BULL RUN TERRACE SUBDIVISION
TRAFFIC IMPACT STUDY
(SEPTEMBER 2022 UPDATE)

SANDY, OREGON

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

1. A property located on the south side of US Highway 26 opposite SE Vista Loop Drive in Sandy, Oregon is proposed for a subdivision which will support up to 192 apartment units and 8 duplex dwelling units, along with future commercial uses. The site will take access via an extension of Dubarko Road through the property, connecting the existing stub to Highway 26 opposite SE Vista Loop Drive.

2. Upon completion of residential development within the R-1, R-2, R-3 and C-3 zones, the subject property is projected to generate 94 new site trips during the morning peak hour, 115 trips during the evening peak hour, and 1,418 new daily site trips.

3. Based on the operational analysis, the study intersections currently operate acceptably and are projected to continue to operate acceptably under year 2024 background conditions without residential development of the subject property or connection of Dubarko Road to Highway 26.

4. All study intersections are projected to operate within capacity under year 2024 traffic conditions either with or without the addition of site trips from the proposed development. However, upon completion of the residential development within the proposed subdivision and the connection of Dubarko Road to Highway 26, it is projected that the intersection of Highway 26 at Dubarko Road will operate with very high delays for the northeast-bound Dubarko Road approach. Since vehicles exiting the site to the west can also travel west on Dubarko Road to Langensand Road prior to turning west on Highway 26, it is expected that some vehicles will divert and the actual delays will be lower than those reported.

5. Based on the crash data, the majority of the study intersections are currently operating acceptably with respect to safety. The intersection of Highway 211 at Dubarko Road has a high historical crash rate which recent ODOT safety improvements have not significantly reduced. It is recommended that the intersection be converted to all-way stop control. This improvement will also restore operation of the intersection to level of service D or better during the peak hours. No other safety improvements are recommended for the study area intersections at this time.

6. Based on the warrant analysis, a northwest-bound left-turn lane and a southeast-bound right-turn lane are projected to be warranted at the intersection of Highway 26 at Dubarko Road with completion of the Dubarko Road extension. No other turn lanes or traffic signals are recommended in conjunction with the proposed subdivision.

7. Intersection sight distance was evaluated for the new intersection of Highway 26 at Dubarko Road. The proposed intersection was found to have adequate sight distance in both directions.

8. Based on the transportation planning rule analysis for the proposed zone change, it is recommended that a trip cap of 340 PM net new peak hour trips be applied to the subject property as a condition of approval for the proposed zone change. No other mitigations are necessary or recommended in conjunction with the proposed zone change.

PROJECT DESCRIPTION & LOCATION

INTRODUCTION

A property located on the south side of US Highway 26 opposite SE Vista Loop Drive is proposed for development with up to 192 apartment units and 8 duplex dwelling units. The site will take access via an extension of Dubarko Road which will connect the existing stub (east of Meadow Avenue) to Highway 26 opposite SE Vista Loop Drive.

This report addresses the impacts of the proposed development on the surrounding street system. Based on discussions with the City of Sandy and ODOT staff, an operational and safety analysis was conducted for the proposed site access as well as the intersections of:

- Highway 26 at SE Ten Eyck Road;
- Highway 26 at SE Langensand Road;
- Highway 26 at SE Vista Loop Drive;
- Highway 211 at Dubarko Road; and
- Dubarko Road at SE Langensand Road.

The purpose of this analysis is to determine whether the surrounding transportation system is capable of safely and efficiently supporting the proposed use and to identify any necessary improvements and mitigations.

SITE LOCATION AND STUDY AREA DESCRIPTION

The project site has an area of approximately 16 acres, which is currently undeveloped. The property is surrounded by a mixture of residential development, agricultural uses and undeveloped forested land.

The proposed development will include an extension of Dubarko Road from its existing eastern terminus through the subject property to Highway 26 opposite SE Vista Loop Drive. The proposed development will take access via this newly extended segment of Dubarko Road.

US Highway 26 (Mt. Hood Highway) is classified by the Oregon Department of Transportation as a Statewide Highway and a Freight Route. It has two through lanes in each direction and added turn lanes at intersections. Between SE Langensand Road and SE Vista Loop Drive it has a center two-way left-turn lane. It has a posted speed limit of 25 mph at SE Ten Eyck Road, 40 mph at SE Langensand Road, and 55 mph at SE Vista Loop Drive. West of SE Ten Eyck Road the highway divides into a couplet, with westbound traffic traveling on Proctor Boulevard and eastbound traffic traveling on Pioneer Boulevard.

