363	322	279	131
Geometry Grp	1	1	1	1
Degree of Util (X)	0.608	0.551	0.484	0.245
Departure Headway (Hd)	6.032	6.159	6.239	6.721
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	599	586	578	533
Service Time	4.076	4.205	4.286	4.778
HCM Lane V/C Ratio	0.606	0.549	0.483	0.246
HCM Control Delay, s/veh	18	16.6	15	12
HCM Lane LOS	C	C	B	B
HCM 95th-tile Q	4.1	3.3	2.6	1

Intersection	
Intersection Delay, s/veh	73
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	299	177	59	220	60	205	222	128	34	72	64
Future Vol, veh/h	72	299	177	59	220	60	205	222	128	34	72	64
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	9	9	9	6	6	6	4	4	4	3	3	3
Mvmt Flow	72	299	177	59	220	60	205	222	128	34	72	64
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	74.2	25	117.9	18.6
HCM LOS	F	C	F	C

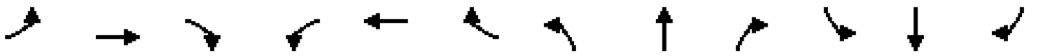
Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	37%	100%	0%	100%	0%	20%
Vol Thru, %	40%	0%	63%	0%	79%	42%
Vol Right, %	23%	0%	37%	0%	21%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	555	72	476	59	280	170
LT Vol	205	72	0	59	0	34
Through Vol	222	0	299	0	220	72
RT Vol	128	0	177	0	60	64
Lane Flow Rate	555	72	476	59	280	170
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	1.155	0.172	1.039	0.148	0.654	0.409
Departure Headway (Hd)	7.729	9.214	8.421	9.748	9.066	9.315
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	472	392	433	370	400	389
Service Time	5.729	6.914	6.121	7.448	6.766	7.315
HCM Lane V/C Ratio	1.176	0.184	1.099	0.159	0.7	0.437
HCM Control Delay, s/veh	117.9	13.8	83.3	14.1	27.3	18.6
HCM Lane LOS	F	B	F	B	D	C
HCM 95th-tile Q	19.4	0.6	14	0.5	4.5	1.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	496	416	158	101	460	288	369	538	106	79	422	463
Future Volume (veh/h)	496	416	158	101	460	288	369	538	106	79	422	463
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
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	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	496	416	89	101	460	195	369	538	32	79	422	415
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	559	1027	656	231	690	402	447	1184	624	208	939	672
Arrive On Green	0.16	0.29	0.29	0.07	0.19	0.19	0.13	0.33	0.33	0.06	0.26	0.26
Sat Flow, veh/h	3483	3582	1574	3483	3582	1593	3483	3582	1567	3483	3582	1585
Grp Volume(v), veh/h	496	416	89	101	460	195	369	538	32	79	422	415
Grp Sat Flow(s),veh/h/ln	1742	1791	1574	1742	1791	1593	1742	1791	1567	1742	1791	1585
Q Serve(g_s), s	8.7	5.8	2.2	1.7	7.4	6.5	6.4	7.4	0.8	1.4	6.1	12.8
Cycle Q Clear(g_c), s	8.7	5.8	2.2	1.7	7.4	6.5	6.4	7.4	0.8	1.4	6.1	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	559	1027	656	231	690	402	447	1184	624	208	939	672
V/C Ratio(X)	0.89	0.41	0.14	0.44	0.67	0.48	0.83	0.45	0.05	0.38	0.45	0.62
Avail Cap(c_a), veh/h	559	1321	786	279	1034	555	447	1184	624	391	1034	714
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.6	17.9	11.3	28.0	23.3	19.9	26.5	16.4	11.6	28.2	19.2	14.1
Incr Delay (d2), s/veh	16.0	0.3	0.1	1.3	1.1	0.9	12.0	0.3	0.0	1.1	0.3	1.5
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	2.2	0.7	0.7	3.0	2.3	3.2	2.7	0.2	0.6	2.3	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.6	18.2	11.4	29.3	24.4	20.8	38.5	16.7	11.6	29.3	19.6	15.6
LnGrp LOS	D	B	B	C	C	C	D	B	B	C	B	B
Approach Vol, veh/h		1001			756			939			916	
Approach Delay, s/veh		29.2			24.1			25.1			18.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	24.6	8.1	21.9	12.0	20.3	14.0	16.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	19.0	5.0	23.0	8.0	18.0	10.0	18.0
Max Q Clear Time (g_c+I1), s	3.7	9.4	3.7	7.8	8.4	14.8	10.7	9.4
Green Ext Time (p_c), s	0.1	2.4	0.0	2.6	0.0	1.3	0.0	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	24.4
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	69	44	137	105	33	130	110	101	17	134	56
Future Volume (veh/h)	37	69	44	137	105	33	130	110	101	17	134	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796	1737	1737	1737	1767	1767	1767	1678	1678	1678
Adj Flow Rate, veh/h	40	75	22	149	114	28	141	120	58	18	146	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	11	11	11	9	9	9	15	15	15
Cap, veh/h	238	309	74	363	190	39	197	323	156	37	253	61
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.12	0.29	0.29	0.02	0.19	0.19
Sat Flow, veh/h	281	1121	268	636	689	141	1682	1125	544	1598	1308	314
Grp Volume(v), veh/h	137	0	0	291	0	0	141	0	178	18	0	181
Grp Sat Flow(s),veh/h/ln	1671	0	0	1466	0	0	1682	0	1669	1598	0	1621
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	2.3	0.0	2.5	0.3	0.0	2.9
Cycle Q Clear(g_c), s	1.8	0.0	0.0	5.0	0.0	0.0	2.3	0.0	2.5	0.3	0.0	2.9
Prop In Lane	0.29		0.16	0.51		0.10	1.00		0.33	1.00		0.19
Lane Grp Cap(c), veh/h	621	0	0	592	0	0	197	0	480	37	0	314
V/C Ratio(X)	0.22	0.00	0.00	0.49	0.00	0.00	0.72	0.00	0.37	0.48	0.00	0.58
Avail Cap(c_a), veh/h	1254	0	0	1170	0	0	522	0	1324	276	0	1062
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	9.3	0.0	0.0	12.3	0.0	8.2	14.0	0.0	10.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.6	0.0	0.0	4.8	0.0	0.5	9.4	0.0	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.8	0.0	0.0	0.8	0.0	0.5	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.4	0.0	0.0	10.0	0.0	0.0	17.1	0.0	8.7	23.4	0.0	12.3
LnGrp LOS	A			A			B		A	C		B
Approach Vol, veh/h		137			291			319			199	
Approach Delay, s/veh		8.4			10.0			12.4			13.3	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	12.3		12.0	7.4	9.6		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	23.0		20.0	9.0	19.0		20.0				
Max Q Clear Time (g_c+I1), s	2.3	4.5		3.8	4.3	4.9		7.0				
Green Ext Time (p_c), s	0.0	0.8		0.6	0.1	0.7		1.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	11.3	
HCM 7th LOS	B	

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	118	7	77	189	36	27	74	82	22	101	27
Future Vol, veh/h	55	118	7	77	189	36	27	74	82	22	101	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	9	9	9	11	11	11	2	2	2	5	5	5
Mvmt Flow	60	128	8	84	205	39	29	80	89	24	110	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	11.2	13.7	10.9	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	31%	25%	15%
Vol Thru, %	40%	66%	63%	67%
Vol Right, %	45%	4%	12%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	180	302	150
LT Vol	27	55	77	22
Through Vol	74	118	189	101
RT Vol	82	7	36	27
Lane Flow Rate	199	196	328	163
Geometry Grp	1	1	1	1
Degree of Util (X)	0.301	0.308	0.495	0.259
Departure Headway (Hd)	5.451	5.658	5.425	5.719
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	656	634	663	626
Service Time	3.504	3.708	3.467	3.775
HCM Lane V/C Ratio	0.303	0.309	0.495	0.26
HCM Control Delay, s/veh	10.9	11.2	13.7	10.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.3	1.3	2.8	1

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	147	67	61	207	17	67	113	62	21	116	15
Future Vol, veh/h	5	147	67	61	207	17	67	113	62	21	116	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	6	6	6	11	11	11	11	11	11	8	8	8
Mvmt Flow	5	160	73	66	225	18	73	123	67	23	126	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	12.2	14.6	13.4	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	2%	21%	14%
Vol Thru, %	47%	67%	73%	76%
Vol Right, %	26%	31%	6%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	242	219	285	152
LT Vol	67	5	61	21
Through Vol	113	147	207	116
RT Vol	62	67	17	15
Lane Flow Rate	263	238	310	165
Geometry Grp	1	1	1	1
Degree of Util (X)	0.43	0.376	0.5	0.28
Departure Headway (Hd)	5.89	5.682	5.808	6.106
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	608	628	616	583
Service Time	3.968	3.759	3.879	4.194
HCM Lane V/C Ratio	0.433	0.379	0.503	0.283
HCM Control Delay, s/veh	13.4	12.2	14.6	11.6
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.2	1.7	2.8	1.1

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	385	664	9	28	77
Future Vol, veh/h	26	385	664	9	28	77
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	92	92	92	92	92	92
Heavy Vehicles, %	7	7	1	1	2	2
Mvmt Flow	28	418	722	10	30	84

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	732	0	-	0	992	366
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	266	-
Critical Hdwy	4.24	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.27	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	836	-	-	-	242	631
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	836	-	-	-	234	631
Mov Cap-2 Maneuver	-	-	-	-	234	-
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.6	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	836	-	-	-	435
HCM Lane V/C Ratio	0.034	-	-	-	0.263
HCM Ctrl Dly (s/v)	9.5	-	-	-	16.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1

Intersection	
Intersection Delay, s/veh	19.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	179	184	80	218	37	151	80	50	45	151	52
Future Vol, veh/h	58	179	184	80	218	37	151	80	50	45	151	52
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	14	14	14	11	11	11	7	7	7	1	1	1
Mvmt Flow	58	179	184	80	218	37	151	80	50	45	151	52
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	23.7	16.9	19.2	16.9
HCM LOS	C	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	54%	100%	0%	100%	0%	18%
Vol Thru, %	28%	0%	49%	0%	85%	61%
Vol Right, %	18%	0%	51%	0%	15%	21%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	281	58	363	80	255	248
LT Vol	151	58	0	80	0	45
Through Vol	80	0	179	0	218	151
RT Vol	50	0	184	0	37	52
Lane Flow Rate	281	58	363	80	255	248
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	0.561	0.128	0.712	0.179	0.527	0.49
Departure Headway (Hd)	7.181	7.937	7.058	8.063	7.443	7.113
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	500	449	508	442	482	503
Service Time	5.272	5.722	4.842	5.857	5.236	5.209
HCM Lane V/C Ratio	0.562	0.129	0.715	0.181	0.529	0.493
HCM Control Delay, s/veh	19.2	11.9	25.6	12.6	18.3	16.9
HCM Lane LOS	C	B	D	B	C	C
HCM 95th-tile Q	3.4	0.4	5.7	0.6	3	2.7



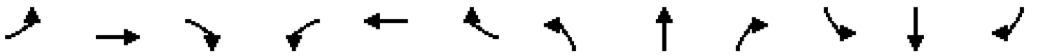
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	308	63	55	318	96	263	338	128	78	307	370
Future Volume (veh/h)	221	308	63	55	318	96	263	338	128	78	307	370
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	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	1856	1856	1856	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	221	308	24	55	318	28	263	338	43	78	307	240
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	3	3	3	2	2	2	3	3	3	3	3	3
Cap, veh/h	380	784	530	195	598	380	403	937	507	245	774	519
Arrive On Green	0.11	0.22	0.22	0.06	0.17	0.17	0.12	0.27	0.27	0.07	0.22	0.22
Sat Flow, veh/h	3428	3526	1552	3456	3554	1585	3428	3526	1572	3428	3526	1572
Grp Volume(v), veh/h	221	308	24	55	318	28	263	338	43	78	307	240
Grp Sat Flow(s),veh/h/ln	1714	1763	1552	1728	1777	1585	1714	1763	1572	1714	1763	1572
Q Serve(g_s), s	2.6	3.1	0.4	0.6	3.4	0.6	3.1	3.2	0.8	0.9	3.1	5.0
Cycle Q Clear(g_c), s	2.6	3.1	0.4	0.6	3.4	0.6	3.1	3.2	0.8	0.9	3.1	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	784	530	195	598	380	403	937	507	245	774	519
V/C Ratio(X)	0.58	0.39	0.05	0.28	0.53	0.07	0.65	0.36	0.08	0.32	0.40	0.46
Avail Cap(c_a), veh/h	494	1608	893	415	1535	798	494	1692	844	411	1608	891
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.6	13.8	9.2	18.8	15.8	12.3	17.6	12.4	9.8	18.4	13.9	11.0
Incr Delay (d2), s/veh	1.4	0.3	0.0	0.8	0.7	0.1	2.2	0.2	0.1	0.7	0.3	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.0	0.1	0.2	1.2	0.2	1.1	1.0	0.2	0.3	1.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.0	14.1	9.3	19.6	16.6	12.3	19.8	12.7	9.9	19.1	14.2	11.7
LnGrp LOS	B	B	A	B	B	B	B	B	A	B	B	B
Approach Vol, veh/h		553			401			644			625	
Approach Delay, s/veh		15.9			16.7			15.4			13.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	15.1	6.4	13.3	8.9	13.1	8.6	11.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	5.0	20.0	5.0	19.0	6.0	19.0	6.0	18.0
Max Q Clear Time (g_c+I1), s	2.9	5.2	2.6	5.1	5.1	7.0	4.6	5.4
Green Ext Time (p_c), s	0.0	1.8	0.0	1.6	0.1	2.1	0.1	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	15.3
HCM 7th LOS	B

Notes

User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	124	60	107	99	35	140	528	238	50	140	70
Future Volume (veh/h)	51	124	60	107	99	35	140	528	238	50	140	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1781	1781	1781	1811	1811	1811
Adj Flow Rate, veh/h	51	124	42	107	99	26	140	528	215	50	140	45
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	8	8	8	6	6	6
Cap, veh/h	148	210	63	232	148	34	180	616	251	88	600	193
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.51	0.51	0.05	0.46	0.46
Sat Flow, veh/h	295	1131	342	658	797	184	1697	1203	490	1725	1313	422
Grp Volume(v), veh/h	217	0	0	232	0	0	140	0	743	50	0	185
Grp Sat Flow(s),veh/h/ln	1768	0	0	1638	0	0	1697	0	1693	1725	0	1735
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	3.8	0.0	18.2	1.4	0.0	3.1
Cycle Q Clear(g_c), s	5.2	0.0	0.0	6.1	0.0	0.0	3.8	0.0	18.2	1.4	0.0	3.1
Prop In Lane	0.24		0.19	0.46		0.11	1.00		0.29	1.00		0.24
Lane Grp Cap(c), veh/h	421	0	0	414	0	0	180	0	867	88	0	792
V/C Ratio(X)	0.52	0.00	0.00	0.56	0.00	0.00	0.78	0.00	0.86	0.57	0.00	0.23
Avail Cap(c_a), veh/h	735	0	0	696	0	0	427	0	1244	181	0	1020
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	0.0	18.2	0.0	0.0	20.8	0.0	10.1	22.1	0.0	7.9
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.2	0.0	0.0	7.1	0.0	4.3	5.7	0.0	0.1
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	0.0	2.0	0.0	0.0	1.6	0.0	4.6	0.6	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.9	0.0	0.0	19.4	0.0	0.0	27.9	0.0	14.4	27.8	0.0	8.0
LnGrp LOS	B			B			C		B	C		A
Approach Vol, veh/h		217			232			883			235	
Approach Delay, s/veh		18.9			19.4			16.6			12.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	28.4		12.8	9.0	25.8		12.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	5.0	35.0		18.0	12.0	28.0		18.0				
Max Q Clear Time (g_c+I1), s	3.4	20.2		7.2	5.8	5.1		8.1				
Green Ext Time (p_c), s	0.0	4.2		0.8	0.2	0.9		0.8				

Intersection Summary		
HCM 7th Control Delay, s/veh		16.7
HCM 7th LOS		B

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	143	258	15	78	174	12	15	153	67	7	72	10
Future Vol, veh/h	143	258	15	78	174	12	15	153	67	7	72	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	6	6	6	5	5	5	4	4	4	3	3	3
Mvmt Flow	143	258	15	78	174	12	15	153	67	7	72	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	17.6	12.8	12.5	10.5
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	34%	30%	8%
Vol Thru, %	65%	62%	66%	81%
Vol Right, %	29%	4%	5%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	235	416	264	89
LT Vol	15	143	78	7
Through Vol	153	258	174	72
RT Vol	67	15	12	10
Lane Flow Rate	235	416	264	89
Geometry Grp	1	1	1	1
Degree of Util (X)	0.382	0.633	0.416	0.155
Departure Headway (Hd)	5.853	5.475	5.677	6.276
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	611	657	631	567
Service Time	3.921	3.53	3.742	4.363
HCM Lane V/C Ratio	0.385	0.633	0.418	0.157
HCM Control Delay, s/veh	12.5	17.6	12.8	10.5
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	1.8	4.5	2	0.5

Intersection	
Intersection Delay, s/veh	16.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	90	193	41	61	207	17	46	226	95	17	108	11
Future Vol, veh/h	90	193	41	61	207	17	46	226	95	17	108	11
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	6	6	6	4	4	4	5	5	5	7	7	7
Mvmt Flow	90	193	41	61	207	17	46	226	95	17	108	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	17	15.5	18.7	12.2
HCM LOS	C	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	28%	21%	13%
Vol Thru, %	62%	60%	73%	79%
Vol Right, %	26%	13%	6%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	367	324	285	136
LT Vol	46	90	61	17
Through Vol	226	193	207	108
RT Vol	95	41	17	11
Lane Flow Rate	367	324	285	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.621	0.56	0.499	0.256
Departure Headway (Hd)	6.092	6.226	6.302	6.789
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	591	580	570	528
Service Time	4.137	4.275	4.352	4.851
HCM Lane V/C Ratio	0.621	0.559	0.5	0.258
HCM Control Delay, s/veh	18.7	17	15.5	12.2
HCM Lane LOS	C	C	C	B
HCM 95th-tile Q	4.3	3.4	2.8	1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	86	1225	665	32	18	52
Future Vol, veh/h	86	1225	665	32	18	52
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	92	92	92	92	92	92
Heavy Vehicles, %	4	4	2	2	2	2
Mvmt Flow	93	1332	723	35	20	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	758	0	-	0	1593	379
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	853	-
Critical Hdwy	4.18	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.24	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	836	-	-	-	98	619
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	378	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	836	-	-	-	87	619
Mov Cap-2 Maneuver	-	-	-	-	87	-
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	378	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.65	0	26.76
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	836	-	-	-	240
HCM Lane V/C Ratio	0.112	-	-	-	0.316
HCM Ctrl Dly (s/v)	9.8	-	-	-	26.8
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	1.3

Intersection	
Intersection Delay, s/veh	78.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	308	178	59	235	60	208	222	128	34	72	72
Future Vol, veh/h	76	308	178	59	235	60	208	222	128	34	72	72
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	9	9	9	6	6	6	4	4	4	3	3	3
Mvmt Flow	76	308	178	59	235	60	208	222	128	34	72	72
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay, s/veh	84.1	27.6	124.5	19.6
HCM LOS	F	D	F	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	37%	100%	0%	100%	0%	19%
Vol Thru, %	40%	0%	63%	0%	80%	40%
Vol Right, %	23%	0%	37%	0%	20%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	558	76	486	59	295	178
LT Vol	208	76	0	59	0	34
Through Vol	222	0	308	0	235	72
RT Vol	128	0	178	0	60	72
Lane Flow Rate	558	76	486	59	295	178
Geometry Grp	2	5	5	5	5	2
Degree of Util (X)	1.171	0.184	1.076	0.149	0.694	0.432
Departure Headway (Hd)	7.908	9.354	8.564	9.891	9.216	9.518
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	463	386	428	365	395	381
Service Time	5.908	7.054	6.264	7.591	6.916	7.518
HCM Lane V/C Ratio	1.205	0.197	1.136	0.162	0.747	0.467
HCM Control Delay, s/veh	124.5	14.2	95	14.3	30.3	19.6
HCM Lane LOS	F	B	F	B	D	C
HCM 95th-tile Q	19.8	0.7	15.2	0.5	5.1	2.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	502	416	158	101	460	288	369	542	106	81	425	466
Future Volume (veh/h)	502	416	158	101	460	288	369	542	106	81	425	466
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
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	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	502	416	90	101	460	195	369	542	32	81	425	418
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	558	1026	656	231	690	403	446	1184	624	210	942	673
Arrive On Green	0.16	0.29	0.29	0.07	0.19	0.19	0.13	0.33	0.33	0.06	0.26	0.26
Sat Flow, veh/h	3483	3582	1574	3483	3582	1593	3483	3582	1567	3483	3582	1585
Grp Volume(v), veh/h	502	416	90	101	460	195	369	542	32	81	425	418
Grp Sat Flow(s),veh/h/ln	1742	1791	1574	1742	1791	1593	1742	1791	1567	1742	1791	1585
Q Serve(g_s), s	8.8	5.9	2.2	1.7	7.4	6.5	6.5	7.5	0.8	1.4	6.2	12.9
Cycle Q Clear(g_c), s	8.8	5.9	2.2	1.7	7.4	6.5	6.5	7.5	0.8	1.4	6.2	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	558	1026	656	231	690	403	446	1184	624	210	942	673
V/C Ratio(X)	0.90	0.41	0.14	0.44	0.67	0.48	0.83	0.46	0.05	0.38	0.45	0.62
Avail Cap(c_a), veh/h	558	1319	784	279	1033	556	446	1184	624	390	1033	713
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	18.0	11.3	28.0	23.4	19.9	26.5	16.5	11.6	28.2	19.2	14.1
Incr Delay (d2), s/veh	17.6	0.3	0.1	1.3	1.1	0.9	12.1	0.3	0.0	1.2	0.3	1.5
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	4.7	2.2	0.7	0.7	3.0	2.3	3.2	2.7	0.2	0.6	2.3	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.3	18.2	11.4	29.3	24.5	20.8	38.7	16.8	11.6	29.4	19.6	15.6
LnGrp LOS	D	B	B	C	C	C	D	B	B	C	B	B
Approach Vol, veh/h		1008			756			943			924	
Approach Delay, s/veh		30.1			24.2			25.2			18.7	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	24.6	8.1	21.9	12.0	20.4	14.0	16.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.8	19.0	5.0	23.0	8.0	18.0	10.0	18.0
Max Q Clear Time (g_c+I1), s	3.8	9.5	3.7	7.9	8.5	14.9	10.8	9.4
Green Ext Time (p_c), s	0.1	2.4	0.0	2.6	0.0	1.3	0.0	2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	24.7
HCM 7th LOS	C

Intersection	
Intersection Delay, s/veh	59.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	308	178	59	235	60	208	222	128	34	72	72
Future Vol, veh/h	76	308	178	59	235	60	208	222	128	34	72	72
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	9	9	9	6	6	6	4	4	4	3	3	3
Mvmt Flow	76	308	178	59	235	60	208	222	128	34	72	72
Number of Lanes	1	1	0	1	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay, s/veh	88.9	27.3	62.8	20.8
HCM LOS	F	D	F	C

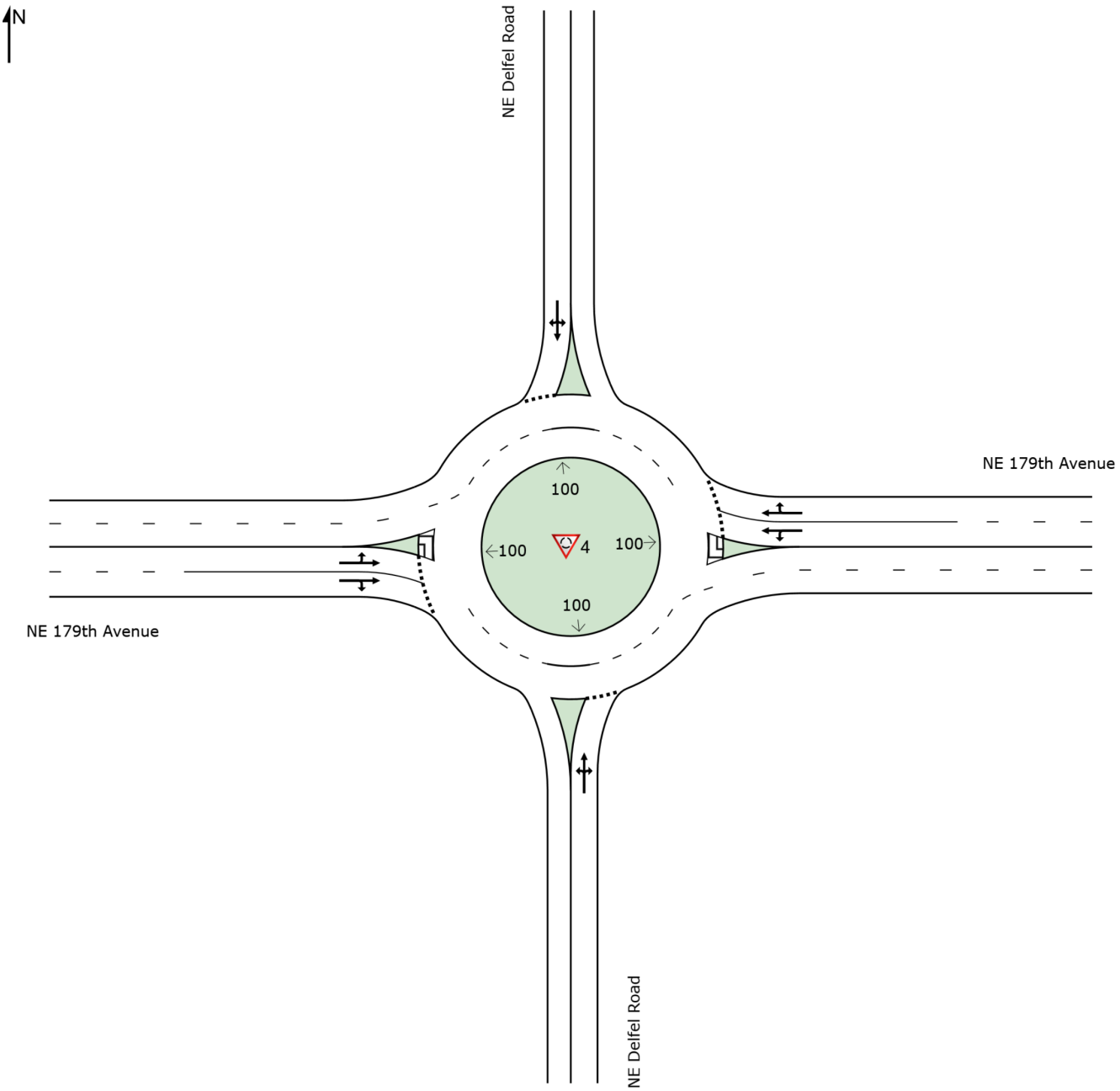
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	48%	0%	100%	0%	100%	0%	19%
Vol Thru, %	52%	0%	0%	63%	0%	80%	40%
Vol Right, %	0%	100%	0%	37%	0%	20%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	430	128	76	486	59	295	178
LT Vol	208	0	76	0	59	0	34
Through Vol	222	0	0	308	0	235	72
RT Vol	0	128	0	178	0	60	72
Lane Flow Rate	430	128	76	486	59	295	178
Geometry Grp	5	5	5	5	5	5	4b
Degree of Util (X)	1.011	0.266	0.187	1.097	0.151	0.699	0.458
Departure Headway (Hd)	8.836	7.86	9.115	8.328	9.633	8.961	9.809
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	413	460	396	437	375	407	370
Service Time	6.536	5.56	6.815	6.028	7.333	6.661	7.809
HCM Lane V/C Ratio	1.041	0.278	0.192	1.112	0.157	0.725	0.481
HCM Control Delay, s/veh	77.5	13.4	13.9	100.6	14	30	20.8
HCM Lane LOS	F	B	B	F	B	D	C
HCM 95th-tile Q	12.7	1.1	0.7	16.2	0.5	5.2	2.3

SITE LAYOUT

Site: 4 [Int 4 BGAM (Site Folder: Int 4 - 179th&Delfel)]

NE 179th Street at NE Delfel Road
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 4 [Int 4 BGAM (Site Folder: Int 4 - 179th&Delfel)]

NE 179th Street at NE Delfel Road
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE Delfel Road														
3	L2	2	12.3	2	12.3	0.133	12.5	LOS B	0.5	13.0	0.50	0.69	0.50	36.4
8	T1	5	12.3	5	12.3	0.133	6.6	LOS A	0.5	13.0	0.50	0.69	0.50	36.4
18	R2	88	12.3	88	12.3	0.133	6.5	LOS A	0.5	13.0	0.50	0.69	0.50	35.2
Approach		95	12.3	95	12.3	0.133	6.6	LOS A	0.5	13.0	0.50	0.69	0.50	35.3
East: NE 179th Avenue														
1	L2	127	10.8	127	10.8	0.148	10.1	LOS B	0.8	21.5	0.13	0.56	0.13	35.5
6	T1	135	10.8	135	10.8	0.148	4.2	LOS A	0.8	21.7	0.13	0.49	0.13	36.5
16	R2	143	10.8	143	10.8	0.148	4.3	LOS A	0.8	21.7	0.12	0.42	0.12	36.2
Approach		405	10.8	405	10.8	0.148	6.1	LOS A	0.8	21.7	0.13	0.48	0.13	36.1
North: NE Delfel Road														
7	L2	301	3.9	301	3.9	0.337	11.2	LOS B	1.4	35.5	0.40	0.71	0.40	34.3
4	T1	10	3.9	10	3.9	0.337	5.4	LOS A	1.4	35.5	0.40	0.71	0.40	34.2
14	R2	14	3.9	14	3.9	0.337	5.2	LOS A	1.4	35.5	0.40	0.71	0.40	33.2
Approach		325	3.9	325	3.9	0.337	10.8	LOS B	1.4	35.5	0.40	0.71	0.40	34.2
West: NE 179th Avenue														
5	L2	17	6.8	17	6.8	0.160	12.3	LOS B	0.9	22.7	0.56	0.63	0.56	35.7
2	T1	302	6.8	302	6.8	0.160	6.3	LOS A	0.9	23.8	0.55	0.59	0.55	35.8
12	R2	7	6.8	7	6.8	0.160	6.1	LOS A	0.9	23.8	0.55	0.56	0.55	34.8
Approach		326	6.8	326	6.8	0.160	6.6	LOS A	0.9	23.8	0.55	0.59	0.55	35.8
All Vehicles		1151	7.8	1151	7.8	0.337	7.6	LOS A	1.4	35.5	0.35	0.60	0.35	35.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 4 [Int 4 BGPM (Site Folder: Int 4 - 179th&Delfel)]

NE 179th Street at NE Delfel Road
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE Delfel Road														
3	L2	24	2.2	24	2.2	0.325	11.9	LOS B	1.3	34.1	0.51	0.68	0.51	36.5
8	T1	59	2.2	59	2.2	0.325	6.1	LOS A	1.3	34.1	0.51	0.68	0.51	36.4
18	R2	197	2.2	197	2.2	0.325	6.0	LOS A	1.3	34.1	0.51	0.68	0.51	35.2
Approach		280	2.2	280	2.2	0.325	6.5	LOS A	1.3	34.1	0.51	0.68	0.51	35.6
East: NE 179th Avenue														
1	L2	161	2.6	161	2.6	0.418	10.8	LOS B	2.8	72.2	0.41	0.54	0.41	36.0
6	T1	363	2.6	363	2.6	0.418	5.0	LOS A	2.8	72.2	0.41	0.54	0.41	35.9
16	R2	605	2.6	605	2.6	0.424	4.9	LOS A	2.9	75.1	0.39	0.51	0.39	35.7
Approach		1129	2.6	1129	2.6	0.424	5.8	LOS A	2.9	75.1	0.40	0.52	0.40	35.8
North: NE Delfel Road														
7	L2	214	2.3	214	2.3	0.303	12.8	LOS B	1.5	38.7	0.60	0.81	0.60	33.9
4	T1	10	2.3	10	2.3	0.303	7.0	LOS A	1.5	38.7	0.60	0.81	0.60	33.8
14	R2	15	2.3	15	2.3	0.303	6.8	LOS A	1.5	38.7	0.60	0.81	0.60	32.8
Approach		239	2.3	239	2.3	0.303	12.2	LOS B	1.5	38.7	0.60	0.81	0.60	33.8
West: NE 179th Avenue														
5	L2	61	8.6	61	8.6	0.146	12.0	LOS B	0.8	20.7	0.52	0.65	0.52	35.0
2	T1	226	8.6	226	8.6	0.146	5.9	LOS A	0.8	21.6	0.51	0.57	0.51	35.7
12	R2	18	8.6	18	8.6	0.146	5.8	LOS A	0.8	21.6	0.51	0.54	0.51	34.9
Approach		305	8.6	305	8.6	0.146	7.1	LOS A	0.8	21.6	0.52	0.59	0.52	35.5
All Vehicles		1953	3.4	1953	3.4	0.424	6.9	LOS A	2.9	75.1	0.46	0.59	0.46	35.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Int 4 STAM (Site Folder: Int 4 - 179th&Delfel)]

NE 179th Street at NE Delfel Road
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE Delfel Road														
3	L2	2	12.3	2	12.3	0.135	12.5	LOS B	0.5	13.2	0.50	0.69	0.50	36.4
8	T1	5	12.3	5	12.3	0.135	6.6	LOS A	0.5	13.2	0.50	0.69	0.50	36.4
18	R2	89	12.3	89	12.3	0.135	6.5	LOS A	0.5	13.2	0.50	0.69	0.50	35.2
Approach		96	12.3	96	12.3	0.135	6.6	LOS A	0.5	13.2	0.50	0.69	0.50	35.3
East: NE 179th Avenue														
1	L2	129	10.8	129	10.8	0.149	10.1	LOS B	0.8	21.8	0.13	0.56	0.13	35.5
6	T1	137	10.8	137	10.8	0.149	4.2	LOS A	0.8	22.0	0.13	0.48	0.13	36.6
16	R2	143	10.8	143	10.8	0.149	4.3	LOS A	0.8	22.0	0.12	0.42	0.12	36.2
Approach		409	10.8	409	10.8	0.149	6.1	LOS A	0.8	22.0	0.13	0.48	0.13	36.1
North: NE Delfel Road														
7	L2	301	3.9	301	3.9	0.338	11.2	LOS B	1.4	35.6	0.40	0.71	0.40	34.3
4	T1	10	3.9	10	3.9	0.338	5.4	LOS A	1.4	35.6	0.40	0.71	0.40	34.2
14	R2	14	3.9	14	3.9	0.338	5.3	LOS A	1.4	35.6	0.40	0.71	0.40	33.2
Approach		325	3.9	325	3.9	0.338	10.8	LOS B	1.4	35.6	0.40	0.71	0.40	34.2
West: NE 179th Avenue														
5	L2	17	6.8	17	6.8	0.160	12.4	LOS B	0.9	22.8	0.56	0.63	0.56	35.7
2	T1	303	6.8	303	6.8	0.160	6.3	LOS A	0.9	23.9	0.55	0.59	0.55	35.8
12	R2	7	6.8	7	6.8	0.160	6.1	LOS A	0.9	23.9	0.55	0.56	0.55	34.8
Approach		327	6.8	327	6.8	0.160	6.6	LOS A	0.9	23.9	0.55	0.59	0.55	35.8
All Vehicles		1157	7.9	1157	7.9	0.338	7.6	LOS A	1.4	35.6	0.35	0.60	0.35	35.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 4 [Int 4 STPM (Site Folder: Int 4 - 179th&Delfel)]

NE 179th Street at NE Delfel Road
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE Delfel Road														
3	L2	24	2.2	24	2.2	0.328	11.9	LOS B	1.4	34.5	0.51	0.69	0.51	36.5
8	T1	59	2.2	59	2.2	0.328	6.1	LOS A	1.4	34.5	0.51	0.69	0.51	36.4
18	R2	199	2.2	199	2.2	0.328	6.0	LOS A	1.4	34.5	0.51	0.69	0.51	35.2
Approach		282	2.2	282	2.2	0.328	6.5	LOS A	1.4	34.5	0.51	0.69	0.51	35.6
East: NE 179th Avenue														
1	L2	163	2.6	163	2.6	0.420	10.8	LOS B	2.9	72.8	0.41	0.54	0.41	36.0
6	T1	364	2.6	364	2.6	0.420	5.0	LOS A	2.9	72.8	0.41	0.54	0.41	35.8
16	R2	605	2.6	605	2.6	0.424	4.9	LOS A	2.9	75.1	0.39	0.51	0.39	35.7
Approach		1132	2.6	1132	2.6	0.424	5.8	LOS A	2.9	75.1	0.40	0.52	0.40	35.8
North: NE Delfel Road														
7	L2	214	2.3	214	2.3	0.304	12.8	LOS B	1.5	38.9	0.60	0.81	0.60	33.9
4	T1	10	2.3	10	2.3	0.304	7.0	LOS A	1.5	38.9	0.60	0.81	0.60	33.8
14	R2	15	2.3	15	2.3	0.304	6.9	LOS A	1.5	38.9	0.60	0.81	0.60	32.8
Approach		239	2.3	239	2.3	0.304	12.2	LOS B	1.5	38.9	0.60	0.81	0.60	33.8
West: NE 179th Avenue														
5	L2	61	8.6	61	8.6	0.148	12.0	LOS B	0.8	21.0	0.53	0.65	0.53	35.0
2	T1	229	8.6	229	8.6	0.148	5.9	LOS A	0.8	21.9	0.52	0.58	0.52	35.7
12	R2	18	8.6	18	8.6	0.148	5.8	LOS A	0.8	21.9	0.51	0.54	0.51	34.9
Approach		308	8.6	308	8.6	0.148	7.1	LOS A	0.8	21.9	0.52	0.59	0.52	35.5
All Vehicles		1961	3.4	1961	3.4	0.424	6.9	LOS A	2.9	75.1	0.46	0.59	0.46	35.5

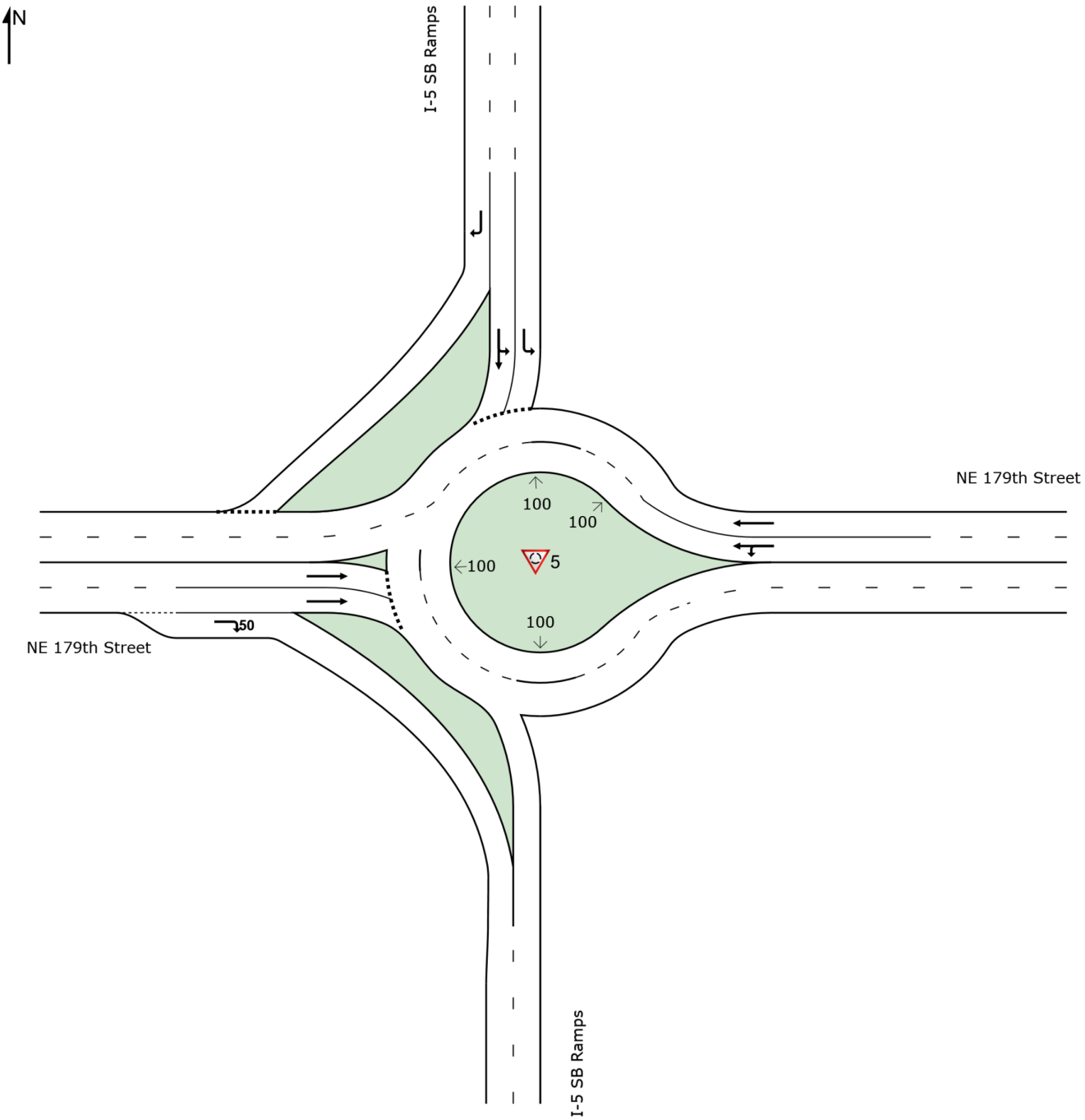
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 5 [Int 5 BGAM (Site Folder: Int 5 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 5 [Int 5 BGAM (Site Folder: Int 5 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	683	7.9	683	7.9	0.530	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	34.9
6	T1	349	7.9	349	7.9	0.318	4.1	LOS A	0.0	0.0	0.00	0.38	0.00	38.1
Approach		1032	7.9	1032	7.9	0.530	8.0	LOS A	0.0	0.0	0.00	0.56	0.00	35.9
North: I-5 SB Ramps														
7	L2	300	10.2	300	10.2	0.166	13.0	LOS B	0.7	18.3	0.57	0.83	0.57	33.3
4	T1	2	10.2	2	10.2	0.166	6.7	LOS A	0.7	18.3	0.56	0.81	0.56	33.5
14	R2	87	10.2	87	10.2	0.070	5.2	LOS A	0.3	7.7	0.37	0.53	0.37	35.6
Approach		389	10.2	389	10.2	0.166	11.2	LOS B	0.7	18.3	0.52	0.76	0.52	33.8
West: NE 179th Street														
2	T1	203	5.9	203	5.9	0.117	7.4	LOS A	0.6	15.0	0.63	0.68	0.63	35.7
12	R2	535	5.9	535	5.9	0.338	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	36.9
Approach		738	5.9	738	5.9	0.338	4.9	LOS A	0.6	15.0	0.17	0.51	0.17	36.5
All Vehicles		2159	7.6	2159	7.6	0.530	7.5	LOS A	0.7	18.3	0.15	0.58	0.15	35.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [Int 5 BGPM (Site Folder: Int 5 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	866	1.6	941	1.6	0.747	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	35.3
6	T1	1010	1.6	1098	1.6	0.747	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		1876	1.6	2039	1.6	0.747	6.7	LOS A	0.0	0.0	0.00	0.52	0.00	36.7
North: I-5 SB Ramps														
7	L2	468	3.4	509	3.4	0.331	16.0	LOS B	1.8	45.2	0.76	0.94	0.82	32.1
4	T1	4	3.4	4	3.4	0.331	9.5	LOS A	1.8	45.2	0.78	0.94	0.81	32.4
14	R2	173	3.4	188	3.4	0.190	8.3	LOS A	1.0	26.5	0.68	0.76	0.68	34.4
Approach		645	3.4	701	3.4	0.331	13.9	LOS B	1.8	45.2	0.74	0.89	0.79	32.7
West: NE 179th Street														
2	T1	251	2.9	273	2.9	0.199	9.7	LOS A	1.2	30.2	0.79	0.85	0.79	34.8
12	R2	360	2.9	391	2.9	0.240	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		611	2.9	664	2.9	0.240	6.3	LOS A	1.2	30.2	0.33	0.61	0.33	36.1
All Vehicles		3132	2.2	3404	2.2	0.747	8.1	LOS A	1.8	45.2	0.22	0.61	0.23	35.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [Int 5 STAM (Site Folder: Int 5 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	726	7.9	726	7.9	0.563	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	34.9
6	T1	353	7.9	353	7.9	0.326	4.1	LOS A	0.0	0.0	0.00	0.38	0.00	38.1
Approach		1079	7.9	1079	7.9	0.563	8.0	LOS A	0.0	0.0	0.00	0.57	0.00	35.9
North: I-5 SB Ramps														
7	L2	303	10.2	303	10.2	0.171	13.2	LOS B	0.7	19.3	0.58	0.84	0.58	33.3
4	T1	2	10.2	2	10.2	0.171	6.9	LOS A	0.7	19.3	0.58	0.82	0.58	33.5
14	R2	87	10.2	87	10.2	0.070	5.2	LOS A	0.3	7.7	0.37	0.54	0.37	35.6
Approach		392	10.2	392	10.2	0.171	11.4	LOS B	0.7	19.3	0.54	0.77	0.54	33.7
West: NE 179th Street														
2	T1	205	5.9	205	5.9	0.122	7.7	LOS A	0.6	16.0	0.65	0.71	0.65	35.6
12	R2	535	5.9	535	5.9	0.338	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	36.9
Approach		740	5.9	740	5.9	0.338	5.0	LOS A	0.6	16.0	0.18	0.52	0.18	36.5
All Vehicles		2211	7.6	2211	7.6	0.563	7.6	LOS A	0.7	19.3	0.16	0.59	0.16	35.7

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 5 [Int 5 STPM (Site Folder: Int 5 - I5SB&179th)]

NE 179th Street at I-5 SB Ramps
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: NE 179th Street														
1	L2	896	1.6	974	1.6	0.761	9.9	LOS A	0.0	0.0	0.00	0.66	0.00	35.3
6	T1	1013	1.6	1101	1.6	0.761	4.1	LOS A	0.0	0.0	0.00	0.39	0.00	38.1
Approach		1909	1.6	2075	1.6	0.761	6.8	LOS A	0.0	0.0	0.00	0.52	0.00	36.7
North: I-5 SB Ramps														
7	L2	480	3.4	522	3.4	0.345	16.5	LOS B	1.9	48.9	0.77	0.95	0.86	31.9
4	T1	4	3.4	4	3.4	0.345	9.9	LOS A	1.9	48.9	0.79	0.95	0.85	32.2
14	R2	173	3.4	188	3.4	0.194	8.5	LOS A	1.1	27.5	0.70	0.77	0.70	34.3
Approach		657	3.4	714	3.4	0.345	14.3	LOS B	1.9	48.9	0.75	0.90	0.82	32.5
West: NE 179th Street														
2	T1	256	2.9	278	2.9	0.211	10.2	LOS B	1.3	32.6	0.81	0.86	0.81	34.7
12	R2	360	2.9	391	2.9	0.240	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		616	2.9	670	2.9	0.240	6.5	LOS A	1.3	32.6	0.34	0.62	0.34	36.0
All Vehicles		3182	2.2	3459	2.2	0.761	8.3	LOS A	1.9	48.9	0.22	0.62	0.23	35.6

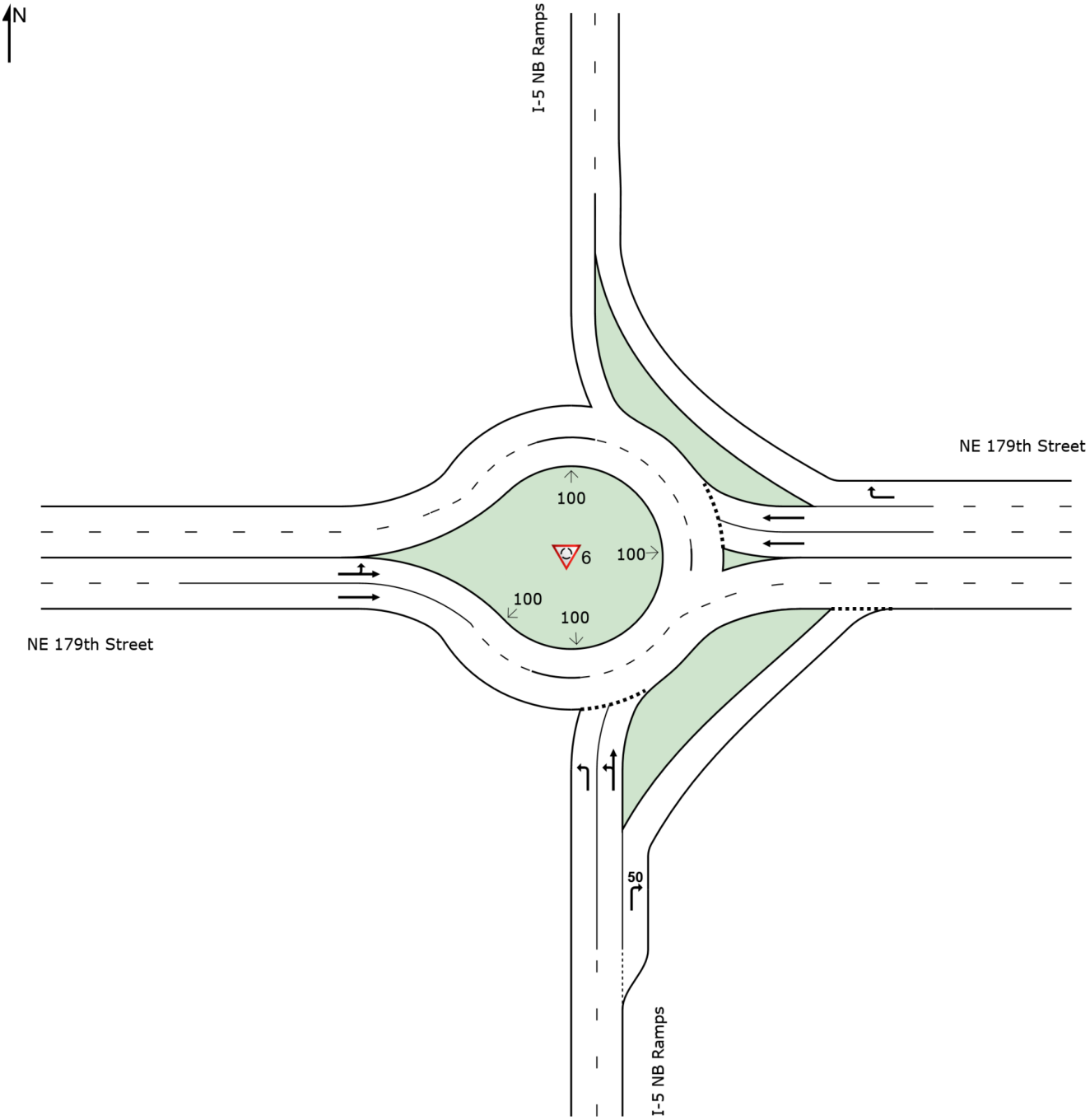
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 6 [Int 6 BGAM (Site Folder: Int 6 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 6 [Int 6 BGAM (Site Folder: Int 6 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	210	6.3	210	6.3	0.082	10.6	LOS B	0.3	7.3	0.28	0.65	0.28	34.3
8	T1	1	6.3	1	6.3	0.082	4.7	LOS A	0.3	7.3	0.27	0.65	0.27	34.3
18	R2	603	6.3	603	6.3	0.421	4.7	LOS A	2.1	55.1	0.31	0.51	0.31	35.9
Approach		814	6.3	814	6.3	0.421	6.2	LOS A	2.1	55.1	0.30	0.55	0.30	35.4
East: NE 179th Street														
6	T1	802	3.2	802	3.2	0.313	5.0	LOS A	1.4	36.3	0.40	0.47	0.40	36.6
16	R2	243	3.2	243	3.2	0.150	3.8	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1045	3.2	1045	3.2	0.313	4.8	LOS A	1.4	36.3	0.30	0.46	0.30	36.7
West: NE 179th Street														
5	L2	95	9.8	95	9.8	0.098	9.9	LOS A	0.0	0.0	0.00	0.62	0.00	35.5
2	T1	153	9.8	153	9.8	0.098	4.1	LOS A	0.0	0.0	0.00	0.42	0.00	37.6
Approach		248	9.8	248	9.8	0.098	6.3	LOS A	0.0	0.0	0.00	0.50	0.00	36.8
All Vehicles		2107	5.2	2107	5.2	0.421	5.5	LOS A	2.1	55.1	0.27	0.50	0.27	36.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Int 6 BGPM (Site Folder: Int 6 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	737	5.8	737	5.8	0.337	11.9	LOS B	1.3	35.3	0.51	0.80	0.51	33.7
8	T1	1	5.8	1	5.8	0.337	5.8	LOS A	1.3	35.3	0.50	0.78	0.50	33.7
18	R2	1231	5.8	1231	5.8	1.126	69.8	LOS F	57.9	1515.5	1.00	3.15	6.45	17.6
Approach		1969	5.8	1969	5.8	1.126	48.1	LOS D	57.9	1515.5	0.82	2.27	4.22	21.6
East: NE 179th Street														
6	T1	1127	2.0	1127	2.0	0.549	7.1	LOS A	3.5	89.7	0.69	0.71	0.81	35.5
16	R2	540	2.0	540	2.0	0.329	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1667	2.0	1667	2.0	0.549	6.0	LOS A	3.5	89.7	0.47	0.62	0.55	36.0
West: NE 179th Street														
5	L2	42	6.4	42	6.4	0.279	9.9	LOS A	0.0	0.0	0.00	0.43	0.00	37.8
2	T1	684	6.4	684	6.4	0.279	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		726	6.4	726	6.4	0.279	4.4	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
All Vehicles		4362	4.4	4362	4.4	1.126	24.7	LOS C	57.9	1515.5	0.55	1.33	2.12	27.8

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Int 6 STAM (Site Folder: Int 6 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	210	6.3	210	6.3	0.082	10.6	LOS B	0.3	7.3	0.29	0.65	0.29	34.3
8	T1	1	6.3	1	6.3	0.082	4.7	LOS A	0.3	7.3	0.28	0.65	0.28	34.3
18	R2	618	6.3	618	6.3	0.433	4.7	LOS A	2.2	57.3	0.32	0.51	0.32	35.9
Approach		829	6.3	829	6.3	0.433	6.2	LOS A	2.2	57.3	0.31	0.55	0.31	35.4
East: NE 179th Street														
6	T1	849	3.2	849	3.2	0.331	5.1	LOS A	1.5	39.1	0.40	0.47	0.40	36.6
16	R2	254	3.2	254	3.2	0.157	3.8	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1103	3.2	1103	3.2	0.331	4.8	LOS A	1.5	39.1	0.31	0.47	0.31	36.7
West: NE 179th Street														
5	L2	95	9.8	95	9.8	0.100	9.9	LOS A	0.0	0.0	0.00	0.62	0.00	35.6
2	T1	158	9.8	158	9.8	0.100	4.1	LOS A	0.0	0.0	0.00	0.42	0.00	37.6
Approach		253	9.8	253	9.8	0.100	6.3	LOS A	0.0	0.0	0.00	0.50	0.00	36.8
All Vehicles		2185	5.1	2185	5.1	0.433	5.5	LOS A	2.2	57.3	0.27	0.50	0.27	36.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 6 [Int 6 STPM (Site Folder: Int 6 - I5NB&179th)]

NE 179th Street at I-5 NB Ramps
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: I-5 NB Ramps														
3	L2	737	5.8	737	5.8	0.338	11.9	LOS B	1.4	35.4	0.51	0.80	0.51	33.7
8	T1	1	5.8	1	5.8	0.338	5.8	LOS A	1.4	35.4	0.50	0.78	0.50	33.7
18	R2	1280	5.8	1280	5.8	1.168	87.5	LOS F	71.5	1871.0	1.00	3.65	7.78	15.4
Approach		2018	5.8	2018	5.8	1.168	59.8	LOS E	71.5	1871.0	0.82	2.61	5.12	19.4
East: NE 179th Street														
6	T1	1160	2.0	1160	2.0	0.565	7.2	LOS A	3.7	94.9	0.70	0.72	0.83	35.5
16	R2	547	2.0	547	2.0	0.333	3.9	LOS A	0.0	0.0	0.00	0.45	0.00	37.0
Approach		1707	2.0	1707	2.0	0.565	6.1	LOS A	3.7	94.9	0.48	0.63	0.57	36.0
West: NE 179th Street														
5	L2	42	6.4	42	6.4	0.285	9.9	LOS A	0.0	0.0	0.00	0.42	0.00	37.8
2	T1	701	6.4	701	6.4	0.285	4.1	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
Approach		743	6.4	743	6.4	0.285	4.4	LOS A	0.0	0.0	0.00	0.40	0.00	38.0
All Vehicles		4468	4.4	4468	4.4	1.168	30.1	LOS C	71.5	1871.0	0.55	1.49	2.53	26.1

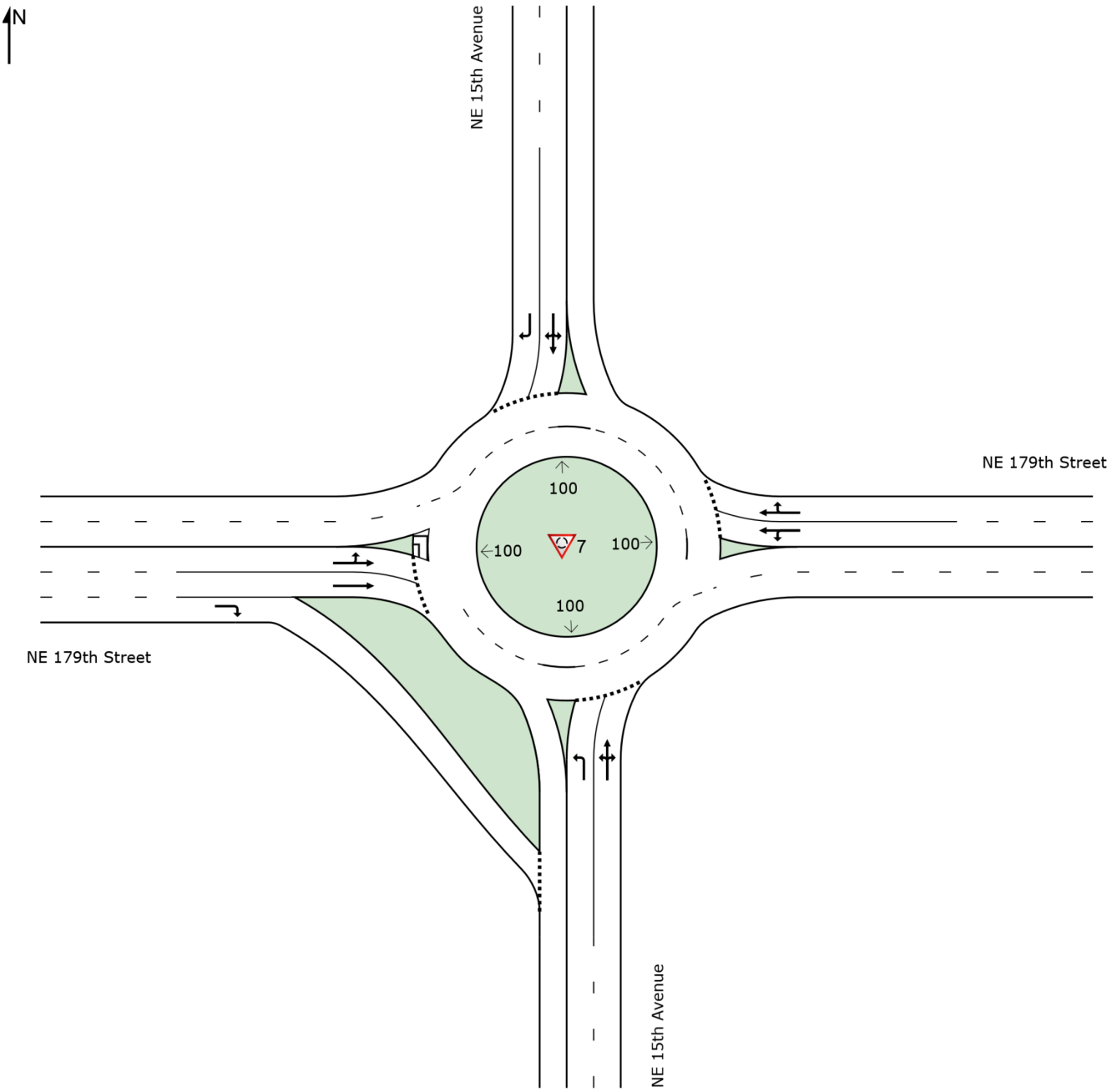
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 7 [Int 7 BGAM (Site Folder: Int 7 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 7 [Int 7 BGAM (Site Folder: Int 7 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	152	6.1	165	6.1	0.164	11.8	LOS B	0.6	16.6	0.50	0.77	0.50	34.1
8	T1	61	6.1	66	6.1	0.164	5.8	LOS A	0.6	16.6	0.50	0.64	0.50	36.0
18	R2	56	6.1	61	6.1	0.164	5.9	LOS A	0.6	16.6	0.50	0.64	0.50	34.7
Approach		269	6.1	292	6.1	0.164	9.2	LOS A	0.6	16.6	0.50	0.71	0.50	34.6
East: NE 179th Street														
1	L2	106	1.4	115	1.4	0.366	12.0	LOS B	1.7	43.1	0.55	0.67	0.55	35.5
6	T1	489	1.4	532	1.4	0.366	6.1	LOS A	1.7	43.8	0.54	0.62	0.54	35.8
16	R2	69	1.4	75	1.4	0.366	6.0	LOS A	1.7	43.8	0.54	0.58	0.54	35.0
Approach		664	1.4	722	1.4	0.366	7.0	LOS A	1.7	43.8	0.54	0.62	0.54	35.7
North: NE 15th Avenue														
7	L2	116	13.3	126	13.3	0.362	13.2	LOS B	1.6	43.1	0.61	0.83	0.65	34.4
4	T1	40	13.3	43	13.3	0.362	7.4	LOS A	1.6	43.1	0.61	0.83	0.65	34.5
14	R2	351	13.3	382	13.3	0.362	7.1	LOS A	1.6	43.9	0.61	0.80	0.64	34.5
Approach		507	13.3	551	13.3	0.362	8.5	LOS A	1.6	43.9	0.61	0.81	0.64	34.4
West: NE 179th Street														
5	L2	258	7.1	280	7.1	0.230	11.2	LOS B	1.3	35.5	0.48	0.68	0.48	33.8
2	T1	212	7.1	230	7.1	0.223	5.7	LOS A	1.2	32.9	0.50	0.53	0.50	36.2
12	R2	192	7.1	209	7.1	0.156	4.7	LOS A	0.8	22.2	0.33	0.49	0.33	35.8
Approach		662	7.1	720	7.1	0.230	7.6	LOS A	1.3	35.5	0.44	0.58	0.44	35.1
All Vehicles		2102	6.7	2285	6.7	0.366	7.8	LOS A	1.7	43.9	0.52	0.67	0.53	35.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 7 [Int 7 BGPM (Site Folder: Int 7 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	476	1.9	476	1.9	1.173	113.7	LOS F	34.4	872.0	1.00	2.20	5.00	13.7
8	T1	160	1.9	160	1.9	1.173	105.2	LOS F	34.4	872.0	1.00	2.39	5.40	13.9
18	R2	244	1.9	244	1.9	1.173	105.2	LOS F	34.4	872.0	1.00	2.39	5.40	13.8
Approach		880	1.9	880	1.9	1.173	109.8	LOS F	34.4	872.0	1.00	2.29	5.18	13.7
East: NE 179th Street														
1	L2	128	2.1	128	2.1	0.699	25.7	LOS C	5.3	134.9	0.92	1.13	1.45	29.5
6	T1	360	2.1	360	2.1	0.699	18.8	LOS B	6.0	151.6	0.94	1.14	1.46	30.2
16	R2	176	2.1	176	2.1	0.699	17.8	LOS B	6.0	151.6	0.95	1.14	1.47	30.1
Approach		664	2.1	664	2.1	0.699	19.8	LOS B	6.0	151.6	0.94	1.14	1.46	30.0
North: NE 15th Avenue														
7	L2	154	6.1	154	6.1	0.362	13.3	LOS B	1.7	43.4	0.65	0.84	0.69	34.2
4	T1	75	6.1	75	6.1	0.362	7.5	LOS A	1.7	43.4	0.65	0.84	0.69	34.2
14	R2	322	6.1	322	6.1	0.362	7.1	LOS A	1.7	44.9	0.65	0.81	0.68	34.7
Approach		551	6.1	551	6.1	0.362	8.9	LOS A	1.7	44.9	0.65	0.82	0.68	34.5
West: NE 179th Street														
5	L2	864	4.5	864	4.5	0.769	15.4	LOS B	10.7	278.2	0.87	0.89	1.08	32.5
2	T1	826	4.5	826	4.5	0.769	10.8	LOS B	10.7	278.2	0.89	0.92	1.15	34.2
12	R2	356	4.5	356	4.5	0.269	5.0	LOS A	1.7	43.9	0.43	0.53	0.43	35.6
Approach		2046	4.5	2046	4.5	0.769	11.7	LOS B	10.7	278.2	0.80	0.84	0.99	33.7
All Vehicles		4141	3.8	4141	3.8	1.173	33.5	LOS C	34.4	872.0	0.85	1.20	1.92	25.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 7 [Int 7 STAM (Site Folder: Int 7 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	152	6.1	165	6.1	0.169	11.9	LOS B	0.7	17.2	0.51	0.78	0.51	34.0
8	T1	61	6.1	66	6.1	0.169	5.9	LOS A	0.7	17.2	0.51	0.64	0.51	36.0
18	R2	60	6.1	65	6.1	0.169	6.0	LOS A	0.7	17.2	0.51	0.64	0.51	34.7
Approach		273	6.1	297	6.1	0.169	9.3	LOS A	0.7	17.2	0.51	0.72	0.51	34.6
East: NE 179th Street														
1	L2	118	1.4	128	1.4	0.408	12.1	LOS B	2.0	50.5	0.57	0.68	0.58	35.4
6	T1	547	1.4	595	1.4	0.408	6.2	LOS A	2.0	50.7	0.56	0.63	0.57	35.7
16	R2	75	1.4	82	1.4	0.408	6.1	LOS A	2.0	50.7	0.56	0.59	0.56	34.9
Approach		740	1.4	804	1.4	0.408	7.1	LOS A	2.0	50.7	0.56	0.64	0.57	35.6
North: NE 15th Avenue														
7	L2	118	13.3	128	13.3	0.379	13.6	LOS B	1.7	46.6	0.64	0.86	0.70	34.2
4	T1	40	13.3	43	13.3	0.379	7.8	LOS A	1.7	46.6	0.64	0.86	0.70	34.3
14	R2	351	13.3	382	13.3	0.379	7.4	LOS A	1.7	47.8	0.64	0.83	0.68	34.3
Approach		509	13.3	553	13.3	0.379	8.9	LOS A	1.7	47.8	0.64	0.84	0.69	34.3
West: NE 179th Street														
5	L2	258	7.1	280	7.1	0.239	11.3	LOS B	1.4	37.3	0.50	0.68	0.50	33.8
2	T1	232	7.1	252	7.1	0.239	5.8	LOS A	1.4	37.3	0.51	0.55	0.51	36.0
12	R2	192	7.1	209	7.1	0.157	4.8	LOS A	0.9	22.7	0.35	0.50	0.35	35.7
Approach		682	7.1	741	7.1	0.239	7.6	LOS A	1.4	37.3	0.46	0.58	0.46	35.1
All Vehicles		2204	6.5	2396	6.5	0.408	7.9	LOS A	2.0	50.7	0.54	0.68	0.56	35.0

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 7 [Int 7 STPM (Site Folder: Int 7 - 179th&15th)]

NE 179th Street at NE 15th Avenue
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 15th Avenue														
3	L2	476	1.9	476	1.9	1.224	132.3	LOS F	39.6	1005.3	1.00	2.35	5.56	12.3
8	T1	160	1.9	160	1.9	1.224	124.0	LOS F	39.6	1005.3	1.00	2.59	6.08	12.5
18	R2	256	1.9	256	1.9	1.224	124.1	LOS F	39.6	1005.3	1.00	2.59	6.08	12.3
Approach		892	1.9	892	1.9	1.224	128.4	LOS F	39.6	1005.3	1.00	2.46	5.80	12.3
East: NE 179th Street														
1	L2	136	2.1	136	2.1	0.789	29.7	LOS C	6.8	173.1	0.96	1.21	1.67	28.0
6	T1	400	2.1	400	2.1	0.789	22.6	LOS C	7.7	195.9	0.97	1.22	1.68	28.8
16	R2	180	2.1	180	2.1	0.789	21.6	LOS C	7.7	195.9	0.99	1.23	1.70	28.7
Approach		716	2.1	716	2.1	0.789	23.7	LOS C	7.7	195.9	0.97	1.22	1.68	28.6
North: NE 15th Avenue														
7	L2	161	6.1	161	6.1	0.377	13.5	LOS B	1.8	46.7	0.67	0.86	0.72	34.1
4	T1	75	6.1	75	6.1	0.377	7.7	LOS A	1.8	46.7	0.67	0.86	0.72	34.0
14	R2	322	6.1	322	6.1	0.377	7.3	LOS A	1.8	48.5	0.67	0.83	0.71	34.7
Approach		558	6.1	558	6.1	0.377	9.1	LOS A	1.8	48.5	0.67	0.84	0.72	34.4
West: NE 179th Street														
5	L2	864	4.5	864	4.5	0.859	20.4	LOS D	15.6	404.3	1.00	1.09	1.47	30.3
2	T1	892	4.5	892	4.5	0.757	9.5	LOS A	10.2	265.4	0.86	0.86	1.07	34.9
12	R2	356	4.5	356	4.5	0.271	5.0	LOS A	1.7	44.7	0.44	0.54	0.44	35.6
Approach		2112	4.5	2112	4.5	0.859	13.2	LOS B	15.6	404.3	0.85	0.90	1.13	32.9
All Vehicles		4278	3.8	4278	3.8	1.224	38.5	LOS D	39.6	1005.3	0.88	1.27	2.14	24.1

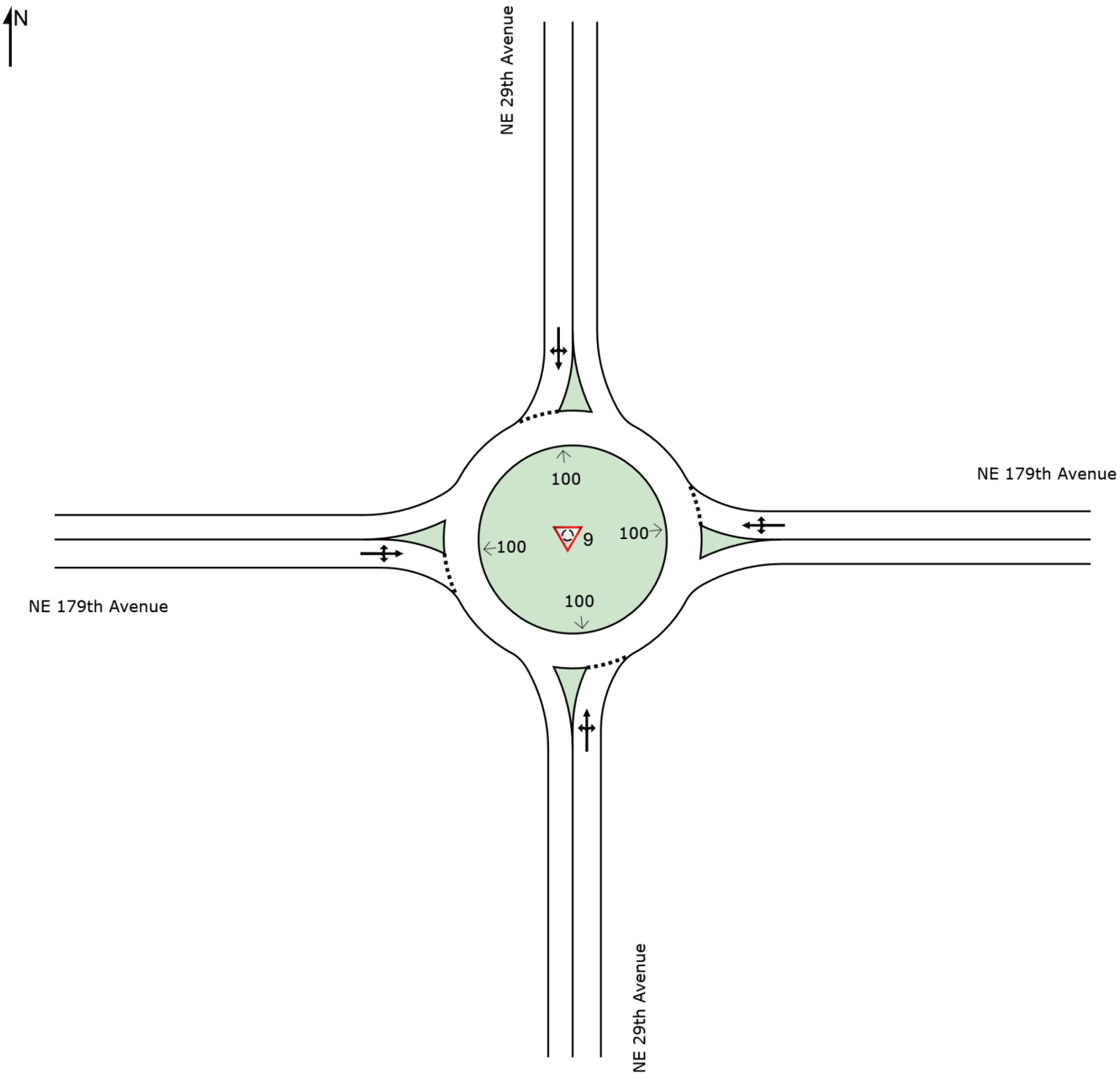
Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 9 [Int 9 BGAM (Site Folder: Int 9 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 9 [Int 9 BGAM (Site Folder: Int 9 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Background Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	33	2.6	36	2.6	0.174	12.4	LOS B	1.0	24.5	0.61	0.68	0.61	35.5
8	T1	78	2.6	85	2.6	0.174	6.4	LOS A	1.0	24.5	0.61	0.68	0.61	35.4
18	R2	24	2.6	26	2.6	0.174	6.5	LOS A	1.0	24.5	0.61	0.68	0.61	34.3
Approach		135	2.6	147	2.6	0.174	7.9	LOS A	1.0	24.5	0.61	0.68	0.61	35.2
East: NE 179th Avenue														
1	L2	74	9.3	80	9.3	0.619	12.3	LOS B	5.1	138.3	0.63	0.65	0.66	35.4
6	T1	479	9.3	521	9.3	0.619	6.4	LOS A	5.1	138.3	0.63	0.65	0.66	35.4
16	R2	16	9.3	17	9.3	0.619	6.4	LOS A	5.1	138.3	0.63	0.65	0.66	34.3
Approach		569	9.3	618	9.3	0.619	7.1	LOS A	5.1	138.3	0.63	0.65	0.66	35.4
North: NE 29th Avenue														
7	L2	22	3.8	24	3.8	0.396	14.5	LOS B	2.6	67.9	0.80	0.86	0.82	35.0
4	T1	126	3.8	137	3.8	0.396	8.6	LOS A	2.6	67.9	0.80	0.86	0.82	35.0
14	R2	104	3.8	113	3.8	0.396	8.6	LOS A	2.6	67.9	0.80	0.86	0.82	33.9
Approach		252	3.8	274	3.8	0.396	9.1	LOS A	2.6	67.9	0.80	0.86	0.82	34.5
West: NE 179th Avenue														
5	L2	89	10.5	97	10.5	0.490	11.8	LOS B	3.3	90.4	0.58	0.62	0.58	35.3
2	T1	318	10.5	346	10.5	0.490	5.9	LOS A	3.3	90.4	0.58	0.62	0.58	35.4
12	R2	24	10.5	26	10.5	0.490	5.9	LOS A	3.3	90.4	0.58	0.62	0.58	34.3
Approach		431	10.5	468	10.5	0.490	7.1	LOS A	3.3	90.4	0.58	0.62	0.58	35.3
All Vehicles		1387	8.0	1508	8.0	0.619	7.6	LOS A	5.1	138.3	0.65	0.68	0.66	35.2

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 9 [Int 9 BGPM (Site Folder: Int 9 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Background Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	59	3.6	64	3.6	0.831	34.2	LOS C	11.1	286.3	1.00	1.29	1.79	26.8
8	T1	176	3.6	191	3.6	0.831	28.2	LOS C	11.1	286.3	1.00	1.29	1.79	26.7
18	R2	121	3.6	132	3.6	0.831	28.3	LOS C	11.1	286.3	1.00	1.29	1.79	26.1
Approach		356	3.6	387	3.6	0.831	29.2	LOS C	11.1	286.3	1.00	1.29	1.79	26.5
East: NE 179th Avenue														
1	L2	58	5.4	63	5.4	0.739	17.0	LOS B	8.8	228.6	0.89	0.98	1.17	33.7
6	T1	462	5.4	502	5.4	0.739	11.1	LOS B	8.8	228.6	0.89	0.98	1.17	33.7
16	R2	67	5.4	73	5.4	0.739	11.2	LOS B	8.8	228.6	0.89	0.98	1.17	32.7
Approach		587	5.4	638	5.4	0.739	11.7	LOS B	8.8	228.6	0.89	0.98	1.17	33.6
North: NE 29th Avenue														
7	L2	12	1.1	13	1.1	0.294	13.6	LOS B	1.9	48.4	0.77	0.79	0.77	35.5
4	T1	90	1.1	98	1.1	0.294	7.7	LOS A	1.9	48.4	0.77	0.79	0.77	35.4
14	R2	89	1.1	97	1.1	0.294	7.7	LOS A	1.9	48.4	0.77	0.79	0.77	34.3
Approach		191	1.1	208	1.1	0.294	8.1	LOS A	1.9	48.4	0.77	0.79	0.77	34.9
West: NE 179th Avenue														
5	L2	149	6.8	162	6.8	0.863	15.7	LOS D	15.8	417.7	0.95	0.79	1.11	34.1
2	T1	620	6.8	674	6.8	0.863	9.8	LOS D	15.8	417.7	0.95	0.79	1.11	34.1
12	R2	75	6.8	82	6.8	0.863	9.9	LOS D	15.8	417.7	0.95	0.79	1.11	33.1
Approach		844	6.8	917	6.8	0.863	10.8	LOS B	15.8	417.7	0.95	0.79	1.11	34.0
All Vehicles		1978	5.3	2150	5.3	0.863	14.1	LOS B	15.8	417.7	0.93	0.94	1.22	32.4

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 9 [Int 9 STAM (Site Folder: Int 9 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	33	2.6	36	2.6	0.180	12.6	LOS B	1.0	25.8	0.63	0.70	0.63	35.4
8	T1	78	2.6	85	2.6	0.180	6.7	LOS A	1.0	25.8	0.63	0.70	0.63	35.3
18	R2	24	2.6	26	2.6	0.180	6.7	LOS A	1.0	25.8	0.63	0.70	0.63	34.2
Approach		135	2.6	147	2.6	0.180	8.1	LOS A	1.0	25.8	0.63	0.70	0.63	35.1
East: NE 179th Avenue														
1	L2	74	9.3	80	9.3	0.630	12.6	LOS B	5.4	145.8	0.65	0.67	0.69	35.3
6	T1	486	9.3	528	9.3	0.630	6.6	LOS A	5.4	145.8	0.65	0.67	0.69	35.3
16	R2	16	9.3	17	9.3	0.630	6.7	LOS A	5.4	145.8	0.65	0.67	0.69	34.2
Approach		576	9.3	626	9.3	0.630	7.4	LOS A	5.4	145.8	0.65	0.67	0.69	35.3
North: NE 29th Avenue														
7	L2	22	3.8	24	3.8	0.401	14.7	LOS B	2.7	69.8	0.81	0.87	0.83	35.0
4	T1	126	3.8	137	3.8	0.401	8.7	LOS A	2.7	69.8	0.81	0.87	0.83	34.9
14	R2	104	3.8	113	3.8	0.401	8.8	LOS A	2.7	69.8	0.81	0.87	0.83	33.9
Approach		252	3.8	274	3.8	0.401	9.3	LOS A	2.7	69.8	0.81	0.87	0.83	34.5
West: NE 179th Avenue														
5	L2	95	10.5	103	10.5	0.522	11.9	LOS B	3.7	99.9	0.61	0.63	0.61	35.3
2	T1	340	10.5	370	10.5	0.522	5.9	LOS A	3.7	99.9	0.61	0.63	0.61	35.3
12	R2	24	10.5	26	10.5	0.522	6.0	LOS A	3.7	99.9	0.61	0.63	0.61	34.2
Approach		459	10.5	499	10.5	0.522	7.2	LOS A	3.7	99.9	0.61	0.63	0.61	35.3
All Vehicles		1422	8.1	1546	8.1	0.630	7.7	LOS A	5.4	145.8	0.66	0.69	0.68	35.1

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 9 [Int 9 STPM (Site Folder: Int 9 - 179th&29th)]

NE 179th Street at NE 29th Avenue
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 29th Avenue														
3	L2	59	3.6	64	3.6	0.879	40.7	LOS D	13.0	334.4	1.00	1.36	1.99	24.9
8	T1	176	3.6	191	3.6	0.879	34.7	LOS D	13.0	334.4	1.00	1.36	1.99	24.8
18	R2	121	3.6	132	3.6	0.879	34.8	LOS D	13.0	334.4	1.00	1.36	1.99	24.3
Approach		356	3.6	387	3.6	0.879	35.7	LOS D	13.0	334.4	1.00	1.36	1.99	24.7
East: NE 179th Avenue														
1	L2	58	5.4	63	5.4	0.774	18.1	LOS B	10.0	261.4	0.93	1.03	1.26	33.2
6	T1	488	5.4	530	5.4	0.774	12.2	LOS B	10.0	261.4	0.93	1.03	1.26	33.2
16	R2	67	5.4	73	5.4	0.774	12.2	LOS B	10.0	261.4	0.93	1.03	1.26	32.3
Approach		613	5.4	666	5.4	0.774	12.7	LOS B	10.0	261.4	0.93	1.03	1.26	33.1
North: NE 29th Avenue														
7	L2	12	1.1	13	1.1	0.317	13.9	LOS B	2.1	53.6	0.81	0.82	0.81	35.4
4	T1	90	1.1	98	1.1	0.317	8.0	LOS A	2.1	53.6	0.81	0.82	0.81	35.3
14	R2	95	1.1	103	1.1	0.317	8.0	LOS A	2.1	53.6	0.81	0.82	0.81	34.2
Approach		197	1.1	214	1.1	0.317	8.4	LOS A	2.1	53.6	0.81	0.82	0.81	34.8
West: NE 179th Avenue														
5	L2	153	6.8	166	6.8	0.883	16.6	LOS D	17.7	466.8	1.00	0.82	1.18	33.7
2	T1	634	6.8	689	6.8	0.883	10.6	LOS D	17.7	466.8	1.00	0.82	1.18	33.7
12	R2	75	6.8	82	6.8	0.883	10.7	LOS D	17.7	466.8	1.00	0.82	1.18	32.7
Approach		862	6.8	937	6.8	0.883	11.7	LOS B	17.7	466.8	1.00	0.82	1.18	33.6
All Vehicles		2028	5.3	2204	5.3	0.883	15.9	LOS B	17.7	466.8	0.96	0.98	1.31	31.6

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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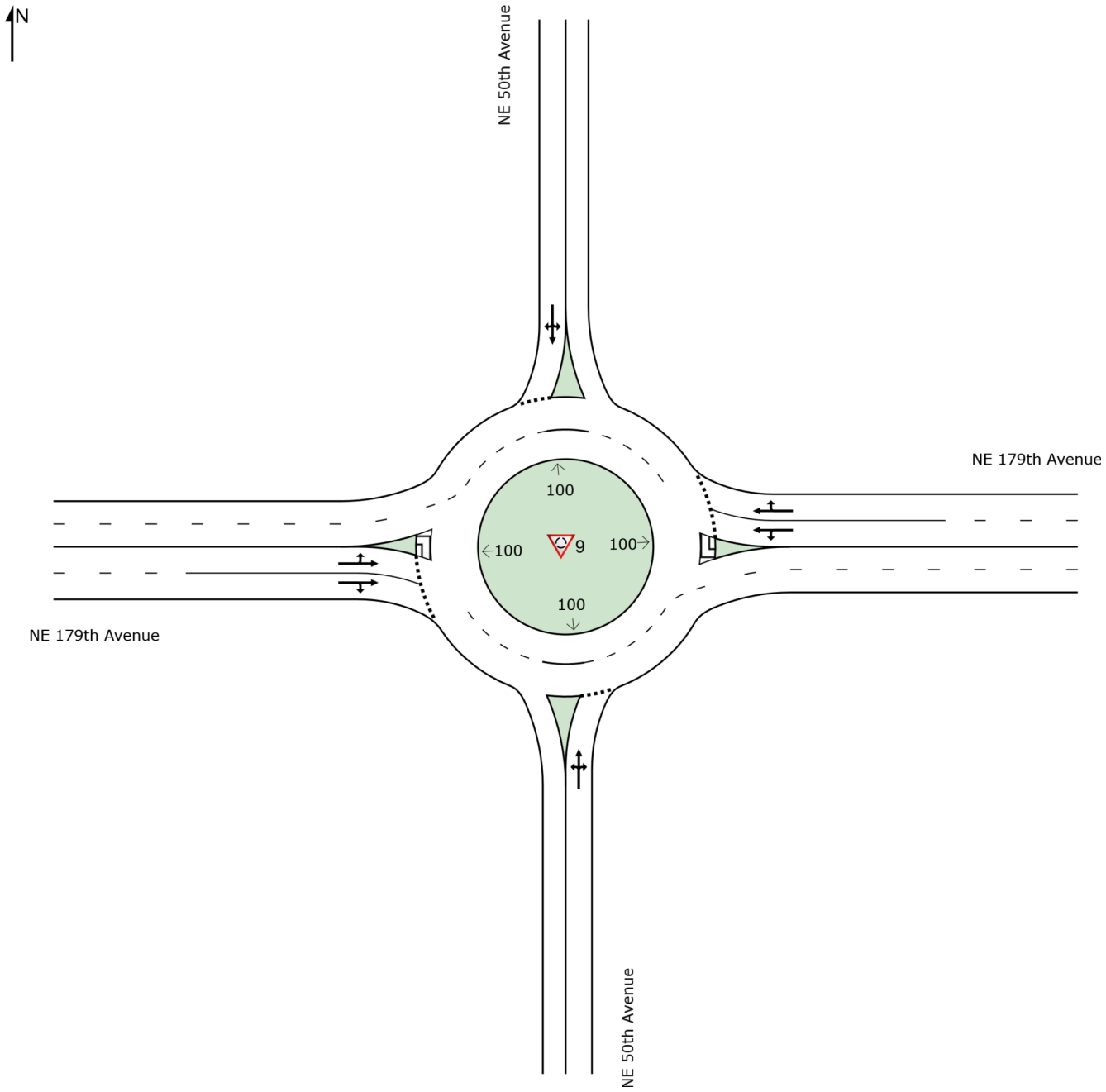
SITE LAYOUT

Site: 9 [Int 10 STAM - Dual (Site Folder: Int 10 - 179th&50th)]

NE 179th Street at NE 50th Avenue
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 9 [Int 10 STAM - Dual (Site Folder: Int 10 - 179th&50th)]

NE 179th Street at NE 50th Avenue
Site Category: 2028 Buildout Conditions - AM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 50th Avenue														
3	L2	151	6.8	151	6.8	0.310	11.4	LOS B	1.3	35.3	0.43	0.67	0.43	35.2
8	T1	80	6.8	80	6.8	0.310	5.6	LOS A	1.3	35.3	0.43	0.67	0.43	35.2
18	R2	50	6.8	50	6.8	0.310	5.4	LOS A	1.3	35.3	0.43	0.67	0.43	34.1
Approach		281	6.8	281	6.8	0.310	8.7	LOS A	1.3	35.3	0.43	0.67	0.43	35.0
East: NE 179th Avenue														
1	L2	80	11.2	80	11.2	0.152	11.4	LOS B	0.8	20.6	0.45	0.62	0.45	35.1
6	T1	218	11.2	218	11.2	0.152	5.4	LOS A	0.8	21.2	0.44	0.54	0.44	35.9
16	R2	37	11.2	37	11.2	0.152	5.4	LOS A	0.8	21.2	0.43	0.50	0.43	35.1
Approach		335	11.2	335	11.2	0.152	6.9	LOS A	0.8	21.2	0.44	0.56	0.44	35.6
North: NE 50th Avenue														
7	L2	45	8.0	45	8.0	0.280	12.0	LOS B	1.1	28.3	0.48	0.63	0.48	35.9
4	T1	151	0.8	151	0.8	0.280	5.8	LOS A	1.1	28.3	0.48	0.63	0.48	36.1
14	R2	52	0.8	52	0.8	0.280	5.7	LOS A	1.1	28.3	0.48	0.63	0.48	34.9
Approach		248	2.1	248	2.1	0.280	6.9	LOS A	1.1	28.3	0.48	0.63	0.48	35.8
West: NE 179th Avenue														
5	L2	58	13.6	58	13.6	0.192	11.5	LOS B	1.0	27.1	0.45	0.58	0.45	35.5
2	T1	179	13.6	179	13.6	0.192	5.5	LOS A	1.0	27.9	0.44	0.57	0.44	35.8
12	R2	184	13.6	184	13.6	0.192	5.4	LOS A	1.0	27.9	0.43	0.55	0.43	35.2
Approach		421	13.6	421	13.6	0.192	6.3	LOS A	1.0	27.9	0.44	0.56	0.44	35.5
All Vehicles		1285	9.3	1285	9.3	0.310	7.1	LOS A	1.3	35.3	0.45	0.60	0.45	35.5

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 9 [Int 10 STPM - Dual (Site Folder: Int 10 - 179th&50th)]

NE 179th Street at NE 50th Avenue
Site Category: 2028 Buildout Conditions - PM Peak Hour
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: NE 50th Avenue														
3	L2	208	3.5	208	3.5	0.635	13.6	LOS B	4.3	111.6	0.65	0.86	0.78	34.8
8	T1	222	3.5	222	3.5	0.635	7.8	LOS A	4.3	111.6	0.65	0.86	0.78	34.7
18	R2	128	3.5	128	3.5	0.635	7.7	LOS A	4.3	111.6	0.65	0.86	0.78	33.7
Approach		558	3.5	558	3.5	0.635	10.0	LOS A	4.3	111.6	0.65	0.86	0.78	34.5
East: NE 179th Avenue														
1	L2	59	5.7	59	5.7	0.183	12.5	LOS B	1.0	27.1	0.62	0.69	0.62	35.0
6	T1	235	5.7	235	5.7	0.183	6.4	LOS A	1.1	29.0	0.61	0.64	0.61	35.5
16	R2	60	5.7	60	5.7	0.183	6.3	LOS A	1.1	29.0	0.61	0.60	0.61	34.7
Approach		354	5.7	354	5.7	0.183	7.4	LOS A	1.1	29.0	0.61	0.64	0.61	35.3
North: NE 50th Avenue														
7	L2	34	2.5	34	2.5	0.209	11.7	LOS B	0.8	20.6	0.48	0.65	0.48	36.2
4	T1	72	2.5	72	2.5	0.209	5.9	LOS A	0.8	20.6	0.48	0.65	0.48	36.1
14	R2	72	2.5	72	2.5	0.209	5.8	LOS A	0.8	20.6	0.48	0.65	0.48	34.9
Approach		178	2.5	178	2.5	0.209	7.0	LOS A	0.8	20.6	0.48	0.65	0.48	35.6
West: NE 179th Avenue														
5	L2	76	9.1	76	9.1	0.226	10.8	LOS B	1.2	31.3	0.35	0.53	0.35	36.0
2	T1	308	9.1	308	9.1	0.226	4.9	LOS A	1.2	32.0	0.34	0.51	0.34	36.3
12	R2	178	9.1	178	9.1	0.226	4.9	LOS A	1.2	32.0	0.33	0.48	0.33	35.6
Approach		562	9.1	562	9.1	0.226	5.7	LOS A	1.2	32.0	0.34	0.50	0.34	36.0
All Vehicles		1652	5.8	1652	5.8	0.635	7.6	LOS A	4.3	111.6	0.52	0.67	0.56	35.3

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Type III Land Division and Environmental Review Staff Report and Recommendation

Project Name: 174th Street Subdivision

Case Number(s): PLD-2026-00002 ; WHR-2026-00012 and FPA-2026-00026

Request: The applicant proposes to subdivide approximately 24.97 acres into 100 lots. The site is currently split zoned R1-10 and R1-20. A concurrent rezone is also proposed. The applicant proposes to rezone the R1-20 portion of the site to R1-10. The applicant is requesting a 10% variance for lot width for multiple lots within two (2) phases. The site falls within the Mill Creek Overlay.

Address: 17101 and 16915 NE 40th Avenue

Parcel number(s): 181731000, 181721000, 181711000, 181696000, 181764000, 181765000, and 181766000

Applicant: Silver Buckle Homes, LLC Contact: Rob Root
2210 W. Main St. #107-391
Battle Ground, WA 98604
360.607.4552 rob@timbercresthomes.com

Owner: Robert and Annette Root 2210 W. Main St.
Battle Ground, WA 98604

Shawn and Yvette Root 17101 NE 40th Ave.
Vancouver, WA 98686

Tobin and Katarzyna Boslaugh 18501 NE 101st Ave.
Battle Ground, WA 98604

Scott and Angela Eversaul 13311 NE 4th Ct.
Vancouver, WA 98685

Contact Person: PLS Engineering
604 W. Evergreen Boulevard
Vancouver, WA 98660
360.944.6519 pm@plsengineering.com

Community Development
1300 Franklin Street, Vancouver, Washington
Phone: (360) 397-2375 Fax: (360) 397-2011
www.clark.wa.gov/development

For an alternate format, contact the Clark County ADA Compliance Office.
Phone: (360)397-2322
Relay: 711 or (800) 833-6384
E-mail: ADA@clark.wa.gov

Staff contact: Melissa Curtis, Planner III
564.397. 5870
melissa.curtis@clark.wa.gov

Recommendation
Denied

Land Use Review manager's initials: BD **Date issued: April 8, 2026**

Public Hearing date: April 23, 2026

County Review Staff

Department/Program	Name	Phone 564.397	Email Address
Community Development			
Land Use Review Manager	Brent Davis	4152	Brent.davis@clark.wa.gov
Land Use Review Planner	Melissa Curtis	5870	Melissa.curtis@clark.wa.gov
Fire Marshal's Office	Jason Knoble	3318	Jason.knoble@clark.wa.gov
Biologist	Ariel Whitacre	4717	Ariel.whitacre@clark.wa.gov
Engineering Manager	Naomi Patibandla	4630	Naomi.patibandla@clark.wa.gov
Engineer	Allister Dawson EIT, PMP	4342	Allister.dawson@clark.wa.gov
Concurrency Engineer	Craig Kathol EIT	4347	Craig.kathol@clark.wa.gov

Legal Description of Properties: #62, #52, 42, 27, 95, 96 and 97 SEC 13 T3N R1EWM

Comp Plan Designation: R1-20, R1-10, Mill Creek Overlay/ UL

Applicable Laws
Clark County Code: Title 14 (Building Safety), Title 15 (Fire Prevention), Chapter 40.200 (General Provisions); Section 40.220.010 (Single-Family Residential District), Section 40.250.060 (Mill Creek Overlay District), Chapter 40.260.080 Forest Practices; Chapter 40.330 (Crime Prevention and Safety), Chapter 40.340 (Parking and Loading), Chapter 40.350 (Transportation & Circulation), Section 40.350.020 (Transportation Concurrency), Chapter 40.360 (Solid Waste and Recycling), Chapter 40.370 (Sewer and Water), Chapter 40.386 (Storm Water & Erosion Control), Chapter 40.440 (Habitat Conservation), Chapter 40.450 (Wetland Protection), Chapters 40.500 and 40.510 (Procedures), Chapter 40.540 (Boundary Line Adjustments & Land Divisions), Section 40.550.010 (Road Modifications), Section 40.550.20 (Variance), Chapter 40.560.020 (Zone Change), Chapter 40.570 (SEPA),

Section 40.570.080 (SEPA Archaeological), Chapter 40.610 (Impact Fees), Title 24 (Public Health), RCW 58.17, and the Clark County Comprehensive Plan.

