

Fall City Residential Assemblage

King County, WA

Updated Traffic Impact Analysis

August 2, 2022

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FINDINGS/CONCLUSIONS

This Traffic Impact Analysis (TIA) has been prepared for the Assemblage of seven (7) Fall City Residential developments located south of SR 202 (Redmond Fall City Road SE) between 324th Avenue SE and 332nd Avenue SE. All seven of the developments are located in unincorporated King County. It should be noted that the size of each of the seven (7) residential developments on their own would not trigger the requirement for a TIA based on King County Standards. The Applicant has prepared this TIA voluntarily to evaluate the cumulative impacts of the seven (7) residential plats to the roads in the immediate project vicinity. This is an update to the prior report (dated January 26, 2022) to address comments received from the County via email on April 13, 2022.

Based on the results of the analysis, the individual movements at both of the study intersections are anticipated to operate at acceptable levels with minimal queuing in 2025 during both the weekday AM and PM peak hours without or with the Assemblage of the 7 developments. It should also be noted that there was only one (1) reported collision at each of the off-site study intersections over the last five (5) years.

Project Proposal. The Fall City Residential Assemblage consists of the development of the following seven (7) residential plats:

- Arrington Court (17 single-family homes) – SE Redmond Fall City Rd/324th Ave SE
- Mount Si (16 single-family homes) – 32433 SE Redmond Fall City Road
- Cha Cha 15 (15 single-family homes) – 4142 324th Avenue SE
- Cedar 23 (23 single-family homes) – 4218 & 4250 324th Avenue SE
- Stevens 21 (21 single-family homes) – 32909, 32911 SE Redmond Fall City Road
- Fall City II/Slalom 13 (13 single-family homes) – 4135 332nd Avenue SE
- Hazel 16 (16 single-family homes) – 4317, 4319, & 4321 332nd Avenue SE

Vehicular access to Mount Si is proposed via SR 202 (SE Redmond Fall City Road). Vehicular access to Arrington Court, Cha Cha 15 and Cedar 23 is proposed via 324th Avenue SE. Vehicular access to Stevens 21 is proposed via the extension of SE 41st Street, providing access to 332nd Avenue SE via 328th Pl SE and SE 42nd Street. Vehicular access to Fall City II/Slalom 13 is proposed via 332nd Avenue SE and SE 42nd Street. Vehicular access to Hazel 16 is proposed via 332nd Avenue SE and SE 44th Street. Full project buildout of each of the seven (7) residential plats is expected by 2025.

Trip Generation. The 7 developments in the Fall City Residential Assemblage are estimated to generate a total of 1,403 weekday daily trips with 106 trips during the weekday AM peak hour (28 in, 78 out) and 135 trips during the weekday PM peak hour (85 in, 50 out).

Future Year LOS. Weekday AM and PM peak hour LOS analyses were conducted at two (2) off-site study intersections. The individual movements at both of the study intersections are anticipated to operate at acceptable levels (LOS C or better) with minimal queuing in 2025 during both the weekday AM and PM peak hours without or with the Assemblage of the 7 developments.

Roadway Classification Assessment. Assessment of the existing roadway classification was conducted for the 324th Avenue SE and 332nd Avenue SE corridors that provide access to the 7 developments. It should be noted that this area of King County is classified as rural, and as documented in the King County *Road Design and Construction Standards* (2016), land developments in rural areas shall provide “shoulder” type road improvements (as opposed to sidewalk improvements in urban areas).

324th Avenue SE

In the project vicinity, 324th Avenue SE is classified as a rural subcollector. Rural subcollectors are typically two-lane asphalt roadways and provide circulation within neighborhoods. The Arrington Court plat has already constructed their half street frontage improvements. Each of the remaining 2 new residential plats with frontage on 324th Avenue SE (Cha Cha 15, Cedar 23) will construct half street frontage improvements including a 6-foot paved shoulder.

332nd Avenue SE

In the project vicinity, 332nd Avenue SE is classified as a collector arterial. Rural collector arterials are typically intra-community roadways connecting cities or towns. Each of the 3 new residential plats with frontage on 332nd Avenue SE (Stevens 21, Fall City II/Slalom 13, Hazel 16) will construct half street frontage improvements including a 6-foot paved shoulder.

INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared for the Assemblage of seven (7) Fall City Residential developments located south of SR 202 (Redmond Fall City Road SE) between 324th Avenue SE and 332nd Avenue SE in unincorporated King County as shown in the **Figure 1** vicinity map. This TIA was prepared to evaluate the cumulative impacts of the seven (7) residential plats to the project vicinity. This is an update to the prior report (dated January 26, 2022) to address comments received from the County via email on April 13, 2022.

Project Description

The Fall City Residential Assemblage consists of the development of the following seven (7) residential plats:

- Arrington Court (17 single-family homes) – SE Redmond Fall City Rd/324th Ave SE
- Mount Si (16 single-family homes) – 32433 SE Redmond Fall City Road
- Cha Cha 15 (15 single-family homes) – 4142 324th Avenue SE
- Cedar 23 (23 single-family homes) – 4218 & 4250 324th Avenue SE
- Stevens 21 (21 single-family homes) – 32909, 32911 SE Redmond Fall City Road
- Fall City II/Slalom 13 (13 single-family homes) – 4135 332nd Avenue SE
- Hazel 16 (16 single-family homes) – 4317, 4319, & 4321 332nd Avenue SE

Vehicular access to Mount Si is proposed via SR 202 (SE Redmond Fall City Road). Vehicular access to Arrington Court, Cha Cha 15 and Cedar 23 is proposed via 324th Avenue SE. Vehicular access to Stevens 21 is proposed via the extension of SE 41st Street, providing access to 332nd Avenue SE via 328th Pl SE and SE 42nd Street. Vehicular access to Fall City II/Slalom 13 is proposed via 332nd Avenue SE and SE 42nd Street. Vehicular access to Hazel 16 is proposed via 332nd Avenue SE and SE 44th Street. Full project buildout of each of the seven (7) residential plats is expected by 2025. A preliminary site plan is included in **Figure 2**.

Project Approach

To analyze the traffic impacts from the Fall City Residential Assemblage, the following tasks were undertaken:

- Assessed existing conditions through field reconnaissance and reviewed existing planning documents.
- Described and assessed existing transportation conditions in the area.
- Documented traffic collisions at the study intersections.
- Documented planned roadway improvements in the project vicinity based on Fall City, King County, and WSDOT planning documents.
- Estimated future peak hour traffic volumes at two (2) off-site study intersections.
- Estimated trip generation and documented trip distribution and assignment of project traffic for each of the seven (7) residential plats.
- Documented traffic forecasts and assumptions for year 2025 conditions without and with the development of the 7 project assemblage.
- Conducted weekday AM and PM peak hour level of service analyses at two (2) off-site study intersections.
- Evaluated the existing roadway classification of 324th Avenue SE and 332nd Avenue SE.

Primary Data and Information Sources

- ITE *Trip Generation Manual*, 11th Edition, 2021.
- Weekday AM and PM Peak Hour traffic counts by All Traffic Data, 2021.
- *Highway Capacity Manual (HCM 6th Edition)*, 2016.
- Washington State Department of Transportation (WSDOT) Collision Data, 2016-2020.
- WSDOT *2022-2025 Statewide Transportation Improvement Program (STIP)*.
- King County *2020 Transportation Needs Report (TNR)*.
- King County *Road Design and Construction Standards* (2016).