SE Ten Eyck Road has one through lane in each direction and is striped to prohibit passing in the site vicinity. It has a basic rule speed limit of 55 mph and is classified by the City of Sandy as a Minor Arterial.

SE Langensand Road is also classified by the City of Sandy as a Minor Arterial. It has a two-lane cross-section with one through lane in each direction and a posted speed limit of 25 mph. Partial sidewalks are in place on both sides of the roadway, and on-street parking is available where sufficient paved width is provided.

SE Vista Loop Drive is a narrow street without centerline striping and with a posted residential speed limit of 25 mph. It is classified by the City of Sandy as a collector roadway.

Oregon Highway 211 (Eagle Creek Sandy Highway) is classified by the Oregon Department of Transportation as a District Highway. It has a two-lane cross-section with one through lane in each direction and added turn lanes at major intersections. It has a posted speed limit of 45 mph in the vicinity of Dubarko Road.

Dubarko Road is classified by the City of Sandy as a Minor Arterial. It generally has a two-lane cross-section with some added turn lanes at major intersections and bike lanes on each side of the roadway. Partial sidewalks are in place on each side of the roadway adjacent to developed properties. It has a posted residential speed limit of 25 mph.

EXISTING CONDITIONS

The intersection of US Highway 26 at SE Ten Eyck Road/Wolf Drive is controlled by a traffic signal. The northbound and southbound approaches each have a single, shared lane for all turning movements. The westbound approach has a left-turn lane, two through lanes, and a short right-turn pocket. The eastbound approach has a left-turn lane, a dedicated through lane and a shared through/right lane. The northbound and southbound approaches operate with concurrent signal phasing. Protected phasing is provided for the eastbound and westbound left-turn movements. Bike lanes are provided along Highway 26 to the right of the through lanes.

The intersection of US Highway 26 at SE Langensand Road is a T- intersection controlled by a stop sign on the northbound Langensand Road approach. Through traffic traveling along Highway 26 does not stop. The northbound approach has a left-turn lane and a right-turn lane. The eastbound approach has two through lanes and a right-turn lane. The westbound approach has a left-turn lane and two through lanes. Bike lanes are provided along Highway 26 to the right of the through lanes.