Neighborhood Association
Four Creeks
Andrew Cecka, President

Vesting
An application is reviewed against the subdivision, zoning, transportation, stormwater and other land development codes in effect at the time a fully complete application for preliminary approval is submitted. If a pre-application conference is required, the application shall earlier contingently vest on the date the fully complete pre-application is filed. Contingent vesting requires that a fully complete application for substantially the same proposal is filed within 180 calendar days of the date the county issues its pre-application conference report. Contingent vesting does not apply to stormwater or concurrency standards.

A pre-application conference on this matter was held on March 13, 2025. The pre-application was determined contingently vested as of February 20, 2025, the date the fully complete pre-application was submitted.

The fully complete application was submitted on January 26, 2026, and determined to be fully complete on February 9, 2026. Given these facts, the application is vested on January 26, 2026. Vesting does not apply to stormwater or concurrency standards.

There are no disputes regarding vesting.

Time Limits
The application was determined to be fully complete on February 9, 2026. Therefore, the code requirement for issuing a decision within 92 days lapses on May 12, 2026. The state requirement for issuing a decision within 120 calendar days, lapses on June 9, 2026.

Public Notice
Notice of application, SEPA and public hearing was mailed to the applicant, Four Creek Neighborhood Association and property owners within 500 urban feet of the site on February 24, 2026 (Exhibit 7). One sign was posted on the subject property and two within the vicinity on March 13, 2026 (Exhibit 20).

Public Comments
February 24, 2026, Washington Department of Fish and Wildlife (Exhibit 9). They requested a copy if the Critical Areas Report and the Wetland/Habitat Predetermination Report. They also stated the applicant does not list Hydraulic Project Approval (HPA) as one of the permits needed for this project, though they note installing a culvert. Please inform the applicant this work will require HPA from WDFW.

Project Overview
The 174th Street Subdivision project proposes to subdivide 26.6 acres into 100 lots for single-family detached homes in two (2) phases. The site is currently split zoned R1-10 and R1-20. The applicant proposes a concurrent rezone of the R1-20 portion of the site to R1-10. This is

compatible with Clark County's current plan for the 2025 Comprehensive Plan Update. The current comprehensive plan designation is Urban Low density residential; no change is proposed to the existing comprehensive plan designation. The site falls within the Mill Creek Overlay.

Existing vegetation includes grass, trees, and shrubs. Parcels to the west are zoned R1-10 while parcels to the east and south are zoned R1-20. The parcel directly south and east is currently being developed as an 84-lot PUD subdivision known as Viers PUD, Clark County file PLD-2022-00121.

The 174th Street Subdivision is a residential project that will provide additional housing with the construction of single-family detached units and will aid in meeting both zoning and comprehensive plan goals for the area.

The development is directly south of NE 174th Street and east of NE 40th Avenue. Access to the development is from NE 174th Street, NE 40th Avenue, proposed NE 169th Street and NE 45th Avenue.

The site currently contains two single-family residences which will remain on proposed lots 16 and 95. Site topography is relatively flat with moderate slopes on the southwest and eastern portion of the site.

The west of the development is zoned R1-10, the east and south of the site is zoned R1-20. To the north, across NE 174th Street the zoning designation is R1-7.5 and is all for residential uses.

The site is located within the Battle Ground School District, Clark-Cowlitz Fire Rescue, Clark Regional waste water for public sewer and Clark Public Utilities for public water.

This development requires Preliminary Land Division, Forest Practice permit, Wetland/Habitat Permit, a Technical Road Modification, Variance, a Zone Change and SEPA.

Comprehensive Plan, Zoning and Current Land Use

Compass	Comp Plan	Zoning	Current Land Use
Site	UL	R1-10 and R1-20	Single Family Use
North	UL	R1-7.5	Single Family Use
East	UL	R1-20	Single Family Use
South	UL	R1-20	Single Family Use
West	UL	R1-10	Single Family Use

Staff Analysis

Staff first analyzed the proposal in light of the 16 topics from the Environmental Checklist (see list below). The purpose of this analysis was to identify any potential adverse environmental impacts that may occur without the benefit of protection found within existing ordinances.

1. Earth
9. Housing

2. Air
3. Water
4. Plants
5. Animals
6. Energy and Natural Resources
7. Environmental Health
8. Land and Shoreline Use
10. Aesthetics
11. Light and Glare
12. Recreation
13. Historic and Cultural Preservation
14. Transportation
15. Public Services
16. Utilities

Staff then reviewed the proposal for compliance with applicable code criteria and standards in order to determine whether all potential impacts could be mitigated by the requirements of the code.

Staff's analysis also reflects review of agency and public comments received during the comment period, and knowledge gained through a site visit.

Major Issues
Only the major issues, errors in the development proposal, and/or justification for any conditions of approval are discussed below. Staff finds that all other aspects of this proposal not discussed below comply with the applicable code requirements.

Land Use
Finding 1-Uses
The low-density residential districts are intended to provide for a mix of single-family and middle housing types in a low-density context at a neighborhood scale. The applicant is applying for a concurrent rezone of the R1-20 portion of the site to R1-10; therefore, only standards for the R1-10 zone are addressed below.

According to Table 40.220.010-1 single-family residential dwellings are permitted outright in the R1-20 and R1-10 zones.

Finding 2-Lot Standards
The R1-10 zone requires an average minimum lot size of 8,500 square feet and an average maximum lot size of 15,000 square feet. This zone also requires an average lot width of 70 feet and an average lot depth of 90 feet.

Table 40.220.010-2 prescribes a minimum lot area, lot width and depth.

Development standards for developments in the R1-10 are as follows:

Standard	Required	Proposed
Min. average lot area	8,500 sf	8,530sf – average lot size
Max. average lot area	15,000 sf	8,530 sf – average lot size
Average min. lot width	70'	63' with 10% variance
Average min. lot depth	90'	115'

The following table provides the areas dedicated to each use within the project

Gross Site Area	26.57 Acres
Public ROW Dedication	3.23 Acres
Private Street Area	2.49 acres
Total Lot Area	19.58 Acres (853,091 sf)
Critical Area Tract	0.76 Acres
Stormwater Facility Tract	0.52 Acres

Average lot width and depth minimums are also put forth in Table 40.220.010-2 and are established for each individual lot at 80 feet and 90 feet respectively. Please see Variance Findings 4 below for width variances.

Finding 3-Setbacks
The following minimum setbacks apply to the proposed lots (see CCC 40.220.010):

Standard	Required	Proposed
Setbacks:		
Front/garage	10'/18'	10'/18'
Side	5'	5'
Street Side	10'	10'
Rear	10'	10'
Max. lot coverage	50%	50%
Max. height	35'	35'

Building envelopes are not required for final plat.
Any future construction on the newly created lots shall meet setback standards prescribed for the R1-10 zone. (See Condition E-1.a)

Finding 4-Variance 40.550.020
Applicants Request: *"The applicant is requesting a 10% lot width variance across multiple lots (63' wide minimum lot width) to facilitate the proposed plan. This variance is requested to allow for the efficient development of the site given the site constraints. The lot width reduction will allow for the site to be developed close to the minimum allowed average lot area, with a deeper lot depth than is required. The deeper lots (approximately 115') is needed to resolve the grade between lots. Fifty-two lots are proposed to have a reduced lot width.*

Without the proposed variances the development could be redesigned to have wider lots that are less deep. Due to the grading across the site, the usable area of many of the lots would be impacted. Some lots on the south and west ends of the site will have up to 12 feet of grade change at the back of the lots which would make the back 25 feet of the lot unusable. This can be reasonably accommodated in the proposed 115-foot-deep lots but would cause issues for shallower lots. The preference is to have a functional rear yard for all the proposed lots."

A. Type I and II (Administrative) Variances.

1. The responsible official may grant a variance to numerical standards including but not limited to: setbacks, buffers, building height, landscaping, width, lot area, lot coverage, lot dimensions and parking standards but not including qualifying standards for programs such as density transfer as provided in this title. Variances for lot area will occur only on parcels within urban growth boundaries.

2. An application for a variance(s) shall be subject to Type I review if the variance(s) is for up to and including ten percent (10%) of the numerical standard(s) in question, except as provided in Section 40.550.020(A)(5). A variance for lot area by ten percent (10%) or less for one (1) lot shall be automatically granted, and no application shall be required.

3. An application for a variance(s) shall be subject to Type II review if the variance(s) is for:

   a. More than ten percent (10%) up to and including twenty-five percent (25%) of the numerical standard(s) in question for any lot/proposed lot, except as provided in Section 40.550.020(A)(5); or

   b. Up to ten percent (10%) on more than one lot.

   The responsible official may not approve an administrative variance of more than twenty-five percent (25%) of any numerical standard.

4. The responsible official shall approve an administrative variance(s) if, based on substantial evidence in the record, the applicant has sustained the burden of proving the variance(s) complies with all of the following:

   a. Granting the variance(s) will not substantially detract from the livability or appearance of a residential area or from the desired character of a nonresidential area, or the variance(s) will substantially enhance the livability or appearance of a residential area or the desired character of a nonresidential area, such as by preserving or protecting significant natural, scenic, historic, cultural, open space or energy resources; and

Applicants Response: *"The requested variances are small and will not be visually noticeable. The narrower lot will necessitate a deeper lot to maintain the minimum average lot sizes. This will create greater building separation from adjacent uses."*

Staff Agrees with the applicant's findings.

   b. If variances to more than one (1) regulation are being requested, the cumulative effect of the variances shall be consistent with the purpose of the zone in which the site is situated; and

Only one variance is being requested.

   c. Adverse impacts resulting from the variance(s) are mitigated to the extent practical;

Applicants Response: *"There are no adverse impacts that will arise from the proposed variances. As stated earlier, the narrower lots will necessitate a deeper lot to maintain*

the minimum average lot sizes. This will create greater building separation from adjacent uses."

Staff Agrees with applicant's findings

d. The variance(s) does not substantially impair or impede the availability or safety of access that would otherwise exist for vehicles or for pedestrians, or alternative access is provided.

Applicants Response: "*The proposed variances do not affect the safety of access for pedestrians or vehicles in any way."*

Staff Agrees with the applicant's findings.

Finding 5-40.250.060.C Mill Creek Overlay District
The following additional standards apply in the overlay district:

1. New lots created adjacent to urban subdivision lots existing at the time of the adoption of the Mill Creek Overlay District shall meet or exceed the average lot size of the abutting subdivision lots unless there are at least two hundred (200) feet of open space between the existing and proposed lots.

The subject sites were not located adjacent to any urban subdivision lots existing at the time of the adoption of the Mill Creek Overlay District, so this criteria does not apply.

2. Prior to approval of any development that would add traffic to NE 37th Avenue, additional access via a public road connection to NE 40th Avenue or NE 174th Street must be assured.

This development will not add any traffic to NE 37th Ave, therefore, this does not apply to the proposed development.

3. A minimum lot size of nine thousand (9,000) square feet is required for all land divisions in the R1-10 and R1-20 districts proposing to develop under the density transfer provisions of Section 40.220.010(C)(5), or the planned unit development provisions of Section 40.520.080. The exceptions to lot sizes in Section 40.200.050 shall still apply.

The site is not proposing to develop under density transfer or planned unit development provisions.

Finding 6-40.560.020 Changes to Zoning District and Code Amendments
F. Approval Criteria.
Roughly one-third of the site is zoned R1-10 and two-thirds of the site is zoned R1-20. The applicant proposes to rezone the R1-20 portion of the site to R1-10.

1. Requested zone change is consistent with the comprehensive plan map designation.

Applicants Response: *"The proposed zone change is consistent with the existing comprehensive plan map designation. The existing zone (R1-20) and the proposed zone (R1-10) fall withing the same comprehensive plan map designation of Urban Low Density Residential (UL).*

Page 33 of the Comprehensive Plan states that the UL designation "provides for predominantly single-family residential development with densities of between five and ten units per gross acre." With a rezone to R1-10 the proposed density will be 3.76 units per acres which is still less than the what the comprehensive plan expects. The density would be even less if developed under the existing zoning."

Staff Agrees with the applicant's findings.

2. The requested zone change is consistent with the plan policies and locational criteria and the purpose statement of the zoning district.

Applicants Response: *"Page 33 of the Comprehensive Plan discusses the locational criteria of the urban low-density designation:*

"The base zones which implement this 20-Year Plan designation are the R1-20, R1-10, R1-7.5, R1-6 and R1-5 zones. The zones may be applied in a manner that provides for densities slightly higher than existing urban development, but the density increase should continue to protect the character of the existing area."

The R1-20 portion of the subject site has already been identified as part of the County's comprehensive plan update process to be rezoned to R1-7.5 in both alternative plans. A snip of the plan is included below with the site highlighted in red. The property to the north is already zoned R1-7.5 and the site to the east has an approved development with lot sizes generally between 10,000 square feet and 9,000 square feet (Viers PUD). The proposed zoning will allow for an average lot area of 8,500 square feet across the site and will be compatible with the existing and future zoning designations around the site. It will also be compatible with the proposed density (Viers PUD) to the east and south of the site."

Staff Agrees with the applicant's findings

3. The zone change either:
   a. Responds to a substantial change in conditions applicable to the area within which the subject property lies;
   b. Better implements applicable comprehensive plan policies than the current map designation; or
   c. Corrects an obvious mapping error.

Applicant Response: **Response:** *" The proposed zone change is in response to the current housing shortage and affordability crisis that is currently occurring in SW Washington. This shortage of housing within the area that the subject property lies represents a substantial change in conditions within the urban Clark County region. The proposed zone change will result in*

additional lots that will increase the housing supply in the area and contribute to improving housing affordability.

The proposal also better implements the current comprehensive plan. The R1-20 zone results in inefficient land development in urban areas and does not come close to meeting the density goals stated in the comprehensive plan. As stated previously the purpose of the low-density residential designation is to provide densities in the range of 5-10 units per gross acre of land. Development under the R1-20 zone does not implement the comprehensive plan policies efficiently. In the county's proposed comprehensive plan update, most if not all of the developable land zoned R1-20 is proposed to be up-zoned to facilitate higher density. This includes the R1-20 portion of the subject site."

Staff Agrees with the applicant's findings.

4. There are adequate public facilities and services to serve the requested zone change.

Applicants Response: "*The narrative and plans for this application demonstrate that there are adequate public facilities and services to support the proposed development. The proposed rezone will allow for a more efficient use of urban facilities and help reduce urban sprawl."*

Staff Agrees with the applicant's findings.

Finding 7-Phasing

40.540.040.D.4. If a phasing plan is proposed, then the applicant also shall show:

a. The phasing plan includes all land within the preliminary plat;
b. Each phase is an independent planning unit with safe and convenient circulation and with facilities and utilities coordinated with requirements established for the entire subdivision; and
c. All road improvement requirements are assured.

As shown in Exhibit 34 Phase one (1) are lots 53-100 (south) and Phase two (2) are lots 1-52 (north). (See condition A-1.a and D-1.a)

Finding 8-Existing Residential Structures

There are two single-family residence on the sites with several accessory structures. It appears the homes will remain on proposed lots 16 and 95, and all accessory structures will be removed. The accessory structures on the site shall be removed prior to construction plan approval complying with Clark County Building Division, state/federal requirements. (See Condition B-1.a)

Finding 9-School District Letter (58.17.110)

The subject site is located within the boundaries of the Battle Ground School District, and specifically within the boundaries of Pleasant Valley Elementary School, Pleasant Valley Middle School, and Prairie High School.

The applicant provided a letter from the Battle Ground School district. (Exhibit 1 Tab 20) indicating all students will be bused, meeting this criterion.

Finding 10-County/State Platting Standards

With conditions of approval, staff finds the proposed subdivision will make appropriate provisions for the public health, safety and general welfare of the community. Connection to public water and sewer facilities, as well as treatment of any future stormwater runoff will be provided to protect groundwater supply and integrity. Impact fees will also be required to ensure that the development will contribute a proportionate share toward the costs of school, park and transportation facilities, maintenance and services.

Conclusion Staff concludes that the proposed preliminary plan, subject to conditions identified above, meets land use requirements of the Clark County Code.

Archaeology

Finding 1-Submittal

The applicant has submitted an archaeological pre-determination to the Washington State Department of Archaeology and Historic Preservation (DAHP) prior to submittal of the application. (Exhibit 21)

Finding 2-Confirmation

DAHP has not yet confirmed the results of the applicant's archaeological predetermination. In addition, a note on the final construction plans and final plat plan will require that if resources are discovered during construction, work shall stop and DAHP and the county will be contacted. (See Conditions A-2.a and D-10.i)

Conclusion

Staff finds that the proposed preliminary plan, subject to conditions identified above, meets archaeology requirements of the Clark County Code.

Transportation

Finding 1 – Pedestrian/Bicycle Circulation Plan

Pedestrian circulation facilities in compliance with the Americans with Disabilities Act (ADA) and CCC 40.350.015 are required for this development. The applicant is proposing sidewalks on all public roads in accordance with the standards. All proposed pedestrian facilities shall be constructed to comply with ADA standards. The applicant shall show the construction of end of sidewalk ramps *where pedestrian facilities temporarily terminate at the plat boundary.* (See Conditions A-7.a and A-7.b)

Per the WSDOT design manual as adopted under CCC 40.350.030(C)(1)(b)(1) new construction projects shall provide curb ramps oriented in each direction of pedestrian travel within the width of the crosswalk it serves, and if receiving ramps do not exist, they shall be constructed as part of the new development. The applicant will need to show on the final construction plans that pedestrian ramps will comply with the WSDOT Design Manual. (See Condition A-7.c)

Finding 2 – Road Circulation Plan

Cross-circulation is required by CCC 40.350.030(B)(2). The site is proposing an on-site public road network that will allow subsequent developments to meet cross-circulation standards, including 800-foot block length and 3,200-foot block perimeter. [See Transportation Finding 3]

Finding 3 – Roads/Frontage Improvements

Road improvements and design are required to comply with CCC 40.350.010(B)(5), CCC Table 40.350.030-2, and CCC Table 40.350.030-3.

NE 174th Street is classified as an Urban Collector, C-2b. The minimum half-width requirements include 30-feet of right-of-way, 17-feet of paved roadway width, curb/gutter, and a 5-foot detached sidewalk per Clark County Standard Detail Drawing 7. Partial width roads shall have a minimum pavement width of 20 feet, additional right-of-way dedication will be required to accommodate the minimum pavement width. The applicant is proposing to construct frontage improvements in compliance with the standard details. (See Conditions A-7.d, A-7.e and D-7.a)

NE 40th Avenue is classified as an Urban Neighborhood Circulator, Nbr. The minimum half -width requirements include 27-feet of right-of-way, 18-feet of paved roadway width, curb/gutter, and a 5-foot sidewalk per Clark County Standard Detail Drawing 12. Partial width roads shall have a minimum pavement width of 20 feet, additional right-of-way dedication will be required to accommodate the minimum pavement width. The applicant is proposing to construct frontage improvements in compliance with the standard details. (See Conditions A-7.f and D-7.b)

NE 173rd Street, NE 171st Street, NE 170th Street, NE 42nd Way, NE 43rd Way, NE 44th Way and NE 45th Avenue are proposed as Urban Local Residential Access. The minimum full-width requirements include 46-feet of right-of-way, 28-feet of paved roadway width, curb/gutter, and a 5-foot sidewalk per Clark County Standard Detail Drawing 13. The applicant is proposing to construct frontage improvements in compliance with the standard details. (See Conditions A-7.g, and D-7.c)

NE 169th Street is proposed as an Urban Local Residential Access. The minimum half-width requirements include 23-feet of right-of-way, 14-feet of paved roadway width, curb/gutter, and a 5-foot sidewalk per Clark County Standard Detail Drawing 13. The applicant is proposing to construct frontage improvements in compliance with the standard details. (See Conditions A-7.h, and D-7.d)

NE 43rd Loop and NE 44th Loop are proposed as Urban Private Roads. The minimum full-width requirements include 26-feet of easement, 20-feet of paved roadway width, curb/gutter, and a 5-foot sidewalk (on one side) per Clark County Standard Detail Drawing 15. The applicant is proposing to construct frontage improvements in compliance with the standard details. (See Conditions A-7.i, and D-7.e)

Roads shall be tapered according to accepted engineering practices and supplemental standards in Section 40.350.030(C)(1)(b). (See Condition A-7.j)

Where frontage improvements are required, the county will perform pavement deflection testing to determine the adequacy of the existing pavement. Where remaining life of the pavement is less than 5 years, the developer shall construct the roadway to current standards to the centerline or 22 feet, whichever is less. If remaining life is greater than 5 years, the road shall be cut back to a location where the structure is sound and the widening constructed. However, in no case shall the reconstruction be less than 4 feet in width from the existing edge of pavement to the new edge of pavement or face of curb. The county may require reconstruction to the centerline or 22 feet, whichever is less, if the review authority determines the geometrics or other existing features are inadequate. (See Condition A-7.k)

Parking is prohibited on any road less than 24 feet wide. Signing and Striping plans shall include appropriate measures on partial width roads. The applicant shall propose "No Parking" signs along any partial-width roads less than 24 feet in width. (See Condition A-7.l)

Finding 4 – Access Management
Per CCC 40.350.030(B)(4)(b)(1)(a), excepting the bulbs of cul-de-sacs, driveways serving single-family residential lots shall be located a minimum of 5 feet from an interior side property line or zero feet as a shared driveway approach. The applicant's proposal includes shared driveways serving lots, 33-34, 39-40, 57-58, 68-69 and 74-75. Shared driveways can serve no more than 4 lots and must be a minimum of 12-feet wide and placed in a minimum of 20-foot wide easement. Individual lot driveways are proposed throughout the remainder of the development. These driveways shall be 5 feet from an interior property line. (See Conditions A-7.m, A-7.n, D-7.f and Plat Note D-10.e)

The applicant shall show on the final construction plans that all driveway approaches comply with Clark County Standard Detail F14/F15, or approved equivalent. (See Condition A-7.o)

Per CCC 40.350.030(B)(4)(b)(1)(b), corner lot driveways (on local access roads) shall be a minimum of 40 feet from the projected curb line or edge of pavement, as measured to the nearest edge of the driveway, or in cases where lots less than 40 feet wide are allowed driveways shall be limited to 20 feet in width and located 5 feet from the property line farthest from the intersection or as a 25 foot wide shared driveway at this property line. (See Condition A-7.p)

Per 40.350.030.4.b.4.a, no road may serve more than one hundred (100) lots or dwelling units unless that road is connected by a second vehicle access road to the same "feeder" road at a different location, or to another "feeder" road that functions at a level equal to at least an urban local residential access road or a rural local access road. The second vehicle access road may be a county emergency-only access road, if it serves less than two hundred (200) lots or dwelling units. (See Condition A-7.q)

Finding 5 – Sight Distance
The approval criteria for sight distances are found in CCC 40.350.030(B)(8). This section establishes minimum sight distances at intersections and driveways. Additional building setbacks may be required for corner lots in order to maintain adequate sight distance. The final engineering plans shall show sight distance triangles for driveways that are proposed to remain. Landscaping, trees, utility poles, and miscellaneous structures will not be allowed to impede required sight distance requirements at all proposed driveway approaches and intersections.

The applicant has submitted a *Sight Distance Certification,* prepared by PLS Engineering, dated January 5, 2026 [Exhibit 36]. In this document it is stated that the minimum required stopping and intersection sight distance of 155 and 250 feet, respectively, for a 25 MPH speed limit is currently available along NE 40th avenue, both north and south of the proposed intersection.

The minimum required stopping and intersection sight distance of 250 and 350 feet, respectively, for a 35 MPH speed limit, is currently available along NE 174th Street, both east and west of the proposed intersection.

The applicant will need to submit final construction drawings for review and approval. These plans will need to show sight distance triangles at all intersections. The plans will also need to show objects that are within the sight distance triangle. Notes on the plans shall indicate the vegetation within the sight distance triangle that needs to be maintained, trimmed, or removed. Sight distance shall be verified once construction is complete. (See Conditions A-7.r, A-7.s, C-1 and D-8)

Finding 6 – Transportation Phasing
The applicant has proposed 2 phases. The applicant is responsible for providing all necessary transportation improvements and site circulation required with each individual phase. The required transportation improvements for each proposed phase will be reviewed during final engineering review. Additionally, staff considers completion of the Viers Subdivision (PLD-2022-00067), as currently approved (appeal pending), to be a requirement of supporting this application as it is proposed. If this project proceeds before Viers Subdivision is completed or if changes to the Viers Subdivision affect the proposed design, then revised plans and a Post Decision Review shall be required. (See Conditions A-7.t and A-7.u) [See Stormwater Finding 9]

Conclusion (Transportation & Circulation):
Staff concludes that the proposed preliminary plan, subject to the conditions above, meets the transportation requirements of the Clark County code.

Stormwater and Erosion Control
Finding 7 - Stormwater Applicability
The provisions of Clark County Code Chapter 40.386, as amended by Ordinance No. 2021-06-02, shall apply to all new development, redevelopment, land disturbing activities and drainage projects consistent with the Clark County's NPDES Phase I Municipal Stormwater Permit and Clark County Stormwater Manual (2021). The project adds more than 5,000 square feet of new hard surface; therefore, the applicant shall comply with Minimum Requirements #1 through 9. (See Condition A-8.a)

No new development or redevelopment shall be allowed to materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots. (See Condition A-8.b)

Finding 8 – Stormwater Proposal
The applicant provided a revised *Preliminary Stormwater Technical Information Report* prepared by PLS Engineering, dated January 6, 2026 [Exhibit 29]. The proposal is for a 102-lot (including tracts) subdivision that includes new public roads, associated parking and utilities. This will result in approximately 17.38 acres of new hard surface.

On-Site Stormwater Management (MR#5) was evaluated for all hard surfaces using List #2. The applicant deemed most BMPs provided in Table 2.2 of Book 1 to be infeasible primarily due to low infiltration rates, however, has elected to use BMP D6.10, Detention Pond. Lawn and landscaped areas will utilize BMP T5.13, Post-Construction Soil Quality and Depth. (See Condition A-8.c)

Runoff Treatment (MR#6) is triggered due to more than 5,000 SF of pollution generating hard surfaces. Proprietary treatment BMP T12.10, StormFilter catch basins are proposed for treatment of the frontage improvements (both public and private) and the proposed driveways. (See Conditions A-8.d and A-8.e)

Flow Control (MR#7) will be addressed with BMP D6.10, Detention Pond, sized to detain and release stormwater to comply with the Standard Flow Control Requirement. (See Condition A-8.f)

Wetlands Protection (MR#8) is triggered due to on-site wetlands. Wetland Z is a Category III with a habitat score of 6. According to Figure 1.3, Wetland Hydroperiod Method 2 is required. Wetland E is also a Category III with a habitat score of 5. According to Figure 1.3, General Protection and Protection from Pollutants is required. The applicant is proposing to fill the wetlands and purchase wetland mitigation bank credits. (See Condition A-8.g)

The stormwater facilities located within the public right-of-way and public tracts shall be owned and maintained by the county. Stormwater facilities located on private tracts and individual lots shall be owned and maintained by the property owner. The applicant shall identify on the final construction plans ownership and maintenance responsibilities for each of the proposed stormwater facilities. (See Conditions A-8.h, A-8.i and D-9.d)

The applicant shall show on the final construction plans that all stormwater facility setbacks are met unless a Geotechnical Engineer recommends that setbacks can be reduced. (See Condition A-8.j)

The applicant shall submit an offsite analysis with the Final TIR prepared in accordance with Book 1, Chapter 5 of the CCSM 2021 for all outfall locations from the site. (See Condition A-8.k)

Finding 9 – Stormwater Phasing
The applicant has proposed 2 phases. The applicant is responsible for providing all necessary stormwater mitigation improvements required for each individual phase. The required stormwater mitigation improvements for each proposed phase will be reviewed during final engineering review. Additionally, staff considers completion of the Viers Subdivision (PLD-2022-00067), as currently approved (appeal pending), to be a requirement of supporting this application as it is proposed. If this project proceeds before Viers Subdivision is completed or if changes to the Viers Subdivision affect the proposed design, then revised plans and a Post Decision Review shall be required. (See Condition A-9.l) [See Transportation Finding 6]

Conclusion (Stormwater):
Staff concludes that the proposed preliminary stormwater plan, subject to conditions, is feasible. Therefore, the requirements of the preliminary plan review criteria are satisfied.

Transportation Concurrency
At the time of this staff report mailing Concurrency Standards have not been met, therefore the recommendation for Concurrency is denial. A Concurrency staff report will be issued after this staff report and added to the record. Staff's recommendation to the Hearing Examiner may change.

Wetland and Habitat
Finding 1 – General Habitat
The site is subject to a previous Habitat Determination (WHR-2025-00245) issued on 09/11/2025. The site contains riparian priority habitat associated with an onsite Type Ns (seasonal) stream located in the Southwestern portion of the project site. According to CCC 40.445.020(C)(1)(b), riparian priority habitat (RPH) is designated based on the estimated average two hundred (200) year site potential tree height, extending outward on each side of the stream from the ordinary high-water mark (OHWM) to the distances in Table 40.445.020-1 for each site class by water type. In this case, the Ns stream is afforded a 100' RPH setback on either side of the stream's OHWM.

During the prior habitat predetermination review, several priority snags were also identified within the project site. Priority snags are defined as dead or dying trees that exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) and are > 2 m (6.5 ft) in height in Western Washington. A total of 24 snags have been identified on the site.

Finding 2 – Priority Snags
Based on the provided plans and the Revised Mitigation Plan dated March 29th, 2026 (Exhibit 42) the proposed development will result in removal of 14 Priority Snags, 8,730 square feet (.200 acres) of impacts to the Riparian Priority Habitat area and 60 square feet of direct impacts to the Type Ns stream. Complete avoidance of habitat impacts was not possible due to the distribution of snags onsite and due to the requirement to construct NE 169th Street. As a result, the proposed development necessitates additional stream and buffer impacts that could not be avoided while maintaining required access and roadway standards.

Finding 3 - Snags
Because there are limited opportunities for snag creation onsite, in-kind mitigation for snag impacts is not feasible. Instead, the applicant proposes mitigating for impacts to the priority snags by enhancing 17,729 square feet (.407 acres) of the remaining onsite riparian habitat area. Staff concur that there are limited onsite opportunities for snag replacement and since the remaining riparian habitat area already contains serval snags, staff can accept the proposed riparian enhancement as out-of-kind mitigation. Staff have additionally requested that at least two of the impacted snags be retained onsite as large priority habitat logs and placed within the remaining riparian habitat area.

Riparian habitat impacts will be partially mitigated onsite by enhancing an additional 3,915 square feet (.090 acres) of the riparian habitat area. The remaining riparian habitat impacts will be mitigated through purchase of Mitigation Bank Credits from a Wetland Mitigation Bank within Clark County; however, the site is not within the Mitigation Bank Service Area of any wetland banks. Therefore, an Out of Service Area Request (OOSAR) has been submitted to the Interagency Review Team (IRT) of the Terrace Wetland Bank for approval; however, the IRT has indicated that they are waiting to evaluate the OOSAR until the Army Corps of Engineers' project manager and the Department of Ecology's regional wetland specialist have completed their review of permitting materials and determined if an OOSA credit purchase may provide appropriate compensation.

In anticipation of application of an OOSAR multiplier as typically required by the IRT, the applicant has included a 1.25 multiplier to the proposed bank credit amounts; however, typically the IRT applies a 1.5 OOSAR multiplier for projects that are not within the Bank's Mitigation Service Area. Therefore, at a minimum the applicant shall purchase .122 mitigation bank credits to compensate for the remaining riparian habitat impacts. The required bank credit amount may be increased as modified by IRT approval. A final habitat permit will be required unless IRT approval is granted prior to Final Engineering approval and there are no additional habitat impacts proposed. (See Condition A-3.a)

Finding 4 - General Wetland

The site is subject to a previous Wetland Determination (WHR-2025-00245) issued on 09/11/2025. The site contains two wetlands as follows:
- Wetland Z, located partially on parcel # 181766000 and offsite to the East, is a Category III Depressional wetland with a habitat score of 6 points.

- Wetland E, located partially on parcel # 181764000 and offsite to the East, is a Category III Slope wetland with a habitat score of 5 points.

The offsite wetland boundaries were previously verified by the County in 2022-2023 during review of the approved Viers Subdivision (PLD-2022-00121).

Under CCC 40.445.020(B)(5), wetland buffers are established by comparing the wetland rating category, the wetland rating habitat score, and the intensity of land uses proposed on development sites per Tables 40.445.020-1, 40.445.020-2 and 40.445.020-3. Based on the wetland habitat scores and the proposed land use of the property, Wetland E is afforded an 80-foot-high land use intensity buffer and Wetland Z is afforded a 150-foot-high land use intensity buffer.

Finding 5 - Avoidance
Due to residential lot configuration and stormwater requirements, avoidance of wetland impacts was not feasible or was not practical. Based on the provided plans and the Revised Mitigation Plan dated March 29th, 2026 (Exhibit 42) the proposed development will result in 297 square feet (.007 acres) of impacts to Wetland E and 2,609 square feet (.060 acres) of impacts to Wetland Z. Indirect wetland impacts are not anticipated due to prior approval to fill the offsite portions of Wetlands E and Z under the adjacent Viers Subdivision approval (PLD-2022-00121). However, in the event the 174th Street Subdivision is developed first, the applicant has included additional contingency mitigation measures to account for indirect wetland impacts to Wetlands E and Z which would amount to an additional .026 acres of indirect wetland impacts.

Finding 6 – Wetland Impacts
Since onsite wetland mitigation is not feasible, the applicant proposes mitigating for wetland impacts by purchasing wetland mitigation bank credits; however, the site is not within the Mitigation Bank Service Area of any wetland banks. Therefore, an Out of Service Area Request (OOSAR) has been submitted to the Interagency Review Team (IRT) of the Terrace Wetland Bank for approval; however, the IRT has indicated that they are waiting to evaluate the OOSAR until the Army Corps of Engineers' project manager and the Department of Ecology's regional wetland specialist have completed their review of permitting materials and determined if an OOSA credit purchase may provide appropriate compensation.

In anticipation of application of an OOSAR multiplier as typically required by the IRT, the applicant has included a 1.25 multiplier to the proposed bank credit amounts; however, typically the IRT applies a 1.5 OOSAR multiplier for projects that are not within the Bank's Mitigation Service Area. Therefore, at a minimum the applicant shall purchase .084 mitigation bank credits to compensate for the proposed impacts to Wetlands E and Z. The required bank credit amount may be increased as modified by IRT approval. In the event that the offsite portions of Wetlands E and Z have not been filled as previously approved for the adjacent Vier's Subdivision, then additional credits will be required to compensate for indirect wetland impacts. A final wetland permit will be required unless

IRT approval is granted prior to Final Engineering approval and there are no additional wetland impacts proposed. (See Condition A-3.b)

Finding 7- Installation
After installation of the mitigation, maintenance and monitoring are required in order to ensure long term performance of the mitigation. Routine maintenance of the site is necessary to ensure the integrity and success of the installed plants which includes, but is not limited to, removing invasive species and weeds, irrigation (if required), and plant replacement to meet the performance standards. Annual monitoring reports are required for a period of five growing seasons following approval of the as-built report. Adaptive management and alternate species may be considered if plantings appear to have massive failures; any changes shall be coordinated with Habitat/Wetland Review staff. (See Condition H-2.a)

Finding 8 – As Built
A Mitigation As-Built report must be submitted to the County within 30 days of completion of construction and planting in the approved mitigation plan. The As-Built needs to include documentation of any revisions to or deviations from the approved plan, demonstrating that any changes meet the requirements of CCC 40.445. (See Condition A-3.c)

Finding 9 – Revised Mitigation Plan
Staff concludes that the proposed preliminary mitigation plan (Exhibit 42) is feasible, however, pursuant to findings above, a revised mitigation plan may be required prior to authorization to start construction unless IRT approval is granted prior to Final Engineering approval and there are no additional wetland and/or habitat impacts proposed. (See Condition A-3.d)

Forest Practice
Finding 1 – Current Use
The subject property is currently enrolled in a Current Use program. CCC 40.260.080(B)(2)(a)(4) requires that land proposed to be converted to a nonforestry use be withdrawn from current use designation under Chapters 84.33 and 84.34 RCW or Chapter 3.08 prior to issuance of county land use approvals for nonforestry uses. (See Forest Practice Finding D-3.a)

Finding 2 -Forest Practice
The subject property is also subject to an approved Forest Practices Application (FPA-2026-00026). Forest practice activities associated with this proposal are regulated under CCC 40.260.080. Class IV-General forest practice permits must comply with the conditions of approval established through the associated development permit, forest practice permit, or approved COHP, and all approvals remain subject to the conditions stated on the approved application. Accordingly, the applicable forest practice conditions for this proposal are contained in the approved FPA and are not repeated in this decision. (See Forest Practice Finding G-5.a)

Conclusion
Forest Practice concludes that the proposed preliminary plan, subject to conditions identified in their attached report, meets wetland requirements of the Clark County Code.

Fire Protection
Finding 1-Fire Marshal Review

This application was reviewed by Jason Knoble in the Fire Marshal's Office. Jason can be reached at (564) 397-3318 or e-mail at Jason.knoble@clark.wa.gov. Where there are difficulties in meeting these conditions or if additional information is required, contact Jason in the Fire Marshal's office immediately.

Finding 2-Building Construction
Building construction occurring subsequent to this application shall be in accordance with the provisions of the county's building and fire codes. Additional specific requirements may be made at the time of building construction as a result of the permit review and approval process. (See Condition E-2.a)

Finding 3-Fire Flow
Fire flow in the amount of 1,000 gallons per minute supplied at 20 psi for 60 minutes duration is required for this application. Prior to final approval submit proof from the water purveyor indicating that the required fire flow is available at the site. A letter dated 11/18/2025 states there is 2,401GPM available in the area. Water mains supplying fire flow and fire hydrants shall be installed, approved and operational prior to final plat approval. (See Conditions A-4.a, B-2.b and D-4.a)

Finding 4-Fire Hydrants
Fire hydrants are required for this application. Either the indicated number or the spacing of the fire hydrants is inadequate. Provide fire hydrants such that the maximum spacing between hydrants does not exceed 700 feet and such that no lot or parcel is in excess of 500 feet from a fire hydrant as measured along approved fire apparatus access roads. (See Condition A-4.b)

The local fire district chief approves the exact locations of fire hydrants. As a condition of approval, contact Clark Cowlitz Fire & Rescue at 360-887-4609 to arrange for location approval. Unless waived by the fire district chief fire hydrants shall be provided with appropriate 'storz' adapters for the pumper connection. Provide and maintain a three-foot clear space around the entirety of every fire hydrant. (See Conditions A-4.c, F-1.a, and H-1.a)

Finding 5-Fire Apparatus Access
Fire apparatus access is required for this application. The roadways and maneuvering areas as indicated in the application adequately provide required fire apparatus access. Provide fire apparatus access roads with an unobstructed width of not less than 20 feet, an unobstructed vertical clearance of not less than 13.5 feet, with an all-weather driving surface and capable of supporting the imposed loads of fire apparatus. (See Condition A-4.d)

Finding 6-Fire Apparatus Turnarounds
Approved fire apparatus turnarounds are required for this project. The indicated provisions for turning around fire apparatus are adequate. (See Condition A-4.e)

Finding 7-Fire Sprinklers
Homes exceeding 3,600 square feet including attached garages will require additional fire protection features up to and including a residential fire sprinkler system when adequate public water and a hydrant is not within required distances. (See Condition E-2.b)

Finding 8-Gates
No gate may be installed across a required fire department access road or driveway without first obtaining a permit from the fire marshal's office. Inspection and testing of the gate will be required.

Split gates with a divided entry and exit side will need 15 feet on either side for a total gate width of 30 feet. (See Condition E-2.c)

Finding 9-Parking
Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than twenty-four (24) feet wide shall be posted "NO PARKING-FIRE LANE". (See Condition H-1.b)

Conclusion
Staff finds that the proposed preliminary plan, subject to conditions identified above, meets the fire protection requirements of the Clark County Code.

Water and Sewer Service
Note: List and discuss any SEPA elements (see list 1-16 above) that are relevant to this part of the Staff Report to the extent they relate to the applicable land use regulations.

Finding 1-Services
The site will be served by the Clark Public Utilities water district (exhibit 1 Tab 17) and Clark Regional Wastewater sewer district(Exhibit 1 Tab 16). Letters from the above districts confirm that services are available to the site.

Finding 2-Public Health Evaluation Letter
Submittal of a *Public Health Evaluation Letter* is required as part of the Final Construction Plan Review application. If the evaluation letter specifies that an acceptable *Public Health Final Approval Letter* must be submitted, the evaluation letter will specify the timing of when the final approval letter must be submitted to the county such as at Final Construction Plan Review, Final Plat Review or prior to occupancy. The evaluation letter will serve as confirmation that Public Health staff conducted an evaluation of the site to determine if existing wells or septic systems are on the site, and whether any structures on the site have been/are hooked up to water and/or sewer. The *Public Health Final Approval Letter* will confirm that all existing wells and/or septic systems have been abandoned, inspected and approved by Public Health staff, if applicable. (See Condition A-5)

Finding 3-On-Site Sewage Systems (CCC 24.17, WAC 246-272A, CCC 40.370, RCW 58.17)
Existing individual on-site sewage system (OSS) is listed on the application and there are county records indicating two on-site sewage systems are at the site. A site visit on 06/26/25 did verify evidence of an on-site sewage system known as ON0014336 on Parcel 181711000- the pump basin riser lid was observed east of the house. ON0042884 on Parcel 181731000 was not observed in the dense landscaping- the owner believes the OSS to be located east of the southern end of the house. These OSS will be required to be abandoned prior to final plat (Mylar) approval. (See Condition D-5.a)

The other five parcels were not observed to have an OSS but it is possible that components of an OSS are on them. Any other on-site sewage system discovered during development must be properly abandoned with written notice provided to Clark County Public Health and the locations marked on the final plat (Mylar). (See Condition D-5.b)

Finding 4-abandonment
Please provide written notification describing the actions taken to legally abandon the system with pumper's receipt attached. Proper system abandonment requires tank pumping by a licensed pumper, removing the tank or breaking in the tank lids, punching a hole in the bottom, and filling

the cavities with rock, sand or compacted soil. Cesspools, drywells, or pump chambers discovered during development must also be abandoned in this manner. The following link connects to the free Clark County OSS Abandonment Form:
https://clark.wa.gov/sites/default/files/media/document/2023-03/CCPH%20OSS%20Abandonment%20Notification.pdf. (See Condition B-2.a)

Finding 5-Sewer Connection
The proposed development must connect to an approved public sewer system. (See Condition D-5.c)

The remaining existing houses must demonstrate a connection to the public sewer prior to final plat (Mylar) approval. A copy of the final acceptance letter from the sanitary sewer purveyor or the equivalent must be submitted along with the final plat (Mylar). (See Condition D-5.d)

Finding 6-Water Systems (WAC 173-160, WAC 246-290, CCC 40.370, RCW 58.17):
Existing individual wells are indicated on the application. There were no county records documenting wells at the site but a site visit on 06/26/25 did discover evidence of wells in concrete rings near each of the two houses. On Parcel 181711000, the well was observed west of the house, past the woodpile. On Parcel 181731000, the well was observed east of the northern end of the house. To track the status of the wells, WP0014336 was created for Parcel 181711000 and WP0014337 was created for Parcel 181731000. Any well identified during development must be properly decommissioned per WAC 173-160-381 by a Washington licensed well driller with written notice provided to Clark County Public Health (See Condition D-5.e) and the well locations marked on the final plat (Mylar). (See Condition D-5.f)

Finding 7-Water Connection
The proposed development must connect to an approved public water system. A copy of the final acceptance letter from the purveyor or the equivalent must be submitted along with the final plat (Mylar). (See Condition D-5.g)

Finding 8-Approval
Final Health Department approval required. (See Condition D-5.h)

Conclusion
Staff finds that the proposed preliminary plan, subject to conditions identified above, meets water and sewer service requirements of the Clark County Code.

Impact Fees
Finding 1-Impact Fees
In 1990, the state legislature authorized counties and cities planning under the Growth Management Act to impose impact fees on development activity to provide partial funding for public system improvements (e.g., roads, schools, parks) which serve new development. Impact fees are due at the time of issuance of building permits and are **not** a lien placed against the property at the time of final approval. A note reflecting the fee shall be placed on the face of the plan or plat. If you have any questions regarding the Traffic Impact Fee (TIF), please contact Public Works at 564.397.6118. Impact fees include the following:

Traffic Impact Fee (Mt. Vista)	$8,520.22
Park Impact Fee (District #10)	$3,852.00
School Impact Fee (Battle Ground)	$ 10,760.00

Note: The above impact fees are an estimate and subject to change. Impact fees are set at the time of the preliminary plan review decision. (See Condition E-3)

The amounts listed above are an estimate using the current impact fee rates and are subject to change. As found in CCC 40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance.

While the subdivision is proposed at 100 total lots, impact fees will not be waived since the existing dwellings that are to remain on proposed lots 16 and 95.

SEPA Determination

As lead agency under the State Environmental Policy Act (SEPA) Rules [Chapter 197-11, Washington Administrative Code (WAC)], Clark County must determine if there are possible significant adverse environmental impacts associated with this proposal. The options include the following:

a. **DS = Determination of Significance** - The impacts cannot be mitigated through conditions of approval and, therefore, require the preparation of an Environmental Impact Statement (EIS);

b. **MDNS = Mitigated Determination of Non-Significance** - The impacts can be addressed through conditions of approval; or,

c. **DNS = Determination of Non-Significance** - The impacts can be addressed by applying the Clark County Code.

The likely SEPA determination of Non-Significance (DNS) in the Notice of Development Review Application issued on February 24, 2026 is hereby final.

SEPA Appeal Process

An appeal of this SEPA determination and any required mitigations must be filed with the Department of Community Development within fourteen (14) calendar days from the date this notice.

The hearing examiner shall hear appeals in a public hearing. Notice of the appeal hearing shall be mailed to parties of record but shall not be posted or published.

A **procedural SEPA appeal** is an appeal of the determination (i.e., determination of significance, determination of non-significance, or mitigated determination of non-significance).

A **substantive SEPA appeal** is an appeal of the conditions required to mitigate for probable significant issues not adequately addressed by existing Clark County Code or other law.

Issues of compliance with existing approval standards and criteria can still be addressed in the public hearing without an appeal of this SEPA determination.

A **procedural or substantive appeal** must be filed within fourteen (14) calendar days of this determination, together with the appeal fee. Such appeals will be considered at a scheduled public hearing and decided by the Hearing Examiner in a subsequent written decision.

Appeals must be in writing and should contain the following information:

- Case number designated by the county
- Name of the applicant
- Name of each petitioner
- Signature of each petitioner or his or her duly authorized representative
- A statement showing the following:
  - That each petitioner is entitled to file the appeal as an interested party in accordance with CCC 40.510.020(H) or 40.510.030(H)
  - The reasons why the SEPA determination is in error
- The appeal fee

Refer to the *Appeals* handout for more information and fees.

The decision of the Hearing Examiner is final unless:

- A motion for reconsideration is filed within fourteen (14) days of written notice of the decision, as provided under Clark County Code, Section 2.51.160; or,
- An appeal is filed with Clark County Superior Court.

Staff Contact Person: Melissa Curtis, 564.397.5870

Responsible Official: April Furth, Interim Community Development Director

Recommendation

Based upon the proposed plan known as Exhibits 25 and 26, and the findings and conclusions stated above, staff recommends the Hearing Examiner **DENIES** this request, subject to the understanding that the application is required to adhere to all applicable codes and laws and is subject to the following conditions of approval.

Conditions of Approval

Note: The Conditions of Approval below include those identified above and those contained within Attachments A, B, and C. The letters or numbers may have changed from those in the attachments.

A	**Final Construction Review for Land Division** **Review and Approval Authority: Development Engineering**

Prior to construction, a Final Construction Plan shall be submitted for review and approval, consistent with the approved preliminary plan and the following conditions of approval:

A-1 Land Use

a. The phasing plan includes all land within the preliminary plat. Each phase is an independent planning unit with safe and convenient circulation and with facilities and utilities coordinated with requirements established for the entire

subdivision; and all road improvement requirements are assured. (See Land Use Finding 7)

A-2 Final Construction Plan - The applicant shall submit and obtain county approval of a final construction plan with the following:

a. Archaeology

1) A note shall be placed on the face of the final construction plans as follows:

"If any cultural resources and/or human remains are discovered in the course of undertaking the development activity, the Department of Archaeology and Historic Preservation in Olympia shall be notified. Failure to comply with these state requirements may constitute a Class C Felony, subject to imprisonment and/or fines."

A-3 Wetland and Habitat Review

a. The applicant shall enhance a total of .497 acres of the riparian habitat area as shown in the March 29th, 2026 Revised Mitigation Plan prepared by Ecological Land Services. Two of the impacted priority snags shall be retained onsite within the riparian habitat area as priority logs. The applicant shall additionally purchase a minimum of .122 bank credits from a wetland mitigation bank within Clark County. The required bank credit amount may be increased as modified by IRT approval. (See Wetland and Habitat Finding 3)

b. Since onsite wetland mitigation is not feasible, the applicant proposes mitigating for wetland impacts by purchasing wetland mitigation bank credits; however, the site is not within the Mitigation Bank Service Area of any wetland banks. Therefore, an Out of Service Area Request (OOSAR) has been submitted to the Interagency Review Team (IRT) of the Terrace Wetland Bank for approval; however, the IRT has indicated that they are waiting to evaluate the OOSAR until the Army Corps of Engineers' project manager and the Department of Ecology's regional wetland specialist have completed their review of permitting materials and determined if an OOSA credit purchase may provide appropriate compensation.

In anticipation of application of an OOSAR multiplier as typically required by the IRT, the applicant has included a 1.25 multiplier to the proposed bank credit amounts; however, typically the IRT applies a 1.5 OOSAR multiplier for projects that are not within the Bank's Mitigation Service Area. Therefore, at a minimum the applicant shall purchase .084 mitigation bank credits to compensate for the proposed impacts to Wetlands E and Z. The required bank credit amount may be increased as modified by IRT approval. In the event that the offsite portions of Wetlands E and Z have not been filled as previously approved for the adjacent Vier's Subdivision, then additional credits will be required to compensate for indirect wetland impacts. A final wetland permit will be required unless IRT approval is granted prior to Final Engineering approval and there are no additional wetland impacts proposed. (See Wetland and Habitat Finding 6)

c. The applicant shall submit a Mitigation As-Built report to the County within 30 days of completion of the construction and planting in the approved mitigation plan. (See Wetland and Habitat Finding 8)

d. A final habitat permit will be required unless IRT approval is granted prior to Final Engineering approval and there are no additional habitat impacts proposed. The application shall include a revised mitigation plan that meets the Conditions of Approval above. (See Wetland and Habitat Finding 9)

e. Unless the proposed mitigation is constructed and an as-built is approved, a performance assurance for the mitigation is required.

A-4 Fire Marshal Requirements

a. Fire flow in the amount of 1,000 gallons per minute supplied at 20 psi for 60 minutes duration is required for this application. Prior to final approval submit proof from the water purveyor indicating that the required fire flow is available at the site. A letter dated 11/18/2025 states there is 2,401GPM available in the area. Water mains supplying fire flow and fire hydrants shall be installed, approved and operational prior to final plat approval. (See Fire Protection Finding 3)

b. Fire hydrants are required for this application. Either the indicated number or the spacing of the fire hydrants is inadequate. Provide fire hydrants such that the maximum spacing between hydrants does not exceed 700 feet and such that no lot or parcel is in excess of 500 feet from a fire hydrant as measured along approved fire apparatus access roads. (See Fire Protection Finding 4)

c. The local fire district chief approves the exact locations of fire hydrants. As a condition of approval, contact Clark Cowlitz Fire & Rescue at 360-887-4609 to arrange for location approval. Unless waived by the fire district chief fire hydrants shall be provided with appropriate 'storz' adapters for the pumper connection. Provide and maintain a three-foot clear space around the entirety of every fire hydrant. (See Fire Protection Finding 4)

d. Fire apparatus access is required for this application. The roadways and maneuvering areas as indicated in the application adequately provide required fire apparatus access. Provide fire apparatus access roads with an unobstructed width of not less than 20 feet, an unobstructed vertical clearance of not less than 13.5 feet, with an all-weather driving surface and capable of supporting the imposed loads of fire apparatus. See Fire Protection Finding 5)

e. Approved fire apparatus turnarounds are required for this project. The indicated provisions for turning around fire apparatus are adequate. (See Fire Protection Finding 6)

A-5 Public Health Review - Submittal of a *Public Health Evaluation Letter* is required as part of the Final Construction Plan Review or early grading application. If the evaluation letter specifies that certain actions are required, the evaluation letter will specify the timing of when those activities must be completed, such as

prior to Final Construction Plan Review, construction, Provisional Acceptance, Final Plat Review, building permit issuance, or occupancy, and approved by Public Health.

A-6 Final Transportation Plan/On-Site - The applicant shall submit and obtain County approval of a final transportation design in conformance to CCC 40.350 and the following conditions of approval:

a. The applicant shall show on the final construction plans that all proposed pedestrian facilities will be constructed to comply with ADA standards. (See Transportation Finding 1)

b. The applicant shall show the construction of end of sidewalk ramps where pedestrian facilities temporarily terminate at the plat boundary. (See Transportation Finding 1)

c. The applicant shall show all curb ramps will be constructed in compliance with the WSDOT Design Manual. (See Transportation Finding 1)

d. NE 174th Street is classified as an "Urban Collector", C-2b, half-width improvements are required consisting of 30 feet of right-of-way dedication, 17-feet of roadway width, curb/gutter, and a 5-foot detached sidewalk. (See Transportation Finding 3)

e. All roads shall have a minimum pavement width of 20 feet. (See Transportation Finding 3)

f. NE 40th Avenue is classified as an "Urban Neighborhood Circulator" half-width improvements are required consisting of 27 feet of right-of-way dedication, 18-feet of roadway width, curb/gutter, and a 5-foot sidewalk. (See Transportation Finding 3)

g. NE 173rd Street, NE 171st Street, NE 170th Street, NE 42nd Way, NE 43rd Way, NE 44th Way and NE 45th Avenue are classified as "Urban Local Residential Access" full-width improvements are required consisting of 46 feet of right-of-way dedication, 28-feet of roadway width, curb/gutter, and a 5-foot sidewalk. (See Transportation Finding 3)

h. NE 169th Street is classified as an "Urban Local Residential Access" half-width improvements are required consisting of 23 feet of right-of-way dedication, 14-feet of roadway width, curb/gutter, and a 5-foot sidewalk. (See Transportation Finding 3)

i. NE 43rd Loop and NE 44th Loop are proposed as "Urban Private Roads", full-width improvements are required consisting of 26 feet of easement, 20-feet of roadway width, curb/gutter, and a 5-foot sidewalk (on one side). (See Transportation Finding 3)

j. The applicant shall show on the final construction plans that roadways are tapered according to accepted engineering practices and supplemental standards in Section 40.350.030(C)(1)(b). (See Transportation Finding 3)

k. The applicant shall show on the final construction plans a pavement section that is in compliance with the results of pavement deflection testing as prescribed by CCC 40.350.030(B)(5)(a)(6). (See Transportation Finding 3)

l. All partial width roads less than 24 feet in width shall be marked with "No Parking" signs or similar control measures. (See Transportation Finding 3)

m. The applicant shall show on the final construction plans that all shared driveway approaches are placed within a minimum of 20-foot-wide easement. (See Transportation Finding 4)

n. The applicant shall show on the final construction plans that all driveway approaches are spaced 5 feet from any property line. (See Transportation Finding 4)

o. The applicant shall show on the final construction plans that all driveway approaches comply with Clark County Standard Detail F14/F15, or approved equivalent. (See Transportation Finding 4)

p. The applicant shall show on the final construction plans that all corner lot driveways will comply with CCC 40.350.030(B)(4(b)(1)(b). (See Transportation Finding 4)

q. The applicant shall show on the final construction plans that access per 40.350.030.4.b.4.a is met for any roadway that will exceed the threshold(s). (See Transportation Finding 4)

r. The applicant shall show the sight distance triangles at all intersections on the final construction plans. (See Transportation Finding 5)

s. The applicant shall remove vegetation within the right-of-way to maximize sight distance for the proposed intersections. (See Finding 5)

t. The applicant is responsible for providing all necessary transportation improvements required for each individual phase. (See Transportation Finding 6)

u. If this project proceeds before Viers Subdivision (PLD-2022-00067) is completed or if changes to the Viers Subdivision affect the proposed design, then revised plans and a Post Decision Review shall be required. (See Transportation Finding 6)

A-7 Transportation:

a. Signing and Striping Plan: If applicable, the applicant shall submit a signing and striping plan and a reimbursable work order, authorizing County Road

Operations to perform any signing and pavement striping required within the County right-of-way. This plan and work order shall be approved by the Department of Public Works prior to final engineering approval.

A-8 Final Stormwater Plan – The applicant shall obtain county approval of a drainage plan designed in conformance to CCC 40.386, as amended by Ordinance No. 2021-06-02, and the following conditions of approval:

a. The applicant shall submit final construction plans and a final Technical Information Report (TIR) that addresses Stormwater Minimum Requirements #1 though #9. (See Finding 7)

b. The applicant shall demonstrate that the development will not materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots. (See Stormwater Finding 7)

c. The applicant shall provide a final Technical Information Report that evaluates List #2 for all hard surfaces. (See Stormwater Finding 8)

d. The applicant shall provide a final Technical Information Report that demonstrates compliance with the Basic Treatment requirement. (See Stormwater Finding 8)

e. The applicant shall submit documentation from the stormwater treatment system manufacturer indicating that any proprietary stormwater treatment devices were sited and sized appropriately. (See Stormwater Finding 8)

f. The applicant shall provide a final technical information Report that demonstrates compliance with the Standard Flow Control requirement. (See Stormwater Finding 8)

g. The applicant shall provide final construction plans and a final Technical Information Report that addresses the following levels of wetland protection: Hydroperiod Protection (Method 2) and General Protection & Protection from Pollutants (as applicable to each wetland), if the applicant proposes any changes to the wetlands and/or mitigation plans. (See Stormwater Finding 8)

h. The applicant shall identify on the final construction plans ownership and maintenance responsibilities for each of the proposed stormwater facilities. (See Stormwater Finding 8)

i. A stormwater easement shall be shown on all private/joint stormwater facilities not in the public right-of-way or in a tract. (See Stormwater Finding 8)

j. Stormwater facility setbacks shall be met and shown on the final construction plans, unless a reduced setback is recommended by a geotechnical engineer. (See Stormwater Finding 8)

k. The applicant shall submit an offsite analysis with the Final TIR prepared in accordance with Book 1, Chapter 5 of the CCSM 2021 for all outfall locations from the site. (See Stormwater Finding 8)

l. The applicant is responsible for providing all necessary stormwater mitigation improvements required for each individual phase. (See Stormwater Finding 9)

A-9 Erosion Control Plan - The applicant shall submit and obtain County approval of a final erosion control plan designed in accordance with CCC 40.386, as amended by Ordinance No. 2021-06-02.

A-10 Excavation and Grading - Excavation/grading shall be performed in compliance with CCC14.07.

B	**Prior to Construction of Development** **Review and Approval Authority: Development Inspection**

Prior to construction, the following conditions shall be met:

B-1 Land Use:

a. Prior to site construction, structures slated for demolition shall be demolished in accordance with the procedures of the Southwest Clean Air Agency and the Clark County demolition permit. (See Land Use Finding 7)

B-2 Pre-Construction Conference - Prior to construction or issuance of any grading or building permits, a pre-construction conference shall be held with the county; and,

a. Prior to site construction, abandonment of septic systems, water wells and underground tanks shall be decommissioned in accordance with the procedures of the Clark County Public Health. (See Water and Sewer Services Finding 4)

b. Fire flow in the amount of 1,000 gallons per minute supplied at 20 psi for 60 minutes duration is required for this application. Prior to final approval submit proof from the water purveyor indicating that the required fire flow is available at the site. A letter dated 11/18/2025 states there is 2,401GPM available in the area. Water mains supplying fire flow and fire hydrants shall be installed, approved and operational prior to final plat approval. (See Fire Protection Finding 3)

B-3 Traffic Control Plan – Prior to impacting the public roadway for the development site, the applicant shall obtain written approval from Clark County Department of Public Works of the applicant's Traffic Control Plan (TCP). The TCP shall govern all work within or impacting the public transportation system.

B-4 Pre-Construction Conference - Prior to construction or any land disturbance, a pre-construction conference shall be held with the county.

B-5 **Erosion Control** - Prior to construction or any land disturbance, erosion/sediment controls shall be in place per the approved erosion control plan. Sediment control facilities shall be installed that will prevent any silt from entering infiltration systems. Sediment controls shall be in place during construction and until all disturbed areas are stabilized and any erosion potential no longer exists. Erosion control facilities shall not be removed without county approval.

B-6 **Road Closures** - Any request by the developer or developer's contractor to close a road will be reviewed by county staff. The developer shall provide a memorandum to the County Engineer justifying the reasons for needing the road closure, specifically including explanation as to why the closure is necessary and construction cannot occur under traffic, such as flagger-controlled alternating one way traffic next to the construction. The memorandum shall include the ENG number and title of the project, location of the requested road closure, anticipated date of start of closure, requested closure time length, explanation of the public outreach that the contractor will perform, full detour mapping, and other information as appropriate. Road Closures are approved specifically by the County Council by resolution, as described in WAC 308-330-270(7). The process for county takes at least 6 weeks for writing the staff report, resolution and internal review. Depending on the complexity of the request from the developer and the council's time availability, this can take over 12 weeks to process from start to finish. It is the developer's responsibility to ensure that the process is completed prior to needing the road closure enacted. The contractor shall be responsible for all costs associated with county staff time to process the request via reimbursable work order and all notifications required by law in local newspapers as required by RCW 47.48 Notice of Closure or Restriction. Requesting a road closure is no guarantee that a road closure will be approved by the county.

C	**Provisional Acceptance of Development** **Review and Approval Authority: Development Inspection**

Prior to provisional acceptance of development improvements, construction shall be completed consistent with the approved final construction / land division plan and the following conditions of approval:

C-1 **Sight Distance** - The applicant shall submit a sight distance certification letter signed and stamped by an engineer, licensed in the state of Washington, indicating the sight distance at all proposed intersections, once constructed, complies with the county code. (See Transportation Finding 5)

D	**Final Plat Review & Recording** **Review and Approval Authority: Development Engineering**

Prior to final plat approval and recording, the following conditions shall be met:

D-1 **Land Use**

a. The phasing plan includes all land within the preliminary plat. Each phase is an independent planning unit with safe and convenient circulation and with facilities and utilities coordinated with requirements established for the entire subdivision; and all road improvement requirements are assured. (See Land Use Finding 7)

D-2 Wetland and Habitat Review

a. Pursuant to CCC 40.445.030.B.2.d, a conservation covenant shall be recorded in a form approved by the Prosecuting Attorney as adequate to incorporate the other restrictions of this section and to give notice of the requirement to obtain a habitat permit prior to engaging in regulated activities within a designated habitat area.

b. Pursuant to CCC 40.445.030.B.2.d, the Final Plat shall clearly show all priority habitat boundaries with a note referencing any required conservation covenant(s).

c. Pursuant to CCC 40.450.030.F, a permanent physical demarcation along the upland boundary of the riparian habitat area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official.

d. Pursuant to CCC 40.450.030.F, small signs shall be posted at an interval of one (1) per lot or every one hundred (100) feet, whichever is less, and perpetually maintained at locations along the outer perimeter of the riparian habitat area approved by the responsible official worded substantially as follows:

Habitat Area -
Please retain in a natural state

D-3 Forest Practice

a. Prior to issuance of county land use approvals for nonforestry uses associated with this proposal, the applicant/property owner shall obtain withdrawal of the area to be converted from any applicable current use designation and provide documentation of that withdrawal to Clark County. The applicant/property owner shall be responsible for any compensating tax, additional tax, fees, or other obligations associated with removal from the current use program. (See Forest Practice Finding 1)

D-4 Fire Marshal Requirements

a. Water mains supplying fire flow and fire hydrants shall be installed, approved and operational prior to final plat approval. (See Fire Protection Finding 3)

D-5 Water and Sewer Services:

a. OSS will be required to be abandoned prior to final plat (Mylar) approval. (See Water and Sewer Services Condition 3)

b. Any other on-site sewage system discovered during development must be properly abandoned with written notice provided to Clark County Public Health and the locations marked on the final plat (Mylar). (See Water and Sewer Services Condition 3)

c. The proposed development must connect to an approved public sewer system. (See Water and Sewer Services Finding 6)

d. The remaining existing houses must demonstrate a connection to the public sewer prior to final plat (Mylar) approval. A copy of the final acceptance letter from the sanitary sewer purveyor or the equivalent must be submitted along with the final plat (Mylar). (See Water and Sewer Services Finding 6)

e. Any well identified during development must be properly decommissioned per WAC 173-160-381 by a Washington licensed well driller with written notice provided to Clark County Public Health. (See Water and Sewer Services Finding 6)

f. Well locations marked on the final plat (Mylar). (See Water and Sewer Services Finding 6)

g. Abandonment of On-Site Water Wells and Sewage Systems - The location of abandoned septic tanks and decommissioned wells shall be shown on the face of the final plat. (See Water and Sewer Services Finding 7)

h. Final Health Department approval required. (See Water and Sewer Services Finding 8)

D-6 Addressing - At the time of final plat, existing residence(s) that will remain may be subject to an address change. Addressing will be determined based on point of access.

D-7 Rights-of-way / Easements –

a. Right-of-way along the frontage of NE 174th Street to achieve a 30-foot half-width shall be conveyed to the county with the final plat, if necessary. This 30-foot right-of-way shall be from the historic centerline. (See Transportation Finding 3)

b. Right-of-way along NE 40th Avenue to achieve a 30-foot partial-width, shall be conveyed to the county with the final plat. (See Transportation Finding 3)

c. Right-of-way along NE 173rd Street, NE 171st Street, NE 170th Street, NE 42nd Way, NE 43rd Way, NE 44th Way and NE 45th Avenue to achieve a 46-foot full-width, shall be conveyed to the county with the final plat. (See Transportation Finding 3)

d. Right-of-way along the frontage of NE 169th Street to achieve a 23-foot half-width, shall be conveyed to the county with the final plat. (See Transportation Finding 3)

e. A private road easement for NE 43rd Loop and NE 44th Loop shall be delineated on the final plat. (See Transportation Finding 3)

f. The joint driveway access easements for Lots 33-34, 39-40, 57-58, 68-69 and 74-75 shall be delineated on the final plat. A minimum 20-foot easement width is required. The lot numbers who have access to the joint driveway easements shall also be labeled. (See Transportation Finding 4)

D-8 **Sight Distance** – Sight distance triangles shall be delineated on the final plat, if within the lot area. (See Transportation Finding 5)

D-9 **Developer Covenant** – A "Developer Covenant to Clark County" shall be submitted for recording to include the following:

a. Joint Driveway Maintenance Covenant - A joint road maintenance covenant shall be submitted to the responsible official for approval and recorded with the County Auditor. The covenant shall set out the terms and conditions of responsibility for maintenance, maintenance methods, standards, distribution of expenses, remedies for noncompliance with the terms of the agreement, right of use easements, and other considerations, as required under 40.350.030(C)(4)(g),

b. Critical Aquifer Recharge Areas - "The dumping of chemicals into the groundwater and the use of excessive fertilizers and pesticides shall be avoided. Homeowners are encouraged to contact the State Wellhead Protection program at (206) 586-9041 or the Washington State Department of Ecology at 800-RECYCLE for more information on groundwater /drinking supply protection."

c. Erosion Control - "Building Permits for lots on the plat shall comply with the approved erosion control plan on file with Clark County Building Department and put in place prior to construction."

d. Responsibility for Stormwater Facilities Maintenance – For stormwater facilities for which the county will not provide long-term maintenance, the developer shall make arrangements with the existing or future (as appropriate) occupants or owners of the subject property for assumption of maintenance to the county's Stormwater Facilities Maintenance Manual as adopted by Chapter 13.26A. The responsible official prior to county approval of the final stormwater plan shall approve such arrangements. The county may inspect privately maintained facilities for compliance with the requirements of this chapter. If the parties responsible for long-term maintenance fail to maintain their facilities to acceptable standards, the county shall issue a written notice specifying required actions to be taken in order to bring the facilities into compliance. If these actions are not performed in a timely manner, the county shall take enforcement action and recover from parties responsible for the maintenance in accordance with Section 32.04.060.

e. Impact Fees: "In accordance with CCC 40.610, impact fees for each dwelling in this subdivision shall be assessed for impacts on schools, parks and

transportation facilities based for the following districts: Battle Ground School District (SIF), Park District 10 (PIF) and Mt. Vista Sub-area (TIF). As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance."

D-10 Plat Notes - The following notes shall be placed on the final plat:

a. Sidewalks: "Prior to issuance of occupancy permits, sidewalks shall be constructed along all the respective lot frontages."

b. Utilities: "An easement is hereby reserved under and upon the exterior six (6) feet at the front boundary lines of all lots for the installation, construction, renewing, operating and maintaining electric, telephone, TV, cable, water and sanitary sewer services. Also, a sidewalk easement, as necessary to comply with ADA slope requirements, shall be reserved upon the exterior six (6) feet along the front boundary lines of all lots adjacent to public streets."

c. Sight Distance: "Sight distance easement triangles shall be maintained and kept clear as required under CCC 40.350.030.B.8."

d. Driveways: "No direct access is allowed onto the following streets: NE 174th Street"

e. Driveways: "All residential driveway approaches entering public roads are required to comply with CCC 40.350."

f. Access: "The lot(s) (___) has legal permission to enter and exit via a (public way, shared driveway easement, or private road)."

g. Privately Owned Stormwater Facilities: "The following party(s) is responsible for long-term maintenance of the privately owned stormwater facilities: _____."

h. Roof and Crawl Space Drains: "Roof and crawl space drains shall be installed in accordance with the approved As-Built plans, unless a revised plan is approved by the county. These stormwater systems will be owned and maintained by the property owner on whose lot the stormwater system is located."

i. Archaeological (all plats): "If any cultural resources and/or human remains are discovered in the course of undertaking the development activity, the Department of Archaeology and Historic Preservation in Olympia and Clark County Community Development shall be notified. Failure to comply with these State requirements may constitute a Class C Felony, subject to imprisonment and/or fines."

j. Impact Fees: "In accordance with CCC 40.610, impact fees for each dwelling in this subdivision shall be assessed for impacts on schools, parks and transportation facilities based for the following districts: Battle Ground School District (SIF), Park District 10 (PIF) and Mt. Vista Sub-area (TIF). As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance."

E	**Building Permits** **Review and Approval Authority: Permit Services**

Prior to issuance of a building permit, the following conditions shall be met:

E-1 Land Use:

a. Any future construction on the newly created lots shall meet setback standards prescribed for the R1-10 zone. (See Land Use Finding 3)

E-2 Fire Marshal Requirements:

a. Building construction occurring subsequent to this application shall be in accordance with the provisions of the county's building and fire codes. (See Fire Protection Finding 2)

b. Homes exceeding 3,600 square feet including attached garages will require additional fire protection features up to and including a residential fire sprinkler system when adequate public water and a hydrant is not within required distances. (See Fire Protection Finding 7)

c. No gate may be installed across a required fire department access road or driveway without first obtaining a permit from the fire marshal's office. (See Fire Protection Finding 8)

E-3 Impact Fees: Impact fees shall be assessed for impacts on schools, parks and transportation facilities based for the following districts: Battle Ground School District (SIF), Park District 10 (PIF) and Mt. Vista Sub-area (TIF). As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance."(See Impact Finding 1)

E-4 Engineering requirements:

a. Excavation and Grading: Excavation/grading shall be performed in compliance with CCC 14.07.

b. Roof and Crawl Space Drains: Roof and crawl space drains shall be installed in accordance with the approved As-Built plans, unless a revised plan is approved by the county. These stormwater systems will be owned and maintained by the property owner on whose lot the stormwater system is located. (See Stormwater Finding 8)

F	**Occupancy Permits** **Review and Approval Authority: Building**

Prior to issuance of an occupancy permit, the following conditions shall be met:

F-1 Fire Marshal Requirements:

a. Provide and maintain a three-foot clear space around the entirety of every fire hydrant. (See Fire Protection Finding 4)

G	**Development Review Timelines & Advisory Information** **Review and Approval Authority: None - Advisory to Applicant**

G-1 Land Division - Within seven (7) years of preliminary plan approval, a Fully Complete application for Final Plat review shall be submitted.

G-2 Department of Ecology Permit for Construction Stormwater - A permit from the Department of Ecology (ECY) is required if:

- The construction project disturbs one or more acres of land through clearing, grading, excavating, or stockpiling of fill material; **AND**
- There is a possibility that stormwater could run off the development site during construction and into surface waters or conveyance systems leading to surface waters of the state.

The cumulative acreage of the entire project whether in a single or in a multiphase project will count toward the one acre threshold. This applies even if the applicant is responsible for only a small portion (less than one acre) of the larger project planned over time. **The applicant shall contact ECY for further information.**

G-3 Building and Fire Safety
Building and fire, life, and safety requirements must be addressed through specific approvals and permits. This decision may reference general and specific items related to structures and fire, life, and safety conditions, but they are only for reference in regards to land use conditions. It is the responsibility of the owner, agent, tenant, or applicant to insure that Building Safety and Fire Marshal requirements are in compliance or brought into compliance. Land use decisions do not waive any building or fire code requirements.

G-4 Building Elevation Approvals – Approval of building elevations submitted for preliminary plan review does not ensure compliance with other requirements (such as building setbacks) under other construction codes. Compliance with other construction codes is the responsibility of the applicant at the time of building permit issuance.

G-5 Forest Practice

a. All forest practice activity associated with this approval shall be conducted in compliance with the approved Forest Practices Application, FPA-2026-00026, and all conditions contained therein. The approved FPA and its conditions are incorporated into this approval by reference. This PLD does not modify, waive, or replace any requirement of the approved FPA. Any timber harvest, clearing, or related forest practice activity inconsistent with the approved FPA is prohibited. (See Forest Practice Finding 2)

H	**Post Development Requirements**

Review and Approval Authority: As specified below

H-1 Fire Protection:

a. Provide and maintain a three-foot clear space around the entirety of every fire hydrant. (See Fire Protection Finding 4)

b. Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than twenty-four (24) feet wide shall be posted "NO PARKING-FIRE LANE". (See Fire Protection Finding 9)

H-2 Wetland and Habitat Review

a. The applicant (or successor in ownership) shall implement the approved mitigation maintenance and monitoring plan and submit performance reports to the County for periodic inspection and approval as specified. (See Wetland and Habitat Finding 7)

Note: Any additional information submitted by the applicant within fourteen (14) calendar days prior to or after issuance of this report, may not be considered due to time constraints. In order for such additional information to be considered, the applicant may be required to request a "hearing extension" or "open record" and shall pay the associated fee.

Hearing Examiner Decision and Appeal Process

This report to the Hearing Examiner is a recommendation from the Land Use Review program of Clark County, Washington.

The examiner may adopt, modify or reject this recommendation. The examiner will render a decision within 14 calendar days of closing the public hearing. Clark County will mail a copy of the decision to the applicant and neighborhood association within 7 days of receipt from the Hearing Examiner. All parties of record will receive a notice of the final decision within 7 days of receipt from the Hearing Examiner.

Motion for Reconsideration

Any party of record to the proceeding before the Hearing Examiner may file with the responsible official a motion for reconsideration of an examiner's decision within fourteen (14) calendar days of written notice of the decision. A party of record includes the applicant and those individuals who signed the sign-in sheet or presented oral testimony at the public hearing, and/or submitted written testimony prior to or at the Public Hearing on this matter.

The motion must be accompanied by the applicable fee and identify the specific authority within the Clark County Code or other applicable laws, and/or specific evidence, in support of reconsideration. A motion may be granted for any one of the following causes that materially affects their rights of the moving party:

- Procedural irregularity or error, clarification, or scrivener's error, for which no fee will be charged;
- Newly discovered evidence, which the moving party could not with reasonable diligence have timely discovered and produced for consideration by the examiners;
- The decision is not supported by substantial evidence in the record; or,

- The decision is contrary to law.

Any party of record may file a written response to the motion if filed within fourteen (14) calendar days of filing a motion for reconsideration.

The examiner will issue a decision on the motion for reconsideration within twenty-eight (28) calendar days of filing of a motion for reconsideration.

Appeal Rights

Any party of record to the proceeding before the hearings examiner may appeal any aspect of the Hearing Examiner's decision, except the SEPA determination (i.e., procedural issues), to the Superior Court.

See the *Appeals* handout for more information and fees.

Attachments

- Copy of Proposed Preliminary Plan

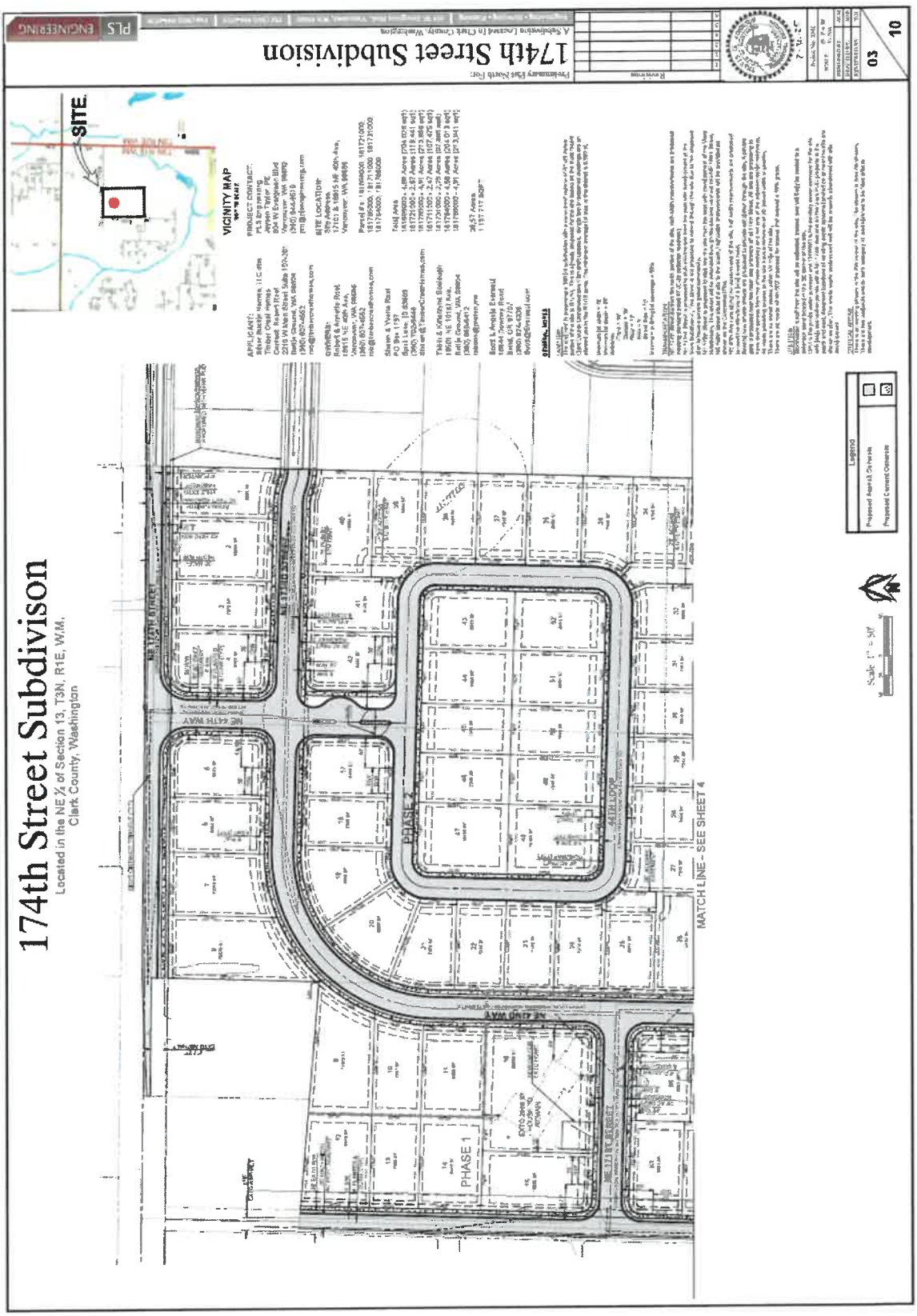
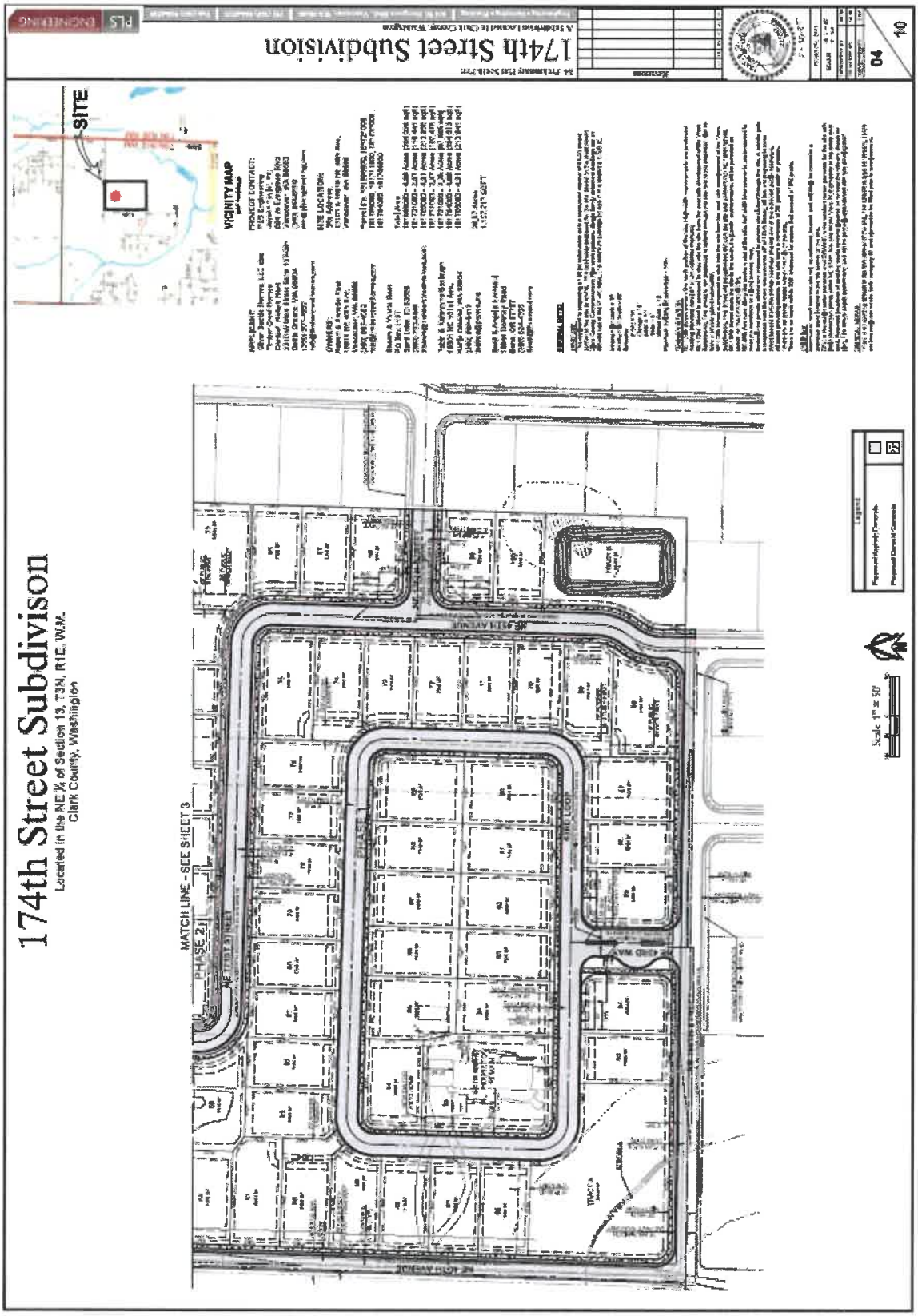

174th Street Subdivision
174th Street Subdivison
Located in the NE ¼ of Section 13, T3N, R1E, W.M.
Clark County, Washington
SITE
VICINITY MAP
PHASE 1
PHASE 2
MATCH LINE - SEE SHEET 4
NE 174TH WAY
NE 173RD STREET
Legend
Scale: 1" = 50'

Exhibit 25


174th Street Subdivision
174th Street Subdivison
Located in the NE ¼ of Section 13, T3N, R1E, W.M.
Clark County, Washington
VICINITY MAP
SITE
MATCH LINE - SEE SHEET 3
PHASE 2
NE 179TH CT
NE 180TH AVE
Scale: 1" = 50'

Type III Land Division and Environmental Review Staff Report and Recommendation

Project Name:	**Three Creeks East Subdivision (PUD)**
Case Number:	**PLD-2025-00077**
Location:	1804 NE 179th Street, Ridgefield, WA 98642
Parcel Number(s):	181218-000, 181208-000, 181253-000, and 181209-005, located in the SW quarter of Section 11, Township 3 North, Range 1 East, Willamette Meridian
Request:	The applicant requests Subdivision approval to divide approximately 39.34 acres into 200 residential lots in 4 phases utilizing the Planned Unit Development, Narrow Lot, and Zero Lot Line standards, in the OR-22 and R-12 zoning districts.
Applicant:	Ginn Group 502 NE 72nd Street Vancouver, WA 98665 chad@ginngrp.com
Owners:	Terence Wellner Trustee 23 Westridge Drive Lake Oswego, OR 97305 twellner@aim.com Mary Ann Moberly Trustee 419 NW 209th Street Ridgefield, WA 98642 Mam98642@gmail.com Ginn Group 502 NE 72nd Street Vancouver, WA 98665 phil@ginngrp.com

Community Development
1300 Franklin Street, Vancouver, Washington
Phone: (564) 397-2375 Fax: (564) 397-2011
www.clark.wa.gov/development

For an alternate format, contact the Clark County ADA Compliance Office.
Phone: (564)397-2322
Relay: 711 or (800) 833-6384
E-mail: ADA@clark.wa.gov

Contact:

PLS Engineering
604 W Evergreen Blvd
Vancouver, WA 98660
pm@plsengineering.com

Recommendation
Approval, Subject to Conditions

Land Use Review Manager's Initials: BD **Date issued: 1/7/2026**

Public Hearing date: 1/22/2026

County Review Staff

Department/Program	Name	Phone	Email Address
Community Development			
Community Development Director	Maya Bunch	564.397.4936	Maya.bunch@clark.wa.gov
Land Use Review Manager	Brent Davis	564.397.4152	Brent.davis@clark.wa.gov
Land Use Review Planner	Bryan Mattson	564.397.4319	Bryan.mattson@clark.wa.gov
Fire Marshal's Office	Jason Knoble	564.397.3318	Jason.knoble@clark.wa.gov
Engineering Team Leader	Naomi Patibandla	564.397.4630	Naomi.patibandla@clark.wa.gov
Engineer	Michelle Dawson P.E.	564.397.4568	Michelle.dawson@clark.wa.gov
Concurrency Engineer	Craig Kathol	564.397.4347	Craig.kathol@clark.wa.gov

Comprehensive Plan/Zoning: Urban Medium Density Residential / R-12 & OR-22

Applicable Laws
Clark County Code: Title 14 (Building Safety), Title 15 (Fire Prevention), Chapter 40.200 (General Provisions), Section 40.220.020 (Residential and Office Residential Districts), Section 40.260.155 (Narrow Lot Development Standards), 40.260.260 (Zero Lot Line Developments), Chapter 40.350 (Transportation & Circulation), Section 40.350.020 (Transportation Concurrency), Chapter 40.370 (Sewer and Water), Chapter 40.386 (Storm Water & Erosion Control), Chapter 40.420 (Flood Hazard Areas), Chapter 40.445 (Wetlands and Fish and Wildlife Habitat Conservation Areas), Chapters 40.500 and 40.510 (Procedures), Section 40.520.010 (Legal Lot Determination), Section 40.520.080 (Planned Unit Development), Section 40.540.040 (Subdivisions), Section 40.550.010 (Road Modifications), Chapter 40.570 (SEPA), Section 40.570.080 (SEPA Archaeological), Chapter 40.610 (Impact Fees), Title 24 (Public Health), RCW 58.17, and the Clark County Comprehensive Plan.

Neighborhood Association: Four Creeks Neighborhood Association

Vesting
An application is reviewed against the subdivision, zoning, transportation, stormwater, and other land development codes in effect at the time a fully complete application for preliminary approval is submitted. If a pre-application conference is required, the application shall earlier contingently vest on the date the fully complete pre-application is filed. Contingent vesting requires that a fully complete application for substantially the same proposal is filed within 180 calendar days of the date the county issues its pre-application conference report. Contingent vesting does not apply to stormwater or concurrency standards.

A pre-application conference on this matter was held on 2/6/2025 and was determined to be contingently vested. Contingent vesting allows the project to vest under the standards in place at the time of the submittal of the fully complete application for the preapplication conference, provided that a Fully Complete preliminary subdivision application for the project is submitted within 180 days (in this case, on or before 8/12/2025).

Since the pre-application conference information was contingently vested, and the fully complete application was submitted on 8/11/2025, the project vested the day of the submittal for the preapplication conference 1/15/2025. Project vesting does not apply to stormwater standards. There are no disputes regarding vesting.

Time Limits
The application was determined to be fully complete on 8/11/2025 but was placed on hold for a total of 58 days. Therefore, the county code requirement for issuing a decision within 78 days lapses on 1/7/2026. The state requirement for issuing a decision within 120 calendar days, lapses on 2/19/2026.

Public Notice
A Notice of Application and public hearing was mailed to the applicant, the Four Creeks Neighborhood Association and property owners within 500 feet of the site on 10/1/2024 and a development sign was posted on the subject property on 10/6/2025.

Public Comments

Comment Submitted by	***Date Received***
David Barritt and Cindy Hosszu *2021 NE 189th Street* *Ridgefield, WA 98642* *Mr. Barritt and Ms. Hosszu requested that an L4 High Wall or an F2 Sight Obscuring Fence be constructed across the natural gas right of way that abuts their property to prevent access from the development to their private road and preserve their privacy [See Exhibit 12].*	*10/13/2025*

Staff Response
The proposed development does not technically abut Mr. Barritt's and Ms. Hosszu's parcel or the private road that exists along their west line butt it does abut a private driveway that connects to the private road. However, staff is limited in commenting solely on whether the proposed development meets the minimum requirements of Clark County Code. Whether the code standards are enough to mitigate all perceived negative impacts is not the function of this

report; only whether the proposal meets the minimum standards in place at the time of vesting. Additionally, there is a mapped Category II Wetland located at the intersection of the easement and the private driveway. The code does not mandate that a high wall or sight obscuring fence be installed across the gas pipeline easement where it meets the private driveway. While staff does not have the ability to require this requested fence, if the applicant can obtain approval from Wetland and Habitat staff to install the fence within the wetland buffer and permission from the owner of the easement to construct a fence above the pipeline and across the easement it would be completely at their own discretion.

Comment Submitted by	***Date Received***
State of Washington Department of Ecology *PO Box 47775* *Olympia, WA 98504* *The Department of Ecology discussed Hazardous Waste and Toxics Reduction in regard to plans to demolish an existing structure and Solid Waste Management in regard to grading and the removal of debris [See Exhibit 13].*	*10/15/2025*

Staff Response
The applicant has been provided a copy of the Ecology letter and is required to meet their requirements and obtain any necessary permits (See Condition G-2).

Public Comments

Comment Submitted by	***Date Received***
Cowlitz Indian Tribe *PO Box 2547 / 1055 9th Avenue* *Longview, WA 98632* *The Cowlitz Indian Tribe indicated that the project lies within the Tribe's area of concern, and they request that an Inadvertent Discovery Plan to be attached to the proposal [See Exhibit 14].*	*10/16/2023*

Staff Response
Staff has adopted an Inadvertent Discovery Protocol as recommended by the Cowlitz Indian Tribe (See Conditions A-7 and D-5.a, and the Archaeological Findings of this staff report).

Project Overview

The proposal to divide 39.34 acres into 200 single-family detached residential lots as a planned unit development project in the OR-22 and R-12 zones. The project will be split into four phases. The site is identified as parcel numbers 181218000, 181208000, 181253000, 181209005 and is currently occupied by a single-family residence. Adjacent uses include low density residential homes, vacant land, higher density residential across NE 179th Street, commercial development to the southeast and a new multifamily development east of the site.

The applicant proposes utilizing Planned Unit Development (PUD) standards as well as narrow lot line and zero lot line development standards. The applicant proposes to blend the R-12 and OR-22 lot requirements within the site while meeting the overall onsite density requirements.

Approximately 17.3 acres are proposed to be retained as an open space and stormwater tract.

The open space will provide amenities that can be used for active and passive recreational activities. This corresponds to 52% of the net area of the site.

The main access to the site will be from NE 179th Street located on the south end of the site. This street is a Principal Arterial 4-Lane with Center Left and Bike Lanes. The county has plans to improve this roadway in the near future.

NE 18th Avenue is a proposed Neighborhood Circulator that serves as the main access road into the subdivision from NE 179th Street to the south. NE 19th Ave, NE 183rd Street, NE 184th Street, NE 185th Street, and NE 187th Street are proposed Local Access streets that will provide access and cross circulation through the development. NE 20th Way and NE 186th Street are proposed Urban Cul-de-sac roadways that will meet Clark County standard drawing 23.

The site has been designed to provide public circulation to the east and north. NE 179th Street abuts the site to the south. Wetlands exist west of the site prohibiting circulation to the west. There are no transit routes or stops within 1/4 mile of the development site.

Stormwater will be collected and treated onsite before being routed onsite detention facilities. Infiltration of stormwater is not feasible for the site. Public water and sewer infrastructure will be extended into the site to serve the homes, and all lots will be served by public water and sewer services.

Whipple Creek runs along the west portion of the site with associated wetlands and a Priority Habitat and Species Area. A second wetland is located in the northeast portion of the site. Floodplain is mapped on the site; however, the proposed development area avoids the floodway and flood fringe. Buffer reduction is proposed for the onsite wetlands as well as impacts to riparian buffers due to required roadways and a mitigation plan has been prepared for the site.