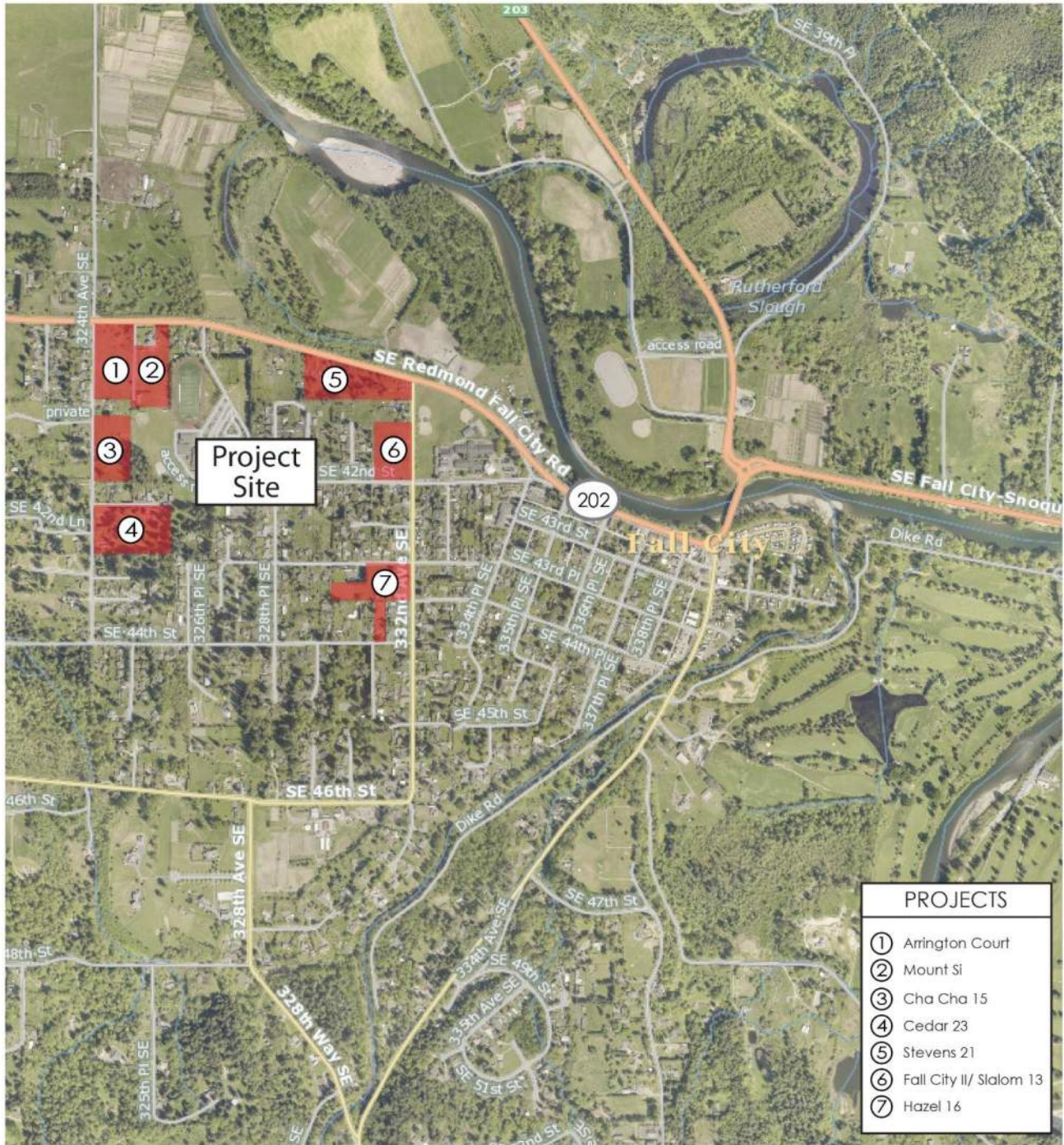


Figure 1: Project Site Vicinity





Figure 2: Preliminary Site Plan



EXISTING CONDITIONS

This section describes existing transportation system conditions in the study area. Existing conditions described include an inventory of existing roadways, public transportation services, non-motorized transportation facilities, existing traffic volumes, intersection levels of service (LOS), and collision history.

Roadway Network

The primary travel routes to and from the site include SR 202 (SE Redmond Fall City Road), 324th Avenue SE, and 332nd Avenue SE. The relationship of these roadways to the project site is shown in **Figure 1**. Descriptions of the streets are included in **Table 1** below.

Table 1
Existing Roadway Network Summary – Project Site Vicinity

Roadway	Orientation	Classification	Speed Limit	Number of Travel Lanes	Street Parking	Sidewalks
SR 202 (SE Redmond Fall City Road)	East-West	State Route	45	2	None	None
324 th Avenue SE	North-South	Rural Subcollector	25	2	None	None
332 nd Avenue SE	North-South	Collector Arterial	25	2	None	None

Non-Motorized Transportation Facilities

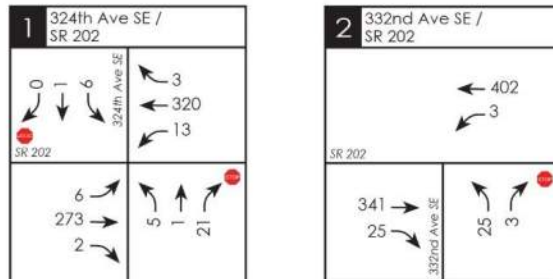
Non-motorized transportation facilities in the study area include intermittent paved shoulders. Paved shoulders exist on both sides of SR 202 between 324th Avenue SE and 332nd Avenue SE. There is a paved shoulder on the east side of 324th Avenue SE south of SR 202 that was constructed as part of the Mount Si development (currently under construction). There is a portion of paved shoulder on the east side of 332nd Avenue SE south of SR 202.

Traffic Volumes

Existing weekday AM and PM peak hour traffic volumes at the two (2) off-site study intersections along SR 202 (SE Redmond Fall City Road) were based on counts collected by All Traffic Data in November 2021. The existing weekday AM and PM peak hour traffic volumes represent the highest hour of traffic between 6:00 and 9:00 a.m. and 4:00 and 6:00 p.m. respectively. **Figure 3** illustrates the existing 2021 weekday AM and PM peak hour traffic volumes at the study intersections. The detailed peak hour turning movement count sheets are provided in **Appendix B**.



AM Peak Hour



PM Peak Hour

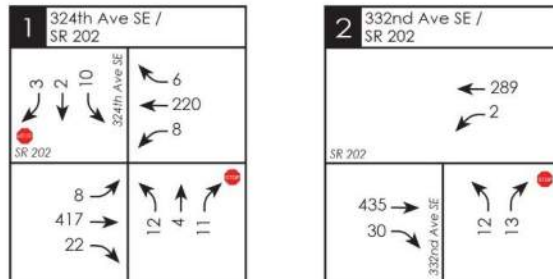


Figure 3: 2021 Existing Weekday Peak Hour Traffic Volumes



Level of Service

Weekday AM and PM peak hour level of service (LOS) analyses were conducted at the following two (2) study intersections:

1. 324th Avenue SE/SR 202 (unsignalized)
2. 332nd Avenue SE/SR 202 (unsignalized)

LOS generally refers to the degree of congestion on a roadway or intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F generally describes intersection LOS. At signalized intersections, LOS A represents free-flow conditions (motorists experience little or no delays), and LOS F represents forced-flow conditions where motorists experience an average delay in excess of 80 seconds per vehicle.

The LOS reported for signalized intersections represents the average control delay (sec/veh) and can be reported for the overall intersection, for each approach, and for each lane group (additional v/c ratio criteria apply to lane group LOS only).

The LOS reported at stop-controlled intersections is based on the average control delay and can be reported for each controlled minor approach, controlled minor lane group, and controlled major-street movement (and for the overall intersection at all-way stop controlled intersections. Additional v/c ratio criteria apply to lane group or movement LOS only). **Table 2** outlines the current HCM 6th Edition LOS criteria for signalized and stop-controlled intersections based on these methodologies.

Table 2
LOS Criteria for Signalized and Stop-Controlled Intersections¹

SIGNALIZED INTERSECTIONS			UNSIGNALIZED INTERSECTIONS		
Control Delay (sec/veh)	LOS by Volume-to Capacity (V/C) Ratio ²		Control Delay (sec/veh)	LOS by Volume-to Capacity (V/C) Ratio ³	
	≤ 1.0	> 1.0		≤ 1.0	> 1.0
≤ 10	A	F	≤ 10	A	F
> 10 to ≤ 20	B	F	> 10 to ≤ 15	B	F
> 20 to ≤ 35	C	F	> 15 to ≤ 25	C	F
> 35 to ≤ 55	D	F	> 25 to ≤ 35	D	F
> 55 to ≤ 80	E	F	> 35 to ≤ 50	E	F
> 80	F	F	> 50	F	F

¹ Source: Highway Capacity Manual (6th Edition), Transportation Research Board, 2016.

² For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.

³ For two-way stop controlled intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop controlled intersections. For approach-based and intersection-wide assessments at all-way stop controlled intersections, LOS is solely defined by control delay.

Intersection LOS were calculated using the methodology and procedures outlined in the latest edition of the Highway Capacity Manual (6th Edition) using the Synchro 10 software program. The LOS analyses at the study intersections on SR 202 (SE Redmond Fall City Road) were based on the current *WSDOT Synchro & SimTraffic Protocol*, dated August 2018. The 2021 existing AM and PM peak hour LOS analysis results for the study intersections are summarized in **Table 3**. The 2021 existing LOS worksheets are included in **Appendix B**.

Table 3
2021 Existing AM and PM Peak Hour LOS Summary

Study Intersection	AM Peak Hour			PM Peak Hour		
	LOS ¹	Delay (sec) ²	95 th % Queue (ft)	LOS ¹	Delay (sec) ²	95 th % Queue (ft)
<u>Unsignalized</u>						
1. 324 th Ave SE/SR 202						
Northbound Approach	B	11.9	< 25'	C	15.2	< 25'
Eastbound Left-Turn	A	8.1	0'	A	7.7	0'
Westbound Left-Turn	A	8.0	0'	A	8.4	0'
Southbound Approach	C	17.4	< 25'	C	16.0	< 25'
2. 332 nd Ave SE/SR 202						
Northbound Approach	C	18.3	< 25'	B	14.3	< 25'
Westbound Left-Turn	A	8.4	0'	A	8.7	0'

1. LOS = Level of Service

2. Delay refers to average control delay, expressed in seconds per vehicle.

As shown in **Table 3**, the individual movements at each of the stop-controlled study intersections currently operate at LOS C or better during the weekday AM and PM peak hours with minimal queuing.