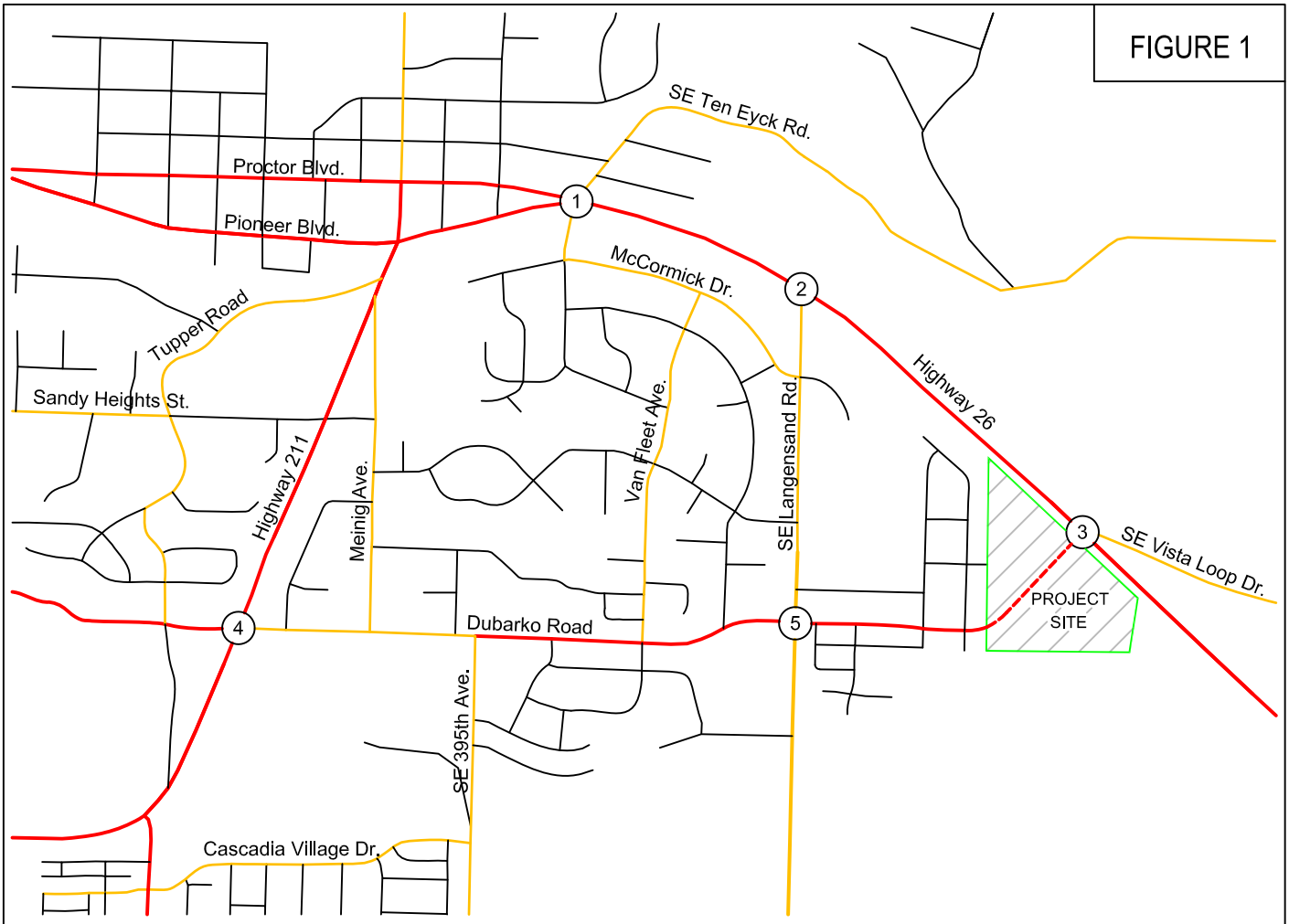
The intersection of US Highway 26 at SE Vista Loop Drive is currently a T- intersection controlled by a stop sign on the southwest-bound Vista Loop Drive approach. Through traffic traveling along Highway 26 does not stop. The southwest-bound approach has a single, shared lane for all turning movements. The southeast-bound approach has a left-turn lane and two through lanes. The northwest-bound approach has a dedicated through lane and a shared through/right lane. Bike lanes are provided along Highway 26 to the right of the through lanes.

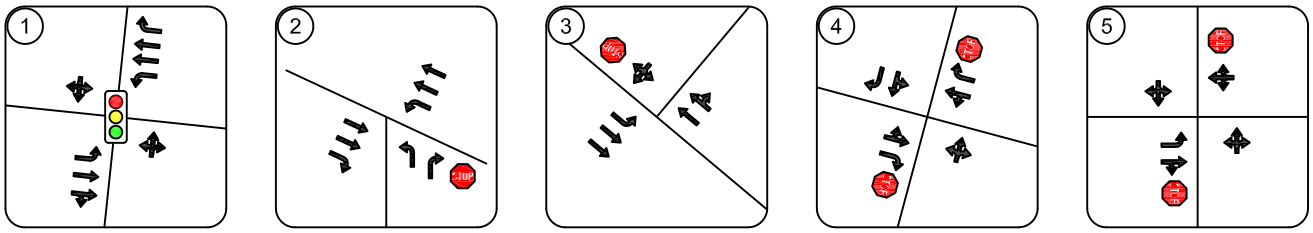
The intersection of Oregon Highway 211 at Dubarko Road is a four-way intersection controlled by stop signs on the eastbound and westbound Dubarko Road approaches. The southbound, eastbound and westbound approaches each have a shared through/left lane, a bike lane, and a dedicated right-turn lane. The northbound approach has a single, shared lane for all motorized turning movements and a bike lane.

The intersection of Dubarko Road at SE Langensand Road is a four-way intersection currently controlled by stop signs on the eastbound and westbound Dubarko Road approaches. Through traffic traveling along SE Langensand Road does not stop. The northbound and southbound approaches each have a single, shared lane for all turning movements. The westbound approach has a single, shared lane for all motor vehicle turning movements and a bike lane. The eastbound approach has a left-turn lane, a shared through/right lane and a bike lane.