The subject site is serviced by Fire District 6, the Ridgefield School District, the Clark Public Utility electrical grid, Clark Regional Wastewater sewer systems, and Clark Public Utilities water systems.

The applicant submitted application materials including preliminary plans, a project narrative, a Stormwater Technical Information Report (TIR), Traffic Study, Circulation Plan, Technical Road Modification Request, Soils Report Letter, Sight Distance Certification, Proof of submittal to DAHP of an Archaeological Predetermination, and a State Environmental Policy Act (SEPA) checklist.

Comprehensive Plan, Zoning and Current Land Use

Compass	Comp Plan	Zoning	Current Land Use
Site	UM	R-12, & OR-22	Single Family Residence and Agriculture
North	UM	R-12	Single Family Residence & Undeveloped
East	UL & UM	R-12 & OR-22	Single Family Residences & Multifamily Development
South	UM & Commercial	R-18 & GC	Single Family Residences
West	MU & Commercial	MX & GC	Undeveloped Critical Areas

Staff Analysis

Staff first analyzed the proposal in light of the 16 topics from the Environmental Checklist (see list below). The purpose of this analysis was to identify any potential adverse environmental impacts that may occur without the benefit of protection found within existing ordinances.

1. Earth
2. Air
3. Water
4. Plants
5. Animals
6. Energy and Natural Resources
7. Environmental Health
8. Land and Shoreline Use
9. Housing
10. Aesthetics
11. Light and Glare
12. Recreation
13. Historic and Cultural Preservation
14. Transportation
15. Public Services
16. Utilities

Staff then reviewed the proposal for compliance with applicable code criteria and standards in order to determine whether all potential impacts could be mitigated by the requirements of the code. Staff's analysis also reflects review of agency and public comments received during the comment period, and knowledge gained through a site visit.

Major Issues
Only the major issues, errors in the development proposal, and/or justification for any conditions of approval are discussed below. Staff finds that all other aspects of this proposal not discussed below comply with the applicable code requirements.

Land Use
Finding 1 – Zoning Districts
The site lies within the R-12, and OR-22 zoning districts. The R-12 district is intended to provide for medium and higher density residential development based upon consistency with the comprehensive plan and compatibility with surrounding land uses. The OR-22 district is intended to provide for residential and professional office development based upon consistency with the comprehensive plan and compatibility with adjacent land uses.

According to Table 40.220.020-1, the R-12 and OR-22 zones allow detached single-family units subject to the Narrow Lot Standards in 40.260.155, and residential Planned Unit Developments (PUD)'s are permitted subject to standards put forth in Section 40.520.080. Zero Lot Line Developments are also separately allowed in both the R-12 and OR-22 zones pursuant to the Special Use Standards found in 40.260.260.B.

The minimum lot, setback, building height, and lot coverage standards for single family detached units within the R-12 and R-18 zones are prescribed in Table 40.220.020-5:

Table 40.220.020-5. Single-Family Detached Lot Standards								
Zoning District	Min. Lot Area	Min. Lot width [1]	Min. Lot Depth	Max. Building Height	Min. Front Setback	Min. Side Setback[2]	Min. Rear Setback[5]	Max. Lot Cov.
R-12	2,800sf	35 feet	50 feet	35 feet	10 feet for dwelling & 18 feet for garage opening	8-foot minimum building separation between units in the development; otherwise, 5 feet to the site's perimeter	8-foot minimum building separation between units in the development; otherwise, 5 feet to the site's perimeter	50%
OR-22	1,500sf	25 feet	50 feet	45 feet	10 feet for dwelling & 18 feet for garage opening	8-foot minimum building separation between units in the development; otherwise, 5 feet to the site's perimeter	8-foot minimum building separation between units in the development; otherwise, 5 feet to the site's perimeter	50%

Additionally, Table 40.220.020-4 also states that the minimum and maximum density allowed for detached units in the R-12 zone is 8-12 units per acre and for the OR-22 zone the allowed density range is 15-22 units per acre.

The applicant is proposing a Planned Unit Development which allows the applicant flexibility to lot standards, such as the minimum lot size as well as providing a density increase. The applicant proposes to blend the requirements for the R-12 and OR-22 districts to provide a cohesive development. This results in a proposed minimum lot size of 2,340 sf with minimum lot widths of 26'. The applicant also requests to reduce side yard setbacks allowing for a 6' building separation rather than 8'. No density increase is requested.

The net developable area of the site is 17.83 acres once ROW, critical areas, and the undevelopable gas easement is subtracted from the gross lot area. With 200 lots proposed, this corresponds to an overall density of 11.2 dwelling units per acre. The net developable area in the OR-22 zone is 6.2

[1] *Applies to interior lots only – widths of corner lots shall be dependent upon the applicable narrow lot standards in Section 40.260.155(C)(2).*
[2] *May also use zero lot line provisions of Section 40.260.260.*

acres and requires a minimum of 93 units. The net developable area in the R-12 zone is 11.6 acres and r minimum of 93 units. Overall, 186 units are required to meet minimum density requirements.

For purposes of calculating maximum density only ROW needs to be subtracted from the gross lot area. This results in a net developable area of 17.1 acres in the OR-22 zone this corresponds to a maximum density of 376 units. For the R-12 zone the net developable area is 16 acres and has a maximum density of 192 units. The overall maximum density of the site is 568 units.

The proposed lot area, lot width, side yards, and density will be further discussed in this narrative under Land Use Finding 3 - Planned Unit Development standards. All other applicable base zone standards are proposed to be met.

Pursuant to 40.220.020.C.9, a minimum of twenty percent (20%) of the site shall be landscaped to an L1 standard as described in section 40.320.010. The applicant has proposed to meet this requirement as a development as a whole as allowed under the PUD standards *(PUD standards and approval criteria are discussed further under Land Use Finding 3 and landscaping and screening details are discussed under Land Use 6)*.

Finding 2 – Phasing Plan

The applicant has proposed to construct the development in four (4) phases. Pursuant to 40.540.040.D.4, if a phasing plan is proposed, then the applicant shall show the phasing plan includes all land within the preliminary plat; each phase is an independent planning unit with safe and convenient circulation and with facilities and utilities coordinated with requirements established for the entire subdivision; and that all road improvement requirements are assured.

The applicant is proposing development of the site as follows:

- Phase I proposes the construction of the south portion of the project including a large portion of NE 18th Avenue, NE 183rd Street, NE 49th Avenue, NE 185th Avenue, NE 184th Street, and a short portion of NE 19th Avenue. Also Included in Phase I are both stormwater facilities, Tract H which will include a playground structure, and a large portion of the walking path proposed within the gas pipeline easement. Phase I includes lots 1-17, 73-126, 162-166, & 182-192.

- Phase II proposes the construction of the northerly portion of NE 18th and NE 19th Avenues, a short portion of NE 186th Street, and NE 187th Street. No additional amenities are proposed for Phase II aside from the undeveloped portion of the site within Tract K. Phase II includes lots 18-72, 127-161, and lot 171.

- Phase III proposes the construction of NE 20th Way and the northerly remaining portion of the walking path lying within the gas pipeline easement. Phase II includes lots 167-170 and 193-200.

- Phase IV proposes the construction of the remaining portion (cul-de-sac) of NE 186th Street and lots 172-181.

The phasing plan includes all land within the preliminary plat and will result in all road improvement requirements being constructed. Furthermore, staff have found that the amenities provided under Phase I will be sufficient for both Phases I and II. Additionally, to qualify as an independent planning unit, Phase I and then Phase I with any subsequent Phases need to separately

comply with all PUD standards including open space and density. The applicant's Phasing plan *[See Exhibit 1, Tab 9]*, indicates that sufficient open space will be provided for each phase, but the applicant did not submit enough information in their submittal package to determine if the first phase and any subsequent phases will comply with the density standards independently. **Therefore, staff recommends denial of the phasing plan.** However, a condition has been added that if the applicant submits additional information that demonstrates phasing plan density compliance prior to Final Construction Plan review, staff may grant approval for phasing *(See Condition A-8.a)*.

Finding 3 – Planned Unit Development Standards

The intent of planned unit developments (PUD) is to allow flexibility in design and creative site planning, and in some cases density, while providing for the orderly development of the county that meets the comprehensive plan. Planned unit developments should allow for a mix of housing types, lot sizes, and uses. Pursuant to 40.520.080.B, planned unit developments are allowed in both the R-12 and OR-22 zones.

Any use consistent with the zone districts designated for the parcel(s) within the proposed planned unit development boundary may be permitted in planned unit developments. The location of the uses in planned unit developments may vary from underlying zoning; provided that the total allowed uses (e.g., number of residential uses or area assigned to commercial use) was limited by the maximum allowed on each respectively zoned parcel. The applicant is using the PUD standards to blend the development across the split zoned parcel. Staff acknowledges that blending the uses across the development is allowed provided that they comply with the minimum and maximum density requirements The minimum density for this project is 186 units and the maximum density is 568 units; because the applicant is proposing 200 units, the project complies with the density requirements allowed for the lots in each zone *(see also Land Use Finding 1 – Zoning Districts for further density details)*.

Pursuant to 40.520.080.C.1, zoning standards that may be varied without the need of a variance include, but are not limited to, lot standards, setbacks, landscaping, and parking. Design flexibility for transportation, stormwater, critical areas, and other nonland-use-related standards may be reviewed separately through other review processes such as a road modification or stormwater variance. The applicant has proposed reducing the following zoning related minimum standards:

- Reducing the R-12 minimum lot area to 2,320 square feet from 2,800 square feet (this is an 18% variance in the standard),
- Reducing the R-12 minimum lot width to 26 feet from 35 feet (this is a 26% variance to the standard), and
- To reduce the building separation standards to 6 feet for the zero lot line homes from the standard 8 feet (this is a 25% variance to the standard).

The applicant justifies these requested reductions in the standard in their Applicant Response Letter to staff's Early Issues Memo *[See Exhibit 18]*. In this letter the applicant states:

> *"The requested modifications above seem significant because it assumes a modification of the R-12 standards and is a blanket request not tied to specific lots. In reality, these requested modifications are not applicable to a large number of lots within the subdivision. Let's say that of the 200 proposed lots 107 are R-12 lots, and 93 are OR-22 lots that are blended in the overall development. Of the 107 R-12 lots, 45 meet the base standard of the zone and have a minimum lot width and area of at least 35 feet and 2,800 square feet*

respectively. The remaining 62 R-12 lots meet the minimum lot area standards, but we are asking for an 8.6% modification to allow for a 32 foot wide lot. A modification of this scale can easily meet the approval criteria of a standard variance outside of the PUD process. The 93 OR-22 lots meet all the required lot area and width standards of the zone. The only modification we area requesting for the OR-22 lots is a 25% reduction of the building separation standards for 25 of the lots. These lots are proposed as zero lot line homes and are limited to areas on the inside of the development or adjacent to existing multifamily development.

From our perspective the only modification that we are requesting that requires the PUD process for approval is the reduction of the building separation for 25 of the OR-22 lots. The 6 foot requested separation is standard for zero lot line developments in the City of Vancouver and will become more common in the county through the Compact lot development standards that allow the same separation. Most developments that are processed as a PUD request much more significant modifications than the applicant's proposal. It is not uncommon for developments to have a 50% reduction of the minimum lot size at the perimeter of the lot and up to a 66% lot size reduction on the interior of developments among other requests.

The applicant is providing an enhanced development with significant streetscape landscaping, street lighting, and usable open spaces. In return the applicant is requesting to blend the zoning designations, reduce building separation by 25% for 12.5% of the lots, and reduce lot width standards by 8.6% for 31% of the lots. We believe these minor modification requests meet the approval criteria for planned developments."

Staff acknowledges that the applicant makes a compelling argument for approving the proposed reductions in the R-12 minimum lot size and lot width and agrees to recommend to the Examiner that these reductions be allowed. However, staff does not recommend that the Examiner allow the reduction to the 8 foot building separation required for zero lot line developments. While the applicant is correct in that the Compact Lot Development standards allow a 6 foot building separation, staff sees this allowance as an incentive for infill development. As you may be aware, Compact Lot Developments are only allowed on lots less than 3 acres. Because this is a 39.34 acre development and it therefore does not need this reduction in the 8 foot minimum standard needed to construct homes on smaller lots, ***and*** that keeping the 8 between structures in this case will preserve the intent of preserving increased usable yard area for zero lot line units, **staff recommends denial of reducing the building separation of the zero lot line lots** *(See Conditions A-8.b, A-8.c, D-5.b & E-4).*

Pursuant to 40.520.080.C.2, PUD's shall be located on a minimum site size of three (3) acres unless the responsible official finds that the site of the proposed use is adequate in size and shape to accommodate the proposed use and all setbacks, parking, loading, landscape/screening, and other features as required by this title. This site exceeds the minimum 3 acre size limitation; therefore, in compliance with this standard.

Pursuant to 40.520.080.C.3, Maximum building height shall be that of the underlying zone; provided, that the maximum height may be exceeded if the minimum setback of the higher portion of the building is increased at a one-to-one (1:1) ratio (excess height in feet: extra setback in feet). The applicant did not request any modifications to the height standards in the underlying zone;

therefore, the building height will be controlled by which zone in which the majority of the lot lies *(See Condition E-5)*.

All PUDs are required to provide a minimum of 12% open space for active or passive recreational purposes which is based on the net site area. These areas can include more active features such as jogging trails, child play equipment, open fields for pick-up games, game courts, swimming pools, club houses, picnic areas and pavilions. More passive recreation includes natural protected areas and open space with features like access trails, benches, interpretive signs and view corridors. All open space shall be conveyed to and permanently maintained by a home-owners association unless a public agency agrees to maintain the open space and any structures or improvements located within *(see Condition D-6.a)*.

The net total area is 33.12 acres; therefore, a minimum of 3.97 acres must be set aside as open space. The applicant indicates that they are providing 17.4 acres of passive and active open space, critical areas, and stormwater facilities which corresponds to 52% of the site. This significantly exceeds the minimum standard of open space.

Pursuant to 40.220.020.C.9, a minimum of twenty percent (20%) of the site shall be landscaped to an L1 standard as described in section 40.320.010. The applicant did not address how the proposal specifically meets this standard but considering that approximately 14.5 acres of landscaping (37% of the site) will be subject to a conservation covenant over large portions of Tract A and K along the west portion of the site, staff have determined that the project will meet this landscaping requirement though lands subject to critical areas protection.

In accordance with 40.520.080.C.5, all PUDs shall provide street trees on public and private roads, with one (1) street tree provided at an average of each twenty-four (24) linear feet. Based on an examination of the narrow lot site plans, it appears the proposal will meet this criterion. In order to comply with the PUD standards, the applicant shall submit a landscape plan prior to Construction Plan Review that demonstrates a tree for every 24 feet. In the likely event the interval cannot be met due to miscellaneous infrastructure, the tree will still be required but placed as nearby as practical and are allowed to be grouped *(See Condition A-8.d)*. Tree species shall be selected from the Clark County Standard Details Manual or specified by a certified landscape architect.

In accordance with 40.520.080.C.6, street lighting is required on all internal roadways. While the narrow lot site plans appear to show street lights throughout the development to comply with the required PUD design elements, a condition has been added to ensure compliance nonetheless. An outdoor lighting plan in conformance with requirements put forth in Table 40.510.050-1(2.n), shall be provided for staff review and approval that shows the areas of illumination for each outdoor light to ensure compliance with the PUD street lighting standard *(see Conditions A-8.e)*.

In addition to the standards noted above, 40.520.080.D indicates that the Hearing Examiner shall find that the following three conditions exist:

1. The alternate design proposed will provide a plan equal or superior to the standard being varied;
2. Through lot size, setbacks, building orientation, and screening, the proposed PUD shall provide a gradual transition adjacent to lower density neighborhoods or nonresidential uses; and,

3. The applicant proposes design features that may include but are not limited to, design centered on protected natural areas, front porches/recessed garages, pedestrian-friendly orientation, benches/gazebos, water features, recreational areas, stormwater systems designed as features, and affordable housing.

The applicant is proposing to blend the development standards throughout the split zoned site (situate some of the OR-22 lots within the portion zoned R-12 which would result in a modification in minimum lot area in the R-12 zone), reduce lot width standards by 8.6% for 31% of the lots, and to reduce the minimum building separation by 25% for 12.5% of the lots while remaining in conformance with other PUD approval criteria will result in a plan equal or superior to the standards being varied. Staff acknowledges that PUD standards can be somewhat subjective but accepts that the proposal provides a plan equal or superior to the standard being varied in large part because of the areas dedicated as open space, the associated amenities, and the pedestrian connections being proposed. ***With the exception of allowing a reduction in building separation for the zero lot line lots,*** staff agree that criterion 40.520.080.D.1 is met.

To address the gradual transition criterion, the applicant writes:

> *"We do not believe that any of the adjacent parcels qualify as a lower density neighborhood. There are two adjacent single-family homes that reside on 5-acre parcels. These homes and the other nearby homes were not created through a short plat or subdivision process, but likely were created through exempt land segregations on rural lands. There are also no distinguishing characteristics of the adjacent area that would set it apart as a specific neighborhood. The code specifically states the transition is required adjacent to lower density "neighborhoods", not lower density "properties". The adjacent properties are also zoned R-12 and will likely develop to a similar or higher density as the proposed project. Despite this, the site does contain a transition of lot sizes where the smallest lots are adjacent to the neighboring higher density apartment complex. Larger lots that all meet the minimum lot size requirements of the base zone are located adjacent to neighboring single family uses. The smallest lot adjacent to a neighboring R-12 zone is 2,880 square feet. The smallest internal lot is 2,340 square feet."*

Staff may not agree with the applicant's distinction in that the rural properties in their singularity do not comprise a combined neighborhood, but Land Use staff have determined that a gradual transition exists nonetheless. The critical areas along the west portion of this site form a transition to adjacent development on the far side of the critical areas. The vacant parcel to the north currently has no density but will likely develop at some point in the future to the R-12 standards which will have comparable density to the proposed development. The existing multi-family development to the east of the side is not a lower density development; therefore, this shared border is exempt from this criterion. Additionally, staff have interpreted the gradual transition requirement not to be one which would require lot sizes in excess of what would normally be allowed by the underlying zoning; rather, the gradual transition should be one demonstrated by the lots in the center of the proposed development vs. the lots on the perimeter of the development next to lower density neighborhoods. The proposal indicates that all lots on the perimeter of the development will meet the lot area standards required of the underlying zoning. Lastly, the areas of the proposed development next to the larger single-family lots lying to the north and northeast of the site (that are not separated by the wetland and buffer at the northerly end of the gas pipeline easement), will be required to have a 5 foot wide L1 landscape buffer which provides a further transition. It may be important to note that while staff agrees that no additional measures are required for some sections of the perimeter in order to meet the gradual transition standard, this does not mean that the minimum landscape

buffer is not required in these sections *(see Land Use Finding 6 for more detail regarding the landscape buffers)*. Staff have determined that criterion 40.520.080.D.2 is met. A landscape plan shall be submitted for review and approval prior to final construction plan review that indicates the presence of the required landscape buffers except along protected critical areas that act as their own buffer *(See Condition A-8.g)*.

Lastly, the applicant addresses criterion 40.520.080.D.3 by writing:

> *"The subdivision is designed to prioritize views of the open space for the general neighborhood. The view of the open space will be available from the main public road at the entrance of the site and will provide an attractive introduction to the new community. As stated previously, park amenities will be provided in a central location that will benefit the residential community."*

Staff agree that criterion 40.520.080.D.3 has been met.

Finding 4 – Narrow Lot Standards

The purpose of the Narrow Lot Standards is to guide development and alleviate conflicts that can arise from the platting of residential lots of less than forty (40) feet in width. Developments proposing more than twenty-five percent (25%) of residential lots with lot widths less than 40 feet are required to meet these standards, but they will only apply to lots in the land division less than 40 feet in width. Since every lot in the proposal is less than 40 feet in width, the narrow lot standards apply to all of them.

In accordance with Section 40.260.155(C), a final site plan is required to be submitted with the final land division application and incorporated into the final construction plans that incorporates items a - i *(See Conditions A-8.f & D-6.b)*.

Staff finds the proposal can comply with the narrow lot standards and has the following comments:

a. Parking - CCC 40.220.155.C.3 requires 2.5 parking spaces for every narrow lot. With 182 proposed lots less than 40 feet in width, the applicant must provide a minimum of 61 parking spaces. The applicant's narrative and plan indicate that 67 parking spaces will be provided along the local access public streets, which exceeds the minimum standard. A condition has been added to identify at least 61 parking spaces on the Narrow Lot Site Plan to ensure compliance *(See Condition A-8.i)*.

b. Street Trees - CCC 40.260.155.C.4 requires a minimum of one tree to be provided along the street frontage of each narrow lot or on the lot. The applicant's Narrow Lot plans demonstrate that the proposal will comply with this criterion. A condition has been added to identify the minimally required 1 street tree per lot on the Narrow Lot Site Plan to ensure compliance *(See Condition A-8.g)*.

c. Solid Waste/Recycling - CCC 40.260.155.C.5 requires a designated common collection point where collection is not feasible on each lot. The applicant indicates that trash and recycling will be picked up from each individual lot via the existing streets and that collection locations are shown on the Narrow Lot plans for lots that are accessed by shared driveways. Staff have verified that the plan conforms with this criterion.

d. Shared Driveways - The following shared driveway provisions apply only to narrow lots qualifying under this section:
   1. Shared driveways may be used to provide access to a maximum of four (4) lots,
   2. Shared driveway approaches for two (2) abutting lots sharing one (1) curb cut shall meet the specifications in Figure 40.260.155-4 or 40.260.155-5, and
   3. Shared driveways which provide access to more than two (2) lots shall be at least twelve (12) feet wide and shall be within an easement at least twenty (20) feet wide.

   The applicant has indicated that lots 78-79, 100-106, 171-172, 176-177, and 199-200 will utilize shared driveways. While the plan appears to comply with the shared driveway standards, a condition has been added to ensure compliance *(See Condition A-8.j).*

Finding 5 – Zero Lot Line Development Standards

The applicant's narrative indicates that 25 of the 200 homes are proposed with a zero foot side yard setback. Staff finds the proposal can comply with the narrow lot standard requirements found in 40.260.260.C, and has the following comments:

a. Site Plan Required – Preliminary plats proposing zero lot line provisions may not be approved without approval of a submitted site plan. Since a site plan is required anyway pursuant to the Narrow Lot Standards, this criterion will be met.

b. Zero Setbacks – Zero setbacks may only be applied to a side or rear property line provided that the setback on the lot abutting a zero setback line shall be at least eight (8) feet *(See Condition A-8.k).*

c. Plat Note - A note shall be placed on the final plat, and covenants running with the land shall be approved by the Prosecuting Attorney and recorded with the County Auditor to guarantee that the required setbacks are kept perpetually free of structures *(See Conditions D-5.c and D-4.a).*

d. Maintenance Easements - Easements for such purposes as maintenance, or for building projection encroachments beyond a zero setback line, shall be shown on the plat *(See Condition D-6.c).*

Finding 6 – Landscape Standards

Pursuant to Table 40.320.010-1, basic landscape buffers are required for the development's perimeter apart from what is being proposed to meet the gradual transition requirement of PUD's. Beginning at the NE corner and moving counter-clockwise, the landscaping code requires the following minimum type and width of buffers to be installed along the perimeter of the site:

- Along the northernmost property line – Lots 52-41: L1 – 5 foot wide.

The applicant's landscape plan complies with this standard.

- Along the west property lines of Lots 41-1: L3 – 10 foot wide.

Tracts A and K separate the western boundary of this development from the lots and streets and both tracts contain critical Habitat and Wetlands. Pursuant to 40.320.010.C.3, the responsible official may approve use of existing vegetation to fulfill landscaping and screening requirements of this section if that existing landscaping provides at least an equivalent level of screening as the standard required for the development in question. Staff have determined that these protected critical areas exceed the screening that the L3 10' wide buffer would provide; making this landscape buffer unnecessary.

- Along the south property line abutting NE 179th Street: L2 – 10 foot wide.

The only portion of this development that will abut NE 179th Street will be the intersection of NE 18th Avenue. There will be no nearby homes or building lots to screen from view; therefore, no landscape buffer is required for this project in this location. However, NE 179th Street is on the Capital Project List for Clark County and will undergo extensive reconstruction in the near future. Staff expects that once the street is reconstructed, either right-of-way plantings will be installed that will further screen views or the road will be elevated to extent that will make landscape screening unnecessary. Staff accepts the omission of onsite landscape screening along NE 179th Street.

- Along parcel the east sides of lots 99-93 and 100-106: L1 – 5 foot wide.

While no buffer is required pursuant to Table 40.320.010-1, an L1 5 foot wide buffer is proposed by the applicant which helps the project meet the goal of providing a gradual transition to lower density neighborhoods. Staff agrees that this buffer should be installed.

- Along the west frontage of NE 19th Avenue along Lots 107-118: No buffer is shown on the Narrow Lot site plan.

While Table 40.320.010-1 requires an L2 10 foot wide buffer, staff does not think it is necessary in this instance because of the horizontal separation caused by extending the width of the street, the front setbacks to the proposed homes for this project from the neighboring multifamily development, and the PUD requirement for street trees on each lot. Staff agrees that the 10 foot L2 buffer is unnecessary here.

- Along the south side of Lots 182-192: L1 5 foot wide.

The applicant's landscape complies with the minimum standard.

- Along the east sides of Lots 192-200: L1 5 foot wide.

The applicant's landscape complies with the minimum standard. It may be important to note that north of lot 200 is open space in which a wetland is located. No landscape buffers are proposed or allowed in the wetland area or buffer. This open space will also function as it's own screening with a greater degree of separation and natural vegetation between the proposed development and other existing uses to the east.

- Along the north side of Lots 78-181: L1 – 5' wide.

The applicant's landscape complies with the minimum standard and helps to further a gradual transition as required under the PUD standards.

- Along the east side of Lots 151-148 and 52: L1 – 5' wide

The applicant's landscape complies with the minimum standard and helps to further a gradual transition as required under the PUD standards.

The applicant is required to submit a landscape plan prior to Final Construction Plan Review approval that matches the preliminary Narrow Lot Plan and the buffer requirements discussed above *(See Condition A-8.h).*

Maintenance of landscaped areas is the ongoing responsibility of the property owner. Required landscaping must be continuously maintained in a healthy manner. Plants that die must be replaced with in-kind materials unless otherwise authorized by the responsible official. Vegetation shall be controlled by pruning, trimming or otherwise so that it will not interfere with the maintenance or

repair of any public utility, restrict pedestrian or vehicular access, or obstruct sight distance at intersections as provided in Section 40.320.020 *(See Condition H-2).*

Finding 7 - Pedestrian Facilities
Pursuant to 40.340.020.A.1, Access and Circulation Standards apply to all new developments that include bicycle or pedestrian circulation. While this subdivision includes sidewalks along all roads including a walking trail as an amenity, the plan does not include a pedestrian connection from NE 179th Street to the sidewalks proposed within the development. Pursuant to 40.340.020.A.3.c, the developer shall extend pedestrian circulation routes to sidewalks and transit stops along streets abutting the site, to pedestrian facilities that extend to the edge of the site from off-site, and to the edge of the site in the direction of existing, approved or proposed off-site pedestrian and transit facilities. Additionally, pursuant to 40.340.020.A.3.f, where a pedestrian or bicycle route is parallel and adjoining an auto travel lane, the pedestrian or bicycle route must be safely separated from the auto travel lane by using a raised path, a raised curb, bollards, landscaping or other physical barrier. Staff acknowledges that the south portion of NE 18th Street may be reconstructed in order to connect to the new construction of NE 179th Street, but until this occurs, the applicant shall install a pedestrian connection in the interim that connects the development's sidewalks to the right-of-way of NE 179th Street. This connection shall comply with the standards of Pedestrian Circulation found in 40.340.010.A.3 and shall be shown on the final plat *(See Conditions A-8.l and D-6.d).*

Additionally, according to state platting laws (RCW 58.17.110) appropriate provisions shall be made to assure safe walking conditions for students who only walk to and from school unless they are a mile away from any facilities. The subject development is located within the Ridgefield School District, and specifically within the boundaries of South Ridge Elementary, View Ridge Middle and Battle Ground High Schools. However, because all of these public schools are over a mile from this site, the applicant is exempt from assuring safe walking conditions to and from each school as the students will be bussed by the district.

Finding 8 Potential Encroachment
A boundary survey for the site identifies a potential fence encroachment along the Northeast line of tax lot 36 (PIN: 181218-000). Based on information submitted with the application packet, it is unclear whether ownership of the area is under dispute. This situation needs to be resolved prior to filing of the final plat *(See Condition D-1).* It should be noted there are three possible ways to resolve the issue arising from the fence encroachment. These include:

a. The owner of the property being platted may deed the area beyond the fence to the neighboring property owner through a boundary line adjustment/quit claim deed.

b. Record a document signed by the other property owners stating that they recognize that it is not their property and will not attempt to take that property through an adverse possession claim.

c. If the neighbor will not accept a quit claim and will not sign an agreement to relinquish any claim, the final plat may show the gross area (to the deed line) and show the net area (to the fence or other encroached area) with the provision that the net area will meet minimum lot size and dimensions in the event of loss of the disputed area. A plat alteration process could still be required if platted property is lost.

Finding 9 - County State Platting Standards
With conditions of approval, staff finds the proposed subdivision will make appropriate provisions for the public health, safety and general welfare of the community. Connection to public water and sewer facilities, as well as treatment of any future stormwater runoff will be provided to protect groundwater supply and integrity. Impact fees will also be required to ensure that the development will contribute a proportionate share toward the costs of school, park and transportation facilities, maintenance and services.

Conclusion (Land Use)
Staff concludes that the proposed preliminary plan, subject to conditions identified above, meets land use requirements of the Clark County Code.

Archaeology
Finding 1 - Applicability
The development site is located within moderate to moderate-high to high probability areas for the discovery of archaeological resources, as designated on the Archaeological Predictive Model Map of the Clark County. Also, because a SEPA was triggered, an Archaeological Predetermination was required.

Finding 2 - Pre-determination
The applicant has submitted an archaeological pre-determination to the Washington State Department of Archaeology and Historic Preservation (DAHP) prior to submittal of the application. DAHP was mailed the public notice along with a copy of the SEPA checklist and has not provided comment. However, The Cowlitz Indian Tribe provided comment indicating that the project lies within the Tribe's area of concern, and they requested that an Inadvertent Discovery Plan to be attached to the proposal *[See Exhibit 14]*. In response to this request, county staff have required a note to be required on the final construction plans and final plat that if resources are discovered during ground disturbance, work shall stop and both DAHP, The Cowlitz Indian Tribe, and the county shall be notified *(See Conditions A-7 and D-5.a)*.

Conclusion (Archaeology)
Staff finds that the proposed preliminary plan, subject to the condition identified above, meets archaeology requirements of the Clark County Code.

Transportation & Circulation
Finding 1 – Pedestrian/Bicycle Circulation Plan
Pedestrian circulation facilities in compliance with the Americans with Disabilities Act (ADA) and CCC 40.350.015 are required for this development. The proposal includes detached sidewalks on all internal roads. The applicant has submitted a road modification request for partial relief of street improvements for a portion of NE 18th Avenue and is proposing to differ frontage improvements with the construction of the future NE 179th Street improvements with the proposed capital improvement project (CRP #320122) *(See Condition A-1.a and Transportation Finding 7 – Major Road Modification: Request 4)*.

Per the WSDOT design manual as adopted under CCC 40.350.030(C)(1)(b)(1) new construction projects shall provide curb ramps oriented in each direction of pedestrian travel within the width of the crosswalk it serves, and if receiving ramps do not exist, they shall be

constructed as part of the new development. The applicant will need to show on final construction plans that pedestrian ramps will comply with the WSDOT Design Manual *(See Condition A-1.b).*

Finding 2 – Road Circulation Plan
Cross-circulation is required by CCC 40.350.030(B)(2). The proposal includes roadway improvements that are stubbed to the plat boundary to the north, east and south that will meet block length and block perimeter in those directions. The applicant has submitted a major road modification request for relief from cross circulation standards to the west *(See Transportation Finding 7 – Major Road Modification, Request 3).*

Finding 3 – Roads
Road improvements and design are required to comply with CCC 40.350.030, CCC Table 40.350.030-2 and CCC Table 40.350.030-3.

NE 179th Street is classified as a 4-lane Principal Arterial with Center Left Turn and Bike Lanes, Pr-4cb. The required half-width improvements in compliance with Standard Detail Drawing 2, are: 50-foot right-of-way width, 36-foot paved roadway width, curb & gutter, and 5-foot detached sidewalk. This road is scheduled to be improved as part of the 2025-2030 6-year Clark County Transportation Improvement Program (TIP). In the event that required frontage road improvements are included as a portion of a county road project on the county's TIP scheduled to be undertaken within six (6) years, the developer, in lieu of constructing or guaranteeing the construction pursuant to Section 40.350.030(C)(4)(i) of such frontage improvements, may be permitted to contribute a proportionate share towards the cost of such county road project by an agreement consistent with the requirements of RCW 82.02.020.

The applicant shall coordinate design and construction of improvements on NE 179th Street with the Clark County Public Works Department. The applicant is responsible for constructing the planned improvements in advance of the county capital improvement project (CRP #320122) unless the applicant and Clark County Public Works execute a deferral agreement in accordance with procedures of CCC 40.350.030(B)(5)(c) (*See Conditions A-1.c, A-1.d, A-1.e & D-2.a).*

NE 183rd Street and 19th Avenue are classified as Urban Neighborhood Circulator per the Arterial Atlas, and the applicant is proposing NE 18th Avenue to be an Urban Neighborhood Circulator. Full-width improvements are required per Standard Detail Drawing #12 and consist of 54 feet of right-of-way, 36 feet of roadway width, curb & gutter, and 5-foot sidewalks. The proposal includes a road modification request to construct NE 19th Avenue as an Urban Local Access (Standard Detail Drawing #13 and consist of 46 feet of right-of-way, 28 feet of roadway width, curb & gutter, and 5-foot sidewalks), with NE 18th Avenue providing the required Urban Neighborhood Circulator (*See Finding 7 – Technical Road Modification: Request 6).* The proposal includes a road modification request for partial width improvements to NE 18th Avenue from the intersection with NE 179th Street to approximately 200 feet north of the intersection (*See Finding 7 – Technical Road Modification: Request 4).* The proposal includes a request to construct a portion of NE 18th Avenue with a shed section *(See Finding 7 – Technical Road Modification: Request 7).* The proposal also includes full width improvements for NE 183rd Street and NE 18th Avenue consistent with Drawing 12 *(See Conditions A-1.f & D-2.b).*

NE 184th Street, NE 185th Street, NE 186th Street, NE 187th Street, and NE 20th Way are classified as Urban Local Access roads, full-width improvements are required per Standard Detail Drawing #13 and consist of 46 feet of right-of-way, 28 feet of roadway width, curb & gutter, and 5-foot sidewalks. The proposal includes full width improvements consistent with Drawing #13 for the internal roads. NE 20th Way and NE 186th Street will end in Urban Cul-de-sacs that comply with Drawing #23 *(See Conditions A-1.g, A-1.h, D-2.c, & D-2.d).*

Parking is prohibited on any road less than 24 feet wide. Signing and Striping plans shall include appropriate measures on partial width roads and roads stubbed to the plat boundary. The applicant shall propose "No Parking" signs along both sides of the entire length of partial-width roads less than 24 feet in width *(See Conditions A-1.i, A-1.j, & A-1.k).*

Finding 4 – Access Management

NE 18th Avenue is the only outlet for this development and the neighboring development, because this development connects to the isolated public roads NE 183rd Street and NE 19th Avenue constructed with 179th Street Apartments West [PSR-2020-00098]. NE 18th Avenue is a Neighborhood Circulator and access management is under CCC 40.350.030(B)(4)(b)((4)) Maximum Dwelling Units Served by Access Roads. This development adds 200 lots, and the apartments will add 159 units, therefore, a second public access road to NE 179th Street or a different feeder road is required. The applicant has submitted a road modification request to utilize the adjacent apartments driveway access onto NE 179th Street as an emergency only access *(See Finding 7 – Technical Road Modification: Request 1).*

Full movement intersection spacing for roadways intersecting with a Principal Arterial is 600 feet. The proposed intersection of NE 179th Street/NE 18th Avenue is proposed as a full movement intersection, but it does not meet intersection spacing on NE 179th Street. The applicant has submitted a road modification request for relief from this standard *(See Finding 7 – Technical Road Modification: Request 8).*

Per CCC 40.350.030(B)(4)(b)(1)(a), excepting the bulbs of cul-de-sacs, driveways serving single-family residential lots shall be located a minimum of 5 feet from an interior side property line or zero feet as a shared driveway approach. The applicant has submitted a road modification request for relief from the 5 foot property line setback for the majority of driveways within the development *(See Finding 7 – Technical Road Modification: Request 5).*

The applicant's proposal includes shared driveways serving Lots 100-102, Lots 103-106, Lots 176-177 and Lots 199-200. Shared driveways can serve no more than 4 lots and must be a minimum of 12-feet wide and placed in a minimum of 20-foot wide easement *(See Conditions A-1.l & D-2.e).*

Per CCC 40.350.030(B)(4)(b)(1)(b), corner lot driveways (on local access roads) shall be a minimum of 40 feet from the projected curb line or edge of pavement, as measured to the nearest edge of the driveway, or in cases where lots less than 40 feet wide are allowed driveways shall be limited to 20 feet in width and located 5 feet from the property line farthest from the intersection. There are multiple corner lots within this subdivision and they are proposed to have a 20-foot wide driveway, 5 feet from the property line farthest from the intersection *(See Condition A-1.m).*

Finding 5 – Sight Distance
The approval criteria for sight distances are found in CCC 40.350.030(B)(8). This section establishes minimum sight distances at intersections and driveways. Additional building setbacks may be required for corner lots in order to maintain adequate sight distance. The final engineering plans shall show sight distance triangles for driveways that are proposed to remain. Landscaping, trees, utility poles, and miscellaneous structures will not be allowed to impede required sight distance requirements at all proposed driveway approaches and intersections.

The applicant has submitted a traffic study *[Exhibit 1, Tab 14]* prepared by Lancaster Mobley, dated June 24, 2025. This traffic study has reported that the proposed new intersection of NE 179th Street/NE 18th Avenue will meet intersection and stopping sight distance for a posted speed of 40 mph.

The applicant will need to submit final construction drawings for review and approval. These plans will need to show sight distance triangles at the intersection of NE 179th Street/NE 18th Avenue and all new internal intersections. The plans will also need to show objects that are within the sight distance triangle. Notes on the plans shall indicate the vegetation within the sight distance triangle that needs to be maintained, trimmed, or removed (*See Conditions A-1.n, C-1.a & D-3).*

Finding 6 – Transportation Phasing
The applicant has proposed 4 phases. The applicant is responsible for providing all necessary transportation improvements required for each individual phase. The required transportation improvements for each proposed phase will be reviewed during final engineering review *(See Condition A-1.k).*

Finding 7 – Major Road Modification
Applicant's Discussion:
The applicant has submitted a major road modification narrative *[Exhibit 25]* prepared by PLS Engineering, dated October 20, 2025, providing justification for the following requests:

1. Partial relief from providing a secondary public access road for more than 200 lots/dwelling units.
2. Temporary relief to allow a private road to connect 2 public roads.
3. Relief from cross-circulation to the west.
4. Relief from frontage improvements on NE 179th Street & NE 18th Avenue.
5. Modification to driveway spacing on all lots from 5 feet to 4 feet for interior property lines.
6. Alteration to the Arterial Atlas to shift the Neighborhood Circulator from NE 19th Avenue to NE 18th Avenue.
7. Modify the cross section of NE 18th Avenue to a shed section through the intersections of NE 183rd Street and NE 185th Street.
8. Full Access Intersection Spacing.

Staff's Evaluation and Recommendation:

Staff recommends **Approval** for road modification requests #1, 3-6 & 8, and **Denial** of road modification request #7, subject to conditions.

The 2nd request is for relief from private road standards for a private drive aisle. Given that the private road standards do not apply to the drive aisle this request is neither approved or denied.

The Development Engineer Division Manager has concurred with the staff's recommendations *[See Exhibit 35] and (See Conditions A-1.p - A-1.u, C-1.b & D-2.f).*

Conclusion (Transportation & Circulation)
Staff concludes that the proposed preliminary transportation plan, subject to the conditions identified above, meet the transportation requirements of the Clark County Code.

Stormwater
Finding 1 - Stormwater Applicability
The provisions of Clark County Code Chapter 40.386, as amended by Ordinance No. 2021-06-02, shall apply to all new development, redevelopment, land disturbing activities and drainage projects consistent with the Clark County's NPDES Phase I Municipal Stormwater Permit and Clark County Stormwater Manual (2021). The project adds more than 5,000 square feet of new hard surface; therefore, the applicant shall comply with Minimum Requirements (MR) 1 through 9 *(See Condition A-3.a).*

No new development shall be allowed to materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots (*See Condition A-3.b).*

Finding 2 – Stormwater Proposal
The applicant provided a revised Preliminary Technical Information Report *[Exhibit 27]* prepared by PLS Engineering, dated September 30, 2025. Proposed site improvements include 200 single family residential lots, public roads and associated improvements. This will result in 14.8 acres of proposed new hard surface.

On-site Stormwater Management (MR#5) will be addressed by using the first BMP deemed to be feasible per the order of List #2. Due to poor infiltration rates and limited space for dispersion on the new lots all BMPs were determined to be infeasible for the proposed hard surfaces per MR #5.

Runoff Treatment (MR#6) will be addressed with proprietary treatment catch basins to address all pollution generating hard surfaces. The treatment catch basins will be sized to meet the Basic Treatment requirement (*See Conditions A-3.c & A-3.d).*

Flow Control (MR#7) will be addressed with Detention Ponds (BMP D6.10) that will be sized to detain and release flows at pre-developed rates per the Standard Flow Control Requirement (*See Condition A-3.e).*

Wetlands Protection (MR#8) is triggered as the site discharges to an off-site Category I wetland. The applicant will be providing treatment prior to the discharge to the wetland and

has provided modeling demonstrating compliance with Hydroperiod Protection Method 2 (*See Condition A-3.f).*

The stormwater facilities located within the public right-of-way and public tracts shall be owned and maintained by the county. Stormwater facilities located on individual lots or private tracts shall be owned and maintained by the homeowners *(See Conditions A-3.g, A-3.h, D-2.d, E-2, D-2.f & D-2.g).*

Final construction plans shall show that all setbacks are met for proposed stormwater facilities. The project is not exempt from MR #8; therefore, the applicant shall submit an off-site analysis with final engineering *(See Conditions A-3.i & A-3.j).*

Finding 3 – Stormwater Phasing
The applicant has proposed 4 phases. The applicant is responsible for providing all necessary stormwater mitigation improvements required for each individual phase. The required stormwater mitigation improvements for each proposed phase will be reviewed during final engineering review *(See Condition A-3.k).*

Conclusion (Stormwater)
Staff concludes that the proposed preliminary stormwater plan, subject to the conditions above, is feasible. Therefore, the requirements of the preliminary plan review criteria are satisfied.

Flood Hazard Areas
Finding 1 – Applicability
Clark County GIS indicates that portions of the site are located in a regulated special flood hazard area (SFHA). All development activities with mapped SFHA on parcels part of a development shall comply with the provisions of CCC 40.420.

Finding 2 – Flood Hazard Assessment
The applicant provided a narrative *[Exhibit 1, Tab 6]* prepared by PLS Engineering, dated June 2025. Staff used FEMA FIRM Panel number {53011C0219D}, Clark County GIS data, and the submitted narrative and plan to confirm the location of the project and its position within the SFHA of the Whipple Creek.

Per the narrative, all development activities will be outside of the mapped SFHA of Whipple Creek. Therefore, the project will not place fill or construct any structures within a designated flood hazard area and will result in neither any increase to the base flood elevation nor any adverse downstream impacts. The applicant has demonstrated that all regulated development activity is outside the SFHA *(See Conditions A-10 & G-5).*

Conclusion (Flood Hazard Areas)
Based upon the development site characteristics, the proposed site plan and FIRM, the requirements of the County's flood hazard area ordinance have been satisfied, and flood hazard permit is not required.

Transportation Concurrency
Finding 1 - Trip Generation

County concurrency staff has reviewed the proposed Three Creeks East Traffic Impact Study dated June 24, 2025, prepared by Lancaster Mobley. The traffic study submitted indicates that the proposed development will divide 39.34 acres into 200 single-family detached houses. The applicant's traffic study has estimated the net new a.m. peak hour trip generation at 139, p.m. peak-hour trip generation at 187 trips, and an average daily trip generation (ADT) of 1,876 trips. The trip generation was estimated using the nationally accepted data published by the *Institute of Transportation Engineers 11th Edition*. Concurrency staff have determined that the applicant has submitted a traffic study under the provisions of Clark County Code section 40.350.020 (D)(1).

Finding 2 - Site Access

Traffic conditions are usually expressed using a scale that quantifies the ability of a facility to meet the needs and expectations of the driver. This scale is graded from A to F and is referred to as level-of-service (LOS). A driver who experiences a LOS A condition would expect little delay. A driver who experiences a LOS E condition would expect significant delay, but the traffic facility would be just within its capacity to serve the needs of the driver. A driver who experiences a LOS F condition would expect significant delay with traffic demand exceeding the capacity of the facility with the result being growing queues of traffic.

Congestion, or concurrency, level of service (LOS) standards are not applicable to accesses that are not regionally significant; however, the LOS analysis provides information on the potential congestion and safety problems that may occur in the vicinity of the site.

The applicant's plan shows that a full-movement public neighborhood circulator road will be constructed to intersect NE 179th Street at the western property line. This proposed neighborhood circulator will serve as a primary public road access to the subject site.

The applicant's plan also shows an interior public local residential access road network will be constructed to serve as the primary public road access for the proposed lots within the development.

The applicant's study evaluated the level of service and found that the proposed new full-movement public road intersection with NE 179th Street will have an estimated LOS D or better in the 2028 build-out horizon. The study also shows that the LOS was evaluated during the a.m. and p.m. peak hour traffic conditions. County Staff concurs with the traffic study findings.

Finding 3 – Clark County Concurrency

The proposed development is required to meet the standards established in CCC 40.350.020(G) for corridors and intersections of regional significance within 2 miles of the proposed development.

Signalized Intersections:

Staff evaluated the operating levels and delay times for the regionally significant signalized intersections under Clark County jurisdiction. This analysis showed that individual movements during peak hour traffic conditions had approach delays that did not exceed the maximum 240 seconds, or 2 cycles, of delay in the build-out year.

Therefore, County Staff has determined that this development will comply with adopted Concurrency standards for signalized intersections.

Unsignalized Intersections:
Staff evaluated the operating levels and delay times for the regionally significant unsignalized intersections under Clark County jurisdiction. This analysis showed operating levels and standard delay times with a LOS better than the minimum allowable LOS E except for NE 179th Street/NE 50th Avenue and NE 179th Street/NE Delfel Road (North T-Intersection) in the PM peak hour.

NE 179th Street/NE 50th Avenue
The applicant's traffic study has analyzed the impacts of the proposed development on the intersection approaches, at NE 179th Street/NE 50th Avenue. Staff used this information to determine if mitigation requirements would be warranted per CCC 40.350.020 (G)(1)(c), which states:

"All unsignalized intersections of regional significance in the unincorporated county shall achieve LOS E standards or better (if warrants are not met). If warrants are met, unsignalized intersections of regional significance shall achieve LOS D standards or better. Intersection control or mitigation of unsignalized intersections shall be at the discretion of the Public Works Director and shall not obligate the county to meet this LOS standard. However, proposed developments shall not be required to mitigate their impacts in order to obtain a concurrency approval unless:

(1) The proposed development adds at least five (5) peak period trips to a failing intersection approach; and

(2) The worst movement on the failing approach is worsened by the proposed development. In determining whether the movement is worsened, the Public Works Director shall consider trip volume, delay, and any other relevant factors."

Staff compared the anticipated impacts against the criteria in the code section listed above and found that none of the criterion was met. Because the criteria were not met, no mitigation at the intersection of NE 179th Street/NE 50th Avenue is required.

NE 179th Street/NE Delfel Road
The intersection NE 179th Street/NE Delfel Road is on the Clark County 6-year Transportation Improvement Program and considered reasonably funded. The improvements to the NE 179th Street/NE Delfel Road intersection will include the closure and re-alignment approximately 500 feet west of the existing intersection. The improvements will also include modifications to the existing Delfel Road, south of NE 179th Street. NE Delfel Road south of NE 179th Street will be re-aligned to match the Delfel Road north re-alignment, and the existing traffic signal will be replaced with a multi-lane roundabout.

Therefore, per Clark County Code (CCC) 40.350.020 (F)(6), the scheduled improvements can be considered in place and operational related to this project.

The County has determined that this development can comply with adopted Concurrency Standards for unsignalized intersections.

Concurrency Corridors:
Evaluation of the concurrency corridor capacity levels represented in the County Code yielded capacity at acceptable levels except for the NE 179th Street road segment between NE Delfel Road and Interstate 5; between Interstate 5 and NE 15th Avenue, the NE 10th Avenue road segment between NE 189th Street and NE 179th Street, between NE 199th Street to NE 194th Street; the NE 15th Avenue road segment between NE 179th Street and NE 174th Street; the NE 139th Street road segment between NE 20th Avenue and NE 23rd Avenue; and the NE Delfel Road segment between NE 189th Street and NE 179th Street in the buildout year.

The traffic study indicates that the above corridors will have a volume to capacity (v/c) ratio of greater than 0.9 in the 2028 buildout horizon.

Staff investigated the operations of these corridors to determine if there were mitigation measures warranted.

Staff reviewed the LOS and volumes reported at the NE 179th Street intersections used in the corridor evaluation and found that, in the 2028 buildout horizon, the signalized intersections at the Interstate 5 Northbound and Southbound ramps had approach delays that did not exceed the maximum delay. Staff also evaluated the signalized intersections at NE 179th Street/NE 15th Avenue, NE 139th Street/NE 20th Avenue and found the approach delays did not exceed the maximum delay in the AM or PM peak hours. Staff has determined, during the concurrency evaluation, that these intersections will comply with the adopted Concurrency standards for signalized intersections.

Since the signalized and unsignalized intersections bounding the corridor segments analyzed are anticipated to operate at levels that meet or exceed concurrency standards in the buildout horizon, staff believes that the reported v/c ratio over the NE 179th Street, NE 10th Avenue, NE Delfel Road, NE 139th Street, and NE 15th Avenue corridors does not represent roadway deficiencies, rather corridor mobility facilitated with good intersection LOS. Therefore, staff concludes that no further analysis or mitigation is required with this development.

It should be noted that the reported v/c in the applicant's traffic study should be used as an indicator that these roadway segments should be subjected to site-specific study with a more detailed operational analysis before any major design, reconstruction, or investment decisions are made.

Summary:
The County has determined that this development can comply with adopted Concurrency Standards for corridors, signalized and unsignalized intersections under County jurisdiction.

SAFETY:
Where applicable, a traffic study shall address the following safety issues:

- traffic signal warrant analysis,
- turn lane warrant analysis,
- crash history analysis,

- roadside safety (clear zone) evaluation,
- vehicle turning movements, and
- any other issues associated with highway safety.

Mitigation for off-site safety deficiencies may only be a condition of approval on development in accordance with CCC 40.350.030(B)(6) The code states that "nothing in this section shall be construed to preclude denial of a proposed development where off-site road conditions are inadequate to provide a minimum level of service as specified in Section 40.350.020 or a *significant* traffic or safety hazard *would be caused or materially aggravated* by the proposed development; provided, that the applicant may voluntarily agree to mitigate such direct impacts in accordance with the provisions of RCW 82.02.020."

Finding 4 – Median and Channelization Policy

Medians and channelization are methods, or countermeasures, to promote safety and mobility. In order for the applicant to show that their development will not hinder mobility and add to a current safety issue there must be technical information, discussion and analysis provided by the applicant so that the County Engineer can make their determination. The technical information and evaluation necessary is outlined within the Median and Channelization Policy, CCC 40.350.030(B)(4)(d)(3).

The traffic engineering consultant for the Three Creeks East subdivision has submitted a Transportation Impact Study dated June 24, 2025, as well as a Technical Road Modification for Relief from the Median and Channelization Policy to provide the county analysis, discussion and justification for County Engineer consideration in compliance with CCC 40.350.030(B)(4)(d)(3).

Staff reviewed the regional significance of the new proposed intersection of NE 179th Street/NE 18th Avenue. Staff found that the only regionally significant classified road in the County's Arterial Atlas is NE 179th Street. NE 179th Street is classified as a Principal Arterial (Pr-4cb). NE 179th Street is regulated by the County's Concurrency Ordinance/Code (CCC 40.350.020). Because the proposed NE 18th Avenue is not identified in the County's Arterial Atlas as a full-movement access intersection with NE 179th Street, the Median and Channelization Policy applies.

Currently, NE 179th Street has no raised medians from NE Delfel Road to NE 50th Avenue with numerous private driveways that provide residential access to the principal arterial. Additionally, the applicant reported on the current and build out capacity of NE 179th Street between NE 15th Avenue and NE 29th Avenue and found that it will continue to operate well below the required volume/capacity threshold after buildout is completed.

Staff's review of the applicant's Median and Channelization Policy information and discussion yielded the following findings of fact:

- The new public road intersection of NE 179th Street/NE 18th Avenue is not considered regionally significant and is not regulated by the County's Concurrency Code
- Crash history along the NE 179th Street frontage is not indicative of a safety issue.
- NE 179th Street corridor capacity between NE 15th Avenue and NE 29th Avenue is at acceptable levels.

- NE 179th Street between NE 15th Avenue and NE 26th Avenue is on the 6-year TIP which plans to raise the elevation of NE 179th Street and construct a raised median along the center of NE 179th Street.

Based on the information above, staff supports a full-movement intersection at the proposed new NE 18th Avenue as a part of the proposed development as an interim condition until the county's planned capital improvement project is constructed.

The applicant shall note that with the future roadway improvements that will take place between NE 15th Avenue and NE 26th Avenue on NE 179th Street, access to the development will be limited to right/in right/out *(See Condition G-6)*.

Finding 5 – Turn Lane Warrants
Turn lane warrants are evaluated at unsignalized intersections to determine if turn lanes are needed on the uncontrolled roadway.

The applicant's traffic study evaluated the need for turn lanes based on the Washington State Department of Transportation (WSDOT) Design Manual. The applicant's engineer concluded that left-turn lane warrants are projected to be met at the proposed site access intersection along NE 179th Street. However, according to the NE 179th Street Corridor Improvements project, NE 179th Street along the site frontage will be widened to a four-lane cross-section with a raised median. This will ultimately restrict left turns into and out of the site. Given the future improvements that will take place along NE 179th Street, construction of an eastbound left-turn lane at the site frontage is not necessary. Staff concurs with the applicant's findings.

Finding 6 – Historical Accident Situation
The Institute of Transportation Engineers (ITE) *Traffic Access and Impact Studies for Site Development – A Recommended Practice* states that "Accident rates vary, but any intersection will more than one accident per million entering vehicles is worth of additional analysis." This ITE recommended practice has been used by county staff to determine the scope or level of analysis required regarding crash history. Because of this, a crash rate of one crash per million entering vehicles has become the threshold to determine if further crash history evaluation is warranted. This is provided that staff has not identified a crash trend that would be exacerbated by the development regardless of the threshold.

The applicant's traffic study analyzed the crash history as obtained from the Washington State Department of Transportation (WSDOT) for the period between January 2019 through June 2024.

The intersection crash rates for the study intersections did not exceed one crash per million entering vehicles warranting additional analysis.

The applicant's study did not recommend any safety mitigations as a part of this development. Staff concurs with the applicant's finding.

Finding 7 - Roadside Safety *(Clear Zone)* Evaluation
The *Institute of Transportation Engineers (ITE) Traffic Engineering Handbook 6th Edition,* states that "The *clear roadside concept*...is applied to improve safety by providing an un-

encumbered roadside recovery area that is as wide as practical...". Further, this concept "allows for errant vehicles leaving the roadway for whatever reason and supports a roadside designed to minimize the serious consequences of roadway departures."

Further, as adopted by Clark County Code (CCC) 40.350.030(C)(1)(b), the *Washington State Department of Transportation (WSDOT) Design Manual, Chapter 1600* states that "A clear roadside border area is a primary consideration when analyzing potential roadside and median features. The intent is to provide as much clear, traversable area for a vehicle to recover as practicable given the function of the roadway and the potential tradeoffs. The Design Clear Zone is used to evaluate the adequacy of the existing clear area and proposed modifications of the roadside. When considering the placement of new objects along the roadside or median, evaluate the potential for impacts and try to select locations with the least likelihood of an impact by an errant vehicle."

"For managed access state highways within an urban area, it might not be practicable to provide the Design Clear Zone distances shown in Exhibit 1600-2. Roadways within an urban area generally have curbs and sidewalks and might have objects such as trees, poles, benches, trash cans, landscaping and transit shelters along the roadside."

The applicant shall consider the WSDOT Design Manual – Roadside Safety Mitigation Guidance (Section 1600.04) in the final engineering design of all proposed roadways and frontage improvements *(See Condition A-11.b).*

Finding 8 – Vehicle Turning Movements
It shall be noted that the road and driveway approach standards listed in the Clark County Code are minimum criteria and are intended for normal conditions, per CCC 40.350.030 (C)(3). CCC 40.350.030 (C)(3) also states, "The responsible official may require higher standards for unusual site conditions."

The applicant will need to submit construction plans that show the design of the intersection geometry will accommodate all applicable design vehicles for review and approval. The plans will also need to show that all applicable design vehicles can enter and exit the development minimizing impact to opposing travel lanes. This may result in no on-street parking areas on local residential access roads, at/near public road intersections *(See Condition A-11.c).*

Finding 9 – Sight Distance
Sight distance issues are addressed by other Development Engineering Staff; therefore, this issue will not be addressed here.

Conclusion (Transportation Concurrency)
Staff finds that the proposed preliminary plan, subject to conditions contained herein, meets the fire protection requirements of the Clark County Code.

Wetland and Habitat
Finding 1 – Habitat Determination
The site is subject to three separate wetland and habitat predeterminations as follows:

Parcel 181218000 is vested to the habitat predetermination under WHR-2023-00285, issued on 10/10/2023. Parcel 181218000 contains a Type F (fish-bearing) stream and five Priority Snags and three Priority Logs, as defined by the Washington Department of Fish and Wildlife (WDFW). WHR-20203-00285 was issued prior to the adoption of the current Wetlands and Fish and Wildlife Habitat Conservation Areas ordinance (CCC 40.445) and is therefore subject to CCC 40.440 (Habitat Conservation). Under CCC 40.440.010.C.1.a, a Type F stream is afforded a Habitat Conservation Zone (HCZ) 200 feet landward on each side of the stream from the Ordinary High Water Mark (OHWM) or to the edge of the 100 year floodplain, whichever is greater. In this instance, the 200' HCZ is greater as shown in the predetermination map issued under WHR-2023-00285. Priority snags are defined as dead or dying trees that exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) and are > 2 m (6.5 ft) in height in Western Washington. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long. During the site visit staff determined that many of the previously identified snags and logs did not meet WDFW criteria (i.e. were not at least 20" in DBH). However, staff identified a total of 5 WDFW priority snags and 3 priority logs contained on the site as shown in the attached predetermination map.

Parcels 181208000 and 181253000 are vested to the habitat predetermination under WHR-2024-00389, for which a revised decision was issued on 03/05/2025. Note that the staff report issue date contains a typo (March 5th, 2005). Under WHR-2024-00389, the more recently adopted Wetlands and Fish and Wildlife Habitat Conservation Areas ordinance (CCC 40.445) is applicable. Both parcels contain Riparian Priority Habitat (RPH) associated with the type F stream. Under CCC 40.445.020.C.1.b, RPH is designated based on the estimated average two hundred (200) year site potential tree height, extending outward on each side of the stream from the ordinary high water mark (OHWM) to the distances in Table 40.445.020-1 for each site class by water type. In this case, the site contains Gee silt loam (0 to 8 percent slopes) soils, which are classified as Site Class II soils requiring a 235' RPH setback. It was additionally determined that portions of these parcels contain a WDFW Biodiversity Corridor. WDFW defines Biodiversity Corridors as areas of relatively undisturbed and unbroken tracts of vegetation that connect fish and wildlife habitat conservation areas, priority habitats, areas identified as biologically diverse, or valuable habitats within a city or UGA.

Parcel 181209005 is vested to the habitat predetermination under WHR-2025-00030, issued on 02/13/2025. This parcel contains one priority snag located in the northwestern portion of the property. This parcel is subject to CCC 40.445.

Finding 2 – Wetland Determination

The site is subject to three separate wetland and habitat predeterminations as follows:

Parcel 181218000 is vested to the wetland predetermination under WHR-2023-00285, issued on 10/10/2023. Parcel 181218000 contains two Category I wetlands of high conservation value (WHCV) due to a confirmed rare plant population mapped nearby. Both wetlands (Wetlands A and B) were determined to have a habitat score of 7 points on the Wetland Rating Form. Under CCC Table 40.450.030-3 Wetlands A and B would normally require a 75-foot low land use intensity buffer, a 110-foot moderate intensity buffer, and a 150-foot high intensity buffer, however in both instances staff find that the maximum applicable buffer is the 50-foot minimum water quality buffer as allowed under CCC 40.450.030(E)(4)(c).

Parcels 181208000 and 181253000 are vested to the habitat predetermination under WHR-2024-00389, for which a revised decision was issued on 03/05/2025. Note that the staff report issue date contains a typo (March 5th, 2005). Wetlands A and B extend onto these parcels for which the wetland rating did not change. However, the predetermination application for these parcels was made after adoption of CCC 40.440 (Wetlands and Fish and Wildlife Habitat Conservation Areas) and those portions of wetlands A and B on these parcels have differing applicable wetland buffers than the parcel to the East (# 181218000), which was vested to CCC 40.450 (Wetland Protection). Under CCC 40.445.020.B.5, wetland buffers are established by comparing the wetland rating category, the wetland rating habitat score, and the intensity of land uses proposed on development sites per Tables 40.445.020-1, 40.445.020-2 and 40.445.020-3. Based on the wetland habitat scores and proposed land use of the property, the current applicable wetland buffer for wetlands A and B is a 250-foot high land use intensity Buffer. However, the applicant is proposing reducing the wetland buffers to 190 feet as is allowed under CCC 40.445.030(C)(3), when certain criteria are met.

Parcel 181209005 is vested to the habitat predetermination under WHR-2025-00030, issued on 02/13/2025. This parcel contains one Category II Depressional wetland with a habitat score of 6 points. Under CCC 40.445.020(B)(5), this wetland is afforded a 150-foot high land use intensity Buffer. Note that the applicable wetland buffer depends on the proposed development of the property. If the lot size, extent of impervious surface or extent of naturalized vegetative cover on the site is proposed to change, then the applicable land use intensity buffer shall be determined by CCC Table 40.445.020-1.

Finding 3 – Habitat Impacts
While most impacts to the habitat areas on the project parcels has been avoided, all impacts were not completely avoidable due to the lot layout and the lack of a feasible alternative location for road construction as no alternative public access to the site is available. Impacts have been minimized by placing the access road along the eastern boundary of the site and by locating the majority of the development outside of the habitat areas. Based on the provided preliminary plans and the Revised Buffer Reduction & Onsite Mitigation Plan, dated 11/12/2025, the proposed development will result in approximately 30,097 square feet (.691 acres) of permanent impacts to the RPH area, 16,419 square feet (.377 acres) of impacts to the Biodiversity Corridor, and will impact three Priority Snags and three Priority Logs.

Finding 4 – Wetland Impacts
No direct wetland impacts are proposed. However, complete avoidance of wetland buffer impacts was not feasible due to the required road access and lot layout. The proposed development will result in approximately 2,599 square feet (.060 acres) of indirect impacts to Wetland A, 3,503 square feet (.080 acres) of indirect wetland impacts to Wetland C, and 3,744 square feet (.086 acres) of temporary impacts to the wetland buffer of Wetland A due to grading. No impacts are proposed to Wetland B.

Finding 5 – Habitat Mitigation
The applicant has provided a Revised Buffer Reduction & Onsite Mitigation Plan, dated 11/12/2025, which proposes mitigating for the .691 acres of RPH impacts by enhancing .691 acres of the onsite RPH area and by additionally removing .137 acres of existing residential hard surfaces & structures within the RPH area. The Habitat Conservation Ordinance

Mitigation Guidelines Program Policy recommends mitigating for impacts to herbaceous vegetation in the outer RPH area at a 1:1 ratio and mitigating for impacts to young forest canopy in the outer RPH area at a 2:1 ratio. Staff have estimated that approximately .460 acres of the impacted RPH area consists of herbaceous vegetation and that the remaining .231 acres consists of young forest canopy. While the applicant is proposing an overall lower amount of mitigation enhancement than is recommended in the Mitigation Guidelines Program Policy, staff determined that a .25:1 (4:1) mitigation credit ratio could be applied for the removal of the existing residential structures when mitigating for impacts to herbaceous vegetation and a .5:1 (2:1) mitigation credit ratio could be applied when mitigating for impacts to young tree canopy. In this instance, staff find that the additional restoration of .137 acres of impervious surfaces is adequate to meet the required mitigation in addition to the proposed enhancement of .691 acres of the RPH area as shown in the Provided Mitigation Plan (Exhibit 29). Five trees and ten shrubs shall be required for every 1,000 square feet of the RPH mitigation enhancement area, which equates to 209 trees and 418 shrubs (627 plants); however, the provided Revised Mitigation Plan only proposes 588 plants. The minimum plant density requirement shall apply and will be added as a condition of approval.

The .377 acres of impacts to the Biodiversity Corridor will be mitigated through replacement, by redesignating an adjacent forested portion of the site as a Biodiversity Corridor and planting it with Douglas fir and big leaf maple trees to promote biodiversity and provide additional wildlife habitat.

The three impacted snags and three impacted logs will be replaced within the remainder Wetland and Habitat Tract on the site as shown in the provided Revised Mitigation Plan dated 11/12/2025. The mitigation snags shall be no less than 20" in DBH and no less than 6.5 feet in height. The mitigation logs shall be no less than 20" in diameter at the larger end and shall be no less than 20 feet in length.

Finding 6 – Wetland Mitigation

Under CC Table 40.445.030-3, mitigation in the form of onsite enhancement is credited on a case-by-case basis when mitigating for impacts to Category I WHCVs. In this instance, since it was determined that Wetland A does not contain any rare plants, the applicable wetland mitigation ratio could be based off the wetland rating's functional score rather than special characteristics. Under Table 40.445.030-3, mitigation for impacts to Category I wetlands based on score for functions requires a 16:1 enhancement ratio. However, in following the Department of Ecology's (ECY) mitigation guidance, a .5 reduction ratio can be applied when mitigating for indirect wetland impacts. The applicant is proposing to mitigate indirect wetland impacts to Wetland A at an 8:1 ratio which is in alignment with the County and ECY's recommendations. Since temporary grading will occur within the remaining onsite portion of wetland A's buffer, the mitigation shall be located within the buffer of Wetland B. The .060 acres of indirect wetland impacts to Wetland A will be mitigated by enhancing approximately .480 acres of the remaining wetland buffers onsite as shown in the Revised Buffer Reduction & Onsite Mitigation Plan, dated 11/12/2025. The .080 acres of indirect wetland impacts to Wetland C will be mitigated at a 12:1 ratio with a .5 reduction multiplier for a total of .480 acres of enhancement. All temporary wetland buffer impacts shall be restored and reseeded.

Under CCC 40.4450.030(C)(2)(a)(3), the high intensity wetland buffers may be reduced to moderate intensity buffers when all of the minimization measures in Table 40.445.030-4 are

applied to the extent that they are applicable to the site; and when a permanently protected, relatively undisturbed, vegetated corridor at least one hundred (100) feet wide is provided and the corridor is an area with equivalent habitat quality that is in permanent conservation status as recognized by WDFW.

Finding 7 – Maintenance and Monitoring
After installation of the mitigation, maintenance and monitoring are required in order to ensure long term performance of the mitigation. Routine maintenance of the site is necessary to ensure the integrity and success of the installed plants which includes, but is not limited to, removing invasive species and weeds, irrigation (if required), and plant replacement to meet the performance standards. Annual monitoring reports are required for a period of five growing seasons following approval of the as-built report. Annual review and inspection fees shall apply. Adaptive management and alternate species may be considered if plantings appear to have massive failures; any changes shall be coordinated with Habitat/Wetland Review staff.

Finding 8 – Mitigation As-Built
A Mitigation As-Built report must be submitted to the County within 30 days of completion of construction and planting in the approved mitigation plan. The As-Built needs to include documentation of any revisions to or deviations from the approved plan, demonstrating that any changes meet the requirements of CCC 40.445.

Finding 9 – Financial Assurance
Unless the proposed mitigation is constructed and an as-built is approved, a performance assurance for the mitigation is required.

Finding 10 – Standards Conditions
Pursuant to CCC 40.445.030.B.2.d, a conservation covenant shall be recorded in a form approved by the Prosecuting Attorney as adequate to incorporate the other restrictions of this section and to give notice of the requirement to obtain a wetland and/or habitat permit prior to engaging in regulated activities within a wetland, wetland buffer, or designated habitat area. The covenant shall also include language limiting use of pesticides within 150 ft. of wetland and shall include fencing of property boundaries abutting wetland and habitat areas as required under CCC Table 40.445.030-4.

Pursuant to CCC 40.445.030.B.2.d, the Final Plat shall clearly show all wetland, wetland buffer, and priority habitat boundaries with a note referencing any required conservation covenant(s).

Pursuant to CCC 40.450.030.F, a permanent physical demarcation along the upland boundary of the wetland buffer and habitat area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official.

Pursuant to CCC 40.450.030.F, small signs shall be posted at an interval of one (1) per lot or every one hundred (100) feet, whichever is less, and perpetually maintained at locations along the outer perimeter of the wetland buffer and habitat area approved by the responsible official worded substantially as follows:

"Wetland Buffer and Habitat –

Please retain in a natural state"

(See Conditions A-12, D-8, and G-7)

Conclusion (Wetland and Habitat)
Staff finds that the proposed preliminary plan, subject to conditions A-12, D-8, and G7 contained herein, meets the Wetland and Habitat requirements of the Clark County Code.

Fire Protection
Finding 1 - Building Construction
Building construction occurring subsequent to this application shall be in accordance with the provisions of the county's building and fire codes. Additional specific requirements may be made at the time of building construction as a result of the permit review and approval process *(See Condition G-3).*

Finding 2 - Fire Flow
Fire flow in the amount of 1000 gallons per minute supplied at 20 psi for 60 minutes duration is required for this application. Prior to final approval submit proof from the water purveyor indicating that the required fire flow is available at the site. Water mains supplying fire flow and fire hydrants shall be installed, approved and operational prior to final plat approval *(See Conditions A-6.a, D-6.a, & D-6.b).*

Finding 3 - Fire Hydrants
Fire hydrants are required for this application. Either the indicated number or the spacing of the fire hydrants is inadequate. Provide fire hydrants such that the maximum spacing between hydrants does not exceed 700 feet and such that no lot or parcel is in excess of 500 feet from a fire hydrant as measured along approved fire apparatus access roads *(See Condition A-6.b).*

The local fire district chief approves the exact locations of fire hydrants. As a condition of approval, contact Fire District #6 at (360) 576-1195 to arrange for location approval. Unless waived by the fire district chief fire hydrants shall be provided with appropriate 'storz' adapters for the pumper connection. Provide and maintain a three (3) -foot clear space completely around every fire hydrant *(See Conditions A-6.c, A-6.e, A-6.f, D-6.d, F-1 & H-1.a).*

Finding 4 - Fire Apparatus Access
Fire apparatus access is required for this application. The roadways and maneuvering areas as indicated in the application do not adequately provide required fire apparatus access. Provide fire apparatus access roads with an unobstructed width of not less than 20 feet, an unobstructed vertical clearance of not less than 13.5 feet, with an all-weather driving surface and capable of supporting the imposed loads of fire apparatus. **With 200 lots, this proposal would need two public accesses or a plat note requiring sprinklers on all lots regardless of size with a second emergency only access** *(See Conditions A-6.d & H-1.b).*

Approved fire apparatus turnarounds are required for this project. The indicated provisions for turning around fire apparatus are adequate.

Finding 5 – Parking

Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than twenty-four (24) feet wide shall be posted "NO PARKING-FIRE LANE" *(See Conditions A-6.g, D-6.c, & H-1.c).*

Finding 6 – Gates
While no gates are shown on the proposed plan, no gate may be installed across a required fire department access road or driveway without first obtaining and testing of the gate will be required. Split gates with a divided entry and exit side will need 15 feet on either side for a total gate width of 30 feet *(See Condition G-4).*

Finding 7 – Residential Fire Sprinklers
Homes exceeding 3600 square feet including attached garages will require additional fire protection features including a residential fire sprinkler system when adequate public water and a hydrant is not within required distances. If a residential fire sprinkler is required, it will require additional review and permitting by the Fire Marshal *(See Condition E-6).*

Conclusion (Fire Protection)
Staff finds that the proposed preliminary plan, subject to conditions contained herein, meets the fire protection requirements of the Clark County Code.

Water and Sewer Service
Finding 1 – Sewerage Requirements
The proposed development is required to connect to public sanitary sewer. The site is located within the Clark Regional Wastewater District service area. A utility review letter from CRWWD was submitted as part of the application materials *(Exhibit 1, Tab 16)* and indicates that sewer is available for connection subject to CRWWD requirements. Prior to final plat approval, the applicant shall provide documentation from the district confirming that sanitary sewer connections have been installed and approved *(See Condition D-7.a).*

Finding 2 – Water Supply
The proposed development is required to connect to public water. The applicant has submitted a current utility review from the Clark Public Utilities *(Exhibit 1 Tab 17)* confirming that water service is available to the site subject to CPU requirements. Prior to final plat approval, the applicant shall provide documentation from the district confirming that water connections have been installed and approved *(See Condition D-7.b).*

Conclusion (Utilities)
Staff finds that the proposed preliminary plan, subject to the findings and conditions identified above, meets utility requirements of the Clark County Code.

Public Health
Finding 1 – On-site Sewage Treatment Systems
An existing individual on-site sewage system (OSS) is not listed on the application but there are county records indicating an on-site sewage system is at the site. A site visit on 04/24/25 did verify evidence of an on-site sewage system known as ON0047325; two septic tank lids were observed at the ground surface west of the home and the tank has a capped outlet. This septic system will be required to be abandoned prior to final plat approval *(See Condition D-7.e).*

Additional OSS may exist at the site. These OSS tanks, as well as any OSS tanks or drywells discovered during development, must be properly abandoned per CCC 24.17.210, with written notification provided to CCPH and Online RME Pumper Reports or pumper receipts attached. All abandoned OSS tanks, whether filled or removed, shall be accounted for within written abandonment notifications submitted to CCPH. All abandoned OSS tank locations must be marked on the final plat *(See Conditions B-5 and D-7.c).*

The proposed development must be served by public sewer. A copy of the final acceptance letter (or equivalent) from CRWWD shall be submitted with the final plat *(See Condition D-7.a).*

Finding 2 – Water Systems
An existing well is not indicated on the application but there are county records indicating a well is at the site and a site visit on 04/24/25 did discover evidence of a well in a well house. County record WP0014284 was created to track the well status. There is another possible well in the far SE corner of the project. There is a 6" steel casing pipe approximately 30' north of a fire hydrant along NE 179th Street (Health Department staff have requested of the applicant to have a well driller investigate it).

Additional water wells may exist at the site. These water wells and any wells discovered during development must be legally decommissioned by a licensed well driller per WAC 173-160-381, with written notice provided to CCPH and decommissioning well logs attached. Decommissioned well locations must be marked on the final plat *(See Conditions B-5 and D-7.d).*

The proposed development must be served by public water. A copy of the final acceptance letter (or equivalent) from CPU shall be submitted with the final plat *(See Condition D-7.b).*

Conclusion (Public Health)
Staff finds that the proposed preliminary plan, subject to the findings and conditions identified above, meets Public Health requirements of the Clark County Code.

Impact Fees
Finding 1 - Applicability
Staff was only able to find evidence of one existing single family residence that will be removed in order to construct this development. With the exception of one (1) single family detached lot that the applicant shall identify on the face of the plat, the lots created by this development will produce impacts on schools, parks, and traffic, and are subject to School (SIF), Park (PIF), and Traffic Impact Fees (TIF) in accordance with CCC 40.610. The subject site is located within the following districts: Mt.Vista Transportation District, Ridgefield School District and Park District 10.

Impact Fees			
Type of dwelling unit	**Traffic Impact Fee**	**Parks Impact Fee**	**School Impact Fee**
Single family	$8,520.88	$3,852.00	$16,880.00

As found in CCC 40.610.040, impact fees are calculated using the rates in effect at the time of

building permit issuance *(See Conditions D-4.f, D-5.k, & E-1).*

Conclusion (Impact Fees)
Staff finds that the proposed preliminary plan, subject to conditions identified above, meets impact fee requirements of the Clark County Code.

SEPA Determination
As lead agency under the State Environmental Policy Act (SEPA) Rules [Chapter 197-11, Washington Administrative Code (WAC)], Clark County must determine if there are possible significant adverse environmental impacts associated with this proposal. The options include the following:

- **DS = Determination of Significance** - The impacts cannot be mitigated through conditions of approval and, therefore, require the preparation of an Environmental Impact Statement (EIS);

- **MDNS = Mitigated Determination of Non-Significance** - The impacts can be addressed through conditions of approval; or,

- **DNS = Determination of Non-Significance** - The impacts can be addressed by applying the Clark County Code.

The likely SEPA determination of Non-Significance (DNS) in the Revised Notice of Development Review Application issued on 10/1/2025 is hereby final.

SEPA Appeal Process
An appeal of this SEPA determination and any required mitigations, must be filed with the Department of Community Development within fourteen (14) calendar days from the date this notice.

The hearing examiner shall hear appeals in a public hearing. Notice of the appeal hearing shall be mailed to parties of record but shall not be posted or published.

A **procedural SEPA appeal** is an appeal of the determination (i.e., determination of significance, determination of non-significance, or mitigated determination of non-significance).

A **substantive SEPA appeal** is an appeal of the conditions required to mitigate for probable significant issues not adequately addressed by existing Clark County Code or other law.

Issues of compliance with existing approval standards and criteria can still be addressed in the public hearing without an appeal of this SEPA determination.

A **procedural or substantive appeal** must be filed within fourteen (14) calendar days of this determination, together with the appeal fee. Such appeals will be considered at a scheduled public hearing and decided by the Hearing Examiner in a subsequent written decision.

Appeals must be in writing and should contain the following information:

- Case number designated by the county
- Name of the applicant
- Name of each petitioner
- Signature of each petitioner or his or her duly authorized representative
- A statement showing the following:
  - That each petitioner is entitled to file the appeal as an interested party in accordance with CCC 40.510.020(H) or 40.510.030(H)
  - The reasons why the SEPA determination is in error
- The appeal fee

Refer to the *Appeals* handout for more information and fees.

The decision of the Hearing Examiner is final unless:

- A motion for reconsideration is filed within fourteen (14) days of written notice of the decision, as provided under Clark County Code, Section 2.51.160; or,
- An appeal is filed with Clark County Superior Court.

Staff Contact Person: Bryan Mattson, Project Planner, 564.397.5683

Responsible Official: April Furth, Interim Community Development Director

Recommendation

Based upon the application package *[Exhibit 1],* the Revised Narrow Lot Site Plan – North *[Exhibit 19],* The Applicant Response Letter to Early Issues *[Exhibit 18],* The Revised Stormwater TIR *[Exhibit 27],* and the Revised Buffer Reduction and Onsite Mitigation Plan *[Exhibit 29],* and the findings and conclusions stated above, staff recommends the Hearing Examiner **APPROVES** this request, subject to the understanding that the application is required to adhere to all applicable codes and laws and is subject to the following conditions of approval.

Conditions of Approval

A	**Final Construction Review for Land Division** **Review and Approval Authority: Development Engineering, Land Use & Fire Marshal**

Prior to construction, a Final Construction Plan shall be submitted for review and approval, consistent with the approved preliminary plan and the following conditions of approval:

A-1 Final Transportation Plan/On-Site - The applicant shall submit and obtain County approval of a final transportation design in conformance to CCC 40.350 and the following conditions of approval:

a. The applicant shall show all curb ramps will be constructed in compliance with ADA Standards *(See Transportation Finding 1).*

b. The applicant shall show all curb ramps will be constructed in compliance with the WSDOT Design Manual *(See Transportation Finding 1).*

c. The applicant shall coordinate design and construction of improvements on NE 179th Street with the Clark County Public Works Department. The applicant is responsible for constructing the planned improvements in advance of the county capital improvement project (CRP #320122) unless the applicant and Clark County Public Works execute a deferral agreement in accordance with procedures of CCC 40.350.030(B)(5)(c) *(See Transportation Finding 3).*

d. NE 179th Street is classified as a "Principal Arterial with Center Left and Bike Lanes" roadway and half-width improvements are required consisting of 50 feet of right-of-way dedication, 36 feet pavement width, curb/gutter, and 5-foot detached sidewalk. Unless a deferral agreement, per Condition A-1.c, is executed *(See Transportation Finding 3).*

e. The applicant shall dedicate additional right-of-way (or provide a public easement) at the intersection of NE 179th Street/NE 18th Avenue for the chord of the right-of-way radius *(See Transportation Finding 3).*

f. NE 183rd Street and NE 18th Avenue are classified as a "Neighborhood Circulator" roadways and full-width improvements are required consisting of 54 feet of right-of-way dedication, 36 feet pavement width, curb/gutter, and 5-foot sidewalk *(See Transportation Finding 3).*

g. NE 184th Street, NE 185th Street, NE 186th Street, NE 187th Street, NE 19th Avenue, and NE 20th Way are/will be classified as "Urban Local Access" roadways and full-width improvements are required consisting of 46 feet of right-of-way dedication, 28 feet pavement width, curb/gutter, and 5-foot sidewalk *(See Transportation Finding 3).*

h. NE 20th Way and NE 186th Street classified as a "Urban Cul-de-sac" roadways and full-width improvements for the bulb are required consisting of minimum 40 foot radius of right-of-way dedication, minimum 34.5 foot radius pavement width, thickened curb and 5-foot sidewalk *(See Transportation Finding 3).*

i. All roads shall have a minimum pavement width of 20 feet *(See Transportation Finding 3).*

j. All partial width roads less than 24 feet in width shall be marked with "No Parking" signs or similar control measures *(See Transportation Finding 3).*

k. All stubbed roads shall be terminated with approved barriers and include end of sidewalk ramps in compliance with ADA Standards *(See Transportation Finding 3).*

l. The applicant shall show on the final construction plans that all joint driveways are in a minimum of a 20 foot easement and serve no more than 4 lots *(See Transportation Finding 4).*

m. The applicant shall show on the final construction plans that all corner lot driveways will comply with CCC 40.350.030(B)(4(b)(1)(b) *(See Transportation Finding 4).*

n. The applicant shall show sight distance triangles at all intersections on the construction plans *(See Transportation Finding 5).*

o. The applicant is responsible for providing all necessary transportation improvements required for each individual phase *(See Transportation Finding 6).*

p. The applicant shall comply with the Fire Marshall requirements until obtaining a secondary public access connection *(See Transportation Finding 7).*

q. The applicant shall not construct phases for lots 100-200 until a secondary emergency only or public road access location is available for public use *(See Transportation Finding 7).*

r. The applicant shall not connect their internal road network to the existing portion of NE 183rd Street until the apartment owner limits their access onto NE 179th Street as emergency only access. See Land Use Decision PSR-2020-00098 NE 179th Street Apartments West, Condition A-1.f. *(See Transportation Finding 7).*

s. The applicant may place the driveways at the interior property line building setback or within the 5 foot property line setback *(See Transportation Finding 7).*

t. The applicant shall provide a typical lot detail showing that the driveways with reduced property setbacks will not have overlapping wings and will be on their respective lots *(See Transportation Finding 7).*

u. NE 19th Avenue will be classified as an "Urban Local Access" roadway and half-width improvements are required consisting of 23 feet of right-of-way dedication, 14 feet pavement width, curb/gutter, and 5-foot sidewalk *(See Transportation Finding 7).*

A-2 **Transportation (Signing and Striping) -** The applicant shall submit a signing and striping plan and a reimbursable work order, authorizing County Road Operations to perform any signing and pavement striping required within the County right-of-way. This plan and work order shall be approved by the Department of Public Works prior to final plat or final site plan approval.

A-3 **Final Stormwater Plan -** The applicant shall submit and obtain County approval of a final stormwater plan designed in conformance to CCC 40.386 and the following conditions of approval:

a. The applicant shall submit final construction plan and a final Technical Information Report that addresses Minimum Requirements #1 through #9 *(See Stormwater Finding 1).*

b. The applicant shall demonstrate that the development will not materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots *(See Stormwater Finding 1).*

c. The applicant shall submit documentation from the stormwater treatment system manufacturer indicating that any proprietary stormwater treatment devices were sited and sized appropriately *(See Stormwater Finding 2).*

d. The applicant shall provide a final Technical Information Report that demonstrates compliance with the Basic Treatment requirement *(See Stormwater Finding 2).*

e. The applicant shall provide a final technical information Report that demonstrates compliance with the Standard Flow Control requirement*(See Stormwater Finding 2).*

f. The applicant shall submit final construction plan and a final Technical Information Report that addresses the following levels of wetland protection: General Protection, Protection from Pollutants and Hydroperiod Protection: Method 2 *(See Stormwater Finding 2).*

g. The applicant shall identify on the final construction plans ownership responsibilities for each of the proposed stormwater facilities *(See Stormwater Finding 2).*

h. A stormwater easement shall be shown on all private/joint stormwater facilities not in the public right-of-way *(See Stormwater Finding 2).*

i. Stormwater facility setbacks shall be met and shown on the final construction plans, unless a reduced setback is recommended by a geotechnical engineer *(See Stormwater Finding 2).*

j. The applicant shall submit an offsite analysis with the Final TIR prepared in accordance with Book 1, Chapter 5 of the CCSM 2021 for all outfall locations from the site *(See Stormwater Finding 2).*

k. The applicant is responsible for providing all necessary stormwater mitigation improvements required for each individual phase *(See Stormwater Finding 3).*

A-4 Erosion Control Plan - The applicant shall submit and obtain County approval of a final erosion control plan designed in accordance with CCC 40.386.

A-5 Excavation and Grading - Excavation/grading shall be performed in compliance with CCC14.07.

A-6 Fire Marshal Requirements -

a. The applicant shall submit plans showing the location of water lines and hydrants for review and approval by the Fire District Chief *(See Fire Protection Finding 2).*

b. Plans shall be submitted for review and approval showing fire hydrants such that the maximum spacing between hydrants does not exceed 700' and such that no lot or parcel is in excess of 500' from a fire hydrant as measured along approved fire apparatus access roads *(See Fire Protection Finding 3).*

c. The fire district chief shall sign the engineering construction mylar indicating fire hydrant location has been reviewed and approved *(See Fire Protection Finding 3).*

d. Access roads shall have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet with an all-weather driving surface capable of supporting the imposed loads of fire apparatus *(See Fire Protection Finding 4).*

e. Plans showing a three (3) -foot clear space around the circumference of all fire hydrants shall be submitted for review and approval, *(See Fire Protection Finding 3).*

f. Unless waived by the fire district chief, hydrants shall be provided with appropriate "storz" adapters for the pumper connection, *(See Fire Protection Finding 3).*

g. Plans showing markings indicating that parking is prohibited on access roads that are less than twenty-four (24) feet wide shall be provided, *(See Fire Protection Finding 5).*

A-7 **Final Construction Plan (Archaeology)** - The applicant shall submit and obtain county approval of a final construction plan with the following note:
"If any cultural resources and/or human remains are discovered in the course of undertaking the development activity, the Department of Archaeology and Historic Preservation in Olympia, the Cowlitz Indian Tribe, and Clark County shall be notified. Failure to comply with these state requirements may constitute a Class C Felony, subject to imprisonment and/or fines." *(See Archaeological Finding 2).*

A-8 **Land Use** – A final construction plan is required to be submitted and prior to Final Construction Plan approval and Land Use staff must verify:

a. Phased Plan: If the applicant requests to achieve the sequential 4-Phase Plan that was proposed, then information must be submitted that demonstrates that the initial phase plus any subsequent phases will comply with density requirements should the future phases not be constructed *(See Land Use Finding 2).*

b. PUD Lot Sizes: The applicant shall submit a Narrow Lot Site Plan that indicates that no lots will be less than 2,320 square feet and no less than 26 feet wide in the R-12 zone.

c. PUD Setbacks: The applicant shall submit a Narrow Lot Site Plan with setbacks in which all setbacks will comply with the R-12 and OR-22 zones.

d. PUD Street Trees: The applicant shall submit a landscape plan that demonstrates a tree for every 24 feet. In the likely event the interval cannot be met due to miscellaneous infrastructure, the tree will still be required but placed as nearby as practical and are allowed to be grouped *(See Land Use Finding 3).*

e. Street Lighting: An outdoor lighting plan in conformance with requirements put forth in Table 40.510.050-1, shall be provided for staff review and approval that shows the areas of illumination for each outdoor light to ensure compliance with the PUD street lighting standard *(See Land Use Finding 3).*

f. Narrow Lot Site Plan: In accordance with Section 40.260.155(C), a final site plan is required to be incorporated into the final construction plans that incorporates items a - i *(See Land Use Finding 4).*

g. Narrow Lot Street Trees: The applicant shall submit a landscape plan that identifies the minimally required 1 street tree per lot required by the Narrow Lot Standards *(See Land Use Finding 4).*

h. Landscape Buffers: The applicant is required to submit a landscape plan prior to Final Construction Plan Review approval that matches the preliminary and revised Narrow Lot Site Plans *(See Land Use Findings 3 & 6).*

i. On-Street Parking: The applicant shall identify at least 61 parking spaces on the Narrow Lot Site Plan *(See Land Use Finding 4).*

j. Shared Driveways: The applicant has indicated that lots 78-79, 100-106, 171-172, 176-177, and 199-200 will utilize shared driveways. These driveways shall comply with 40.260.155.C.7 *(See Land Use Finding 4).*

k. Zero Lot Lines: The Narrow Lot Site Plan shall indicate that the setback on the lot abutting a zero setback line shall be at least eight (8) feet *(See Land Use Findings 3 & 5).*

l. Pedestrian Connection with NE 179th Street: The applicant shall show a pedestrian connection on the Final Construction Plans that connect the sidewalks of NE 18th Avenue to the right-of-way of NE 179th Street. This connection shall comply with the standards of Pedestrian Circulation found in 40.340.010.A.3 *(See Land Use Finding 7).*

A-9 Retaining Walls - A building permit is required for retaining walls greater than 4 feet tall or when the wall is surcharged. All retaining walls shall be shown in sufficient detail on the engineering plans for staff to assess their impact on adjacent roads, structures, and public and private utilities.

A-10 Flood Plain Hazard Area – The applicant shall delineate the mapped Special Flood Hazard Area on the final engineering plans per the FEMA published FIRM Panel number {53011C0219D}, unless an updated FIRM is published prior to final engineering approval, and the following conditions of approval:

a. The applicant's plans shall show that there will be no impact to the Floodway or Floodway Fringe of Whipple Creek *(See Flood Hazard Finding 2).*

A-11 Final Transportation Plan/Off-Site (Concurrency):

a. The applicant shall submit a signing and striping plan for review and approval. This plan shall show signing and striping and all related features for required frontage improvements and any off-site improvements. The applicant shall obtain a work order with Clark County to reimburse the County for required signing and striping.

b. The applicant shall consider the WSDOT Design Manual – Roadside Safety Mitigation Guidance (Section 1600.04) in the final engineering design of all proposed roadways and frontage improvements *(See Transportation Concurrency Finding 7).*

c. The applicant shall submit construction plans that show the design of the intersection geometry that will accommodate all applicable design vehicles for review and approval, unless modified by the County Engineer. The plans will also need to show that all applicable design vehicles can enter and exit the development minimizing impact to opposing travel lanes. This may result in no parking and/or maneuvering areas near public road intersections. Please note that applicable design vehicles include but are not limited to passenger vehicles and waste management vehicles *(See Transportation Concurrency Finding 8).*

A-12 Wetland and Habitat:

a. The applicant shall remove .137 acres of the existing residential driveway, home and appurtenances and shall enhance .691 acres of the Riparian Priority Habitat area and .377 acres of the Biodiversity Corridor Replacement area as shown in the 11/12/2025 Revised Buffer Reduction and Mitigation Plan, except that a minimum of 209 native trees and 418 native shrubs (627 plants) shall be required within the RPH mitigation area. The three impacted snags and three impacted logs shall be mitigated onsite by through placement of an equivalent number of snags and logs meeting WDFW PHS criteria.

b. The applicant shall enhance approximately .960 acres of wetland B's buffer as shown in the Revised Buffer Reduction & Onsite Mitigation Plan, dated 11/12/2025 except that a minimum of 209 native trees and 418 native shrubs (627 plants) shall be required within the mitigation planting area. The .086 acres of temporary wetland buffer impacts shall be restored and reseeded with a native herbaceous seed mix.

c. The applicant shall submit a Mitigation As-Built report to the County within 30 days of completion of the construction and planting in the approved mitigation plan.

d. Unless the proposed mitigation is constructed and an as-built is approved, a performance assurance for the mitigation is required.

B	**Prior to Construction of Development** **Review and Approval Authority: Development Inspection & Clark County Public Health**

Prior to construction, the following conditions shall be met:

B-1 **Pre-Construction Conference -** Prior to construction or issuance of any grading or building permits, a pre-construction conference shall be held with the county.

B-2 **Traffic Control Plan -** Prior to issuance of any building or grading permits for the development site, the applicant shall obtain written approval from Clark County Department of Public Works of the applicant's Traffic Control Plan (TCP). The TCP shall govern all work within or impacting the public transportation system.

B-3 **Erosion Control -** Prior to construction, erosion/sediment controls shall be in place. Sediment control facilities shall be installed that will prevent any silt from entering infiltration systems. Sediment controls shall be in place during construction and until all disturbed areas are stabilized and any erosion potential no longer exists.

B-4 **Erosion Control -** Erosion control facilities shall not be removed without county approval.

B-5 **Septic Tank and Well Decommissioning -** Prior to provisional acceptance, if any septic systems, water wells or underground tanks are found during construction, they shall be decommissioned in accordance with the procedures of the Clark County Public Health, *(See Water and Sewer Findings 1 & 2).*

B-6 **Road Closures -** Any request by the developer or developer's contractor to close a road will be reviewed by county staff. The developer shall provide a memorandum to the County Engineer justifying the reasons for needing the road closure, specifically including explanation as to why the closure is necessary and construction cannot occur under traffic, such as flagger controlled alternating one way traffic next to the construction. The memorandum shall include the ENG number and title of the project, location of the requested road closure, anticipated date of start of closure, requested closure time length, explanation of the public outreach that the contractor will perform, full detour mapping, and other information as appropriate. Road Closures are approved specifically by the County Council by resolution, as described in WAC 308-330-270(7).The process for county takes at least 6 weeks for writing the staff report, resolution and internal review. Depending on the complexity of the request from the developer and the council's time availability, this can take over 12 weeks to process from start to finish. It is the developer's responsibility to ensure that the process is completed prior to needing the road closure enacted. The contractor shall be responsible for all costs associated with county staff time to process the request via reimbursable work order and all notifications required by law in local newspapers as required by RCW 47.48 Notice of Closure or Restriction. Requesting a road closure is no guarantee that a road closure will be approved by the county.