Collision History

Historic collisions at the study intersections were analyzed for the five-year period from 2016 to 2020. Collision data was provided by WSDOT. Summaries of the total and yearly average collisions during this period are provided in **Table 4**. Summaries of collisions by type over the five-year period are provided in **Table 5**.

Table 4
Collision Data Summary By Year, January 1, 2016 to December 31, 2020

Location	2016	2017	2018	2019	2020	Five-Year Total Collisions	Average Annual Collisions	Collisions per MEV ¹
1. 324 th Ave SE/SR 202	0	0	1	0	0	1	0.20	0.08
2. 332 nd Ave SE/SR 202	1	0	0	0	0	1	0.20	0.07

Source: WSDOT Crash Data.

1. MEV = Million Entering Vehicles

Table 5
Collision Data Summary By Type, January 1, 2016 to December 31, 2020

Location	5-Year Total Collisions	Average Annual Collision Rate	Collision Type						
			Angle (Left/Right)	Sideswipe	Angle (T)	Rear-End	Parked Vehicle/ Fixed Object	Other	
1. 324 th Ave SE/SR 202	1	0.20	0	0	0	1	0	0	
2. 332 nd Ave SE/SR 202	1	0.20	0	0	0	1	0	0	

Source: WSDOT Crash Data.

As shown in **Tables 4 and 5**, there was only one (1) reported collision at each of the 324th Avenue SE/SR 202 and 332nd Avenue SE/SR 202 intersections over the five (5) year period. Both of these reported collisions were rear ends.

FUTURE CONDITIONS & TRAFFIC IMPACTS

The following section of the report describes the traffic impacts of the Assemblage of the 7 Fall City developments on the surrounding arterial network and identified study intersections in the project study area.

The analysis of traffic impacts includes identifying planned transportation improvements, estimated project trip generation, distribution and assignment of project trips, LOS evaluation at study intersections, and evaluation of the classifications of 324th Avenue SE and 332nd Avenue SE. The analysis was conducted during the weekday AM and PM peak hours.

Planned Transportation Improvements

This section documents the known transportation improvements in the study area. Based on review of the WSDOT *2022-2025 Statewide Transportation Improvement Program (STIP)* and the King County *2020 Transportation Needs Report (TNR)*, there are no planned improvements in the study area.

It should be noted that WSDOT is currently conducting SR 202 Corridor Studies, which include the segments from 244th Avenue NE to 324th Avenue SE and from 324th Avenue SE to SR 203. Per WSDOT's website, SR 202 within Fall City does not currently meet the needs of all users and lacks sidewalks between residential areas and businesses. This study will assess corridor needs for SR 202 from the 324th Avenue SE intersection to the roundabout junction at SR 203. As of the date of this study, WSDOT is finalizing a package of near/mid-term improvement concept recommendations for SR 202 from the 324th Avenue SE intersection to the roundabout junction at SR 203 which is expected to be complete in the first quarter of 2022.

Project Trip Generation

The trip generation estimates for each of the seven (7) residential plats within the Fall City Assemblage were based on methodology documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th edition for Land Use Code (LUC) 210 (Single-Family Detached Housing). **Table 6** summarizes the weekday AM and PM peak hour trip generation estimates for each of the seven (7) residential plats in the Assemblage. Detailed trip generation calculations are included in **Appendix C**.

Table 6
Fall City Residential – Trip Generation Summary

Development	ADT	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Arrington Court	198	4	11	15	12	7	19
Mount Si	187	4	10	14	11	7	18
Cha Cha 15	176	3	10	13	11	6	17
Cedar 23	261	5	15	20	16	9	25
Stevens 21	240	5	13	18	15	8	23
Fall City II/Slalom 13	154	3	9	12	9	6	15
Hazel 16	187	4	10	14	11	7	18
Total	1,403	28	78	106	85	50	135

Project Trip Distribution and Assignment

The distribution of project generated vehicle trips by the Assemblage of the 7 Fall City Residential developments was based on existing travel patterns in the area. The new AM and PM peak hour project-generated trips were distributed to the vicinity street system as follows:

- 45 percent to/from west on SR 202 (SE Redmond Fall City Road)
- 50 percent to/from east on SR 202 (SE Redmond Fall City Road)
- 5 percent to/from south on Preston-Fall City Rd SE (via local road cutthrough)

Figure 4 provides a graphical illustration of the assignment of the new weekday AM and PM peak hour project-generated traffic to the study intersections.

Future Traffic Volumes

Future year 2025 No Action (without project) AM and PM peak hour traffic volumes were estimated by applying a two (2) percent annual growth rate to the existing traffic counts.

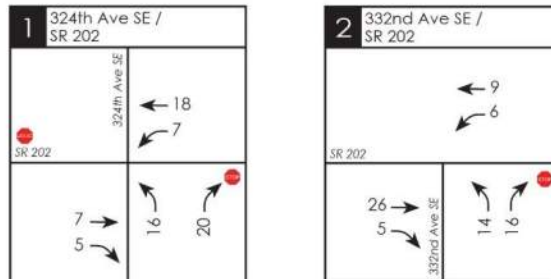
The resulting future 2025 No Action (without project) AM and PM peak hour traffic volumes at the study intersections are shown in **Figure 5**. The 2025 With Project traffic volumes were determined by adding the trip assignment from the 7 developments in the Fall City Residential Assemblage (shown in **Figure 4**) to the future 2025 No Action (without project) traffic volumes (shown in **Figure 5**). The resulting 2025 With Project AM and PM peak hour traffic volumes are shown in **Figure 6**.

Future Level of Service

Future year 2025 LOS analyses were conducted at the study intersections for without and with project conditions during the weekday AM and PM peak hours. The LOS results at the study intersections without and with the proposed project (assemblage of 7 developments) are summarized in **Table 7**. The detailed LOS worksheets are included in **Appendix B**.



AM Peak Hour



PM Peak Hour

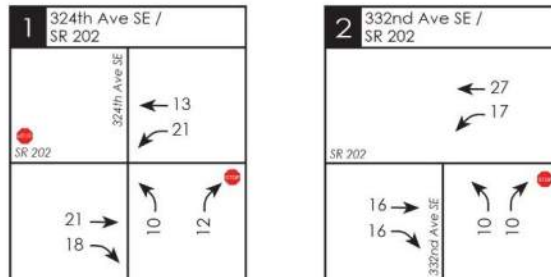
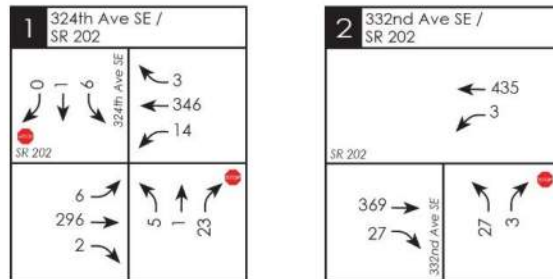


Figure 4: Weekday Peak Hour Project Trip Distribution and Assignment



AM Peak Hour



PM Peak Hour

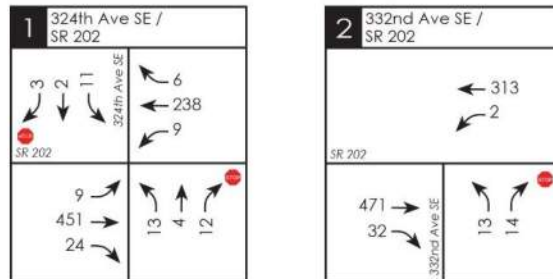
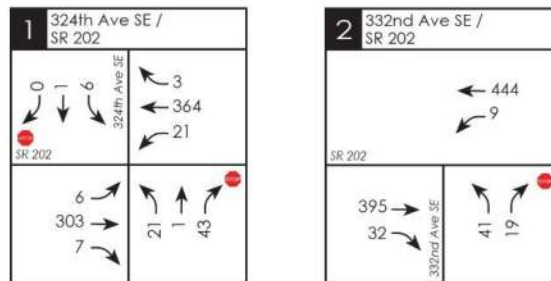