A vicinity map displaying the project site, vicinity streets, and the study intersections including lane configurations is provided in Figure 1 on page 7.

FIGURE 1





LEGEND

- Study Intersection
- Traffic Signal
- Stop Sign

VICINITY MAP
Study Intersections
Lane Configurations and Traffic Control

TRAFFIC COUNT DATA

Traffic counts were conducted at the study intersections on Tuesday March 19th, 2019 from 4:00 to 6:00 PM and on Wednesday March 20th, 2019 from 7:00 to 9:00 AM. Data was used from the highest-volume hour during each analysis period.

Since the count data was collected during a non-peak period of the year, the observed traffic volumes were adjusted to account for seasonal traffic variations in order to represent the 30th-highest hour design volumes.

US Highway 26 serves local and commuter traffic as well as trips to and from Mt. Hood and beyond. These trip types would be expected to exhibit very different seasonal variations in travel demands over the course of the year, since local and commuter traffic volumes are relatively stable regardless of season, while travel volumes to and from Mt. Hood vary significantly based on the season.

In order to determine the portion of traffic attributable to each of the two primary travel types, data from ODOT's 2017 Highway Volume Tables was utilized. Specifically, the data used was collected at ODOT's Automatic Count Data station 03-006, located 0.30 miles east of Camp Creek Road in Rhododendron, Oregon. This site is located on Highway 26 approximately 21 miles east of SE Vista Loop Drive. Although the distance to the ATR station means the data cannot be used directly, the ATR data provides useful information regarding the variation in traffic volumes traveling to Mt. Hood and beyond during the time of the count data collection as well as during the peak season of the year. Accordingly, this data allows determination of the likely portion of highway traffic that falls into each of the two seasonal variation categories ("commuter" and "recreational summer/winter"), as well as providing information regarding the most appropriate seasonal adjustment factor for the recreational summer/winter traffic.

Based on the data, 6,763 vehicles per day (approximately 676 per hour during the peak hour) travel along Highway 26 to and from Mt. Hood at the Rhododendron permanent count station location during the month of March. This volume represents 45.3 percent of the through traffic volumes measured on Highway 26 east of SE Vista Loop Drive. Accordingly, it is expected that no more than 45.3 percent of the trips traveling along Highway 26 in the project vicinity are traveling to and from destinations beyond the Rhododendron count station. Since the remaining 54.7 percent of through traffic volumes on the Highway 26 at the study intersections never reach Mt. Hood, it was assumed that these traffic volumes represent more typical commuter and local trips.

The ODOT data also showed that 11,738 vehicles were measured per day (approximately 1174 per hour during the peak hour) during the peak-season month of August at the ATR station near Rhododendron. This indicates that the seasonal recreational traffic volumes along the Highway 26 corridor increased by no more than 4,975 vehicles per day (11,738 vehicles per day in August - 6,763 vehicles per day in March). This equates to roughly 498 additional vehicles per hour during the peak hour of the peak recreational season. It is expected that the increased recreational traffic flows will be somewhat directional, with approximately 55% traveling westbound during the evening peak hour.

In order to seasonally adjust the local and commuter traffic volumes, the through traffic volumes were reduced by the amount of the assumed seasonal traffic (676 vehicles per hour during the evening peak hour, and a seasonal adjustment of 1.08 was applied to the remaining local and commuter traffic