C	**Provisional Acceptance of Development** **Review and Approval Authority: Development Inspection & Development Engineering**

Prior to provisional acceptance of development improvements, construction shall be completed consistent with the approved final construction / land division plan and the following conditions of approval:

C-1 Required Documents (Transportation):

a. Sight Distance: The applicant shall submit a sight distance certification letter signed and stamped by an engineer, licensed in the state of Washington, indicating the sight distance at the intersection of NE 179th Street/NE 18th Avenue, once constructed, complies with the county code *(See Transportation Finding 5).*

b. The applicant shall not connect their internal road network to the existing portion of NE 183rd Street until the apartment owner limits their access onto NE 179th Street as emergency only access. See Land Use Decision PSR-2020-00098 NE 179th Street Apartments West, Condition A-1.f. (*See Transportation Finding 7).*

D	**Final Plat Review & Recording** **Review and Approval Authority: Development Engineering, Fire Marshal, Clark County Public Health & Land Use**

Prior to final plat approval and recording, the following conditions shall be met:

D-1 Potential Encroachment - A boundary survey for the site identifies a potential fence encroachment along the northeast line of tax lot 36 (PIN: 181218-000). Based on information submitted with the application packet, it is unclear whether ownership of the area is under dispute. This situation needs to be resolved prior to filing of the final plat *(See Land Use Finding 8).*

D-2 Right-of-ways/Easement – All right-of-way dedications and easements shall be recorded with the final plat:

a. The required right-of-way dedication along NE 179th Street fronting the development, to achieve a minimum 50-foot half-width, must be conveyed to the county with the final plat. Additional right-of-way dedication (or public easement) at the intersection of NE 179th Street/NE 18th Avenue for the chord of the right-of-way radius, must be conveyed to the county with the final plat *(See Transportation Finding 3).*

b. The required right-of-way dedication for NE 183rd Street and NE 18th Avenue within the development, to achieve a minimum 54-foot full-width, must be conveyed to the county with the final plat *(See Transportation Finding 3).*

c. The required right-of-way dedication for NE 184th Street, NE 185th Street, NE 186th Street, NE 187th Street, NE 19th Avenue, and NE 20th Way within the development, to achieve a minimum 46-foot full-width, must be conveyed to the county with the final plat *(See Transportation Finding 3).*

d. The required right-of-way dedication for NE 20th Way and NE 186th Street within the development, to achieve a minimum 40-foot radius for the bulb of the cul-de-sac, must be conveyed to the county with the final plat *(See Transportation Finding 3).*

e. The joint driveway access easements for Lots 100-102, Lots 103-106, Lots 176-177 and Lots 199-200 shall be delineated on the final plat. A minimum 20-foot easement width is required. The lot numbers who have access to the joint driveway easements shall also be labeled *(See Transportation Finding 4)*.

f. The required right-of-way dedication along NE 19th Avenue fronting the development, to achieve a minimum 23-foot half-width, must be conveyed to the county with the final plat *(See Transportation Finding 7)*.

D-3 Sight Distance - The sight distance triangle, if located outside of right-of-way, shall be delineated on the final plat *(See Transportation Finding 5)*.

D-4 Developer Covenant - A "Developer Covenant to Clark County" shall be submitted for recording to include the following:

a. Zero Lot Line Setbacks: "The required 8 foot setback for the zero lot line lots shall kept perpetually free of structures." *(See Land Use Finding 5)*.

b. Joint Driveway Maintenance Covenant: A joint driveway maintenance covenant shall be submitted to the responsible official for approval and recorded with the County Auditor. The covenant shall set out the terms and conditions of responsibility for maintenance, maintenance methods, standards, distribution of expenses, remedies for noncompliance with the terms of the agreement, right of use easements, and other considerations, as required under 40.350.030(C)(4)(g).

c. Critical Aquifer Recharge Areas: "The dumping of chemicals into the groundwater and the use of excessive fertilizers and pesticides shall be avoided. Homeowners are encouraged to contact the State Wellhead Protection program at (206) 586-9041 or the Washington State Department of Ecology at 800-RECYCLE for more information on groundwater/drinking supply protection."

d. Erosion Control: "Building Permits for lots on the plat shall comply with the approved erosion control plan on file with Clark County Building Department and put in place prior to construction."

e. Responsibility for Stormwater Facility Maintenance: "For stormwater facilities for which the county will not provide long-term maintenance, the developer shall make arrangements with the existing or future (as appropriate) occupants or owners of the subject property for assumption of maintenance to the county's Stormwater Facilities Maintenance Manual as adopted by Chapter 13.26A. The responsible official prior to county approval of the final stormwater plan shall approve such arrangements. Final plats shall specify the party(s) responsible for long-term maintenance of stormwater facilities within the Developer Covenants to Clark County. The county may inspect privately maintained facilities for compliance with the requirements of this chapter. If the parties responsible for long-term maintenance fail to maintain their facilities to acceptable standards, the county shall issue a written notice specifying required actions to be taken in order to bring the facilities into compliance. If these

actions are not performed in a timely manner, the county shall take enforcement action and recover from parties responsible for the maintenance in accordance with Section 32.04.060."

f. Impact Fees: Impact fees shall be assessed for impacts on schools, parks and transportation facilities based on the following districts: Ridgefield School District (SIF), Park District 10 (PIF) and Mt.Vista Transportation Sub-area (TIF). As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance.

D-5 Plat Notes - The following notes shall be placed on the final plat:

a. Inadvertent Discovery Language: "If any cultural resources and/or human remains are discovered in the course of undertaking the development activity, the Department of Archaeology and Historic Preservation in Olympia, the Cowlitz Indian Tribe, and Clark County shall be notified. Failure to comply with these state requirements may constitute a Class C Felony, subject to imprisonment and/or fines." *(See Archaeological Finding 2).*

b. Setbacks: "The building setbacks shall comply with the R-12 and OR-22 zone." *(See Land Use Finding 3).*

c. Zero Lot Line Setbacks: "The required 8 foot setback for the zero lot line lots shall kept perpetually free of structures." *(See Land Use Finding 5).*

d. Sidewalks: "Prior to issuance of occupancy permits, sidewalks shall be constructed along all the respective lot frontages."

e. Utilities: "An easement is hereby reserved under and upon all tracts and the exterior six (6) feet on all boundary lines of the lots and tracts adjacent to public/private roads and six (6) feet adjacent to access/utility easements for the installation, construction, renewing, operating and maintaining electric, telephone, tv, cable, water and sanitary sewer services. All lots containing padmount transformers are subject to the minimum clearances as defined by Clark Public Utilities construction standards. All proposed building designs on these lots must provide adequate clearance for all combustible materials. Also, a sidewalk easement, as necessary to comply with ADA slope requirements, shall be reserved upon the exterior six (6) feet along the front boundary lines of all lots and tracts adjacent to public streets."

f. Sight Distance: "Sight distance easement triangles shall be maintained and kept clear as required under CCC 40.350.030.B.8."

g. Driveways: "No direct access is allowed onto the following streets: NE 179th Street."

h. Driveways: "All residential driveway approaches entering public roads are required to comply with CCC 40.350."

i. Privately Owned Stormwater Facilities: "The following party(s) is responsible for long-term maintenance of the privately owned stormwater facilities: _____."

j. Roof and Crawl Space Drains: "Roof and crawl space drains for all lots of the development shall be installed in accordance with the approved As-Built plans, unless a revised plan is approved by the county. These stormwater systems will be owned and maintained by the property owner on whose lot the stormwater system is located."

k. Impact Fees: "With the exception of Lot ____, Impact fees shall be assessed for impacts on schools, parks and transportation facilities based for the following districts: Ridgefield School District (SIF), Park District 10 (PIF) and Mt. Vista Transportation Sub-area (TIF). As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance."

D-6 Land Use:

a. Open Space: All open space shall be conveyed to and permanently maintained by a home-owners association unless a public agency agrees to maintain the open space and any structures or improvements located within *(see Land Use Finding 3)*.

b. Narrow Lot Standards Site Plan: A final site plan is required to be submitted with the final land division application that was approved as part of the Final Construction Plans and that incorporates items a - i *(See Land Use Finding 4)*.

c. Zero Lot Line Maintenance Easements: Easements for such purposes as maintenance, or for building projection encroachments beyond a zero setback line shall be shown on the plat *(See Land Use Finding 5)*.

d. Pedestrian Connection with NE 179th Street: The applicant shall show a pedestrian connection on the Final Plat that connect the sidewalks of NE 18th Avenue to the right-of-way of NE 179th Street *(See Land Use Finding 7)*.

D-6 Fire Marshal Requirements:

a. The applicant shall demonstrate that water mains supplying fire flow have been installed and approved *(See Fire Protection Finding 2)*.

b. The applicant shall submit a current utility review letter from the water purveyor indicating required fire flow remains available at the site *(See Fire Protection Finding 2)*.

c. Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than 24 feet wide shall be posted, "NO PARKING – FIRE LANE" *(See Fire Protection Finding 5)*.

d. Fire hydrants shall be provided with appropriate 'storz' adapters for the pumper connection prior to above-ground combustible construction *(See Fire Protection Finding 3)*.

D-7 Sewer and Water Requirements:

a. The applicant shall produce documentation from the Clark Regional Wastewater District that sewer has been installed and approved *(See Water and Sewer Finding 1).*

b. The applicant shall produce documentation from Clark Public Utilities that water has been installed and approved *(See Water and Sewer Finding 2).*

c. Any cesspools, drywells, or pump chambers discovered on the site must also be abandoned in this manner and locations shown on the final plat *(See Public Health Finding 1).*

d. Any wells that are found during development of this plat shall be properly decommissioned by a licensed well driller with documentation submitted to CCPH prior to final plat approval and all decommissioned wells must be shown on the final plat *(See Public Health Finding 2).*

e. During the site visit an on-site sewage system known as ON0047325; two septic tank lids were observed at the ground surface west of the home and the tank has a capped outlet. This septic system will be required to be abandoned prior to final plat approval *(See Public Health Finding 1).*

D-8 Wetland and Habitat – Prior to Final Plat Approval:

a. The Best Management Practices listed in CCC Table 40.445.020-3 shall be included in the CC&Rs. A draft of the CC&Rs will need to be provided for review prior to final plat.

b. Pursuant to CCC 40.445.030.B.2.d, a conservation covenant shall be recorded in a form approved by the Prosecuting Attorney as adequate to incorporate the other restrictions of this section and to give notice of the requirement to obtain a wetland and/or habitat permit prior to engaging in regulated activities within a wetland, wetland buffer, or designated habitat area. The covenant shall also include language limiting use of pesticides within 150 ft. of wetland and shall include fencing of property boundaries abutting wetland and habitat areas as required under CCC Table 40.445.030-4.

c. Pursuant to CCC 40.445.030.B.2.d, the Final Plat shall clearly show all wetland, wetland buffer, and priority habitat boundaries with a note referencing any required conservation covenant(s).

d. *Pursuant to CCC 40.450.030.F, a permanent physical demarcation along the upland boundary of the wetland buffer and habitat area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official.*

e. Pursuant to CCC 40.450.030.F, small signs shall be posted at an interval of one (1) per lot or every one hundred (100) feet, whichever is less, and perpetually

maintained at locations along the outer perimeter of the wetland buffer and habitat area approved by the responsible official worded substantially as follows:

"Wetland Buffer and Habitat –
Please retain in a natural state"

E	**Building Permits** **Review and Approval Authority: Permit Services & Fire Marshal**

Prior to issuance of a building permit, the following conditions shall be met:

E-1 **Impact Fees** - Impact fees shall be assessed for impacts on schools, parks and transportation facilities based on the following districts: Ridgefield School District (SIF), Park District 10 (PIF) and Mt.Vista Transportation Sub-area (TIF). As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance.

E-2 **Roof and Crawl Space Drains** - Roof and crawl space drains shall be installed in accordance with the approved As-Built plans, unless a revised plan is approved by the county. These stormwater systems will be owned and maintained by the property owner on whose lot the stormwater system is located *(See Stormwater Finding 2).*

E-3 **Excavation and Grading** - Excavation and grading shall be performed in compliance with CCC 14.07.

E-4 **Setbacks** - The building setbacks shall comply with the R-12 and OR-22 zone *(See Land Use Finding 3).*

E-5 **Building Height** - The building height will be controlled by which zone in which the majority of the lot lies *(See Land Use Finding 3).*

E-6 **Residential Fire Sprinklers** - Homes exceeding 3600 square feet including attached garages will require additional fire protection features including a residential fire sprinkler system when adequate public water and a hydrant is not within required distances If a residential fire sprinkler is required, it will require additional review and permitting by the Fire Marshal *(See Fire Protection Finding 7).*

F	**Occupancy Permits** **Review and Approval Authority:**

Prior to issuance of an occupancy permit, the following conditions shall be met:

F-1 **Fire Protection** - A three (3) -foot clear space shall be provided around the circumference of al fire hydrants *(See Fire Protection Finding 3).*

G	**Development Review Timelines & Advisory Information** **Review and Approval Authority: None - Advisory to Applicant**

G-1 **Land Division** - Within seven (7) years of preliminary plan approval, a Fully Complete application for Final Plat review shall be submitted.

G-2 Department of Ecology SEPA Comments

Hazardous Waste and Toxics Reduction: Garret Peck (564) 669-0836
The applicant proposes to demolish an existing structure(s). In addition to any required asbestos abatement procedures, the applicant should ensure that any other potentially dangerous or hazardous materials present, such as PCB-containing lamp ballasts, fluorescent lamps, and wall thermostats containing mercury, are removed prior to demolition. It is important that these materials and wastes are removed and appropriately managed prior to demolition. It is equally important that demolition debris is also safely managed, especially if it contains painted wood or concrete, treated wood, or other possibly dangerous materials.

Please review the "Dangerous Waste Rules for Demolition, Construction, and Renovation Wastes," posted at Ecology's website, https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Dangerous-waste-guidance/Common-dangerous-waste/Construction-and-demolition. The applicant may also contact Katy Harvey of Ecology's Hazardous Waste and Toxics Reduction Program at katy.harvey@ecy.wa.gov for more information about safely handling dangerous wastes and demolition debris.

Solid Waste Management: Derek Rockett (360) 995-3176
All grading and filling of land must utilize only clean fill. All other materials may be considered solid waste and permit approval may be required from your local jurisdictional health department prior to filling. All removed debris resulting from this project must be disposed of at an approved site. Contact the local jurisdictional health department or Department of Ecology for proper management of these materials.

Permit for Construction Stormwater: A permit from the Department of Ecology (DOE) is required for any land disturbing activities such as clearing, grading, excavating, stockpiling of fill material, and/or demolition that:

- Disturbs one or more acres of land.; OR
- Are part of a common plan of development or sale that will ultimately disturb one or more acres of land. A common plan of development or sale is an area where multiple, separate, and distinct construction activities may be taking place on different schedules under one plan. In a common plan of development, the disturbed area of the entire plan is used to determine if a permit is required.; AND
- Discharge stormwater from the site into surface water(s) of the state or into storm drainage systems, including ditches, which discharge to state surface waters. Surface waters of the state: Include wetlands, ditches, rivers, unnamed creeks, rivers, lakes, estuaries, and salt water.

The applicant shall Contact the DOE for further information.
https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

G-3 Building and Fire Safety - Building and fire, life, and safety requirements must be addressed through specific approvals and permits. This decision may reference general and specific items related to structures and fire, life, and safety conditions, but they are

only for reference in regard to land use conditions. It is the responsibility of the owner, agent, tenant, or applicant to ensure that Building Safety and Fire Marshal requirements are in compliance or brought into compliance. Land use decisions do not waive any building or fire code requirements *(See Fire Protection Finding 1).*

G-4 **Future Gate(s) -** While no gates are shown on the proposed plan, no gate may be installed across a required fire department access road or driveway without first obtaining and testing of the gate will be required. Split gates with a divided entry and exit side will need 15 feet on either side for a total gate width of 30 feet *(See Fire Protection Finding 6).*

G-5 **Flood Plain Hazard Area –** Any disturbance in the mapped Special Flood Hazard Area associated with Whipple Creek shall be addressed for compliance with CCC 40.420 *(See Flood Hazard Finding 2).*

G-6 **Median and Channelization -** The applicant shall note that with the future scheduled capital project roadway improvements between NE 15th Avenue and NE 26th Avenue on NE 179th Street will restrict the site access intersection to right/in right/out turning movements only *(See Transportation Concurrency Finding 4).*

G-7 **Mitigation Maintenance and Monitoring Plan -** The applicant (or successor in ownership) shall implement the approved mitigation maintenance and monitoring plan and submit performance reports to the County for periodic inspection and approval as specified. The applicant shall maintain the performance standard of 90% survival after year one, 80% survival at year two, 75% plant survival at year three, and at least 30% native woody plant cover by year five. Any areas not meeting this standard shall be replanted, with maintenance and monitoring continuing until the standard has been met. Invasive species, including Armenian blackberry and English ivy, shall be <20% within the mitigation areas. Adaptive management using alternate species may be used in consultation with County Habitat/Wetland Review staff. Volunteer growth may count towards the final numbers required. Monitoring review fees will be required.

H	**Post Development Requirements** **Review and Approval Authority: As specified below**

H-1 **Fire Marshal Requirements -**

a. A three (3) –foot clear spaces shall be maintained around the circumference of all fire hydrants *(See Fire Protection Finding 3).*

b. Access roads shall maintain an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet with an all-weather driving surface capable of supporting the imposed loads of fire apparatus *(See Fire Protection Finding 4).*

c. Parking is prohibited on access roads that are less than twenty-four (24) feet wide. "NO PARKING – FIRE LANE" signs shall be maintained *(See Fire Protection Finding 5).*

H-2 Landscape Maintenance - Maintenance of landscaped areas is the ongoing responsibility of the property owner. Required landscaping must be continuously maintained in a healthy manner. Plants that die must be replaced with in-kind materials unless otherwise authorized by the responsible official. Vegetation shall be controlled by pruning, trimming or otherwise so that it will not interfere with the maintenance or repair of any public utility, restrict pedestrian or vehicular access, or obstruct sight distance at intersections as provided in Section 40.320.020 *(See Land Use Finding 6).*

Note: Any additional information submitted by the applicant within fourteen (14) calendar days prior to or after issuance of this report, may not be considered due to time constraints. In order for such additional information to be considered, the applicant may be required to request a "hearing extension" or "open record" and shall pay the associated fee.

Hearing Examiner Decision and Appeal Process

This report to the Hearing Examiner is a recommendation from the Land Use Review program of Clark County, Washington.

The examiner may adopt, modify or reject this recommendation. The examiner will render a decision within 14 calendar days of closing the public hearing. Clark County will mail a copy of the decision to the applicant and neighborhood association within 7 days of receipt from the Hearing Examiner. All parties of record will receive a notice of the final decision within 7 days of receipt from the Hearing Examiner.

Motion for Reconsideration

Any party of record to the proceeding before the Hearing Examiner may file with the responsible official a motion for reconsideration of an examiner's decision within fourteen (14) calendar days of written notice of the decision. A party of record includes the applicant and those individuals who signed the sign-in sheet or presented oral testimony at the public hearing, and/or submitted written testimony prior to or at the Public Hearing on this matter.

The motion must be accompanied by the applicable fee and identify the specific authority within the Clark County Code or other applicable laws, and/or specific evidence, in support of reconsideration. A motion may be granted for any one of the following causes that materially affects their rights of the moving party:

- Procedural irregularity or error, clarification, or scrivener's error, for which no fee will be charged;
- Newly discovered evidence, which the moving party could not with reasonable diligence have timely discovered and produced for consideration by the examiners;
- The decision is not supported by substantial evidence in the record; or,
- The decision is contrary to law.

Any party of record may file a written response to the motion if filed within fourteen (14) calendar days of filing a motion for reconsideration.

The examiner will issue a decision on the motion for reconsideration within twenty-eight (28) calendar days of filing of a motion for reconsideration.

Appeal Rights

Any party of record to the proceeding before the hearings examiner may appeal any aspect of the Hearing Examiner's decision, except the SEPA determination (i.e., procedural issues), to the Superior Court.

See the *Appeals* handout for more information and fees.

Attachments

- Preliminary Narrow Lot Site Plan *(comprised of Narrow Lot Site Plan – South [Exhibit 1 Tab 9] and a revised Narrow Lot Site Plan -North [Exhibit 20])*

Three Creeks East Subdivision

Located in the SW¼ of Section 11, T3N, R1E, W.M.
Clark County, Washington

LAND USE:
The applicant is proposing to develop the site with 200 single-family detached homes within the OR-22 and R-12 zone in two Phases. The subdivision is also proposed as a Planned Unit Development (PUD) and is subject to the narrow lot development standards and the zero lot line development standards.

Proposed Setbacks:
Front = 10' (18' garage)
Side Street = 10'
Side = 4' (6' between buildings), 5' to property boundary
Side for Zero Lot Line Homes: 0' / 6' (6' between buildings)
Rear = 5'

A site plan is required that demonstrates that utilities, driveways, street trees, and other features have been located and designed to minimize conflicts with one another. This Narrow lot plan shows the required features and demonstrates that conflicts have been minimized.

Narrow lot developments must provide a guest parking space for every three narrow lots. In total 67 spaces are required. These parking spaces are allowed to be located on local access streets. 73 on-street parking spaces are provided throughout the development and are shown on this plan.

See the landscape plan sheet L1 for details on the location, species, and size of street trees, including the mature heights and crown widths.

Solid waste and recycling will be picked up on the street for all lots. Lots 78-79, 100-105, 171-172, 176-177, and 199-200 are located on shared driveways, and solid waste and recycling pickup locations for these lots are shown on the nearest public road.

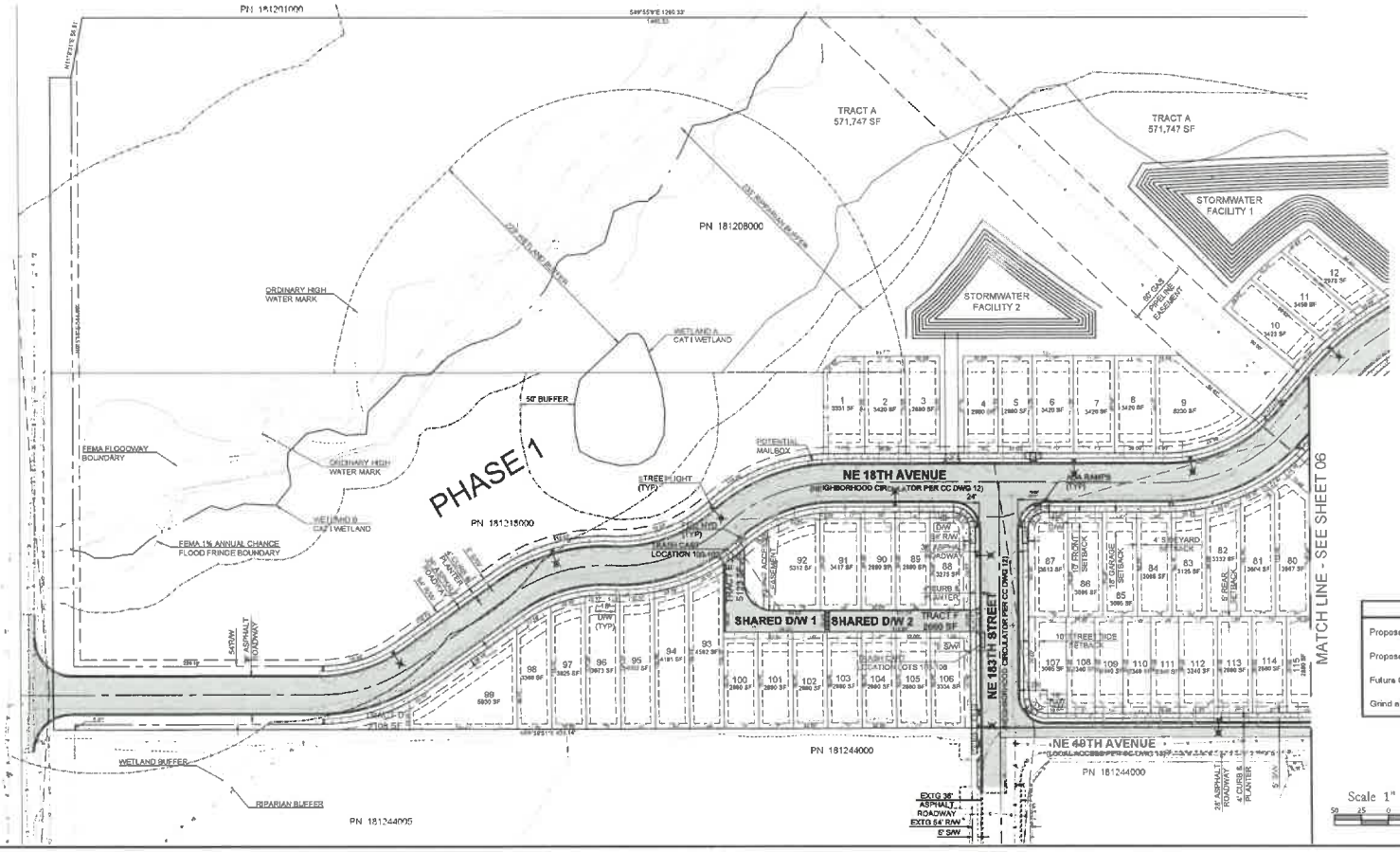
ADA ramps will have 5' landings per Clark County details. Length of ramp runs is unknown and will be determined during final engineering.

SYMBOL	BOTANICAL / COMMON NAME	SIZE	QUANTITY
STREET TREES			
	ACER BIRMINGHAM 'EMERALD QUEEN' NORWAY MAPLE	2" cal. B&B 10' HT. min.	54
	ACER GRANDIDENTATUM 'BONNIE' BIGTOOTH MAPLE	2" cal. B&B 10' HT. min.	89
	ACER RUBRUM 'ARMSTRONG' ARMSTRONG MAPLE	1 1/2" cal. B&B 8' HT. min.	24
	CARPINUS BETULUS 'FASTIGIATA' FASTIGIATE EUROPEAN HORNBEAM	2" cal. B&B 10' HT. min.	29
	CARPINUS CAROLINIANA 'JFS-KW1' NATIVE FLAME AMERICAN HORNBEAM	1 1/2" cal. B&B 8' HT. min.	31
	PARROTIA PERSICA 'PERSIAN SPIRE' PERSIAN SPIRE PARROTIA	2" cal. B&B 10' HT. min.	89
	PARROTIA PERSICA 'VANESSA' VANESSA PERSIAN PARROTIA	2" cal. B&B 10' HT. min.	94
	TILIA CORDATA 'GREENSPIRE' LITTLE LEAF LINDEN	2" cal. B&B 10' HT. min.	6
	ZELKOVA SERRATA 'MUSASHINO' MUSASHINO ZELKOVA	1 1/2" cal. B&B 8' HT. min.	54
	ZELKOVA SERRATA 'JFS-KW1' CITY SPIRE ZELKOVA	2" cal. B&B 10' HT. min.	43
GROUNDCOVER			
	RIVER ROCK OR BARK PER OWNER ADJUST AS NEEDED PER FINAL DRIVEWAY PLAN		
	LANDSCAPE PER OWNER		
	STORMWATER PLANTING, REFER TO CIVIL PLANS		

STREET TREE LOCATIONS PER FINAL DRIVEWAY PLAN



VICINITY MAP
NOT TO SCALE



Legend	
Proposed Asphalt Concrete	
Proposed Cement Concrete	
Future Cement Concrete	
Grind and Overlay	

Scale 1" = 50'

811 Know what's below. Call before you dig.

APPLICANT:
Ginn Group LLC
502 NE 72nd Street
Vancouver, WA 98685
(360) 768-5025
chad@ginngrp.com

OWNER:
Ginn Group LLC
502 NE 72nd Street
Vancouver, WA 98685

Terrence Wellner, Trustee
23 Westridge Drive
Lake Oswego, OR 97305

Mary Ann Moberly, Trustee
419 NW 209th Street
Ridgefield, WA 98642

CONTACT:
PLS Engineering
Jayson Taylor, PE
604 W Evergreen Blvd
Vancouver, WA 98660
(360) 944-8519
pm@plsengineering.com

SITE INFO:
Site Address:
1804 NE 179th Street
Ridgefield, Washington

Parcel #'s: 181216000, 181206000, 181209005, 181253000

Total Area:
181216000 - 9.75 Acres (424,710 sqft)
181206000 - 9.72 Acres (423,333 sqft)
181253000 - 14.90 Acres (649,367 sqft)
181209005 - 4.97 Acres (216,898 sqft)

39.34 Acres
1,713,850 SQFT

PLS ENGINEERING

Narrow Lot Site Plan South Port:

Three Creeks East Subdivision

A Subdivision Located in Clark County, Washington

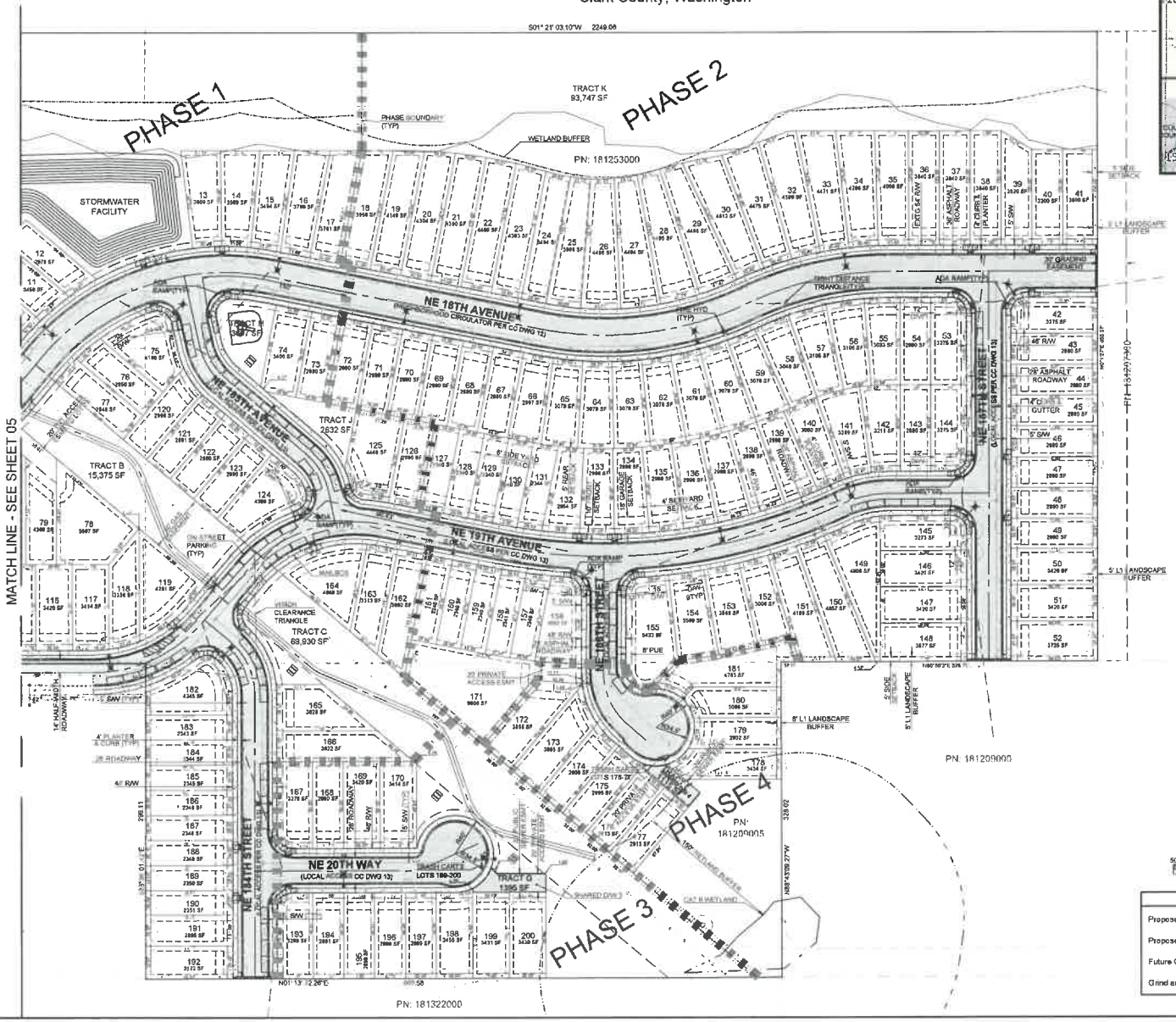
Revisions						
	DATE	MM				
1	2/15/2023	Preliminary Submittal				
2						
3						
4						
5						
6						

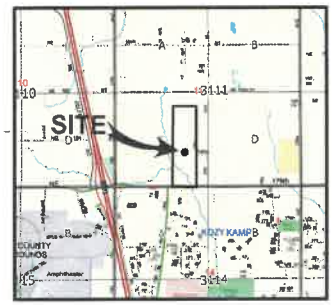
Project No. 1515
SCALE: H: 1" = 50'
V: N/A
DESIGNED BY: MAG
DRAFTED BY: MAG
REVIEWED BY: TGJ

05
07

Three Creeks East Subdivision

Located in the SW ¼ of Section 11, T3N, R1E, W.M.
Clark County, Washington





Scale 1" = 50'

Legend

- Proposed Asphalt Concrete
- Proposed Cement Concrete
- Future Cement Concrete
- Grind and Overlay

Exhibit 20

811 Know what's below. Call before you dig.

APPLICANT:
Ginn Group LLC
502 NE 72nd Street
Vancouver, WA 98665
(360) 798-5025
chad@ginngrp.com

OWNER:
Ginn Group LLC
502 NE 72nd Street
Vancouver, WA 98665

Terrance Wellner, Trustee
23 Westridge Drive
Lake Oswego, OR 97305

Mary Ann Moberly, Trustee
419 NW 209th Street
Ridgefield, WA 98642

CONTACT:
PLS Engineering
Jayson Taylor, PE
604 W Evergreen Blvd
Vancouver, WA 98660
(360) 944-6519
pm@plsengineering.com

SITE INFO:
Site Address:
1804 NE 179th Street
Ridgefield, Washington

Parcel #'s: 181218000, 181208000, 181209005, 181253000

Total Area:
181218000 - 9.75 Acres (424,710 sqft)
181208000 - 9.72 Acres (423,333 sqft)
181253000 - 14.90 Acres (648,867 sqft)
181209005 - 4.87 Acres (216,696 sqft)

39.34 Acres
1,713,650 SQFT

Narrow Lot Site Plan North For:

Three Creeks East Subdivision

A Subdivision Located In Clark County, Washington

PLS ENGINEERING

Revisions	MAG
1: JULY 2025	Preliminary Submittal

Project No. 1855	
SCALE:	H: 1" = 50' V: N/A
DESIGNED BY:	MAG
DRAFTED BY:	MJB
REVIEWED BY:	TGT

06

07

Type III Land Division and Environmental Review Staff Report and Recommendation

Project Name:	**Four Creeks North Subdivision**
Case Number:	**PLD-2025-00040; WHR-2025-00149**
Location:	18320 NE 29th Avenue, Ridgefield, WA.
Parcel Number:	181225000, 181291000
Request:	The applicant is proposing a 39-lot subdivision on 4.79 acres in the R-12 zone and utilizing the Narrow Lot Development, Special Uses and Standards.
Owners:	Chi-Shih Wu 18500 SE 35th Street Vancouver, WA 98683
Applicant:	Ginn Group, LLC Chad Stewart 502 NE 72nd Street Vancouver, WA 98665 360.768-5025 chad@ginngrp.com
Contact:	PLS Engineering Jayson Taylor, PE 604 W. Evergreen Boulevard Vancouver, WA 98660 360.944.6519 pm@plsengineering.com

Recommendation
Approved with conditions

Land Use Review Manager's Initials: RD **Date issued: December 24, 2025**
Public Hearing date: January 8, 2026

Community Development
1300 Franklin Street, Vancouver, Washington
Phone: (360) 397-2375 Fax: (360) 397-2011
www.clark.wa.gov/development

For an alternate format, contact the Clark County ADA Compliance Office.
Phone: (360)397-2322
Relay: 711 or (800) 833-6384
E-mail: ADA@clark.wa.gov

County Review Staff

Department/Program	Name	Phone	Email Address
Community Development			
Land Use Review Manager	Brent Davis	564.397.4152	brent.davis@clark.wa.gov
Land Use Review Planner	Wendy Baird	564.397.4499	wendy.baird@clark.wa.gov
Fire Marshal's Office	Jason Knoble	564.397.3318	jason.knoble@clark.wa.gov
Engineering Manager	Naomi Patibandla	564.397.4630	naomi.patibandla@clark.wa.gov
Engineer	Michelle Dawson, P.E.	564.397.4568	michelle.dawson@clark.wa.gov
Concurrency Engineer	Craig Kathol, E.I.T	564.397.4347	craig.kathol@clark.wa.gov
Environmental Review	Lance Watt	564.397.5601	lance.watt@clark.wa.gov

Comp Plan Designation: Urban Medium Density Residential (UM)

Applicable Laws

Clark County Code:
Title 14 (Building Safety)
Title 15 (Fire Prevention)
40.200 (General Provisions)
40.220.020 (Residential & Office Residential Districts)
40.260.155 (Narrow Lot Development Standards)
40.310 (Signs)
40.320 (Landscaping)
40.330 (Crime Prevention and Safety)
40.340 (Parking and Loading)
40.350 (Transportation & Circulation)
40.350.015 (Pedestrian Bicycle Circulation Standards)
40.350.020 (Transportation Concurrency)
40.360 (Solid Waste and Recycling)
40.370 (Sewer and Water)
40.386 (Storm Water & Erosion Control)
40.440 (Habitat Conservation
40.450 (Wetland Protection)
40.500 and 40.510 (Procedures)
40.520.010 (Legal Lot Determination
40.520.040 (Site Plan Review)
40.520.020 (Review & Approval
40.540 (Boundary Line Adjustments & Land Divisions)
40.550.010 (Road Modifications)
40.550.020 (Variances)
40.570 (SEPA)
40.570.080 (SEPA Archaeological)
40.610 (Impact Fees)
Title 24 (Public Health)
RCW 58.17, and the Clark County Comprehensive Plan.

Neighborhood Association

Four Creeks Neighborhood Association
Andrew Cecka, President

Vesting

An application is reviewed against the subdivision, zoning, transportation, stormwater and other land development codes in effect at the time a fully complete application for preliminary approval is submitted. If a pre-application conference is required, the application shall earlier contingently vest on the date the fully complete pre-application is filed. Contingent vesting requires that a fully complete application for substantially the same proposal is filed within 180 calendar days of the date the county issues its pre-application conference report. Contingent vesting does not apply to stormwater or concurrency standards.

A pre-application conference on this matter was held on January 9, 2025. This pre-application conference application was sufficiently complete to qualify for contingent vesting pursuant to CCC 40.510.020(G) or 030(G) as applicable, as of December 12, 2024, the date the fully complete pre-application was submitted.

The application was determined Fully Complete on July 14, 2025, and all fully complete application submittals items were received within the required 180 days from issuance of the Pre-Application Conference Report. Therefore, the application is vested on December 12, 2024. There are no disputes regarding vesting.

Time Limits
The application was determined to be fully complete on July 14, 2025. The application was placed on hold for 78 days. Therefore, the code requirement for issuing a decision within 92 days lapses on December 31, 2025. The state requirement or issuing a decision within 120 calendar days, lapses on January 28, 2026.

Public Notice
Notice of application, public hearing, and likely SEPA determination was mailed to the applicant, Four Creeks Neighborhood Association and property owners within 700 feet of the site on July 23, 2025. (See Exhibit 4) A revised notice of hearing date was mailed to the applicant, Four Creeks Neighborhood Association and property owners with 700 feet of the site on December 22, 2025. (See Exhibit 30) One sign was posted on the subject property on August 26, 2026. (See Exhibit 14)

Public Comments
Staff received comments from the following agencies.

Department of Archaeology – Historic Preservation (DAHP), Exhibit 8 received August 5, 2025

- A portion of the project location is in an area marked "Very High Risk" for encountering archaeology by our Archaeological Risk Assessment model, we concur with the recommendation proposed in the predetermination survey report that an Inadvertent Discovery Plan (IDP) be created and kept on site.

Washington State Department of Ecology, Exhibit 9, received August 6, 2025.

- Hazardous Waste & Toxics Reduction: Garret Peck
  Demolition permits are required for the existing structure(s). Please review the "Dangerous Waste Rules for Demolition, Construction, and Renovation Wastes," posted at Ecology's website, https://ecology.wa.gov/Regulations- Permits/Guidance-technical-assistance/Dangerous-waste-guidance/Common-dangerous- waste/Construction-and-demolition.

- Solid Waste Management: Derek Rockett
  All grading and filling of land must utilize only clean fill. All other materials may be considered solid waste and permit approval may be required from your local jurisdictional health department prior to filling. All removed debris resulting from this project must be disposed of at an approved site. Contact the local jurisdictional health department or Department of Ecology for proper management of these materials.

Staff's Response
Staff's response regarding public comments are included throughout the findings below.

Project Overview
This 4.79-acre development consists of two (2) parcels and includes one (1) single family residence constructed in 1976 (Clark County Building File #11076) and several outbuildings, all of the existing structures are proposed to be removed with this development. Access to the development will be from NE 29th Avenue located on the east of the site. In addition, the site to the south has obtained preliminary approval (PLD-2022-00072 NE 29th Avenue Subdivision), the applicants plan indicates a connection of interior roads between the two proposals (NE 27th Avenue, NE 28th Avenue and NE 183rd Street) and provide a secondary access to NE 29th Avenue through the existing preliminary approval.

The applicant is proposing 39 lots for single-family detached dwellings.

The subject site is generally flat with a slight slope from the northeast corner to the southwest corner with an elevation change of ten (10) feet. The site is designated as a moderate-high archaeological probability site and is mapped as an archaeological site buffer. The site to the west indicates Category II slopes wetland with a habitat score of eight (8) points which is also associated with the Type N stream. These parcels contain Deciduous trees, Evergreens trees, and pastureland.

The subject sites are serviced by Clark-Cowlitz Fire Rescue, Battle Ground School District, Clark Regional Wastewater sewer systems, and Clark Public Utilities water systems.

The application includes a Technical Road Modification Request, Type II Variance, State Environmental Policy Act (SEPA) checklist, and Wetland & Habitat permits.

Comprehensive Plan, Zoning and Current Land Use

Compass	Comp Plan	Zoning	Current Land Use
Site	Urban Medium	R-12	Single Family Residence
North	Urban Medium	R-12	Single Family Residence
East	Urban Low	R1-10	Single Family Residences
South	Urban Low	R1-6	Single Family Residences
West	Urban Medium	R-12	Single Family Residences

Staff Analysis
Staff first analyzed the proposal in light of the 16 topics from the Environmental Checklist (see list below). The purpose of this analysis was to identify any potential adverse environmental impacts that may occur without the benefit of protection found within existing ordinances.

1. Earth
2. Air
3. Water
4. Plants
5. Animals
6. Energy and Natural Resources
9. Housing
10. Aesthetics
11. Light and Glare
12. Recreation
13. Historic and Cultural Preservation
14. Transportation

7. Environmental Health
8. Land and Shoreline Use
15. Public Services
16. Utilities

Staff then reviewed the proposal for compliance with applicable code criteria and standards in order to determine whether all potential impacts could be mitigated by the requirements of the code. Staff's analysis also reflects review of agency and public comments received during the comment period, and knowledge gained through a site visit.

Major Issues
Only the major issues, errors in the development proposal, and/or justification for any conditions of approval are discussed below. Staff finds that all other aspects of this proposal not discussed below comply with the applicable code requirements.

Land Use
Finding 1 - Purpose/ Uses
Pursuant to CCC 40.220.020.A.1; The R-12 district is intended to provide for medium and higher density residential development.

Per Table 40.220.020-1.(1)r; Single-family detached dwelling units, are permitted with Review and Approval 40.520.020 and Special Standards 40.260.155 (Narrow Lot Development Standards). All lots within this development are subject to the Narrow Lot Development Standards.

See Review: Variance (Land Use Finding 3, Narrow Lot Development Standards (Land Use Finding 4), and Review and Approval (Land Use Finding 5)

Finding 2 - Development Standards
New lots and structures and additions to structures subject to this section shall comply with the applicable standards for minimum and maximum density, lots, building height, setbacks and building separation in Tables 40.220.020-5.

Pursuant to 40.220.020.C.3, the development of single-family detached lots where permitted in these zones shall require setbacks to be shown on the final plat and are also subject to the narrow lot standards in Section 40.260.155.

(See Conditions A-1.a & D-1.a)

New single-family detached lots and structures subject to this chapter shall comply with the applicable standards for lots, building height and setbacks in Tables 40.220.020-5, subject to the provisions of Chapter 40.200 and Section 40.550.020.

Table 40.220.020-5 Single-Family Detached Lot Standards		Proposed
Subject	R-12	
Min. to Max. Residential Density (d.u./acre)	8-12	39
Minimum lot area (sq. ft.)	2,800 square feet	Smallest lot 2,720 sf See variance below
Minimum lot width (feet) note 1	35'	Smallest lot 32' See variance below

Minimum lot depth (feet)	50'	Smallest lot 83'
Maximum building height for dwelling (feet)	35'	Reviewed at building permit
Front setback for dwelling (feet)	10'	10'
Front setback to garage door (feet)	18'	18'
Street side setback (feet)	10'	10'
Side setback (feet)	8' minimum building separation between units within the development; otherwise, 5 feet to the site's perimeter.	8' between buildings, 3-5' perimeter
Rear setback (with no alley) (feet)	8' minimum building separation between units within the development; otherwise, 5 feet to the site's perimeter.	8' between buildings, 5' perimeter
Maximum lot coverage	50%	To be reviewed at time of building review

1 - Applies to interior lots only – widths of corner lots shall be dependent upon the applicable narrow lot standards in Section 40.260.155.C.2.

Table 40.220.020-5 prescribes a residential density range single-family detached lots in the R-12 zone between 8-12 dwelling units per acre. Pursuant to 40.220.020.C.6.c, minimum densities shall be based on the developable area of the lot that remains after subtracting:

1. Land devoted to public or private roads or alleys, common parking areas and required sight distance triangles required for narrow lots under Section 40.260.155, public parks and trails, required landscaping and drainageways;
2. Land designated by covenant or public dedication to be permanently maintained in an undeveloped state because the land is identified as sensitive due to the presence of steep slopes, unstable land, historical or archaeological sites, wetlands and buffers, or other permanent physical development limitations as may be determined by the responsible official. All other lands shall be considered in the calculation of minimum density or floor area ratio including required setbacks, private recreation or common areas.

Per the applicant's narrative (Exhibit 1, Tab 6) and preliminary survey [Exhibit 1, Tab 19] indicates the site is 4.79 acres, right-of-way dedication is 1.24 acres and Tract A (storm & critical areas) is 0.83 acres for a net area of 2.72 acres.

With 2.72 net acres (x) times the minimum units of 8 equals 21.76 units.

Pursuant to 40.220.020.C.6.d, maximum density shall be calculated based upon the gross area of the site, excluding public right-of-way or street easements.

As indicated above, the site is 4.79 acres and right-of-way dedication is 1.24 acres with a net area of 3.55 acres.

With 3.55 acres (x) times the maximum units of 12 equals 42.6 units. The allowed units within the R-12 zone is between 21 and 42 units, the applicant proposes 39 single-family detached homes, meeting this standard.

Pursuant to 40.220.020.C.9, a minimum of twenty percent (20%) of the site shall be landscaped to an L1 standard's as described in Section 40.320.010. Additional setbacks and/or landscape requirements may apply, particularly adjoining residential uses or zones pursuant to Section 40.520.040 and Chapter 40.320.

The applicants landscape plan (Exhibit 1, Tab 9) indicates 25% of the site will be landscaped with a minimum of L1 standards. A separate landscape plan meeting these requirements shall be submitted with the final construction plans. In order to ensure that the landscape has been installed in conformance with the approved landscape plan(s) the applicant shall submit a copy of the approved landscape plan(s) with a letter signed and stamped by a landscape architect licensed in the state of Washington certifying that the landscape and irrigation (if any) have been installed in accordance with the attached approved plan(s) and verifying that any plant substitutions are comparable to the approved plantings and suitable for the site. Any substituted plants shall be no smaller than those shown on the approved plan(s) and shall have similar characteristics in terms of height, drought tolerance and suitability for screening. (See Conditions A-1.b, & D-1.b.1)

Finding 3 - Variance - **(40.550.020) Type II**
The responsible official may grant a variance to numerical standards including but not limited to: setbacks, buffers, building height, landscaping, width, lot area, lot coverage, lot dimensions and parking standards but not including qualifying standards for programs such as density transfer as provided in this title. Variances for lot area will occur only on parcels within urban growth boundaries.

Applicants Variance Proposal: [Narrative Exhibit 1, Tab 6, Preliminary Plan Exhibit 19]
The applicant is requesting two (2) variances. A three (3)% lot area on multiple lots and a nine (9)% width variance on multiple lots to 32' from 35'. The applicant indicates "*these variances are requested to allow for the efficient development of the site with a slightly smaller minimum lot area and a reduced lot width. The lot width reduction will allow for the site to be developed close to the minimum allowed lot area, with a deeper lot depth than is required. The original parcel size dictates providing an 85' deep lot rather than a 50' deep lot.*

Without the proposed variances the development would provide lots of approximately 3,000 square feet in size. This would result in a reduction of 10% of the onsite density. The additional density provided through these variances provides additional housing in a market that currently has affordability challenges."

Pursuant to CCC 40.550.020.A.4 - The responsible official shall approve an administrative variance(s) if, based on substantial evidence in the record, the applicant has sustained the burden of proving the variance(s) complies with all of the following:

a. Granting the variance(s) will not substantially detract from the livability or appearance of a residential area or from the desired character of a nonresidential area, or the variance(s) will

substantially enhance the livability or appearance of a residential area or the desired character of a nonresidential area, such as by preserving or protecting significant natural, scenic, historic, cultural, open space or energy resources; and

Applicants Response:
The requested variances are very small and will not be visually noticeable. The proposed layout provides a 35,876 sf (0.82 acres) tract to provide a storm facility and protect a wetland and buffer. By providing slightly narrower and smaller lots the applicant is able to protect onsite critical areas and meet density requirements for the site.

The average lot size for the development is 3,033 sf which demonstrates that the applicant is not gaining a higher density development with the proposed variances but is simply requesting minor flexibility of the lot standards in the development of this site in order to meet future house dimension desires.

Staff Analysis: The minimum lot area required per Table 40.220.020-5 is 2,800 square feet; the applicant's proposal includes fourteen (14) lots that provide 2,720 square feet in lot area. The proposal reduces 14 of the proposed 39 lots by 80 square feet. The minimum lot width required per Table 40.220.020-5, is 35 feet, the applicant is proposing a 9% variance for 31 of the 39 lots. Staff agree with the applicant, the 3% variance for lot area and 9% variance in lot width does not increase the number of lots allowed per density and the proposal does not substantially detract from the livability or appearance of the proposed and existing surrounding residential areas.

b. If variances to more than one (1) regulation are being requested, the cumulative effect of the variances shall be consistent with the purpose of the zone in which the site is situated; and

Applicants Response : Two variances are requested. The cumulative effects of the variances are consistent with the purpose of the zone, "The residential (R-12, R-18, R-22, R-30 and R-43) districts are intended to provide for medium and higher density residential development based upon consistency with the comprehensive plan and compatibility with surrounding land uses." Surrounding land uses include a parcel to the south that is developing as a residential subdivision and larger lots that could further develop in a similar manner.

Staff Analysis: The applicant submitted a Type II Variance, the cumulative effect of the proposed variance is consistent with the R-12 zone.

c. Adverse impacts resulting from the variance(s) are mitigated to the extent practical; and

Applicants Response: There are no adverse impacts that will arise from the proposed variances. The variances do not substantially impair or impede the availability or safety of access that would otherwise exist for vehicles or for pedestrians, or alternative access is provided.

Staff Analysis: The applicant's proposal does include any adverse impacts to the surrounding residential lands.

d. The variance(s) does not substantially impair or impede the availability or safety of access that would otherwise exist for vehicles or for pedestrians, or alternative access is provided.

Applicant Response: The proposed variances do not affect the safety of access for pedestrians or vehicles in any way.

Staff Analysis: The proposed development is designed to mitigate safe access for vehicles and pedestrians.

The applicant's proposal meets the criteria as listed within CCC 40.550.020.a.4 for the proposed variance.

Finding 4 - Site Plan - **40.260.155 Narrow Lot Development Standards (numbering is by code section)**

A. Purpose

The purpose of this section is to guide development and alleviate conflicts that can arise from the platting of residential lots of less than forty (40) feet in width. These standards are intended to eliminate conflicts between the design and location of driveways with public and private utilities, on-street parking and other common features such as street trees, streetlights and signs, fire hydrants and common mailboxes, provide for guest parking. To ensure adequate access for solid waste and recycling collection vehicles; minimize the dominance of garages and to provide incentives for lots which utilize alleys for access.

C. Narrow Lot Development Standards.

1.a-i A site plan is required that demonstrates that utilities, driveways, street trees, and other features have been located and designed to minimize conflicts with one another. The site plan shall be submitted with the preliminary land division application and shall be incorporated into the final construction plan set.

The applicant shall incorporate a separate site plan into the final construction and final plan set. These final site plans shall show the requirements of CCC 40.260.155.C.1.a-i. (See Conditions A-1.c & D-1.c)

2.a-b Development on corner lots shall meet minimum sight distance requirement of Section 40.350.030.B.8 and corner lot driveways shall meet the requirements in Section 40.350.030.B.4.b.1.b.

Lots 9, 18, 19, 28 & 34 shall meet the minimum sight distance requirements. (See Transportation Finding 4 & 5)

3.b. Guest parking shall be provided at a minimum ratio of one (1) guest parking space for every three (3) narrow lots in the development. Such spaces may be located on-street (on local access streets only) or in common off-street parking areas.

At 39 residential units proposed, divided by 3, the project shall require thirteen (13) guest parking spaces. The applicant's narrative and plans indicate thirteen (13) on-street parallel parking spaces (11 spaces located on NE 27th Avenue (urban local

access) and 2 spaces located on NE 28th Avenue (urban local access)), therefore, meeting this criteria. A condition has been added to reflect the minimum guest parking standards. (See Condition A-1.d.1)

3.d. On-street parking shall meet the following:
(1) Single on-street parallel parking spaces between driveways shall be at least seventeen (17) feet in length, measured from the top of the slope of the driveway wing. Two (2) or more consecutive on-street parallel parking spaces shall require two (2) additional feet between each space.
(2) Angled or head in parking "bulb outs" may be provided on local access streets provided:
(a) Such parking shall be within the street right-of-way or street tract; and
(b) Backing over sidewalks is prohibited.

(3) On-street parking to meet the guest parking requirements of this section shall not require creation of a neighborhood parking plan under Section 40.340.030.

The applicant proposes on-street parallel parking spaces, and where there are two (2) or more consecutive parallel parking spaces, parallel parking spaces shall require two (2) additional feet between each space. The applicant has proposed two (2) additional feet between spaces. The applicant's narrow lot plan (Exhibit 1, Tab 9) provides thirteen (13) parallel parking spaces, that are 8x19 feet meeting this standard. A condition has been placed that requires each parallel parking space to be eight 8 feet wide and nineteen (19) feet in length. (See Condition A-1.d.2)

4. Street Trees.
a. Unless the requirements of Chapter 40.320 require a higher level of landscaping, a minimum of one (1) tree shall be provided along the street frontage of each narrow lot; provided, that sight distance triangles are not obstructed. Trees that are appropriate to the size of the space may be provided either within the street frontage right-of-way or on the lot. Street trees located in the right-of-way shall comply with the Standard Details Manual requirements. In the event that no feasible location exists along a lot's frontage due to required utilities or other features, the responsible official may approve grouping of trees or other landscaping options that provide variety to the streetscape.

The applicants landscape plan and narrow lot plan shows the location of one (1) tree, along the street frontage of the of each narrow lot and provides a minimum of 39 street trees. As a condition of approval, at time of Final Construction, the Landscape plan and narrow lot plan shall provide the indicated street trees. (See Condition A-1.e)

5. Solid Waste and Recycling Collection.
a. Where collection is not feasible on each lot, such as when lots are accessed by a shared driveway with no turnaround, a designated common collection point, located no further than one hundred fifty (150) feet from any lot it serves, shall be provided. Common collection points shall be shown on the site plan and sized to

provide at least two (2) feet of clearance space between individual garbage, yard debris, and recycling containers for each dwelling unit.

b. Designated collection points shall be located adjacent to streets, but shall not obstruct sidewalks, bike lanes, or vision clearance triangles.

The applicant's narrative indicates all lots, except lots 4-6 and 7-9 will have common collection points, will have curb side pick-up provided on their own lot. As a condition of approval, at time of Final Construction, the site plan shall provide the indicated common collections points. (See Condition A-1.f)

7. Shared Driveways
   a. Shared driveways may be used to provide access to a maximum of four (4) lots.
   b. Shared driveway approaches for two (2) abutting lots sharing one (1) curb cut shall meet the specifications in Figure 40.260.155-4 or 40.260.155-5.
   c. Shared driveways which provide access to more than two (2) lots shall be at least twelve (12) feet wide and shall be within an easement at least twenty (20) feet wide.

The applicant's narrative and plan set indicated and shows lots 4-6 and 7-9 will have access via shared driveways that are 16 feet in width and located within a 20-foot-wide access and utility easement; meeting this criteria.

8. Narrow Driveways. Where provided for a narrow lot, narrow driveways shall meet the following requirements:
   a. Narrow driveways shall be no wider than ten (10) feet measured at the driveway throat, unless the applicant demonstrates on the development plan that a wider driveway will not result in conflicts.
   b. Where possible, narrow driveways on adjoining lots shall be grouped in close proximity to create space along the frontage for parking, trees, utilities, etc.
   c. Narrow driveways are exempt from the minimum driveway width required in Section 40.350.030(B)(4)(b)(2).
   d. Garages accessed from narrow driveways shall be either single car-width and located no closer to the street than the front wall (not porch) of the residence or, if wider than a single car garage, set back at least five (5) feet from the front wall (not porch) of the residence.

Narrow driveways are optional; the applicant narrative and plan does not indicate the proposal includes narrow driveway standards.

9. Driveway Requirements in Single-Family Detached Developments. In order to provide flexibility in site design, driveway locations for non-corner lots in single-family detached developments are not required on the site plan, provided:

   a. Detached sidewalks that meet ADA requirements are provided; and

   b. Guest parking requirements for the development are shown to be met by one (1) or more of the following methods:

(1) Designated on-street parking areas that will not be subject to future driveway placement; or

(2) Provision of common off-street parking areas.

c. Driveway locations shall be shown for all corner lots, regardless of the other provisions of this subsection.

The applicants narrow lot plan (Exhibit 1, Tab 9) provides detached sidewalks with ADA ramps that include a four (4) foot planter strip between the back of the proposed sidewalk and property line. On-street guest parking does not appear to interfere with future driveway locations and all corner lot have a proposed driveway cut, therefore meeting this criteria.

Finding 5 - Uses Subject to Review & Approval (R/A) 40.520.020
Uses subject to review and approval (R/A) shall be reviewed through a Type II process; provided, that the responsible official, at his or her discretion, may refer any proposal to the hearing examiner for review and approval, or denial. Any uses approved under the provisions of this chapter, by either the responsible official or the hearing examiner in public hearing, shall be compatible with adopted county land use policies and goals.

C. Approval Criteria – General.

Except for the uses listed in Section 40.520.020(D), in approving a use, the responsible official shall first make a finding that all of the following conditions exist:

1. The site of the proposed use is adequate in size and shape to accommodate the proposed use;

   Applicant Response: The site is approximately 5 acres in size and can accommodate the proposed use.

   Staff Analysis: The proposed development is located within the R-12 zone and meets the development criteria and is listed within 40.220.020.

2. All setbacks, spaces, walls and fences, parking, loading, landscaping, and other features required by this title are provided;

   Applicant Response: The proposal complies with all setbacks, landscaping, parking and other required items, except where a variance has been requested.

   Staff Analysis: Staff agree with the applicants analysis.

3. The proposed use is compatible with neighborhood land use;

   Applicant Response: The site is located in an area that is just beginning to see development. The proposal for single-family detached homes is compatible with the zoning for the site. Adjacent parcels contain single-family homes on large lots with similar zoning that could further develop. The parcel directly south has plans to develop as a residential subdivision.

Staff Analysis: The land use designations abutting this size is zoned for single family residential uses (R1-6, R1-10) and residential and office residential district (R-12).

4. The site for the proposed use relates to streets and highways adequate in width and pavement type to carry the quantity and kind of traffic generated by the proposed use;

   Applicant Response: The area streets are all adequate in terms of width and pavement type to handle the traffic generated by this proposal. NW 29th Avenue is an existing Urban Minor Arterial with approximately 25'+ pavement. This street has been designed to handle up to 18,000 ADT. The proposed subdivision will generate an additional 358 average weekday trips.

   Staff Analysis: The applicants proposal meets the Transportation and Circulation and the Concurrency code as identified in this report.

5. The proposed use will have no substantial adverse effect on abutting property or the permitted use thereof; and

   Applicant Response: The project will not adversely affect adjacent properties. All impacts will be mitigated by complying with Clark County and Washington State development codes and by paying impact fees.

   Staff Analysis: Staff agrees with the applicants analysis.

6. In the case of residential uses, the housing density of the development is consistent with the existing zoning densities, or the general plan, and that all other aspects of the development are consistent with the public health, safety, and general welfare for the development and for adjacent properties.

   Applicant Response: The proposed density complies with Clark County development codes and the R-12 zone.

   Staff Analysis: The applicants' plan meets the density requirements based on the size of the lot and the R-12 zone.

   The applicants plans is compatible with adopted county land use policies and goals.

Finding 6 - Parking
According to Table 40.340.010-4 single-family detached dwellings shall provide two (2) parking spaces per unit. (See Narrow Lots for guest parking)

The applicant's narrative [Exhibit 1 Tab 6] indicates each lot will provide parking within a single car garage with an additional parking space within each driveway, meeting this standard.

Finding 7 - Existing Residence
Per Clark County GIS, the site contains an existing 1976 single-family residence (File Number 11076) and associated outbuildings. Per the applicant, the existing structures are proposed to be removed as part of this development.

These structures shall be removed prior to construction plan approval, complying with demolition permits from Clark County Building Divisions, Labor and Industries and state/federal permit requirements. (See Conditions B-5.a and E-1.a)

Finding 8 - Landscape

In accordance with Table 40.320.010-1 multifamily zones that abut single-family (R1-6 & R1-10) zones require a L2 10-foot buffer if the site is separated by a street and a L3 5-foot buffer is not separated by a street. Multifamily zones that abut multifamily zones require a L1 5-foot buffer if the site is separated by a street and a L1 5-foot buffer is not separated by a street.

The site is R-12 and is adjacent to single family residential zones to the east and south property lines and is separated by NE 29th Avenue to the east and multifamily residential zones to the north and west property lines. The applicants landscape plan (Exhibit 1, Tab 9) provides a L2 10-foot landscape buffer to the east, an L3 5-foot landscape buffer to the south, and a L1 5-foot landscape buffer to the north and west property lines; therefore, meeting the minimum requirements. A sperate landscape plan is required to be submitted with the Final Construction Plan. (See Condition A-1.g.1)

In accordance with 40.320.020.H, on all arterials and collectors in the urban area, (NE 29th Street is a Minor Arterial) the area between the back of sidewalk and the right-of-way and between the back of curb and sidewalk, as well as the area within all medians constructed within a public road, shall be landscaped with drought-resistant plants (See the Standard Details Manual). (See Conditions A-1.g.2, & B-5.b)

In accordance with 40.320.010.G.6, maintenance of landscaped areas is the ongoing responsibility of the property owner. Required landscaping must be continuously maintained in a healthy manner. Plants that die must be replaced with in-kind materials unless otherwise authorized by the responsible official. Vegetation shall be controlled by pruning, trimming or otherwise so that it will not interfere with the maintenance or repair of any public utility, restrict pedestrian or vehicular access, or obstruct sight distance at intersections. (See Condition H-1)

In order to ensure that the landscape has been installed in conformance with the approved landscape plan(s) the applicant shall submit a copy of the approved landscape plan(s) with a letter signed and stamped by a landscape architect licensed in the state of Washington certifying that the landscape and irrigation (if any) have been installed in accordance with the attached approved plan(s) and verifying that any plant substitutions are comparable to the approved plantings and suitable for the site. Any substituted plants shall be no smaller than those shown on the approved plan(s) and shall have similar characteristics in terms of height, drought tolerance and suitability for screening. (See Condition D-1.b.1)

Finding 9 - Crime and Safety Guidelines

Pursuant to CCC 40.330.010; to the extent practicable, all development subject to site plan review shall comply with building orientation and public use areas such as laundry facilities shall take into consideration tenant's ability to monitor other doorways as a safety

provision. Exterior area where mailboxes will be located shall be lighted and exterior lighting levels shall be selected and light fixtures shall be oriented towards areas vulnerable to crime.

> *The applicant states within the narrative that buildings are oriented such that doorways will be visible to neighbors and buildings across streets. Street and porch lights will provide visibility during evening hours to homes, mailboxes and driveways. Staff agrees this criterion is met.*

Finding 10 - Safe Walking Conditions
According to state platting laws (RCW 58.17.110) and 40.220.020.C.11 appropriate provisions shall be made to ensure safe walking conditions for students who only walk to and from school. The subject development is located within the Battle Ground School District, and specifically within the boundaries of Daybreak Elementary School, Daybreak Middle School and Prairie High School.

> *Pursuant to RCW 58.17.110, appropriate provisions shall be made to assure safe walking conditions for students who walk to and from school within one (1) development of any public school. This development is not located within a mile, and based on the school letter dated January 29, 2025, "all students residing at this location will be bussed."* (See Exhibit 1, Tab 20)

Finding 11 - County/State Platting Standards
With conditions of approval, staff finds the proposed subdivision will make appropriate provisions for the public health, safety and general welfare of the community. Connection to public water and sewer facilities, as well as treatment of any future stormwater runoff will be provided to protect groundwater supply and integrity. Impact fees will also be required to ensure that the development will contribute a proportionate share toward the costs of school, park and transportation facilities, maintenance and services.

Conclusion (Land Use)
Staff concludes that the proposed preliminary plan, subject to conditions, meets land use requirements of the Clark County Code.

Archaeology
Finding 1 - Applicability
The development site is located within a moderate-high to high probability area for the discovery of archaeological resources, as designated on the Archaeological Predictive Model Map of the Clark County. Also, because a SEPA was triggered, an Archaeological Predetermination was required.

Finding 2 - Pre-determination
The applicant has submitted an archaeological pre-determination to the Washington State Department of Archaeology and Historic Preservation (DAHP) prior to submittal of the application. [See Exhibit 1, Tab 21] DAHP was mailed the public notice along with a copy of the SEPA checklist and has provided comment (Exhibit 8). A portion of the project location is in an area marked "Very High Risk" for encountering archaeology by our Archaeological Risk Assessment model, we concur with the recommendation proposed in the predetermination survey report that an Inadvertent Discovery Plan (IDP) be created and kept on site. (See Condition A-2.a)

In addition, a note will be required on the final engineering plans and final plat that if resources are discovered during ground disturbance, work shall stop and both DAHP and the county shall be notified. (See Condition A-2.a) In addition, a same note shall be placed on the final plat. (See Conditions A-2.b and Plat Note D-5.i)

Conclusion (Archaeology)
Staff finds that the proposed preliminary plan, subject to conditions, meets archaeology requirements of the Clark County Code.

Engineering:

TRANSPORTATION & CIRCULATION:
Finding 1 - Pedestrian/Bicycle Circulation
Pedestrian circulation facilities in compliance with the Americans with Disabilities Act (ADA) and CCC 40.350.015 are required for this development. The proposal includes detached 5-foot sidewalks along all roads, and sufficient pavement width to accommodate bike lanes on NE 29th Avenue. (See Condition A-4.a)

Per the WSDOT design manual as adopted under CCC 40.350.030(C)(1)(b)(1) new construction projects shall provide curb ramps oriented in each direction of pedestrian travel within the width of the crosswalk it serves, and if receiving ramps do not exist, they shall be constructed as part of the new development. The applicant will need to show on final construction plans that pedestrian ramps will comply with the WSDOT Design Manual. (See Condition A-4.b)

Finding 2 - Road Circulation Plan
Cross-circulation is required by CCC 40.350.030(B)(2). The proposal includes extending stubbed roads from the south to the north and connecting to NE 29th Avenue this will meet the standards of block length and block perimeter in all directions except for to the west. The applicant has submitted a road modification narrative requesting relief form cross-circulation to the west. ***[See Finding 6 – Technical Road Modification: Request 2]***

Finding 3 - Roads
Road improvements and design are required to comply with CCC 40.350.030, CCC Table 40.350.030-2 and CCC Table 40.350.030-3.

NE 29th Avenue is classified as a Minor Arterial - 4 lanes w/CLT & bike lanes, half-width improvements are required per Standard Detail Drawing #3 and consist of 50 feet of right-of-way, 36 feet of roadway width, curb & gutter, and 5-foot detached sidewalks. The proposal includes frontage improvements consistent with the standard detail. (See Conditions A-4.c, A-4.d & D-2.a)

NE 184th Street is classified as an Urban Neighborhood Circulator, half-width improvements are required per Standard Detail Drawing #12 and consist of 27 feet of right-of-way, 18 feet of roadway width, curb & gutter, and 5-foot sidewalks. This road is a partial width road, all partial width roads shall have a minimum pavement width of 20 feet. The proposal includes partial width improvements complying with the standard detail and a minimum pavement width of 20 feet. (See Conditions A-4.e, A-4.f & D-2.b)

NE 27th Avenue, NE 28th Avenue and NE 183rd Street are classified as a Urban Local Access roads, full-width improvements are required per Standard Detail Drawing #13 and consist of 43 feet of right-of-way, 28 feet of roadway width, curb & gutter, and 5-foot sidewalks. The proposal includes frontage improvements consistent with the standard detail. (See Conditions A-4.g & D-2.c)

Where frontage improvements are required, the county will perform pavement deflection testing to determine the adequacy of the existing pavement. Where remaining life of the pavement is less than 5 years, the developer shall construct the roadway to current standards to the centerline or 22 feet, whichever is less. If remaining life is greater than 5 years, the road shall be cut back to a location where the structure is sound and the widening constructed. However, in no case shall the reconstruction be less than 4 feet in width from the existing edge of pavement to the new edge of pavement or face of curb. The county may require reconstruction to the centerline or 22 feet, whichever is less, if the review authority determines the geometrics or other existing features are inadequate. (See Condition A-4.h)

Parking is prohibited on any road less than 24 feet wide. Signing and Striping plans shall include appropriate measures on partial width roads. The applicant shall propose "No Parking" signs along both sides of the entire length of partial-width roads less than 24 feet in width. (See Condition A-4.i)

Finding 4 - Access Management
Per CCC 40.350.030(B)(4)(b)(1)(a), excepting the bulbs of cul-de-sacs, driveways serving single-family residential lots shall be located a minimum of 5 feet from an interior side property line or zero feet as a shared driveway approach. The applicant has submitted a road modification request for relief from the 5-foot property line setback. ***[See Finding 6 – Technical Road Modification: Request 1]*** The applicant's proposal includes shared driveways serving Lots 4-6 and Lots 7-9. Shared driveways can serve no more than 4 lots and must be a minimum of 12-feet wide and placed in a minimum of 20-foot-wide easement. (See Conditions A-4.j & D-2.d)

Per CCC 40.350.030(B)(4)(b)(1)(b), corner lot driveways (on local access roads) shall be a minimum of 40 feet from the projected curb line or edge of pavement, as measured to the nearest edge of the driveway, or in cases where lots less than 40 feet wide are allowed driveways shall be limited to 20 feet in width and located 5 feet from the property line farthest from the intersection. There are three corner lots, Lot 18, 19, and 34, within this subdivision and they are proposed to have 12-foot-wide driveways, 5 feet from the property line farthest from the intersection. The property line setback may be reduced per the technical road modification request. ***[See Finding 6 – Technical Road Modification: Request 1]*** (See Condition A-4.k)

Finding 5 - Sight Distance
The approval criteria for sight distances are found in CCC 40.350.030(B)(8). This section establishes minimum sight distances at intersections and driveways. Additional building setbacks may be required for corner lots in order to maintain adequate sight distance. The final engineering plans shall show sight distance triangles for driveways that are proposed to remain. Landscaping, trees, utility poles, and miscellaneous structures will not be allowed to

impede required sight distance requirements at all proposed driveway approaches and intersections.

The applicant has submitted a Traffic Study **[Exhibit 1, Tab 14]** prepared by Lancaster Mobley, dated April 18, 2025. This study has reported that the proposed new intersection onto NE 29th Avenue will meet the required intersection sight distance of 400 feet and stopping sight distance of 305 feet for a posted speed limit of 40 mph.

The applicant will need to submit final construction drawings for review and approval. These plans will need to show sight distance triangles at all roadway intersection. The plans will also need to show objects that are within the sight distance triangle. Notes on the plans shall indicate the vegetation within the sight distance triangle that needs to be maintained, trimmed, or removed. (See Conditions A-4.l & D-3)

Finding 6 - Technical Road Modifications
Applicant's Discussion
The applicant has submitted a technical road modification narrative **[Exhibit 1, Tab 14]** prepared by PLS Engineering, dated May 9, 2025, providing justification for the requests.

Staff's Evaluation and Recommendation
Staff recommends **Approval** for both road modification requests, subject to conditions. The Transportation Division Manager/ County Traffic Engineer has concurred with the staff's recommendations. **[See Exhibit 12]** (See Conditions A-4.m & A-4.n)

Conclusion (Transportation & Circulation):
Staff concludes that the proposed preliminary plan, subject to conditions, meets the transportation requirements of the Clark County Code.

STORMWATER & EROSION CONTROL:
Finding 7 - Stormwater Applicability
The provisions of Clark County Code Chapter 40.386, as amended by Ordinance No. 2021-06-02, shall apply to all new development, redevelopment, land disturbing activities and drainage projects consistent with the Clark County's NPDES Phase I Municipal Stormwater Permit and Clark County Stormwater Manual (2021). The project adds more than 5,000 square feet of new impervious surface; therefore, the applicant shall comply with Minimum Requirements 1 through 9. (See Condition A-6.a)

No new development shall be allowed to materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots. (See Condition A-6.b)

Finding 8 - Stormwater Proposal
The applicant provided a revised Preliminary Technical Information Report **[Exhibit 28]** prepared by PLS Engineering, dated December 18, 2025. Proposed site improvements include 39 single family residential lots, street improvements and associated improvements. This will result in 2.88 acres of proposed new hard surface.

On-site Stormwater Management (MR#5) will be met by utilizing the list method List #2 and selecting the first BMP for each hard surface that is feasible. Due to the small lots and

groundwater seepage found at 8.5 feet below ground surface [See Exhibit 1, Tab 10] all BMPs where deemed infeasible. The applicant shall implement BMP T5.13 Post Construction Soil Quality and Depth for all disturbed areas.

Runoff Treatment (MR#6) will be addressed with proprietary treatment catch basins that will meet the basic treatment requirement. The applicant will be required to submit documentation from the treatment manufacturer demonstrating that they have sited and sized the proprietary BMPs correctly. (See Conditions A-6.c & A-6.d)

Flow Control (MR#7) will be addressed with a Detention Pond (BMP D6.10) sized to detain and release stormwater to comply with the Standard Flow Control Requirement. (See Condition A-6.e)

Wetlands Protection (MR#8) is triggered as the site currently and will continue to discharge to an off-site Category II wetland. The applicants is providing quality and quantity control per MR #6 and MR #7 and the applicant has provided a model demonstrating compliance with Hydroperiod Protection: Method 2. The applicant shall submit final construction plans and TIR addressing the following levels of wetland protection: General Protection, Protection from Pollutants and Hydroperiod Protection: Method 2. (See Condition A-6.f)

The stormwater facilities located within the public right-of-way and public tracts shall be owned and maintained by the county. Stormwater facilities located on individual lots or private tracts shall be owned and maintained by the homeowners. (See Conditions A-6.g, A-6.h, D-4.d & E-5 and Plat Notes D-5.g & D-5.h)

Final construction plans shall show that all setbacks are met for proposed stormwater facilities. The project is proposing to include drainage pipes larger than 12 inches and is not exempt from MR #8, therefore, the applicant shall submit an off-site analysis with final engineering. (See Conditions A-6.i & A-6.j)

Conclusion (Stormwater & Erosion Control):

Staff conclude that the proposed preliminary stormwater plan, subject to conditions, is feasible. Therefore, the requirements of the preliminary plan review criteria are satisfied.

Transportation Concurrency

Finding 1 - Trip Generation

County concurrency staff has reviewed the proposed Four Creeks North Traffic Impact Study dated April 18, 2025, prepared by Lancaster Mobley. The traffic study submitted indicates that the proposed development will divide 5 acres into 39 single-family detached houses. The applicant's traffic study has estimated the net new a.m. peak hour trip generation at 27, the p.m. peak-hour trip generation at 36 trips and an average daily trip generation (ADT) of 358 trips. The trip generation was estimated using the nationally accepted data published by the *Institute of Transportation Engineers 11th Edition*. The proposed development site is located on parcels 181291000 and 181225000, 18320 NE 29th Avenue Ridgefield, WA.

The applicant has submitted a traffic study under the provisions of Clark County Code section 40.350.020 (D)(1).

Finding 2 - Site Access

Traffic conditions are usually expressed using a scale that quantifies the ability of a facility to meet the needs and expectations of the driver. This scale is graded from A to F and is referred to as level-of-service (LOS). A driver who experiences a LOS A condition would expect little delay. A driver who experiences a LOS E condition would expect significant delay, but the traffic facility would be just within its capacity to serve the needs of the driver. A driver who experiences a LOS F condition would expect significant delay with traffic demand exceeding the capacity of the facility with the result being growing queues of traffic.

Congestion, or concurrency, level of service (LOS) standards are not applicable to accesses that are not regionally significant; however, the LOS analysis provides information on the potential congestion and safety problems that may occur in the vicinity of the site.

The applicant's plan shows that the existing full movement driveway access location will be closed, and a full-movement public local residential access road will be constructed to intersect with NE 29th Avenue at the northern property line. This proposed local residential access road onto NE 29th Avenue will serve as a primary public road access to the subject site.

The applicant's plan also shows that the extension of an interior public local residential access road network will extend into the development from a previously approved subdivision to the south. This interior public road network will serve as the primary public road access for the proposed lots within the development.

The applicant's study evaluated the level of service and found that the proposed new full-movement public road intersection with NE 29th Avenue will have an estimated LOS A in the 2028 build-out horizon. The study also shows that the LOS was evaluated during the a.m. and p.m. peak hour traffic conditions. County Staff concurs with the traffic study findings.

Finding 3 - Clark County Concurrency

The proposed development is required to meet the standards established in CCC 40.350.020(G) for corridors and intersections of regional significance within 1 mile of the proposed development.

Signalized Intersections

Staff evaluated the operating levels and delay times for the regionally significant signalized intersections under Clark County jurisdiction. This analysis showed that individual movements during peak hour traffic conditions had approach delays that did not exceed the maximum 240 seconds, or 2 cycles, of delay in the build-out year.

Therefore, County Staff has determined that this development will comply with adopted Concurrency standards for signalized intersections.

Unsignalized Intersections

Staff evaluated the operating levels and delay times for the regionally significant unsignalized intersections under Clark County jurisdiction. This analysis showed operating levels and standard delay times with a LOS better than the minimum allowable LOS E.

The County has determined that this development can comply with adopted Concurrency Standards for unsignalized intersections.

Concurrency Corridors
Evaluation of the concurrency corridor capacity levels represented in the County Code yielded capacity at acceptable levels except for the NE 179th Street road segment between NE Delfel Road and Interstate 5; between Interstate 5 and NE 15th Avenue, and the NE 10th Avenue road segment between NE 189th Street and NE 179th Street, the NE 15th Avenue road segment between NE 179th Street and NE 174th Street in the buildout year.

The traffic study indicates that the above corridors will have a volume to capacity (v/c) ratio of greater than 0.9 in the 2028 buildout horizon.

Staff investigated the operations of these corridors to determine if there were mitigation measures warranted.

Staff reviewed the LOS and volumes reported at the NE 179th Street intersections used in the corridor evaluation and found that, in the 2028 buildout horizon, the signalized intersections at the Interstate 5 Northbound and Southbound ramps had approach delays that did not exceed the maximum delay. Staff also evaluated the signalized intersection at NE 179th Street and NE 15th Avenue and found the approach delays did not exceed the maximum delay in the AM or PM peak hours. Staff has determined, during the concurrency evaluation, that these intersections will comply with the adopted Concurrency standards for signalized intersections.

Since the signalized and unsignalized intersections bounding the corridor segments analyzed are anticipated to operate at levels that meet or exceed concurrency standards in the buildout horizon, staff believes that the reported v/c ratio over the NE 179th Street, NE 10th Avenue, and NE 15th Avenue corridors does not represent roadway deficiencies, rather corridor mobility facilitated with good intersection LOS. Therefore, staff concludes that no further analysis is required.

It should be noted that the reported v/c in the applicant's traffic study should be used as an indicator that these roadway segments should be subjected to site-specific study with a more detailed operational analysis before any major design, reconstruction, or investment decisions are made.

Summary
The County has determined that this development can comply with adopted Concurrency Standards for corridors, signalized and unsignalized intersections under County jurisdiction.

SAFETY:

Where applicable, a traffic study shall address the following safety issues:
- traffic signal warrant analysis,
- turn lane warrant analysis,
- crash history analysis,
- roadside safety (clear zone) evaluation,
- vehicle turning movements, and
- any other issues associated with highway safety.

Mitigation for off-site safety deficiencies may only be a condition of approval on development in accordance with CCC 40.350.030(B)(6) The code states that "nothing in this section shall be construed to preclude denial of a proposed development where off-site road conditions are inadequate to provide a minimum level of service as specified in Section 40.350.020 or a *significant* traffic or safety hazard *would be caused or materially aggravated* by the proposed development; provided, that the applicant may voluntarily agree to mitigate such direct impacts in accordance with the provisions of RCW 82.02.020."

Finding 4 - Median and Channelization Policy

Medians and channelization are methods, or countermeasures, to promote safety and mobility. In order for the applicant to show that their development will not hinder mobility and add to a current safety issue there must be technical information, discussion and analysis provided by the applicant so that the County Engineer can make his/her determination. The technical information and evaluation necessary is outlined within the Median and Channelization Policy, CCC 40.350.030(B)(4)(d)(3).

The traffic engineering consultant for the Four Creeks North subdivision has submitted a Transportation Impact Study dated April 18, 2025 to provide the county analysis, discussion and justification for County Engineer consideration in compliance with CCC 40.350.030(B)(4)(d)(3).

Staff reviewed the regional significance of the new proposed intersection NE 184th Street/NE 29th Avenue. Staff found that the only regionally significant classified road in the County's Arterial Atlas is NE 29th Avenue. NE 29th Avenue is classified as a Minor Arterial (M-4cb). NE 29th Avenue is regulated by the County's Concurrency Ordinance/Code (CCC 40.350.020). Because the proposed NE 184th Street is not identified in the County's Arterial Atlas as a full-movement access intersection with NE 29th Avenue, the Median and Channelization Policy applies.

Currently, NE 29th Avenue has no raised medians from NE 179th Street to NE 199th Street with numerous private driveways that provide residential access to the minor arterial. Crash history data also indicates that there has only been one reported crash along the site frontage in the last five years. The one reported crash was a fixed object crash and doesn't appear to be related to full movement access to the subject site. Lastly, the applicant reported on the current and build out capacity of NE 29th Avenue between NE 179th Street and NE 189th Street and found that it will continue to operate well below the required volume/capacity threshold after buildout is completed.

Staff's review of the applicant's Median and Channelization Policy information and discussion yielded the following findings of fact:

- The new public road intersection of NE 184th Street/NE 29th Avenue is not considered regionally significant and is not regulated by the County's Concurrency Code
- Crash history along the NE 29th Avenue frontage is not indicative of a safety issue.
- NE 29th Avenue corridor capacity between NE 179th Street and NE 189th Street is at acceptable levels.

Based on the information above, staff supports a full-movement intersection at the proposed new NE 184th Street as a part of the proposed development.

The applicant shall note that with future traffic conditions and/or development as it occurs along NE 29th Avenue, it may be necessary to construct continuous raised median restricting turning movements on NE 29th Avenue at NE 184th Street. An access restriction could be constructed at any time in the future as roadway volumes increase and/or safety issues become of concern. Access restrictions could be constructed for development mitigation or as a county project. As a result, the applicant shall acknowledge that the full movement intersection of NE 184th Street/NE 29th Avenue may be limited at some time in the future. (See Condition G-4)

Finding 5 - Turn Lane Warrants
Turn lane warrants are evaluated at unsignalized intersections to determine if turn lanes are needed on the uncontrolled roadway.

The applicant's traffic study evaluated the need for turn lanes based on the Washington State Department of Transportation (WSDOT) Design Manual. The applicant's engineer concluded that a turn lane warrants were not met at the site access location. Staff concurs with the applicant's findings.

Finding 6 - Historical Accident Situation
The Institute of Transportation Engineers (ITE) *Traffic Access and Impact Studies for Site Development – A Recommended Practice* states that "Accident rates vary, but any intersection will more than one accident per million entering vehicles is worth of additional analysis." This ITE recommended practice has been used by county staff to determine the scope or level of analysis required regarding crash history. Because of this, a crash rate of one crash per million entering vehicles has become the threshold to determine if further crash history evaluation is warranted. This is provided that staff has not identified a crash trend that would be exacerbated by the development regardless of the threshold.

The applicant's traffic study analyzed the crash history as obtained from the Washington State Department of Transportation (WSDOT) for the period between January 2019 through June 2024.

The intersection crash rates for the study intersections did not exceed one crash per million entering vehicles warranting additional analysis.

The applicant's study did not recommend any safety mitigations as a part of this development. Staff concurs with the applicant's finding.

Finding 7 - Roadside Safety *(Clear Zone)* Evaluation
The *Institute of Transportation Engineers (ITE) Traffic Engineering Handbook 6th Edition,* states that "The *clear roadside concept*...is applied to improve safety by providing an un-encumbered roadside recovery area that is as wide as practical...". Further, this concept "allows for errant vehicles leaving the roadway for whatever reason and supports a roadside designed to minimize the serious consequences of roadway departures."

Further, as adopted by Clark County Code (CCC) 40.350.030(C)(1)(b), the *Washington State Department of Transportation (WSDOT) Design Manual, Chapter 1600* states that "A clear roadside border area is a primary consideration when analyzing potential roadside and median features. The intent is to provide as much clear, traversable area for a vehicle to recover as

practicable given the function of the roadway and the potential tradeoffs. The Design Clear Zone is used to evaluate the adequacy of the existing clear area and proposed modifications of the roadside. When considering the placement of new objects along the roadside or median, evaluate the potential for impacts and try to select locations with the least likelihood of an impact by an errant vehicle."

"For managed access state highways within an urban area, it might not be practicable to provide the Design Clear Zone distances shown in Exhibit 1600-2. Roadways within an urban area generally have curbs and sidewalks and might have objects such as trees, poles, benches, trash cans, landscaping and transit shelters along the roadside."

The applicant shall consider the WSDOT Design Manual – Roadside Safety Mitigation Guidance (Section 1600.04) in the final engineering design of all proposed roadways and frontage improvements. (See Condition A-10.b)

Finding 8 - Vehicle Turning Movements
It shall be noted that the road and driveway approach standards listed in the Clark County Code are minimum criteria and are intended for normal conditions, per CCC 40.350.030 (C)(3). CCC 40.350.030 (C)(3) also states, "The responsible official may require higher standards for unusual site conditions."

The applicant will need to submit construction plans that show the design of the intersection geometry will accommodate all applicable design vehicles for review and approval. The plans will also need to show that all applicable design vehicles can enter and exit the development minimizing impact to opposing travel lanes. This may result in no on-street parking areas on local residential access roads, at/near public road intersections. (See Condition A-10.c)

Finding 9 - Sight Distance
Sight distance issues are addressed by other Development Engineering Staff; therefore, this issue will not be addressed here.

Conclusion
In summary, Concurrency Staff recommends approval of the development application subject to conditions.

Wetland & Habitat
Finding 1 - Habitat
County GIS and the Washington Department of Natural Resources indicate a mapped Type Ns stream (non-fish bearing, seasonal) offsite to the west of the subject parcel which looks like it is associated with Wetland A. A previous review on the parcel to the south (WHR-2022-00118; WHR-2025-00107) had confirmed a Type Ns stream where the stream enters the parcel to the west. The applicant has provided a Critical Areas Report prepared by Ecological Land Services dated February 5, 2025, which indicates a Type Ns stream associated with Wetland A.

Staff visited the site on July 29, 2025, with the applicant and Ecological Land Services. The stream was offsite to the west and was not accessible from legal access. Based on a prior review to the south which had confirmed a Type Ns stream and the topography of the site County staff concurs with the location of the stream shown in Critical Areas Report dated February 5, 2025.

Per the Habitat Protection Ordinance, streams are considered priority riparian habitat and are afforded a riparian conservation zone (HCZ) to protect ecological habitat and water quality values for the stream/waterbody resource which is based off of the site potential tree height based on the soils present. The riparian HCZ for a Type Ns stream extends outward from the OHWM to the distances in Table 40.445.020-1 for each Site Class by Water Type. The Hillsboro silt loam, 8 to 15 percent slopes is a Site Class II soil. The riparian zone for a Type Ns stream is 100 feet. The riparian habitat does not extend onto the subject parcel, however for the parcel directly to the west the riparian zone is forested.

All priority habitat areas shall be shown on any future plans relying on this determination/permit. (See Condition H-3.a)

Finding 2 - Maintenance and Monitoring
After installation of the mitigation, maintenance and monitoring are required in order to ensure long term performance of the mitigation. The woody plantings required for mitigation shall be monitored and maintained for five full growing seasons after planting and approval of an As-Built. Monitoring reports consisting of photographs and a count of live trees/shrubs shall be submitted to Wetland/Habitat Review staff no later than November 1 following the following growing seasons (year 1, 2, 3, 5). Monitoring shall begin when the as-built is accepted and the year 1 report shall be due after the first growing season after planting. Monitoring reports shall be submitted to Wetland/Habitat Review staff no later than November 1 following each growing season. A Monitoring Review fee will be required to verify the reports.

The monitoring report shall utilize the following minimum performance standards:
1. Year 1: 90% planted vegetation survival.
2. Year 2: 80% planted vegetation survival.
3. Year 3: 75% planted vegetation survival
4. Year 5: 75% planted vegetation survival OR 25% aerial coverage
4. non-native species <20% aerial coverage, including blackberry and reed canary grass.

Any areas not meeting this standard shall be replanted, with maintenance and monitoring continuing until the standard has been met.

Volunteer native growth may count toward the final numbers required. Routine maintenance of the site is necessary to ensure the integrity and success of the installed plants which includes, but is not limited to, removing non-native species and weeds, irrigation (if required), and plant replacement to meet the performance standards. Adaptive management and alternate species may be considered if plantings are not meeting the above listed standards in consultation with County Wetland/Habitat Review staff.

A maintenance financial assurance shall be required for the maintenance/monitoring period which shall be done at the time the As-Built has been accepted. (See Condition H-3.b)

Finding 3 - Wetland Buffer Impacts
Temporary wetland buffer impacts are expected as a result of constructing the proposed project. Areas which will be trenched and/or temporarily impacted shall be returned to a pre-

disturbance grade. These areas shall retain the native topsoil during construction and replace the topsoil when construction is complete.

After grading, the area shall be reseeded with a native seed mix which is appropriate for the hydrology of the site. The areas disturbed shall have 100% native grass/herbaceous coverage after 1 year; in the event that this is not met, the area shall be reseeded and monitoring shall continue until the area has 100% vegetated coverage. (See Condition H-3.c)

Finding 4 - Wetland Impacts

The applicant has provided a Mitigation Plan prepared by Ecological Land Services dated September 4, 2025 (Ex 17) which indicates impacts to the wetland buffers for Wetland A related to the proposed construction of Lots 35-39, the proposed stormwater facility, and NE 27th Avenue; there are no direct wetland impacts proposed. The mitigation plan notes 28,383 sf (0.652 ac) of indirect wetland impacts related to construction of Lots 35-39, the stormwater facility, and NE 27th Avenue due to an inadequate wetland buffer; indirect wetland impacts occur within the wetland buffer, but due to an insufficient wetland buffer the indirect wetland impacts are projected from the edge of the proposed development back into the wetland at the required wetland buffer distance. The mitigation also notes 9796 sf (0.225) ac) of temporary wetland buffer impacts related to grading required for the Lots and stormwater facility. The directly impacted wetland buffer for the Lots, stormwater facility, and road are to herbaceous field vegetation. County Wetland/Habitat Review staff concur with the temporary and indirect wetland impacts shown for the Lots, stormwater facility, and road.

Finding 5 - Wetland Determination

County GIS has modeled National Wetland Inventory wetlands and hydric soils mapped offsite to the west which appear to be associated with a mapped Type Ns (non-fish bearing stream). There is also a mapped permitted wetland offsite to the west which is associated with a review from 2022 (WHR-2022-00118) which indicates a Category II slope wetland with a Habitat score of 8 points which is associated with the Type Ns stream. Modeled wetlands are a potential wetland indicator. In reviewing historic aerial imagery, it is unclear due to the forested cover for wetland indicators. The applicant has provided a critical areas report authored by Ecological Land Services and dated February 5, 2025, which did not find any wetlands onsite but also indicate a Category II slope wetland offsite to the west.

County staff conducted a site visit with the applicant and their consultant on July 29, 2025, and confirmed there were no wetlands onsite. The wetland shown in the report was offsite to the west and inaccessible for purposes of this review. Per the applicant's consultant they were able to access the wetland area during their delineation, however access was not granted for County staff, therefore County staff shall utilize the best available science to assess the wetland. The location of the wetland per the Critical Areas Report appears to roughly follow the offsite wetland line which was mapped in WHR-2022-00118 and also follow mapped wetland indicators per evaluation of historic aerial imagery. As such, County staff can concur with the location of the wetland boundary in the February 5, 2025 critical areas report.

Wetland A was rated by the applicant as a Category II slope wetland with a high habitat score of 8 points. County staff concur with this rating. Per the rating form and what can be seen in historic aerial imagery the wetland has emergent and forested vegetation with a developed understory. The wetland appears to get hydrology from a seasonal high groundwater table,

precipitation, runoff from nearby developments and upland areas via sheet flow from surrounding properties as well as the seasonal stream. The report notes the site is occasionally flooded and also has saturated conditions.

Per the wetland/habitat ordinance wetland buffers are established by comparing the wetland rating category, the wetland rating habitat score and the intensity of land uses proposed on the site per Tables 40.445.020-1, 40.445.020-2, and 40.4450.020-3. The Land Use Intensity is determined by the highest intensity in Table 40.445.020-1 that applies to the development proposed in the application. Under the ordinance the 4-acre parcel is a Moderate Intensity Use. Having the extent of development higher than 25% impervious surface is a High Intensity Use.