Figure 5: 2025 No Action Weekday Peak Hour Traffic Volumes





AM Peak Hour



PM Peak Hour

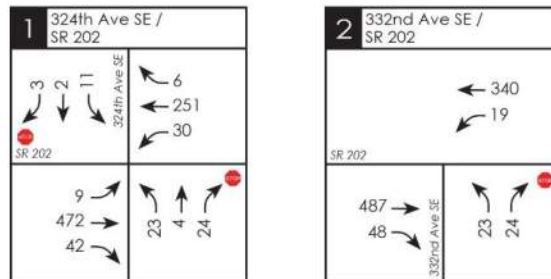


Figure 6: 2025 With Project Weekday Peak Hour Traffic Volumes



Table 7
Future 2025 AM and PM Peak Hour LOS Summary

Study Intersection	2025 No Action			2025 With Assemblage		
	LOS ¹	Delay (sec) ²	95 th % Queue (ft)	LOS ¹	Delay (sec) ²	95 th % Queue (ft)
AM Peak Hour						
<u>Unsignalized</u>						
1. 324 th Ave SE/SR 202						
Northbound Approach	B	12.3	< 25'	C	15.0	25'
Eastbound Left-Turn	A	8.2	0'	A	8.2	0'
Westbound Left-Turn	A	8.1	0'	A	8.1	< 25'
Southbound Approach	C	18.8	< 25'	C	21.0	< 25'
2. 332 nd Ave SE/SR 202						
Northbound Approach	C	20.3	25'	C	22.4	25'
Westbound Left-Turn	A	8.6	0'	A	8.7	0'
PM Peak Hour						
<u>Unsignalized</u>						
1. 324 th Ave SE/SR 202						
Northbound Approach	C	16.2	< 25'	C	18.8	25'
Eastbound Left-Turn	A	7.8	0'	A	7.8	0'
Westbound Left-Turn	A	8.5	0'	A	8.7	< 25'
Southbound Approach	C	17.4	< 25'	C	20.3	< 25'
2. 332 nd Ave SE/SR 202						
Northbound Approach	C	15.2	< 25'	C	17.6	25'
Westbound Left-Turn	A	8.8	0'	A	9.1	< 25'

1. LOS = Level of Service

2. Delay refers to average control delay, expressed in seconds per vehicle.

As shown in **Table 7**, the individual movements at each of the stop-controlled study intersections are anticipated to operate at acceptable levels (LOS C or better) with minimal queuing (no more than 25 feet) during the weekday AM and PM peak hours in 2025 without or with the Assemblage.

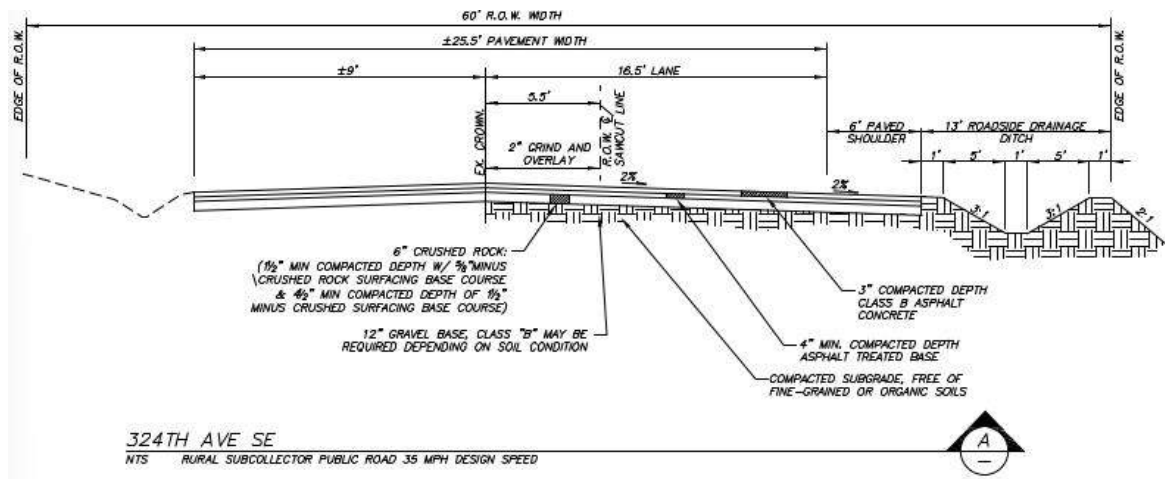
Roadway Classification Assessment

Assessment of the existing roadway classification was conducted for 324th Avenue SE and 332nd Avenue SE including a reference to the County's roadway classification and a comparison of the existing and future characteristics of each roadway with the Assemblage of 7 developments (the 'project'). It should be noted that this area is classified as rural and as documented in the King County *Road Design and Construction Standards* (2016), land developments in rural areas shall provide "shoulder" type road improvements (as opposed to sidewalk improvements in urban areas designation).

324th Avenue SE

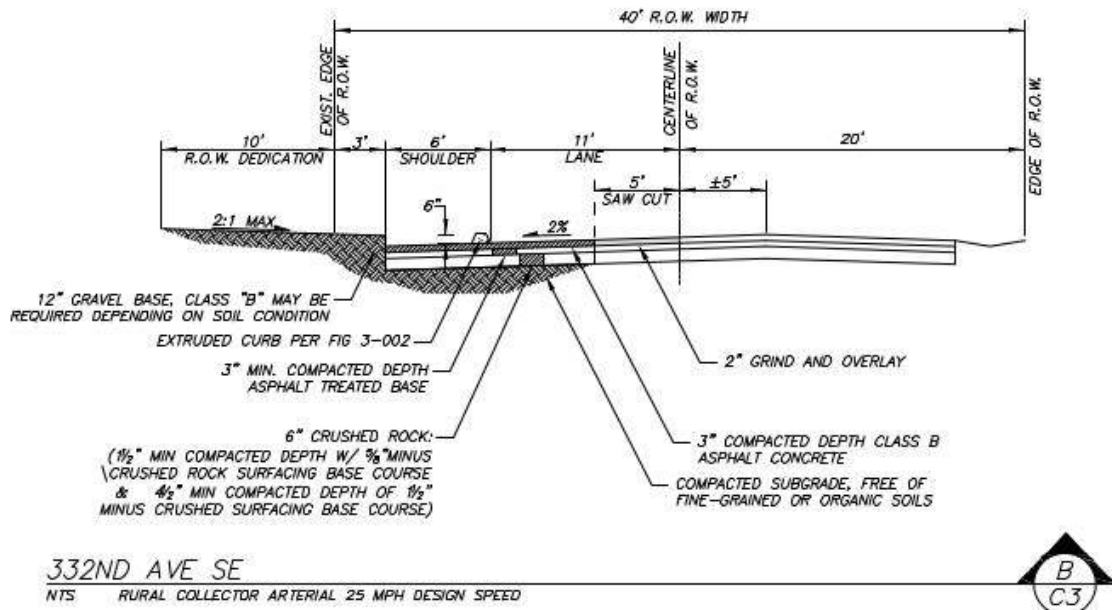
In the project vicinity, 324th Avenue SE is classified as a rural subcollector. Rural subcollectors are the second highest in the local roadway classification hierarchy. They are typically two-lane asphalt roadways that provide circulation within neighborhoods and typically connect to neighborhood collectors. Although rural subcollectors typically allow direct driveway access, there are some project related exceptions. The Arrington Court plat has already constructed their half street frontage

improvements. Each of the remaining 2 new residential plats with frontage on 324th Avenue SE (Cha Cha 15, Cedar 23) will construct half street frontage improvements including a 6-foot paved shoulder as shown in the cross section below:



332nd Avenue SE

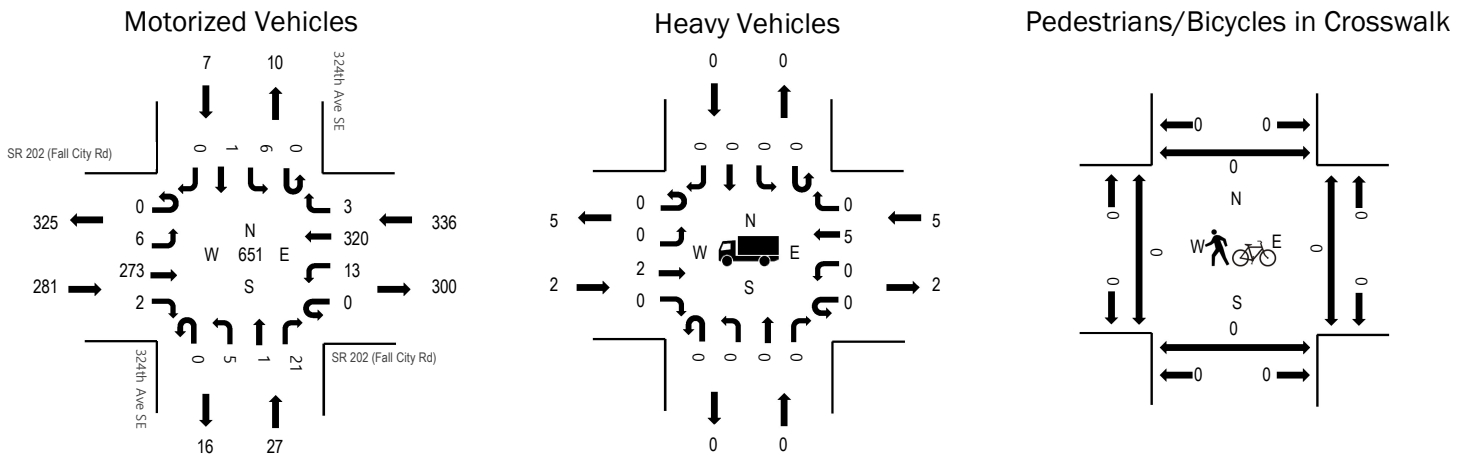
In the vicinity of the 7 Assemblage developments, 332nd Avenue SE is classified as a collector arterial. Rural collector arterials are typically intra-community roadways connecting cities or towns, residential neighborhoods, and community centers and facilities. They provide connections between rural local roads and other roadways that are higher in the hierarchy of classification. Access is partially restricted. Each of the 3 new residential plats with frontage on 332nd Avenue SE (Stevens 21, Fall City II/Slalom 13, Hazel 16) will construct half street frontage improvements including a 6-foot paved shoulder as shown in the cross section below:



Appendix A

Existing Traffic Volume Data

Peak Hour



	HV%	PHF
EB	0.7%	0.77
WB	1.5%	0.87
NB	0.0%	0.56
SB	0.0%	0.58
All	1.1%	0.82

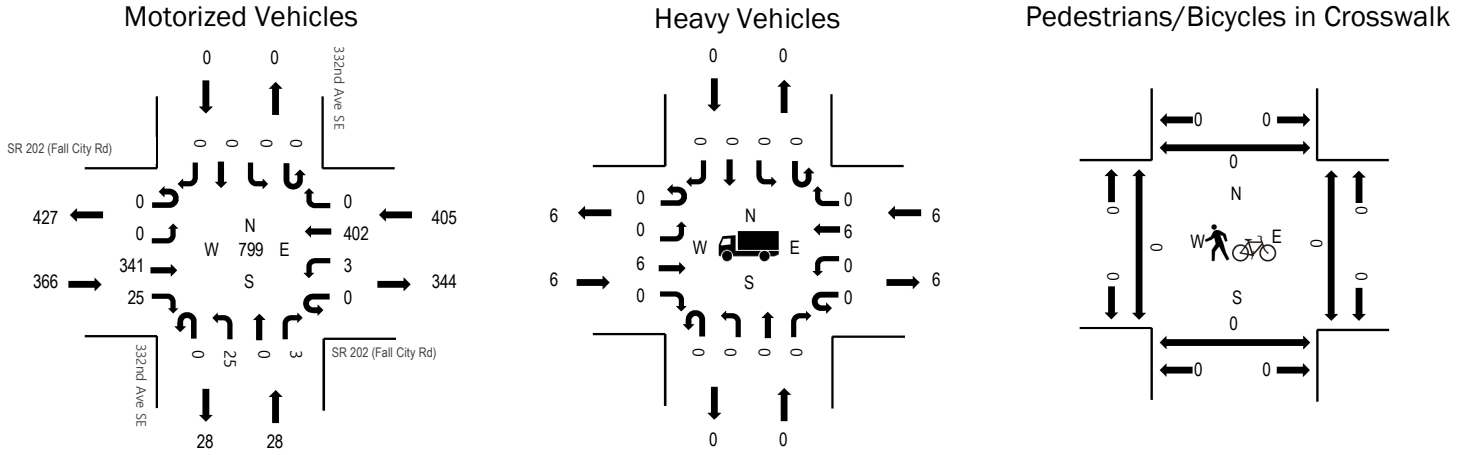
Traffic Counts - Motorized Vehicles

Interval Start Time	SR 202 (Fall City Rd) Eastbound				SR 202 (Fall City Rd) Westbound				324th Ave SE Northbound				324th Ave SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	53	0	0	3	45	1	0	2	0	5	0	3	0	1	113	628
7:15 AM	0	1	90	0	0	5	56	0	0	0	0	6	0	1	0	0	159	651
7:30 AM	0	2	89	0	0	4	90	0	0	3	0	9	0	1	0	0	198	593
7:45 AM	0	3	50	0	0	0	95	2	0	2	0	3	0	2	1	0	158	502
8:00 AM	0	0	44	2	0	4	79	1	0	0	1	3	0	2	0	0	136	499
8:15 AM	0	0	45	1	0	6	42	3	0	1	0	2	0	1	0	0	101	
8:30 AM	0	0	63	0	0	1	40	0	0	1	0	0	0	2	0	0	107	
8:45 AM	0	2	71	3	0	3	64	1	0	6	1	3	0	0	1	0	155	
Count Total	0	8	505	6	0	26	511	8	0	15	2	31	0	12	2	1	1,127	
Peak Hour	0	6	273	2	0	13	320	3	0	5	1	21	0	6	1	0	651	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	0	1	0	1	7:00 AM	0	0	0	0	0
7:15 AM	1	0	1	0	2	7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:45 AM	1	0	3	0	4	7:45 AM	0	0	0	0	0
8:00 AM	0	0	1	0	1	8:00 AM	0	0	0	0	0
8:15 AM	1	0	1	1	3	8:15 AM	0	0	0	0	0
8:30 AM	2	0	0	0	2	8:30 AM	0	0	0	0	0
8:45 AM	0	0	1	0	1	8:45 AM	0	0	0	0	0
Count Total	5	0	8	1	14	Count Total	0	0	0	0	0
Peak Hour	2	0	5	0	7	Peak Hour	0	0	0	0	0

Peak Hour



	HV%	PHF
EB	1.6%	0.76
WB	1.5%	0.67
NB	0.0%	0.64
SB	0.0%	0.00
All	1.5%	0.71

Traffic Counts - Motorized Vehicles

Interval Start Time	SR 202 (Fall City Rd) Eastbound				SR 202 (Fall City Rd) Westbound				332nd Ave SE Northbound				332nd Ave SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	54	3	0	0	47	0	0	6	0	1	0	0	0	0	111	774
7:15 AM	0	0	80	3	0	0	84	0	0	4	0	0	0	0	0	0	171	799
7:30 AM	0	0	113	7	0	2	150	0	0	10	0	1	0	0	0	0	283	727
7:45 AM	0	0	97	15	0	1	88	0	0	7	0	1	0	0	0	0	209	557
8:00 AM	0	0	51	0	0	0	80	0	0	4	0	1	0	0	0	0	136	508
8:15 AM	0	0	50	0	0	1	45	0	0	2	0	1	0	0	0	0	99	
8:30 AM	0	0	60	1	0	3	46	0	0	3	0	0	0	0	0	0	113	
8:45 AM	0	0	83	3	0	2	57	0	0	8	0	7	0	0	0	0	160	
Count Total	0	0	588	32	0	9	597	0	0	44	0	12	0	0	0	0	1,282	
Peak Hour	0	0	341	25	0	3	402	0	0	25	0	3	0	0	0	0	799	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	0	1	0	2	7:00 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1	7:15 AM	0	0	0	0	0
7:30 AM	2	0	0	0	2	7:30 AM	0	0	0	0	0
7:45 AM	2	0	3	0	5	7:45 AM	0	0	0	0	0
8:00 AM	2	0	2	0	4	8:00 AM	0	0	0	0	0
8:15 AM	2	0	1	0	3	8:15 AM	0	0	0	0	0
8:30 AM	2	0	1	0	3	8:30 AM	0	0	0	0	0
8:45 AM	0	0	1	0	1	8:45 AM	0	0	0	0	0
Count Total	11	0	10	0	21	Count Total	0	0	0	0	0
Peak Hour	6	0	6	0	12	Peak Hour	0	0	0	0	0



ALL TRAFFIC DATA SERVICES

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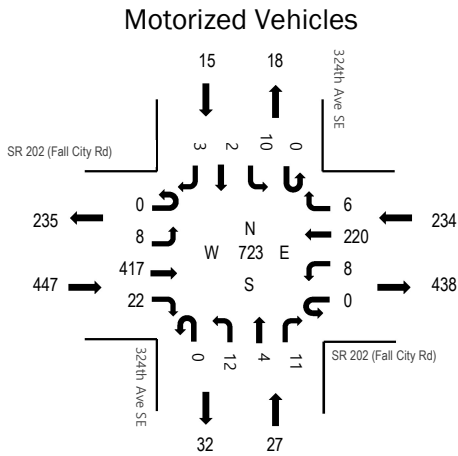
www.alltrafficdata.net