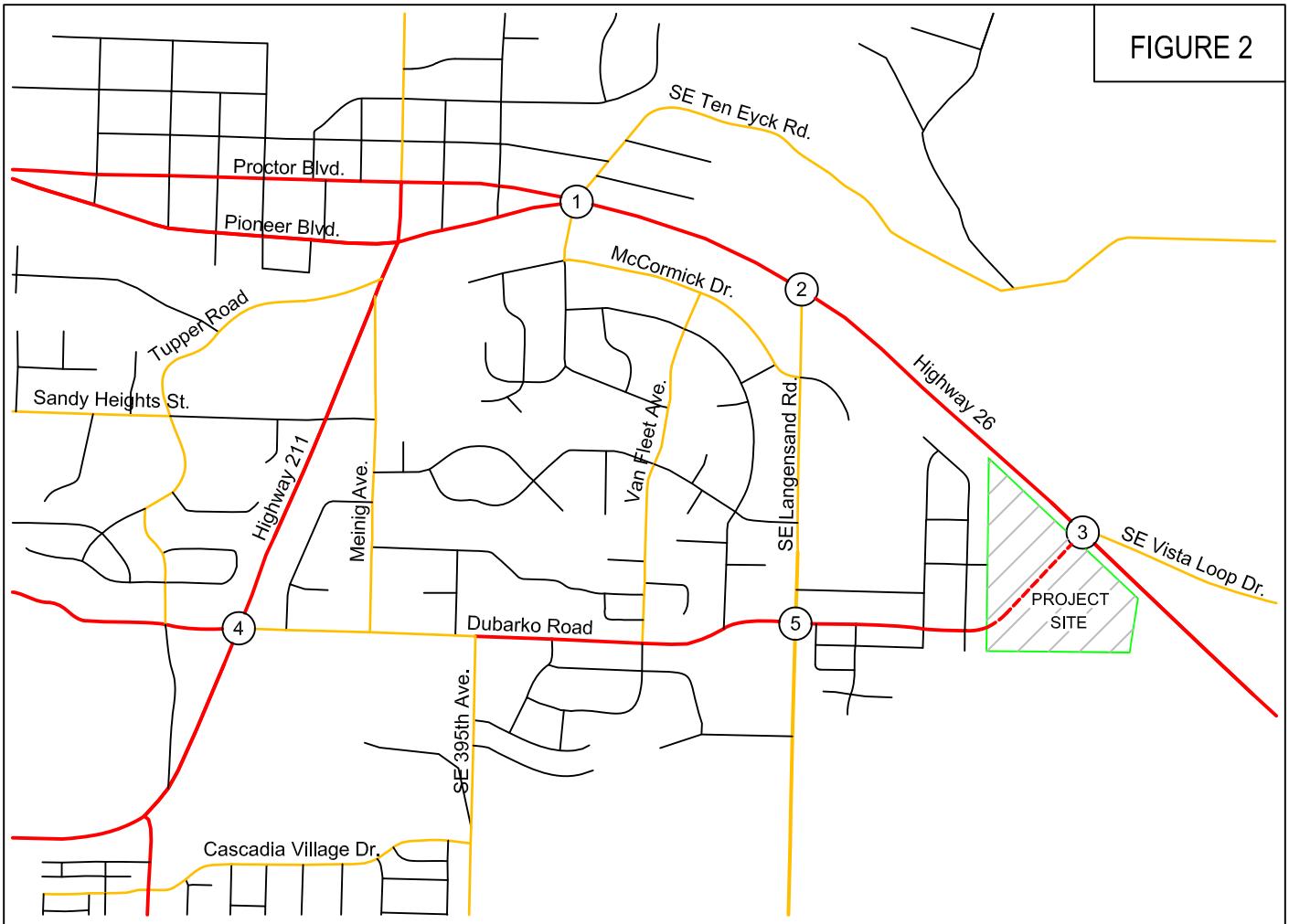
volumes. Following this adjustment, the 676 March recreational trips and the 498 peak-season through trips were added to determine the total peak-season traffic volumes. These calculated through traffic volumes represent the anticipated traffic levels for the intersections along Highway 26 during the 30th-highest hour in August. The morning peak hour traffic volumes along the highway were then increased by the same overall percentage as the evening peak hour volumes.