Per Table 40.445.020-2 the wetland buffers for a Category II wetland with a habitat score of 8 points is 150 feet for a Low Intensity Use, 225 feet for a Moderate Intensity Use, and 300 feet for a High Intensity Use. The minimum water quality buffer per Table 40.4450.020-3 is 50 feet.

The locations of the wetland and wetland buffers shall be shown and any future plans relying on this determination/plans. (See Condition A-11.a)

The Department of Ecology and the U.S. Army Corps of Engineers regulate wetland impacts at the state and federal levels, in projects with over 1/10th of an acre or wetland fills.

Finding 6 - Final Wetland Permit Required
Staff concludes that the proposed preliminary mitigation plan (Exhibit 17) is feasible. The applicant has provided a revised mitigation plan map (Exhibit 24) which shows a stormwater spreader which was not included in the revised plat, stormwater plan, or TIR. If a stormwater spreader is required then it is also considered feasible. A Final Wetland Permit shall be required prior to Final Engineering approval which shows the location of any required stormwater dispersion bar; any new spreader bar would be considered a new wetland buffer impact and should be projected as a high intensity use indirect impact. The application shall include a revised mitigation plan that meets the standards for the Wetland/Habitat Ordinance. (See Condition A-11.b)

Finding 7 - Wetland Mitigation Credits
The proposed wetland mitigation plan (Ex 17) proposes to purchase 0.451 wetland credits from the Terrace Wetland Mitigation Bank and enhance the remaining wetland buffer (0.607 ac; 26,444 sf) onsite to offset the 0.652 ac of indirect wetland impacts related to the construction of the stormwater facility, Lots 35-39, and NE 27th Avenue. Prior to Final Engineering, the applicant shall enhance 0.607 ac (26,444 sf) of wetland buffer on the subject parcel as shown in the mitigation map (Ex 17) and amended below.

County staff recommend enhancement of the wetland buffer with a combination of native trees and shrubs to help restore ecological functions. County staff recommend utilizing the planting ratio of 5 trees and 10 shrubs per 1000 sf of mitigation area. At this ratio, the applicant shall plant 132 trees and 264 shrubs in the enhancement area. These numbers may be amended if the applicant proposes to utilize larger stock.

For the proposed trees the applicant shall plant 44 each of Scouler willow (Salix scouleriana), big-leaf maple (Acer macrophyllum) and Douglas fir (Pseudotsuga menziesii) each planted on approximately 10-foot centers. For the proposed shrubs the applicant shall plant 66 each of Nootka rose (Rosa nutkana), snowberry (Symphoricarpos albus), salmonberry (Rubus spectabillis), and vine maple (Acer circinatum) each planted on approximately 4-5-foot centers.

Volunteer growth may count toward the final numbers required. Alternate species may be proposed for planting depending on availability and/or preference provided that the species occur on the Clark County native plant list, however consultation with County Habitat/Wetland Review staff shall be required. At least three tree and four shrub species planted in approximately equal number shall be required in order to maintain diversity.

Any invasive species (including blackberry and reed canary grass) shall be removed from the mitigation area where present and native vegetation will be installed post invasive removal activities to further upgrade the onsite habitat function and values. The wetland buffer enhancement onsite at the above ratio will offset the proposed impacts onsite and allow for no net loss of wetland functions onsite. in CCC 40.445.030. (See Condition A-11.c)

Finding 8 - Wetland Mitigation Credits Proof of Purchase

The proposed wetland mitigation plan (Ex 17) proposes to purchase 0.451 wetland credits from the Terrace Wetland Mitigation Bank and enhance the remaining wetland buffer onsite to offset the 0.652 ac of indirect wetland impacts related to the construction of the stormwater facility, Lots 35-39, and NE 27th Avenue. The applicant has provided evidence that the Terrace Wetland Mitigation Bank has available credits.

The 26,444 sf of wetland buffer enhancement would offset 2204 sf (0.051 ac) of indirect impact to the Category II wetland. When the 0.051 is subtracted from 0.652 ac for the indirect impact to the Category II wetland, the new Category II indirect impacts are 0.601 ac (0.652 ac - 0.051 ac = 0.601 ac; 28,383 sf - 2204 sf = 26,179 sf which also equals 0.601 ac)

The wetland credit ratio for a Category II wetland is 1.2:1. At these ratios for the Category II wetland indirect impacts the 6818 sf (0.601 ac) would require 0.721 credits.

The Washington Department of Ecology Wetland Mitigation Guidance document recommends a 0.5 multiplier for indirect wetland impacts. With this multiplier, the total wetland credits required would be 0.3606.

The project area is outside of any wetland bank service areas, however it is closest to the Terrace Wetland bank service area. The edge of the Terrace bank service area is approximately 415 feet to the east and 500 feet to the south. The Terrace bank service area to the south includes Salmon Creek. The subject wetland has an outlet at a culvert on the southwestern end of the wetland on the northeastern side of NE Salmon Creek Avenue. This culvert goes southwest underneath the road before discharging to a County wetland mitigation area adjacent to Salmon Creek. Due to the hydrologic connectivity to Salmon Creek to the south and proximity to the Terrace Wetland Mitigation Bank, County staff recommend purchase of wetland credits from the Terrace Wetland Mitigation Bank for this project. The Interagency Review Team (IRT) has reviewed the request and recommends a 0.25 multiplier for out of

service area credit purchases. With this multiplier the total credit purchase from the Terrace Wetland Mitigation Bank is 0.451 credits (0.3606 x 1.25 = 0.451). County staff concur with the proposed purchase of 0.451 credits as noted above. As such, County staff find that the credit purchase at the Terrace Wetland Mitigation Bank is feasible ecologically appropriate compensation per CCC 40.445.030.B.4.a. The proposed mitigation will result in no net loss of wetland functions and values and meets the approval criteria in CCC 40.445.030. (See Condition A-11.d)

Finding 9 - Mitigation As-Built
Prior to Final Engineering Approval, a Mitigation As-Built report shall be submitted to the County as approved in the subject permit; amendments may be made with a Final Wetland Permit. The As-Built needs to include documentation of any revisions to or deviations from the approved plan, demonstrating that any changes meet the requirements of CCC 40.445. The timing on the required As-Built may be extended with an approved financial assurance. If an approved financial assurance is secured, the mitigation shall be installed the following planting season. (See Condition A-11.e)

Finding 10 - Financial Assurances
Unless the proposed mitigation is constructed and an as-built is approved, a performance assurance for the mitigation is required. Prior to construction, the applicant shall install the required mitigation per the September 4, 2025 Ecological Land Services mitigation plan (Ex 17), except as amended by this permit. This mitigation may be amended with a Final Wetland Permit. If the plantings cannot be installed prior to Construction approval then the plantings shall be installed the next planting season; additionally, a performance financial assurance which covers the proposed costs of the mitigation would be required and shall be submitted to County Wetland/Habitat Review staff for approval. Unless the proposed mitigation is constructed and an as-built is approved, a performance assurance for the mitigation shall be required. (See Condition A-11.f)

Finding 11 - Conservation Covenant
Prior to or concurrent with final plat and Pursuant to CCC 40.445.030.B.2.d, a conservation covenant shall be recorded in a form approved by the Prosecuting Attorney as adequate to incorporate the other restrictions of this section and to give notice of the requirement to obtain a wetland permit prior to engaging in regulated activities within a wetland or its buffer. The covenant shall show the location of all priority habitat areas, wetlands, wetland buffers, mitigation areas. (See Condition D-8.a)

Finding 12 - Mitigation Plan
The applicant shall only impact the areas shown in the provided preliminary plat (Ex 19) and mitigation plan (Ex 17). The mapped wetland, wetland buffer and mitigation area shall be maintained in a natural state. The applicant shall retain all native vegetation on site that is outside of the indicated development area but within the mapped wetland buffer and mitigation area shown in the provided mitigation plan and County map. Any changes to the development layout causing greater impacts to the priority habitat, wetland, wetland buffer, or mitigation area beyond what is approved herein on the provided plans and mapping shall be subject to additional wetland and/or habitat review by County staff and may include additional permits and/or mitigation.

Excluding non-native vegetation removal, clearing of native vegetation within the mapped priority habitat, wetland, wetland buffer, and mitigation area mitigation area shall be prohibited. No native trees or shrubs shall be removed from the priority habitat, wetland, wetland buffer, or mitigation area for installing the required enhancement. Invasive species (including non-native blackberries) may be removed provided that ground disturbing heavy machinery (scraping, ripping, etc.) is not used. Cutting, mowing, and ground disturbance with hand tools is allowed; efforts shall be made to prevent injury to neighboring native vegetation.

Incidental damage to the surrounding native vegetation in the mapped priority habitat, wetland, wetland buffer, and mitigation area which was not accounted for as a part of this permit shall be mitigated by replanting with native vegetation of like kind.

The applicant shall utilize best management practices to control erosion and prevent sediment from entering the adjacent mapped priority habitat, wetland, wetland buffer, and mitigation area.

Prior to construction, a permanent physical demarcation along the upland boundary of the habitat area or mitigated wetland buffer, whichever is greater, shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official.

Pursuant to CCC 40.445.030.B.2, a permanent physical demarcation along the upland boundary of the wetland buffer area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official. (See Condition D-8.b)

Finding 13 - Avoidance and Minimization

The Wetland/Habitat Conservation Ordinance follows a hierarchy of impacts with the first being avoidance of all impacts within a wetland, wetland buffer, or priority habitat area, if possible (CCC 40.445.030.B). Under CCC 40.445.030(B)(1), the applicant must demonstrate that a range of project alternatives have been given substantive consideration with the intent to avoid or minimize impacts to wetlands, wetland buffers, or fish and wildlife habitat conservation areas. The applicant may avoid a habitat and/or wetland permit by mapping the locations of these priority habitat types, wetland, and wetland buffers and establishing development envelopes that clearly show the wetland, wetland buffer, and habitat areas are not impacted or disturbed. In the event that avoidance is not possible, County staff shall determine if the proposed development meets the Minimization criteria identified in the Wetland/Habitat Ordinance. The applicant shall provide documentation that the any impacts have been minimized in order to justify their purpose and need for the impact. Any adverse priority habitat impacts or impacts to the wetland/wetland buffer (including clearing of native vegetation, grading, impervious surface, conversion to lawn, etc.) shall require justification for the impact as well as a wetland and/or habitat permit with applicable mitigation provided in a mitigation plan. The type of permit shall be determined by the amount of impact proposed to the habitat resource. Impacts less than 1/10th of an acre would be a Level 1 review; impacts over 1/10th of an acre would be a Level 2 review. The applicant shall follow the specific performance standards for priority habitat per CCC 40.445.030.C.3. Storm water designs and outflows also need to avoid adverse impacts to priority habitat areas, wetlands, and wetland

buffers. All proposed impacts will need to be accounted for in the wetland and/or habitat permit with applicable mitigation.

The applicant has provided a revised preliminary plat (Ex 19) which shows wetland buffer impacts from the stormwater facility, Lots 35-39, and NE 27th Avenue; the preliminary grading plan submitted with their application shows grading within the wetland buffer. The September 4, 2025 mitigation plan (Ex 17) shows proposed lots, a stormwater facility and a road on the western end of the project area within a wetland buffer; there are also temporary wetland buffer impacts (grading) on the west end of the project. These lots, stormwater facility, and road will have indirect wetland impacts. Given the need to have a stubbed road from the south continue north into this project it appears that it is impossible to completely avoid wetland buffer impacts. The proposed location will avoid impacts to riparian habitat. County staff concur with the analysis provided to justify the impact. The applicant has applied for the subject permit for the wetland buffer impacts for the proposed Lots 35-39, NE 27th Avenue, and the stormwater facility per the September 4, 2025 mitigation plan and revised preliminary plat.

The proposed site plan appears to avoid riparian habitat impacts and as proposed no further habitat review is required. The locations for the riparian habitat shall be shown on any forthcoming plans to evaluate if there may be any impacts.

Any additional impacts to the wetlands, wetland buffers, or riparian habitat in future plans would require additional Wetland/Habitat Review and permitting. (See Condition H-3.d)

Conclusion (Wetland & Habitat)
Staff conclude that the proposed preliminary plan, subject to the conditions, meets the wetland & habitat requirements of the Clark County code.

Fire Protection
Finding 1 - Building Construction
Building construction occurring subsequent to this application shall be in accordance with the provisions of the county's building and fire codes. Additional specific requirements may be made at the time of building construction as a result of the permit review and approval process. (See Condition G-2)

Finding 2 - Fire Flow
Fire flow in the amount of 1,000 gallons per minute supplied at 20 psi for 60 minutes duration is required for this application. Prior to final approval submit proof from the water purveyor indicating that the required fire flow is available at the site. Water mains supplying fire flow and fire hydrants shall be installed, approved and operational prior to final plat approval. (See Conditions A-3.a, D-6.a & D-6.b)

Finding 3 - Fire Hydrants
Fire hydrants are required for this application. Either the indicated number or the spacing of the fire hydrants is inadequate. Provide fire hydrants such that the maximum spacing between hydrants does not exceed 700 feet and such that no lot or parcel is in excess of 500 feet from a fire hydrant as measured along approved fire apparatus access roads. (See Condition A-3.b)

The local fire district chief approves the exact locations of fire hydrants. As a condition of approval, contact Clark Cowlitz Fire & Rescue at 360-887-4609 to arrange for location approval. (See Condition A-3.c)

Unless waived by the fire district chief fire hydrants shall be provided with appropriate 'storz' adapters for the pumper connection. (See Condition A-3.d)

Provide and maintain a three-foot clear space around the entirety of every fire hydrant. (See Conditions A-3.e & H-2.a)

Finding 4 - Fire Apparatus Access
Fire apparatus access is required for this application. The roadways and maneuvering areas as indicated in the application adequately provide required fire apparatus access. Provide fire apparatus access roads with an unobstructed width of not less than 20 feet, an unobstructed vertical clearance of not less than 13.5 feet, with an all-weather driving surface and capable of supporting the imposed loads of fire apparatus. (See Conditions A-3.f & H-2.b)

Finding 5 - Fire Apparatus Turnaround
Approved fire apparatus turnarounds are required for this project. The indicated provisions for turning around fire apparatus are adequate. (See Conditions A-3.g)

Finding 6 - Fire Sprinklers
Homes exceeding 3,600 square feet including attached garages will require additional fire protection features up to and including a residential fire sprinkler system when adequate public water and a hydrant is not within required distances. (See Conditions D-6.c & E-2.a)

Finding 7 - Gates
No gate may be installed across a required fire department access road or driveway without first obtaining a permit from the fire marshal's office. Inspection and testing of the gate will be required. Split gates with a divided entry and exit side will need 15 feet on either side for a total gate width of 30 feet. (See Conditions E-2.b & H-2.c)

Finding 8 - Parking
Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than twenty-four (24) feet wide shall be posted "NO PARKING-FIRE LANE". (See Conditions A-3.h, D-6.d & H-2.d)

Conclusion (Fire Protection)
Staff finds that the proposed preliminary plan, subject to conditions, meets the fire protection requirements of the Clark County Code.

Water & Sewer Service
Finding 1 - Service Availability
The site will be served by Clark Regional Wastewater sewer system and Clark Public Utilities water system. Letters from the above districts confirm that services are available to the site [Exhibit 1, Tabs 16 and 17]. Prior to final plat approval, documentation is required from Clark Regional Wastewater District and Clark Public Utilizes that utilities have been installed and approved. (See Conditions D-7.a & D-7.b)

Finding 2 - Public Health Site Evaluation
An existing individual on-site sewage system (OSS) is listed on the application and there are county records indicating an on-site sewage system is on the smaller parcel 181291000. A site visit on 03/04/25 did verify evidence of an on-site sewage system known as ON0042914; three septic tank risers were observed in a parking area and the drain lines observation ports were observed at the ends of the drain lines [Exhibit 1, Tab 18].

This septic system will be required to be abandoned prior to final plat approval. The onsite sewage system and any other OSS discovered during development will be required to be abandoned prior to final plat approval. (See Condition D-7.c)

Please provide written notification describing the actions taken to legally abandon the system with pumper's receipt attached. Proper system abandonment requires tank pumping by a licensed pumper, removing the tank or breaking in the tank lids, punching a hole in the bottom, and filling the cavities with rock, sand or compacted soil. Cesspools, drywells, or pump chambers discovered during development must also be abandoned in this manner. (See Condition B-6.a)

The proposed development must connect to an approved public sewer system. A copy of the final acceptance letter from the sanitary sewer purveyor or the equivalent must be submitted prior to final plat approval. (See Condition D-7.d)

Finding 3 - Water System
An existing well is indicated on the application and there are county records indicating a well is at the site. A site visit on 03/04/25 did discover evidence of a well, known as WP0012517, in a concrete vault approximately 25' west of the SW corner of the house at the western boundary of parcel 181291000 [Exhibit 1, Tab 18]. Any wells identified during development must be properly decommissioned per WAC 173-160-381 by a Washington licensed well driller and the well locations marked on the final site plan. (See Conditions B-6.a & D-7.e)

The proposed development must connect to an approved public water system. Acceptance letter from the purveyor or the equivalent must be submitted along with the final plat. (See Condition D-7.d)

Finding 4 - Final Approval
Final Health Department approval required. (See Condition D-7.f)

Conclusion (Sewer and Water)
Staff finds that the proposed preliminary plan, subject to conditions, meets water and sewer service requirements of the Clark County Code.

Impact Fees
Finding 1 - Impact Fees
All residential lots created by this plat will produce impacts on schools, parks, and traffic, and are subject to School (SIF), and Traffic Impact Fees (TIF) in accordance with CCC 40.610. The proposed unit lots will pay the following impact fees (the applicant will receive an impact fee reduction for the existing residence and must select the lot that fees will not apply during the final plat review):

- Mt Vista TIF $ 8,520.88
- Battle Ground School District SIF $10,760.00
- Park District 10 $ 3,852.00

The amounts listed above are an estimate using the current impact fee rates and are subject to change. As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance. (See Conditions E-3.a, D-4.e, and Plat Note D-5.j)

Finding 2 - Existing Residences
As the development has one (1) existing residence proposed for removal, impact fees for one (1) resulting lot will be waived for this dwelling. The final plat shall designate lot xx for the impact fees to be waived. (See Conditions E-3.b, D-4.e and Plat Note D-5.j)

Conclusion (Impact Fees)
Staff finds that the proposed preliminary plan, subject to conditions, meets impact fee requirements of the Clark County Code.

SEPA Determination
As lead agency under the State Environmental Policy Act (SEPA) Rules [Chapter 197-11, Washington Administrative Code (WAC)], Clark County must determine if there are possible significant adverse environmental impacts associated with this proposal. The options include the following:

a. **DS = Determination of Significance** - The impacts cannot be mitigated through conditions of approval and, therefore, require the preparation of an Environmental Impact Statement (EIS);

b. **MDNS = Mitigated Determination of Non-Significance** - The impacts can be addressed through conditions of approval; or,

c. **DNS = Determination of Non-Significance** - The impacts can be addressed by applying the Clark County Code.

The likely SEPA determination of Non-Significance (DNS) in the Notice of Development Review Application issued on July 23, 2025, and is now final.

SEPA Appeal Process
An appeal of this SEPA determination and any required mitigations must be filed with the Department of Community Development within fourteen (14) calendar days from the date this notice.

The hearing examiner shall hear appeals in a public hearing. Notice of the appeal hearing shall be mailed to parties of record but shall not be posted or published.

A **procedural SEPA appeal** is an appeal of the determination (i.e., determination of significance, determination of non-significance, or mitigated determination of non-significance).

A **substantive SEPA appeal** is an appeal of the conditions required to mitigate for probable significant issues not adequately addressed by existing Clark County Code or other law.

Issues of compliance with existing approval standards and criteria can still be addressed in the public hearing without an appeal of this SEPA determination.

A **procedural or substantive appeal** must be filed within fourteen (14) calendar days of this determination, together with the appeal fee. Such appeals will be considered at a scheduled public hearing and decided by the Hearing Examiner in a subsequent written decision.

Appeals must be in writing and should contain the following information:

- Case number designated by the county
- Name of the applicant
- Name of each petitioner
- Signature of each petitioner or his or her duly authorized representative
- A statement showing the following:
  - That each petitioner is entitled to file the appeal as an interested party in accordance with CCC 40.510.020(H) or 40.510.030(H)
  - The reasons why the SEPA determination is in error
- The appeal fee

Refer to the *Appeals* handout https://clark.wa.gov/media/document/57535 and https://clark.wa.gov/community-development/land-use-forms-and-fees for more information and fees.

The decision of the Hearing Examiner is final unless:

- A motion for reconsideration is filed within fourteen (14) days of written notice of the decision, as provided under Clark County Code, Section 2.51.160; or,
- An appeal is filed with Clark County Superior Court.

Staff Contact Person: Wendy Baird, Project Planner II, 564.397.4499

Responsible Official: Maya Bunch, Interim Community Development Director

Recommendation

Based upon the proposed development plans known as Exhibit 19 and 20 and the findings and conclusions stated above, staff recommend the Hearing Examiner **APPROVES** this request, subject to the understanding that the application is required to adhere to all applicable codes and laws and is subject to the following conditions of approval.

Conditions of Approval

A	**Final Construction Review for Land Division** **Review and Approval Authority: Development Engineering, Land Use, Fire Marshal & Transportation Concurrency**

Prior to construction, a Final Construction Plan shall be submitted for review and approval, consistent with the approved preliminary plan and the following conditions of approval:

A-1 Land Use:

a. Setbacks - The applicant shall show the required setbacks on the final plat per CCC40.220.020.C.3 (See Land Use Finding 2)

b. Landscape
A minimum of twenty percent (20%) of the site shall be landscaped to an L1 standard. (See Land Use Finding 2)

c. Site Plan - The applicant shall incorporate a separate site plan into the final construction plan set. The final site plan shall show the requirements of CCC 40.260.155.C.1.a-i. (See Land Use Finding 4.C.1)

d. Guest Parking
1. A minimum of thirteen (13) guest parking spaces are required for this development. (See Land Use Finding 4.C.3.b)

2. On Street - Two (2) or more consecutive parking spaces require a minimum width of 8 feet and minimum length of 19 feet. (See Land Use Finding 4.C.3.d)

e. Street Trees - Street trees shall be provided as required along with the type and location of trees. (See Land Use Finding 4.C.4.a)

f. Solid Waste - Lots 4-6 and 7-9 will have common collection points. The final site plan shall provide the indicated common collections points. (See Land Use Finding 4.C.5.b)

g. Landscape:
1. A separate landscape plan meeting the landscape standards is required to be submitted with the Final Construction Plan. (See Land Use Finding 8)

2. All arterials and collectors in the urban area, (NE 29th Ave), the area between the back of sidewalk and the right-of-way and between the back of curb and sidewalk, as well as the area within all medians constructed within a public road, shall be landscaped with drought-resistant plants (See the Standard Details Manual). The applicant shall submit a landscape plan that meets the landscape standards (See Land Use Finding 8)

A-2 Archaeology:

a. A note shall be placed on the face of the final construction plans as follows: "If any cultural resources and/or human remains are discovered in the course of undertaking the development activity, the Department of Archaeology and Historic Preservation in Olympia, the Cowlitz Indian Tribe, and Clark County shall be notified. Failure to comply with these state requirements may constitute a Class C Felony, subject to imprisonment and/or fines." (See Archaeological Finding 2)

b. A portion of the project location is in an area marked "Very High Risk" for encountering archaeology by our Archaeological Risk Assessment model, we concur with the recommendation proposed in the predetermination survey report that an Inadvertent Discovery Plan (IDP) be created and kept on site. (See Archaeology Finding 2)

A-3 Fire Protection:

a. Fire flow in the amount of 1,000 gallons per minute supplied at 20 psi for 60 minutes duration is required for this application. (See Fire Protection Finding 2)

b. Fire hydrants are required for this application. Either the indicated number or the spacing of the fire hydrants is inadequate. Provide fire hydrants such that the maximum spacing between hydrants does not exceed 700 feet and such that no lot or parcel is in excess of 500 feet from a fire hydrant as measured along approved fire apparatus access roads. (See Fire Protection Finding 3)

c. The local fire district chief approves the exact locations of fire hydrants. (See Fire Protection Finding 3)

d. Unless waived by the fire district chief fire hydrants shall be provided with appropriate 'storz' adapters for the pumper connection. (See Fire Protection Finding 3)

e. Provide and maintain a three-foot clear space around the entirety of every fire hydrant. (See Fire Protection Finding 3)

f. Fire apparatus access is required for this application. Access roads shall have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet with an all-weather driving surface capable of supporting the imposed loads of fire apparatus. (See Fire Protection Finding 4)

g. Approved fire apparatus turnarounds are required for this project. (See Fire Protection Finding 5)

h. Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than twenty-four (24) feet wide shall be posted "NO PARKING-FIRE LANE". (See Fire Protection Finding 8)

A-4 Final Transportation Plan/On-Site - The applicant shall submit and obtain County approval of a final transportation design in conformance to CCC 40.350 and the following conditions of approval:

a. The applicant shall show all curb ramps will be constructed in compliance with ADA Standards. (See Transportation & Circulation Finding 1)

b. The applicant shall show all curb ramps will be constructed in compliance with the WSDOT Design Manual. (See Transportation & Circulation Finding 1)

c. NE 29th Avenue is classified as a "Minor Arterial - 4 lanes w/CLT & bike lanes" roadway and half-width improvements are required consisting of 50 feet of right-of-way dedication, 36 feet pavement width, curb/gutter, and 5-foot detached sidewalk. (See Transportation & Circulation Finding 3)

d. The applicant shall dedicate additional right-of-way (or provide a public easement) at the intersection of NE 29th Avenue/NE 184th Street for the chord of the right-of-way radius. (See Transportation & Circulation Finding 3)

e. NE 184th Street is classified as a "Neighborhood Circulator" roadway and half-width improvements are required consisting of 27 feet of right-of-way dedication, 18 feet pavement width, curb/gutter, and 5-foot sidewalk. (See Transportation & Circulation Finding 3)

f. All roads shall have a minimum pavement width of 20 feet (See Transportation & Circulation Finding 3)

g. NE 27th Avenue, NE 28th Avenue and NE 183rd Street are classified as a "Urban Local Access" roadway and full-width improvements are required consisting of 46 feet of right-of-way dedication, 28 feet pavement width, curb/gutter, and 5-foot sidewalk. (See Transportation & Circulation Finding 3)

h. The applicant shall show on the final construction plans a pavement section for NE 29th Avenue that is in compliance with the results of pavement deflection testing as prescribed by CCC 40.350.030(B)(5)(a)(6). (See Transportation & Circulation Finding 3)

i. All partial width roads less than 24 feet in width shall be marked with "No Parking" signs or similar control measures on both sides. (See Transportation & Circulation Finding 3)

j. The applicant shall show that all joint driveways are within a 20-foot wide easement. (See Transportation & Circulation Finding 4)

k. The applicant shall show on the final construction plans that all corner lot driveways will comply with CCC 40.350.030(B)(4(b)(1)(b). (See Transportation & Circulation Finding 4)

l. The applicant shall show sight distance triangles at all intersections on the construction plans. (See Transportation & Circulation Finding 5)

m. The applicant may place the driveways at the interior property line building setback or within the 5-foot property line setback. (See Transportation & Circulation Finding 6)

n. The applicant shall provide a typical lot detail showing that the driveways with reduced property setbacks will not have overlapping wings and will be on their respective lots. (See Transportation & Circulation Finding 6)

A-5 Transportation:

a. Signing and Striping Plan: The applicant shall submit a signing and striping plan and a reimbursable work order, authorizing County Road Operations to perform any signing and pavement striping required within the County right-of-way. This plan and work order shall be approved by the Department of Public Works prior to final plat or final site plan approval.

A-6 Final Stormwater Plan - The applicant shall submit and obtain County approval of a final stormwater plan designed in conformance to CCC 40.386, as amended by Ordinance No. 2021-06-02, and the following conditions of approval:

a. The applicant shall submit final construction plan and a final Technical Information Report that addresses Minimum Requirements #1 through #9. (See Stormwater & Erosion Control Finding 7)

b. The applicant shall demonstrate that the development will not materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots. (See Stormwater & Erosion Control Finding 7)

c. The applicant shall submit documentation from the stormwater treatment system manufacturer indicating that any proprietary stormwater treatment devices were sited and sized appropriately. (See Stormwater & Erosion Control Finding 8)

d. The applicant shall provide a final Technical Information Report that demonstrates compliance with the Basic Treatment requirement. (See Stormwater & Erosion Control Finding 8)

e. The applicant shall provide a final technical information Report that demonstrates compliance with the Standard Flow Control requirement. (See Stormwater & Erosion Control Finding 8)

f. The applicant shall submit final construction plan and a final Technical Information Report that addresses the following levels of wetland protection: General Protection, Protection from Pollutants and Hydroperiod Protection: Method 2. (See Stormwater & Erosion Control Finding 8)

g. The applicant shall identify on the final construction plans ownership responsibilities for each of the proposed stormwater facilities. (See Stormwater & Erosion Control Finding 8)

h. A stormwater easement shall be shown on all private/joint stormwater facilities not in the public right-of-way. (See Stormwater & Erosion Control Finding 8)

i. Stormwater facility setbacks shall be met and shown on the final construction plans, unless a reduced setback is recommended by a geotechnical engineer. (See Stormwater & Erosion Control Finding 8)

j. The applicant shall submit an offsite analysis with the Final TIR prepared in accordance with Book 1, Chapter 5 of the CCSM 2021 for all outfall locations from the site. (See Stormwater & Erosion Control Finding 8)

A-7 **Erosion Control Plan** - The applicant shall submit and obtain County approval of a final erosion control plan designed in accordance with CCC 40.386, as amended by Ordinance No. 2021-06-02.

A-8 **Excavation and Grading** - Excavation/grading shall be performed in compliance with CCC14.07.

A-9 **Retaining Walls** - A building permit is required for retaining walls greater than 4 feet tall or when the wall is surcharged. All retaining walls shall be shown in sufficient detail on the engineering plans for staff to assess their impact on adjacent roads, structures, and public and private utilities.

A-10 **Final Transportation Plan/Off Site (Concurrency)** - The applicant shall submit and obtain County approval of a final transportation design in conformance to CCC 40.350 and the following conditions of approval:

a. The applicant shall submit a signing and striping plan for review and approval. This plan shall show signing and striping and all related features for required frontage improvements and any off-site improvements. The applicant shall obtain a work order with Clark County to reimburse the County for required signing and striping.

b. The applicant shall consider the WSDOT Design Manual – Roadside Safety Mitigation Guidance (Section 1600.04) in the final engineering design of all proposed roadways and frontage improvements. (See Transportation Concurrency Finding 7)

c. The applicant shall submit construction plans that show the design of the intersection geometry will accommodate all applicable design vehicles for review and approval, unless modified by the County Engineer. The plans will also need to show that all applicable design vehicles can enter and exit the development minimizing impact to opposing travel lanes. This may result in no parking and/or maneuvering areas near public road intersections. Please note that applicable design vehicles include but are not limited to passenger vehicles and waste management vehicles. (See Transportation Concurrency Finding 8)

A-11 Wetland & Habitat:

a. The locations of the wetland and wetland buffers shall be shown and any future plans relying on this determination/plans. (See Wetland & Habitat Finding 5)

b. Approval of a Final Wetland Permit shall be required if there are additional wetland buffer impacts during Final Engineering which were not part of the preliminary approval. A Final Wetland Permit shall be required prior to Final Engineering approval which shows the location of any required stormwater dispersion bar; any new spreader bar would be considered a new wetland buffer impact and should be projected as a high intensity use indirect impact. The application shall include a revised mitigation plan that meets the standards for the Wetland/Habitat Ordinance. (See Wetland & Habitat Finding 6)

c. Prior to Final Engineering, the applicant shall enhance 0.607 ac (26,444 sf) of wetland buffer on the subject parcel as shown in the mitigation map (Ex 17); this may be amended with a final wetland permit. The applicant shall plant 132 trees and 264 shrubs in the enhancement area.

For the proposed trees the applicant shall plant 44 each of Scouler willow (Salix scouleriana), big-leaf maple (Acer macrophyllum) and Douglas fir (Pseudotsuga menziesii) each planted on approximately 10-foot centers. For the proposed shrubs the applicant shall plant 66 each of Nootka rose (Rosa nutkana), snowberry (Symphoricarpos albus), salmonberry (Rubus spectabillis), and vine maple (Acer circinatum) each planted on approximately 4-5-foot centers.

Volunteer growth may count toward the final numbers required. Alternate species may be proposed for planting depending on availability and/or preference provided that the species occur on the Clark County native plant list, however consultation with County Habitat/Wetland Review staff shall be required. At least three tree and four shrub species planted in approximately equal number shall be required in order to maintain diversity. (See Wetland & Habitat Finding 7)

d. Prior to Final Engineering Approval the applicant shall provide proof of purchase of 0.451 credits from the Terrace Wetland Mitigation Bank; this may be amended with a Final Wetland Permit. (See Wetland & Habitat Finding 8)

e. Prior to Final Engineering Approval, a Mitigation As-Built report shall be submitted to the County as approved in the approved mitigation plan (per this permit); amendments may be made with a Final Wetland/Habitat Permit. The As-Built may be extended with an approved financial assurance. (See Wetland & Habitat Finding 9)

f. Prior to construction, the applicant shall install the required mitigation per the September 4, 2025 mitigation plan prepared by Ecological Land Services (Ex 17). The required mitigation may be amended with a Final Wetland Permit. If the plantings cannot be installed prior to Construction approval then, the plantings shall be installed the next planting season; additionally, a performance financial

assurance which covers the proposed costs of the mitigation would be required and shall be submitted to County Wetland/Habitat Review staff for approval. Unless the proposed mitigation is constructed and an as-built is approved, a performance assurance for the mitigation shall be required. (See Wetland & Habitat Finding 10)

B	**Prior to Construction of Development** **Review and Approval Authority: Development Inspection and Wetland & Habitat**

Prior to construction, the following conditions shall be met:

B-1 **Traffic Control Plan** - Prior to impacting the public roadway for the development site, the applicant shall obtain written approval from Clark County Department of Public Works of the applicant's Traffic Control Plan (TCP). The TCP shall govern all work within or impacting the public transportation system.

B-2 **Pre-Construction Conference** - Prior to construction or any land disturbance, a pre-construction conference shall be held with the county.

B-3 **Erosion Control** - Prior to construction or any land disturbance, erosion/sediment controls shall be in place per the approved erosion control plan. Sediment control facilities shall be installed that will prevent any silt from entering infiltration systems. Sediment controls shall be in place during construction and until all disturbed areas are stabilized and any erosion potential no longer exists. Erosion control facilities shall not be removed without county approval.

B-4 **Road Closures** - Any request by the developer or developer's contractor to close a road will be reviewed by county staff. The developer shall provide a memorandum to the County Engineer justifying the reasons for needing the road closure, specifically including explanation as to why the closure is necessary and construction cannot occur under traffic, such as flagger-controlled alternating one way traffic next to the construction. The memorandum shall include the ENG number and title of the project, location of the requested road closure, anticipated date of start of closure, requested closure time length, explanation of the public outreach that the contractor will perform, full detour mapping, and other information as appropriate. Road Closures are approved specifically by the County Council by resolution, as described in WAC 308-330-270(7). The process for county takes at least 6 weeks for writing the staff report, resolution and internal review. Depending on the complexity of the request from the developer and the council's time availability, this can take over 12 weeks to process from start to finish. It is the developer's responsibility to ensure that the process is completed prior to needing the road closure enacted. The contractor shall be responsible for all costs associated with county staff time to process the request via reimbursable work order and all notifications required by law in local newspapers as required by RCW 47.48 Notice of Closure or Restriction. Requesting a road closure is no guarantee that a road closure will be approved by the county.

B-5 **Land Use:**

a. Demolition - The existing structures on site are proposed to be removed. These structures shall be removed prior to construction plan approval, complying with

demolition permits from Clark County Building divisions and state/federal pre-requirements. (See Land Use Finding 7)

b. All arterials and collectors in the urban area, (NE 29th Ave), the area between the back of sidewalk and the right-of-way and between the back of curb and sidewalk, as well as the area within all medians constructed within a public road, shall be landscaped with drought-resistant plants (See the Standard Details Manual). The applicant shall submit a landscape plan that meets the landscape standards (See Land Use Finding 8)

B-6 Water and Sewer Services:

a. Septic Tank and Well Decommissioning - Prior to provisional acceptance, if any septic systems, water wells or underground tanks are found during construction, they shall be decommissioned in accordance with the procedures of the Clark County Public Health. (See Water and Sewer Finding 2 & 3)

B-7 Wetland & Habitat - Marking Buffer During Construction (pursuant to CCC 40.450.030.F). The location of the outer extent of the wetland buffer shall be marked in the field and such markings shall be maintained throughout construction.

C	**Provisional Acceptance of Development** **Review and Approval Authority: Development Inspection & Development Engineering**

Prior to provisional acceptance of development improvements, construction shall be completed consistent with the approved final construction / land division plan and the following conditions of approval:

C-1 None

D	**Final Plat Review & Recording** **Review and Approval Authority: Development Engineering, Fire Marshal & Land Use**

Prior to final plat approval and recording, the following conditions shall be met:

D-1 Land Use:

a. Setbacks - The applicant shall show the required setbacks on the final plat per CCC 40.220.020.C.3 (Land Use Finding 2)

b. Landscape

1. In order to ensure that the landscape has been installed in conformance with the approved landscape plan(s) the applicant shall submit a copy of the approved landscape plan(s) with a letter signed and stamped by a landscape architect licensed in the state of Washington certifying that the landscape and irrigation (if

any) have been installed in accordance with the attached approved plan(s). (See Land Use Findings 2 & 8)

c. The applicant shall incorporate a separate site plan into the final construction and final plan set. These plans shall show the requirements of CCC 40.260.155.C.1.a-i. (See Land Use Finding 4.C.1)

D-2 **Right-of-ways/Easement –** All right-of-way dedications and easements shall be recorded with the final plat.

a. The required right-of-way dedication along NE 29th Avenue fronting the development, to achieve a minimum 50-foot half-width, must be conveyed to the county with the final plat. (See Transportation & Circulation Finding 3)

b. The required right-of-way dedication along NE 184th Street fronting the development, to achieve a minimum 27-foot half-width, must be conveyed to the county with the final plat. (See Transportation & Circulation Finding 3)

c. The required right-of-way dedication for NE 27th Avenue, NE 28th Avenue and NE 183rd Street within the development, to achieve a minimum 46-foot width, must be conveyed to the county with the final plat. (See Transportation & Circulation Finding 3)

d. The joint driveway access easements for Lots 4-6 and Lots 7-9 shall be delineated on the final plat. A minimum 20-foot easement width is required. The lot numbers who have access to the joint driveway easements shall also be labeled. (See Transportation & Circulation Finding 4)

D-3 **Sight Distance:** – The sight distance triangle, if located outside of right-of-way, shall be delineated on the final plat within an easement. (See Transportation & Circulation Finding 5)

D-4 **Developer Covenant** – A "Developer Covenant to Clark County" shall be submitted for recording to include the following:

a. Joint Driveway Maintenance Covenant - A joint road maintenance covenant shall be submitted to the responsible official for approval and recorded with the County Auditor. The covenant shall set out the terms and conditions of responsibility for maintenance, maintenance methods, standards, distribution of expenses, remedies for noncompliance with the terms of the agreement, right of use easements, and other considerations, as required under 40.350.030(C)(4)(g).

b. Critical Aquifer Recharge Areas - "The dumping of chemicals into the groundwater and the use of excessive fertilizers and pesticides shall be avoided. Homeowners are encouraged to contact the State Wellhead Protection program at (206) 586-9041 or the Washington State Department of Ecology at 800-RECYCLE for more information on groundwater /drinking supply protection."

c. Erosion Control - "Building Permits for lots on the plat shall comply with the approved erosion control plan on file with Clark County Building Department and put in place prior to construction."

d. Responsibility for Stormwater Facility Maintenance: For stormwater facilities for which the county will not provide long-term maintenance, the developer shall make arrangements with the existing or future (as appropriate) occupants or owners of the subject property for assumption of maintenance to the county's Stormwater Facilities Maintenance Manual as adopted by Chapter 13.26A. The responsible official prior to county approval of the final stormwater plan shall approve such arrangements. Final plats shall specify the party(s) responsible for long-term maintenance of stormwater facilities within the Developer Covenants to Clark County. The county may inspect privately maintained facilities for compliance with the requirements of this chapter. If the parties responsible for long-term maintenance fail to maintain their facilities to acceptable standards, the county shall issue a written notice specifying required actions to be taken in order to bring the facilities into compliance. If these actions are not performed in a timely manner, the county shall take enforcement action and recover from parties responsible for the maintenance in accordance with Section 32.04.060.

e. Impact Fees: "In accordance with CCC 40.610, except for Lot "X", which shall be waived, impact fees for each dwelling in this subdivision shall be assessed for impacts on schools, parks and transportation facilities based for the following districts: Battle Ground School District (SIF), Park District #10 (PIF) and Mt. Vista (TIF). As found in CCC 40.610.040, residential impact fees are calculated using the rates in effect at the time of building permit issuance. (See Impact Fee Finding 1 & 2)

D-5 Plat Notes - The following notes shall be placed on the final plat:

a. Sidewalks: "Prior to issuance of occupancy permits, sidewalks shall be constructed along all the respective lot frontages.

b. Utilities: "An easement is hereby reserved under and upon all tracts and the exterior six (6) feet on all boundary lines of the lots and tracts adjacent to public/private roads and six (6) feet adjacent to access/utility easements for the installation, construction, renewing, operating and maintaining electric, telephone, tv, cable, water and sanitary sewer services. All lots containing padmount transformers are subject to the minimum clearances as defined by Clark Public Utilities construction standards. All proposed building designs on these lots must provide adequate clearance for all combustible materials. Also, a sidewalk easement, as necessary to comply with ADA slope requirements, shall be reserved upon the exterior six (6) feet along the front boundary lines of all lots and tracts adjacent to public streets."

c. Sight Distance: "Sight distance easement triangles shall be maintained and kept clear as required under CCC 40.350.030.B.8."

d. Private Roads: "Clark County has no responsibility to improve or maintain the private roads contained within or private roads providing access to the property

described in this development. Any private access street shall remain a private street unless it is upgraded to public street standards at the expense of the developer or abutting lot owners to include hard surface paving and is accepted by the county for public ownership and maintenance."

e. Driveways: "No direct access is allowed onto the following streets: NE 29th Avenue."

f. Driveways: "All residential driveway approaches entering public roads are required to comply with CCC 40.350."

g. Privately Owned Stormwater Facilities: "The following party(s) is responsible for long-term maintenance of the privately owned stormwater facilities: _____."

h. Roof and Crawl Space Drains: "Roof and crawl space drains for all lots of the development shall be installed in accordance with the approved As-Built plans, unless a revised plan is approved by the county. These stormwater systems will be owned and maintained by the property owner on whose lot the stormwater system is located".

i. Archaeological: "If any cultural resources and/or human remains are discovered in the course of undertaking the development activity, the Department of Archaeology and Historic Preservation in Olympia, the Cowlitz Indian Tribe, and Clark County Community Development shall be notified. Failure to comply with these State requirements may constitute a Class C Felony, subject to imprisonment and/or fines."

j. Impact Fees: "In accordance with CCC 40.610, except for Lot "X", which shall be waived, impact fees for each dwelling in this subdivision shall be assessed for impacts on schools, parks and transportation facilities based for the following districts: Battle Ground School District (SIF), Park District #10 (PIF) and Mt Vista (TIF). As found in CCC40.610.040, residential impact fees are calculated using the rates in effect at the time of building permit issuance."

D-6 Fire Protection:

a. The applicant shall submit a current utility review letter from the water purveyor indicating required fire flow remains available at the site. (See Fire Protection Finding 2)

b. The applicant shall demonstrate that water mains supplying fire flow have been installed and approved. (See Fire Protection Finding 2)

c. Homes exceeding 3,600 square feet including attached garages will require additional fire protection features up to and including a residential fire sprinkler system when adequate public water and a hydrant is not within required distances. (See Fire Protection Finding 6)

d. Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than twenty-four (24) feet wide shall be posted "NO PARKING-FIRE LANE". (See Fire Protection Finding 8)

D-7 Sewer and Water Services:

a. The applicant shall produce documentation from Clark Public Utilities that water has been installed and approved. (See Water & Sewer Finding 1)

b. The applicant shall produce documentation from Clark Regional Wastewater that sewer has been installed and approved. (See Water & Sewer Finding 1)

c. Any on-site sewage system discovered during development must be properly abandoned with written notice provided to Clark County Public Health and the locations marked on the final plat (Mylar). (See Water & Sewer Finding 2)

d. A copy of the final acceptance letter from Clark Public Utilities and Clark Regional Wastewater District shall be submitted with the Mylar. (See Water and Sewer Findings 2 & 3)

e. Any wells identified during development must be properly decommissioned per WAC 173-160-381 by a Washington licensed well driller with written notice provided to Clark County Public Health and the locations marked on the final plat (Mylar). (See Water and Sewer Finding 3)

f. Final Health Department approval required. (See Water & Sewer Finding 4)

D-8 Wetland & Habitat:

a. Prior to or concurrent with final plat and Pursuant to CCC 40.445.030.B.2.d, a conservation covenant shall be recorded in a form approved by the Prosecuting Attorney as adequate to incorporate the other restrictions of this section and to give notice of the requirement to obtain a wetland permit prior to engaging in regulated activities within a wetland or its buffer. The covenant shall show the location of all priority habitat areas, wetlands, wetland buffers, mitigation areas. (See Wetland & Habitat Finding 11)

b. The applicant shall only impact the areas shown in the provided preliminary plat (Ex 19) and mitigation plan (Ex 17). The mapped wetland, wetland buffer and mitigation area shall be maintained in a natural state. The applicant shall retain all native vegetation on site that is outside of the indicated development area but within the mapped wetland buffer and mitigation area shown in the provided mitigation plan and County map. Any changes to the development layout causing greater impacts to the priority habitat, wetland, wetland buffer, or mitigation area beyond what is approved herein on the provided plans and mapping shall be subject to additional wetland and/or habitat review by County staff and may include additional permits and/or mitigation.

Excluding non-native vegetation removal, clearing of native vegetation within the mapped priority habitat, wetland, wetland buffer, and mitigation area mitigation

area shall be prohibited. No native trees or shrubs shall be removed from the priority habitat, wetland, wetland buffer, or mitigation area for installing the required enhancement. Invasive species (including non-native blackberries) may be removed provided that ground disturbing heavy machinery (scraping, ripping, etc.) is not used. Cutting, mowing, and ground disturbance with hand tools is allowed; efforts shall be made to prevent injury to neighboring native vegetation.

Incidental damage to the surrounding native vegetation in the mapped priority habitat, wetland, wetland buffer, and mitigation area which was not accounted for as a part of this permit shall be mitigated by replanting with native vegetation of like kind.

The applicant shall utilize best management practices to control erosion and prevent sediment from entering the adjacent mapped priority habitat, wetland, wetland buffer, and mitigation area.

Prior to construction, a permanent physical demarcation along the upland boundary of the habitat area or mitigated wetland buffer, whichever is greater, shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official.

Pursuant to CCC 40.445.030.B.2, a permanent physical demarcation along the upland boundary of the wetland buffer area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official. (See Wetland & Habitat Finding 12)

c. Prior to Final Plat approval and Pursuant to CCC 40.445.030.B.2, small signs shall be posted at an interval of one (1) per lot or every one hundred (100) feet, whichever is less, and perpetually maintained at locations along the outer perimeter of the wetland buffer approved by the responsible official worded substantially as follows:

Wetland and Buffer –
Please retain in a natural state

d. The wetlands and wetland buffers shall be shown on the Final Plat relying on this determination and permit with a note describing limitations on clearing and development activities in these areas.

E	**Building Permits** **Review and Approval Authority: Land Use, Fire Marshal, & Permit Services**

Prior to issuance of a building permit, the following conditions shall be met:

E-1 Land Use:

a. Demolition - The existing structures on site are proposed to be removed. These structures shall be removed prior to construction plan approval, complying with

demolition permits from Clark County Building divisions and state/federal pre-requirements. (See Land Use Finding 7)

E-2 Fire Protection:

a. Homes exceeding 3,600 square feet including attached garages will require additional fire protection features up to and including a residential fire sprinkler system when adequate public water and a hydrant is not within required distances. (See Fire Protection Finding 6)

b. No gate may be installed across a required fire department access road or driveway without first obtaining a permit from the fire marshal's office. Inspection and testing of the gate will be required. Split gates with a divided entry and exit side will need 15 feet on either side for a total gate width of 30 feet. (See Fire Protection Finding 7)

E-3 Impact Fees

a. Impact fees shall be assessed for impacts on schools, parks and transportation facilities based for the following districts: Battle Ground School District (SIF), Park District #10 (PIF) and Mt. Vista (TIF). As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance. (See Impact Fees Findings 1)

b. As the development has one (1) existing residence proposed for removal, impact fees for one (1) resulting lot will be waived for this dwelling. The final plat shall designate lot xx for the impact fees to be waived. (See Impact Fees Finding 2)

E-4 Excavation and Grading - Excavation/grading shall be performed in compliance with CCC 14.07.

E-5 Roof and Crawl Space Drains – Roof and crawl space drains shall be installed in accordance with the approved As-Built plans, unless a revised plan is approved by the county. These stormwater systems will be owned and maintained by the property owner on whose lot the stormwater system is located. (See Stormwater & Erosion Control Finding 8)

F	**Occupancy Permits** **Review and Approval Authority:**

Prior to issuance of an occupancy permit, the following conditions shall be met:

F-1 None

G	**Development Review Timelines & Advisory Information** **Review and Approval Authority: None - Advisory to Applicant**

G-1 Land Division - Within seven (7) years of preliminary plan approval, a Fully Complete application for Final Plat review shall be submitted.

G-2 Building and Fire Safety - Building and fire, life, and safety requirements must be addressed through specific approvals and permits. This decision may reference general

and specific items related to structures and fire, life, and safety conditions, but they are only for reference in regards to land use conditions. It is the responsibility of the owner, agent, tenant, or applicant to ensure that Building Safety and Fire Marshal requirements are in compliance or brought into compliance. Land use decisions do not waive any building or fire code requirements. (See Fire Protection Finding 1)

G-3 Department of Ecology Permit for Construction Stormwater - A permit from the Department of Ecology (DOE) is required for any land disturbing activities such as clearing, grading, excavating, stockpiling of fill material, and/or demolition that:

- Disturbs one or more acres of land.; **OR**
- Are part of a common plan of development or sale that will ultimately disturb one or more acres of land. A common plan of development or sale is an area where multiple, separate, and distinct construction activities may be taking place on different schedules under one plan. In a common plan of development, the disturbed area of the entire plan is used to determine if a permit is required.; **AND**
- Discharge stormwater from the site into surface water(s) of the state or into storm drainage systems, including ditches, which discharge to state surface waters. Surface waters of the state: Include wetlands, ditches, rivers, unnamed creeks, rivers, lakes, estuaries, and salt water.

The applicant shall Contact the DOE for further information.
https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

G-4 Median and Channelization – At some time in the future, NE 184th Street/NE 29th Avenue may be modified to restrict vehicle movements. This access modification or restriction could be constructed at any time in the future as roadway volumes increase and/or safety issues become of concern. The access modification or restriction could be constructed for development mitigation or as a county project. (See Transportation Concurrency Finding 4)

H	**Post Development Requirements** **Review and Approval Authority: As specified below**

H-1 Landscape Maintenance: Maintenance of landscaped areas is the ongoing responsibility of the property owner. Required landscaping must be continuously maintained in a healthy manner. Plants that die must be replaced with in-kind materials unless otherwise authorized by the responsible official. Vegetation shall be controlled by pruning, trimming or otherwise so that it will not interfere with the maintenance or repair of any public utility, restrict pedestrian or vehicular access, or obstruct sight distance at intersections as provided in Section 40.320.020. (See Land Use Finding 8)

H-2 Fire Protection:

a. A three -foot clear spaces shall be maintained around the circumference of all fire hydrants. (See Fire Protection Finding 3)

b. Access roads shall maintain an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet with an all-weather driving surface capable of supporting the imposed loads of fire apparatus. (See Fire Protection Finding 4)

c. No gate may be installed across a required fire department access road or driveway without first obtaining a permit from the fire marshal's office. Inspection and testing of the gate will be required. Split gates with a divided entry and exit side will need 15 feet on either side for a total gate width of 30 feet. (See Fire Protection Finding 7)

c. Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than twenty-four (24) feet wide shall be posted "NO PARKING-FIRE LANE". (See Fire Protection Finding 8)

H-3 Wetland and Habitat

a. All priority habitat shall be shown on any future plans relying on this determination/permit. (See Wetland & Habitat Finding 1)

b. After installation of the mitigation, maintenance and monitoring are required in order to ensure long term performance of the mitigation. The woody plantings required for mitigation shall be monitored and maintained for five full growing seasons after planting and approval of an As-Built. Monitoring reports consisting of photographs and a count of live trees/shrubs shall be submitted to Wetland/Habitat Review staff no later than November 1 following the following growing seasons (year 1, 2, 3, 5). Monitoring shall begin when the as-built is accepted and the year 1 report shall be due after the first growing season after planting. Monitoring reports shall be submitted to Wetland/Habitat Review staff no later than November 1 following each growing season. A Monitoring Review fee will be required to verify the reports.

The monitoring report shall utilize the following minimum performance standards:
1. Year 1: 90% planted vegetation survival.
2. Year 2: 80% planted vegetation survival.
3. Year 3: 75% planted vegetation survival
4. Year 5: 75% planted vegetation survival OR 25% aerial coverage
4. non-native species <20% aerial coverage, including blackberry and reed canary grass.

Any areas not meeting this standard shall be replanted, with maintenance and monitoring continuing until the standard has been met.

Volunteer native growth may count toward the final numbers required. Routine maintenance of the site is necessary to ensure the integrity and success of the installed plants which includes, but is not limited to, removing non-native species and weeds, irrigation (if required), and plant replacement to meet the performance standards. Adaptive management and alternate species may be considered if plantings are not meeting the above listed standards in consultation with County Wetland/Habitat Review staff.

A maintenance financial assurance shall be required for the maintenance/monitoring period which shall be done at the time the As-Built has been accepted. (See Wetland & Habitat Finding 2)

c. Temporary wetland buffer impacts are expected as a result of constructing the proposed project. Areas which will be trenched and/or temporarily impacted shall be returned to a pre-disturbance grade. These areas shall retain the native topsoil during construction and replace the topsoil when construction is complete.

After grading, the area shall be reseeded with a native seed mix which is appropriate for the hydrology of the site. The areas disturbed shall have 100% native grass/herbaceous coverage after 1 year; in the event that this is not met, the area shall be reseeded and monitoring shall continue until the area has 100% vegetated coverage. (See Wetland & Habitat Finding 3)

d. No clearing or development, outside of what is shown for the provided preliminary plat (Ex 19) and September 04, 2025 mitigation plan (Ex 17) for the stormwater, road, and proposed lots shall occur within any wetland or wetland buffer, or proposed mitigation area. No additional wetland or wetland buffer shall be impacted or removed beyond what is approved with this permit. Any additional impacts to the wetlands, wetland buffers, or riparian habitat in future plans would require additional Wetland/Habitat Review and permitting. (See Wetland & Habitat Finding 13)

Note: Any additional information submitted by the applicant within fourteen (14) calendar days prior to or after issuance of this report, may not be considered due to time constraints. In order for such additional information to be considered, the applicant may be required to request a "hearing extension" or "open record" and shall pay the associated fee.

Hearing Examiner Decision and Appeal Process

This report to the Hearing Examiner is a recommendation from the Land Use Review program of Clark County, Washington.

The examiner may adopt, modify or reject this recommendation. The examiner will render a decision within 14 calendar days of closing the public hearing. Clark County will mail a copy of the decision to the applicant and neighborhood association within 7 days of receipt from the Hearing Examiner. All parties of record will receive a notice of the final decision within 7 days of receipt from the Hearing Examiner.

Motion for Reconsideration

Any party of record to the proceeding before the Hearing Examiner may file with the responsible official a motion for reconsideration of an examiner's decision within fourteen (14) calendar days of written notice of the decision. A party of record includes the applicant and those individuals who signed the sign-in sheet or presented oral testimony at the public hearing, and/or submitted written testimony prior to or at the Public Hearing on this matter.

The motion must be accompanied by the applicable fee and identify the specific authority within the Clark County Code or other applicable laws, and/or specific evidence, in support of reconsideration. A motion may be granted for any one of the following causes that materially affects their rights of the moving party:

- Procedural irregularity or error, clarification, or scrivener's error, for which no fee will be charged;
- Newly discovered evidence, which the moving party could not with reasonable diligence have timely discovered and produced for consideration by the examiners;
- The decision is not supported by substantial evidence in the record; or,
- The decision is contrary to law.

Any party of record may file a written response to the motion if filed within fourteen (14) calendar days of filing a motion for reconsideration.

The examiner will issue a decision on the motion for reconsideration within twenty-eight (28) calendar days of filing of a motion for reconsideration.

Appeal Rights

Any party of record to the proceeding before the hearings examiner may appeal any aspect of the Hearing Examiner's decision, except the SEPA determination (i.e., procedural issues), to the Superior Court.

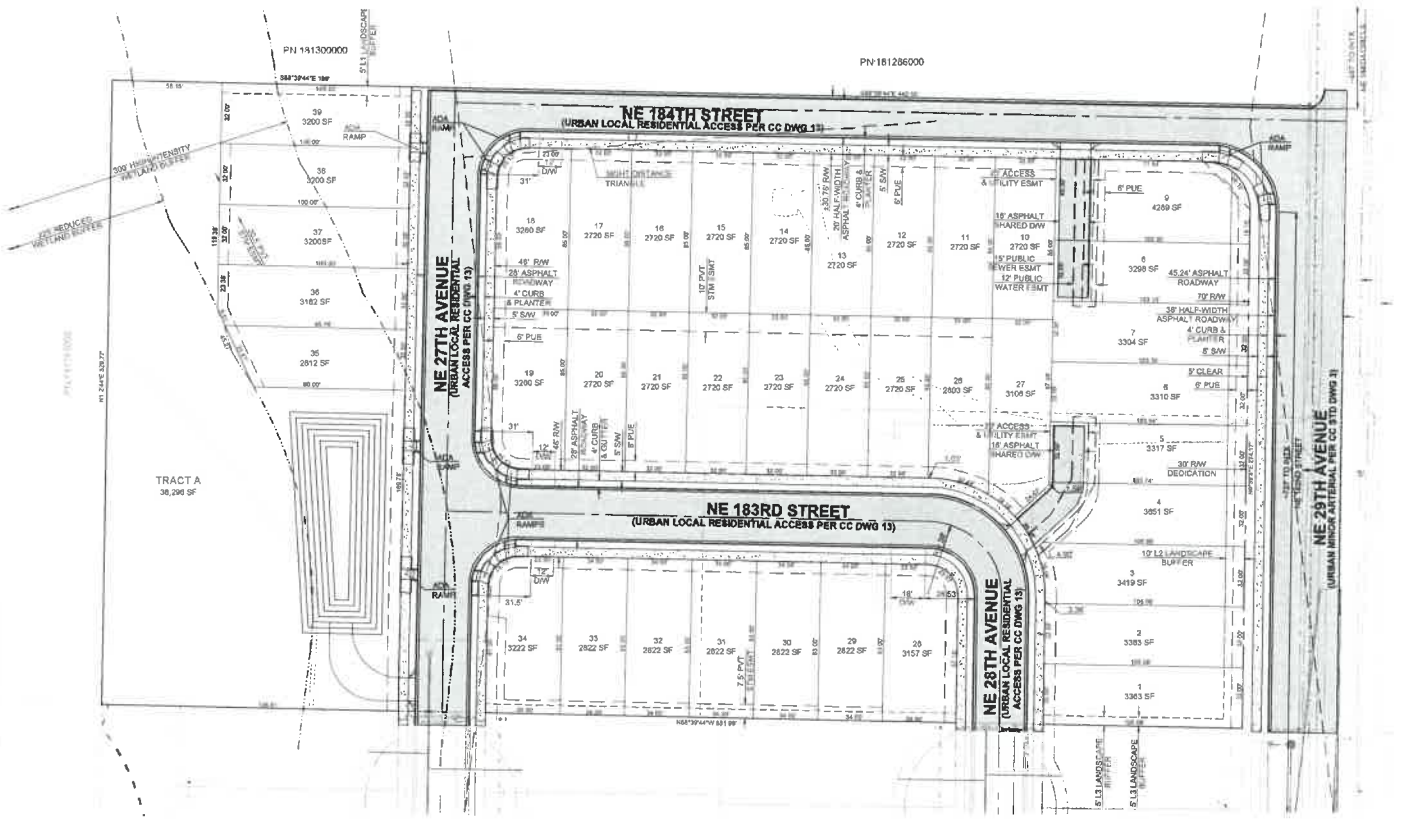
See the *Appeals* handout https://clark.wa.gov/media/document/57535 and https://clark.wa.gov/community-development/land-use-forms-and-fees for more information and fees.

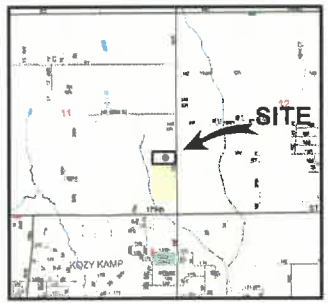
Attachments

- Copy of Preliminary Plan & Narrow Lot Plan

Four Creeks North Subdivision

Located in the SE ¼ of Section 11, T3N, R1E W.M.
Clark County, Washington





VICINITY MAP
NOT TO SCALE

GENERAL NOTES

APPLICANT:
Ginn Group
502 NE 72nd Street
Vancouver, WA 98665
(360) 768-5025
chad@ginngrp.com

OWNER:
Chi-Shih Wu
18500 SW35th Street
Vancouver, WA 98683
chishih.cu@comcast.net

Contact:
PLS Engineering
Jayson Taylor, PE
604 W Evergreen Blvd
Vancouver, WA 98660
(360) 944-6519
pm@plsengineering.com

SITE INFO:
Parcel Numbers & Acreage
-181225000 - 3.59 ac (156,263 sq. ft.)
-181291000 - 1.20 ac (52,089 sq. ft.)
Total Site area: 4.79 acres (208,352 sq. ft)

LAND USE:
The Four Creeks North Subdivision project proposes to subdivide 4.79 acres of land into 39 single-family detached lots utilizing the narrow lot development standards. The site is zoned R-12 with a comprehensive plan designation of Urban Medium density residential. Variances are proposed to allow for a minimum lot area of 2720 sf and a minimum lot width of 32'.

TRANSPORTATION AND UTILITIES:
NE 29th Avenue will provide the primary access to the site. The existing frontage road is classified as an arterial. Half-width improvements will be made as necessary. NE 27th Avenue and NE 28th Ave are roadways that are part of an upcoming development to the south that will be constructed prior to the proposed development. These roadways are both classified as local access roadways. Full width improvements will be extended to and through the site. All other internal roadways are proposed to be public and will be designed to the local access roadway standards. A public utility easement will be provided adjacent to all proposed roadways.
There are no transit routes or stops within ¼ mile of the site.

Proposed locations of ADA ramps are shown. Length of ramps will be determined during final engineering.

Water and Sewer:
Clark Public Utilities is the public water purveyor for the site. The is an existing 16" DI water main in 29th Avenue that will be used as a connection point. Development of the property to the south will leave two water stub in each of the public roads stubbed to the south property line. Both stubs will be extended to and through the site. Clark Regional Wastewater District is the public sewer purveyor for the site. Development of the property to the south will leave two sanitary sewer stubs to the south. Both stubs will be carried to and through the site. There is one onsite sewage system located on parcel 181291000 that will be abandoned during development. There is one operational drinking water well on-site that will be abandoned during development. Both systems were located during initial survey of the site.

The nearest existing fire hydrant is located approximately 1,000 feet north of the project site at NE 188th Cir. Two new hydrants are proposed to be installed along NE 28th and 27th Avenue which stub to the southern property line with the development of the property to the south. One hydrant along NE 27th Avenue is approximately 200' south of the property line. The hydrant along NE 28th Avenue is approximatily 150' south of the existing property line.

CRITICAL AREAS:
There is a Category II wetland with a 300' buffer located off site to the west whose buffer encroaches on the site. Wetland buffer reduction is proposed with this application. A non-fish bearing stream is also located off-site approximately 200' west of the western boundary of the subject parcel. The OHWM for this stream is off-site. There are no flood plains or shoreline jurisdictions located onsite.

There are no steep slopes with a potential landslide/erosion hazard area located onsite.

There are no known significant historic resources located onsite.

Exhibit 19

Scale 1" = 30'

Legend	
Proposed Asphalt Concrete	
Proposed Cement Concrete	
Proposed Gravel	

Preliminary Plat For:
Four Creeks North Subdivision
A Subdivision Located In Clark County, WA

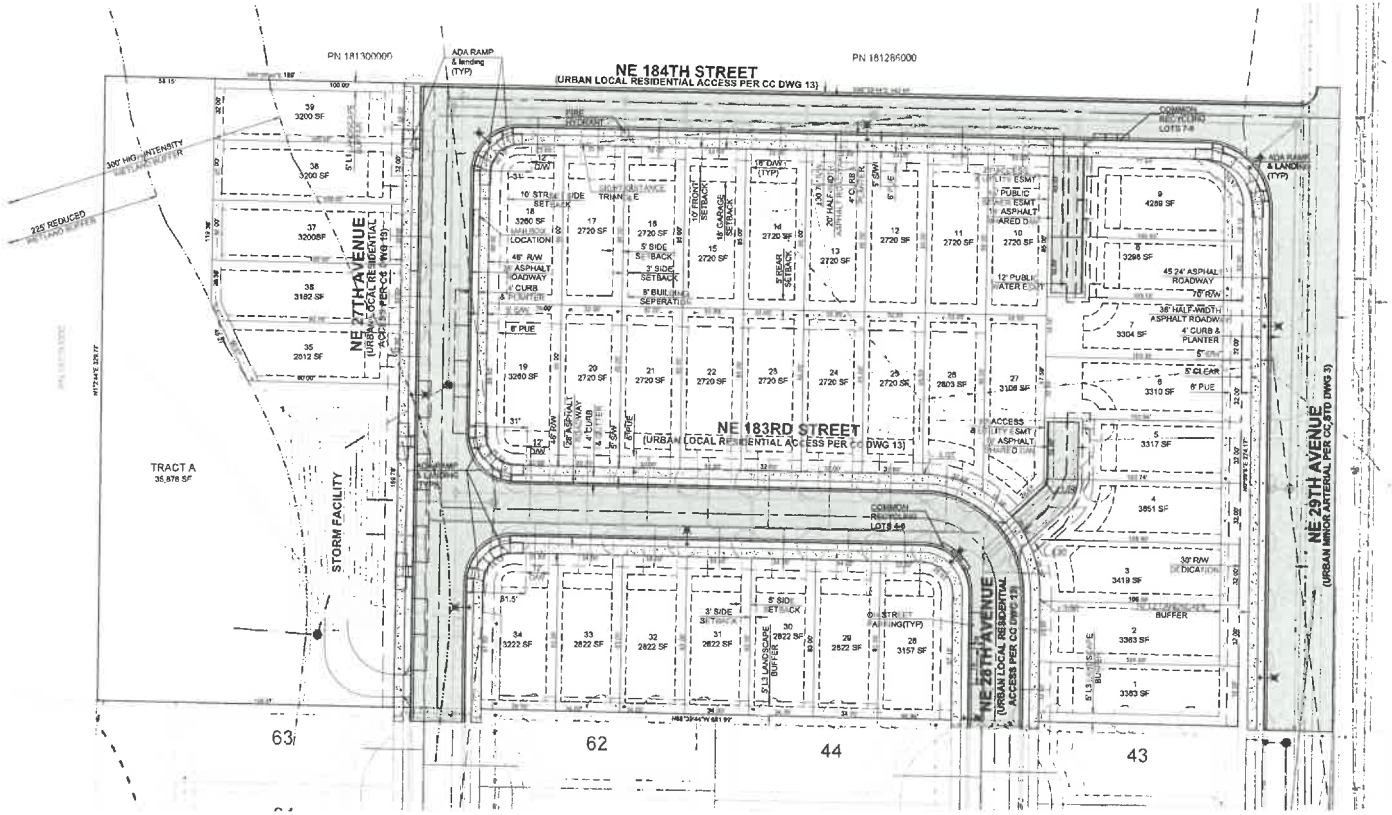
Revisions

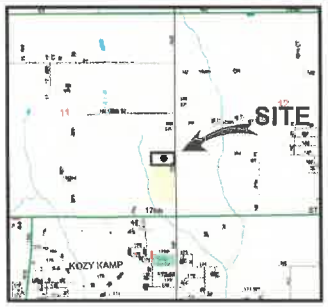
Project No. 3891	
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	MAD
DRAFTED BY:	MAD
REVIEWED BY:	TGI

02
04

Four Creeks North Subdivision

Located in the SE ¼ of Section 11, T3N, R1E W.M.
Clark County, Washington





VICINITY MAP
NOT TO SCALE

GENERAL NOTES

APPLICANT:
Ginn Group
502 NE 72nd Street
Vancouver, WA 98665
(360) 788-5025
chad@ginngrp.com

OWNER:
Chi-Shih Wu
18500 SW 35th Street
Vancouver, WA 98683
chishih.cu@comcast.net

Contact:
PLS Engineering
Jayson Taylor, PE
604 W Evergreen Blvd
Vancouver, WA 98660
(360) 944-6519
pm@plsengineering.com

SITE INFO:
Parcel Numbers & Acreage
-181225000 - 3.59 ac (156,263 sq. ft.)
-181291000 - 1.20 ac (52,089 sq. ft.)
Total Site area: 4.79 acres (208,352 sq. ft)

LAND USE:
The Four Creeks North Subdivision project proposes to subdivide 4.79 acres of land into 39 single-family detached lots utilizing the narrow lot development standards. The site is zoned R-12 with a comprehensive plan designation of Urban Medium density residential. Variances are proposed to allow for a minimum lot area of 2720 sf and a minimum lot width of 32'.

A site plan is required that demonstrates that utilities, driveways, street trees, and other features have been located and designed to minimize conflicts with one another. This Narrow lot plan shows the required features and demonstrates that conflicts have been minimized.

Narrow lot developments must provide a guest parking space for every three narrow lots. In total 13 spaces are required. These parking spaces are allowed to be located on local access streets. These required parking spaces are provided throughout the development and are shown on this plan.

See the landscape plan sheet L1 for details on the location, species, and size of street trees, including the mature heights and crown widths.

Solid waste and recycling will be picked up on the street for all lots. Lots 4-9 are located on shared driveways, and solid waste and recycling pickup locations for these lots are shown on the nearest public road.

ADA ramps will have 5' landings per Clark County details. Length of ramp runs is unknown and will be determined during final engineering.

Scale 1" = 30'

Legend	
Proposed Asphalt Concrete	
Proposed Cement Concrete	
Proposed Gravel	

Exhibit 20

PLS ENGINEERING

Narrow Lot Site Plan For:
Four Creeks North Subdivision
A Subdivision Located In Clark County, WA

Revisions

Project No. 3891	
SCALE:	H: 1" = 30' V: N/A
DESIGNED BY:	MAG
DRAFTED BY:	MAG
REVIEWED BY:	TGI

03
04

Type III Land Division, Environmental Review, Staff Report and Recommendation

Project Name:	**Kozy Manor Estates**
Case Number:	**PLD-2025-00014; WHR-2025-00048**
Address:	3619 & 3701 NE 179th Street, Ridgefield, WA 98642
Parcel Number:	181747-000 & 181748-000, located in the NW ¼ of Section 13, Township 3 North, Range 1 East, Willamette Meridian
Request:	The applicant requests Subdivision approval to divide ±14 acres into 39 single-family detached lots, utilizing Density Transfer within the R1-7.5 and R1-10 zones and the Mill Creek Overlay.
Owners:	Deborah Williams 3619 NE 179th St Ridgefield, WA 98642 Kathleen and Conrad Mandt 3701 NE 179th St Ridgefield, WA 98642
Applicant:	HSR Capital, LLC Attn: Kevin Miller 19120 SE 34th St, Unit 103 Vancouver, WA 98683 360.798.6458 kevin@hsr-capital.com
Contact:	Hayward Uskoski and Associates, Inc. Attn: Sadie Naglich 1101 Broadway St, Unit 215 Vancouver, WA 98660 360.635.5223 sadie@huaconsulting.com

Recommendation
Approval, Subject to Conditions

Land Use Review Manager's Initials: BD **Date issued: January 7, 2026**

Public Hearing date: January 22, 2026

County Review Staff

Department/Program	Name	Phone	Email Address
Community Development			
Land Use Review Manager	Brent Davis	564.397.4152	brent.davis@clark.wa.gov
Land Use Review Planner	Marion Bateman	564.397.4885	marion.bateman@clark.wa.gov
Senior Deputy Fire Marshal	Jason Knoble	564.397.3318	jason.knoble@clark.wa.gov
Engineering Team Manager	Naomi Patibandla	564.397.4630	naomi.patibandla@clark.wa.gov
Review Engineer	Michelle Dawson, PE	564.397.4568	michelle.dawson@clark.wa.gov
Concurrency Engineer	Craig Kathol, EIT	564.397.4347	craig.kathol@clark.wa.gov
Review Biologist	Ariel Whitacre	564.397.4714	ariel.whitacre@clark.wa.gov

Comprehensive Plan/Zoning: Urban Low Density Residential/R1-10 & R1-7.5

Applicable Laws:
Clark County Code: Title 14 (Building), Title 15 (Fire Prevention), 40.200 (General Provisions), 40.220.010 (Low-Density Residential Districts), 40.250.060 (Mill Creek Overlay District), 40.310 (Signs), 40.340 (Parking & Loading), 40.350 (Transportation & Circulation), 40.370 (Sewer & Water), 40.386 (Stormwater & Erosion Control), 40.430 (Geologic Hazard Areas), 40.440 (Habitat Conservation), 40.450 (Wetland Protection), 40.500 and 40.510 (Procedures), 40.540 (Boundary Line Adjustments & Land Divisions), 40.550.010 (Road Modifications), 40.570 (SEPA), 40.570.080 (SEPA Archaeological), 40.610 (Impact Fees), Title 24 (Public Health), RCW 58.17, & Clark County Comprehensive Plan.

Neighborhood Association: Four Creeks Neighborhood Association

Vesting
An application is reviewed against the subdivision, zoning, transportation, stormwater, and other land development codes in effect at the time a fully complete application for preliminary approval is submitted. If a pre-application conference is required, the application shall earlier contingently vest on the date the fully complete pre-application is filed. Contingent vesting requires that a fully complete application for substantially the same proposal is filed within 180 calendar days of the date the county issues its pre-application conference report. Contingent vesting does not apply to stormwater or concurrency standards.

An initial pre-application conference on this matter was held on July 25, 2024. A second conference was held on September 5, 2024. A third conference was held on December 19, 2024. Given the unique circumstances of this application, the applicant was allowed to retain the contingent vesting from the second pre-application conference due to the fact that new and progressively more impactful information was presented to the applicant at the 2nd and 3rd conferences regarding right-of-way and frontage improvement requirements related to the

county-planned roundabout that is to be constructed on NE 179th Street at the northeast corner of the site, and also the fact that the 2nd preapplication contingently vested to a date prior to the effective date of the updated Critical Areas Ordinance and the new Riparian Habitat and Wetland Buffer mitigation standards that would have a significant impact on the financial feasibly of developing the project under the now-current zoning standards. Therefore, the pre-application was determined contingently vested as of August 12, 2024 (the date the 2nd fully complete pre-application was submitted) if a fully complete application for substantially the same proposal were submitted on or before July 16, 2025.

The fully complete application was submitted on February 18, 2025 and determined to be fully complete on March 5, 2025. Given these facts, the application is contingently vested as of August 12, 2024. This vesting does not apply to stormwater (vested March 5, 2025) or concurrency standards.

Washington state requires that needed transportation facilities be provided concurrently with new development. Transportation concurrency is based on a first come, first serve basis. If there is sufficient remaining capacity on the roadways that will serve the subject development, the project will be approved for concurrency. Vesting for transportation concurrency (reservation in the concurrency line) is established at the time all fully complete application submittal items are submitted. Your application was vested for transportation concurrency on February 18, 2025.

Vesting for stormwater is established at the time of fully complete land use application. Your project is vested for stormwater on March 5, 2025.

There are no disputes regarding project vesting.

Time Limits

The application was determined to be fully complete on March 5, 2025. However, the application was placed on hold for additional/revised information for 249 days. Therefore, the county code requirement for issuing a decision within 92 days lapses on February 9, 2026. The state requirement for issuing a decision within 120 calendar days lapses on March 9, 2026.

Public Notice

A Notice of Application and public hearing was mailed to the Four Creeks Neighborhood Association, the applicant, and property owners within 500 feet of the site on March 26, 2025. When the project was placed on hold a Notice of Cancelled Hearing was sent on April 16, 2025. When the hold was lifted, a Notice of Hearing Date Change was sent on December 16, 2025. A development sign was posted by the applicant at the site on December 19, 2025.

Public Comments

Washington State Department of Ecology submitted comments (Exhibit 13) regarding toxic waste cleanup and solid waste management

The Department of Archaeology and Historic Preservation submitted comments (Exhibit 15) recommending that an inadvertent discovery plan (IDP) be created prior to any ground disturbance and kept onsite throughout development.

Washington State Department of Fish and Wildlife submitted comments (Exhibit 16) regarding onsite wetland and habitat conditions.

Staff Response
The agency findings above have been placed as conditions of approval in addition to staff's findings and conditions below. The applicant was provided these comments and is required to satisfy all state and local requirements before, during and after development.

Project Overview
The applicant is requesting to subdivide two parcels consisting of approximately 14 acres into 39 residential lots in the R1-7.5 and R1-10 zoning districts and the Mill Creek Overlay. The applicant is proposing single-family detached homes on all lots and will be utilizing the Density Transfer provisions contained in CCC 40.220.010.C.4. Individual driveways will provide access to each of the new lots off the proposed public roads and shared driveways that will connect to a proposed portion of the NE 37th Avenue right-of-way. The subject site has frontage along NE 179th Street to the north. To the east lies an approximately 250-foot-wide BPA easement, and to the south and west abut single family residences on large lots.

Vegetation on the site includes a mix of evergreen and deciduous trees concentrated along the west and south boundaries, while the remaining areas are primarily pasture and grass. The site slopes gently down from east to west, following the natural contours of a tributary of Mill Creek along the western boundary. The site contains steep slopes and wetlands along the stream corridor along the west and southern property boundaries. The site currently contains two single-family residences and several accessory structures and agricultural buildings. All structures are proposed to be removed except for one of the residences, which is proposed to remain on lot 16.

The subject site is located in the Vancouver Urban Growth Area and is serviced by Clark-Cowlitz Fire Rescue, the Battle Ground School District, Clark Public Utilities water and electrical systems, and Clark Regional Waste Water Sewer systems.

The applicant submitted application materials including preliminary plans, a Preliminary Stormwater Technical Information Report (TIR), Traffic Study, Sight Distance Certification, Circulation Plan, Proof of submittal to DAHP of an Archaeological Predetermination, and a State Environmental Policy Act (SEPA) checklist.

Comprehensive Plan, Zoning and Current Land Use

Compass	Comp Plan	Zoning	Current Land Use
Site	UL	R1-7.5/R1-10	Single-family residences
North	UL	R1-7.5	Single-family residences
East	UL	R1-7.5	BPA Easement
South	UL	R1-10	Single-family residences
West	UM	R1-10	Single-family residences

Staff Analysis

Staff first analyzed the proposal in light of the 16 topics from the Environmental Checklist (see list below). The purpose of this analysis was to identify any potential adverse environmental impacts that may occur without the benefit of protection found within existing ordinances.

1. Earth
2. Air
3. Water
4. Plants
5. Animals
6. Energy and Natural Resources
7. Environmental Health
8. Land and Shoreline Use
9. Housing
10. Aesthetics
11. Light and Glare
12. Recreation
13. Historic and Cultural Preservation
14. Transportation
15. Public Services
16. Utilities

Staff then reviewed the proposal for compliance with applicable code criteria and standards in order to determine whether all potential impacts could be mitigated by the requirements of the code. Staff's analysis also reflects review of agency and public comments received during the comment period, and knowledge gained through a site visit.

Major Issues

Only the key issues, errors in the development proposal, and/or justification for any conditions of approval are discussed below. Staff finds that all other aspects of this proposal not discussed below comply with the applicable code requirements.

Land Use

Finding 1 – R1-7.5 & R1-10 Zoning Standards

The east half of the site is zoned R1-7.5 and the west half of the site is zoned R1-10. The R1-7.5 and R1-10 zoning districts are intended to provide for a mix of single-family and middle housing types in a low-density context at a neighborhood scale, establish higher densities where a full range of community services and facilities are present or will be present at the time of development, and provide for additional related uses such as schools, parks and utility uses necessary to serve immediate residential areas.

According to Table 40.220.010-1, detached single-family residential dwellings are an allowed use within the R1-7.5 and R1-10 zones.

Setbacks, maximum lot coverage, maximum building height and other low-density residential lot standards are addressed below under Finding 2 - Density Transfer.

Finding 2 – Density Transfer

The applicant is proposing to utilize the density transfer provisions contained in CCC 40.220.010.C.4. The purpose of density transfer is to achieve the density goals of the comprehensive plan with respect to the urban area, while preserving environmentally sensitive lands and the livability of the low-density residential neighborhoods, while also maintaining compatibility with existing residences.

The density for property developed in low-density zone districts for single-family detached dwellings, if encumbered by land identified as sensitive due to the presence of steep slopes, unstable land, historical or archaeological sites, wetlands and buffers, regional stormwater

facilities, or other permanent physical development limitations as may be determined by the responsible official or land voluntarily set aside for open space or commons as approved by the responsible official, from the gross acreage may be transferred to the remaining unencumbered land areas on the same development site, subject to the following limitations:

(1) Easements established for utility transmission lines such as Bonneville Power Administration (BPA), PacifiCorp a.k.a. Pacific Power (formally known as PP&L), Clark Public Utilities, and NW Natural cannot be utilized for density transfer.

A 250-foot-wide BPA easement exists on the east portion of the site which divides the site from north to south and leaves a small (approximately 5-foot-wide) strip of the parent parcel remaining, east of this easement. The easement area and the strip of land east of the easement is not included in the density transfer calculations and is known as Tract "J" on the preliminary plat.

(2) Maximum Number. The maximum number of units that can be achieved on the site is based on the density in Table 40.220.010-5, multiplied by the gross acreage of the entire site, both encumbered and unencumbered, without deducting for road easements or right-of-way. The potential maximum number of lots will be dependent upon site characteristics and the lot requirements of Table 40.220.010-5, as shown below.

Table 40.220.010-5. Density Transfers

Zoning District	Maximum Density (d.u./acre)[3]	Minimum Useable Lot Area[1] (square feet)	Average[4] Lot Width[2] (feet)	Average[4] Lot Depth[1] (feet)
R1-7.5	5.3	2,500	45	50
R1-10	4.1	3,500	60	50

The gross area of the R1-10 parcel is 261,013 square feet (5.99 acres). The maximum density for R1-10 utilizing density transfer is 4.1 units per acre. 5.99 acres x 4.1 units per acre = 24 maximum units, rounded down per CCC 40.200.040.A.1.

The applicant is proposing approximately 12.5 lots in the R1-10 zone which complies with maximum density.

The gross area of the R1-7.5 parcel is 322,170 square feet (7.40 acres), which does not include the 10,112 square feet (0.23 acres) of the strip of land physically separated from the parcel by the BPA easement. The maximum density for R1-

[1] Minimum usable area is that portion of the lot which is unencumbered by the land voluntarily set aside, environmentally sensitive lands to be protected and their respective buffers and shall exclude setbacks and easements. [Example: A typical five thousand (5,000) square foot lot would have three thousand (3,000) square feet of usable area, even if unencumbered by environmentally sensitive lands.]

[2] May be reduced subject to the provisions of this chapter and the variance procedures.

[3] The maximum density rates apply to the overall gross acreage of the site, whether encumbered or not. The actual maximum number of lots that may be achieved is also dependent on the other requirements of this table. The maximum density rates are based upon dividing the gross acres by the minimum lot size in the zone, minus twenty percent (20%) which would normally be devoted to road right-of-way or road easements in a typical subdivision.

[4] Average for each individual lot.

7.5 utilizing density transfer is 5.3 units per acre.
7.4 acres x 5.3 units per acre = 40 maximum units, rounded down.

The applicant is proposing approximately 26.5 lots in the R1-7.5 zone which complies with maximum density.

Between both the R1-7.5 zone and the R1-10 zone the applicant is proposing a total of 39 lots. However, the applicant's preliminary plat shows 40 lots because according to a note on the plat (Exhibit 51, Sheet 2, Plan Note #10) lot 14 was removed during the preliminary review but the numbering was preserved for ease of reference. On the final engineering plans and prior to final plat, the applicant shall re-number the lots so that they are numbered consecutively from 1 – 39, (see Conditions A-11.a & D-8).

(3) The minimum lot depth of any lot abutting environmentally sensitive lands shall be fifty-five (55) feet.

All of the lots abutting environmentally sensitive lands (along the south and west perimeters) are at least 55 feet deep. Therefore, this criterion is met.

(4) For parent parcels larger than two and one-half (2.5) acres:

(a) The resulting lots which abut R1-5, R1-6, R1-7.5, R1-10 or R1-20 zoned lots or parcels shall:

(i) Be at least ninety percent (90%) of the minimum lot area standard for the subject parcel;

(ii) Have a lot depth of not less than eighty percent (80%) of the minimum lot depth of the subject parcel;

(iii) Have a minimum lot width not less than ten (10) feet from the minimum lot width of the subject parcel.

The parent parcel is larger than two and one-half (2.5) acres and therefore these standards apply. The only resulting lot or tract that will abut other R1-zoned lots or parcels that are outside of/adjacent to the development is proposed Tract K. Tract K is shown as a continuous tract that runs north to south along the entire west boundary of the development and is proposed to contain on-site critical areas. Tract K is proposed to exceed ninety percent (90%) of the minimum lot area for the R1-10 zone and appears to achieve a depth that is not less than eighty percent (80%) of the minimum lot depth for R1-10 zoning (which is 90 feet) and width not less than ten (10) feet from the minimum lot width for R1-10 zoning (which is 70 feet). With the exception of Tract K, the rest of the resulting lots will not abut other R1-zoned lots or parcels that are outside of/adjacent to the development. To the east, the proposed lots will abut a BPA easement, to the north the proposed lots will abut NE 179th Street right-of-way, and to the south and west the lots will abut Tract K. Proposed Tract K will act in the same function as the larger perimeter lot requirement prescribed by CCC 40.220.010(C)(4)(b)(4)(a)(i-iii), and thus will aid in preserving the compatibility between this development, which is proposing density transfer to achieve higher

density and smaller interior lots sizes, and the existing low-density residential lots which abut this site to the west and south. Staff finds that these conditions as proposed are aligned with the purpose of density transfer, pursuant to CCC 40.220.010(C)(4)(a).

Please note that tracts established through platting shall not be considered a legal lot of record. Refer to the 'Approval Criteria for Tracts for Nonbuilding Purposes' section herein for more information.

(b) The resulting lots which are interior (not a part of the parent parcel abutting an adjacent property line) to the site shall conform to the lot requirements set out in Table 40.220.010-5[5].
Staff considers the resulting interior lots (including any lots not abutting an adjacent property line) to be all of the proposed lots in the subdivision because, following the logic described above, none of the proposed lots abut property lines and therefore the new lots will not abut other R1-5, R1-6, R1-7.5, R1-10 or R1-20 zoned lots or parcels. Therefore, staff shall apply the lot requirements set out in Table 40.220.010-5 for density transfer to all proposed lots 1 – 39.

Pursuant to Table 40.220.010-5, minimum usable lot area in the R1-7.5 zone is 2,500 square feet and in the R1-10 zone it is 3,500 square feet. Minimum usable area is that portion of the lot which is unencumbered by the land voluntarily set aside, environmentally sensitive lands to be protected and their respective buffers and shall exclude setbacks and easements. Minimum setbacks for both R1-7.5 and R1-10 shall comply with Table 40.220.010-3, as summarized below:

- *Front – 10 feet for the house, 18 feet for the garage*
- *Street side – 10 feet*
- *Interior side – 5 feet*
- *Rear – 10 feet*
- *Maximum lot coverage (R1-7.5) – 55%*
- *Maximum lot coverage (R1-10) – 50%*
- *Maximum building height – 35 feet, except that accessory buildings must meet the height requirements of Section 40.260.010(D)*

The applicant submitted a setback and usable area plan (Exhibit 51, Sheet 7) demonstrating that all lots shall comply with the minimum usable area prescribed by Table 40.220.010-5 while meeting the applicable setbacks and excluding environmentally sensitive lands and easements. Building envelopes are required to be shown on the Final Plat which restrict development within the environmentally sensitive areas (see Wetland and Habitat findings below), however a condition is warranted to ensure that all future development also comply with the minimum setback lines as shown on the applicant's usable area plan, as well as building height and lot

[5] CCC 40.220.010.C.4.b.4.b contains a scrivener's error, where it refers to Table 40.220.010-4 it should say Table 40.220.010-5 for density transfer.

coverage (see Condition E-2).

Table 40.220.010-5 further requires average lot width to be at least 45 feet in the R1-7.5 zone and 60 feet in the R1-10 zone, and average lot depth to be at least 50 feet for both zones. All lots comply with Table 40.220.010-5 for minimum average lot width and depth for both zones, as proposed. Therefore, no conditions are warranted.

(5) For parent parcels two and one-half (2.5) acres or less, all lots, both exterior and interior, to be created shall conform to the lot requirements in Table 40.220.010-5.
This section is not applicable as the parent parcel is more than 2.5 acres.

(6) This density transfer development provision may not be used in association with the planned unit development provisions of Section 40.520.080, the compact lot development provisions of Section 40.260.072, or the cottage housing provisions of Section 40.260.073.
The applicant is not proposing a PUD, compact lot or cottage housing development. Therefore, this criterion is met.

(7) A recorded covenant shall be placed on those areas or tracts from which density is transferred prohibiting any development of the parcel or tract inconsistent with its intended use.
The proposed preliminary plat (Exhibit 51, Sheet 2) demonstrates that there are thirteen (13) separate tracts that will be created with this development, and also that each tract has a designated and intended use. The applicant confirmed in their revised narrative (Exhibit 41) that a recorded covenant shall be placed that will prohibit development on these tracts. Refer to Finding 4 - Approval Criteria for Tracts for Nonbuilding Purposes below for more information.

(8) Subdivision lots shall be subject to the maximum average lot area provisions of the underlying zone.
Pursuant to Table 40.220.010-2, maximum average lot area is 10,500 square feet in the R1-7.5 zone and 15,000 square feet in the R1-10 zone. The applicant is proposing average lot area of 6,733 square feet in the R1-7.5 zone and 10,446 square feet in the R1-10 zone, thus complying with this standard. Therefore, no conditions are warranted.

Finding 3 – Mill Creek Overlay District
The Mill Creek overlay district (MC) is intended to implement the Mill Creek Sub-Area Plan. It provides for special provisions to be applied to developments within the overlay district boundary. The entire development lies within the MC overlay district boundary and therefore the standards below are applicable.

1. New lots created adjacent to urban subdivision lots existing at the time of the adoption of the Mill Creek Overlay District shall meet or exceed the average lot size of the abutting subdivision lots unless there are at least two hundred (200) feet of open space between the existing and proposed lots.

The subject site is not abutting any established urban subdivision lots. Therefore, this standard is not applicable.

2. Prior to approval of any development that would add traffic to NE 37th Avenue, additional access via a public road connection to NE 40th Avenue or NE 174th Street must be assured.

   The applicant's submitted plans (Exhibit 51, Sheet 6) show a 2-lane collector proposed to pass through the site with a future roundabout at the intersection of NE 179th Street and NE 37th Place. This development proposes to dedicate right-of-way and to construct the collector with a standard connection to NE 179th Street and will also provide a stub for future access extending south through the BPA easement that abuts the site to the east. This stub for future expansion will allow a future public road to continue south/southeast, thus assuring eventual connection to NE 40th Avenue or NE 174th Street. This proposed configuration is in-line with the Arterial Atlas and the county's 179th Street Access Management and Circulation Plan, which is a planned component of the Northeast 179th Street Corridor Improvements project. Therefore, this standard is met. No conditions are warranted.

3. A minimum lot size of nine thousand (9,000) square feet is required for all land divisions in the R1-10 and R1-20 districts proposing to develop under the density transfer provisions of Section 40.220.010(C)(5), or the planned unit development provisions of Section 40.520.080. The exceptions to lot sizes in Section 40.200.050 shall still apply.

   Because the applicant is proposing density transfer in the R1-10 zone, this criterion applies. The proposed preliminary plat (Exhibit 51, Sheet 2) demonstrates that all proposed lots within the R1-10 zoning designation shall be at least 9,000 square feet. Therefore, no conditions are warranted.

Finding 4 – Approval Criteria for Tracts for Nonbuilding Purposes

Pursuant to CCC 40.540.040.E, tracts established for the purpose of providing utilities, access or stormwater facilities shall not apply to the maximum number of lots permitted through the subdivision process. A covenant(s), or a note(s) on the plat, shall be recorded to ensure tracts will be used only for the intended nonbuilding use.

The applicant is proposing the following tracts, listed by intended use (Exhibit 51, Sheet 1):

Tract A	Private road
Tract B	Shared driveway, lots 28-30
Tract C	Shared driveway, lots 34-36
Tract D	Shared driveway, lots 4 & 5
Tract E	Shared driveway, lots 17-19 & Tract I
Tract F	Landscaping
Tract G	Landscaping
Tract H	Landscaping
Tract I	Stormwater
Tract J	Area east of BPA ROW, to be retained by the developer for future development

Tract K	Critical Areas
Tract L	Stormwater & CPU pump station
Tract M	Shared driveway, lots 10 & 11

The applicant shall record a covenant and include a note on the face of the Final Plat to ensure tracts will be used only for the intended nonbuilding purposes, (see Condition D-4.f & Plat Note D-5.i).

A tract established through platting, whether or not designated as a nonbuilding tract, shall not be considered a legal lot of record. A separate platting process shall be required to convert a previously platted tract to a legal lot of record, (see Condition H-1).

Finding 5 – Landscaping on Arterials and Collectors in the Urban Area
In accordance with 40.320.020.H, on all arterials and collectors in the urban area, (NE 179th Street is a Principal Arterial) the area between the back of sidewalk and the right-of-way and between the back of curb and sidewalk, as well as the area within all medians constructed within a public road, shall be landscaped with drought-resistant plants (see the Standard Details Manual), (see Conditions A-11.b and C-3).

Finding 6 - Pedestrian Facilities
According to state platting laws (RCW 58.17.110) appropriate provisions shall be made to assure safe walking conditions for students who only walk to and from school.

The subject development is located within the Battle Ground School District, and specifically within the boundaries of Pleasant Valley Elementary, Pleasant Valley Middle, and Prairie High Schools. However, none of the aforementioned schools are within one (1) mile of the subject site. Therefore, appropriate provisions to assure safe walking conditions for students who only walk to and from school are not required. No conditions are warranted.

Finding 7 - County State Platting Standards
With conditions of approval, staff finds the proposed subdivision will make appropriate provisions for the public health, safety, and general welfare of the community. Connection to public water and sewer facilities, as well as treatment of any future stormwater runoff will be provided to protect groundwater supply and integrity. Impact fees will also be required to ensure that the development will contribute a proportionate share toward the costs of school, park and transportation facilities, maintenance, and services.