Location: 1 324th Ave SE & SR 202 (Fall City Rd) PM

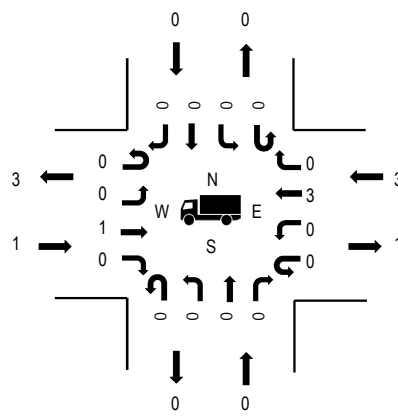
Date: Tuesday, November 2, 2021

Peak Hour: 04:00 PM - 05:00 PM

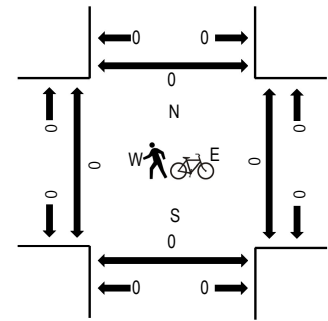
Peak Hour



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	0.2%	0.92
WB	1.3%	0.82
NB	0.0%	0.68
SB	0.0%	0.47
All	0.6%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	SR 202 (Fall City Rd) Eastbound				SR 202 (Fall City Rd) Westbound				324th Ave SE Northbound				324th Ave SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	5	94	1	0	1	44	2	0	2	2	2	0	3	0	1	157	723
4:15 PM	0	0	116	6	0	4	66	1	0	2	0	2	0	5	1	2	205	693
4:30 PM	0	2	95	10	0	2	56	2	0	6	1	3	0	2	0	0	179	623
4:45 PM	0	1	112	5	0	1	54	1	0	2	1	4	0	0	1	0	182	603
5:00 PM	0	4	75	0	0	1	40	2	0	1	1	0	0	1	1	1	127	533
5:15 PM	0	1	69	5	0	1	55	3	0	0	1	0	0	0	0	0	135	
5:30 PM	0	0	87	5	0	2	48	4	0	8	0	3	0	1	0	1	159	
5:45 PM	0	0	50	2	0	1	55	0	0	0	0	2	0	0	0	2	112	
Count Total	0	13	698	34	0	13	418	15	0	21	6	16	0	12	3	7	1,256	
Peak Hour	0	8	417	22	0	8	220	6	0	12	4	11	0	10	2	3	723	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0	0	1	4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	0	3	0	3	4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	1	0	1	5:00 PM	0	0	4	0	4
5:15 PM	0	0	0	0	0	5:15 PM	2	0	0	0	2
5:30 PM	1	0	1	0	2	5:30 PM	2	0	0	0	2
5:45 PM	0	0	0	0	0	5:45 PM	1	0	0	0	1
Count Total	2	0	5	0	7	Count Total	5	0	4	0	9
Peak Hour	1	0	3	0	4	Peak Hour	0	0	0	0	0



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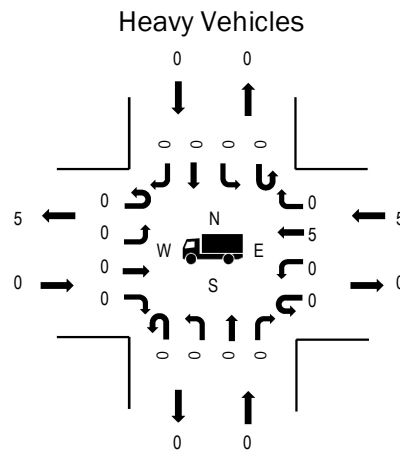
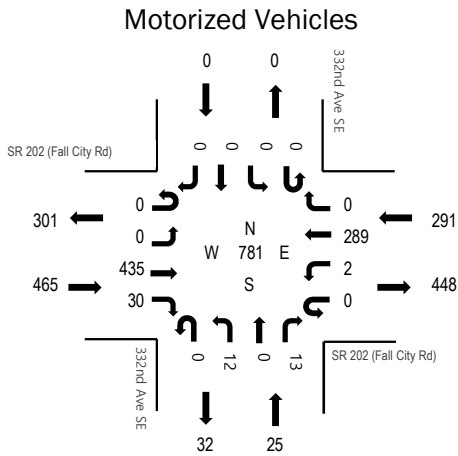
www.alltrafficdata.net

Location: 2 332nd Ave SE & SR 202 (Fall City Rd) PM

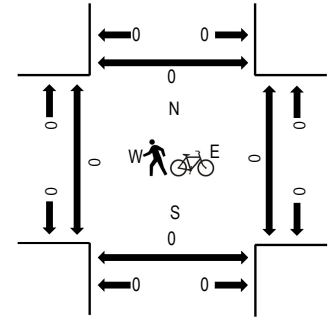
Date: Tuesday, November 2, 2021

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

Peak Hour



Pedestrians/Bicycles in Crosswalk



	HV%	PHF
EB	0.0%	0.84
WB	1.7%	0.75
NB	0.0%	0.48
SB	0.0%	0.00
All	0.6%	0.78

Traffic Counts - Motorized Vehicles

Interval Start Time	SR 202 (Fall City Rd) Eastbound				SR 202 (Fall City Rd) Westbound				332nd Ave SE Northbound				332nd Ave SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	77	6	0	2	56	0	0	4	0	3	0	0	0	0	148	770
4:15 PM	0	0	132	7	0	1	96	0	0	6	0	7	0	0	0	0	249	781
4:30 PM	0	0	116	7	0	0	74	0	0	0	0	3	0	0	0	0	200	663
4:45 PM	0	0	109	6	0	0	54	0	0	4	0	0	0	0	0	0	173	609
5:00 PM	0	0	78	10	0	1	65	0	0	2	0	3	0	0	0	0	159	566
5:15 PM	0	0	67	4	0	0	55	0	0	4	0	1	0	0	0	0	131	
5:30 PM	0	0	82	7	0	1	51	0	0	4	0	1	0	0	0	0	146	
5:45 PM	0	0	53	4	0	0	64	0	0	9	0	0	0	0	0	0	130	
Count Total	0	0	714	51	0	5	515	0	0	33	0	18	0	0	0	0	1,336	
Peak Hour	0	0	435	30	0	2	289	0	0	12	0	13	0	0	0	0	781	

Traffic Counts - Heavy Vehicles and Pedestrians/Bicycles in Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0	0	1	4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:30 PM	0	0	4	0	4	4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
5:00 PM	0	0	1	0	1	5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:30 PM	1	0	1	0	2	5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
Count Total	2	0	6	0	8	Count Total	0	0	0	0	0
Peak Hour	0	0	5	0	5	Peak Hour	0	0	0	0	0

Appendix B

Level of Service (LOS) Calculations

2021 Existing

Lanes, Volumes, Timings
 1: 324th Ave SE/W River Rd & SR 202

12/09/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	273	2	13	320	3	5	1	21	6	1	0
Future Volume (vph)	6	273	2	13	320	3	5	1	21	6	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		379			436			243			265	
Travel Time (s)		5.7			6.6			6.6			7.2	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	273	2	13	320	3	5	1	21	6	1	0
Future Vol, veh/h	6	273	2	13	320	3	5	1	21	6	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	2	2	2	0	0	0	0	0	0
Mvmt Flow	7	333	2	16	390	4	6	1	26	7	1	0

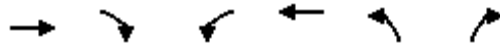
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	394	0	0	335	0	0	773	774	334	786	773	392
Stage 1	-	-	-	-	-	-	348	348	-	424	424	-
Stage 2	-	-	-	-	-	-	425	426	-	362	349	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1170	-	-	1224	-	-	319	332	712	312	332	661
Stage 1	-	-	-	-	-	-	672	638	-	612	590	-
Stage 2	-	-	-	-	-	-	611	589	-	661	637	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1170	-	-	1224	-	-	312	324	712	295	324	661
Mov Cap-2 Maneuver	-	-	-	-	-	-	312	324	-	295	324	-
Stage 1	-	-	-	-	-	-	667	634	-	608	580	-
Stage 2	-	-	-	-	-	-	599	579	-	632	633	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.3			11.9			17.4		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	555	1170	-	-	1224	-	-	299
HCM Lane V/C Ratio	0.059	0.006	-	-	0.013	-	-	0.029
HCM Control Delay (s)	11.9	8.1	0	-	8	0	-	17.4
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings
 2: 332nd Ave SE & SR 202

12/09/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	341	25	3	402	25	3
Future Volume (vph)	341	25	3	402	25	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Link Speed (mph)	30			30	25	
Link Distance (ft)	405			362	520	
Travel Time (s)	9.2			8.2	14.2	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles (%)	2%	2%	2%	2%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	341	25	3	402	25	3
Future Vol, veh/h	341	25	3	402	25	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, %	0	-	-	0	-3	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	0	0
Mvmt Flow	480	35	4	566	35	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	515	0	1072
Stage 1	-	-	-	-	498
Stage 2	-	-	-	-	574
Critical Hdwy	-	-	4.12	-	5.8
Critical Hdwy Stg 1	-	-	-	-	4.8
Critical Hdwy Stg 2	-	-	-	-	4.8
Follow-up Hdwy	-	-	2.218	-	3.5
Pot Cap-1 Maneuver	-	-	1051	-	294
Stage 1	-	-	-	-	668
Stage 2	-	-	-	-	624
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1051	-	292
Mov Cap-2 Maneuver	-	-	-	-	292
Stage 1	-	-	-	-	668
Stage 2	-	-	-	-	620

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	18.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	309	-	-	1051	-
HCM Lane V/C Ratio	0.128	-	-	0.004	-
HCM Control Delay (s)	18.3	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Lanes, Volumes, Timings
 1: 324th Ave SE/W River Rd & SR 202

12/09/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	417	22	8	220	6	12	4	11	10	2	3
Future Volume (vph)	8	417	22	8	220	6	12	4	11	10	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		379			436			243			265	
Travel Time (s)		5.7			6.6			6.6			7.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	417	22	8	220	6	12	4	11	10	2	3
Future Vol, veh/h	8	417	22	8	220	6	12	4	11	10	2	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, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	1	1	1	0	0	0	0	0	0
Mvmt Flow	9	474	25	9	250	7	14	5	13	11	2	3