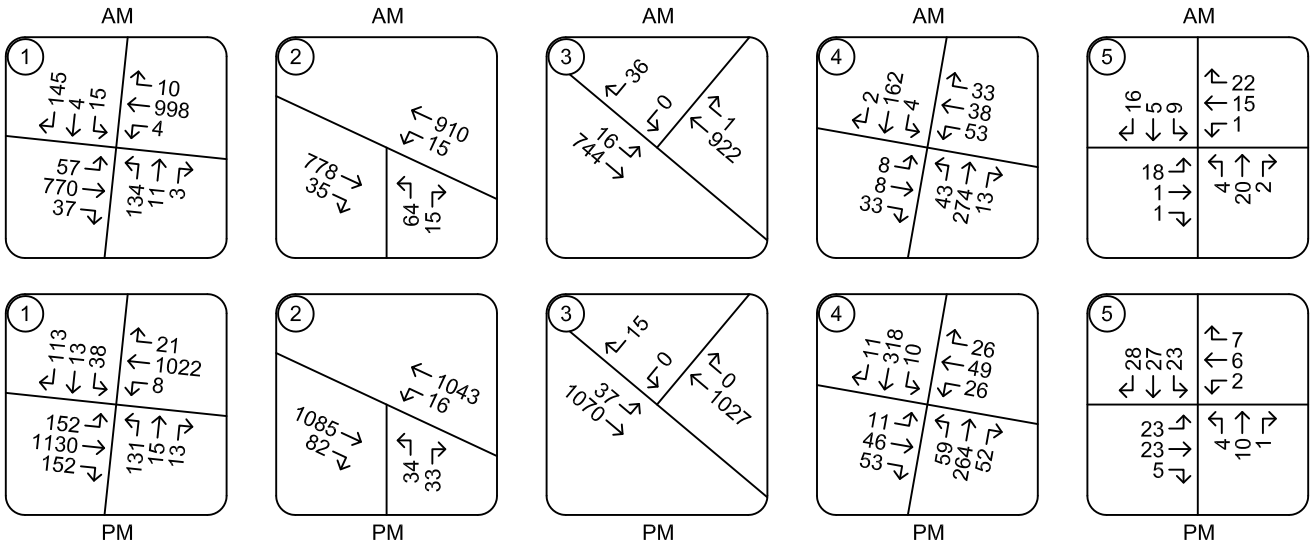
The observed traffic volumes along Highway 211 also had a seasonal adjustment of 1.08 applied to represent peak-season traffic volumes.

Following application of the seasonal adjustments, one year of growth was added to the year 2019 traffic count data in order to represent the expected year 2020 seasonal peak traffic conditions absent the impacts of the current COVID-19 pandemic. Based on data from ODOT's Future Volume Tables, the growth rate for traffic volumes on Highway 26 in the site vicinity was calculated to be 1.93 percent per year. The growth rate for traffic volumes on Highway 211 was calculated to be 3.16 percent per year. These growth rates were applied to the through traffic volumes on the highways. All other turning movements had a growth factor of 2 percent per year applied. The respective growth rates were applied over a period of one year to generate the year 2020 seasonal peak traffic volumes.

Figure 2 on page 10 shows the existing year 2020 30th-highest hour traffic volumes for the morning and evening peak hours at the study intersections.

FIGURE 2





TRAFFIC VOLUMES
2020 Existing 30th-Highest Hour (August) Conditions
Morning and Evening Peak Hours

OPERATIONAL ANALYSIS

An operational analysis was conducted for the study intersections using Synchro 10 software, with outputs calculated based on the *HIGHWAY CAPACITY MANUAL, 6th Edition.* The analysis was conducted for the weekday morning and evening peak hours.

The purpose of the existing conditions analysis is to establish how the study area intersections operate currently and allow for calibration of the operational analysis if required.

The results of the operational analysis are reported based on delay, Level of Service (LOS), and volume-to-capacity ratio (v/c). Delays are reported in seconds. Level of service is reported as a letter grade and can range from A to F, with level of service A representing nearly free-flow conditions and level of service F representing high delays and severe congestion. A report of level of service D generally indicates moderately high but tolerable delays, and typically occurs prior to reaching intersection capacity. For unsignalized intersections, the v/c represents the portion of the available intersection capacity that is being utilized on the worst intersection approach. For signalized intersections, it indicates the portion of the overall intersection's capacity that is being used. A v/c ratio of 1.0 would indicate that the intersection is operating at capacity.

The Oregon Department of Transportation requires that the signalized intersection of Highway 26 at SE Ten Eyck Road operate with a v/c ratio of 0.85 or less during the peak hours. The intersections of Highway 26 at SE Langensand Road and Highway 26 at SE Vista Loop Drive are required to operate with a v/c ratio of 0.80 or less on the major-street approaches and a v/c ratio of 0.90 or less on the minor-street approaches.

Intersections operating under the jurisdiction of the City of Sandy are required to operate at level of service D or better. This operational standard applies to the intersection of Dubarko Road at Langensand Road.

A summary of the existing conditions operational analysis is provided in Table 1 on the following page. For the unsignalized intersections the reported delays and levels-of-service represent the approach lane which experiences the highest delays. The reported v/c ratios represent the highest ratio for the major-street and minor-street movements. For the signalized intersection of Highway 26 at SE Ten Eyck Road, the reported delays, levels-of-service and v/c ratios represent the operation of the overall intersection.