Conclusion (Land Use):
Staff concludes that the proposed preliminary plan, subject to conditions identified herein, meets the land use requirements of the Clark County Code.

Archaeology
Finding 1 - Applicability
The development site is located within a Moderate-High and High probability areas for the discovery of archaeological resources as designated on the Archaeological Predictive Model Map of Clark County.

Finding 2 - Pre-determination
The applicant has submitted an archaeological pre-determination to the Washington State Department of Archaeology and Historic Preservation (DAHP) prior to submittal of the application (Exhibit 1, Tab 21). DAHP was mailed the public notice and provided comments (Exhibit 15) stating that because this project location is in an area marked "Survey Highly Advised: Very High Risk" by DAHP's predictive model, they recommend that an inadvertent discovery plan (IDP) be created prior to any ground disturbance and kept on site throughout the project. A note will also be required on the final construction plans as well as on the final plat that if resources are discovered during ground disturbance, work shall stop and both DAHP, the tribes, and the county shall be notified (see Conditions A-1, B-6 & Plat Note D-5.a).

Conclusion (Archaeology):
Staff finds that the proposed preliminary plan, subject to the condition identified herein, meets the archaeology requirements of the Clark County Code.

Transportation & Circulation
Finding 1 – Pedestrian/Bicycle Circulation
Pedestrian circulation facilities in compliance with the Americans with Disabilities Act (ADA) and CCC 40.350.015 are required for this development. The proposal includes sidewalk improvements on NE 37th Avenue and the internal private roads. Bike lanes are required on NE 37th Avenue and NE 179th Street, sufficient pavement width for bike lanes is proposed on NE 37th Avenue, and the applicant has requested relief from constructing frontage improvements on NE 179th Street, [see Finding 6 – Technical Road Modification: Request 3], (see Condition A-2.a).

Per the WSDOT design manual as adopted under CCC 40.350.030(C)(1)(b)(1) new construction projects shall provide curb ramps oriented in each direction of pedestrian travel within the width of the crosswalk it serves, and if receiving ramps do not exist, they shall be constructed as part of the new development. The applicant will need to show on final construction plans that pedestrian ramps will comply with the WSDOT Design Manual, (see Condition A-2.b).

Finding 2 – Road Circulation Plan
Cross-circulation is required by CCC 40.350.030(B)(2). The proposal includes construction of NE 37th Avenue per the Arterial Atlas and a road modification request for relief from block length and block perimeter, [see Finding 6 – Technical Road Modification: Request 2].

Finding 3 – Roads
Road improvements and design are required to comply with CCC 40.350.030, CCC Table 40.350.030-2 and CCC Table 40.350.030-3.

NE 179th Street is classified as a Principal Arterial with Center Left and Bike Lanes, half-width improvements are required per Standard Detail Drawing #2 and consist of 50 feet of right-of-way, 36 feet of roadway width, curb & gutter, and 5-foot detached sidewalk. The proposal includes a road modification request for relief from constructing frontage improvements, [see Finding 6 – Technical Road Modification: Request 3]. Additional ROW dedication, or an easement, is required at all intersections with the arterial, the applicant is proposing to

dedicate additional ROW at the intersection with NE 179th Street, (see Conditions A-2.c, A-2.d & D-2.a).

NE 37th Avenue is classified as an Urban Collector 2-Lane with Bike Lanes, full-width improvements are required per Standard Detail Drawing #7 and consist of 60 feet of right-of-way, 34 feet of roadway width, curb & gutter, and 5-foot detached sidewalks. The proposal includes street improvements consistent with the standard detail. Additional ROW dedication, or an easement, is required at all intersections with the arterial, the applicant is proposing an easement at the intersection with NE 37th Avenue, (see Conditions A-2.d, A-2.e & D-2.b).

NE 178th Street is partially proposed as an Urban Local Access Road, full-width improvements are required per Standard Detail Drawing #13 and consist of 46 feet of right-of-way, 28 feet of roadway width, curb & gutter, and 5-foot sidewalks. The proposal includes roadway improvements consistent with the standard, (see Conditions A-2.f & D-2.c).

A portion of NE 178th Street and NE 37th Court are proposed as Urban Private Roads, full-width improvements are required per Standard Detail Drawing #15 or 16 and consist of a minimum 26 foot easement or tract, minimum 20 foot roadway width, curb & gutter, and 5-foot sidewalk on one side. The proposal includes roadway improvements consistent with the standard, (see Conditions A-2.g & D-2.d).

Turnarounds are proposed at the dead-ends of NE 37th Court and prior to the private gate on NE 178th Street. The applicant is proposing turnarounds that comply with the Standard Details Drawing #23 and #28, (see Condition A-2.h).

The intersection of NE 179th Street/NE 37th Avenue is proposed to be a full movement access facilitated by a future roundabout on the NE 179th Street Access Management Plan. The applicant is proposing to not construct this roundabout but is proposing to dedicate right-of-way, the applicant has submitted a road modification request for this proposal, [see Finding 6 – Technical Road Modification: Request 4].

Parking is prohibited on any road less than 24 feet wide. Signing and Striping plans shall include appropriate measures on partial width roads and roads stubbed to the plat boundary, (see Conditions A-2.i & A-2.j).

Finding 4 – Access Management

Per CCC 40.350.030(B)(4)(b)(1)(a), excepting the bulbs of cul-de-sacs, driveways serving single-family residential lots shall be located a minimum of 5 feet from an interior side property line or zero feet as a shared driveway approach. The applicant's proposal includes shared driveways serving Lots 4-5, Lots 10-11, Lots 17-19, Lots 28-30, and Lots 34-36. Shared driveways can serve no more than 4 lots and must be a minimum of 12-feet wide and placed in a minimum of 20-foot wide easement, (see Conditions A-2.k & D-2.e).

Driveway access onto arterial classified roadways is prohibited if access to a lower classified roadway is available. This development is proposing to retain the existing driveway access from the CPU Pump station onto NE 179th Street and has requested relief from reconstructing this driveway onto NE 37th Avenue, [see Finding 6 – Technical Road Modification: Request 5].

The applicant is proposing to shift the arterial atlas intersection alignment of NE 179th Street/NE 37th Avenue to the east. The proposed location and the arterial atlas location both do not meet the required intersection spacing for a Principal Arterial and the applicant has submitted a road modification request for relief from this standard, [see Finding 6 – Technical Road Modification: Request 1].

Finding 5 – Sight Distance

The approval criteria for sight distances are found in CCC 40.350.030(B)(8). This section establishes minimum sight distances at intersections and driveways. Additional building setbacks may be required for corner lots in order to maintain adequate sight distance. The final engineering plans shall show sight distance triangles for driveways that are proposed to remain. Landscaping, trees, utility poles, and miscellaneous structures will not be allowed to impede required sight distance requirements at all proposed driveway approaches and intersections.

The applicant has submitted a Sight Distance Certification Letter (Exhibit 1, Tab 24) prepared by HUA Consultants. This letter has reported that the proposed intersections will meet the required sight distance.

The applicant will need to submit final construction drawings for review and approval. These plans will need to show sight distance triangles at all intersections. The plans will also need to show objects that are within the sight distance triangle. Notes on the plans shall indicate the vegetation within the sight distance triangle that needs to be maintained, trimmed, or removed, (see Conditions A-2.l, C-1.a & D-3 and Plat Note D-5.d).

Finding 6 – Technical Road Modifications

Applicant's Discussion

The applicant has submitted a technical road modification narrative (Exhibit 29) prepared by Hayward Uskoski & Associates, dated June 10, 2025, providing justification for the following requests:

1. Reduced intersection spacing on NE 179th Street.
2. Relief from cross circulation requirements: both block length and perimeter.
3. Relief from Frontage Improvements on NE 179th Street.
4. Relief from constructing the roundabout at NE 179th Street/NE 37th Avenue.

The applicant has submitted a technical road modification narrative (Exhibit 54) prepared by Hayward Uskoski & Associates, dated August 22, 2025, providing justification for the following request:

1. Retain access to an arterial classified roadway for the CPU Pump Station when access to a collector is available

Staff's Evaluation and Recommendation

Staff recommends **Approval** for road modification requests #1-4, and **Denial** of road modification request #5, subject to conditions. The Transportation Division Manager/ County Traffic Engineer has concurred with the staff's recommendations (Exhibits 37 & 55), (see Conditions A-2.m, A-2.n, A-2.o, A-2.p & A-2.q).

Conclusion (Transportation & Circulation):
Staff concludes that the proposed preliminary plan, subject to conditions identified herein, meets the transportation requirements of the Clark County Code.

Stormwater & Erosion Control
Finding 7 – Stormwater Applicability
The provisions of Clark County Code Chapter 40.386, as amended by Ordinance No. 2021-06-02, shall apply to all new development, redevelopment, land disturbing activities and drainage projects consistent with the Clark County's NPDES Phase I Municipal Stormwater Permit and Clark County Stormwater Manual (2021). The project adds more than 5,000 square feet of new impervious surface; therefore, the applicant shall comply with Minimum Requirements 1 through 9, (see Condition A-3.a).

No new development shall be allowed to materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots, (see Condition A-3.b).

Finding 8 - Stormwater Proposal
The applicant provided a revised Preliminary Technical Information Report (Exhibit 24) prepared by HUA Consultants, dated June 10, 2025. Proposed site improvements include 40 single family residential lots, street improvements and other associated improvements. This will result in 5.75 acres of proposed new hard surface.

On-site Stormwater Management (MR#5) will be met by meeting the LID Performance Standard through the use of Infiltration Trenches [BMP T5.10B & 5.11], a Detention Pond [BMP D6.10] and Downspout Dispersion [BMP T5.10C], (see Condition A-3.c).

Runoff Treatment (MR#6) will be addressed with proprietary treatment catch basins sized to meet Basic Treatment requirements. The applicant shall submit documentation from the treatment manufacturer demonstrating that they have sited and sized the facilities correctly, (see Conditions A-3.d & A-3.e).

Flow Control (MR#7) will be met by meeting the Standard Control Requirement through the use of Infiltration Trenches [BMP T5.10B & 5.11], a Detention Pond [BMP D6.10] and Downspout Dispersion [BMP T5.10C], (see Condition A-3.f).

Wetlands Protection (MR#8) is triggered as the site will directly or indirectly discharge to wetlands. The applicant is proposing to comply with the following levels of wetland protection: General Protection and Protection from Pollutants. The applicant has requested a stormwater adjustment for relief from meeting the Wetland Hydroperiod Protection Method 2 (Exhibit 64) Wetland-Habitat staff and Development Engineering staff have recommended approval of the stormwater adjustment, subject to conditions. The Wetland-Habitat Manager and the Development Engineering Manager have concurred with staff's recommendations (Exhibit 71). The project is not exempt from MR #8, therefore, the applicant shall submit an off-site analysis with final engineering, (see Conditions A-3.g, A-3.h, & A-3.i).

The stormwater facilities located within the public right-of-way and public tracts shall be owned and maintained by the county. Stormwater facilities located on individual lots or private

tracts shall be owned and maintained by the homeowners, (see Conditions A-3.j, A-3.k, D-4.e & E-3 and Plat Notes D-4.j & D-4.k).

Finding 9 - Infiltration and Groundwater
The Geotechnical Report (Exhibit 1, Tab 10) prepared by Soil & Water Technologies, dated June 17, 2024, found that the site has an infiltration rates of 1-1.5 inches per hour at an elevation of 3-7 feet below ground surface. Groundwater was encountered at a depth of 11 feet below ground surface and static groundwater elevation was observed to be at 13 feet below ground surface at the Whipple Creek Pump Station. Wet season groundwater monitoring data shall be submitted with final engineering plans to ensure that appropriate groundwater separation is available for all stormwater facilities. Infiltration rates at all proposed infiltration facilities shall also be verified during construction. The applicant shall show on the final construction plans that all stormwater facility setbacks are met unless a Geotechnical Engineer recommends that setbacks can be reduced, (see Conditions A-3.l, A-3.m, A-3.n, A-3.o, A-3.p, A-3.q, A-3.r, C-2.a & C-2.b).

Conclusion (Stormwater & Erosion Control):
Staff concludes that the proposed preliminary stormwater plan, subject to the conditions herein, is feasible. Therefore, the requirements of the preliminary plan review criteria are satisfied.

Geologic Hazard Areas
Finding 10 - Geological Hazard Applicability
Clark County GIS indicates that portions of the site are located in a regulated geologic hazard area. All development activities in or adjacent (within 100 feet) to geologic hazard areas shall comply with the provisions of CCC 40.430.

Finding 11 - Geotechnical Assessment
The applicant has provided a Geotechnical Report (Exhibit 1, Tab 10) prepared by Soil & Water Technologies, dated June 17, 2024. The report found that the development will not increase slope instability provided their recommendations or subsequent recommendations are followed, (see Condition A-5.a).

Conclusion (Geologic Hazard Areas):
Based upon the development site characteristics, the proposed geotechnical plan, the requirements of the County's geologic hazard area ordinance, and the findings above, staff concludes that the proposed preliminary geotechnical engineering plans is feasible, subject to conditions.

Transportation Concurrency
Finding 1 – Trip Generation
County concurrency staff has reviewed the proposed Kozy Manor Estates Traffic Impact Study dated February, 2025, prepared by Kittelson & Associates. The traffic study submitted indicates that the proposed development will divide 14 acres into a residential subdivision of up to 46 lots. The applicant's traffic study has estimated the new a.m. peak hour trip generation at 27, p.m. peak-hour trip generation at 39 trips, and an average daily trip generation (ADT) of 392 trips. The traffic study suggests that the net new trips were calculated by subtracting the existing residential and business use trips from the proposed trips generated by the development.

Staff researched the uses on the site to validate approved uses on the site. Staff did not find any land use approval to establish a homebased business from either of the subject properties. Based on the existing approved residential use for both of the subject properties, and using the traffic study's trip generation calculations prior to any trip reductions, staff's estimated net new trips are as follows:

Land Use	ITE Code	Size (Units)	ADT	AM Peak Hour	PM Peak Hour
Proposed Land Use	210	46	434	32	43
Existing Use	210	2	18	1	1
Net New Trips = Proposed - Existing			416	31	42

The trip generation was estimated using the nationally accepted data published by the *Institute of Transportation Engineers 11th Edition*. The proposed development site is located on parcels #181747000 and #181748000 in unincorporated Clark County.

The applicant has submitted a traffic study under the provisions of Clark County Code section 40.350.020 (D)(1).

Finding 2 – Site Access

Traffic conditions are usually expressed using a scale that quantifies the ability of a facility to meet the needs and expectations of the driver. This scale is graded from A to F and is referred to as level-of-service (LOS). A driver who experiences a LOS A condition would expect little delay. A driver who experiences a LOS E condition would expect significant delay, but the traffic facility would be just within its capacity to serve the needs of the driver. A driver who experiences a LOS F condition would expect significant delay with traffic demand exceeding the capacity of the facility with the result being growing queues of traffic.

Congestion, or concurrency, level of service (LOS) standards are not applicable to accesses that are not regionally significant; however, the LOS analysis provides information on the potential congestion and safety problems that may occur in the vicinity of the site.

The applicant's plan shows that a full-movement public collector road will be constructed to intersect NE 179th Street at the eastern property line. This proposed collector will serve as a primary public road access to the subject site.

The applicant's plan also shows an interior public and private road network that will be constructed to serve as the primary access for the proposed lots within the development.

The applicant's study evaluated the level of service and found that the proposed new full-movement public road intersection with NE 179th Street will have an estimated LOS E or better in the 2027 build-out horizon. The study also shows that the LOS was evaluated during the a.m. and p.m. peak hour traffic conditions. County Staff concurs with the traffic study findings.

Finding 3 – Clark County Concurrency

The proposed development is required to meet the standards established in CCC 40.350.020(G) for corridors and intersections of regional significance within 1 mile of the proposed development.

Signalized Intersections
Staff evaluated the operating levels and delay times for the regionally significant signalized intersections under Clark County jurisdiction. This analysis showed that individual movements during peak hour traffic conditions had approach delays that did not exceed the maximum 240 seconds, or 2 cycles, of delay in the build-out year.

Therefore, County Staff has determined that this development will comply with adopted Concurrency standards for signalized intersections.

Unsignalized Intersections
Staff evaluated the operating levels and delay times for the regionally significant unsignalized intersections under Clark County jurisdiction. This analysis showed operating levels and standard delay times with a LOS better than the minimum allowable LOS E except for NE 179th Street/NE 50th Avenue in the PM peak hour.

It should be noted that NE 37th Avenue is identified a collector classified roadway in the county's Arterial Atlas. Once constructed, the intersection of NE 37th Avenue/NE 179th Street will be a regionally significant intersection and regulated under the Transportation Concurrency Management System, CCC 40.350.020. The applicant's traffic study did evaluate this new proposed intersection at the buildout of the proposed development and found that NE 37th Avenue/NE 179th Street operated at a LOS E in the PM peak hour. The applicant's traffic study also reported that at buildout of the development this intersection would not meet signal warrants. Staff concurs with the applicant's findings.

NE 179th Street/NE 50th Avenue
The applicant's traffic study has analyzed the impacts of the proposed development on the intersection approaches, at NE 179th Street/NE 50th Avenue. Staff used this information to determine if mitigation requirements would be warranted per CCC 40.350.020 (G)(1)(c), which states:

"All unsignalized intersections of regional significance in the unincorporated county shall achieve LOS E standards or better (if warrants are not met). If warrants are met, unsignalized intersections of regional significance shall achieve LOS D standards or better. Intersection control or mitigation of unsignalized intersections shall be at the discretion of the Public Works Director and shall not obligate the county to meet this LOS standard. However, proposed developments shall not be required to mitigate their impacts in order to obtain a concurrency approval unless:

1. The proposed development adds at least five (5) peak period trips to a failing intersection approach; and

2. The worst movement on the failing approach is worsened by the proposed development. In determining whether the movement is worsened, the Public Works Director shall consider trip volume, delay, and any other relevant factors."

Staff compared the anticipated impacts against the criteria in the code section listed above and found that none of the criterion was met. Because the criteria were not met, no mitigation at the intersection of NE 179th Street/NE 50th Avenue is required.

The County has determined that this development can comply with adopted Concurrency Standards for unsignalized intersections.

Concurrency Corridors
Evaluation of the concurrency corridor capacity levels represented in the County Code yielded capacity at acceptable levels.

Summary
The County has determined that this development can comply with adopted Concurrency Standards for corridors, signalized and unsignalized intersections under County jurisdiction.

SAFETY:

Where applicable, a traffic study shall address the following safety issues:
- traffic signal warrant analysis,
- turn lane warrant analysis,
- crash history analysis,
- roadside safety (clear zone) evaluation,
- vehicle turning movements, and
- any other issues associated with highway safety.

Mitigation for off-site safety deficiencies may only be a condition of approval on development in accordance with CCC 40.350.030(B)(6) The code states that "nothing in this section shall be construed to preclude denial of a proposed development where off-site road conditions are inadequate to provide a minimum level of service as specified in Section 40.350.020 or a *significant* traffic or safety hazard *would be caused or materially aggravated* by the proposed development; provided, that the applicant may voluntarily agree to mitigate such direct impacts in accordance with the provisions of RCW 82.02.020."

Finding 4 – Median and Channelization Policy
Medians and channelization are methods, or countermeasures, to promote safety and mobility. In order for the applicant to show that their development will not hinder mobility and add to a current safety issue there must be technical information, discussion and analysis provided by the applicant so that the County Engineer can make their determination. The technical information and evaluation necessary is outlined within the Median and Channelization Policy, CCC 40.350.030(B)(4)(d)(3).

The traffic engineering consultant for the Kozy Manor Estates subdivision has submitted a Transportation Impact Study dated February, 2025 to provide the county analysis, discussion and justification for County Engineer consideration in compliance with CCC 40.350.030(B)(4)(d)(3).

Staff reviewed the regional significance of the new proposed intersection NE 179th Street/NE 37th Avenue. Staff found that both NE 179th Street and NE 37th Avenue are regionally significant classified roads in the County's Arterial Atlas. NE 179th Street is classified as a Principal Arterial (Pr-4cb) and NE 37th Avenue is classified as a collector (C-2b). Both of these roadways are regulated by the County's Concurrency Ordinance/Code (CCC 40.350.020). Because the

proposed NE 37th Avenue a regionally significant roadway a full-movement access intersection with NE 179th Street may be considered.

Currently, NE 179th Street has no raised medians from NE Delfel Road to NE 50th Avenue with numerous private driveways that provide residential access to the principal arterial. Additionally, the applicant reported on the current and build out capacity of NE 179th Street between NE 29th Avenue and NE 50th Avenue and found that it will continue to operate well below the required volume/capacity threshold after buildout is completed.

Staff's review of the applicant's Median and Channelization Policy information and discussion yielded the following findings of fact:

- The new public road intersection of NE 179th Street/NE 37th Avenue is considered regionally significant and is regulated by the County's Concurrency Code
- Because both NE 179th Street and NE 37th Avenue are regionally significant roadways, a full-movement intersection may be considered.
- Crash history along the NE 179th Street frontage is not indicative of a safety issue.
- NE 179th Street corridor capacity between NE 29th Avenue and NE 50th Avenue is at acceptable levels.
- NE 179th Street between NE 29th Avenue and NE 50th Avenue is on the 6-year TIP which plans to raise the elevation of NE 179th Street and construct a raised median along the center of NE 179th Street.

Based on the information above, staff supports a full-movement intersection at the proposed new NE 37th Avenue as a part of the proposed development as an interim condition until the county's planned capital improvement project is constructed.

The applicant shall note that with the future roadway improvements that will take place between NE 29th Avenue and NE 50th Avenue on NE 179th Street, access to the development will be limited to right/in right/out, (see Condition G-5).

Finding 5 – Turn Lane Warrants

Turn lane warrants are evaluated at unsignalized intersections to determine if turn lanes are needed on the uncontrolled roadway.

The applicant's traffic study evaluated the need for turn lanes based on the Washington State Department of Transportation (WSDOT) Design Manual. The applicant's engineer concluded that left-turn lane warrants are projected to not be met at the proposed site access intersection along NE 179th Street. Staff concurs with the applicant's findings.

Finding 6 – Historical Accident Situation

The Institute of Transportation Engineers (ITE) *Traffic Access and Impact Studies for Site Development – A Recommended Practice* states that "Accident rates vary, but any intersection will more than one accident per million entering vehicles is worth of additional analysis." This ITE recommended practice has been used by county staff to determine the scope, or level of analysis required regarding crash history. Because of this, a crash rate of one crash per million entering vehicles has become the threshold to determine if further crash history evaluation is warranted. This is provided that staff has not identified a crash trend that would be exacerbated by the development regardless of the threshold.

The applicant's traffic study analyzed the crash history as obtained from the Washington State Department of Transportation (WSDOT) for the period between January 2019 through December 2023.

The intersection crash rates for the study intersections did not exceed one crash per million entering vehicles warranting additional analysis.

The applicant's study did not recommend any safety mitigations as a part of this development. Staff concurs with the applicant's finding.

Finding 7 – Roadside Safety *(Clear Zone)* Evaluation
The *Institute of Transportation Engineers (ITE) Traffic Engineering Handbook 6th Edition,* states that "The *clear roadside concept*...is applied to improve safety by providing an un-encumbered roadside recovery area that is as wide as practical...". Further, this concept "allows for errant vehicles leaving the roadway for whatever reason and supports a roadside designed to minimize the serious consequences of roadway departures."

Further, as adopted by Clark County Code (CCC) 40.350.030(C)(1)(b), the *Washington State Department of Transportation (WSDOT) Design Manual, Chapter 1600* states that "A clear roadside border area is a primary consideration when analyzing potential roadside and median features. The intent is to provide as much clear, traversable area for a vehicle to recover as practicable given the function of the roadway and the potential tradeoffs. The Design Clear Zone is used to evaluate the adequacy of the existing clear area and proposed modifications of the roadside. When considering the placement of new objects along the roadside or median, evaluate the potential for impacts and try to select locations with the least likelihood of an impact by an errant vehicle."

"For managed access state highways within an urban area, it might not be practicable to provide the Design Clear Zone distances shown in Exhibit 1600-2. Roadways within an urban area generally have curbs and sidewalks and might have objects such as trees, poles, benches, trash cans, landscaping and transit shelters along the roadside."

The applicant shall consider the WSDOT Design Manual – Roadside Safety Mitigation Guidance (Section 1600) in the final engineering design of all proposed roadways and frontage improvements, (see Condition A-9.b).

Finding 8 – Vehicle Turning Movements
It shall be noted that the road and driveway approach standards listed in the Clark County Code are minimum criteria and are intended for normal conditions, per CCC 40.350.030 (C)(3). CCC 40.350.030 (C)(3) also states, "The responsible official may require higher standards for unusual site conditions."

The applicant will need to submit construction plans that show the design of the intersection geometry will accommodate all applicable design vehicles for review and approval. The plans will also need to show that all applicable design vehicles can enter and exit the development minimizing impact to opposing travel lanes. This may result in no on-street parking areas on local residential access roads, at/near public road intersections, (see Condition A-9.c).

Finding 9 – Sight Distance
Sight distance issues are addressed by other Development Engineering Staff; therefore, this issue will not be addressed here.

Conclusion (Transportation Concurrency):
Staff concludes that the proposed plan, subject to the conditions identified herein, meets the transportation concurrency requirements of the Clark County Code.

Wetland & Habitat Review
Finding 1 – Habitat Determination
The site is subject to a previous Habitat Predetermination (WHR-2025-00040) issued on 03/03/2025. The site contains priority riparian habitat (RPH) associated with a Type F (fish-bearing) stream and a Type Ns (seasonal) stream, and a WDFW Biodiversity Corridor. This property is vested under CCC 40.440 (Habitat Conservation) as management considers PAC-2024-00407 a continuance of PAC-2024-00282. Staff conducted a site visit on 2/19/25 to verify the streams' Ordinary High Water Marks (OHWMs) and their associated riparian habitat areas and concurs with the location of the streams and riparian habitat areas as shown in the provided Critical Areas Report. According to the Habitat Conservation Ordinance chapter 40.440.010.C.1.a, a Type F stream is afforded a Habitat Conservation Zone (HCZ) 200 feet landward on each side of the stream from the OHWM or to the edge of the 100 year floodplain, whichever is greater. A Type Ns stream is afforded a Habitat Conservation Zone (HCZ) 75 feet landward on each side of the stream from the Ordinary High Water Mark or to the edge of the 100 year floodplain, whichever is greater. In both instances the 200' and 75' distances are greater. WDFW defines Biodiversity Corridors as areas of relatively undisturbed and unbroken tracts of vegetation that connect fish and wildlife habitat conservation areas, priority habitats, areas identified as biologically diverse, or valuable habitats within a city or Urban Growth Area.

Finding 2 – Wetland Determination
The site is subject to a previous Wetland Determination (WHR-2025-00040) issued on 03/03/2025. The site contains three Category II slope wetlands with habitat scores of 6 points. Due to vesting of PAC-2024-00286 & PAC-2024-00407 the predetermination was subsequently vested to CCC 40.450 (Wetland Protection). Under CCC 40.450.030(E)(2) the wetlands are afforded a 75-foot Low Land Use Intensity Buffer, a 110-foot Moderate Land Use Intensity Buffer, and a 150-foot High Land Use Intensity Buffer. However, under CCC 40.450.030(E)(4)(c) [Maximum Buffer Area] "Except for streams, buffers shall be reduced as necessary so that total buffer area (on and off site) does not exceed two (2) times the total wetland area (on- and off -site); provided, the minimum buffer width at any point shall not be less than the water quality buffer widths for low intensity uses contained in Table 40.450.030-2". In this instance staff find that the maximum applicable buffer is the 50-foot Water Quality Buffer as shown in the predetermination map.

Finding 3 – Habitat Impacts
Impacts to habitat areas were not completely avoidable due to required lot size and stormwater requirements. Impacts to the riparian habitat area and biodiversity corridor have been minimized by omitting portions of the lots encroaching into the critical areas from the 'useable areas' as allowed by density transfer provisions. In addition, impacts to the biodiversity corridor have been limited to removal of only two trees as is necessary to accommodate the required stormwater facility.

Based on the provided plans and the revised Mitigation and Bank Use Plan dated August 21st, 2025 (Exhibit 43), the proposed development will result in approximately 2,165 square feet (.05 acres) of impacts to the Biodiversity Corridor, 29,778 square feet (.64 acres) of impacts to the Riparian Habitat Area, and 3,124 square feet (.07 acres) of temporary impacts to the riparian habitat area. Of the permanent riparian habitat area impacts, approximately 12,462 square feet (.29 acres) will consist of impacts to young forest or scrub-shrub vegetation located in the outer riparian habitat area, 13,375 square feet (.31 acres) will consist of impacts to herbaceous vegetation located in the outer riparian habitat area and 1,941 square feet (.04 acres) will consist of impacts to young forest or scrub/shrub vegetation within the inner riparian habitat area.

While the revised preliminary plan set shows a sidewalk running parallel along NE 179th street within the riparian area, biodiversity corridor and wetland buffer, staff confirmed with the applicant (HUA Consulting) that the sidewalk is not a part of this preliminary approval and that "The county will be responsible for the design and permitting as they improve this section of the corridor," (email communication with Valerie Uskoski, 12/30/2025 (Exhibit 69)).

Finding 4 – Wetland Impacts
Based on the provided plans, no development is proposed within the wetlands or applicable 50-foot wetland buffers.

Finding 5 – Habitat Mitigation
The proposed habitat mitigation (Exhibit 43) will result in no net loss of habitat functions and values and meets the approval criteria in CCC 40.445.030. The .05 acres of impacted Biodiversity Corridor will be mitigated onsite at a 5:1 ratio by removing ~ .06 acres of existing impervious surfaces and replanting in an additional to redesignating and planting .21 acres to replace the lost corridor functions such as habitat connectivity and opportunities for wildlife movement. The .31 acres of impacts to herbaceous vegetation in the outer riparian habitat area will be mitigated at a 1:1 ratio in the form of onsite riparian enhancement. After compensating for herbaceous riparian impacts, there is approximately .16 acres of remaining riparian habitat onsite that is suitable for mitigation. Therefore, approximately .08 acres of impacts to the young forest/scrub-shrub in the outer riparian habitat area will be partially mitigated onsite at a 2:1 ratio by enhancing the remaining available riparian area suitable for mitigation. The remaining .21 acres of riparian impacts to young forest/scrub-shrub located in the outer riparian area and .04 acres of impacts to young forest/scrub-shrub vegetation located in the inner riparian area will be mitigated at a .4:1 and .6:1 ratio respectively, through purchase of offsite wetland mitigation bank credits from the East Fork Lewis Wetland Mitigation Site. The Kozy Manor Subdivision project site is located outside the East Fork Lewis Wetland Mitigation Service Area; however, the East Fork Lewis Wetland Mitigation Bank was determined to be most suitable for bank credit purchase because the Bank supports enhancement of riparian habitat associated with a Type F stream. An Out of Service Area Request (OOSAR) was submitted to the Wetland Bank's Interagency Review Team for approval and the request was approved on 11/03/2025 with an added .5 multiplier. In summary, a total of .37 acres of the onsite riparian habitat area will be enhanced in accordance with the Revised Mitigation Plan (Exhibit 43) and .162 bank credits shall be purchased from the East Fork Lewis Wetland Mitigation Bank.

The applicant shall redesignate and plant .25 acres of the Biodiversity Corridor, enhance .37 acres of the onsite riparian habitat area, and purchase .162 bank credits from the East Fork Lewis Wetland Mitigation Bank as shown in the Revised Mitigation Plan dated August 21st, 2025 (Exhibit 43). The .07 acres of temporary impacts from the dispersion trenches shall be restored and reseeded with a native herbaceous seed mix, (see Condition A-10.a).

Finding 6 – Maintenance & Monitoring
After installation of the mitigation, maintenance and monitoring are required in order to ensure long term performance of the mitigation. Routine maintenance of the site is necessary to ensure the integrity and success of the installed plants which includes, but is not limited to, removing invasive species and weeds, irrigation (if required), and plant replacement to meet the performance standards. Annual monitoring reports are required for a period of five growing seasons following approval of the as-built report. Annual monitoring review and site visit fees shall apply. Adaptive management and alternate species may be considered if plantings appear to have massive failures; any changes shall be coordinated with Habitat/Wetland Review staff.

The applicant (or successor in ownership) shall implement the approved mitigation maintenance and monitoring plan and submit performance reports to the County for inspection and approval. The following required mitigation goals and objectives contained within the Mitigation and Bank Use Plan dated August 21st, 2025, shall apply except as revised as follows:

> Performance Standard 4a: Planted species will achieve 80 percent survival in Years 2 through 3. By year 5 the mitigation areas shall achieve no less than 30% native woody cover and the understory enhancement areas contained in Wetlands A and B shall achieve no less than 30% native woody understory cover, (see Condition H-4).

Finding 7 – Mitigation As-Built
A Mitigation As-Built report must be submitted to the County within 30 days of completion of construction and planting in the approved mitigation plan. The As-Built needs to include documentation of any revisions to or deviations from the approved plan, demonstrating that any changes meet the requirements of CCC 40.445.

The applicant shall submit a Mitigation As-Built report to the County within 30 days of completion of the construction and planting in the approved mitigation plan, (see Condition A-10.b).

Finding 8 – Final Permit Review
Staff concludes that the proposed preliminary mitigation plan is feasible, however due to the requested stormwater adjustment, additional mitigation is required in order to address the risk of additional ecological impacts to the wetlands pursuant to guidelines contained in appendix 1-H.6 of the Clark County Stormwater Manual. The additional mitigation will be addressed through a Final Habitat Permit.

Approval of a Final Wetland or Habitat Permit shall be required. The application shall include a revised mitigation plan that meets the Conditions of Approval above, (see Condition A-10.c).

Finding 9 – Financial Assurance
Unless the proposed mitigation is constructed and an as-built is approved, a performance assurance for the mitigation is required, (see Condition A-10.d).

Finding 10 – Standard Conditions
Pursuant to CCC 40.445.030.B.2.d, a conservation covenant shall be recorded in a form approved by the Prosecuting Attorney as adequate to incorporate the other restrictions of this section and to give notice of the requirement to obtain a wetland and/or habitat permit prior to engaging in regulated activities within a wetland, wetland buffer, or designated habitat area. The covenant shall include additional language that explicitly states that CCC Table 40.445.040-1.12 [hazard tree abatement] does not apply without additional County approval, (see Condition D-7.a).

In addition, because a portion of the habitat mitigation will be located on privately owned lots, a conservation easement will need to be dedicated for those portions where the mitigation is located on private lots. The applicant shall determine who the grantee of the easement is in addition to the County, (see Condition D-7.b).

Pursuant to CCC 40.445.030.B.2.d, the Final Plat shall clearly show all wetland, wetland buffer, and priority habitat boundaries with a note referencing any required conservation covenant(s). Development envelopes shall be included on lots 10-13, 18-24, and 26-29 clearly state that no development or clearing is allowed within the remaining habitat areas located on those lots, (see Condition D-7.c).

In addition, because a portion of the habitat mitigation will be located on privately owned lots, a conservation easement will be required for those portions where the mitigation is located on private lots and the easement will need to be shown on the final plat, (see Condition D-7.d).

Pursuant to CCC 40.450.030.F, a permanent physical demarcation along the upland boundary of the habitat area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official, (see Condition D-7.e).

Pursuant to CCC 40.450.030.F, small signs shall be posted at an interval of one (1) per every one hundred (100) feet. In addition, one additional sign shall be placed within the mitigation areas and remaining habitat areas located on private lots. The signs shall be perpetually maintained at locations along the outer perimeter of the habitat area approved by the responsible official worded substantially as follows:

> Habitat Conservation Area –
> Please retain in a natural state
> (see Condition D-7.f).

Conclusion (Wetland & Habitat):
Staff concludes that the proposed plan, subject to the conditions identified herein, meets the wetland and habitat requirements of the Clark County Code.

Fire Protection

Finding 1 - Building Construction

Building construction occurring subsequent to this application shall be in accordance with the provisions of the county's building and fire codes. Additional specific requirements may be made at the time of building construction as a result of the permit review and approval process, (see Condition G-2).

Finding 2 - Fire Flow

Fire flow in the amount of 1,000 gallons per minute supplied at 20 psi for 60 minutes duration is required for this application. Prior to final approval, submit proof from the water purveyor indicating that the required fire flow remains available at the site. Water mains supplying fire flow and fire hydrants shall be installed, approved and operational prior to final plat approval, (see Conditions A-8.a, D-1.a & D-1.b).

Finding 3 - Fire Hydrants

Fire hydrants are required for this application. Either the indicated number or the spacing of the fire hydrants is inadequate. Provide fire hydrants such that the maximum spacing between hydrants does not exceed 700 feet and such that no lot or parcel is in excess of 500 feet from a fire hydrant as measured along approved fire apparatus access roads, (see Condition A-8.b).

The local fire district chief approves the exact locations of fire hydrants. As a condition of approval, contact Clark Cowlitz Fire & Rescue at 360-887-4609 to arrange for location approval. Unless waived by the fire district chief fire hydrants shall be provided with appropriate 'storz' adapters for the pumper connection. Provide and maintain a three-foot clear space around the entirety of every fire hydrant, (see Conditions A-8.c, A-8.d, A-8.e, A-8.f, F-1 & H-2).

Finding 4 - Fire Apparatus Access

Fire apparatus access is required for this application. The roadways and maneuvering areas as indicated in the application adequately provide required fire apparatus access. Provide fire apparatus access roads with an unobstructed width of not less than 20 feet, an unobstructed vertical clearance of not less than 13.5 feet, with an all-weather driving surface and capable of supporting the imposed loads of fire apparatus, (see Conditions A-8.g & H-3).

Approved fire apparatus turnarounds are required for this project, (see Condition A-8.h). The indicated provisions for turning around fire apparatus are adequate.

Finding 5 – Residential Fire Sprinklers

Homes exceeding 3,600 square feet including attached garages will require additional fire protection features up to and including a residential fire sprinkler system when adequate public water and a hydrant is not within required distances, (see Condition E-4).

Finding 6 – Gates

No gate may be installed across a required fire department access road or driveway without first obtaining a permit from the fire marshal's office. Inspection and testing of the gate will be required. Split gates with a divided entry and exit side will need 15 feet on either side for a total gate width of 30 feet, (see Condition G-3.a).

Finding 7 – No Parking
Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than twenty-four (24) feet wide shall be posted "NO PARKING-FIRE LANE", (see Condition G-3.b).

Conclusion (Fire Protection):
Staff finds that the proposed preliminary plan, subject to conditions contained herein, meets the fire protection requirements of the Clark County Code.

Water and Sewer Service
Finding 1 – Sewerage Requirements
The proposed development is required to connect to public sanitary sewer. The site is located within the Clark Regional Wastewater District (CRWWD) service area. A Utility Review letter from CRWWD was submitted as part of the application materials (Exhibit 1, Tab 16). It indicates that public sewer is available for connection, lists the requirements for connection to the system, and indicates that sewer system development charges would apply upon connection.

Prior to final plat approval, the applicant shall provide documentation from CRWWD confirming that the sanitary sewer infrastructure has been installed and approved pursuant to their standards and conditions, (see Condition D-6.a).

Finding 2 – Water Supply
The proposed development is required to connect to public water. The applicant has submitted A Request for Utility Review – Water Availability letter from Clark Public Utilities was submitted as part of the application materials (Exhibit 1, Tab 17). It indicates that public water is available for connection and lists the requirements for connection to the system.

Prior to final plat approval, the applicant shall provide documentation from Clark Public Utilities confirming that public water infrastructure has been installed and approved pursuant to their standards and conditions, (see Condition D-6.b).

Conclusion (Water & Sewer Service):
Staff finds that the proposed preliminary plat, subject to the findings and conditions identified herein, meets utility requirements of the Clark County Code.

Public Health
Finding 1 – On-site Sewage Treatment Systems (OSS)
A municipal sewage system is proposed and required for this development. Per the Clark County Public Health Development Review Evaluation dated February 13, 2025 (Exhibit 1, Tab 18), two operational on-site sewage system (OSS) were observed in the field by CCPH staff during a 9/27/24 field evaluation as indicated within County records:

- 3619 NE 179th St., APN 181747000 – Operational OSS (ON0027231) with septic tanks located west of existing residence;
- 3701 NE 179th St., APN 181748000 – Operational OSS (ON0012080) with septic tanks located south of existing residence.

Additional OSS components may exist at the development site. These OSS tanks and any OSS tanks or drywells discovered during development must be properly abandoned per CCC 24.17.210, with written notification provided to CCPH and Online RME Pumper Reports or pumper receipts attached. All abandoned OSS tanks shall be accounted for within written abandonment notifications submitted to CCPH. Abandoned OSS tank locations shall be marked on the final plat," (see Conditions B-5 & D-6.c).

The proposed development must connect to an approved public sewer system; therefore, a copy of a final acceptance letter from the sanitary sewer purveyor or the equivalent must be submitted along with the Mylar (final plat) for CCPH final land use approval, (see Condition D-6.e).

Finding 2 – Water Systems

Two operational water wells were observed in the field by CCPH staff during a 9/27/24 field evaluation as indicated within County records:

- 3619 NE 179th St., APN 181747000 – Operational drilled water well (WP0014055) located near 179th St. parcel frontage.
- 3619 NE 179th St., APN 181747000 – Operational dug water well (WP0014056) located near 179th St. parcel frontage.

Additional water wells may exist at the site. These wells and any water wells discovered during development must be legally decommissioned by a Washington-licensed well driller per WAC 173-160-381, with written notice provided to CCPH and decommissioning well logs attached. Decommissioned well locations shall be marked on the final plat, (see Condition B-5 & D-6.d).

The proposed development must connect to an approved public water system. A copy of a final acceptance letter from the purveyor or the equivalent must be submitted along with the Mylar (final plat) for CPU final land use approval, (see Condition D-7.e).

Conclusion (Public Health):

Staff finds that the proposed preliminary plan, subject to the findings and conditions identified herein, meets the Public Health requirements of the Clark County Code.

Impact Fees

Finding 1 - Applicability

The lots created by this development will produce impacts on schools, parks, and traffic, and are subject to School (SIF), Park (PIF), and Traffic Impact Fees (TIF) in accordance with CCC 40.610. The subject site is located within the following districts: Mt Vista Traffic Impact District, Battle Ground School District and Park District 10.

Two single-family residences exist at the site. One residence shall be retained on one of the new proposed lots. The other residence is proposed to be removed with this development. The applicant shall specify which lot the impact fees shall be reduced for the residence that will be removed.

As found in CCC 40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance, (see Condition E-1 & Plat Note D-5.f).

Conclusion (Impact Fees):
Staff finds that the proposed preliminary plan, subject to conditions identified herein, meets the impact fee requirements of the Clark County Code.

Staff Contact Person: Marion Bateman, Project Planner, 564.397.4885

Responsible Official: April Furth, Interim Community Development Director

Recommendation

Based upon the Revised Preliminary Plans (Exhibit 51), the Traffic Analysis Report (Exhibit 1, Tab 14), the Revised Preliminary Stormwater TIR (Exhibit 24), the application package, and the findings and conclusions stated above, staff recommends the Hearing Examiner **APPROVES** this request, subject to the understanding that the application is required to adhere to all applicable codes and laws and is subject to the following conditions of approval.

Conditions of Approval

A	**Final Construction Review for Land Division** **Review and Approval Authority: Land Use, Development Engineering, Transportation Concurrency, & Fire Marshal**

Prior to construction, a Final Construction Plan shall be submitted for review and approval, consistent with the approved preliminary plan and the following conditions of approval:

A-1 **Final Construction Plan (Archaeology)** - The applicant shall submit and obtain county approval of a final construction plan with the following note:
"If any cultural resources and/or human remains are discovered in the course of undertaking the development activity, the Department of Archaeology and Historic Preservation in Olympia, the Cowlitz Indian Tribe, and Clark County shall be notified. Failure to comply with these state requirements may constitute a Class C Felony, subject to imprisonment and/or fines," (see Archaeology Finding 2).

A-2 **Final Transportation Plan/On-Site** - The applicant shall submit and obtain County approval of a final transportation design in conformance to CCC 40.350 and the following conditions of approval:

a. The applicant shall show all curb ramps will be constructed in compliance with ADA Standards, (see Transportation & Circulation Finding 1).

b. The applicant shall show all curb ramps will be constructed in compliance with the WSDOT Design Manual, (see Transportation & Circulation Finding 1).

c. NE 179th Street is classified as a "Principal Arterial" roadway and half-width improvements are required consisting of 50 feet of right-of-way dedication, (see Transportation & Circulation Finding 3).

d. The applicant shall dedicate additional right-of-way (or provide a public easement) at the intersection of NE 179th Street/NE 37th Avenue and NE 37th Avenue/NE 178th

Street for the chord of the right-of-way radius, (see Transportation & Circulation Finding 3).

e. NE 37th Avenue is classified as an "Urban Collector 2-Lane with Bike Lanes" roadway and full-width improvements are required consisting of 30 feet of right-of-way dedication, 34 feet pavement width, curb/gutter, and 5-foot detached sidewalks, (see Transportation & Circulation Finding 3).

f. A portion of NE 178th Street is classified as an "Urban Local Access" roadway and full-width improvements are required consisting of 46 feet of right-of-way dedication, 28 feet pavement width, curb/gutter, and 5-foot sidewalks, (see Transportation & Circulation Finding 3).

g. A portion of NE 178th Street and all of NE 37th Court are classified as "Urban Private" roadways and full-width improvements are required consisting of a minimum 26-foot easement or tract, a minimum 20-foot pavement width, curb/gutter, and 5-foot sidewalk on one side, (see Transportation & Circulation Finding 3).

h. The turnarounds shall be consistent with an approved Standard Detail #23, or #28, or approved equivalent, (see Transportation & Circulation Finding 3).

i. All partial width roads less than 24 feet in width shall be marked with "No Parking" signs or similar control measures, (see Transportation & Circulation Finding 3).

j. All stubbed roads shall be terminated with approved barriers and include end of sidewalk ramps in compliance with ADA Standards, (see Transportation & Circulation Finding 3).

k. The final engineering plans shall show all joint driveways within a 20 foot easement and serving no more than 4 lots, (see Transportation & Circulation Finding 4).

l. The applicant shall show sight distance triangles at all intersections on the construction plans, (see Transportation & Circulation Finding 5).

m. The applicant shall dedicate NE 179th Street right-of-way in compliance with Clark County Standard Drawing 2, (see Transportation & Circulation Finding 6).

n. At the intersection of NE 179th Street/NE 37th Avenue, the applicant shall dedicate sufficient right-of-way for construction of a future roundabout controlled intersection, (see Transportation & Circulation Finding 6).

o. The applicant shall submit construction plans showing the conceptual layout of a roundabout controlled intersection for review and approval. The conceptual roundabout layout will help to validate that the appropriate amount of right-of-way, on NE 179th Street and NE 37th Avenue, will be dedicated, (see Transportation & Circulation Finding 6).

p. The access for the CPU pumpstation lot onto NE 179th Street will be temporary, as road improvements occur on NE 179th Street the access may be closed at any time, (see Transportation & Circulation Finding 6).

q. The applicant shall provide an easement and driveway approach for the CPU pumpstation lot onto NE 37th Avenue to accommodate future closure of the existing access onto NE 179th Street, (see Transportation & Circulation Finding 6).

A-3 **Final Stormwater Plan** - The applicant shall submit and obtain County approval of a final stormwater plan designed in conformance to CCC 40.386, as amended by Ordinance No. 2021-06-02, and the following conditions of approval:

a. The applicant shall submit final construction plan and a final Technical Information Report that addresses Minimum Requirements #1 through #9, (see Stormwater Finding 7).

b. The applicant shall demonstrate that the development will not materially increase or concentrate stormwater runoff onto an adjacent property or block existing drainage from adjacent lots, (see Stormwater Finding 7).

c. The applicant shall provide a final Technical Information Report that demonstrates compliance with the LID Performance Standard, (see Stormwater Finding 8).

d. The applicant shall provide a final Technical Information Report that demonstrates compliance with the Basic Treatment requirement, (see Stormwater Finding 8).

e. The applicant shall submit documentation from the stormwater treatment system manufacturer indicating that any proprietary stormwater treatment devices were sited and sized appropriately, (see Stormwater Finding 8).

f. The applicant shall provide a final technical information Report that demonstrates compliance with the Standard Flow Control requirement, (see Stormwater Finding 8).

g. The applicant shall submit final construction plan and a final Technical Information Report that addresses the following levels of wetland protection: General Protection, and Protection from Pollutants, (see Stormwater Finding 8).

h. The applicant shall submit additional analysis in the final TIR to demonstrate compliance with MR#8, Guideline I-H.6, Compensatory Mitigation of Wetlands. The proposed mitigation shall be subject to the requirements of CCC 40.445.030.B.5, 40.445.080.E.2, and 40.445.080.I, (see Stormwater Finding 8).

i. The applicant shall submit an offsite analysis with the Final TIR prepared in accordance with Book 1, Chapter 5 of the CCSM 2021 for all outfall locations from the site, (see Stormwater Finding 8).

j. The applicant shall identify on the final construction plans ownership responsibilities for each of the proposed stormwater facilities, (see Stormwater Finding 8).

k. A stormwater easement shall be shown on all private/joint stormwater facilities not in the public right-of-way, (see Stormwater Finding 8).

l. Stormwater facility setbacks shall be met and shown on the final construction plans, unless a reduced setback is recommended by a geotechnical engineer, (see Stormwater Finding 9).

m. Seasonal groundwater monitoring data (October 1 through April 30) or other approved methods under Book 1, Section 4.3.1.2 of the CCSM for identifying groundwater elevations shall be submitted with the TIR to ensure appropriate groundwater separation for all stormwater facilities, (see Stormwater Finding 9).

n. The unfactored and design infiltration rates used to size any infiltration facility shall be identified on the final construction plans, (see Stormwater Finding 9).

o. The applicant shall submit infiltration testing at the rate of minimum 1 test per bioretention facility, (see Stormwater Finding 9).

p. The required minimum separation from the bottom of any infiltration facility to the seasonal high-groundwater elevation shall be identified on the final construction plans, (see Stormwater Finding 9).

q. Drainage design for roadways for the 10 year storm, street ponding shall be limited to 1/2 of the roadway area and shall not exceed the capacity of the inlet or produce a flow depth of greater than 0.12 feet at the edge of the travel lane, (see Stormwater Finding 9).

r. For roadway flooding conditions during the 100 year storm, the equivalent width of one travel lane shall remain open to emergency vehicles at all times. A travel lane will be considered to be open to emergency vehicles if the maximum depth of flow in the lane does not exceed 0.5 feet, (see Stormwater Finding 9).

A-4 **Erosion Control Plan** - The applicant shall submit and obtain County approval of a final erosion control plan designed in accordance with CCC 40.386, as amended by Ordinance No. 2021-06-02.

A-5 **Geologic Hazard Area** – The applicant shall submit and obtain County approval of a final grading plan in compliance with the geologic hazard analysis and designed in accordance with the following conditions of approval:

a. The applicant shall adhere to the recommendations of the Geological Hazard Report prepared by Soil & Water Technologies, dated June 17, 2024, unless further studies present new or different facts, (see Geologic Hazard Finding 11).

b. The 20 foot top of slope setback will be required to be shown on the final engineering plans, (see Geologic Hazard Finding 11).

c. The applicant shall comply with the recommendations for the stormwater pond to include bentonite clay amendments to native soil as recommended by Soil & Water Technologies, Inc. unless a new recommendation by a licensed professional is provided, (see Geologic Hazard Finding 11).

d. Retaining walls: A building permit is required for retaining walls greater than 4 feet tall or when the wall is surcharged. All retaining walls shall be shown in sufficient detail on the engineering plans for staff to assess their impact on adjacent roads, structures, and public and private utilities.

A-6 **Transportation (Signing and Striping) -** The applicant shall submit a signing and striping plan and a reimbursable work order, authorizing County Road Operations to perform any signing and pavement striping required within the County right-of-way. This plan and work order shall be approved by the Department of Public Works prior to final plat or final site plan approval.

A-7 **Excavation and Grading -** Excavation/grading shall be performed in compliance with CCC 14.07.

A-8 **Fire Marshal Requirements -**

a. The applicant shall submit plans showing the location of water lines and hydrants for review and approval by the Fire District Chief, (see Fire Protection Finding 2).

b. Provide fire hydrants such that the maximum spacing between hydrants does not exceed 700 feet and such that no lot or parcel is in excess of 500 feet from a fire hydrant as measured along approved fire apparatus access roads, (see Fire Protection Finding 3).

c. Contact Clark Cowlitz Fire & Rescue at 360-887-4609 to arrange for hydrant location approval, (see Fire Protection Finding 3).

d. The fire district chief shall sign the engineering construction mylar indicating fire hydrant location(s) have been reviewed and approved, (see Fire Protection Finding 3).

e. Unless waived by the fire district chief fire hydrants shall be provided with appropriate 'storz' adapters for the pumper connection, (see Fire Protection Finding 3).

f. Provide and maintain a three-foot clear space around the entirety of every fire hydrant, (see Fire Protection Finding 3).

g. Access roads shall have an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet with an all-weather driving

surface capable of supporting the imposed loads of fire apparatus, (see Fire Protection Finding 4).

h. Approved fire apparatus turnarounds are required for this project, (see Fire Protection Finding 4).

A-9 Final Transportation Plan/Off Site (Concurrency):

a. The applicant shall submit a signing and striping plan for review and approval. This plan shall show signing and striping and all installation or modifications to traffic control devices in the public right-of-way required for frontage improvements and any off-site improvements. The applicant shall obtain a work order with Clark County to reimburse the County for required signing, striping and all installation or modifications to traffic control devices in the public right-of-way. The final traffic control plans (signing, striping, signals, ITS, etc.) can be approved only after the developer provides signed reimbursable work order(s) to the county's traffic engineer reviewing the plans.

b. The applicant shall consider the WSDOT Design Manual – Roadside Safety Mitigation Guidance (Section 1600) in the final engineering design of all proposed roadways and frontage improvements, (see Transportation Concurrency Finding 7).

c. The applicant shall submit construction plans that show the design of the intersection geometry will accommodate all applicable design vehicles for review and approval, unless modified by the County Engineer. The plans will also need to show that all applicable design vehicles can enter and exit the development minimizing impact to opposing travel lanes. This may result in no parking and/or maneuvering areas near public road intersections. Please note that applicable design vehicles include but are not limited to passenger vehicles and waste management vehicles, (see Transportation Concurrency Finding 8).

A-10 Wetland & Habitat Review

a. The applicant shall redesignate and plant .25 acres of the Biodiversity Corridor, enhance .37 acres of the onsite riparian habitat area, and purchase .162 bank credits from the East Fork Lewis Wetland Mitigation Bank as shown in the Revised Mitigation Plan dated August 21st, 2025 (Exhibit 43). The .07 acres of temporary impacts from the dispersion trenches shall be restored and reseeded with a native herbaceous seed mix, (see Wetland & Habitat Finding 5).

b. The applicant shall submit a Mitigation As-Built report to the County within 30 days of completion of the construction and planting in the approved mitigation plan, (see Wetland & Habitat Finding 7).

c. Approval of a Final Wetland or Habitat Permit shall be required. The application shall include a revised mitigation plan that meets the Conditions of Approval above, (see Wetland & Habitat Finding 8).

d. Unless the proposed mitigation is constructed and an as-built is approved, a performance assurance for the mitigation is required, (see Wetland & Habitat Finding 9).

A-11 Land Use:

a. The applicant shall re-number the lots so that they are numbered consecutively from 1 – 39, (see Land Use Finding 2).

b. In accordance with 40.320.020.H, on all arterials and collectors in the urban area, (NE 179th Street is a Principal Arterial) the area between the back of sidewalk and the right-of-way and between the back of curb and sidewalk, as well as the area within all medians constructed within a public road, shall be landscaped with drought-resistant plants (see the Standard Details Manual), (see Land Use Finding 5).

B	**Prior to Construction of Development** **Review and Approval Authority: Development Inspection & Clark County Public Health**

Prior to construction, the following conditions shall be met:

B-1 Traffic Control Plan - Prior to impacting the public roadway for the development site, the applicant shall obtain written approval from Clark County Department of Public Works of the applicant's Traffic Control Plan (TCP). The TCP shall govern all work within or impacting the public transportation system.

B-2 Pre-Construction Conference - Prior to construction or any land disturbance, a pre-construction conference shall be held with the county.

B-3 Erosion Control - Prior to construction or any land disturbance, erosion/sediment controls shall be in place per the approved erosion control plan. Sediment control facilities shall be installed that will prevent any silt from entering infiltration systems. Sediment controls shall be in place during construction and until all disturbed areas are stabilized and any erosion potential no longer exists. Erosion control facilities shall not be removed without county approval.

B-4 Road Closures - Any request by the developer or developer's contractor to close a road will be reviewed by county staff. The developer shall provide a memorandum to the County Engineer justifying the reasons for needing the road closure, specifically including explanation as to why the closure is necessary and construction cannot occur under traffic, such as flagger controlled alternating one way traffic next to the construction. The memorandum shall include the ENG number and title of the project, location of the requested road closure, anticipated date of start of closure, requested closure time length, explanation of the public outreach that the contractor will perform, full detour mapping, and other information as appropriate. Road Closures are approved specifically by the County Council by resolution, as described in WAC 308-330-270(7). The process for county takes at least 6 weeks for writing the staff report, resolution and internal review. Depending on the complexity of the request from the developer and the council's time availability, this can take over 12 weeks to process from

start to finish. It is the developer's responsibility to ensure that the process is completed prior to needing the road closure enacted. The contractor shall be responsible for all costs associated with county staff time to process the request via reimbursable work order and all notifications required by law in local newspapers as required by RCW 47.48 Notice of Closure or Restriction. Requesting a road closure is no guarantee that a road closure will be approved by the county.

B-5 **Septic Tank and Well Decommissioning -** Prior to provisional acceptance, if any septic systems, water wells or underground tanks are found during construction, they shall be decommissioned in accordance with the procedures of the Clark County Public Health, (see Public Health Findings 1 & 2).

B-6 **Archaeology** - An inadvertent discovery plan (IDP) shall be created prior to any ground disturbance and kept on site throughout the project, (see Archaeology Finding 2).

C	**Provisional Acceptance of Development** **Review and Approval Authority: Development Inspection & Development Engineering**

Prior to provisional acceptance of development improvements, construction shall be completed consistent with the approved final construction / land division plan and the following conditions of approval:

C-1 **Required Documents** – The following documents shall be submitted:

a. Sight Distance: The applicant shall submit a sight distance certification letter signed and stamped by an engineer, licensed in the state of Washington, indicating the sight distance at all proposed intersections, once constructed, complies with the county code, (see Transportation & Circulation Finding 5).

C-2 **Stormwater:**

a. In accordance with Book 2, Section 5.1.2, of the Clark County Stormwater Manual, if the tested coefficient of permeability determined at the time of construction is at least 95 percent of the uncorrected coefficient of permeability used to determine the design rate, construction may proceed. If the tested rate does not meet this requirement, the applicant shall submit a plan to the county that follows the requirements in Book 1, Section 1.8.5. This plan shall address steps to correct the problem, including additional testing and/or resizing of the facility to ensure that the system will meet the minimum requirements of the manual, (see Stormwater Finding 9).

b. During installation of the proposed infiltration facilities, the applicant shall demonstrate that the groundwater table is at least 1 or 3 feet below the designed elevation of the bottom of the bioretention areas, depending on drainage basin size and at least 5 feet below the design elevation of the infiltration trenches receiving water from pollution generating surfaces. Infiltration trenches receiving runoff from the roof areas are required to have 1-foot of groundwater separation to the base of the facility. These systems shall be redesigned if the required separation is not achieved, (see Stormwater Finding 9).

C-3 Land Use – In accordance with 40.320.020.H, on all arterials and collectors in the urban area, (NE 179th Street is a Principal Arterial) the area between the back of sidewalk and the right-of-way and between the back of curb and sidewalk, as well as the area within all medians constructed within a public road, shall be landscaped with drought-resistant plants (see the Standard Details Manual), (see Land Use Finding 5).

D	**Final Plat Review & Recording** **Review and Approval Authority: Development Engineering, Fire Marshal, Clark County Public Health, & Land Use**

Prior to final plat approval and recording, the following conditions shall be met:

D-1 Fire Marshal Requirements:

a. The applicant shall demonstrate that water mains supplying fire flow have been installed and approved, (see Fire Protection Finding 2).

b. The applicant shall submit a current utility review letter from the water purveyor indicating required fire flow remains available at the site (see Fire Protection Finding 2).

D-2 Right-of-ways/Easement – All right-of-way dedications and easements shall be recorded with the final plat.

a. The required right-of-way dedication along NE 179th Street fronting the development, to achieve a minimum 50-foot half-width, must be conveyed to the county with the final plat. Additional right-of-way dedication (or public easement) at the intersection of NE 179th Street/NE 37th Avenue for the chord of the right-of-way radius, must be conveyed to the county with the final plat, (see Transportation & Circulation Finding 3).

b. The required right-of-way dedication along NE 37th Avenue fronting and within the development, to achieve a minimum 60-foot full width and 30-foot half-width, must be conveyed to the county with the final plat. Additional right-of-way dedication (or public easement) at the intersection of NE 37th Avenue/NE 178th Street for the chord of the right-of-way radius, must be conveyed to the county with the final plat, (see Transportation & Circulation Finding 3).

c. The required right-of-way dedication along portion of NE 178th Street within the development, to achieve a minimum 46-foot full-width, must be conveyed to the county with the final plat, (see Transportation & Circulation Finding 3).

d. A private road easement or tract for portion of NE 178th Street and all of NE 37th Court, including the turnarounds, shall be delineated on the final plat, (see Transportation & Circulation Finding 3).

e. The joint driveway access easements for Lots 4-5, Lots 10-11, Lots 17-19, Lots 28-30, and Lots 34-36 shall be delineated on the final plat. A minimum 20-foot easement width is required. The lot numbers who have access to the joint driveway easements shall also be labeled, (see Transportation & Circulation Finding 4).

D-3 **Sight Distance:** – The sight distance triangle, if located outside of right-of-way, shall be delineated on the final plat within an easement, (see Transportation & Circulation Finding 5).

D-4 **Developer Covenant -** A *Developer Covenant to Clark County* shall be submitted for recording to include the following:

a. Private Road Maintenance Covenant - A private road maintenance covenant shall be submitted to the responsible official for approval and recorded with the County Auditor. The covenant shall set out the terms and conditions of responsibility for maintenance, maintenance methods, standards, distribution of expenses, remedies for noncompliance with the terms of the agreement, right of use easements, and other considerations, as required under 40.350.030(C)(4)(g).

b. Joint Driveway Maintenance Covenant - A joint road maintenance covenant shall be submitted to the responsible official for approval and recorded with the County Auditor. The covenant shall set out the terms and conditions of responsibility for maintenance, maintenance methods, standards, distribution of expenses, remedies for noncompliance with the terms of the agreement, right of use easements, and other considerations, as required under 40.350.030(C)(4)(g).

c. Critical Aquifer Recharge Areas - "The dumping of chemicals into the groundwater and the use of excessive fertilizers and pesticides shall be avoided. Homeowners are encouraged to contact the State Wellhead Protection program at (206) 586-9041 or the Washington State Department of Ecology at 800-RECYCLE for more information on groundwater /drinking supply protection."

d. Erosion Control - "Building Permits for lots on the plat shall comply with the approved erosion control plan on file with Clark County Building Department and put in place prior to construction."

e. Responsibility for Stormwater Facility Maintenance: For stormwater facilities for which the county will not provide long-term maintenance, the developer shall make arrangements with the existing or future (as appropriate) occupants or owners of the subject property for assumption of maintenance to the county's Stormwater Facilities Maintenance Manual as adopted by Chapter 13.26A. The responsible official prior to county approval of the final stormwater plan shall approve such arrangements. Final plats shall specify the party(s) responsible for long-term maintenance of stormwater facilities within the Developer Covenants to Clark County. The county may inspect privately maintained facilities for compliance with the requirements of this chapter. If the parties responsible for long-term maintenance fail to maintain their facilities to acceptable standards, the county shall issue a written notice specifying required actions to be taken in order to bring the facilities into compliance. If these actions are not performed in a timely manner, the county shall take enforcement action and recover from parties responsible for the maintenance in accordance with Section 32.04.060.

f. Tracts for Nonbuilding Purposes: A covenant shall be recorded to ensure all proposed tracts will be used only for the intended nonbuilding purposes, (see Land Use Finding 4).

D-5 Plat Notes - The following notes shall be placed on the final plat:

a. Archaeological: "If any cultural resources and/or human remains are discovered in the course of undertaking the development activity, the Department of Archaeology and Historic Preservation in Olympia, the Cowlitz Indian Tribe, and Clark County Community Development shall be notified. Failure to comply with these State requirements may constitute a Class C Felony, subject to imprisonment and/or fines," (see Archaeology Finding 2).

b. Sidewalks: "Prior to issuance of occupancy permits, sidewalks shall be constructed along all the respective lot frontages."

c. Utilities: "An easement is hereby reserved under and upon all tracts and the exterior six (6) feet on all boundary lines of the lots and tracts adjacent to public/private roads and six (6) feet adjacent to access/utility easements for the installation, construction, renewing, operating and maintaining electric, telephone, tv, cable, water and sanitary sewer services. All lots containing padmount transformers are subject to the minimum clearances as defined by Clark Public Utilities construction standards. All proposed building designs on these lots must provide adequate clearance for all combustible materials. Also, a sidewalk easement, as necessary to comply with ADA slope requirements, shall be reserved upon the exterior six (6) feet along the front boundary lines of all lots and tracts adjacent to public streets."

d. Sight Distance: "Sight distance easement triangles shall be maintained and kept clear as required under CCC 40.350.030.B.8."

e. Private Roads: "Clark County has no responsibility to improve or maintain the private roads contained within or private roads providing access to the property described in this development. Any private access street shall remain a private street unless it is upgraded to public street standards at the expense of the developer or abutting lot owners to include hard surface paving and is accepted by the county for public ownership and maintenance."

f. Impact Fees: "In accordance with CCC 40.610 impact fees for each dwelling in this subdivision shall be assessed for impacts on schools, parks and transportation facilities based on the following districts: Battle Ground School District (SIF), Park District 10 (PIF) and Mt Vista Transportation Sub-area (TIF), except for lot _ which shall have impact fees reduced for the residence that will be demolished with this development. As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance."

g. Driveways: "No direct access is allowed onto the following streets: NE 179th Street & NE 37th Avenue."

h. Driveways: "All residential driveway approaches entering public roads are required to comply with CCC 40.350."

i. Tracts: The applicant shall list all tracts and designate each with its intended use on the face of the plat, (see Land Use Finding 4).

j. Privately Owned Stormwater Facilities: "The following party(s) is responsible for long-term maintenance of the privately owned stormwater facilities: _____."

k. Roof and Crawl Space Drains: "Roof and crawl space drains for all lots of the development shall be installed in accordance with the approved As-Built plans, unless a revised plan is approved by the county. These stormwater systems will be owned and maintained by the property owner on whose lot the stormwater system is located".

D-6 Sewer, Water, and Health Department Requirements:

a. The applicant shall produce documentation from the CRWWD that sewer has been installed and approved, (see Water and Sewer Finding 1).

b. The applicant shall produce documentation from the Clark Public Utilities that water has been installed and approved, (see Water and Sewer Finding 2).

c. Any OSS tanks or drywells must be properly abandoned per CCC 24.17.210 with written notification provided to CCPH and Online RME Pumper Reports or pumper receipts attached. All abandoned OSS tanks shall be accounted for within written abandonment notifications submitted to CCPH and locations shown on the final plat, (see Public Health Finding 1).

d. Any wells that are found during development of this plat shall be properly decommissioned by a licensed well driller with documentation submitted to CCPH prior to final plat approval, and all decommissioned wells must be shown on the final plat, (see Public Health Finding 2).

e. A copy of a final acceptance letter from the sanitary sewer and water purveyors or the equivalent must be submitted along with the Mylar (final plat) for CCPH final land use approval, (see Public Health Findings 1 and 2).

D-7 Wetland & Habitat:

a. Pursuant to CCC 40.445.030.B.2.d, a conservation covenant shall be recorded in a form approved by the Prosecuting Attorney as adequate to incorporate the other restrictions of this section and to give notice of the requirement to obtain a wetland and/or habitat permit prior to engaging in regulated activities within a wetland, wetland buffer, or designated habitat area. The covenant shall include additional language that explicitly states that CCC Table 40.445.040-1.12 [hazard tree abatement] does not apply without additional County approval, (see Wetland & Habitat Finding 10).

b. In addition, because a portion of the habitat mitigation will be located on privately owned lots, a conservation easement will need to be dedicated for those portions where the mitigation is located on private lots. The applicant shall determine who the grantee of the easement is in addition to the County, (see Wetland & Habitat Finding 10).

c. Pursuant to CCC 40.445.030.B.2.d, the Final Plat shall clearly show all wetland, wetland buffer, and priority habitat boundaries with a note referencing any required conservation covenant(s). Development envelopes shall be included on lots 10-13, 18-24, and 26-29 clearly state that no development or clearing is allowed within the remaining habitat areas located on those lots, (see Wetland & Habitat Finding 10).

d. In addition, because a portion of the habitat mitigation will be located on privately owned lots, a conservation easement will be required for those portions where the mitigation is located on private lots and the easement will need to be shown on the final plat, (see Wetland & Habitat Finding 10).

e. Pursuant to CCC 40.450.030.F, a permanent physical demarcation along the upland boundary of the habitat area shall be installed and thereafter maintained. Such demarcation may consist of logs, a tree or hedge row, fencing, or other prominent physical marking approved by the responsible official, (see Wetland & Habitat Finding 10).

f. Pursuant to CCC 40.450.030.F, small signs shall be posted at an interval of one (1) per every one hundred (100) feet. In addition, one additional sign shall be placed within the mitigation areas and remaining habitat areas located on private lots. The signs shall be perpetually maintained at locations along the outer perimeter of the habitat area approved by the responsible official worded substantially as follows:

Habitat Conservation Area –
Please retain in a natural state,
(see Wetland & Habitat Finding 10).

D-8 **Land Use** – Prior to final plat, the applicant shall re-number the lots so that they are numbered consecutively from 1 – 39, (see Land Use Finding 2).

E	**Building Permits** **Review and Approval Authority: Permit Services, Building Safety & Fire Marshal**

Prior to issuance of a building permit, the following conditions shall be met:

E-1 **Impact Fees** –Impact fees shall be assessed for impacts on schools, parks and transportation facilities based for the following districts: Battle Ground School District (SIF), Park District 10 (PIF) and Mt Vista Transportation Sub-area (TIF). As found in CCC40.610.040, impact fees are calculated using the rates in effect at the time of building permit issuance. Impact fees shall be reduced for one lot based on the one residence that will be removed with this development, (see Impact Fees Finding 1).

E-2 Setbacks, Building Height, and Lot Coverage – New structures must adhere to the minimum R1-7.5 and R1-10 setbacks (as applicable), building height, and lot coverage unless specifically excepted under Title 40 (see Land Use Finding 2).

E-3 Roof and Crawl Space Drains – Roof and crawl space drains shall be installed in accordance with the approved As-Built plans, unless a revised plan is approved by the county. These stormwater systems will be owned and maintained by the property owner on whose lot the stormwater system is located, (see Stormwater Finding 8).

E-4 Residential Fire Sprinklers – Homes exceeding 3,600 square feet including attached garages will require additional fire protection features including a residential fire sprinkler system when adequate public water and a hydrant is not within required distances, (see Fire Protection Finding 7).

E-5 Excavation and Grading - Excavation/grading shall be performed in compliance with CCC 14.07.

F	**Occupancy Permits** **Review and Approval Authority: Land Use**

Prior to issuance of an occupancy permit, the following conditions shall be met:

F-1 Fire Protection - Provide and maintain a three-foot clear space around the entirety of every fire hydrant, (see Fire Protection Finding 3).

G	**Development Review Timelines & Advisory Information** **Review and Approval Authority: None - Advisory to Applicant**

G-1 Land Division - Within seven (7) years of preliminary plan approval, a Fully Complete application for Final Plat review shall be submitted.

G-2 Building and Fire Safety - Building and fire, life, and safety requirements must be addressed through specific approvals and permits. This decision may reference general and specific items related to structures and fire, life, and safety conditions, but they are only for reference in regard to land use conditions. It is the responsibility of the owner, agent, tenant, or applicant to ensure that Building Safety and Fire Marshal requirements are in compliance or brought into compliance. Land use decisions do not waive any building or fire code requirements, (see Fire Protection Finding 1).

G-3 Fire Protection

a. **Gates** – No gate may be installed across a required fire department access road or driveway without first obtaining a permit from the fire marshal's office. Inspection and testing of the gate will be required. Split gates with a divided entry and exit side will need 15 feet on either side for a total gate width of 30 feet, (see Fire Protection Finding 6).

b. **No Parking** – Parking is prohibited on access roads that are less than twenty-four (24) feet wide. Roads that are less than twenty-four (24) feet wide shall be posted "NO PARKING-FIRE LANE", (see Fire Protection Finding 7).

G-4 Department of Ecology Permit for Construction Stormwater - A permit from the Department of Ecology (DOE) is required for any land disturbing activities such as clearing, grading, excavating, stockpiling of fill material, and/or demolition that:

- Disturbs one or more acres of land.; **OR**
- Are part of a common plan of development or sale that will ultimately disturb one or more acres of land. A common plan of development or sale is an area where multiple, separate, and distinct construction activities may be taking place on different schedules under one plan. In a common plan of development, the disturbed area of the entire plan is used to determine if a permit is required.; **AND**
- Discharge stormwater from the site into surface water(s) of the state or into storm drainage systems, including ditches, which discharge to state surface waters. Surface waters of the state: Include wetlands, ditches, rivers, unnamed creeks, rivers, lakes, estuaries, and salt water.

The applicant shall Contact the DOE for further information.
https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

G-5 Median and Channelization – The applicant shall note that with the future scheduled capital project roadway improvements between NE 29th Avenue and NE 50th Avenue on NE 179th Street will restrict the site access intersection to right/in right/out turning movements only, (see Transportation Concurrency Finding 4).

H	**Post Development Requirements** **Review and Approval Authority: As specified below**

H-1 Land Use (Tracts) - A separate platting process shall be required to convert a previously platted tract to a legal lot of record (see Land Use Finding 4).

H-2 Fire Marshal (Hydrants) – Provide and maintain a three-foot clear space around the entirety of every fire hydrant, (see Fire Protection Finding 3).

H-3 Fire Marshal (Access Roads) - Access roads shall maintain an unobstructed width of not less than 20 feet and an unobstructed vertical clearance of not less than 13.5 feet with an all-weather driving surface capable of supporting the imposed loads of fire apparatus, (see Fire Protection Finding 4).

H-4 Wetland & Habitat - The applicant (or successor in ownership) shall implement the approved mitigation maintenance and monitoring plan and submit performance reports to the County for inspection and approval. The following required mitigation goals and objectives contained within the Mitigation and Bank Use Plan dated August 21st, 2025, shall apply except as revised as follows:

Performance Standard 4a: Planted species will achieve 80 percent survival in Years 2 through 3. By year 5 the mitigation areas shall achieve no less than 30%

native woody cover and the understory enhancement areas contained in Wetlands A and B shall achieve no less than 30% native woody understory cover, (see Wetland & Habitat Finding 6).

Note: Any additional information submitted by the applicant within fourteen (14) calendar days prior to or after issuance of this report, may not be considered due to time constraints. In order for such additional information to be considered, the applicant may be required to request a "hearing extension" or "open record" and shall pay the associated fee.

Hearing Examiner Decision and Appeal Process

This report to the Hearing Examiner is a recommendation from the Land Use Review program of Clark County, Washington.

The examiner may adopt, modify, or reject this recommendation. The examiner will render a decision within 14 calendar days of closing the public hearing. Clark County will mail a copy of the decision to the applicant and neighborhood association within 7 days of receipt from the Hearing Examiner. All parties of record will receive a notice of the final decision within 7 days of receipt from the Hearing Examiner.

Motion for Reconsideration

Any party of record to the proceeding before the Hearing Examiner may file with the responsible official a motion for reconsideration of an examiner's decision within fourteen (14) calendar days of written notice of the decision. A party of record includes the applicant and those individuals who signed the sign-in sheet or presented oral testimony at the public hearing, and/or submitted written testimony prior to or at the Public Hearing on this matter.

The motion must be accompanied by the applicable fee and identify the specific authority within the Clark County Code or other applicable laws, and/or specific evidence, in support of reconsideration. A motion may be granted for any one of the following causes that materially affects their rights of the moving party:

- Procedural irregularity or error, clarification, or scrivener's error, for which no fee will be charged;
- Newly discovered evidence, which the moving party could not with reasonable diligence have timely discovered and produced for consideration by the examiners;
- The decision is not supported by substantial evidence in the record; or,
- The decision is contrary to law.

Any party of record may file a written response to the motion if filed within fourteen (14) calendar days of filing a motion for reconsideration.

The examiner will issue a decision on the motion for reconsideration within twenty-eight (28) calendar days of filing of a motion for reconsideration.

Appeal Rights

Any party of record to the proceeding before the hearings examiner may appeal any aspect of the Hearing Examiner's decision, except the SEPA determination (i.e., procedural issues), to the Superior Court.

See the *Appeals* handout for more information and fees.

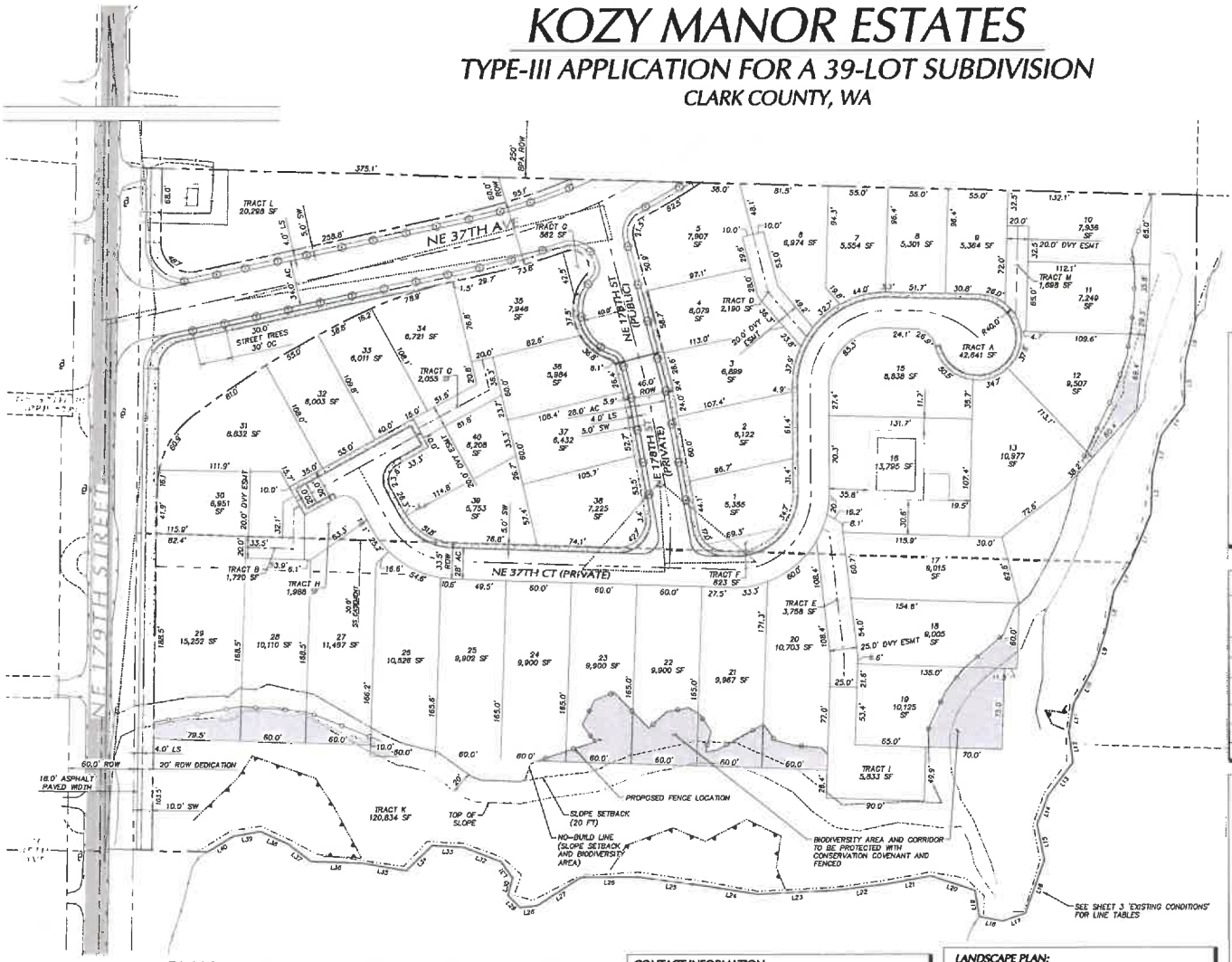
Attachments

- Revised Preliminary Plat (Exhibit 51)

KOZY MANOR ESTATES

TYPE-III APPLICATION FOR A 39-LOT SUBDIVISION

CLARK COUNTY, WA



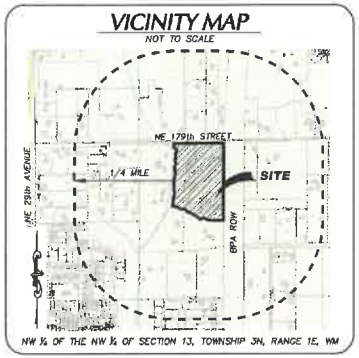
PLAN: KOZY MANOR ESTATES PRELIMINARY PLAT

SCALE: 1" = 50'

SCALE: 1" = 50'

VICINITY MAP

NOT TO SCALE



NW ¼ OF THE NW ¼ OF SECTION 13, TOWNSHIP 3N, RANGE 1E, WM

PROPERTY INFORMATION

EXISTING PROPERTY NOTES:

PARCEL NO(S):	181747000 (WEST) 181748000 (EAST
AREA OF SITE:	5.99 AC / 261,013 SF (WEST) 7.53 AC / 332,282 SF (EAST)
ZONING:	R1-10 (WEST) R1-7.5 (EAST)
LOTS TOTAL LOTS: MAX LOT COVERAGE: MAXIMUM HEIGHT:	 39 (SEE NOTE 10) 50% 35 FT
SETBACKS (APPLIES TO ALL LOTS) FRONT: GARAGE: SIDE YARD: STREET SIDE: REAR:	 10 FT 18 FT 5 FT 10 FT 10 FT

LOT STANDARDS PER CCC TABLE 40.220.010-5

	R1-10 (WEST)		R1-7.5 (EAST)	
	REQUIRED	PROPOSED	REQUIRED	PROPOSED
MAXIMUM DENSITY	4.1	2.17*	5.3	3.65*
MINIMUM LOT AREA	9,000 SF**	9,005 SF	NONE	5,301 SF
MINIMUM USEABLE AREA	3,500 SF	3,908 SF	2,500 SF	2,598 SF
AVERAGE LOT WIDTH	80 FT	80 FT	45 FT	47.2 SF
AVERAGE LOT DEPTH	50 FT	135 FT	50 FT	70 FT

* 13 LOTS ZONED R1-10, 27 LOTS ZONED R1-7.5

** PER MIN. LOT SIZE OVERLAY STANDARD

PLAN NOTES:

1. SHARED PRIVATE DRIVEWAYS WILL BE USED TO ACCESS THE FOLLOWING LOTS: LOTS 4 & 5, 10 & 11, 17–19, 25–30, & 34–35. FOR THE PURPOSES OF LOT ORIENTATION/SETBACKS, THE FRONT OF THE LOT WILL BE AT THE SHARED PRIVATE DRIVEWAY.
2. EXISTING LOTS USED FOR SINGLE FAMILY RESIDENTIAL AND EQUESTRIAN FACILITIES.
3. EXISTING SEPTIC SYSTEMS AND WATER WELLS ON SITE TO BE DECOMMISSIONED. ALL RESIDENCES TO BE SERVED BY PUBLIC WATER AND SEWER.
4. ONE EXISTING RESIDENTIAL BUILDING (ON EAST PARCEL) WILL REMAIN. ALL OTHER EXISTING STRUCTURES TO BE REMOVED.
5. NO SHORELINE OR AREAS PRONE TO FLOODING ON SITE. SITE NOT WITHIN 100 YEAR FLOODPLAIN. NO UNSTABLE SLOPES OR LANDSLIDE HAZARD AREAS ON SITE.
6. SITE CONTAINS WETLAND, STREAM, AND STEEP SLOPE AREAS.
7. NO TRANSIT STOPS WITHIN 800 FEET OF SITE OR PEDESTRIAN/BICYCLE FACILITY WITHIN 100 FEET OF SITE. NO ROADWAYS PROVIDING ACCESS GREATER THAN 15% SLOPE. ALL ROADS GREATER THAN 20 FEET WIDTH PROVIDING ACCESS TO SITE.
8. NO KNOWN HISTORIC RESOURCES, UNSTABLE SLOPES OR SIGNIFICANT WILDLIFE HABITATS ON SITE.
9. A 0.23 ACRE SECTION OF PARCEL 181748000 ON EAST SIDE OF BPA ROW TO BE RETAINED BY THE DEVELOPER FOR FUTURE DEVELOPMENT. THIS AREA HAS BEEN EXCLUDED FROM SITE AREA AND AREA-BASED CALCULATIONS.
10. LOT 14 REMOVED, HOWEVER LOT NUMBERS PRESERVED FOR EASE OF REFERENCE. TOTAL LOT COUNT IS 39.
11. CONSERVATION EASEMENT TO BE PLACED OVER LOTS WITH CRITICAL AREAS TO BE PRESERVED.

CONTACT INFORMATION

APPLICANT:
HSR CAPITAL, LLC
(ATTN: KEVIN MILLER)
12120 SE 34th STREET, #103
VANCOUVER WA, 98683
kevin@hsr-capital.com
(360) 798-8458

REPRESENTATIVE/CONTACT:
HAYWARD USKOSKI AND ASSOCIATES, INC.
(ATTN: SADIE NAGLICH)
1101 BROADWAY ST #215
VANCOUVER WA 98660
sadie@huconsulting.com
(360) 635-5223

PROPERTY OWNER:
DEBORAH WILLIAMS
3619 NE 179th ST
RIDGEFIELD, WA 98642
appyspitter@gmail.com
(360) 721-1180

PROPERTY OWNER:
KATHLEEN AND CONRAD MANDT
3701 NE 179th ST
RIDGEFIELD, WA 98642
(360) 721-1180

LANDSCAPE PLAN:

1. LANDSCAPING PLAN IS PRELIMINARY AND MAY BE REVISED BY THE DEVELOPER OR HOMEBUILDER PRIOR TO FINAL APPROVAL. ALL LANDSCAPING SHOWN OR DESCRIBED IS PRELIMINARY.
2. NO LANDSCAPE BUFFER BETWEEN SITE AND ABUTTING PROPERTIES IS REQUIRED.
3. STREET TREE TO BE SELECTED FROM CLARK COUNTY PLANT LIST FOR MINIMUM 4' PLANTING STRIP LIST (TABLE G1)
4. PLANTING TO BE DONE ACCORDING TO CLARK COUNTY PLANTING STANDARD DETAILS

PROPOSED STREET TREE: TRIDENT MAPLE (ACER BUEGERANUM)
QUANTITY: 44

HAYWARD USKOSKI & ASSOCIATES
1101 Broadway St, Suite 215 • Vancouver, WA 98660
TEL: (360) 635-5223

KOZY MANOR ESTATES
CLARK COUNTY, WA

PRELIMINARY LAND USE APPROVAL
COVER AND PRELIMINARY PLAT

REV	DATE	BY	DESCRIPTION
1	9/9/2025	SRN	EARLY ISSUES REVISION
2	8/13/2025	SRN	EARLY ISSUES REVISION 2

PROJECT NUMBER: 1274
DESIGNED/DRAWN BY: SRN / TJS
CHECKED BY: VAU
ISSUE DATE: 8/18/2025

2
OF: 7

EXHIBIT 51

Transportation Impact Analysis

Kozy Manor Estates

Clark County, Washington

February 2025

Prepared For:
HSR Development
19120 SE 34th Street #103
Vancouver, WA 98683

Prepared By:
Kittelson & Associates, Inc.
851 SW 6th Avenue, Suite 600
Portland, OR 97204
(503) 228-5230

Project Manager: Kristine Connolly, PE
Project Principal: Chris Brehmer, PE

Project # 30454



KITTELSON & ASSOCIATES

TABLE OF CONTENTS

1 Executive Summary 1
1.1 Findings 1
1.2 Recommendations 2
2 Introduction 3
3 Scope of the Report & Analysis Methodology 6
3.1 Study Intersections 6
3.2 Analysis Methodology 6
3.2.1 Performance Measures 6
3.2.2 Performance Standards 7
3.2.3 Queuing Analyses 8
3.2.4 Turn Lane Needs 8
4 Existing Conditions 9
4.1 Site Conditions and Adjacent Land Uses 9
4.2 Transportation Facilities 9
4.2.1 Transit Facilities 11
4.2.2 Traffic Volumes 11
4.2.3 Level-of-Service Analysis 11
4.2.4 Concurrency Corridor Volume-to-Capacity (V/C) Ratios 13
4.3 Traffic Safety 13
5 Transportation Impact Analysis 14
5.1 Year 2027 Background Traffic 14
5.1.1 Planned Developments 14
5.1.2 Planned Transportation Improvements 15
5.1.3 Traffic Volumes 16
5.1.4 Level-of-Service Analysis 16
5.1.5 Concurrency Corridor V/C Ratios 19
5.2 Proposed Development 19
5.2.1 Trip Generation 19
5.2.2 Trip Distribution 20
5.3 2027 Total Traffic Conditions 20
5.3.1 Traffic Volumes 20
5.3.2 Level-of-Service Analysis 20
5.3.3 Concurrency Corridor V/C Ratios 23
5.3.4 Queuing Analysis 23
5.3.5 Site Access Intersection Turn Lane Needs 23
5.3.6 Intersection Sight Distance 24
6 Findings and Recommendations 25
6.1 Findings 25
6.2 Recommendations 26
7 References 27
8 Appendix 28

1 EXECUTIVE SUMMARY

HSR Development is proposing a residential development with up to 46[1] single-family residential units (herein referred to as "the development") to be located along NE 179th Street. This report documents the methodology and findings of the transportation impact analysis prepared for the development.

Based on the results of the transportation impact analysis, the proposed development can be developed while maintaining acceptable operations at the study intersections with the recommended mitigation measures in place. The analysis developed the following findings and recommendations:

1.1 FINDINGS

- All study intersection operations currently satisfy Clark County standards.
- All study intersection operations continue to satisfy Clark County standards under 2027 background traffic conditions provided the County roadway improvement projects are implemented, except for the NE 50th Avenue/NE 179th Street intersection.
- The proposed residential development is estimated to generate approximately 392 net new daily trips (these trips consider existing uses on the site which should be credited for Traffic Impact Fee assessment purposes). A total of 32 trips during the weekday AM peak hour and 43 weekday PM peak trips are estimated to use the proposed site access on NE 179th Street.
- Consistent with existing and background traffic conditions, the 2027 total traffic conditions study intersection operations are expected to satisfy the Clark County standards, except for the NE 50th Avenue/NE 179th Street intersection noted under background conditions.
    - There is a County-planned interim improvement to install eastbound and westbound left-turn lanes at the all-way stop-controlled NE 50th Avenue/NE 179th Street intersection. With this improvement, the eastbound and northbound approaches are projected to operate at LOS F during the weekday PM peak hour under 2027 background and total traffic conditions. The County's longer-term plan is to construct a multi-lane roundabout at the NE 50th Avenue/NE 179th Street intersection. The project applicant will be contributing towards the planned future roundabout through payment of Clark County's Traffic Impact Fee assessment that is in part funding the roundabout upgrade.

[1] Including two existing single-family homes on the property.

- Review of adopted Clark County capacity thresholds for corridor segments identified no corridor segments exceed the adopted V/C threshold because of the proposed site development.
- Site access is proposed via an interim full movement street connection to NE 179th Street.
    - Based on the projected 2027 weekday build-out traffic volumes, the WSDOT volume-based criteria for providing a westbound left turn lane and an eastbound right turn lane are not satisfied under either weekday AM or PM peak hour total traffic conditions.
    - The Applicant is coordinating to dedicate standard half-street right-of-way along the project frontage to Clark County to accommodate the planned ultimate NE 179th Street widening that will include a center left-turn area. In addition, the Applicant will be paying Clark County a fee-in-lieu for the planned future construction of NE 179th Street along the site frontage as part of a County-led roadway project.
    - The proposed site-access on NE 179th Street may be converted to a roundabout in the future as additional development occurs on NE 37th Place. The Applicant is coordinating to dedicate right-of-way for this potential future roundabout.

1.2 RECOMMENDATIONS

- Intersection sight distance should be provided on-site and at the proposed site access to NE 179th Street per Clark County Code design requirements. Landscaping, above ground utilities, and signing should be located and maintained in a manner that provides adequate intersection sight distance per Clark County Code requirements.

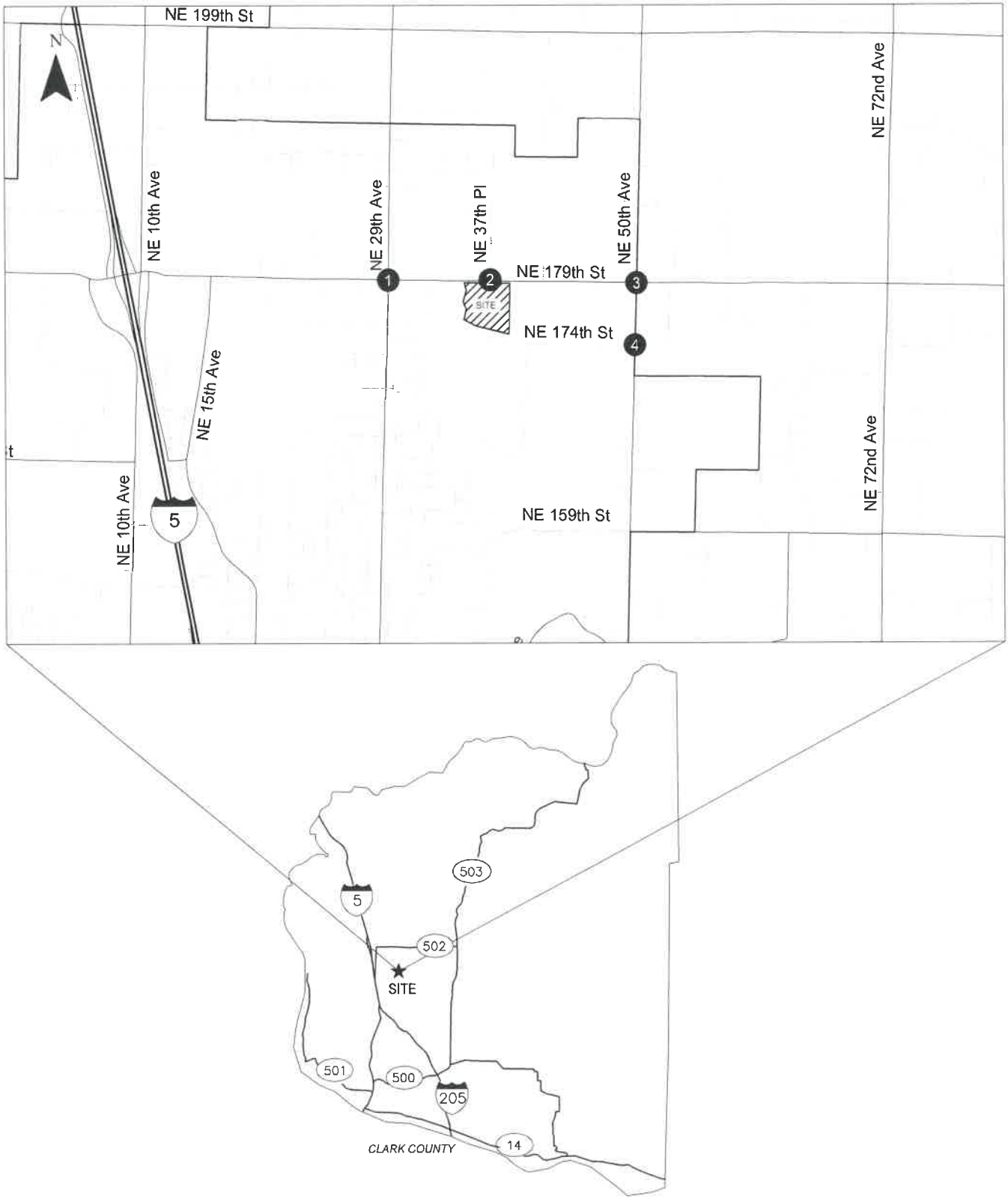
The methodology assumptions and pertinent findings are documented herein.