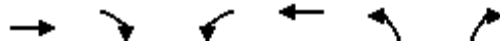
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	257	0	0	499	0	0	779	780	487	786	789	254
Stage 1	-	-	-	-	-	-	505	505	-	272	272	-
Stage 2	-	-	-	-	-	-	274	275	-	514	517	-
Critical Hdwy	4.1	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1320	-	-	1070	-	-	316	329	585	312	325	790
Stage 1	-	-	-	-	-	-	553	544	-	738	688	-
Stage 2	-	-	-	-	-	-	736	686	-	547	537	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1320	-	-	1070	-	-	308	323	585	298	319	790
Mov Cap-2 Maneuver	-	-	-	-	-	-	308	323	-	298	319	-
Stage 1	-	-	-	-	-	-	548	539	-	731	681	-
Stage 2	-	-	-	-	-	-	723	679	-	526	532	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			15.2			16		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	385	1320	-	-	1070	-	-	344
HCM Lane V/C Ratio	0.08	0.007	-	-	0.008	-	-	0.05
HCM Control Delay (s)	15.2	7.7	0	-	8.4	0	-	16
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Lanes, Volumes, Timings
2: 332nd Ave SE & SR 202

12/09/2021



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	435	30	2	289	12	13
Future Volume (vph)	435	30	2	289	12	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Link Speed (mph)	30			30	25	
Link Distance (ft)	405			362	520	
Travel Time (s)	9.2			8.2	14.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	0%	2%	2%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	435	30	2	289	12	13
Future Vol, veh/h	435	30	2	289	12	13
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	-3	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	558	38	3	371	15	17

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	596	0	954
Stage 1	-	-	-	-	577
Stage 2	-	-	-	-	377
Critical Hdwy	-	-	4.12	-	5.8
Critical Hdwy Stg 1	-	-	-	-	4.8
Critical Hdwy Stg 2	-	-	-	-	4.8
Follow-up Hdwy	-	-	2.218	-	3.5
Pot Cap-1 Maneuver	-	-	980	-	339
Stage 1	-	-	-	-	623
Stage 2	-	-	-	-	743
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	980	-	338
Mov Cap-2 Maneuver	-	-	-	-	338
Stage 1	-	-	-	-	623
Stage 2	-	-	-	-	740

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	421	-	-	980	-
HCM Lane V/C Ratio	0.076	-	-	0.003	-
HCM Control Delay (s)	14.3	-	-	8.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

2025 No Action

Lanes, Volumes, Timings
 1: 324th Ave SE/W River Rd & SR 202

01/25/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	296	2	14	346	3	5	1	23	6	1	0
Future Volume (vph)	6	296	2	14	346	3	5	1	23	6	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		379			436			243			265	
Travel Time (s)		5.7			6.6			6.6			7.2	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	296	2	14	346	3	5	1	23	6	1	0
Future Vol, veh/h	6	296	2	14	346	3	5	1	23	6	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	2	2	2	0	0	0	0	0	0
Mvmt Flow	7	361	2	17	422	4	6	1	28	7	1	0

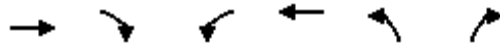
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	426	0	0	363	0	0	835	836	362	849	835	424
Stage 1	-	-	-	-	-	-	376	376	-	458	458	-
Stage 2	-	-	-	-	-	-	459	460	-	391	377	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1139	-	-	1196	-	-	289	305	687	283	306	634
Stage 1	-	-	-	-	-	-	649	620	-	587	570	-
Stage 2	-	-	-	-	-	-	586	569	-	637	619	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1139	-	-	1196	-	-	282	297	687	265	298	634
Mov Cap-2 Maneuver	-	-	-	-	-	-	282	297	-	265	298	-
Stage 1	-	-	-	-	-	-	644	615	-	582	559	-
Stage 2	-	-	-	-	-	-	574	558	-	605	614	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.3			12.3			18.8		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	531	1139	-	-	1196	-	-	269
HCM Lane V/C Ratio	0.067	0.006	-	-	0.014	-	-	0.032
HCM Control Delay (s)	12.3	8.2	0	-	8.1	0	-	18.8
HCM Lane LOS	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings
 2: 332nd Ave SE & SR 202

01/25/2022



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	369	27	3	435	27	3
Future Volume (vph)	369	27	3	435	27	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Link Speed (mph)	30			30	25	
Link Distance (ft)	405			362	520	
Travel Time (s)	9.2			8.2	14.2	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles (%)	2%	2%	2%	2%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	369	27	3	435	27	3
Future Vol, veh/h	369	27	3	435	27	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, %	0	-	-	0	-3	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	0	0
Mvmt Flow	520	38	4	613	38	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	558	0	1160
Stage 1	-	-	-	-	539
Stage 2	-	-	-	-	621
Critical Hdwy	-	-	4.12	-	5.8
Critical Hdwy Stg 1	-	-	-	-	4.8
Critical Hdwy Stg 2	-	-	-	-	4.8
Follow-up Hdwy	-	-	2.218	-	3.5
Pot Cap-1 Maneuver	-	-	1013	-	265
Stage 1	-	-	-	-	644
Stage 2	-	-	-	-	599
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1013	-	263
Mov Cap-2 Maneuver	-	-	-	-	263
Stage 1	-	-	-	-	644
Stage 2	-	-	-	-	595

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	278	-	-	1013	-
HCM Lane V/C Ratio	0.152	-	-	0.004	-
HCM Control Delay (s)	20.3	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Lanes, Volumes, Timings
 1: 324th Ave SE/W River Rd & SR 202

01/25/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	451	24	9	238	6	13	4	12	11	2	3
Future Volume (vph)	9	451	24	9	238	6	13	4	12	11	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		379			436			243			265	
Travel Time (s)		5.7			6.6			6.6			7.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	451	24	9	238	6	13	4	12	11	2	3
Future Vol, veh/h	9	451	24	9	238	6	13	4	12	11	2	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, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	1	1	1	0	0	0	0	0	0
Mvmt Flow	10	513	27	10	270	7	15	5	14	13	2	3

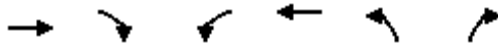
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	277	0	0	540	0	0	843	844	527	850	854	274
Stage 1	-	-	-	-	-	-	547	547	-	294	294	-
Stage 2	-	-	-	-	-	-	296	297	-	556	560	-
Critical Hdwy	4.1	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1298	-	-	1034	-	-	286	302	555	283	298	770
Stage 1	-	-	-	-	-	-	525	521	-	719	673	-
Stage 2	-	-	-	-	-	-	717	671	-	519	514	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1298	-	-	1034	-	-	278	295	555	268	291	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	278	295	-	268	291	-
Stage 1	-	-	-	-	-	-	519	515	-	711	666	-
Stage 2	-	-	-	-	-	-	704	664	-	496	508	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.3			16.2			17.4		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	354	1298	-	-	1034	-	-	309
HCM Lane V/C Ratio	0.093	0.008	-	-	0.01	-	-	0.059
HCM Control Delay (s)	16.2	7.8	0	-	8.5	0	-	17.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2

Lanes, Volumes, Timings
2: 332nd Ave SE & SR 202

01/25/2022



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	471	32	2	313	13	14
Future Volume (vph)	471	32	2	313	13	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Link Speed (mph)	30			30	25	
Link Distance (ft)	405			362	520	
Travel Time (s)	9.2			8.2	14.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	0%	2%	2%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Vol, veh/h	471	32	2	313	13	14
Future Vol, veh/h	471	32	2	313	13	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	-3	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	604	41	3	401	17	18

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	645	0	1032	625
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	-	-	4.12	-	5.8	5.9
Critical Hdwy Stg 1	-	-	-	-	4.8	-
Critical Hdwy Stg 2	-	-	-	-	4.8	-
Follow-up Hdwy	-	-	2.218	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	940	-	309	515
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	724	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	940	-	308	515
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	721	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	15.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	389	-	-	940	-
HCM Lane V/C Ratio	0.089	-	-	0.003	-
HCM Control Delay (s)	15.2	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

2025 With Project

Lanes, Volumes, Timings
 1: 324th Ave SE/W River Rd & SR 202

07/21/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	6	303	7	21	364	3	21	1	43	6	1	0
Future Volume (vph)	6	303	7	21	364	3	21	1	43	6	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		379			436			243			265	
Travel Time (s)		5.7			6.6			6.6			7.2	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
1: 324th Ave SE/W River Rd & SR 202

07/21/2022

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	303	7	21	364	3	21	1	43	6	1	0
Future Vol, veh/h	6	303	7	21	364	3	21	1	43	6	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	2	2	2	0	0	0	0	0	0
Mvmt Flow	7	370	9	26	444	4	26	1	52	7	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	448	0	0	379	0	0	888	889	375	913	891	446
Stage 1	-	-	-	-	-	-	389	389	-	498	498	-
Stage 2	-	-	-	-	-	-	499	500	-	415	393	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1118	-	-	1179	-	-	267	285	676	256	284	617
Stage 1	-	-	-	-	-	-	639	612	-	558	548	-
Stage 2	-	-	-	-	-	-	557	546	-	619	609	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1118	-	-	1179	-	-	259	274	676	229	273	617
Mov Cap-2 Maneuver	-	-	-	-	-	-	259	274	-	229	273	-
Stage 1	-	-	-	-	-	-	634	607	-	554	532	-
Stage 2	-	-	-	-	-	-	540	530	-	565	604	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.4			15			21		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	438	1118	-	-	1179	-	-	234
HCM Lane V/C Ratio	0.181	0.007	-	-	0.022	-	-	0.036
HCM Control Delay (s)	15	8.2	0	-	8.1	0	-	21
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0.1