2 INTRODUCTION

The Applicant, HSR Development, is proposing to develop up to 44 new single-family detached homes (up to 46 in total on the site including two existing homes) along NE 179th Street as shown in Figure 1.

The conceptual plan for the development is illustrated in Figure 2 and generally encompasses approximately 14 acres of land located on parcel numbers 181747000 and 181748000. Access to the development will be along NE 179th Street.

Completion and occupancy of the apartments is anticipated by 2027.



1 2 3 4 - Study Intersections

Site Vicinity Map
Clark County, Washington

Figure
1

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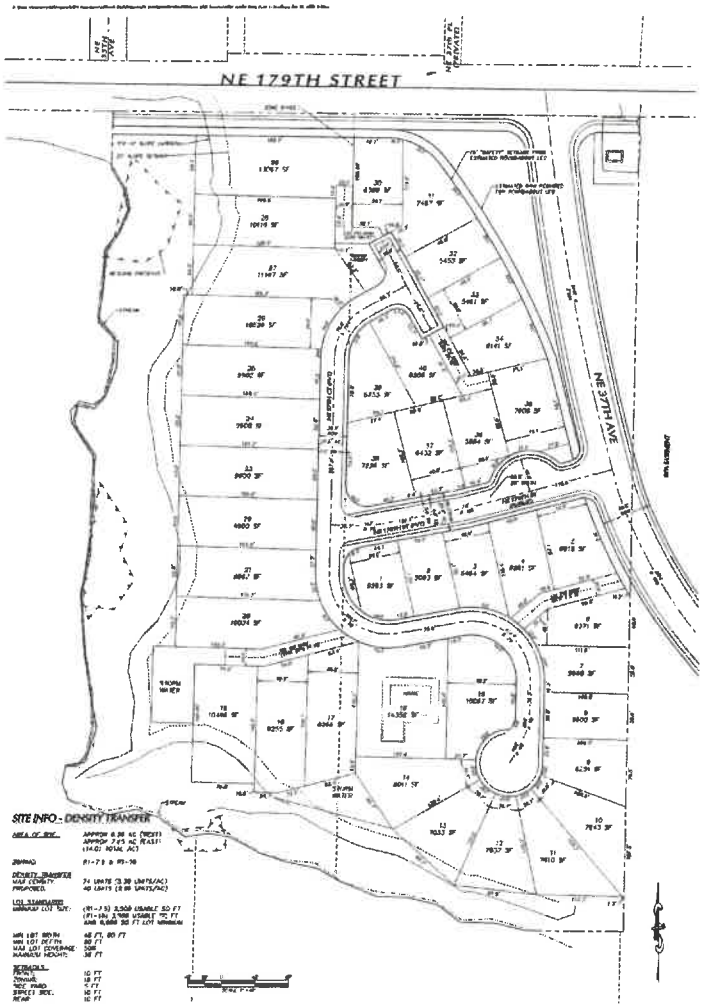
KITTELSON & ASSOCIATES



KOZY MANOR PRIVATE ESTATES

DENSITY TRANSFER - NO REZONE

Proposed Site Plan
Clark County, Washington

Figure
2

RECEIVED FROM HAYWARD USKOSKI & ASSOCIATES: February 6, 2025

NOT TO SCALE

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3 SCOPE OF THE REPORT & ANALYSIS METHODOLOGY

This analysis identifies transportation-related impacts associated with the proposed development and was prepared in accordance with Clark County's transportation impact analysis requirements. The study scope and overall study area for this project were selected based on a review of the local transportation system and Clark County Code (CCC) Section 40.350.020, Transportation Concurrency Management. The following transportation issues are addressed:

- Existing land use and transportation system conditions within the site vicinity;
- Existing traffic conditions during the weekday AM and PM peak hours;
- Planned developments and transportation improvements in the study area;
- Forecast year 2027 background traffic conditions (prior to development) during the weekday AM and PM peak hours;
- Trip generation and distribution estimates for the proposed development;
- Forecast year 2027 total traffic conditions (with build-out and occupancy of the development) during the weekday AM and PM peak hours; and
- Recommended mitigation measures.

3.1 STUDY INTERSECTIONS

The study intersections are listed below and are identified numerically, corresponding with the analysis figures in this report:

1. NE 29th Avenue/NE 179th Street
2. NE 37th Place/NE 179th Street/Future Site Driveway
3. NE 50th Avenue/NE 179th Street
4. NE 50th Avenue/NE 174th Street

3.2 ANALYSIS METHODOLOGY

3.2.1 Performance Measures

Level-of-service analyses described in this report were performed in accordance with the procedures stated in the *Highway Capacity Manual 6th Edition* (HCM 6th Edition, Reference 1) using Synchro 10 and Sidra 8 software. All unsignalized intersections were analyzed using the HCM 6th edition methodology. All roundabouts were analyzed using the Sidra Standard Roundabout Capacity Model in Sidra in accordance with the Washington State Department of Transportation (WSDOT) Sidra Policy Settings (Reference 2).

All intersection level-of-service analyses used a peak 15-minute flow rate during the weekday AM and PM peak hours to provide analyses that are based on a reasonable worst-case scenario.

3.2.2 Performance Standards

Clark County Operating Standards

CCC Section 40.350.020.G defines the County's performance standards for roadway segments as well as signalized and unsignalized intersections.

Roadway Segments

Per CCC Section 40.350.020.G.1.a: *"The maximum volume to capacity ratio for each roadway segment shall not exceed nine-tenths (0.9), when measured independently for each direction of travel...the capacity [of the roadway] shall be based on the factors described in Table 40.350.020-1, Roadway Capacities."*

Signalized Intersections

Per CCC Section 40.350.020.G.1.b: *"Individual movements at each signalized intersection of regional significance in the unincorporated county shall not exceed an average of two (2) cycle lengths or two hundred forty (240) seconds of delay (whichever is less)."*

Unsignalized Intersections

Per CCC Section 40.350.020.G.1.c: *"All unsignalized intersections of regional significance in the unincorporated county shall achieve Level of Service (LOS) E standards or better (if warrants are not met). If warrants are met, unsignalized intersections of regional significance shall achieve LOS D standards or better. Intersection control or mitigation of unsignalized intersections shall be at the discretion of the Public Works Director and shall not obligate the county to meet this LOS standard. However, proposed developments shall not be required to mitigate their impacts in order to obtain a concurrency approval unless:*

(1) The proposed development adds at least five (5) peak hour trips to a failing intersection approach; and

(2) The worst movement on the failing approach is worsened by the proposed development. In determining whether the movement is worsened, the Public Works Director shall consider trip volume, delay, and any other relevant factors."

LOS analyses for roundabouts and all-way stop controlled intersections in this report are based on the average control delay per vehicle entering the intersection. For two-way stop-controlled intersections, LOS is based on the intersection's ability to accommodate the most difficult, or critical, movement as overall intersection LOS is not defined by the *Highway Capacity Manual 6th Edition*.

Roundabout Operating Standards

The County does not specifically provide performance standards for roundabout control. The future traffic conditions analysis of the NE 29th Avenue/NE 179th Street intersection (Intersection #1) presented in this report assumes the construction of a modern single lane roundabout. For analysis purposes, it was assumed that the County will require the overall roundabout LOS to be D or better and that each approach lane group should operate at a volume-to-capacity (V/C) ratio less than 0.90.

3.2.3 Queuing Analyses

Queuing analyses presented in this report were projected using Synchro and Sidra[2] software.

3.2.4 Turn Lane Needs

Turn lane requirement evaluations were based on turn lane criteria contained in the *WSDOT Design Manual* (Reference 3).

[2] Sidra was used for all roundabout analyses.

4 EXISTING CONDITIONS

The existing conditions analysis identifies the site conditions and the current operational and geometric characteristics of roadways within the study area. The purpose of this section is to provide a basis for comparison to future conditions.

The site and surrounding study area were visited and inventoried most recently in May 2024. At that time, information was collected regarding site conditions, adjacent land uses, existing traffic operations, and transportation facilities in the study area.

4.1 SITE CONDITIONS AND ADJACENT LAND USES

The proposed development site is approximately 14 acres of land located on NE 179th Street (Parcels #181747000 and #181748000) approximately 1.45 miles east of Interstate 5. The site is zoned R1-7.5 and R1-10, and its current use includes two single-family detached homes and the Kozy Manor Stables (business). The two existing single-family detached homes will remain as part of the site development.

The properties surrounding the site and on the north side of NE 179th Street are generally developed with low-density single-family housing or are vacant.

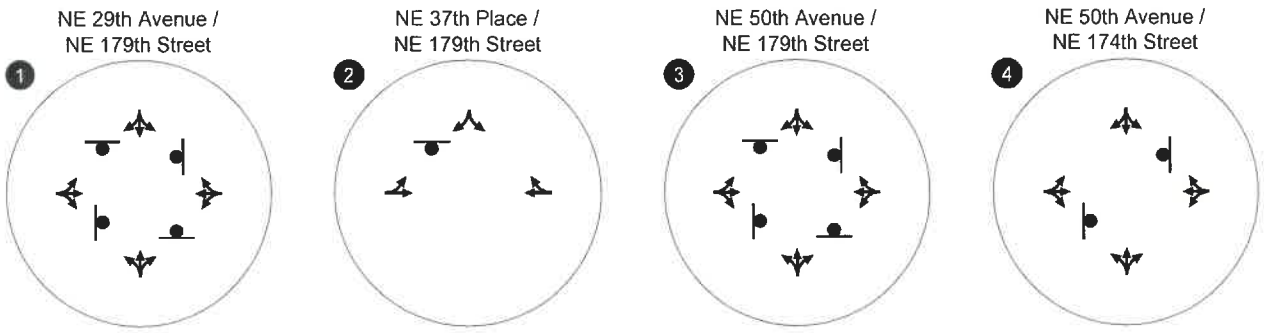
4.2 TRANSPORTATION FACILITIES

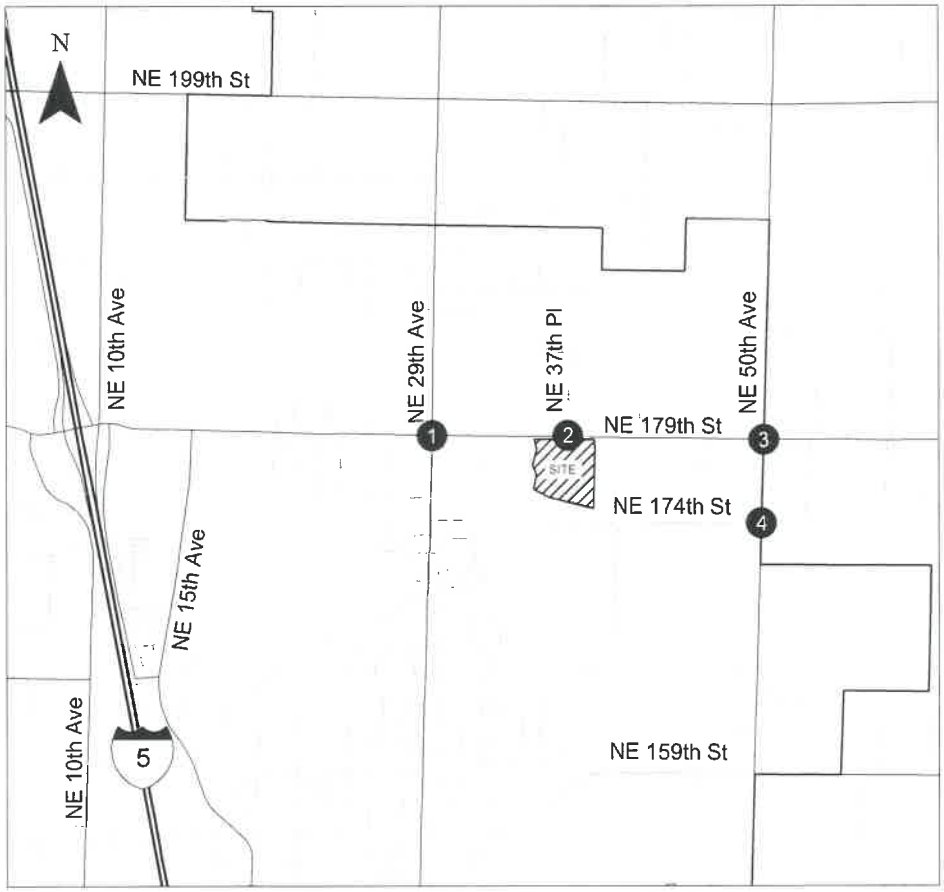
Table 1 provides a summary of transportation facilities (including pedestrian and bicycle facilities) in the site vicinity and Figure 3 illustrates the existing lane configurations and traffic control devices at the study intersections.

Table 1: Existing Transportation Facilities

Roadway	Classification[1]	Cross Section	Speed Limit (mph)	Sidewalks?	Bicycle Lanes?	On-Street Parking?
NE 179th Street	Urban Principal Arterial	2-lane	40	No	No	No
NE 174th Street	Urban Collector	2-lane	25	No	No	No
NE 50th Avenue	Urban Collector	2-lane	40	No	No	No
NE 29th Avenue	Urban Minor Arterial	2-lane	35	No	No	No

[1] Based on the *Clark County Arterial Atlas (Reference 4)*





- STOP SIGN
- EXISTING

Study Intersection Lane Configurations and Traffic Control Devices
Clark County, Washington

Figure 3

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4.2.1 Transit Facilities

There is no existing C-Tran fixed-route public transit service currently provided within ¼ mile walking distance of the proposed development site. The nearest park and ride facility is located to the south at the Salmon Creek Park & Ride (situated west of I-5 and south of NE 139th Street). The closest fixed-route bus route stops are near the NE 20th Avenue/NE 139th Street intersection to the south.

4.2.2 Traffic Volumes

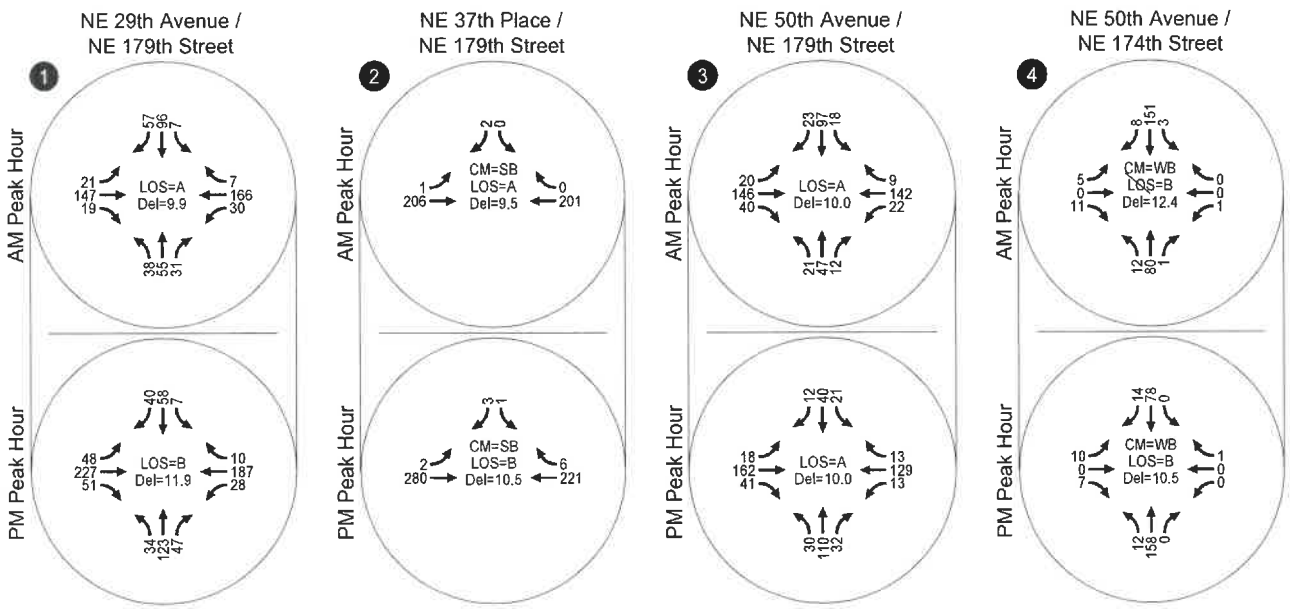
Turning movement counts were conducted at the study intersections on a mid-week day during the weekday morning peak hour (7:00 to 9:00 AM) and evening peak hour (4:00 to 6:00 PM) periods when local schools were in session (April and May of 2024).

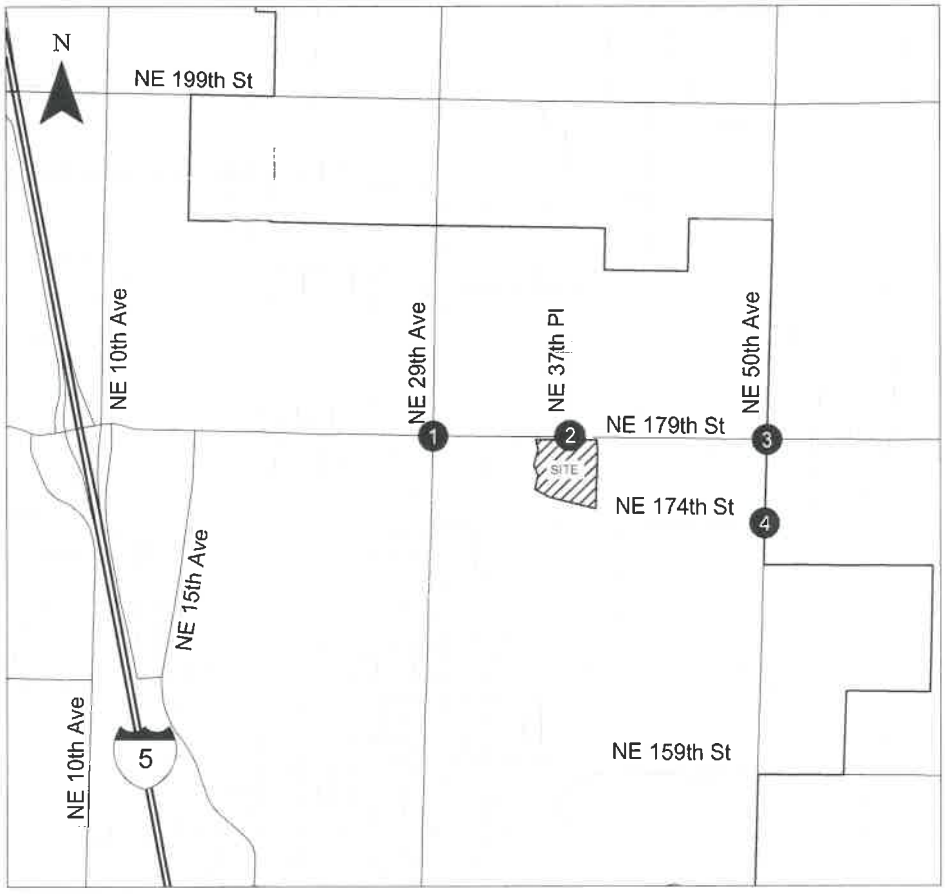
The traffic count sheets are included in Appendix "A".

4.2.3 Level-of-Service Analysis

Figure 4 summarizes the level-of-service and delay analysis results for the study intersections under existing traffic conditions during the weekday AM and weekday PM peak hours. The results indicate that all the study intersections currently operate acceptably during both analysis periods.

Appendix "B" includes the existing conditions level-of-service worksheets.





CM = CRITICAL MOVEMENT (TWSC)
LOS = INTERSECTION LEVEL OF SERVICE (AWSC) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
Del = INTERSECTION AVERAGE CONTROL DELAY (AWSC) / CRITICAL MOVEMENT CONTROL DELAY (TWSC)
TWSC = TWO-WAY STOP CONTROL
AWSC = ALL-WAY STOP CONTROL

Existing Traffic Conditions
Weekday AM and PM Peak Hours
Clark County, Washington

Figure 4

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4.2.4 Concurrency Corridor Volume-to-Capacity (V/C) Ratios

Existing traffic volumes were compared with adopted Clark County capacity thresholds for corridor segments to assess compliance with concurrency requirements. No segments were identified as having V/C ratios exceeding 0.90.

A tabular V/C ratio summary by corridor segment is included in Appendix "C".

4.3 TRAFFIC SAFETY

The crash histories of the study intersections were reviewed to identify potential intersection safety issues. Crash records were obtained from WSDOT and are summarized in Table 2. The data is for the five-year period from January 1, 2019 through December 31, 2023.

All crash data are provided in Appendix "D" of this report.

Three reported crashes along the segment of NE 179th Street between NE 34th Avenue and NE 47th Avenue were identified for the five-year reporting period. None of these were in the vicinity of NE 37th Place where access for the development is proposed.

No safety-based mitigation measures were identified for the study intersections in conjunction with the proposed site development based on the review of the crash data.

Table 2: Study Intersection Crash History (January 1, 2019 through December 31, 2023)

Study Intersection		Crash Type						Severity			Total	Crash Rate (Crashes/MEV)
ID	Location	Angle	Turn	Rear-End	Side Swipe	Fixed Object	Head-On	PDO	Injury	Fatal		
1	NE 179th Street/ NE 29th Avenue	12	1	1	0	0	0	8	6	0	14	0.89
2	NE 179th Street/ NE 37th Place	0	0	0	0	0	0	0	0	0	0	0.00
3	NE 179th Street/ NE 50th Avenue	4	0	1	0	1	0	5	1	0	6	0.53
4	NE 174th Street/ NE 50th Avenue	1	0	0	0	0	0	1	0	0	1	0.20
-	NE 179th Street segment between NE 34th Ave/NE 47th Avenue	0	0	0	1	1	1	1	2	0	3	N/A

[1]Property Damage Only
[2]Million Entering Vehicles

5 TRANSPORTATION IMPACT ANALYSIS

The transportation impact analysis identifies how the study intersections will operate upon build-out of the proposed development. Future year 2027 traffic conditions were analyzed for the three-year County concurrency planning horizon. The impact of traffic generated by the development during typical weekday AM and PM peak hours was examined as follows:

- Planned developments and transportation improvements in the site vicinity were identified and reviewed;
- Year 2027 background traffic conditions were forecast and analyzed;
- Site-generated trips were estimated for the development;
- A trip distribution pattern was developed for the site;
- Peak hour site-generated trips were added to the study intersections; and
- Forecast year 2027 total traffic conditions (with full build-out and occupancy of the development) were analyzed at the study intersections.

5.1 YEAR 2027 BACKGROUND TRAFFIC

The background traffic analysis identifies how the study area's transportation system will operate in the year 2027 prior to the construction of the proposed development. This analysis also includes traffic attributed to planned developments within the study area and general growth in the region, but does not include traffic from the proposed development.

5.1.1 Planned Developments

The year 2027 traffic volumes were projected accounting for trips associated with the following in-process developments (*refer to Appendix "E" for further documentation of the in-process developments*):

- Washington State University Master Plan;
- Mountain Estates Cluster Subdivision;
- Killian/Three Creeks Master Plan, including
    - Phase 1 NE 179th Street Commercial Center;
    - Phase 2 NE 179th Street Commercial Center;
    - Three Creeks North.
- Ramble Creek (formally Woodbrook/Mill Creek Planned Unit Development – 110 of the homes were assumed to be completed and occupied at the time of the traffic counts of this study);

- Salmon Creek Ridge (formally M&H Subdivision -residential subdivision at 3801 NE 174th Street);
- North Haven (residential subdivision at 807 NW 179th Street– 120 of the homes were assumed to be completed and occupied at the time of the traffic counts of this study);
- Peterson Machinery Expansion (equipment rental business at 16924 NE 10th Avenue);
- NE 179th Street Apartments – West (residential subdivision at 1932 NE 179th Street– 150 of the apartment units were assumed to be completed and occupied at the time of the traffic counts of this study);
- NE 179th Street Apartments – East (residential subdivision at 2112 NE 179th Street– 51 of the apartment units were assumed to be completed and occupied at the time of the traffic counts of this study);
- Summit Body & Equipment (truck manufacturing and sales at 16616 NE 10th Avenue);
- Trails at Whipple Creek (residential subdivision located on the northwest corner of the NW 11th Avenue/NW 164th Street intersection);
- DSHS NE 50th Clark County Behavioral Health (on the northeast corner of NE 50th Avenue/ NE 159th Street);
- Majestic Industrial Centre (industrial trade and storage facility located along NE 10th Avenue);
- Martin's Meadow Subdivision (residential subdivision located along NW 149th Street);
- Viers Subdivision (residential subdivision located along NE 174th Street);
- South Ridge Central Apartments (residential subdivision located along NE 179th Street);
- Mt Vista Logistics (warehousing located along NE 50th Avenue);
- Mill Creek Terrace (residential subdivision located along NE 179th Street); and,
- Ridgefield Middle School (located along NE 29th Avenue).

5.1.2 Planned Transportation Improvements

Development of the residential units (and all property within the area formerly designated Urban Holdings) is predicated on several planned transportation improvements involving the NE 179th Street corridor between Delfel Road and NE 50th Avenue. Clark County determined these improvements are reasonably funded as part of the lifting of the Urban Holdings designation but have not yet fully detailed and designed the roadway improvements. The following intersection mitigations are assumed based on the County's roadway improvement list, the 179th Street Access Management and Circulation Plan, the *Clark County Arterial Atlas* (Reference 4) designation of the respective roadways as well as improvements conditioned as part of prior in-process development approvals. Determination of the final mitigations to be implemented at each location will be made by Clark County.

- Construction of a new single lane roundabout at the NE 29th Avenue/NE 179th Street intersection;
- Construction of dedicated left turn lanes along the eastern and western approaches of the NE 50th Avenue/NE 179th Street intersection; and,
- Construction of a dedicated left turn lane along the southern approach of the NE 50th Avenue/NE 174th Street intersection – a condition of approval for the Viers Subdivision.

Figure 5 shows the assumed lane configurations and traffic control devices at the study intersections under the future traffic conditions.

The County has also identified a future planned roundabout at the intersection of NE 179th Street and NE 37th Place. As the roundabout is not funded and is not likely to be constructed by the year 2027, it was not assumed to be completed under the future traffic conditions.

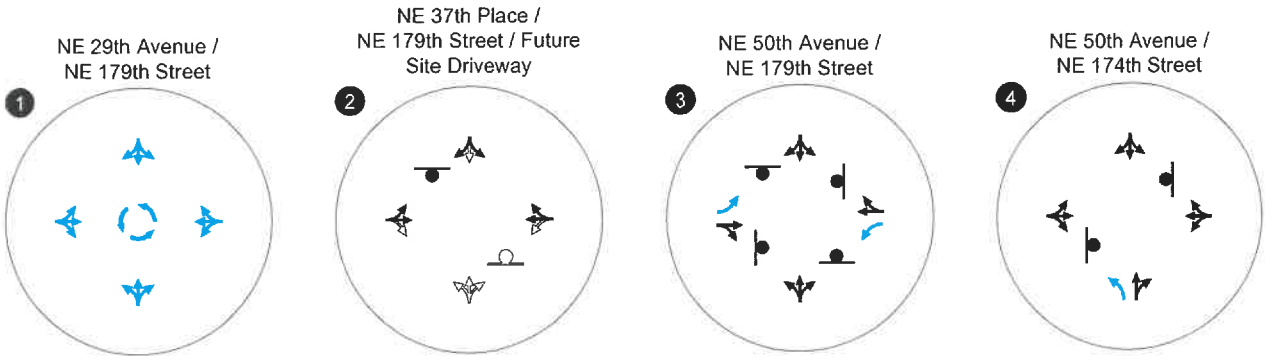
5.1.3 Traffic Volumes

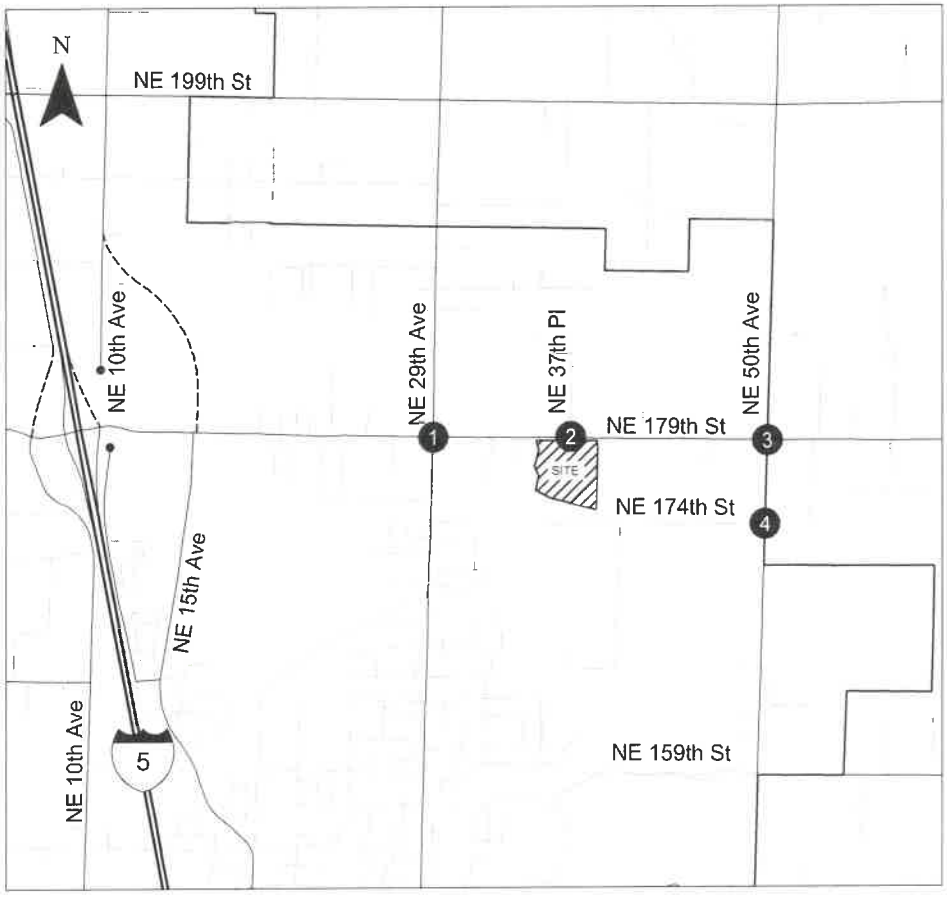
Year 2027 future traffic volumes were developed for both weekday AM and PM peak hour conditions by increasing the year 2024 existing traffic volumes using a two percent annual growth rate and then adding the in-process trips.

5.1.4 Level-of-Service Analysis

Figure 6 summarizes the year 2027 background traffic operations analysis results at the study intersections for the weekday AM and weekday PM peak hours. The analyses assume the future planned improvements as shown in Figure 5 are constructed. The results indicate that all the study intersections will operate acceptably during both analysis periods, except for the NE 50th Avenue/NE 179th Street intersection (Intersection #3). The eastbound and northbound approaches of the all-way stop-controlled intersection are anticipated to operate at LOS F during the weekday PM peak hour.

Appendix "F" contains the year 2027 background traffic level-of-service worksheets.





- STOP SIGN
- EXISTING
- MOVEMENT/IMPROVEMENT ADDED WITH THE PROPOSED DEVELOPMENT
- ROUNDABOUT
- FUTURE BY OTHERS

Assumed 2027 Intersection Lane Configurations and Traffic Control Devices
Clark County, Washington

Figure 5

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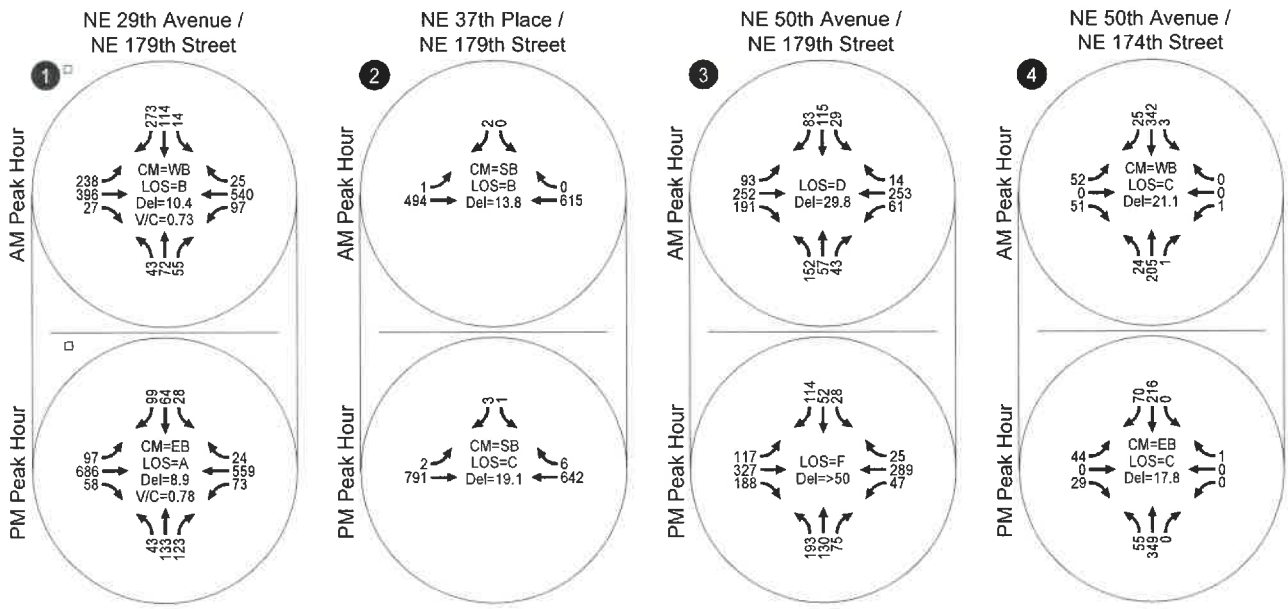

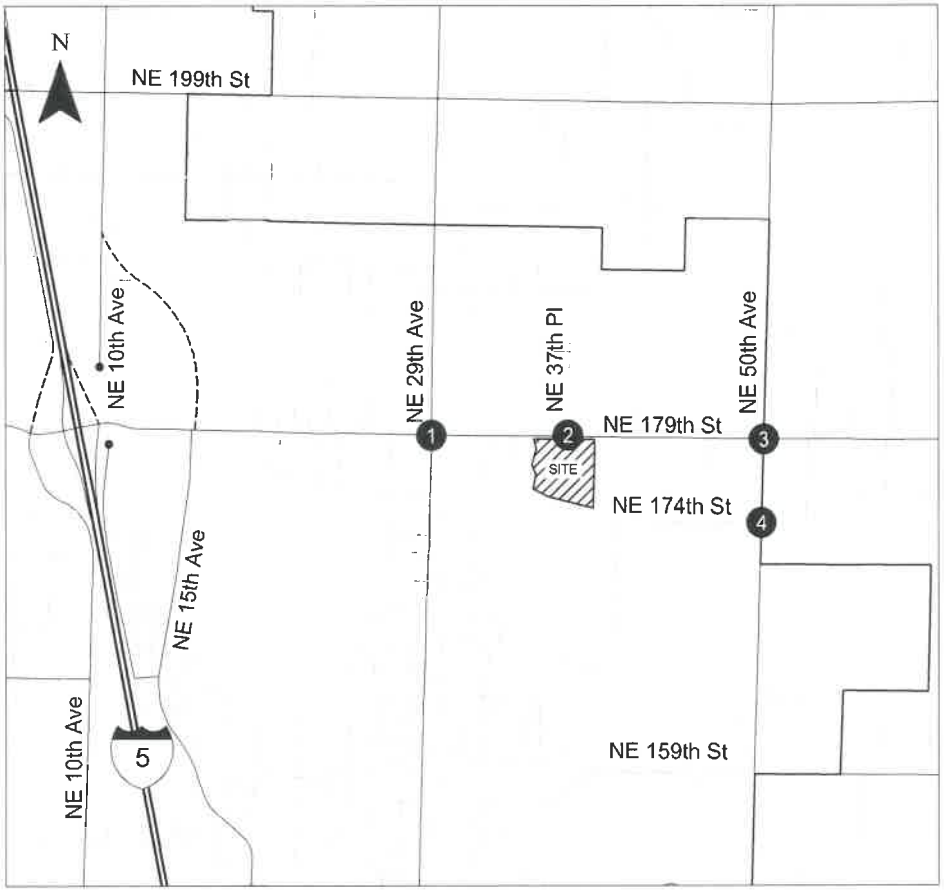

□ Analyzed with Sidra

CM = CRITICAL MOVEMENT (TWSC/ROUNDABOUT)
LOS = INTERSECTION LEVEL OF SERVICE (AWSC/ROUNDABOUT) / CRITICAL MOVEMENT LEVEL OF SERVICE (TWSC)
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TWSC = TWO-WAY STOP CONTROL
AWSC = ALL-WAY STOP CONTROL

2027 Background Traffic Conditions Weekday AM and PM Peak Hours Clark County, Washington

Figure 6

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5.1.5 Concurrency Corridor V/C Ratios

Background traffic volumes were compared with adopted Clark County capacity thresholds for corridor segments to assess compliance with concurrency requirements. *A summary of the V/C ratio analysis by road segment is included in Appendix "C".*

No segments were identified as having V/C ratios exceeding 0.90.

5.2 PROPOSED DEVELOPMENT

The proposed development totals approximately 14 acres and includes up to 46[3] single-family residential units. Access to the development will be off NE 179th Street.

5.2.1 Trip Generation

Table 3 provides a trip generation estimate for the development based on the average daily and weekday peak hour trip rates provided in the standard reference, *Trip Generation Manual, 11th Edition*, published by the Institute of Transportation Engineers (ITE, Reference 5).

Table 3: Kozy Manor Subdivision Trip Generation Estimate – Proposed Uses

Land Use	ITE Code	Size (units)	Weekday Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Single Family Detached Homes	210	46	434	32	8	24	43	27	16

The existing Kozy Manor Stables Business and one existing home will be removed with site development, and one existing home will remain as part of the proposed development. Credit for the existing uses should be provided for Traffic Impact Fee assessment purposes. Seventy-two-hour tube counts were conducted at the two existing driveways for the Kozy Manor Stables and existing homes to determine the daily and peak hour trip generation for the existing uses on the site. Table 4 provides a summary of the trips generated by the existing site uses (based on the counts) and the net new trips generated by the proposed development. *Appendix "A" contains the 24-hour traffic count sheets.*

Table 4: Kozy Manor Site Trip Generation Estimate – Removal of Existing Uses

Land Use	ITE Code	Size (units)	Weekday Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Proposed Use (Based on ITE Rates)	*210*	*46*	*434*	*32*	*8*	*24*	*43*	*27*	*16*
Existing Uses (Based on Traffic Counts)	*N/A*		*42*	*5*	*2*	*3*	*4*	*2*	*2*
Net New Trips = Proposed – Existing			**392**	**27**	**6**	**21**	**39**	**25**	**14**

[3] Including one existing single-family home on the property.

Note that although the trip estimate in Table 4 reflects a reduction for the existing uses on the project site, no existing site trips were subtracted from the study intersections in the TIA to account for the removal of these existing uses, providing a conservative analysis.

5.2.2 Trip Distribution

The site trip distribution pattern was developed considering a select zone assignment prepared by the Southwest Washington Regional Transportation Council for Transportation Analysis Zone 547 (prepared for a nearby residential development) and considering the development location, major trip attractions in the area, as well as regional travel patterns. Figure 7 illustrates the trip distribution pattern and the weekday AM and PM peak hour trip assignments[4].

5.3 2027 TOTAL TRAFFIC CONDITIONS

The year 2027 total traffic analysis forecasts how the study intersections will operate with the addition of traffic associated with site buildout.

5.3.1 Traffic Volumes

The year 2027 background traffic volumes for the weekday AM and PM peak hour analysis in Figure 6 were added to the site-generated traffic in Figure 7 to arrive at the total traffic volumes shown in Figure 8.

5.3.2 Level-of-Service Analysis

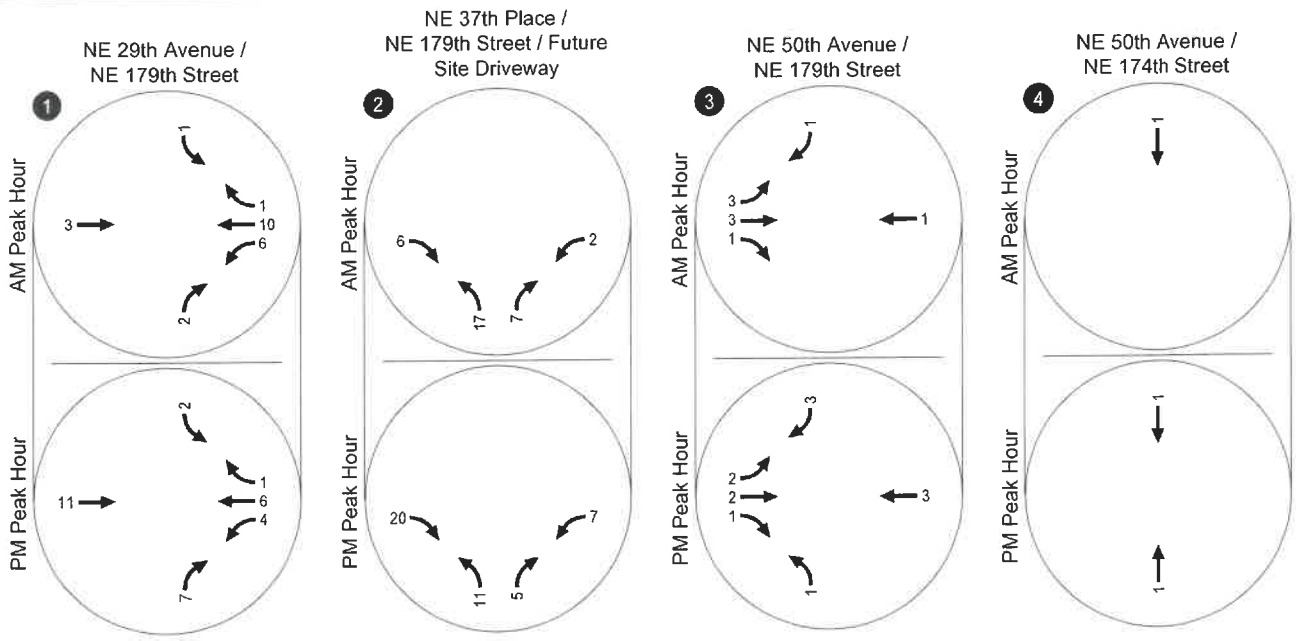
Figure 8 summarizes the year 2027 total traffic operations analysis results at the study intersections assuming the future planned improvements shown in Figure 5 are constructed.

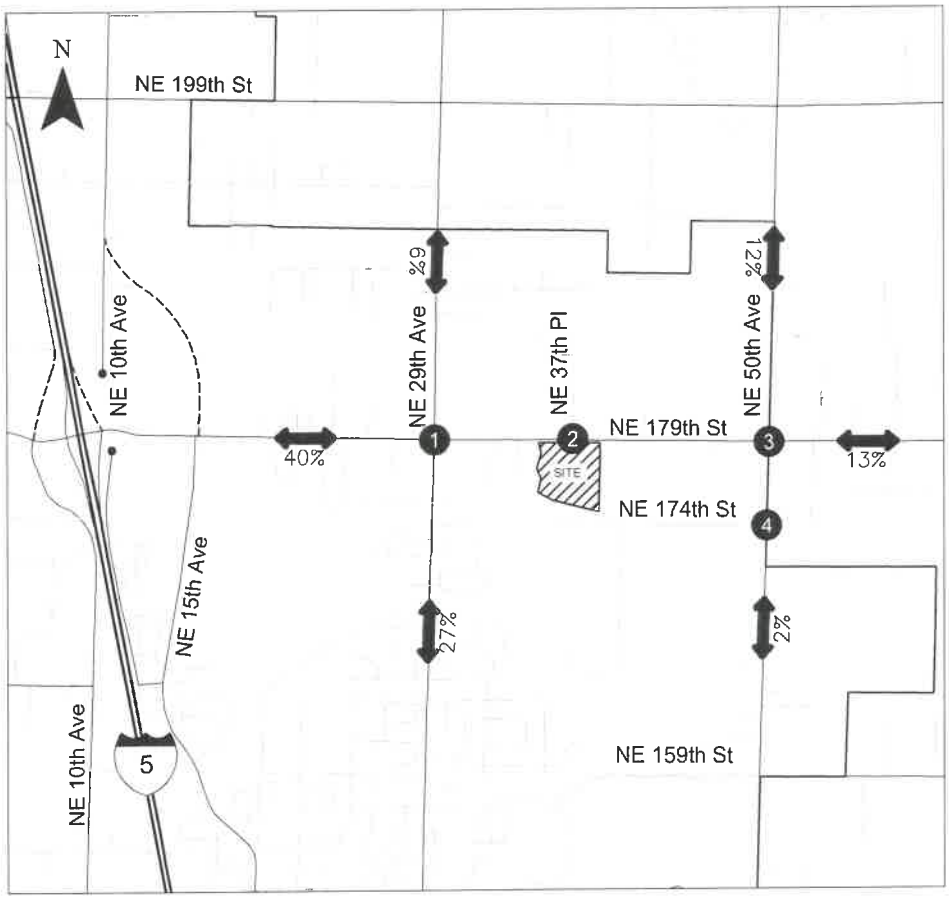
Consistent with background traffic conditions, the NE 50th Avenue/NE 179th Street intersection (Intersection #3) is anticipated to exceed mobility targets in the 2027 total traffic conditions. The analysis finds that all the other study intersections will operate acceptably.

The future site driveway (Intersection #2) is projected to operate at LOS E. However, traffic volumes are not forecast to be high enough to meet the volume-based signal warrant criteria.

Appendix "G" contains the Year 2027 total traffic intersection operations worksheets.

[4] The trips used for the assignments are based on the 46 units as presented in Table 3.





Estimated Trip Generation and Distribution Pattern
Weekday AM and PM Peak Hours
Clark County, Washington

Figure 7

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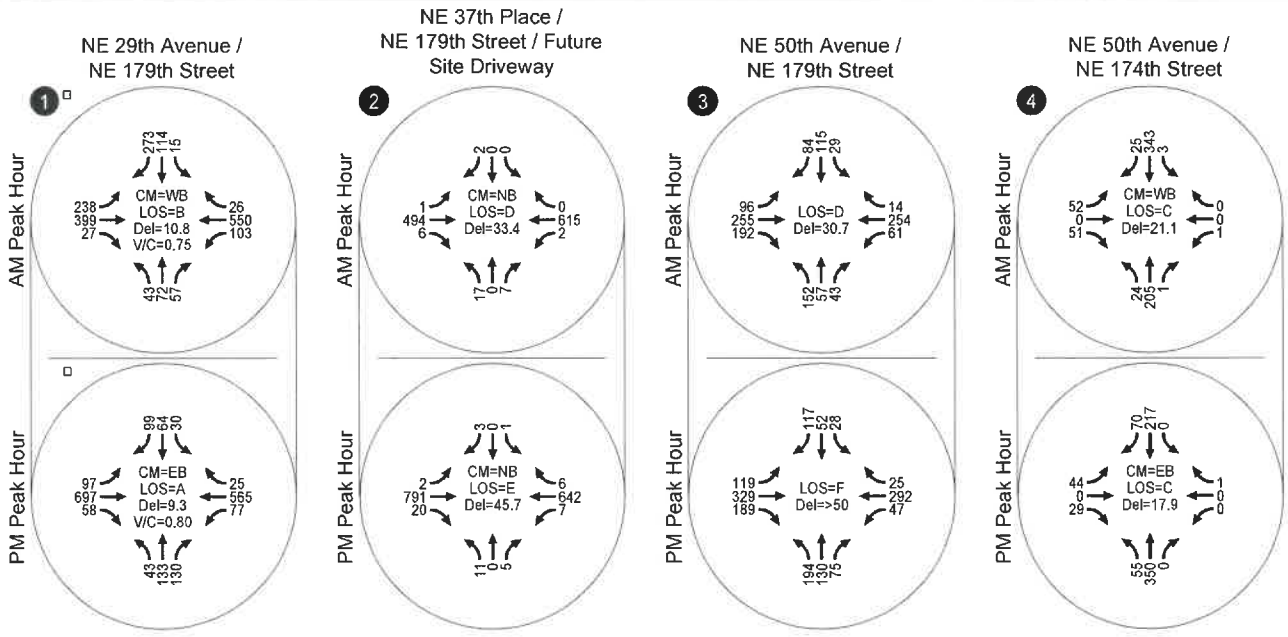

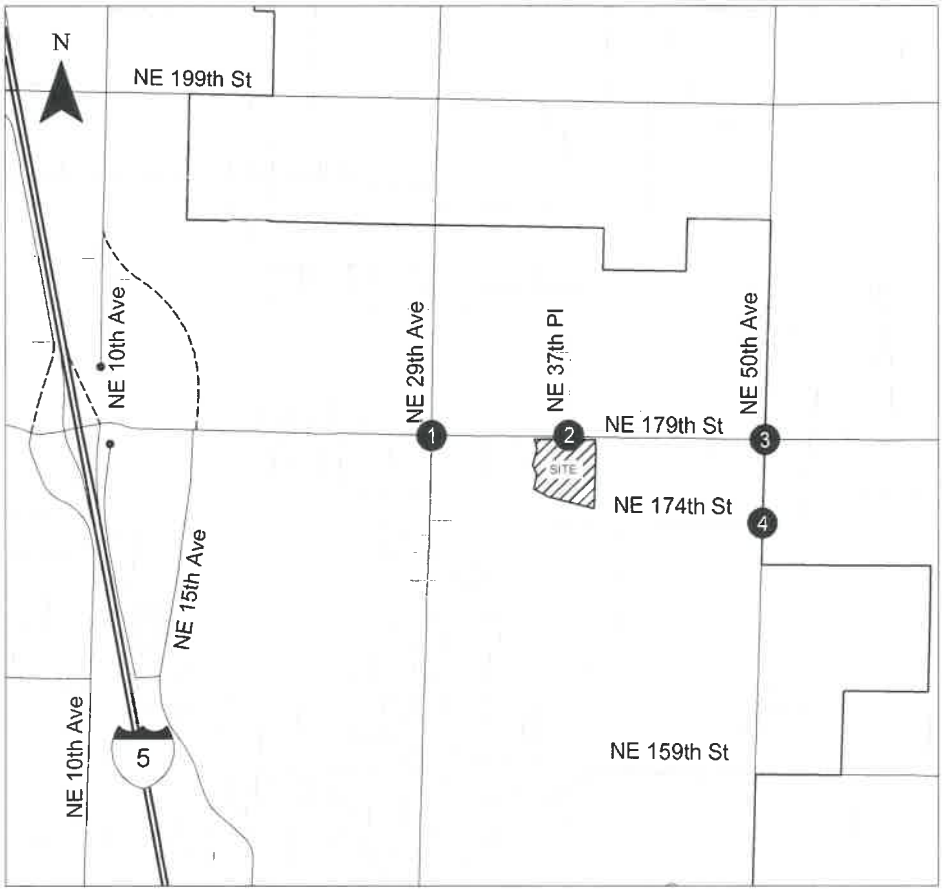

□ Analyzed with Sidra

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V/C = CRITICAL VOLUME-TO-CAPACITY RATIO (ROUNDABOUT)
TWSC = TWO-WAY STOP CONTROL
AWSC = ALL-WAY STOP CONTROL

2027 Total Traffic Conditions
Weekday AM and PM Peak Hours
Clark County, Washington

Figure 8

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There is a planned interim improvement to install eastbound and westbound left-turn lanes at the all-way stop controlled NE 50th Avenue/NE 179th Street intersection (Intersection #3). With this improvement, the eastbound and northbound approaches are projected to operate at LOS F during the weekday PM peak hour under 2027 background and total traffic conditions. The County's longer-term plan is to construct a multi-lane roundabout at the NE 50th Avenue/NE 179th Street intersection. The project applicant will be contributing towards the planned future roundabout through payment of Clark County's Traffic Impact Fee assessment that is in part funding the roundabout upgrade.

5.3.3 Concurrency Corridor V/C Ratios

Total traffic volumes were compared with adopted Clark County capacity thresholds for corridor segments by road segment (*as documented in Appendix "C"*). Consistent with background traffic conditions, no corridors exceed the V/C threshold with the proposed site development.

5.3.4 Queuing Analysis

Projected 95th-percentile queues were obtained for the proposed site access along NE 179th Street from Synchro. The 95th-percentile queues on the stop-controlled approach are projected to be one vehicle length or less and can be accommodated within the storage available on-site.

Appendix "G" contains the year 2027 total traffic queuing worksheets.

5.3.5 Site Access Intersection Turn Lane Needs

The potential need for turn lanes on NE 179th Street at the proposed site access were evaluated utilizing the turn lane guidelines presented in the *WSDOT Design Manual* (Reference 3). Note that NE 179th Street is not a WSDOT facility and the turn lane guidelines were assessed for informational purposes.

Based on the projected 2027 weekday build-out traffic volumes, the WSDOT volume-based criteria for providing a westbound left turn lane and an eastbound right turn lane are not satisfied under either weekday AM or PM peak hour total traffic conditions.

The Applicant is coordinating to dedicate standard half-street right-of-way along the project frontage to Clark County to accommodate the planned ultimate NE 179th Street widening that will include a center left-turn area. In addition, the Applicant will be paying Clark County a fee-in-lieu for the planned future construction of NE 179th Street along the site frontage as part of a County-led roadway project.

Full movement access to the project site is anticipated upon site development. The proposed site-access on NE 179th Street may be converted to a roundabout in the future as additional development occurs on NE 37th Place. The Applicant is coordinating to dedicate right-of-way for this potential future roundabout.

Appendix "H" contains the turn lane evaluation worksheets.

5.3.6 Intersection Sight Distance

The civil engineering plans prepared for the development by Hayward Uskoski & Associates document driveway and street sight distance compliance with Clark County standards.

Intersection sight distance should be provided on-site per Clark County Code design requirements. Landscaping, above ground utilities, and signing should be located and maintained in a manner that provides adequate intersection sight distance per Clark County Code requirements.

6 FINDINGS AND RECOMMENDATIONS

Based on the results of the transportation impact analysis, the proposed development can be developed while maintaining acceptable operations at the study intersections with the recommended mitigation measures in place. No off-site capacity-based transportation mitigation needs were identified to support site development. The analysis developed the following findings and recommendations.

6.1 FINDINGS

- All study intersection operations currently satisfy Clark County standards.
- All study intersection operations continue to satisfy Clark County standards under 2027 background traffic conditions provided the County roadway improvement projects are implemented, except for the NE 50th Avenue/NE 179th Street intersection.
- The proposed residential development is estimated to generate approximately 392 net new daily trips (these trips consider existing uses on the site which should be credited for Traffic Impact Fee assessment purposes). A total of 32 trips during the weekday AM peak hour and 43 weekday PM peak trips are estimated to use the proposed site access on NE 179th Street.
- Consistent with existing and background traffic conditions, the 2027 total traffic conditions study intersection operations are expected to satisfy the Clark County standards, except for the NE 50th Avenue/NE 179th Street intersection noted under background conditions.
    - There is a County-planned interim improvement to install eastbound and westbound left-turn lanes at the all-way stop-controlled NE 50th Avenue/NE 179th Street intersection. With this improvement, the eastbound and northbound approaches are projected to operate at LOS F during the weekday PM peak hour under 2027 background and total traffic conditions. The County's longer-term plan is to construct a multi-lane roundabout at the NE 50th Avenue/NE 179th Street intersection. The project applicant will be contributing towards the planned future roundabout through payment of Clark County's Traffic Impact Fee assessment that is in part funding the roundabout upgrade.
- Review of adopted Clark County capacity thresholds for corridor segments identified no corridor segments exceed the adopted V/C threshold because of the proposed site development.
- Site access is proposed via an interim full movement street connection to NE 179th Street.
    - Based on the projected 2027 weekday build-out traffic volumes, the WSDOT volume-based criteria for providing a westbound left turn lane and an eastbound right turn lane are not satisfied under either weekday AM or PM peak hour total traffic conditions.

- The Applicant is coordinating to dedicate standard half-street right-of-way along the project frontage to Clark County to accommodate the planned ultimate NE 179th Street widening that will include a center left-turn area. In addition, the Applicant will be paying Clark County a fee-in-lieu for the planned future construction of NE 179th Street along the site frontage as part of a County-led roadway project.
- The proposed site-access on NE 179th Street may be converted to a roundabout in the future as additional development occurs on NE 37th Place. The Applicant is coordinating to dedicate right-of-way for this potential future roundabout.

6.2 RECOMMENDATIONS

- Intersection sight distance should be provided on-site and at the proposed site access to NE 179th Street per Clark County Code design requirements. Landscaping, above ground utilities, and signing should be located and maintained in a manner that provides adequate intersection sight distance per Clark County Code requirements.

7 REFERENCES

1. Transportation Research Board. *Highway Capacity Manual 6th Edition*. 2015.

2. Washington State Department of Transportation. *WSDOT Sidra Policy Settings*. Available on-line at https://wsdot.wa.gov/sites/default/files/2021-03/TrafficOps-WSDOTSidraPolicyAndSettings.pdf

3. Washington State Department of Transportation. *Design Manual*. M22-01.21. October 2023.

4. Clark County. *Clark County Arterial Atlas*. https://gis.clark.wa.gov/gishome/index.cfm accessed May 2023.

5. Institute of Transportation Engineers. *Trip Generation Manual, 11th Edition*. 2021.

8 APPENDIX

Appendix A: Traffic Counts

Appendix B: Existing Traffic Conditions Operations Worksheets

Appendix C: Concurrency Corridor V/C Ratios

Appendix D: Crash Data

Appendix E: In-Process Developments and Planned Transportation Improvements

Appendix F: 2027 Background Traffic Conditions Worksheets

Appendix G: 2027 Total Traffic Conditions Worksheets

Appendix H: Turn Lane Evaluation Worksheets

Appendix A Traffic Counts

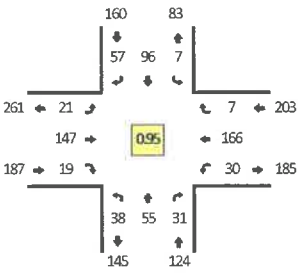
Type of peak hour being reported: Intersection Peak

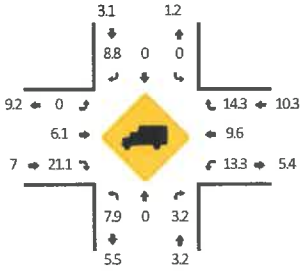
Method for determining peak hour: Total Entering Volume

LOCATION: NE 29th Ave -- NE 179th St
CITY/STATE: Clark, WA

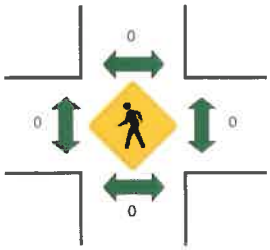
QC JOB #: 16573801
DATE: Tue, Apr 23 2024

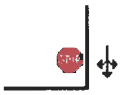
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 7:40 AM -- 7:55 AM



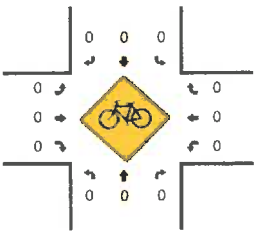


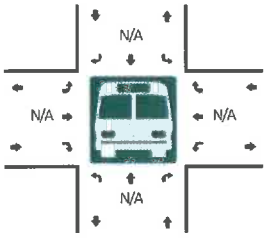
TRUE DATA TO IMPROVE MOBILITY

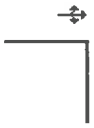




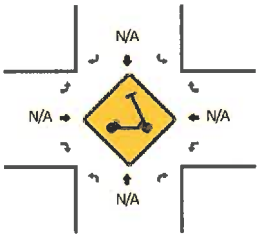












5-Min Count Period Beginning At	NE 29th Ave (Northbound)				NE 29th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	1	1	0	0	2	3	0	2	5	4	0	2	11	0	0	32	
7:05 AM	0	2	2	0	1	4	3	0	1	11	0	0	2	9	0	0	35	
7:10 AM	2	2	0	0	0	5	2	0	0	6	1	0	1	16	0	0	35	
7:15 AM	3	6	2	0	0	2	2	0	1	12	0	0	3	18	0	0	49	
7:20 AM	2	3	1	0	0	8	2	0	0	8	1	0	1	12	0	0	38	
7:25 AM	2	10	0	0	1	4	4	0	3	9	1	0	0	9	1	0	44	
7:30 AM	5	6	3	0	0	7	6	0	0	11	0	0	0	15	0	0	53	
7:35 AM	5	8	3	0	4	5	2	0	2	11	0	0	1	16	0	0	57	
7:40 AM	4	8	4	0	2	5	7	0	3	17	2	0	3	9	0	0	64	
7:45 AM	5	4	3	0	2	8	2	0	2	11	1	0	2	16	0	0	56	
7:50 AM	2	3	4	0	1	12	5	0	1	14	1	0	5	10	0	0	58	
7:55 AM	3	2	3	0	0	7	3	0	1	15	5	0	5	10	0	0	54	575
8:00 AM	3	1	4	0	0	6	7	0	0	8	0	0	2	15	0	0	46	589
8:05 AM	3	7	1	0	1	8	4	0	1	10	1	0	1	9	2	0	48	602
8:10 AM	4	5	5	0	0	12	3	0	2	15	1	0	3	9	1	0	60	627
8:15 AM	2	7	0	0	0	8	6	0	4	13	3	0	2	15	1	0	61	639
8:20 AM	3	6	2	0	0	9	7	0	3	12	1	0	1	12	0	0	56	657
8:25 AM	3	3	0	0	1	7	2	0	1	10	1	0	2	17	1	0	48	661
8:30 AM	1	4	2	0	0	7	6	0	1	12	0	0	3	25	1	0	62	670
8:35 AM	5	5	3	0	0	7	5	0	2	10	3	0	1	19	1	0	61	674
8:40 AM	4	4	3	0	0	9	4	0	2	13	0	0	2	15	0	0	56	666
8:45 AM	2	7	1	0	0	2	2	0	3	9	1	0	0	10	1	0	38	648
8:50 AM	1	8	2	0	1	10	1	0	1	13	1	0	0	12	2	0	52	642
8:55 AM	0	2	4	0	0	6	0	0	2	14	1	0	1	9	1	0	40	628

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	44	60	44	0	20	100	56	0	24	168	16	0	40	140	0	0	712
Heavy Trucks	0	0	0		0	0	4		0	12	4		0	12	0		32
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/8/2024 2:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

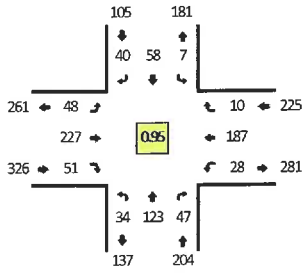
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

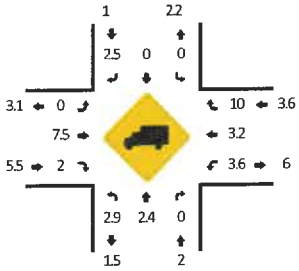
LOCATION: NE 29th Ave -- NE 179th St
CITY/STATE: Clark, WA

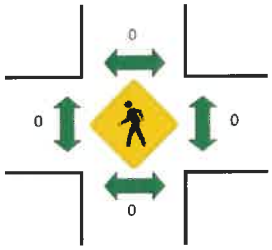
QC JOB #: 16573802
DATE: Tue, Apr 23 2024

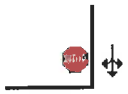
Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

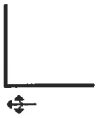


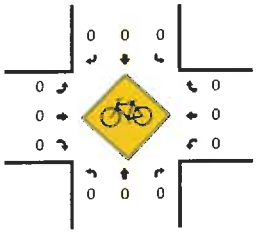
TRUE DATA TO IMPROVE MOBILITY

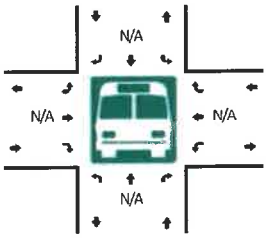


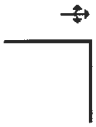




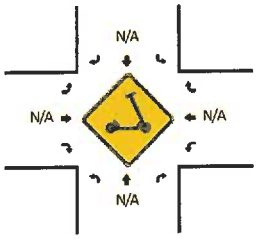












5-Min Count Period Beginning At	NE 29th Ave (Northbound)				NE 29th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	1	11	3	0	0	7	3	0	2	18	1	0	1	12	2	0	61	
2:05 PM	0	4	2	0	0	2	2	0	4	19	1	0	2	10	0	0	46	
2:10 PM	1	4	1	0	2	4	1	0	2	14	3	0	2	17	1	0	52	
2:15 PM	0	4	2	0	1	9	4	0	3	10	5	0	0	9	0	0	47	
2:20 PM	2	4	8	0	1	4	5	0	3	7	1	0	1	10	0	0	46	
2:25 PM	0	3	1	0	0	3	3	0	4	6	5	0	1	13	0	0	39	
2:30 PM	0	6	2	0	0	4	4	0	2	7	2	0	1	16	0	0	44	
2:35 PM	1	3	2	0	1	8	8	0	6	21	1	0	1	6	0	0	58	
2:40 PM	0	5	5	0	1	4	3	0	2	20	2	0	1	17	0	0	60	
2:45 PM	3	8	1	0	0	8	3	0	4	23	0	0	1	12	1	0	64	
2:50 PM	7	12	2	0	1	3	2	0	4	9	2	0	1	9	0	0	52	
2:55 PM	3	9	5	0	1	5	0	0	5	17	2	0	1	9	1	0	58	627
3:00 PM	2	7	5	0	2	10	5	0	6	12	3	0	2	13	1	0	68	634
3:05 PM	2	5	4	0	0	8	4	0	5	25	3	0	1	13	3	0	73	661
3:10 PM	5	7	6	0	1	3	1	0	3	18	1	0	1	12	0	0	58	667
3:15 PM	4	8	5	0	3	10	5	0	3	19	4	0	1	16	0	0	78	698
3:20 PM	6	9	1	0	0	8	3	0	8	15	1	0	4	17	0	0	72	724
3:25 PM	2	12	4	0	1	8	0	0	1	16	5	0	3	16	3	0	71	756
3:30 PM	3	9	4	0	0	4	6	0	1	10	7	0	3	20	1	0	68	780
3:35 PM	1	7	3	0	0	8	5	0	5	19	2	0	3	24	1	0	78	800
3:40 PM	1	7	4	0	0	7	3	0	3	11	2	0	2	18	5	0	63	803
3:45 PM	2	3	1	0	0	10	0	0	6	18	3	0	2	17	2	0	64	803
3:50 PM	1	4	4	0	1	5	2	0	5	14	3	0	6	18	0	0	63	814
3:55 PM	1	14	3	0	0	5	4	0	9	21	1	0	3	16	2	0	79	835
4:00 PM	2	4	4	0	2	4	2	0	6	11	2	0	0	18	0	0	55	822
4:05 PM	1	9	6	0	0	3	2	0	5	19	2	0	5	20	1	0	73	822
4:10 PM	7	7	8	0	0	6	6	0	0	13	2	0	4	12	0	0	65	829
4:15 PM	2	6	3	0	1	3	4	0	2	19	3	0	0	8	1	0	52	803
4:20 PM	5	9	0	0	0	3	6	0	5	16	5	0	7	24	1	0	81	812
4:25 PM	2	11	5	0	3	7	2	0	3	27	2	0	5	15	0	0	82	823
4:30 PM	2	10	2	0	0	2	4	0	5	18	3	0	2	11	2	0	61	816
4:35 PM	4	10	3	0	1	1	2	0	1	20	4	0	1	24	1	0	72	810
4:40 PM	1	14	8	0	1	7	2	0	3	20	10	0	1	12	0	0	79	826
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5:00 PM	4	5	4	0	0	6	5	0	6	9	1	0	2	10	0	0	52	824
5:05 PM	3	6	8	0	0	8	3	0	5	21	4	0	0	18	1	0	77	828

5-Min Count Period Beginning At	NE 29th Ave (Northbound)				NE 29th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
5:10 PM	3	17	4	0	0	5	4	0	6	18	5	0	0	20	1	0	83	846
5:15 PM	4	9	1	0	0	5	2	0	4	18	8	0	4	10	1	0	66	860
5:20 PM	2	12	2	0	0	3	3	0	3	19	3	0	1	16	1	0	65	844
5:25 PM	5	8	3	0	1	5	4	0	8	16	3	0	2	13	0	0	68	830
5:30 PM	2	4	2	0	1	1	2	0	6	19	4	0	3	17	0	0	61	830
5:35 PM	3	12	3	0	0	5	1	0	5	20	3	0	1	15	0	0	68	826
5:40 PM	1	6	3	0	1	3	3	0	1	17	5	0	3	19	1	0	63	810
5:45 PM	2	7	3	0	1	4	2	0	9	16	2	0	1	14	0	0	61	803
5:50 PM	1	6	1	0	1	4	4	0	2	13	4	0	3	10	1	0	50	777
5:55 PM	4	5	1	0	0	4	1	0	2	21	4	0	2	13	0	0	57	771

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	40	128	52	0	0	72	36	0	60	228	68	0	16	192	12	0	904
Heavy Trucks	0	4	0		0	0	0		0	32	0		0	16	0		52
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/8/2024 2:09 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

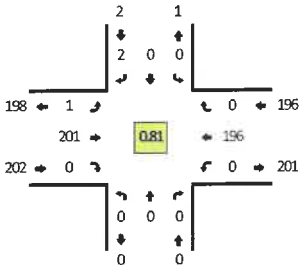
Type of peak hour being reported: Intersection Peak

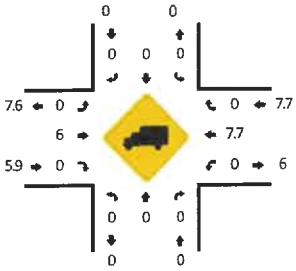
Method for determining peak hour: Total Entering Volume

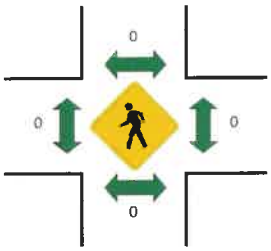
LOCATION: NE 179th St -- NE 37th Pl
CITY/STATE: Ridgefield, WA

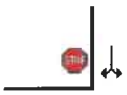
QC JOB #: 16589003
DATE: Tue, May 7 2024

Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 8:20 AM -- 8:35 AM

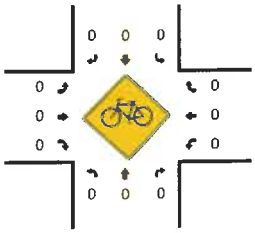


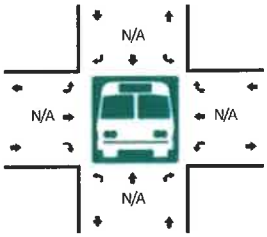


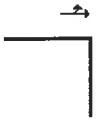




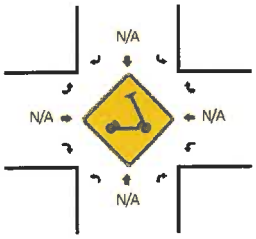












5-Min Count Period Beginning At	NE 179th St (Northbound)				NE 179th St (Southbound)				NE 37th Pl (Eastbound)				NE 37th Pl (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	2	0	2	14	0	0	0	9	0	0	27	
7:05 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	16	0	0	21	
7:10 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	22	0	0	30	
7:15 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	7	0	0	12	
7:20 AM	0	0	0	0	0	0	0	0	0	17	0	0	0	15	0	0	32	
7:25 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	7	0	0	18	
7:30 AM	0	0	0	0	0	0	0	0	0	14	0	0	0	13	0	0	27	
7:35 AM	0	0	0	0	0	0	1	0	0	8	0	0	0	12	0	0	21	
7:40 AM	0	0	0	0	0	0	0	0	0	29	0	0	0	9	0	0	38	
7:45 AM	0	0	0	0	0	0	0	0	0	21	0	0	0	14	0	0	35	
7:50 AM	0	0	0	0	0	0	0	0	0	15	0	0	0	12	0	0	27	
7:55 AM	0	0	0	0	0	0	1	0	0	14	0	0	0	16	0	0	31	319
8:00 AM	0	0	0	0	0	0	0	0	0	16	0	0	0	8	0	0	24	316
8:05 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	13	0	0	24	319
8:10 AM	0	0	0	0	0	0	0	0	0	15	0	0	0	13	0	0	28	317
8:15 AM	0	0	0	0	0	0	0	0	0	15	0	0	0	14	0	0	29	334
8:20 AM	0	0	0	0	0	0	0	0	0	29	0	0	0	19	0	0	48	350
8:25 AM	0	0	0	0	0	0	0	0	0	14	0	0	0	23	0	0	37	369
8:30 AM	0	0	0	0	0	0	1	0	1	10	0	0	0	27	0	0	39	381
8:35 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	28	0	0	40	400
8:40 AM	0	0	0	0	0	0	0	0	0	15	0	0	0	12	0	0	27	389
8:45 AM	0	0	0	0	0	0	1	0	0	20	0	0	0	18	0	0	39	393
8:50 AM	0	0	0	0	0	0	0	0	0	13	0	0	0	12	0	0	25	391
8:55 AM	0	0	0	0	1	0	0	0	0	13	0	0	0	7	0	0	21	381

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	0	0	0	0	0	0	4	0	4	212	0	0	0	276	0	0	496
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	16	0		24
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/15/2024 4:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

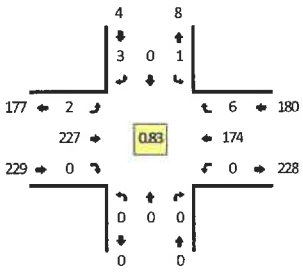
Type of peak hour being reported: Intersection Peak

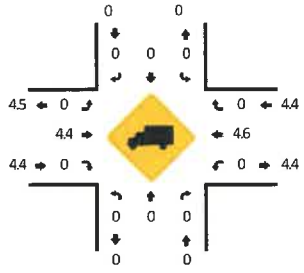
Method for determining peak hour: Total Entering Volume

LOCATION: NE 179th St -- NE 37th Pl
CITY/STATE: Ridgefield, WA

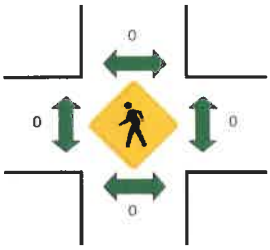
QC JOB #: 16589004
DATE: Tue, May 7 2024

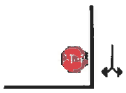
Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

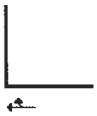


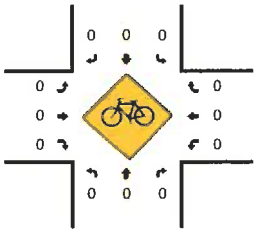


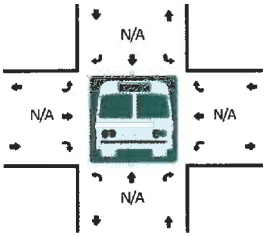
TRUE DATA TO IMPROVE MOBILITY

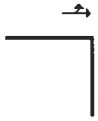




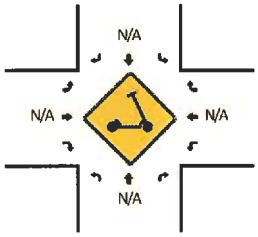












5-Min Count Period Beginning At	NE 179th St (Northbound)				NE 179th St (Southbound)				NE 37th Pl (Eastbound)				NE 37th Pl (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	1	0	1	8	0	0	0	11	0	0	21	
4:05 PM	0	0	0	0	1	0	0	0	1	14	0	0	0	14	0	0	30	
4:10 PM	0	0	0	0	0	0	0	0	0	26	0	0	0	18	0	0	44	
4:15 PM	0	0	0	0	0	0	0	0	0	21	0	0	0	8	0	0	29	
4:20 PM	0	0	0	0	0	0	1	0	0	20	0	0	0	10	0	0	31	
4:25 PM	0	0	0	0	0	0	0	0	0	25	0	0	0	13	0	0	38	
4:30 PM	0	0	0	0	1	0	0	0	0	16	0	0	0	9	1	0	27	
4:35 PM	0	0	0	0	0	0	0	0	0	8	0	0	0	17	0	0	25	
4:40 PM	0	0	0	0	0	0	0	0	1	21	0	0	0	9	0	0	31	
4:45 PM	0	0	0	0	0	0	0	0	0	24	0	0	0	15	1	0	40	
4:50 PM	0	0	0	0	0	0	1	0	1	16	0	0	0	12	2	0	32	
4:55 PM	0	0	0	0	0	0	0	0	0	15	0	0	0	18	1	0	34	382
5:00 PM	0	0	0	0	0	0	0	0	0	15	0	0	0	14	1	0	30	391
5:05 PM	0	0	0	0	0	0	0	0	0	18	0	0	0	20	0	0	38	399
5:10 PM	0	0	0	0	0	0	0	0	0	31	0	0	0	21	0	0	52	407
5:15 PM	0	0	0	0	0	0	1	0	0	18	0	0	0	16	0	0	35	413
5:20 PM	0	0	0	0	0	0	0	0	1	12	0	0	0	11	0	0	24	406
5:25 PM	0	0	0	0	0	0	0	0	0	13	0	0	0	13	0	0	26	394
5:30 PM	0	0	0	0	0	0	0	0	0	20	0	0	0	17	0	0	37	404
5:35 PM	0	0	0	0	0	0	0	0	1	17	0	0	0	8	1	0	27	406
5:40 PM	0	0	0	0	0	0	1	0	0	21	0	0	0	15	0	0	37	412
5:45 PM	0	0	0	0	0	0	0	0	0	21	0	0	0	8	0	0	29	401
5:50 PM	0	0	0	0	0	0	0	0	0	14	0	0	0	16	0	0	30	399
5:55 PM	0	0	0	0	0	0	0	0	1	14	0	0	0	19	1	0	35	400

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	0	0	0	0	0	0	4	0	0	268	0	0	0	228	0	0	500
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	8	0		24
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/15/2024 4:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

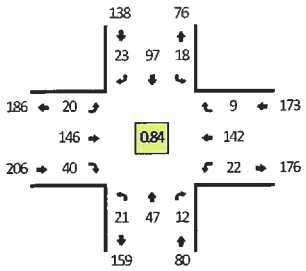
Method for determining peak hour: Total Entering Volume

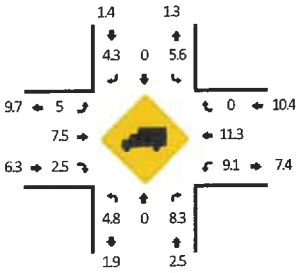
LOCATION: NE 50th Ave -- NE 179th St
CITY/STATE: Vancouver, WA

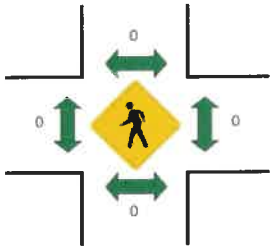
QC JOB #: 16589007
DATE: Tue, May 7 2024

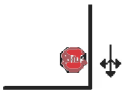
Peak-Hour: 7:40 AM -- 8:40 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

TRUE DATA TO IMPROVE MOBILITY

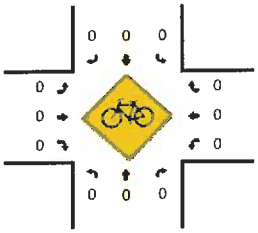


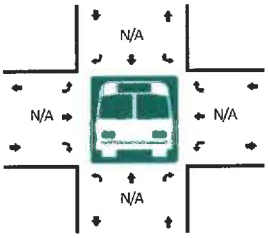






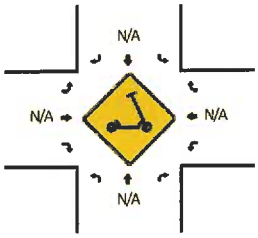












5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	0	0	0	0	2	1	0	0	10	1	0	0	4	0	0	20	
7:05 AM	3	2	0	0	1	5	2	0	0	8	0	0	0	19	1	0	41	
7:10 AM	0	0	0	0	3	3	1	0	0	8	2	0	0	11	1	0	29	
7:15 AM	4	6	0	0	1	6	1	0	0	4	1	0	1	6	0	0	30	
7:20 AM	1	1	0	0	2	5	4	0	1	10	1	0	2	5	2	0	34	
7:25 AM	1	6	1	0	0	6	3	0	2	4	4	0	1	6	2	0	36	
7:30 AM	1	3	3	0	3	5	1	0	0	14	2	0	0	12	2	0	46	
7:35 AM	4	6	0	0	2	12	1	0	0	9	3	0	0	4	1	0	42	
7:40 AM	2	5	0	0	3	12	1	0	2	20	3	0	1	6	0	0	55	
7:45 AM	1	6	0	0	2	6	1	0	3	19	4	0	1	14	1	0	58	
7:50 AM	4	2	2	0	1	13	5	0	0	10	1	0	1	8	0	0	47	
7:55 AM	0	1	1	0	0	7	1	0	0	15	3	0	3	12	1	0	44	482
8:00 AM	0	2	3	0	3	7	2	0	4	10	1	0	2	6	1	0	41	503
8:05 AM	3	4	3	0	0	4	3	0	1	14	2	0	1	8	1	0	44	506
8:10 AM	0	5	0	0	1	6	3	0	1	7	1	0	3	6	1	0	34	511
8:15 AM	2	8	0	0	2	12	0	0	1	11	5	0	0	15	1	0	57	538
8:20 AM	2	6	1	0	2	4	1	0	2	17	5	0	3	16	1	0	60	564
8:25 AM	2	2	1	0	2	9	3	0	2	8	9	0	2	20	0	0	60	588
8:30 AM	5	3	1	0	1	13	2	0	2	6	3	0	2	12	1	0	51	593
8:35 AM	0	3	0	0	1	4	1	0	2	9	3	0	3	19	1	0	46	597
8:40 AM	2	6	2	0	4	9	1	0	2	9	3	0	3	9	0	0	50	592
8:45 AM	2	1	0	0	1	6	2	0	1	12	4	0	4	16	1	0	50	584
8:50 AM	3	1	0	0	0	8	0	0	3	12	5	0	2	8	0	0	42	579
8:55 AM	2	6	4	0	1	5	1	0	2	7	1	0	1	9	0	0	39	574

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	24	64	8	0	24	100	16	0	20	144	76	0	20	204	8	0	708
Heavy Trucks	0	0	0		0	0	0		4	4	0		0	16	0		24
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/15/2024 4:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

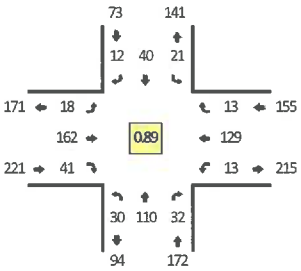
Type of peak hour being reported: Intersection Peak

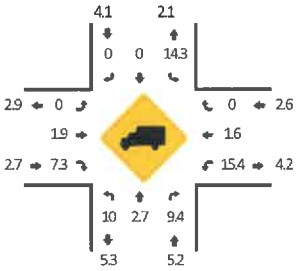
Method for determining peak hour: Total Entering Volume

LOCATION: NE 50th Ave -- NE 179th St
CITY/STATE: Vancouver, WA

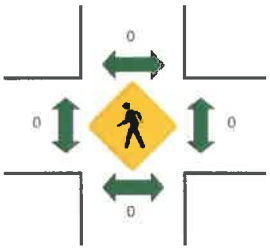
QC JOB #: 16589008
DATE: Tue, May 7 2024

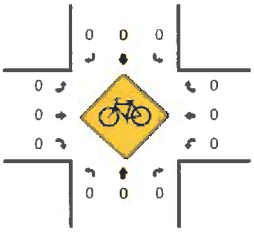
Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

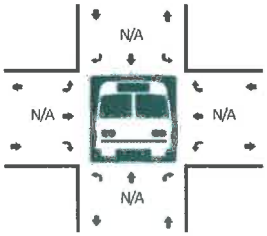


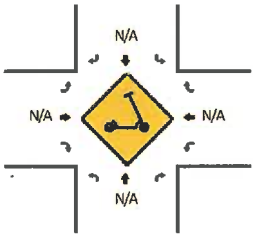


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 179th St (Eastbound)				NE 179th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	6	1	0	2	2	3	0	4	9	1	0	0	5	2	0	39	
4:05 PM	1	3	2	0	0	5	2	0	2	10	1	0	3	9	2	0	40	
4:10 PM	5	13	3	0	0	5	0	0	1	17	0	0	0	11	3	0	58	
4:15 PM	2	11	3	0	1	2	1	0	4	18	2	0	0	4	3	0	51	
4:20 PM	1	12	5	0	1	8	0	0	0	17	3	0	0	9	0	0	56	
4:25 PM	1	7	3	0	2	2	3	0	2	15	7	0	1	9	0	0	52	
4:30 PM	1	7	2	0	3	7	0	0	2	9	2	0	2	8	2	0	45	
4:35 PM	3	7	5	0	1	2	1	0	2	10	3	0	0	9	3	0	46	
4:40 PM	2	5	3	0	2	3	1	0	2	14	3	0	2	7	2	0	46	
4:45 PM	3	10	2	0	1	1	1	0	2	15	2	0	1	13	1	0	52	
4:50 PM	1	7	1	0	2	4	2	0	2	14	4	0	0	14	1	0	52	
4:55 PM	6	12	4	0	1	3	0	0	0	10	3	0	3	13	1	0	56	593
5:00 PM	2	9	2	0	2	0	1	0	0	14	1	0	1	9	1	0	42	596
5:05 PM	7	12	2	0	1	3	0	0	2	11	4	0	2	14	0	0	58	614
5:10 PM	1	11	3	0	1	4	2	0	3	19	4	0	1	12	2	0	63	619
5:15 PM	2	11	0	0	4	3	1	0	1	14	5	0	0	12	0	0	53	621
5:20 PM	2	4	3	0	1	9	0	0	1	11	2	0	1	5	0	0	39	604
5:25 PM	3	5	3	0	0	3	1	0	3	7	1	0	0	10	0	0	36	588
5:30 PM	1	6	0	0	1	6	3	0	1	16	2	0	0	11	2	0	49	592
5:35 PM	2	8	0	0	1	3	1	0	1	11	5	0	1	8	2	0	43	589
5:40 PM	0	4	2	0	3	0	2	0	1	15	2	0	0	9	1	0	39	582
5:45 PM	2	5	1	0	2	4	4	0	0	17	0	0	1	7	0	0	43	573
5:50 PM	1	7	1	0	1	2	2	0	1	11	1	0	2	11	0	0	40	561
5:55 PM	3	2	1	0	0	1	3	0	1	8	2	0	1	12	0	0	34	539

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	40	136	20	0	24	40	12	0	24	176	52	0	12	152	8	0	696
Heavy Trucks	4	0	0		0	0	0		0	0	0		0	0	0		4
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/15/2024 4:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

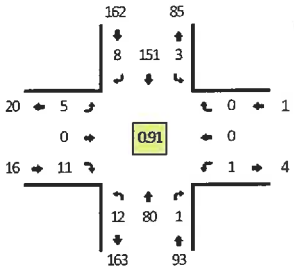
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

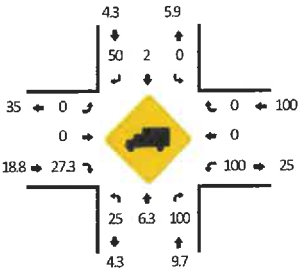
LOCATION: NE 50th Ave -- NE 174th St
CITY/STATE: Mount Vista, WA

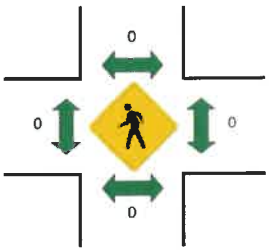
QC JOB #: 16589009
DATE: Tue, May 7 2024

Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

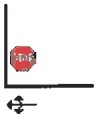


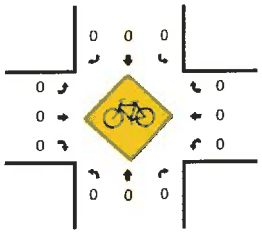
TRUE DATA TO IMPROVE MOBILITY

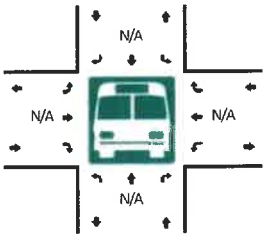




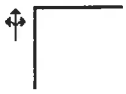


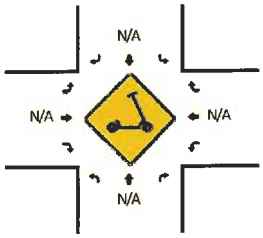












5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 174th St (Eastbound)				NE 174th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	10	
7:05 AM	0	2	0	0	0	5	0	0	0	0	1	0	0	0	0	0	8	
7:10 AM	0	0	0	0	0	5	0	0	1	0	1	0	0	0	0	0	7	
7:15 AM	0	7	0	0	0	8	0	0	2	0	1	0	0	0	0	0	18	
7:20 AM	0	4	0	0	0	8	0	0	0	0	1	0	0	0	0	0	13	
7:25 AM	1	7	0	0	0	10	0	0	0	0	0	0	0	0	0	0	18	
7:30 AM	0	4	0	0	0	5	0	0	2	0	1	0	0	0	0	0	12	
7:35 AM	1	9	0	0	0	16	1	0	0	0	0	0	0	0	0	0	27	
7:40 AM	0	5	0	0	0	14	0	0	2	0	0	0	0	0	0	0	21	
7:45 AM	0	6	0	0	0	10	1	0	0	0	3	0	0	0	0	0	20	
7:50 AM	1	9	0	0	1	13	0	0	0	0	1	0	0	0	0	0	25	
7:55 AM	0	3	0	0	1	8	1	0	0	0	1	0	0	0	0	0	14	193
8:00 AM	0	5	0	0	1	12	1	0	0	0	1	0	0	0	0	0	20	203
8:05 AM	1	7	0	0	0	9	1	0	0	0	0	0	0	0	0	0	18	213
8:10 AM	1	6	0	0	0	8	0	0	0	0	0	0	0	0	0	0	15	221
8:15 AM	1	12	0	0	1	17	1	0	0	0	1	0	0	0	0	0	33	236
8:20 AM	2	5	0	0	0	12	0	0	1	0	0	0	0	0	0	0	20	243
8:25 AM	1	4	0	0	0	17	0	0	0	0	0	0	0	0	0	0	22	247
8:30 AM	0	7	0	0	1	18	0	0	1	0	0	0	1	0	0	0	28	263
8:35 AM	0	5	0	0	0	9	1	0	0	0	0	0	0	0	0	0	15	251
8:40 AM	3	9	1	0	0	13	1	0	1	0	2	0	0	0	0	0	30	260
8:45 AM	0	1	0	0	0	14	2	0	2	0	2	0	0	0	0	0	21	261
8:50 AM	1	5	0	0	0	14	1	0	0	0	2	0	0	0	0	0	23	259
8:55 AM	2	14	0	0	0	8	0	0	0	0	3	0	0	0	0	0	27	272

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	16	84	0	0	4	184	4	0	4	0	4	0	0	0	0	0	300
Heavy Trucks	0	0	0		0	8	4		0	0	4		0	0	0		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/15/2024 4:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

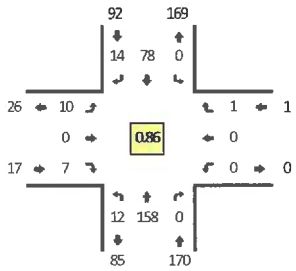
Type of peak hour being reported: Intersection Peak

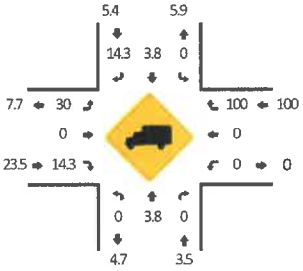
Method for determining peak hour: Total Entering Volume

LOCATION: NE 50th Ave -- NE 174th St
CITY/STATE: Mount Vista, WA

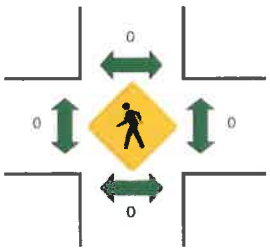
QC JOB #: 16589010
DATE: Tue, May 7 2024

Peak-Hour: 4:20 PM -- 5:20 PM
Peak 15-Min: 5:05 PM -- 5:20 PM

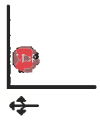


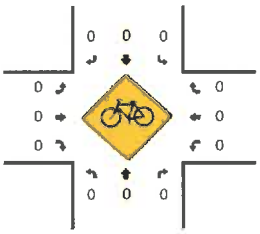


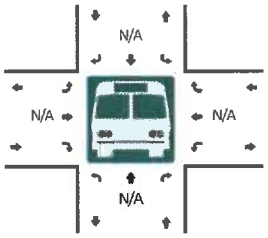
TRUE DATA TO IMPROVE MOBILITY

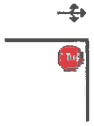


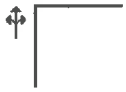


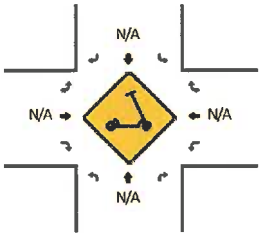












5-Min Count Period Beginning At	NE 50th Ave (Northbound)				NE 50th Ave (Southbound)				NE 174th St (Eastbound)				NE 174th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	11	0	0	0	4	0	0	1	0	2	0	0	0	0	0	20	
4:05 PM	0	11	0	0	0	8	1	0	0	0	0	0	0	0	0	0	20	
4:10 PM	2	17	0	0	0	4	0	0	0	0	1	0	0	0	0	0	24	
4:15 PM	1	17	0	0	0	4	0	0	0	0	1	0	0	0	0	0	23	
4:20 PM	1	15	0	0	0	11	0	0	1	0	0	0	0	0	1	0	29	
4:25 PM	1	10	0	0	0	7	3	0	0	0	1	0	0	0	0	0	22	
4:30 PM	2	13	0	0	0	8	1	0	0	0	0	0	0	0	0	0	24	
4:35 PM	0	11	0	0	0	8	0	0	2	0	0	0	0	0	0	0	21	
4:40 PM	0	10	0	0	0	6	0	0	0	0	0	0	0	0	0	0	16	
4:45 PM	1	14	0	0	0	4	1	0	1	0	1	0	0	0	0	0	22	
4:50 PM	1	9	0	0	0	6	2	0	0	0	0	0	0	0	0	0	18	
4:55 PM	0	21	0	0	0	8	0	0	1	0	1	0	0	0	0	0	31	270
5:00 PM	0	13	0	0	0	1	0	0	1	0	1	0	0	0	0	0	16	266
5:05 PM	1	20	0	0	0	5	2	0	2	0	0	0	0	0	0	0	30	276
5:10 PM	1	12	0	0	0	10	1	0	1	0	2	0	0	0	0	0	27	279
5:15 PM	4	10	0	0	0	4	4	0	1	0	1	0	0	0	0	0	24	280
5:20 PM	1	7	0	0	0	12	0	0	0	0	1	0	0	0	0	0	21	272
5:25 PM	1	10	0	0	0	4	0	0	0	0	2	0	0	0	0	0	17	267
5:30 PM	2	8	1	0	0	7	1	0	0	0	2	0	0	0	0	0	21	264
5:35 PM	0	9	0	0	0	8	1	0	1	0	0	0	0	0	0	0	19	262
5:40 PM	3	6	0	0	0	2	1	0	0	0	1	0	0	0	0	0	13	259
5:45 PM	1	6	0	0	0	4	0	0	1	0	1	0	0	0	0	0	13	250
5:50 PM	1	9	0	0	0	4	1	0	0	0	1	0	0	0	0	0	16	248
5:55 PM	1	7	0	0	0	3	0	0	1	0	2	0	0	0	0	0	14	231

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	24	168	0	0	0	76	28	0	16	0	12	0	0	0	0	0	324
Heavy Trucks	0	4	0		0	0	0		0	0	0		0	0	0		4
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 5/15/2024 4:01 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place Main Access | **QC JOB #:** 16589005

SPECIFIC LOCATION: | **DIRECTION:** NB

CITY/STATE: Ridgefield, WA | **DATE:** May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM		0	0	0		0			0	
12:15 AM		0	0	0		0			0	
12:30 AM		0	0	0		0			0	
12:45 AM		0	0	0		0			0	
01:00 AM		0	0	0		0			0	
01:15 AM		0	0	0		0			0	
01:30 AM		0	0	0		0			0	
01:45 AM		0	0	0		0			0	
02:00 AM		0	0	0		0			0	
02:15 AM		0	0	0		0			0	
02:30 AM		0	0	0		0			0	
02:45 AM		0	0	0		0			0	
03:00 AM		0	0	0		0			0	
03:15 AM		0	0	0		0			0	
03:30 AM		0	0	0		0			0	
03:45 AM		0	0	0		0			0	
04:00 AM		0	0	0		0			0	
04:15 AM		0	0	0		0			0	
04:30 AM		0	0	0		0			0	
04:45 AM		0	0	0		0			0	
05:00 AM		0	0	0		0			0	
05:15 AM		0	0	0		0			0	
05:30 AM		0	0	1		0			0	
05:45 AM		0	1	0		0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place Main Access | **QC JOB #:** 16589005

SPECIFIC LOCATION: | **DIRECTION:** NB

CITY/STATE: Ridgefield, WA | **DATE:** May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 AM		0	0	0		0			0	
06:15 AM		0	0	0		0			0	
06:30 AM		0	0	1		0			0	
06:45 AM		2	1	0		1			1	
07:00 AM		0	0	2		1			1	
07:15 AM		1	1	0		1			1	
07:30 AM		0	1	2		1			1	
07:45 AM		0	0	0		0			0	
08:00 AM		0	0	0		0			0	
08:15 AM		0	0	0		0			0	
08:30 AM		0	0	0		0			0	
08:45 AM		0	0	0		0			0	
09:00 AM		0	1	0		0			0	
09:15 AM		0	0	0		0			0	
09:30 AM		0	0	0		0			0	
09:45 AM		0	0	0		0			0	
10:00 AM		0	0	0		0			0	
10:15 AM		1	0	1		1			1	
10:30 AM		0	0	0		0			0	
10:45 AM		0	0	0		0			0	
11:00 AM		0	0	0		0			0	
11:15 AM		0	1	1		1			1	
11:30 AM		0	1	0		0			0	
11:45 AM		0	1	1		1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place Main Access | QC JOB #: 16589005

SPECIFIC LOCATION: | DIRECTION: NB

CITY/STATE: Ridgefield, WA | DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM		0	0	0		0			0	
12:15 PM		0	0	3		1			1	
12:30 PM		3	0	3		2			2	
12:45 PM		0	0	0		0			0	
01:00 PM		1	0	0		0			0	
01:15 PM		0	0	1		0			0	
01:30 PM		2	0	0		1			1	
01:45 PM		0	0	0		0			0	
02:00 PM		2	0	0		1			1	
02:15 PM		0	1	1		1			1	
02:30 PM		0	0	0		0			0	
02:45 PM		1	1	0		1			1	
03:00 PM		0	0	0		0			0	
03:15 PM		1	0	0		0			0	
03:30 PM		0	0	1		0			0	
03:45 PM		0	0	1		0			0	
04:00 PM		0	0	0		0			0	
04:15 PM		0	0	0		0			0	
04:30 PM		0	0	0		0			0	
04:45 PM		0	0	3		1			1	
05:00 PM		1	1	0		1			1	
05:15 PM		1	0	0		0			0	
05:30 PM		1	0	0		0			0	
05:45 PM		0	2	1		1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place Main Access | **QC JOB #:** 16589005

SPECIFIC LOCATION: | **DIRECTION:** NB

CITY/STATE: Ridgefield, WA | **DATE:** May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM		0	2	0		1			1	
06:15 PM		1	0	0		0			0	
06:30 PM		0	0	1		0			0	
06:45 PM		1	0	0		0			0	
07:00 PM		0	0	0		0			0	
07:15 PM		0	0	0		0			0	
07:30 PM		0	0	0		0			0	
07:45 PM		0	0	0		0			0	
08:00 PM		2	0	0		1			1	
08:15 PM		0	1	1		1			1	
08:30 PM		0	0	0		0			0	
08:45 PM		0	0	0		0			0	
09:00 PM		0	0	0		0			0	
09:15 PM		0	0	0		0			0	
09:30 PM		0	0	0		0			0	
09:45 PM		0	0	0		0			0	
10:00 PM		0	0	0		0			0	
10:15 PM		0	0	0		0			0	
10:30 PM		0	0	0		0			0	
10:45 PM		0	0	0		0			0	
11:00 PM		0	0	0		0			0	
11:15 PM		0	0	0		0			0	
11:30 PM		0	0	0		0			0	
11:45 PM		0	0	0		0			0	
Day Total		21	16	25		20			20	
% Weekday Average		105%	80%	125%						
% Week Average		105%	80%	125%		100%				
AM Peak 15-min Vol		6:45 AM 2	5:45 AM 1	7:00 AM 2		6:45 AM 1			6:45 AM 1	
PM Peak 15-min Vol		12:30 PM 3	5:45 PM 2	12:15 PM 3		12:30 PM 2			12:30 PM 2	

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place Main Access
QC JOB #: 16589005
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM		0	0	0		0			0	
12:15 AM		0	0	0		0			0	
12:30 AM		0	0	0		0			0	
12:45 AM		0	0	0		0			0	
01:00 AM		0	0	0		0			0	
01:15 AM		0	0	0		0			0	
01:30 AM		0	0	0		0			0	
01:45 AM		0	0	0		0			0	
02:00 AM		0	0	0		0			0	
02:15 AM		0	0	0		0			0	
02:30 AM		0	0	0		0			0	
02:45 AM		0	0	0		0			0	
03:00 AM		0	0	0		0			0	
03:15 AM		0	0	0		0			0	
03:30 AM		0	0	0		0			0	
03:45 AM		0	0	0		0			0	
04:00 AM		0	0	0		0			0	
04:15 AM		0	0	0		0			0	
04:30 AM		0	0	0		0			0	
04:45 AM		0	0	0		0			0	
05:00 AM		0	0	0		0			0	
05:15 AM		0	0	0		0			0	
05:30 AM		1	0	1		1			1	
05:45 AM		0	2	3		2			2	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place Main Access | **QC JOB #:** 16589005

SPECIFIC LOCATION: | **DIRECTION:** NB, SB

CITY/STATE: Ridgefield, WA | **DATE:** May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 AM		0	0	0		0			0	
06:15 AM		0	0	0		0			0	
06:30 AM		0	0	1		0			0	
06:45 AM		3	1	0		1			1	
07:00 AM		1	2	4		2			2	
07:15 AM		1	1	0		1			1	
07:30 AM		0	1	2		1			1	
07:45 AM		0	0	0		0			0	
08:00 AM		0	0	0		0			0	
08:15 AM		0	0	0		0			0	
08:30 AM		0	0	0		0			0	
08:45 AM		0	0	0		0			0	
09:00 AM		0	2	0		1			1	
09:15 AM		1	0	0		0			0	
09:30 AM		0	0	0		0			0	
09:45 AM		1	0	2		1			1	
10:00 AM		0	0	0		0			0	
10:15 AM		2	0	1		1			1	
10:30 AM		0	1	2		1			1	
10:45 AM		1	0	3		1			1	
11:00 AM		0	0	0		0			0	
11:15 AM		0	1	1		1			1	
11:30 AM		0	2	0		1			1	
11:45 AM		0	1	1		1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place Main Access
QC JOB #: 16589005
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM		0	0	2		1			1	
12:15 PM		1	0	4		2			2	
12:30 PM		5	1	5		4			4	
12:45 PM		0	0	2		1			1	
01:00 PM		4	0	0		1			1	
01:15 PM		1	0	1		1			1	
01:30 PM		2	0	0		1			1	
01:45 PM		0	0	1		0			0	
02:00 PM		2	0	2		1			1	
02:15 PM		0	1	1		1			1	
02:30 PM		0	0	0		0			0	
02:45 PM		2	1	0		1			1	
03:00 PM		0	1	0		0			0	
03:15 PM		1	0	0		0			0	
03:30 PM		0	0	1		0			0	
03:45 PM		1	0	3		1			1	
04:00 PM		0	0	0		0			0	
04:15 PM		0	1	2		1			1	
04:30 PM		0	0	1		0			0	
04:45 PM		0	0	3		1			1	
05:00 PM		2	2	0		1			1	
05:15 PM		1	0	0		0			0	
05:30 PM		1	0	1		1			1	
05:45 PM		0	3	2		2			2	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

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QC JOB #: 16589005
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM		1	2	0		1			1	
06:15 PM		1	0	0		0			0	
06:30 PM		0	0	1		0			0	
06:45 PM		2	0	0		1			1	
07:00 PM		0	0	0		0			0	
07:15 PM		0	0	1		0			0	
07:30 PM		0	3	0		1			1	
07:45 PM		0	0	0		0			0	
08:00 PM		2	0	0		1			1	
08:15 PM		1	1	2		1			1	
08:30 PM		0	0	0		0			0	
08:45 PM		0	0	1		0			0	
09:00 PM		0	0	0		0			0	
09:15 PM		0	0	0		0			0	
09:30 PM		0	0	0		0			0	
09:45 PM		0	0	0		0			0	
10:00 PM		1	0	0		0			0	
10:15 PM		0	0	0		0			0	
10:30 PM		0	1	0		0			0	
10:45 PM		0	0	0		0			0	
11:00 PM		0	0	0		0			0	
11:15 PM		1	0	0		0			0	
11:30 PM		0	0	0		0			0	
11:45 PM		0	0	1		0			0	
Day Total		43	31	58		42			42	
% Weekday Average		102.4%	73.8%	138.1%						
% Week Average		102.4%	73.8%	138.1%		100%				
AM Peak 15-min Vol		6:45 AM 3	5:45 AM 2	7:00 AM 4		5:45 AM 2			5:45 AM 2	
PM Peak 15-min Vol		12:30 PM 5	5:45 PM 3	12:30 PM 5		12:30 PM 4			12:30 PM 4	

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

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Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place Main Access
QC JOB #: 16589005
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM		0	0	0		0			0	
12:15 AM		0	0	0		0			0	
12:30 AM		0	0	0		0			0	
12:45 AM		0	0	0		0			0	
01:00 AM		0	0	0		0			0	
01:15 AM		0	0	0		0			0	
01:30 AM		0	0	0		0			0	
01:45 AM		0	0	0		0			0	
02:00 AM		0	0	0		0			0	
02:15 AM		0	0	0		0			0	
02:30 AM		0	0	0		0			0	
02:45 AM		0	0	0		0			0	
03:00 AM		0	0	0		0			0	
03:15 AM		0	0	0		0			0	
03:30 AM		0	0	0		0			0	
03:45 AM		0	0	0		0			0	
04:00 AM		0	0	0		0			0	
04:15 AM		0	0	0		0			0	
04:30 AM		0	0	0		0			0	
04:45 AM		0	0	0		0			0	
05:00 AM		0	0	0		0			0	
05:15 AM		0	0	0		0			0	
05:30 AM		1	0	0		0			0	
05:45 AM		0	1	3		1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

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SPECIFIC LOCATION: | **DIRECTION:** SB

CITY/STATE: Ridgefield, WA | **DATE:** May 7 2024 - May 9 2024

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06:00 AM		0	0	0		0			0	
06:15 AM		0	0	0		0			0	
06:30 AM		0	0	0		0			0	
06:45 AM		1	0	0		0			0	
07:00 AM		1	2	2		2			2	
07:15 AM		0	0	0		0			0	
07:30 AM		0	0	0		0			0	
07:45 AM		0	0	0		0			0	
08:00 AM		0	0	0		0			0	
08:15 AM		0	0	0		0			0	
08:30 AM		0	0	0		0			0	
08:45 AM		0	0	0		0			0	
09:00 AM		0	1	0		0			0	
09:15 AM		1	0	0		0			0	
09:30 AM		0	0	0		0			0	
09:45 AM		1	0	2		1			1	
10:00 AM		0	0	0		0			0	
10:15 AM		1	0	0		0			0	
10:30 AM		0	1	2		1			1	
10:45 AM		1	0	3		1			1	
11:00 AM		0	0	0		0			0	
11:15 AM		0	0	0		0			0	
11:30 AM		0	1	0		0			0	
11:45 AM		0	0	0		0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

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Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM		0	0	2		1			1	
12:15 PM		1	0	1		1			1	
12:30 PM		2	1	2		2			2	
12:45 PM		0	0	2		1			1	
01:00 PM		3	0	0		1			1	
01:15 PM		1	0	0		0			0	
01:30 PM		0	0	0		0			0	
01:45 PM		0	0	1		0			0	
02:00 PM		0	0	2		1			1	
02:15 PM		0	0	0		0			0	
02:30 PM		0	0	0		0			0	
02:45 PM		1	0	0		0			0	
03:00 PM		0	1	0		0			0	
03:15 PM		0	0	0		0			0	
03:30 PM		0	0	0		0			0	
03:45 PM		1	0	2		1			1	
04:00 PM		0	0	0		0			0	
04:15 PM		0	1	2		1			1	
04:30 PM		0	0	1		0			0	
04:45 PM		0	0	0		0			0	
05:00 PM		1	1	0		1			1	
05:15 PM		0	0	0		0			0	
05:30 PM		0	0	1		0			0	
05:45 PM		0	1	1		1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

Report generated on 5/14/2024 1:22 PM

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Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place Main Access — **QC JOB #:** 16589005

SPECIFIC LOCATION: — **DIRECTION:** SB

CITY/STATE: Ridgefield, WA — **DATE:** May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM		1	0	0		0			0	
06:15 PM		0	0	0		0			0	
06:30 PM		0	0	0		0			0	
06:45 PM		1	0	0		0			0	
07:00 PM		0	0	0		0			0	
07:15 PM		0	0	1		0			0	
07:30 PM		0	3	0		1			1	
07:45 PM		0	0	0		0			0	
08:00 PM		0	0	0		0			0	
08:15 PM		1	0	1		1			1	
08:30 PM		0	0	0		0			0	
08:45 PM		0	0	1		0			0	
09:00 PM		0	0	0		0			0	
09:15 PM		0	0	0		0			0	
09:30 PM		0	0	0		0			0	
09:45 PM		0	0	0		0			0	
10:00 PM		1	0	0		0			0	
10:15 PM		0	0	0		0			0	
10:30 PM		0	1	0		0			0	
10:45 PM		0	0	0		0			0	
11:00 PM		0	0	0		0			0	
11:15 PM		1	0	0		0			0	
11:30 PM		0	0	0		0			0	
11:45 PM		0	0	1		0			0	
Day Total		22	15	33		19			19	
% Weekday Average		115.8%	78.9%	173.7%						
% Week Average		115.8%	78.9%	173.7%		100%				
AM Peak 15-min Vol		5:30 AM 1	7:00 AM 2	5:45 AM 3		7:00 AM 2			7:00 AM 2	
PM Peak 15-min Vol		1:00 PM 3	7:30 PM 3	12:00 PM 2		12:30 PM 2			12:30 PM 2	

Comments: We need a trip generation study of this access. Not sure if it can be done with tube counters or if it will have to be video. We just need number of vehicles in and out by time of day. It has some horse stables but we don't think it will be a major generator.

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveweay
QC JOB #: 16589006
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM		0	0	0		**0**			**0**	
12:15 AM		0	0	0		0			0	
12:30 AM		0	0	0		0			0	
12:45 AM		0	0	0		0			0	
01:00 AM		0	0	0		0			0	
01:15 AM		0	0	0		0			0	
01:30 AM		0	0	0		0			0	
01:45 AM		0	0	0		0			0	
02:00 AM		0	0	0		0			0	
02:15 AM		0	0	0		0			0	
02:30 AM		0	0	0		0			0	
02:45 AM		0	0	0		0			0	
03:00 AM		0	0	0		0			0	
03:15 AM		0	0	0		0			0	
03:30 AM		0	0	0		0			0	
03:45 AM		0	0	0		0			0	
04:00 AM		0	0	0		0			0	
04:15 AM		0	0	0		0			0	
04:30 AM		0	0	0		0			0	
04:45 AM		0	0	0		0			0	
05:00 AM		0	0	0		0			0	
05:15 AM		0	0	0		0			0	
05:30 AM		0	0	0		0			0	
05:45 AM		0	0	0		0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveweay
QC JOB #: 16589006
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 AM		0	0	0		0			0	
06:15 AM		0	0	0		0			0	
06:30 AM		0	0	0		0			0	
06:45 AM		0	0	0		0			0	
07:00 AM		0	0	0		0			0	
07:15 AM		0	0	0		0			0	
07:30 AM		0	0	0		0			0	
07:45 AM		0	0	0		0			0	
08:00 AM		0	0	0		0			0	
08:15 AM		0	0	0		0			0	
08:30 AM		0	0	0		0			0	
08:45 AM		0	0	0		0			0	
09:00 AM		0	0	0		0			0	
09:15 AM		0	0	0		0			0	
09:30 AM		0	0	0		0			0	
09:45 AM		0	0	0		0			0	
10:00 AM		0	0	0		0			0	
10:15 AM		0	0	0		0			0	
10:30 AM		0	0	0		0			0	
10:45 AM		0	0	0		0			0	
11:00 AM		0	0	0		0			0	
11:15 AM		0	0	1		0			0	
11:30 AM		0	0	0		0			0	
11:45 AM		1	0	0		0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments:

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LOCATION: Northeast 37th Place west Driveweay
QC JOB #: 16589006

SPECIFIC LOCATION:
DIRECTION: NB

CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM		0	0	1		0			0	
12:15 PM		0	0	0		0			0	
12:30 PM		0	0	0		0			0	
12:45 PM		0	0	0		0			0	
01:00 PM		0	0	0		0			0	
01:15 PM		0	0	0		0			0	
01:30 PM		0	0	0		0			0	
01:45 PM		0	0	0		0			0	
02:00 PM		0	0	0		0			0	
02:15 PM		0	0	0		0			0	
02:30 PM		0	0	0		0			0	
02:45 PM		0	0	1		0			0	
03:00 PM		0	0	0		0			0	
03:15 PM		0	0	0		0			0	
03:30 PM		0	0	0		0			0	
03:45 PM		0	0	0		0			0	
04:00 PM		0	0	0		0			0	
04:15 PM		0	0	0		0			0	
04:30 PM		0	0	0		0			0	
04:45 PM		0	0	0		0			0	
05:00 PM		0	0	0		0			0	
05:15 PM		0	0	0		0			0	
05:30 PM		0	0	0		0			0	
05:45 PM		0	0	0		0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveweay
QC JOB #: 16589006
SPECIFIC LOCATION:
DIRECTION: NB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM		0	0	0		0			0	
06:15 PM		0	0	0		0			0	
06:30 PM		0	0	0		0			0	
06:45 PM		0	0	0		0			0	
07:00 PM		0	0	0		0			0	
07:15 PM		0	0	0		0			0	
07:30 PM		0	0	0		0			0	
07:45 PM		0	0	0		0			0	
08:00 PM		0	1	1		1			1	
08:15 PM		0	0	0		0			0	
08:30 PM		0	0	0		0			0	
08:45 PM		0	0	0		0			0	
09:00 PM		0	0	0		0			0	
09:15 PM		0	0	0		0			0	
09:30 PM		0	0	0		0			0	
09:45 PM		0	0	0		0			0	
10:00 PM		0	0	0		0			0	
10:15 PM		0	0	0		0			0	
10:30 PM		0	0	0		0			0	
10:45 PM		0	0	0		0			0	
11:00 PM		0	0	0		0			0	
11:15 PM		0	0	0		0			0	
11:30 PM		0	0	0		0			0	
11:45 PM		0	0	0		0			0	
Day Total		1	1	4		1			1	
% Weekday Average		100%	100%	400%						
% Week Average		100%	100%	400%		100%				
AM Peak 15-min Vol		11:45 AM 1	12:00 AM 0	11:15 AM 1		12:00 AM 0			12:00 AM 0	
PM Peak 15-min Vol		12:00 PM 0	8:00 PM 1	12:00 PM 1		8:00 PM 1			8:00 PM 1	
Comments:										

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveweay
QC JOB #: 16589006
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM		0	0	0		0			0	
12:15 AM		0	0	0		0			0	
12:30 AM		0	0	0		0			0	
12:45 AM		0	0	0		0			0	
01:00 AM		0	0	0		0			0	
01:15 AM		0	0	0		0			0	
01:30 AM		0	0	0		0			0	
01:45 AM		0	0	0		0			0	
02:00 AM		0	0	0		0			0	
02:15 AM		0	0	0		0			0	
02:30 AM		0	0	0		0			0	
02:45 AM		0	0	0		0			0	
03:00 AM		0	0	0		0			0	
03:15 AM		0	0	0		0			0	
03:30 AM		0	0	0		0			0	
03:45 AM		0	0	0		0			0	
04:00 AM		0	0	0		0			0	
04:15 AM		0	0	0		0			0	
04:30 AM		0	0	0		0			0	
04:45 AM		0	0	0		0			0	
05:00 AM		0	0	0		0			0	
05:15 AM		0	0	0		0			0	
05:30 AM		0	0	0		0			0	
05:45 AM		1	1	0		1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveway
QC JOB #: 16589006
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 AM		0	0	0		0			0	
06:15 AM		0	0	0		0			0	
06:30 AM		0	0	0		0			0	
06:45 AM		0	0	0		0			0	
07:00 AM		0	0	0		0			0	
07:15 AM		0	1	0		0			0	
07:30 AM		0	0	1		0			0	
07:45 AM		0	0	0		0			0	
08:00 AM		0	0	0		0			0	
08:15 AM		0	0	0		0			0	
08:30 AM		0	0	0		0			0	
08:45 AM		0	0	0		0			0	
09:00 AM		0	0	0		0			0	
09:15 AM		0	0	0		0			0	
09:30 AM		0	0	0		0			0	
09:45 AM		0	0	0		0			0	
10:00 AM		0	0	0		0			0	
10:15 AM		0	0	0		0			0	
10:30 AM		0	0	0		0			0	
10:45 AM		0	0	0		0			0	
11:00 AM		0	0	0		0			0	
11:15 AM		0	0	1		0			0	
11:30 AM		0	0	0		0			0	
11:45 AM		1	0	0		0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveweay | QC JOB #: 16589006

SPECIFIC LOCATION: | DIRECTION: NB, SB

CITY/STATE: Ridgefield, WA | DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM		0	0	1		0			0	
12:15 PM		0	0	0		0			0	
12:30 PM		0	0	1		0			0	
12:45 PM		0	0	0		0			0	
01:00 PM		0	0	0		0			0	
01:15 PM		0	0	0		0			0	
01:30 PM		1	0	0		0			0	
01:45 PM		0	0	0		0			0	
02:00 PM		0	0	0		0			0	
02:15 PM		0	0	0		0			0	
02:30 PM		0	2	0		1			1	
02:45 PM		0	0	1		0			0	
03:00 PM		0	0	0		0			0	
03:15 PM		0	0	0		0			0	
03:30 PM		0	0	0		0			0	
03:45 PM		0	0	0		0			0	
04:00 PM		0	0	0		0			0	
04:15 PM		0	0	0		0			0	
04:30 PM		0	0	0		0			0	
04:45 PM		0	0	0		0			0	
05:00 PM		0	0	0		0			0	
05:15 PM		0	0	0		0			0	
05:30 PM		0	0	0		0			0	
05:45 PM		0	0	0		0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveweay
QC JOB #: 16589006
SPECIFIC LOCATION:
DIRECTION: NB, SB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM		0	0	0		0			0	
06:15 PM		0	0	0		0			0	
06:30 PM		0	0	0		0			0	
06:45 PM		0	0	0		0			0	
07:00 PM		0	0	0		0			0	
07:15 PM		0	0	0		0			0	
07:30 PM		0	0	0		0			0	
07:45 PM		0	0	0		0			0	
08:00 PM		0	1	1		1			1	
08:15 PM		0	0	0		0			0	
08:30 PM		0	0	0		0			0	
08:45 PM		0	0	0		0			0	
09:00 PM		0	0	0		0			0	
09:15 PM		0	0	0		0			0	
09:30 PM		0	0	0		0			0	
09:45 PM		0	0	0		0			0	
10:00 PM		0	0	0		0			0	
10:15 PM		0	0	0		0			0	
10:30 PM		0	0	0		0			0	
10:45 PM		0	0	0		0			0	
11:00 PM		0	0	0		0			0	
11:15 PM		0	0	0		0			0	
11:30 PM		0	0	0		0			0	
11:45 PM		0	0	0		0			0	
Day Total		3	5	6		3			3	
% Weekday Average		100%	166.7%	200%						
% Week Average		100%	166.7%	200%		100%				
AM Peak 15-min Vol		5:45 AM 1	5:45 AM 1	7:30 AM 1		5:45 AM 1			5:45 AM 1	
PM Peak 15-min Vol		1:30 PM 1	2:30 PM 2	12:00 PM 1		2:30 PM 1			2:30 PM 1	

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveweay
QC JOB #: 16589006
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM		0	0	0		0			0	
12:15 AM		0	0	0		0			0	
12:30 AM		0	0	0		0			0	
12:45 AM		0	0	0		0			0	
01:00 AM		0	0	0		0			0	
01:15 AM		0	0	0		0			0	
01:30 AM		0	0	0		0			0	
01:45 AM		0	0	0		0			0	
02:00 AM		0	0	0		0			0	
02:15 AM		0	0	0		0			0	
02:30 AM		0	0	0		0			0	
02:45 AM		0	0	0		0			0	
03:00 AM		0	0	0		0			0	
03:15 AM		0	0	0		0			0	
03:30 AM		0	0	0		0			0	
03:45 AM		0	0	0		0			0	
04:00 AM		0	0	0		0			0	
04:15 AM		0	0	0		0			0	
04:30 AM		0	0	0		0			0	
04:45 AM		0	0	0		0			0	
05:00 AM		0	0	0		0			0	
05:15 AM		0	0	0		0			0	
05:30 AM		0	0	0		0			0	
05:45 AM		1	1	0		1			1	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveweay | **QC JOB #:** 16589006

SPECIFIC LOCATION: | **DIRECTION:** SB

CITY/STATE: Ridgefield, WA | **DATE:** May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 AM		0	0	0		0			0	
06:15 AM		0	0	0		0			0	
06:30 AM		0	0	0		0			0	
06:45 AM		0	0	0		0			0	
07:00 AM		0	0	0		0			0	
07:15 AM		0	1	0		0			0	
07:30 AM		0	0	1		0			0	
07:45 AM		0	0	0		0			0	
08:00 AM		0	0	0		0			0	
08:15 AM		0	0	0		0			0	
08:30 AM		0	0	0		0			0	
08:45 AM		0	0	0		0			0	
09:00 AM		0	0	0		0			0	
09:15 AM		0	0	0		0			0	
09:30 AM		0	0	0		0			0	
09:45 AM		0	0	0		0			0	
10:00 AM		0	0	0		0			0	
10:15 AM		0	0	0		0			0	
10:30 AM		0	0	0		0			0	
10:45 AM		0	0	0		0			0	
11:00 AM		0	0	0		0			0	
11:15 AM		0	0	0		0			0	
11:30 AM		0	0	0		0			0	
11:45 AM		0	0	0		0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveweay | **QC JOB #:** 16589006

SPECIFIC LOCATION: | **DIRECTION:** SB

CITY/STATE: Ridgefield, WA | **DATE:** May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM		0	0	0		0			0	
12:15 PM		0	0	0		0			0	
12:30 PM		0	0	1		0			0	
12:45 PM		0	0	0		0			0	
01:00 PM		0	0	0		0			0	
01:15 PM		0	0	0		0			0	
01:30 PM		1	0	0		0			0	
01:45 PM		0	0	0		0			0	
02:00 PM		0	0	0		0			0	
02:15 PM		0	0	0		0			0	
02:30 PM		0	2	0		1			1	
02:45 PM		0	0	0		0			0	
03:00 PM		0	0	0		0			0	
03:15 PM		0	0	0		0			0	
03:30 PM		0	0	0		0			0	
03:45 PM		0	0	0		0			0	
04:00 PM		0	0	0		0			0	
04:15 PM		0	0	0		0			0	
04:30 PM		0	0	0		0			0	
04:45 PM		0	0	0		0			0	
05:00 PM		0	0	0		0			0	
05:15 PM		0	0	0		0			0	
05:30 PM		0	0	0		0			0	
05:45 PM		0	0	0		0			0	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Type of report: Tube Count - Volume Data

LOCATION: Northeast 37th Place west Driveway
QC JOB #: 16589006
SPECIFIC LOCATION:
DIRECTION: SB
CITY/STATE: Ridgefield, WA
DATE: May 7 2024 - May 9 2024

Start Time	Mon	Tue 7 May 24	Wed 8 May 24	Thu 9 May 24	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM		0	0	0		0			0	
06:15 PM		0	0	0		0			0	
06:30 PM		0	0	0		0			0	
06:45 PM		0	0	0		0			0	
07:00 PM		0	0	0		0			0	
07:15 PM		0	0	0		0			0	
07:30 PM		0	0	0		0			0	
07:45 PM		0	0	0		0			0	
08:00 PM		0	0	0		0			0	
08:15 PM		0	0	0		0			0	
08:30 PM		0	0	0		0			0	
08:45 PM		0	0	0		0			0	
09:00 PM		0	0	0		0			0	
09:15 PM		0	0	0		0			0	
09:30 PM		0	0	0		0			0	
09:45 PM		0	0	0		0			0	
10:00 PM		0	0	0		0			0	
10:15 PM		0	0	0		0			0	
10:30 PM		0	0	0		0			0	
10:45 PM		0	0	0		0			0	
11:00 PM		0	0	0		0			0	
11:15 PM		0	0	0		0			0	
11:30 PM		0	0	0		0			0	
11:45 PM		0	0	0		0			0	
Day Total		2	4	2		2			2	
% Weekday Average		100%	200%	100%						
% Week Average		100%	200%	100%		100%				
AM Peak 15-min Vol		5:45 AM 1	5:45 AM 1	7:30 AM 1		5:45 AM 1			5:45 AM 1	
PM Peak 15-min Vol		1:30 PM 1	2:30 PM 2	12:30 PM 1		2:30 PM 1			2:30 PM 1	

Comments:

Report generated on 5/14/2024 1:22 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Appendix B Existing Conditions Traffic Operations Worksheets

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	21	147	19	30	166	7	38	55	31	7	96	57
Future Vol, veh/h	21	147	19	30	166	7	38	55	31	7	96	57
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	6	21	13	10	14	8	0	3	0	0	9
Mvmt Flow	22	155	20	32	175	7	40	58	33	7	101	60
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.8	10.5	9.5	9.4
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	31%	11%	15%	4%
Vol Thru, %	44%	79%	82%	60%
Vol Right, %	25%	10%	3%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	187	203	160
LT Vol	38	21	30	7
Through Vol	55	147	166	96
RT Vol	31	19	7	57
Lane Flow Rate	131	197	214	168
Geometry Grp	1	1	1	1
Degree of Util (X)	0.188	0.267	0.304	0.229
Departure Headway (Hd)	5.187	4.887	5.119	4.89
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	684	726	694	726
Service Time	3.277	2.97	3.202	2.974
HCM Lane V/C Ratio	0.192	0.271	0.308	0.231
HCM Control Delay	9.5	9.8	10.5	9.4
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.7	1.1	1.3	0.9

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	206	201	0	0	2
Future Vol, veh/h	1	206	201	0	0	2
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, %	-	5	-5	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	6	8	0	0	0
Mvmt Flow	1	254	248	0	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	248	0	-	0	504	248
Stage 1	-	-	-	-	248	-
Stage 2	-	-	-	-	256	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1330	-	-	-	531	796
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	791	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1330	-	-	-	530	796
Mov Cap-2 Maneuver	-	-	-	-	530	-
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	791	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1330	-	-	-	796
HCM Lane V/C Ratio	0.001	-	-	-	0.003
HCM Control Delay (s)	7.7	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	146	40	22	142	9	21	47	12	18	97	23
Future Vol, veh/h	20	146	40	22	142	9	21	47	12	18	97	23
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	5	8	2	9	11	0	5	0	8	6	0	4
Mvmt Flow	24	174	48	26	169	11	25	56	14	21	115	27
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	10.1	9.2	9.8
HCM LOS	B	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	10%	13%	13%
Vol Thru, %	59%	71%	82%	70%
Vol Right, %	15%	19%	5%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	206	173	138
LT Vol	21	20	22	18
Through Vol	47	146	142	97
RT Vol	12	40	9	23
Lane Flow Rate	95	245	206	164
Geometry Grp	1	1	1	1
Degree of Util (X)	0.14	0.328	0.287	0.235
Departure Headway (Hd)	5.274	4.82	5.02	5.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	672	738	708	690
Service Time	3.368	2.895	3.098	3.236
HCM Lane V/C Ratio	0.141	0.332	0.291	0.238
HCM Control Delay	9.2	10.3	10.1	9.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.5	1.4	1.2	0.9

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	11	1	0	0	12	80	1	3	151	8
Future Vol, veh/h	5	0	11	1	0	0	12	80	1	3	151	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-2	-	-	2	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	27	100	0	0	25	6	100	0	2	50
Mvmt Flow	5	0	12	1	0	0	13	88	1	3	166	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	292	292	171	298	296	89	175	0	0	89	0	0
Stage 1	177	177	-	115	115	-	-	-	-	-	-	-
Stage 2	115	115	-	183	181	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.47	8.1	6.5	6.2	4.35	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.543	4.4	4	3.3	2.425	-	-	2.2	-	-
Pot Cap-1 Maneuver	664	622	812	499	619	975	1274	-	-	1519	-	-
Stage 1	829	756	-	699	804	-	-	-	-	-	-	-
Stage 2	895	804	-	636	754	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	657	614	812	487	611	975	1274	-	-	1519	-	-
Mov Cap-2 Maneuver	657	614	-	487	611	-	-	-	-	-	-	-
Stage 1	820	754	-	691	795	-	-	-	-	-	-	-
Stage 2	885	795	-	625	752	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	12.4	1	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1274	-	-	756	487	1519	-	-
HCM Lane V/C Ratio	0.01	-	-	0.023	0.002	0.002	-	-
HCM Control Delay (s)	7.9	0	-	9.9	12.4	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	48	227	51	28	187	10	34	123	47	7	58	40
Future Vol, veh/h	48	227	51	28	187	10	34	123	47	7	58	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	7	2	4	3	10	3	2	0	0	0	2
Mvmt Flow	51	239	54	29	197	11	36	129	49	7	61	42
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.1	11.4	11.4	9.9
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	15%	12%	7%
Vol Thru, %	60%	70%	83%	55%
Vol Right, %	23%	16%	4%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	204	326	225	105
LT Vol	34	48	28	7
Through Vol	123	227	187	58
RT Vol	47	51	10	40
Lane Flow Rate	215	343	237	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.332	0.49	0.356	0.173
Departure Headway (Hd)	5.573	5.139	5.415	5.62
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	644	700	663	637
Service Time	3.62	3.179	3.46	3.673
HCM Lane V/C Ratio	0.334	0.49	0.357	0.174
HCM Control Delay	11.4	13.1	11.4	9.9
HCM Lane LOS	B	B	B	A
HCM 95th-tile Q	1.5	2.7	1.6	0.6

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	280	221	6	1	3
Future Vol, veh/h	2	280	221	6	1	3
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, %	-	5	-5	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	4	5	0	0	0
Mvmt Flow	2	337	266	7	1	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	273	0	-	0	611	270
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	341	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1302	-	-	-	460	774
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	725	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1302	-	-	-	459	774
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	778	-
Stage 2	-	-	-	-	725	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1302	-	-	-	661
HCM Lane V/C Ratio	0.002	-	-	-	0.007
HCM Control Delay (s)	7.8	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	18	162	41	13	129	13	30	110	32	21	40	12
Future Vol, veh/h	18	162	41	13	129	13	30	110	32	21	40	12
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	2	7	15	2	0	10	3	9	14	0	0
Mvmt Flow	20	182	46	15	145	15	34	124	36	24	45	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.1	9.9	10.2	9.3
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	8%	8%	29%
Vol Thru, %	64%	73%	83%	55%
Vol Right, %	19%	19%	8%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	172	221	155	73
LT Vol	30	18	13	21
Through Vol	110	162	129	40
RT Vol	32	41	13	12
Lane Flow Rate	193	248	174	82
Geometry Grp	1	1	1	1
Degree of Util (X)	0.275	0.327	0.249	0.123
Departure Headway (Hd)	5.127	4.748	5.142	5.395
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	694	750	691	657
Service Time	3.21	2.819	3.22	3.492
HCM Lane V/C Ratio	0.278	0.331	0.252	0.125
HCM Control Delay	10.2	10.1	9.9	9.3
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	1.1	1.4	1	0.4

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	7	0	0	1	12	158	0	0	78	14
Future Vol, veh/h	10	0	7	0	0	1	12	158	0	0	78	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-2	-	-	2	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	30	0	14	0	0	100	0	4	0	0	4	14
Mvmt Flow	12	0	8	0	0	1	14	184	0	0	91	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	312	311	99	315	319	184	107	0	0	184	0	0
Stage 1	99	99	-	212	212	-	-	-	-	-	-	-
Stage 2	213	212	-	103	107	-	-	-	-	-	-	-
Critical Hdwy	7.4	6.5	6.34	7.1	6.5	7.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.4	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.4	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.77	4	3.426	3.5	4	4.2	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	589	607	925	642	601	659	1497	-	-	1403	-	-
Stage 1	843	817	-	795	731	-	-	-	-	-	-	-
Stage 2	730	731	-	908	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	584	601	925	632	595	659	1497	-	-	1403	-	-
Mov Cap-2 Maneuver	584	601	-	632	595	-	-	-	-	-	-	-
Stage 1	835	817	-	787	724	-	-	-	-	-	-	-
Stage 2	721	724	-	900	811	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	10.5	0.5	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1497	-	-	689	659	1403	-	-
HCM Lane V/C Ratio	0.009	-	-	0.029	0.002	-	-	-
HCM Control Delay (s)	7.4	0	-	10.4	10.5	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Appendix C Concurrency Corridor V/C Ratios

Table C-1: Existing East-West Corridor Segment Analyses

Roadway Segment	Road Classification[1]	Single Direction Capacity/Hour[2]	Maximum Volume (vph)[3]	V/C Ratio
NE 179th Street between				
NE 15th Avenue and NE 29th Avenue (EB)	Principal Arterial (Pr-4cb)	600[4]	326	0.54
NE 15th Avenue and NE 29th Avenue (WB)			261	0.44
NE 29th Avenue and NE 50th Avenue (EB)		600[4]	282	0.47
NE 29th Avenue and NE 50th Avenue (WB)			227	0.38
NE 50th Avenue and NE 72nd Avenue (EB)		600[4]	215	0.36
NE 50th Avenue and NE 72nd Avenue (WB)			173	0.29
NE 174th Street between				
NE 40th Avenue and NE 50th Avenue (EB)	Urban Collector (C-2cb)	600[4]	17	0.03
NE 40th Avenue and NE 50th Avenue (WB)			26	0.04

[1] Source: Clark County Arterial Atlas(Reference 4)

[2] Per Clark County Code: For roadways not fully built-out to county standards, the capacity shall be determined based on the current roadway condition. For roadways with lane widths twelve (12) feet and greater, and with paved shoulder widths two (2) feet and greater, the lane capacity shall be eight hundred (800) vehicles per hour. For roadways with lane widths between eleven (11) and twelve (12) feet and with paved shoulder widths two (2) feet and greater, the lane capacity shall be seven hundred (700) vehicles per hour. For roadways with lane widths less than eleven (11) feet, the lane capacity shall be six hundred (600) vehicles per hour.

[3] vph: vehicles per hour, based on turning movement counts collected at the study intersections.

[4] Based on existing 2-lane cross-section.

Table C-2: Existing North-South Corridor Segment Analyses

Roadway Segment	Road Classification[1]	Single Direction Capacity/Hour[2]	Maximum Volume (vph)[3]	V/C Ratio
NE 25th Avenue between				
NE 199th Street and NE 179th Street (NB)	Urban Minor Arterial (M-4cb)	600[4]	181	0.30
NE 199th Street and NE 179th Street (SB)			160	0.27
NE 179th Street and NE 159th Street (NB)		600[4]	204	0.34
NE 179th Street and NE 159th Street (SB)			145	0.24
NE 50th Avenue between				
NE 199th Street and NE 179th Street (NB)	Urban Minor Arterial (M-4cb)	600[4]	141	0.24
NE 199th Street and NE 179th Street (SB)			138	0.23
NE 179th Street and NE 174th Street (NB)		600[4]	172	0.29
NE 179th Street and NE 174th Street (SB)			162	0.27
NE 174th Street and NE 159th Street (NB)	Urban Minor Arterial (M-2cb)	600[4]	170	0.28
NE 174th Street and NE 159th Street (SB)			163	0.27

[1] Source: Clark County Arterial Atlas (Reference 4)

[2] Per Clark County Code: For roadways not fully built-out to county standards, the capacity shall be determined based on the current roadway condition. For roadways with lane widths twelve (12) feet and greater, and with paved shoulder widths two (2) feet and greater, the lane capacity shall be eight hundred (800) vehicles per hour. For roadways with lane widths between eleven (11) and twelve (12) feet and with paved shoulder widths two (2) feet and greater, the lane capacity shall be seven hundred (700) vehicles per hour. For roadways with lane widths less than eleven (11) feet, the lane capacity shall be six hundred (600) vehicles per hour.

[3] vph: vehicles per hour, based on turning movement counts collected at the study intersections.

[4] Based on existing 2-lane cross-section.

Table C-3: 2027 Background Traffic Volumes and East-West Roadway Capacities

Roadway Segment	Road Classification[1]	Single Direction Capacity/Hour[2]	Maximum Volume (vph)[3]	V/C Ratio
NE 179th Street between				
NE 15th Avenue and NE 29th Avenue (EB)	Principal Arterial (Pr-4cb)	1,800	841	0.47
NE 15th Avenue and NE 29th Avenue (WB)			856	0.48
NE 29th Avenue and NE 50th Avenue (EB)		1,800	837	0.47
NE 29th Avenue and NE 50th Avenue (WB)			662	0.37
NE 50th Avenue and NE 72nd Avenue (EB)		1,800	430	0.24
NE 50th Avenue and NE 72nd Avenue (WB)			361	0.20
NE 174th Street between				
NE 40th Avenue and NE 50th Avenue (EB)	Urban Collector (C-2cb)	600[4]	103	0.17
NE 40th Avenue and NE 50th Avenue (WB)			125	0.21

[1] Source: Clark County Arterial Atlas (Reference 4)

[2] Per Clark County Code: For roadways not fully built-out to county standards, the capacity shall be determined based on the current roadway condition. For roadways with lane widths twelve (12) feet and greater, and with paved shoulder widths two (2) feet and greater, the lane capacity shall be eight hundred (800) vehicles per hour. For roadways with lane widths between eleven (11) and twelve (12) feet and with paved shoulder widths two (2) feet and greater, the lane capacity shall be seven hundred (700) vehicles per hour. For roadways with lane widths less than eleven (11) feet, the lane capacity shall be six hundred (600) vehicles per hour.

[3] vph: vehicles per hour, based on turning movement counts collected at the study intersections.

[4] Based on existing 2-lane cross-section.

Table C-4: 2027 Background Traffic Volumes and North-South Roadway Capacities

Roadway Segment	Road Classification[1]	Single Direction Capacity/Hour[2]	Maximum Volume (vph)[3]	V/C Ratio
NE 29th Avenue between				
NE 199th Street and NE 179th Street (NB)	Urban Minor Arterial (M-4cb)	900	335	0.37
NE 199th Street and NE 179th Street (SB)			401	0.45
NE 179th Street and NE 159th Street (NB)	Urban Minor Arterial (M-2cb)	900	299	0.33
NE 179th Street and NE 159th Street (SB)			238	0.26
NE 50th Avenue between				
NE 199th Street and NE 179th Street (NB)	Urban Minor Arterial (M-4cb)	600[4]	272	0.45
NE 199th Street and NE 179th Street (SB)			227	0.38
NE 179th Street and NE 174th Street (NB)		600[4]	398	0.66
NE 179th Street and NE 174th Street (SB)			370	0.62
NE 174th Street and NE 159th Street (NB)	Urban Minor Arterial (M-2cb)	600[4]	404	0.67
NE 174th Street and NE 159th Street (SB)			394	0.66

[1] Source: Clark County Arterial Atlas (Reference 4)

[2] Per Clark County Code: For roadways not fully built-out to county standards, the capacity shall be determined based on the current roadway condition. For roadways with lane widths twelve (12) feet and greater, and with paved shoulder widths two (2) feet and greater, the lane capacity shall be eight hundred (800) vehicles per hour. For roadways with lane widths between eleven (11) and twelve (12) feet and with paved shoulder widths two (2) feet and greater, the lane capacity shall be seven hundred (700) vehicles per hour. For roadways with lane widths less than eleven (11) feet, the lane capacity shall be six hundred (600) vehicles per hour.

[3] vph: vehicles per hour, based on turning movement counts collected at the study intersections.

[4] Based on existing 2-lane cross-section.

Table C-5: 2027 Total Traffic Volumes and East-West Roadway Capacities

Roadway Segment	Road Classification[1]	Single Direction Capacity/Hour[2]	Maximum Volume (vph)[3]	V/C Ratio
NE 179th Street between				
NE 15th Avenue and NE 29th Avenue (EB)	Principal Arterial (Pr-4cb)	1,800	852	0.47
NE 15th Avenue and NE 29th Avenue (WB)			866	0.48
NE 29th Avenue and NE 50th Avenue (EB)		1,800	857	0.48
NE 29th Avenue and NE 50th Avenue (WB)			679	0.38
NE 50th Avenue and NE 72nd Avenue (EB)		1,800	432	0.24
NE 50th Avenue and NE 72nd Avenue (WB)			364	0.20
NE 174th Street between				
NE 40th Avenue and NE 50th Avenue (EB)	Urban Collector (C-2cb)	600[4]	103	0.17
NE 40th Avenue and NE 50th Avenue (WB)			125	0.21

[1] Source: Clark County Arterial Atlas (Reference 4)

[2] Per Clark County Code: For roadways not fully built-out to county standards, the capacity shall be determined based on the current roadway condition. For roadways with lane widths twelve (12) feet and greater, and with paved shoulder widths two (2) feet and greater, the lane capacity shall be eight hundred (800) vehicles per hour. For roadways with lane widths between eleven (11) and twelve (12) feet and with paved shoulder widths two (2) feet and greater, the lane capacity shall be seven hundred (700) vehicles per hour. For roadways with lane widths less than eleven (11) feet, the lane capacity shall be six hundred (600) vehicles per hour.

[3] vph: vehicles per hour, based on turning movement counts collected at the study intersections.

[4] Based on existing 2-lane cross-section.

Table C-6: 2027 Total Traffic Volumes and North-South Roadway Capacities

Roadway Segment	Road Classification[1]	Single Direction Capacity/Hour[2]	Maximum Volume (vph)[3]	V/C Ratio
NE 29th Avenue between				
NE 199th Street and NE 179th Street (NB)	Urban Minor Arterial (M-4cb)	900	336	0.37
NE 199th Street and NE 179th Street (SB)			402	0.45
NE 179th Street and NE 159th Street (NB)	Urban Minor Arterial (M-2cb)	900	306	0.34
NE 179th Street and NE 159th Street (SB)			244	0.27
NE 50th Avenue between				
NE 199th Street and NE 179th Street (NB)	Urban Minor Arterial (M-4cb)	600[4]	274	0.46
NE 199th Street and NE 179th Street (SB)			228	0.38
NE 179th Street and NE 174th Street (NB)		600[4]	399	0.67
NE 179th Street and NE 174th Street (SB)			371	0.62
NE 174th Street and NE 159th Street (NB)	Urban Minor Arterial (M-2cb)	600[4]	405	0.68
NE 174th Street and NE 159th Street (SB)			395	0.66

[1] Source: Clark County Arterial Atlas (Reference 4)

[2] Per Clark County Code: For roadways not fully built-out to county standards, the capacity shall be determined based on the current roadway condition. For roadways with lane widths twelve (12) feet and greater, and with paved shoulder widths two (2) feet and greater, the lane capacity shall be eight hundred (800) vehicles per hour. For roadways with lane widths between eleven (11) and twelve (12) feet and with paved shoulder widths two (2) feet and greater, the lane capacity shall be seven hundred (700) vehicles per hour. For roadways with lane widths less than eleven (11) feet, the lane capacity shall be six hundred (600) vehicles per hour.

[3] vph: vehicles per hour, based on turning movement counts collected at the study intersections.

[4] Based on existing 2-lane cross-section.

Appendix D Crash Data

OFFICER REPORTED CRASHES THAT OCCURRED AT MULTIPLE INTERSECTIONS & ROAD SEGMENT IN CLARK COUNTY

01/01/2019 - 12/31/2023

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

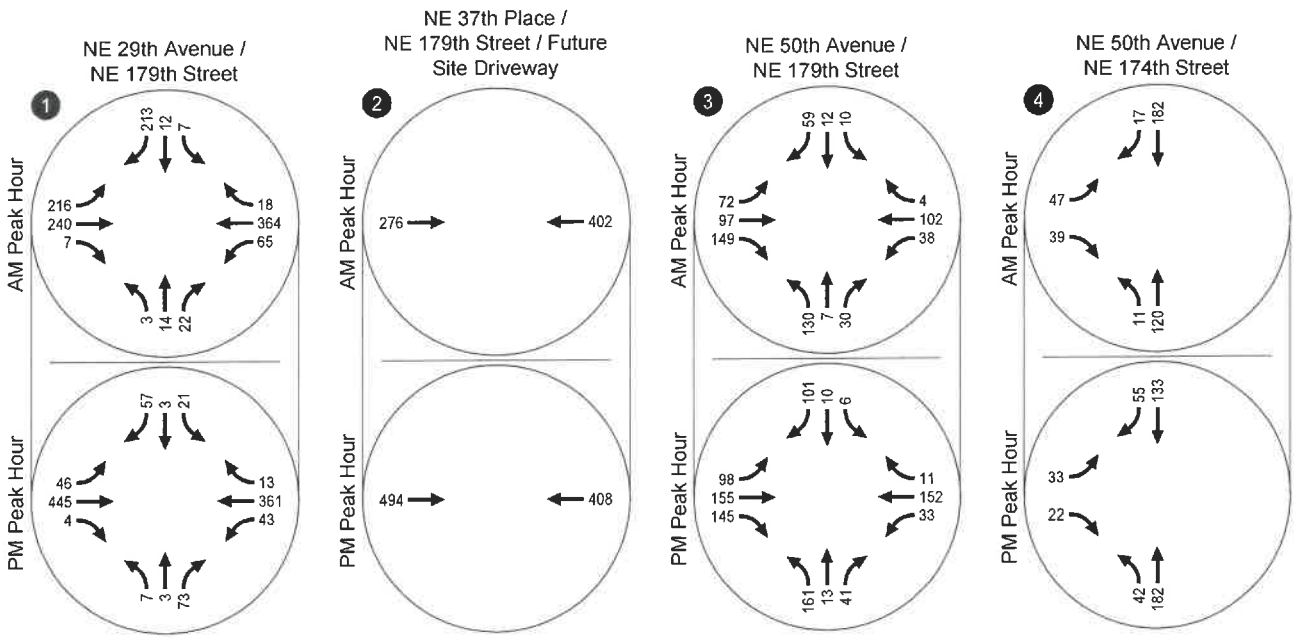
JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY Intersecting County Road MP	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES
County Road	Clark		43330	2.260			94360	0.990					No	ED16740	12/18/2022	14:53	Suspected Minor Injury	1	0	2	0	0
County Road	Clark		44390	3.990			94360	1.980					No	E979776	10/30/2019	15:10	Suspected Minor Injury	1	0	1	0	0
County Road	Clark		44390	3.990			94360	1.980					No	ED57814	05/03/2023	12:39	No Apparent Injury	0	0	2	0	0
County Road	Clark		44390	3.990			94360	1.980					No	EC95163	10/01/2022	15:48	No Apparent Injury	0	0	1	0	0
County Road	Clark		44390	4.240			44580	0.000					No	E952564	08/19/2019	17:52	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	ED57928	05/02/2023	14:25	Possible Injury	1	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	EA78834	10/30/2020	13:00	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	E928848	06/01/2019	22:42	Possible Injury	1	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	ED48528	03/28/2023	21:40	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	EC19856	02/07/2022	13:33	Possible Injury	1	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	EA47114	07/07/2020	09:56	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	EC37890	03/25/2022	15:22	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	ED31158	01/23/2023	16:32	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	EB76046	09/10/2021	17:42	Possible Injury	2	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	EC53355	05/25/2022	19:43	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	E881608	01/10/2019	06:55	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	ED10607	11/28/2022	17:28	Possible Injury	1	0	3	0	0
County Road	Clark		94360	0.990			43330	2.260					No	EE25446	10/31/2023	07:26	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	0.990			43330	2.260					No	E994831	12/12/2019	20:00	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	1.250									No	EA69398	10/05/2020	11:45	Suspected Minor Injury	1	0	2	0	0
County Road	Clark		94360	1.430									No	E882172	01/11/2019	15:13	Unknown	0	0	1	0	0
County Road	Clark		94360	1.630									No	EA89850	12/12/2020	18:26	Suspected Serious Injury	1	0	2	0	0
County Road	Clark		94360	1.980			44390	3.990					No	E987318	11/25/2019	00:50	No Apparent Injury	0	0	1	0	0
County Road	Clark		94360	1.980			44390	3.990					No	EE30428	12/05/2023	06:15	No Apparent Injury	0	0	2	0	0
County Road	Clark		94360	1.980			44390	3.990					No	EA68510	09/24/2020	18:05	Unknown	0	0	2	0	0
County Road	Clark		94360	1.980			44390	3.990					No	EA07424	01/23/2020	06:51	No Apparent Injury	0	0	3	0	0
County Road	Clark		94360	1.980			44390	3.990					No	EA10126	01/07/2020	21:20	No Apparent Injury	0	0	2	0	0

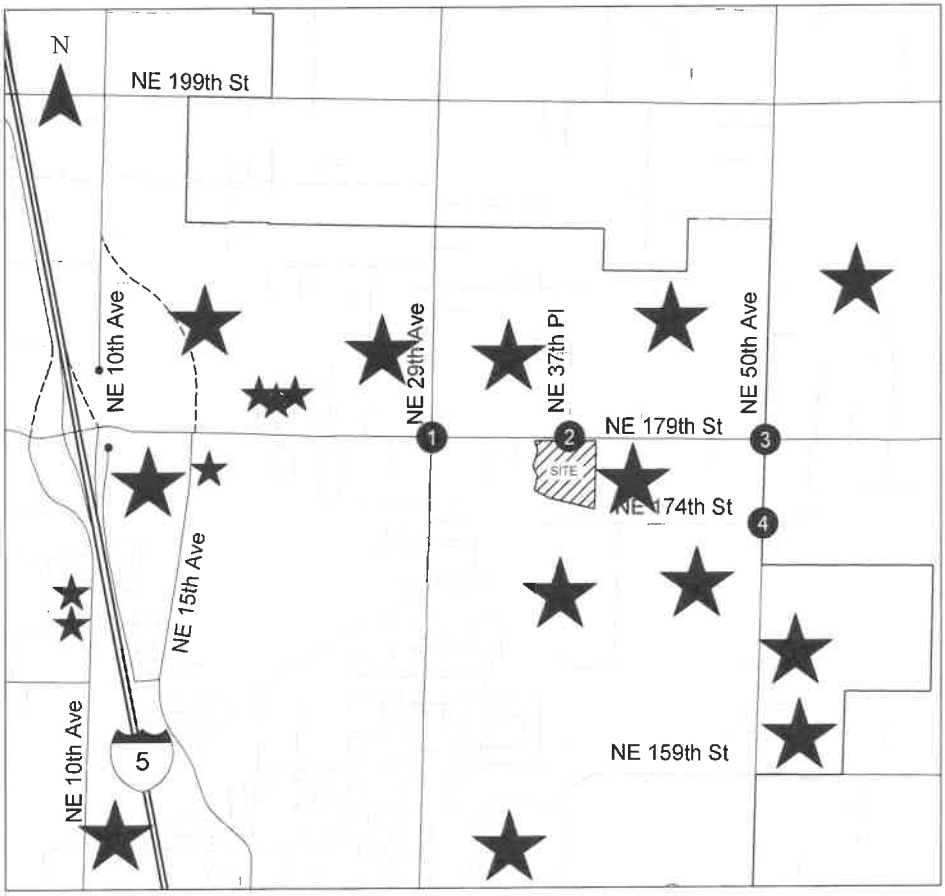
VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP	WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Wet	Daylight
Motorcycle		At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection	Clear or Partly Cloudy	Dry	Daylight
Truck (Flatbad,Van,etc)		Not at Intersection and Not Related	Clear	Dry	Daylight
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Dark-Street Lights On
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
Truck (Flatbad,Van,etc)	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Daylight
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear	Dry	Dusk
Passenger Car	Passenger Car	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Entering Roundabout	Clear	Dry	Daylight
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Fog or Smog or Smoke	Wet	Dark-No Street Lights
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Clear	Dry	Dark - Unknown Lightin
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related	Raining	Wet	Dark-Street Lights Off
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	Not at Intersection and Not Related	Clear	Dry	Daylight
Passenger Car		Not at Intersection and Not Related	Clear or Partly Cloudy	Dry	Daylight
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Driveway	Clear	Wet	Dark-No Street Lights
Passenger Car		Not at Intersection and Not Related	Raining	Wet	Dark-No Street Lights
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Clear or Partly Cloudy	Dry	Daylight
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related	Raining	Wet	Dark-No Street Lights
Passenger Car	Not Stated	At Intersection and Related	Raining	Wet	Dark-No Street Lights

FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)
Entering at angle	Going Straight Ahead	Going Straight Ahead	West	East	North	South	Disregard Traffic Sign and Signals
Fence	Making Right Turn		West	South			Other Contributing Circ Not Listed
From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing	North	South	North	South	Operating Handheld Cell Phone
Fence	Going Straight Ahead		South	North			Under Influence of Alcohol
Entering at angle	Going Straight Ahead	Making Left Turn	North	South	West	North	None
Entering at angle	Going Straight Ahead	Making Left Turn	West	East	North	South	Disregard Traffic Sign and Signals
From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign	East	West	East	West	Unknown Distraction
Entering at angle	Going Straight Ahead	Making Left Turn	East	West	South	West	Did Not Grant RW to Vehicle
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	West	East	South	North	Disregard Traffic Sign and Signals
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals
Entering at angle	Starting in Traffic Lane	Starting in Traffic Lane	East	West	North	South	Did Not Grant RW to Vehicle
Entering at angle	Making Left Turn	Going Straight Ahead	East	South	South	Vehicle Stopped	Distracted by Adjusting Vehicle Cntrls
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	West	East	South	North	Unknown Distraction
From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn	West	East	East	South	Disregard Traffic Sign and Signals
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	North	South	Distracted by Other Occupant
Entering at angle	Making Right Turn	Starting in Traffic Lane	North	West	East	West	Disregard Stop Sign - Flashing Red
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals
Entering at angle	Going Straight Ahead	Going Straight Ahead	South	North	West	East	Disregard Traffic Sign and Signals
Entering at angle	Going Straight Ahead	Starting in Traffic Lane	South	North	West	East	Disregard Stop Sign - Flashing Red
From opposite direction - both moving - head-on	Going Straight Ahead	Going Straight Ahead	West	East	East	West	Other Contributing Circ Not Listed
Utility Pole	Going Straight Ahead		West	East			Apparently Asleep or Fatigued
From opposite direction - all others	Making U-Turn	Going Straight Ahead	Vehicle Stopped	Vehicle Stopped	East	West	Did Not Grant RW to Vehicle
Utility Pole	Going Straight Ahead		West	East			Apparently Asleep or Fatigued
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Disregard Traffic Sign and Signals
Entering at angle	Going Straight Ahead	Going Straight Ahead	East	West	South	North	Unknown Distraction
Entering at angle	Going Straight Ahead	Making Right Turn	East	West	South	West	Unknown Distraction

MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
		None			Lane of Primary Trafficway	1093914.19	159640.78
					Intersecting Trafficway	1099142.27	159530.78
Follow Too Closely		None			Lane of Primary Trafficway	1099144.5	159629.66
					Past the Outside Shoulder of Primary Trafficway	1099143.63	159574.99
		Did Not Grant RW to Vehicle			Lane of Primary Trafficway	1099107.35	158253.98
		None			Lane of Primary Trafficway	1093914.19	159640.78
		None			Lane of Primary Trafficway	1093914.19	159640.78
		None			Lane of Primary Trafficway	1093914.43	159639.33
		None			Lane of Primary Trafficway	1093914.19	159640.78
		None			Lane of Primary Trafficway	1093914.19	159640.78
		None			Lane of Primary Trafficway	1093914.43	159639.32
		None			Intersecting Trafficway	1078172.95	159926.58
		Unknown Distraction			Lane of Primary Trafficway	1093914.19	159640.78
		None			Lane of Primary Trafficway	1093914.19	159640.78
		None			Lane of Primary Trafficway	1131730.85	119503.08
Inattention		None			Lane of Primary Trafficway	1093914.43	159639.33
		None			Lane of Primary Trafficway	1093914.19	159640.78
		None			Lane of Primary Trafficway	1093914.19	159640.78
		None			Lane of Primary Trafficway	1093914.43	159639.32
Exceeding Stated Speed Limit	Operating Recklessly or Aggressively	None			Lane of Primary Trafficway	1096580.1	159607.57
Apparently Ill					Past the Outside Shoulder of Primary Trafficway	1096246.61	159612.55
		None			Lane of Primary Trafficway	1097340.91	159600.46
					Past the Outside Shoulder of Primary Trafficway	1099114.32	159575.86
		None			Lane of Primary Trafficway	1099143.63	159574.99
		None			Lane of Primary Trafficway	1099143.9	159575.37
		None			Lane of Primary Trafficway	1099143.9	159575.37
		Other Contributing Circ Not Listed			Lane of Primary Trafficway	1099143.9	159575.37

Appendix E In-Process Developments and Planned Transportation Improvements





★ - LOCATION OF IN-PROCESS DEVELOPMENT

Note: Not all locations of in-process developments are shown in the figure.

In-Process Trips: Total Weekday AM and PM Peak Hours
Clark County, Washington

Figure E-1

G:\4725 TIA Kozy Manor\11 Drawings, Figures & GIS\CAD\30454_Kozy Manor_Figures_NP_2024-06-14.dwg Jun 17, 2024 - 5:11pm - nick Layout Tab: E_IP trips

KITTELSON & ASSOCIATES

Appendix F 2027 Background Traffic Conditions Worksheets

MOVEMENT SUMMARY

Site: 1 [NE 29th Ave/NE179th St - 2027 Background AM - Single Lane Roundabout]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NE 29th Ave												
3	L2	45	7.0	0.256	14.1	LOS B	1.6	40.8	0.76	0.80	0.76	34.7
8	T1	76	0.0	0.256	7.7	LOS A	1.6	40.8	0.76	0.80	0.76	34.9
18	R2	58	2.0	0.256	7.9	LOS A	1.6	40.8	0.76	0.80	0.76	33.8
Approach		179	2.4	0.256	9.4	LOS A	1.6	40.8	0.76	0.80	0.76	34.5
East: NE 179th St												
1	L2	102	4.0	0.730	15.7	LOS B	8.5	217.9	0.84	0.89	1.04	34.4
6	T1	568	3.0	0.730	9.7	LOS A	8.5	217.9	0.84	0.89	1.04	34.4
16	R2	26	4.0	0.730	9.8	LOS A	8.5	217.9	0.84	0.89	1.04	33.3
Approach		697	3.2	0.730	10.6	LOS B	8.5	217.9	0.84	0.89	1.04	34.3
North: NE 29th Ave												
7	L2	15	0.0	0.650	19.2	LOS B	6.6	167.2	0.96	1.10	1.27	32.9
4	T1	120	0.0	0.650	13.3	LOS B	6.6	167.2	0.96	1.10	1.27	32.8
14	R2	287	2.0	0.650	13.5	LOS B	6.6	167.2	0.96	1.10	1.27	31.8
Approach		422	1.4	0.650	13.6	LOS B	6.6	167.2	0.96	1.10	1.27	32.1
West: NE 179th St												
5	L2	251	0.0	0.650	12.2	LOS B	6.1	154.4	0.68	0.69	0.72	35.0
2	T1	417	2.0	0.650	6.4	LOS A	6.1	154.4	0.68	0.69	0.72	34.9
12	R2	28	15.0	0.650	7.1	LOS A	6.1	154.4	0.68	0.69	0.72	33.6
Approach		696	1.8	0.650	8.5	LOS A	6.1	154.4	0.68	0.69	0.72	34.9
All Vehicles		**1994**	**2.3**	**0.730**	**10.4**	**LOS B**	**8.5**	**217.9**	**0.80**	**0.86**	**0.95**	**34.0**

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	494	615	0	0	2
Future Vol, veh/h	1	494	615	0	0	2
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, %	-	5	-5	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	2	3	0	0	0
Mvmt Flow	1	610	759	0	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	759	0	-	0	1371	759
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	612	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	862	-	-	-	163	410
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	545	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	862	-	-	-	163	410
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	545	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	862	-	-	-	410
HCM Lane V/C Ratio	0.001	-	-	-	0.006
HCM Control Delay (s)	9.2	0	-	-	13.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Intersection Delay, s/veh	29.8
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	93	252	191	61	253	14	152	57	43	29	115	83
Future Vol, veh/h	93	252	191	61	253	14	152	57	43	29	115	83
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	5	8	2	3	6	0	5	0	8	4	0	1
Mvmt Flow	98	265	201	64	266	15	160	60	45	31	121	87
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	44.7	20.4	20.7	18.4
HCM LOS	E	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	60%	100%	0%	100%	0%	13%
Vol Thru, %	23%	0%	57%	0%	95%	51%
Vol Right, %	17%	0%	43%	0%	5%	37%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	93	443	61	267	227
LT Vol	152	93	0	61	0	29
Through Vol	57	0	252	0	253	115
RT Vol	43	0	191	0	14	83
Lane Flow Rate	265	98	466	64	281	239
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.571	0.216	0.93	0.149	0.611	0.508
Departure Headway (Hd)	7.751	7.95	7.177	8.331	7.829	7.649
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	464	451	504	430	461	471
Service Time	5.81	5.701	4.928	6.09	5.588	5.71
HCM Lane V/C Ratio	0.571	0.217	0.925	0.149	0.61	0.507
HCM Control Delay	20.7	12.9	51.4	12.6	22.2	18.4
HCM Lane LOS	C	B	F	B	C	C
HCM 95th-tile Q	3.5	0.8	11.2	0.5	4	2.8

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	52	0	51	1	0	0	24	205	1	3	342	25
Future Vol, veh/h	52	0	51	1	0	0	24	205	1	3	342	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-2	-	-	2	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	6	100	0	0	13	2	100	0	1	16
Mvmt Flow	57	0	56	1	0	0	26	225	1	3	376	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	674	674	390	702	687	226	403	0	0	226	0	0
Stage 1	396	396	-	278	278	-	-	-	-	-	-	-
Stage 2	278	278	-	424	409	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.26	8.1	6.5	6.2	4.23	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.354	4.4	4	3.3	2.317	-	-	2.2	-	-
Pot Cap-1 Maneuver	371	379	650	251	372	818	1099	-	-	1354	-	-
Stage 1	633	607	-	558	684	-	-	-	-	-	-	-
Stage 2	733	684	-	454	600	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	369	650	225	362	818	1099	-	-	1354	-	-
Mov Cap-2 Maneuver	364	369	-	225	362	-	-	-	-	-	-	-
Stage 1	618	605	-	545	668	-	-	-	-	-	-	-
Stage 2	716	668	-	414	598	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	21.1	0.9	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1099	-	-	465	225	1354	-	-
HCM Lane V/C Ratio	0.024	-	-	0.243	0.005	0.002	-	-
HCM Control Delay (s)	8.4	-	-	15.2	21.1	7.7	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0	0	-	-

MOVEMENT SUMMARY

Site: 1 [NE 29th Ave/NE179th St - 2027 Background PM - Single Lane Roundabout]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NE 29th Ave												
3	L2	45	2.0	0.564	19.8	LOS B	5.1	127.9	0.96	1.07	1.21	32.4
8	T1	140	2.0	0.564	13.9	LOS B	5.1	127.9	0.96	1.07	1.21	32.3
18	R2	129	0.0	0.564	13.7	LOS B	5.1	127.9	0.96	1.07	1.21	31.5
Approach		315	1.2	0.564	14.7	LOS B	5.1	127.9	0.96	1.07	1.21	32.0
East: NE 179th St												
1	L2	77	2.0	0.671	13.3	LOS B	6.8	172.5	0.75	0.74	0.83	35.3
6	T1	588	1.0	0.671	7.3	LOS A	6.8	172.5	0.75	0.74	0.83	35.2
16	R2	25	4.0	0.671	7.5	LOS A	6.8	172.5	0.75	0.74	0.83	34.1
Approach		691	1.2	0.671	7.9	LOS A	6.8	172.5	0.75	0.74	0.83	35.2
North: NE 29th Ave												
7	L2	29	0.0	0.292	14.0	LOS B	1.9	47.8	0.79	0.82	0.79	35.2
4	T1	67	0.0	0.292	8.1	LOS A	1.9	47.8	0.79	0.82	0.79	35.0
14	R2	104	1.0	0.292	8.2	LOS A	1.9	47.8	0.79	0.82	0.79	34.0
Approach		201	0.5	0.292	9.0	LOS A	1.9	47.8	0.79	0.82	0.79	34.5
West: NE 179th St												
5	L2	102	0.0	0.781	12.8	LOS B	10.2	258.8	0.77	0.66	0.82	35.3
2	T1	722	2.0	0.781	6.9	LOS A	10.2	258.8	0.77	0.66	0.82	35.2
12	R2	61	2.0	0.781	7.0	LOS A	10.2	258.8	0.77	0.66	0.82	34.1
Approach		885	1.8	0.781	7.6	LOS A	10.2	258.8	0.77	0.66	0.82	35.1
All Vehicles		**2092**	**1.4**	**0.781**	**8.9**	**LOS A**	**10.2**	**258.8**	**0.79**	**0.77**	**0.88**	**34.6**

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	791	642	6	1	3
Future Vol, veh/h	2	791	642	6	1	3
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, %	-	5	-5	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	2	879	713	7	1	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	720	0	-	0	1600	717
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	883	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	891	-	-	-	118	433
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	408	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	891	-	-	-	118	433
Mov Cap-2 Maneuver	-	-	-	-	118	-
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	408	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	891	-	-	-	260
HCM Lane V/C Ratio	0.002	-	-	-	0.017
HCM Control Delay (s)	9.1	0	-	-	19.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	70
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	117	327	188	47	289	25	193	130	75	28	52	114
Future Vol, veh/h	117	327	188	47	289	25	193	130	75	28	52	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	1	2	4	1	0	2	3	4	11	0	0
Mvmt Flow	123	344	198	49	304	26	203	137	79	29	55	120
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	117.1	32.6	53.2	21
HCM LOS	F	D	F	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	48%	100%	0%	100%	0%	14%
Vol Thru, %	33%	0%	63%	0%	92%	27%
Vol Right, %	19%	0%	37%	0%	8%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	398	117	515	47	314	194
LT Vol	193	117	0	47	0	28
Through Vol	130	0	327	0	289	52
RT Vol	75	0	188	0	25	114
Lane Flow Rate	419	123	542	49	331	204
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.911	0.302	1.212	0.123	0.768	0.495
Departure Headway (Hd)	8.359	8.82	8.051	9.531	8.896	9.275
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	436	409	455	378	410	392
Service Time	6.359	6.532	5.763	7.231	6.596	7.275
HCM Lane V/C Ratio	0.961	0.301	1.191	0.13	0.807	0.52
HCM Control Delay	53.2	15.3	140.2	13.6	35.5	21
HCM Lane LOS	F	C	F	B	E	C
HCM 95th-tile Q	10	1.3	21.3	0.4	6.4	2.7

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	44	0	29	0	0	1	55	349	0	0	216	70
Future Vol, veh/h	44	0	29	0	0	1	55	349	0	0	216	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-2	-	-	2	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	7	0	3	0	0	100	0	2	0	0	1	3
Mvmt Flow	51	0	34	0	0	1	64	406	0	0	251	81

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	827	826	292	843	866	406	332	0	0	406	0	0
Stage 1	292	292	-	534	534	-	-	-	-	-	-	-
Stage 2	535	534	-	309	332	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.5	6.23	7.1	6.5	7.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.17	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4	3.327	3.5	4	4.2	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	285	310	745	286	293	478	1239	-	-	1164	-	-
Stage 1	705	675	-	534	528	-	-	-	-	-	-	-
Stage 2	520	528	-	705	648	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	273	294	745	262	278	478	1239	-	-	1164	-	-
Mov Cap-2 Maneuver	273	294	-	262	278	-	-	-	-	-	-	-
Stage 1	668	675	-	506	501	-	-	-	-	-	-	-
Stage 2	492	501	-	673	648	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.8	12.6	1.1	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1239	-	-	365	478	1164	-	-
HCM Lane V/C Ratio	0.052	-	-	0.233	0.002	-	-	-
HCM Control Delay (s)	8.1	-	-	17.8	12.6	0	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	0	0	-	-

Appendix G 2027 Total Traffic Conditions Worksheets

MOVEMENT SUMMARY

Site: 1 [NE 29th Ave/NE179th St - 2027 Total AM - Single Lane Roundabout]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NE 29th Ave												
3	L2	45	7.0	0.261	14.2	LOS B	1.6	41.8	0.76	0.81	0.76	34.7
8	T1	76	0.0	0.261	7.8	LOS A	1.6	41.8	0.76	0.81	0.76	34.8
18	R2	60	2.0	0.261	8.0	LOS A	1.6	41.8	0.76	0.81	0.76	33.8
Approach		181	2.4	0.261	9.4	LOS A	1.6	41.8	0.76	0.81	0.76	34.5
East: NE 179th St												
1	L2	108	4.0	0.749	16.1	LOS B	9.2	235.4	0.86	0.92	1.09	34.1
6	T1	579	3.0	0.749	10.1	LOS B	9.2	235.4	0.86	0.92	1.09	34.1
16	R2	27	4.0	0.749	10.2	LOS B	9.2	235.4	0.86	0.92	1.09	33.1
Approach		715	3.2	0.749	11.0	LOS B	9.2	235.4	0.86	0.92	1.09	34.1
North: NE 29th Ave												
7	L2	16	0.0	0.670	20.1	LOS C	7.0	178.1	0.98	1.12	1.33	32.4
4	T1	120	0.0	0.670	14.2	LOS B	7.0	178.1	0.98	1.12	1.33	32.3
14	R2	287	2.0	0.670	14.4	LOS B	7.0	178.1	0.98	1.12	1.33	31.4
Approach		423	1.4	0.670	14.5	LOS B	7.0	178.1	0.98	1.12	1.33	31.7
West: NE 179th St												
5	L2	251	0.0	0.657	12.4	LOS B	6.3	159.4	0.69	0.71	0.74	35.0
2	T1	420	2.0	0.657	6.6	LOS A	6.3	159.4	0.69	0.71	0.74	34.8
12	R2	28	15.0	0.657	7.3	LOS A	6.3	159.4	0.69	0.71	0.74	33.5
Approach		699	1.8	0.657	8.7	LOS A	6.3	159.4	0.69	0.71	0.74	34.8
All Vehicles		**2018**	**2.3**	**0.749**	**10.8**	**LOS B**	**9.2**	**235.4**	**0.82**	**0.88**	**0.99**	**33.8**

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	494	6	2	615	0	17	0	7	0	0	2
Future Vol, veh/h	1	494	6	2	615	0	17	0	7	0	0	2
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, %	-	5	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	0	2	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	1	610	7	2	759	0	21	0	9	0	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	759	0	0	617	0	0	1380	1379	614	1383	1382	759
Stage 1	-	-	-	-	-	-	616	616	-	763	763	-
Stage 2	-	-	-	-	-	-	764	763	-	620	619	-
Critical Hdwy	4.1	-	-	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	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	862	-	-	973	-	-	123	146	496	122	145	410
Stage 1	-	-	-	-	-	-	481	485	-	400	416	-
Stage 2	-	-	-	-	-	-	399	416	-	479	483	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	862	-	-	973	-	-	122	145	496	119	144	410
Mov Cap-2 Maneuver	-	-	-	-	-	-	122	145	-	119	144	-
Stage 1	-	-	-	-	-	-	480	484	-	399	414	-
Stage 2	-	-	-	-	-	-	395	414	-	470	482	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	33.4	13.8
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	156	862	-	-	973	-	-	410
HCM Lane V/C Ratio	0.19	0.001	-	-	0.003	-	-	0.006
HCM Control Delay (s)	33.4	9.2	0	-	8.7	0	-	13.8
HCM Lane LOS	D	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	30.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	255	192	61	254	14	152	57	43	29	115	84
Future Vol, veh/h	96	255	192	61	254	14	152	57	43	29	115	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	5	8	2	3	6	0	5	0	8	4	0	1
Mvmt Flow	101	268	202	64	267	15	160	60	45	31	121	88
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	46.5	20.7	20.9	18.6
HCM LOS	E	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	60%	100%	0%	100%	0%	13%
Vol Thru, %	23%	0%	57%	0%	95%	50%
Vol Right, %	17%	0%	43%	0%	5%	37%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	96	447	61	268	228
LT Vol	152	96	0	61	0	29
Through Vol	57	0	255	0	254	115
RT Vol	43	0	192	0	14	84
Lane Flow Rate	265	101	471	64	282	240
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.574	0.224	0.941	0.149	0.616	0.512
Departure Headway (Hd)	7.789	7.974	7.201	8.366	7.864	7.682
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	462	451	503	428	460	468
Service Time	5.846	5.723	4.95	6.123	5.62	5.743
HCM Lane V/C Ratio	0.574	0.224	0.936	0.15	0.613	0.513
HCM Control Delay	20.9	13	53.7	12.6	22.5	18.6
HCM Lane LOS	C	B	F	B	C	C
HCM 95th-tile Q	3.5	0.8	11.5	0.5	4.1	2.9

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	0	51	1	0	0	24	205	1	3	343	25
Future Vol, veh/h	52	0	51	1	0	0	24	205	1	3	343	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-2	-	-	2	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	6	100	0	0	13	2	100	0	1	16
Mvmt Flow	57	0	56	1	0	0	26	225	1	3	377	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	675	675	391	703	688	226	404	0	0	226	0	0
Stage 1	397	397	-	278	278	-	-	-	-	-	-	-
Stage 2	278	278	-	425	410	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.26	8.1	6.5	6.2	4.23	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	7.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	7.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.354	4.4	4	3.3	2.317	-	-	2.2	-	-
Pot Cap-1 Maneuver	371	378	649	251	372	818	1098	-	-	1354	-	-
Stage 1	633	607	-	558	684	-	-	-	-	-	-	-
Stage 2	733	684	-	454	599	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	364	368	649	225	362	818	1098	-	-	1354	-	-
Mov Cap-2 Maneuver	364	368	-	225	362	-	-	-	-	-	-	-
Stage 1	618	605	-	545	668	-	-	-	-	-	-	-
Stage 2	716	668	-	414	597	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	21.1	0.9	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1098	-	-	465	225	1354	-	-
HCM Lane V/C Ratio	0.024	-	-	0.243	0.005	0.002	-	-
HCM Control Delay (s)	8.4	-	-	15.2	21.1	7.7	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	0	0	-	-

MOVEMENT SUMMARY

Site: 1 [NE 29th Ave/NE179th St - 2027 Total PM - Single Lane Roundabout]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: NE 29th Ave												
3	L2	45	2.0	0.594	20.9	LOS C	5.6	140.6	0.98	1.10	1.27	31.9
8	T1	140	2.0	0.594	15.0	LOS B	5.6	140.6	0.98	1.10	1.27	31.8
18	R2	137	0.0	0.594	14.8	LOS B	5.6	140.6	0.98	1.10	1.27	31.0
Approach		322	1.2	0.594	15.7	LOS B	5.6	140.6	0.98	1.10	1.27	31.5
East: NE 179th St												
1	L2	81	2.0	0.683	13.4	LOS B	7.2	181.1	0.76	0.75	0.85	35.2
6	T1	595	1.0	0.683	7.4	LOS A	7.2	181.1	0.76	0.75	0.85	35.1
16	R2	26	4.0	0.683	7.7	LOS A	7.2	181.1	0.76	0.75	0.85	34.0
Approach		702	1.2	0.683	8.1	LOS A	7.2	181.1	0.76	0.75	0.85	35.1
North: NE 29th Ave												
7	L2	32	0.0	0.300	14.1	LOS B	2.0	49.6	0.80	0.83	0.80	35.1
4	T1	67	0.0	0.300	8.2	LOS A	2.0	49.6	0.80	0.83	0.80	35.0
14	R2	104	1.0	0.300	8.3	LOS A	2.0	49.6	0.80	0.83	0.80	33.9
Approach		203	0.5	0.300	9.2	LOS A	2.0	49.6	0.80	0.83	0.80	34.4
West: NE 179th St												
5	L2	102	0.0	0.795	13.2	LOS B	11.0	278.8	0.80	0.69	0.86	35.2
2	T1	734	2.0	0.795	7.4	LOS A	11.0	278.8	0.80	0.69	0.86	35.1
12	R2	61	2.0	0.795	7.4	LOS A	11.0	278.8	0.80	0.69	0.86	34.0
Approach		897	1.8	0.795	8.0	LOS A	11.0	278.8	0.80	0.69	0.86	35.0
All Vehicles		**2124**	**1.4**	**0.795**	**9.3**	**LOS A**	**11.0**	**278.8**	**0.81**	**0.79**	**0.92**	**34.4**

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
Intersection and Approach LOS values are based on average delay for all movements (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	791	20	7	642	6	11	0	5	1	0	3
Future Vol, veh/h	2	791	20	7	642	6	11	0	5	1	0	3
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, %	-	5	-	-	-5	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	1	0	0	1	0	0	0	0	0	0	0
Mvmt Flow	2	879	22	8	713	7	12	0	6	1	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	720	0	0	901	0	0	1628	1630	890	1630	1638	717
Stage 1	-	-	-	-	-	-	894	894	-	733	733	-
Stage 2	-	-	-	-	-	-	734	736	-	897	905	-
Critical Hdwy	4.1	-	-	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	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	891	-	-	763	-	-	83	103	345	82	102	433
Stage 1	-	-	-	-	-	-	338	362	-	415	429	-
Stage 2	-	-	-	-	-	-	415	428	-	337	358	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	891	-	-	763	-	-	81	101	345	79	100	433
Mov Cap-2 Maneuver	-	-	-	-	-	-	81	101	-	79	100	-
Stage 1	-	-	-	-	-	-	336	360	-	413	422	-
Stage 2	-	-	-	-	-	-	405	421	-	330	356	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	45.7	23
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	106	891	-	-	763	-	-	204
HCM Lane V/C Ratio	0.168	0.002	-	-	0.01	-	-	0.022
HCM Control Delay (s)	45.7	9.1	0	-	9.8	0	-	23
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0.1

Intersection	
Intersection Delay, s/veh	72.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	119	329	189	47	292	25	194	130	75	28	52	117
Future Vol, veh/h	119	329	189	47	292	25	194	130	75	28	52	117
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	0	1	2	4	1	0	2	3	4	11	0	0
Mvmt Flow	125	346	199	49	307	26	204	137	79	29	55	123
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	121.8	34.7	54.8	21.5
HCM LOS	F	D	F	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	49%	100%	0%	100%	0%	14%
Vol Thru, %	33%	0%	64%	0%	92%	26%
Vol Right, %	19%	0%	36%	0%	8%	59%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	399	119	518	47	317	197
LT Vol	194	119	0	47	0	28
Through Vol	130	0	329	0	292	52
RT Vol	75	0	189	0	25	117
Lane Flow Rate	420	125	545	49	334	207
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.918	0.309	1.227	0.125	0.788	0.505
Departure Headway (Hd)	8.439	8.873	8.104	9.588	8.953	9.358
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	433	406	453	376	407	388
Service Time	6.439	6.599	5.83	7.288	6.653	7.358
HCM Lane V/C Ratio	0.97	0.308	1.203	0.13	0.821	0.534
HCM Control Delay	54.8	15.5	146.2	13.7	37.8	21.5
HCM Lane LOS	F	C	F	B	E	C
HCM 95th-tile Q	10.1	1.3	21.9	0.4	6.8	2.7

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↑			↕	
Traffic Vol, veh/h	44	0	29	0	0	1	55	350	0	0	217	70
Future Vol, veh/h	44	0	29	0	0	1	55	350	0	0	217	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-2	-	-	2	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	7	0	3	0	0	100	0	2	0	0	1	3
Mvmt Flow	51	0	34	0	0	1	64	407	0	0	252	81

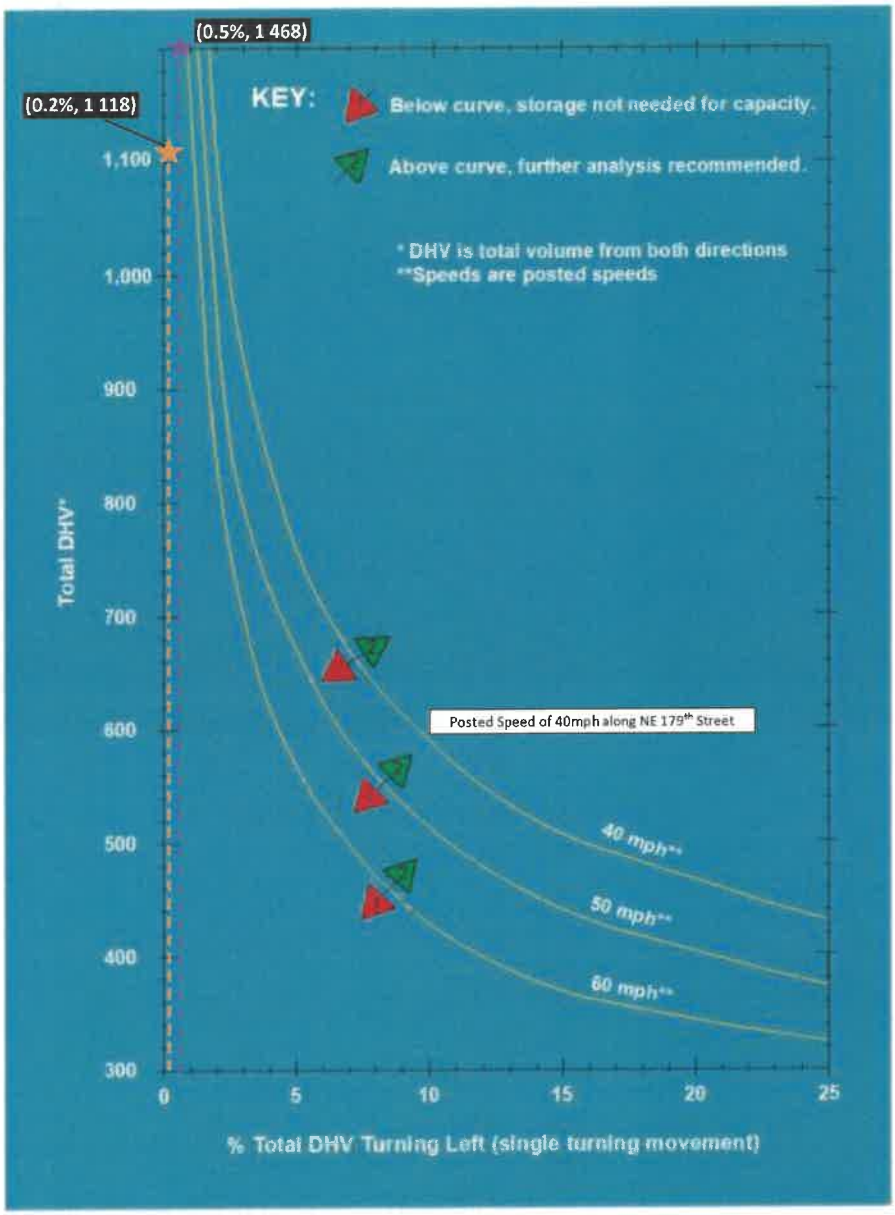
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	829	828	293	845	868	407	333	0	0	407	0	0
Stage 1	293	293	-	535	535	-	-	-	-	-	-	-
Stage 2	536	535	-	310	333	-	-	-	-	-	-	-
Critical Hdwy	7.17	6.5	6.23	7.1	6.5	7.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.17	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.17	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.563	4	3.327	3.5	4	4.2	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	284	309	744	285	293	477	1238	-	-	1163	-	-
Stage 1	704	674	-	533	527	-	-	-	-	-	-	-
Stage 2	520	527	-	705	647	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	272	293	744	261	278	477	1238	-	-	1163	-	-
Mov Cap-2 Maneuver	272	293	-	261	278	-	-	-	-	-	-	-
Stage 1	667	674	-	505	500	-	-	-	-	-	-	-
Stage 2	492	500	-	673	647	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	12.6	1.1	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1238	-	-	364	477	1163	-	-
HCM Lane V/C Ratio	0.052	-	-	0.233	0.002	-	-	-
HCM Control Delay (s)	8.1	-	-	17.9	12.6	0	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	0	0	-	-

Appendix H Turn Lane Evaluation Worksheets

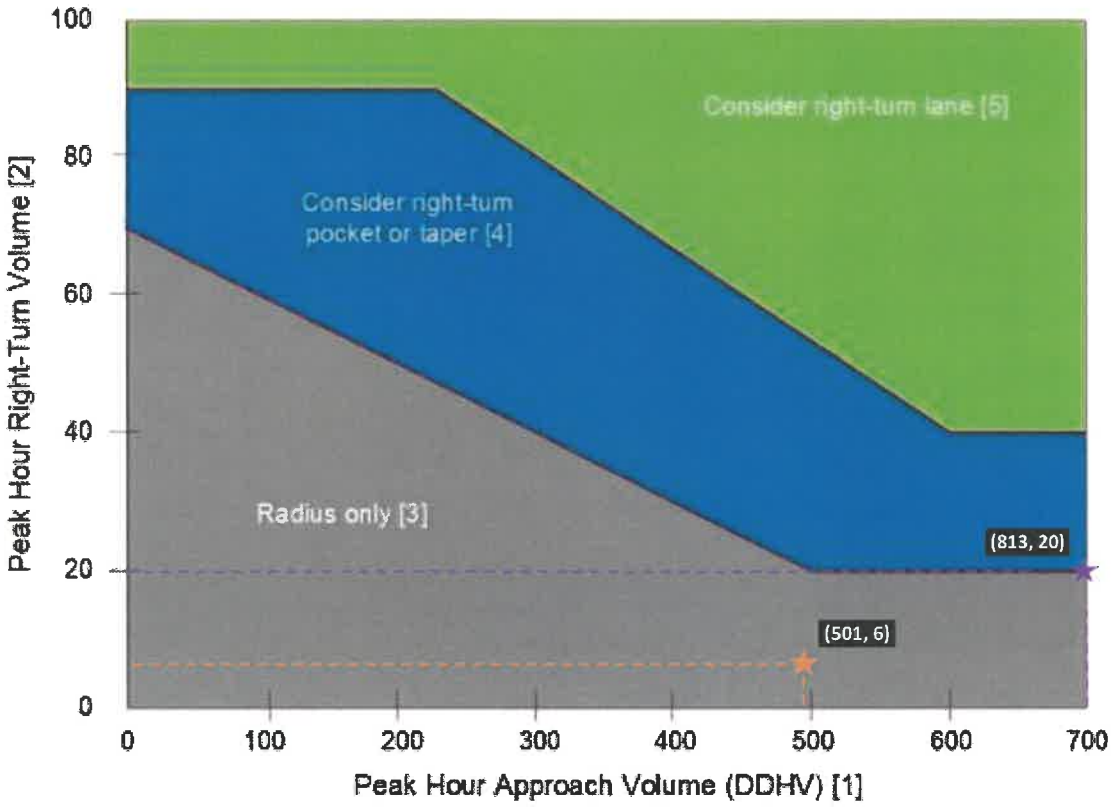
Exhibit 1310-9 Left-Turn Storage Guidelines: Two-Lane, Unsignalized



2027 Total Weekday AM
2027 Total Weekday PM

LEFT TURN LANE NEEDS: SITE ACCESS / NE 179TH STREET

Exhibit 1310-24 Right-Turn Lane Guidelines



Notes:

[1] For two-lane highways, use the peak hour DDHV (through + right-turn). For multilane, highways (posted speed 45 mph or above), use the right-lane peak hour approach volume (through + right-turn).

[2] When all three of the following conditions are met, reduce the right-turn DDHV by 20:
- The posted speed is 45 mph or below
- The right-turn volume is greater than 40 VPH
- The peak hour approach volume (DDHV) is less than 300 VPH

[3] For right-turn corner design, see Exhibit 1310-8.

[4] For right-turn pocket or taper design, see Exhibit 1310-25.

[5] For right-turn lane design, see Exhibit 1310-26.

★ 2027 Total Weekday PM
★ 2027 Total Weekday PM

RIGHT TURN LANE NEEDS: SITE ACCESS / NE 179TH STREET