Lanes, Volumes, Timings
 2: 332nd Ave SE & SR 202

07/21/2022



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	395	32	9	444	41	19
Future Volume (vph)	395	32	9	444	41	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Link Speed (mph)	30			30	25	
Link Distance (ft)	405			362	520	
Travel Time (s)	9.2			8.2	14.2	
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Heavy Vehicles (%)	2%	2%	2%	2%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	395	32	9	444	41	19
Future Vol, veh/h	395	32	9	444	41	19
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	-3	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	0	0
Mvmt Flow	556	45	13	625	58	27

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	601	0	1230
Stage 1	-	-	-	-	579
Stage 2	-	-	-	-	651
Critical Hdwy	-	-	4.12	-	5.8
Critical Hdwy Stg 1	-	-	-	-	4.8
Critical Hdwy Stg 2	-	-	-	-	4.8
Follow-up Hdwy	-	-	2.218	-	3.5
Pot Cap-1 Maneuver	-	-	976	-	243
Stage 1	-	-	-	-	622
Stage 2	-	-	-	-	583
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	976	-	238
Mov Cap-2 Maneuver	-	-	-	-	238
Stage 1	-	-	-	-	622
Stage 2	-	-	-	-	571

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	22.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	290	-	-	976	-
HCM Lane V/C Ratio	0.291	-	-	0.013	-
HCM Control Delay (s)	22.4	-	-	8.7	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0	-

Lanes, Volumes, Timings
 1: 324th Ave SE/W River Rd & SR 202

07/21/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	472	42	30	251	6	23	4	24	11	2	3
Future Volume (vph)	9	472	42	30	251	6	23	4	24	11	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		45			45			25			25	
Link Distance (ft)		379			436			243			265	
Travel Time (s)		5.7			6.6			6.6			7.2	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
 1: 324th Ave SE/W River Rd & SR 202

07/21/2022

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	472	42	30	251	6	23	4	24	11	2	3
Future Vol, veh/h	9	472	42	30	251	6	23	4	24	11	2	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, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	1	1	1	0	0	0	0	0	0
Mvmt Flow	10	536	48	34	285	7	26	5	27	13	2	3

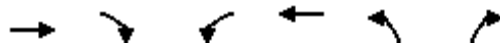
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	292	0	0	584	0	0	939	940	560	953	961	289
Stage 1	-	-	-	-	-	-	580	580	-	357	357	-
Stage 2	-	-	-	-	-	-	359	360	-	596	604	-
Critical Hdwy	4.1	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1281	-	-	996	-	-	246	266	532	241	258	755
Stage 1	-	-	-	-	-	-	504	503	-	665	632	-
Stage 2	-	-	-	-	-	-	663	630	-	494	491	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1281	-	-	996	-	-	233	252	532	216	244	755
Mov Cap-2 Maneuver	-	-	-	-	-	-	233	252	-	216	244	-
Stage 1	-	-	-	-	-	-	498	497	-	657	606	-
Stage 2	-	-	-	-	-	-	631	604	-	459	485	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.9			18.8			20.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	319	1281	-	-	996	-	-	254
HCM Lane V/C Ratio	0.182	0.008	-	-	0.034	-	-	0.072
HCM Control Delay (s)	18.8	7.8	0	-	8.7	0	-	20.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0.2

Lanes, Volumes, Timings
 2: 332nd Ave SE & SR 202

07/21/2022



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	487	48	19	340	23	24
Future Volume (vph)	487	48	19	340	23	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-3%	
Link Speed (mph)	30			30	25	
Link Distance (ft)	405			362	520	
Travel Time (s)	9.2			8.2	14.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	0%	2%	2%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	487	48	19	340	23	24
Future Vol, veh/h	487	48	19	340	23	24
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	-3	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	2	2	0	0
Mvmt Flow	624	62	24	436	29	31

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	686	0	1139 655
Stage 1	-	-	-	-	655 -
Stage 2	-	-	-	-	484 -
Critical Hdwy	-	-	4.12	-	5.8 5.9
Critical Hdwy Stg 1	-	-	-	-	4.8 -
Critical Hdwy Stg 2	-	-	-	-	4.8 -
Follow-up Hdwy	-	-	2.218	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	908	-	272 496
Stage 1	-	-	-	-	581 -
Stage 2	-	-	-	-	676 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	908	-	262 496
Mov Cap-2 Maneuver	-	-	-	-	262 -
Stage 1	-	-	-	-	581 -
Stage 2	-	-	-	-	652 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	17.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	345	-	-	908	-
HCM Lane V/C Ratio	0.175	-	-	0.027	-
HCM Control Delay (s)	17.6	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Appendix C

Trip Generation Calculations

**Fall City Residential Assemblage
Trip Generation Summary**

Land Use	Units ¹	ITE LUC ²	Directional Distribution ²		Trip Rate ²	Trips Generated		
			In	Out		In	Out	Total
Daily								
Proposed Use:								
Arrington Court (Single-Family Homes)	17 DU	210	50%	50%	$\ln(T) = 0.92\ln(X) + 2.68$	99	99	198
Mount Si (Single-Family Homes)	16 DU	210	50%	50%	$\ln(T) = 0.92\ln(X) + 2.68$	94	93	187
Cha Cha 15 (Single-Family Homes)	15 DU	210	50%	50%	$\ln(T) = 0.92\ln(X) + 2.68$	88	88	176
Cedar 23 (Single-Family Homes)	23 DU	210	50%	50%	$\ln(T) = 0.92\ln(X) + 2.68$	131	130	261
Stevens 21 (Single-Family Homes)	21 DU	210	50%	50%	$\ln(T) = 0.92\ln(X) + 2.68$	120	120	240
Fall City II/ Slalom 13 (Single-Family Homes)	13 DU	210	50%	50%	$\ln(T) = 0.92\ln(X) + 2.68$	77	77	154
Hazel 16 (Single-Family Homes)	16 DU	210	50%	50%	$\ln(T) = 0.92\ln(X) + 2.68$	93	94	187
New Daily Trips Generated =						702	701	1,403
AM Peak Hour								
Proposed Use:								
Arrington Court (Single-Family Homes)	17 DU	210	26%	74%	$\ln(T) = 0.91\ln(X) + 0.12$	4	11	15
Mount Si (Single-Family Homes)	16 DU	210	26%	74%	$\ln(T) = 0.91\ln(X) + 0.12$	4	10	14
Cha Cha 15 (Single-Family Homes)	15 DU	210	26%	74%	$\ln(T) = 0.91\ln(X) + 0.12$	3	10	13
Cedar 23 (Single-Family Homes)	23 DU	210	26%	74%	$\ln(T) = 0.91\ln(X) + 0.12$	5	15	20
Stevens 21 (Single-Family Homes)	21 DU	210	26%	74%	$\ln(T) = 0.91\ln(X) + 0.12$	5	13	18
Fall City II/ Slalom 13 (Single-Family Homes)	13 DU	210	26%	74%	$\ln(T) = 0.91\ln(X) + 0.12$	3	9	12
Hazel 16 (Single-Family Homes)	16 DU	210	26%	74%	$\ln(T) = 0.91\ln(X) + 0.12$	4	10	14
New AM Peak Hour Trips Generated =						28	78	106
PM Peak Hour								
Proposed Use:								
Arrington Court (Single-Family Homes)	17 DU	210	63%	37%	$\ln(T) = 0.94\ln(X) + 0.27$	12	7	19
Mount Si (Single-Family Homes)	16 DU	210	63%	37%	$\ln(T) = 0.94\ln(X) + 0.27$	11	7	18
Cha Cha 15 (Single-Family Homes)	15 DU	210	63%	37%	$\ln(T) = 0.94\ln(X) + 0.27$	11	6	17
Cedar 23 (Single-Family Homes)	23 DU	210	63%	37%	$\ln(T) = 0.94\ln(X) + 0.27$	16	9	25
Stevens 21 (Single-Family Homes)	21 DU	210	63%	37%	$\ln(T) = 0.94\ln(X) + 0.27$	15	8	23
Fall City II/ Slalom 13 (Single-Family Homes)	13 DU	210	63%	37%	$\ln(T) = 0.94\ln(X) + 0.27$	9	6	15
Hazel 16 (Single-Family Homes)	16 DU	210	63%	37%	$\ln(T) = 0.94\ln(X) + 0.27$	11	7	18
New PM Peak Hour Trips Generated =						85	50	135

Notes:

¹ DU = Dwelling Unit.

² Land Use Code, trip rate, and directional splits from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition, 2021.