Based on the analysis, the study intersections are currently operating acceptably per the respective ODOT and City of Sandy standards. Detailed capacity analysis worksheets are provided in the technical appendix.

Table 1 - Operational Analysis Summary: Year 2020 30th-Highest Hour Conditions

Intersection	AM Peak Hour			PM Peak Hour		
	Delay	LOS	v/c*	Delay	LOS	v/c*
Highway 26 at Ten Eyck Road	23.4	C	0.62	26.2	C	0.70
Highway 26 at Langensand Road	54.8	F	0.28 / 0.50	88.9	F	0.35 / 0.47
Highway 26 at Vista Loop Drive	12.7	B	0.28 / 0.08	13.0	B	0.32 / 0.06
Highway 211 at Dubarko Road	18.3	C	0.22 / 0.27	25.7	D	0.24 / 0.32
Dubarko Road at Langensand Road	9.3	A	0.05	9.8	A	0.04

*(major street v/c) / (minor-street v/c) is shown for unsignalized ODOT intersections.

SITE TRIPS

Proposed Development

The proposed subdivision will support development of up to 200 dwelling units, including 8 duplex units and 192 multi-family dwellings. Some commercial development is also expected to occur within the C-3 zoned portion of the property prior to completion of development within the subject area. The exact nature of any future commercial use is unknown, but to assess potential impacts associated with some level of commercial activity and ensure that the analysis contains a realistic development scenario, a 5,000 square foot general office building was assumed to be included within the C-3 zone. To estimate the number of trips that will be generated by residential development within the proposed subdivision, trip rates from the *TRIP GENERATION MANUAL, 11th EDITION* were used. Data from land-use code 215, *Single-Family Attached Housing*, 220, *Multi-Family Housing*, and *565, Day Care Center* were used. The trip estimates are based on the number of dwelling units.

A summary of the trip generation calculations is provided in Table 2 below. Detailed trip generation worksheets are also included in the technical appendix.

Table 2 - Proposed Development Trip Generation Summary

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	Total
192 Apartment Units	20	62	82	65	38	103	1306
8 Duplex Units	1	3	4	3	2	5	58
5,000 sf General Office Building	7	1	8	1	6	7	54
Total Site Trips	28	66	94	69	46	115	1,418

Zone Change

In addition to evaluation of the increase in site trips expected upon completion of anticipated development within the proposed subdivision, trip generation calculations were prepared to examine the potential change in site trips based on the "reasonable worst-case development scenario" for the existing and proposed zoning. This second analysis was conducted to determine whether the proposed zone change would significantly affect any transportation facilities as defined by Oregon's Transportation Planning Rule.

After accounting for anticipated dedication of 2.232 acres of public right-of-way, the subject property is currently zoned with a mix of 6.628 acres of R-1, 4.439 acres of R-2 and 2.611 acres of C-3 zoning. Under the proposed subdivision plan, again 2.232 acres will be dedicated as public right-of-way, 0.906 acres will be zoned R-1, 1.233 acres will be zoned R-2, 6.504 acres will be zoned R-3, 3.280 acres will be zoned C-3, and 1.755 acres will be zoned POS (Parks & Open Space).

Trip generation for the R-1 zone was calculated assuming duplex residential development with 80 percent lot coverage and a minimum lot size of 5,000 square feet. For the R-2 zoning, trip generation was calculated assuming single-family residential development with 14 dwelling units per acre and 80

percent lot coverage. For the R-3 zoning, trip generation was calculated based on low-rise multi-family residential development with 20 dwelling units per acre and 100 percent lot coverage.

Under the C-3 (Village Commercial) zoning, the Sandy development code allows development with auto sales and repair facilities, convenience stores, restaurants (excluding drive-through facilities), grocery stores, athletic clubs, day care facilities, schools, banks (excluding drive-through facilities), medical clinics, offices, hotels, residential facilities, and manufacturing facilities that do not produce significant levels of noise or odor beyond the boundaries of the site. Since the highest trip generators have limited floor areas, and no more than one convenience store, one day care center and two fast food restaurants can reasonably be expected within a commercial site with a gross land area of less than five acres, the "reasonable worst case" development scenario includes a mix of these uses with the remainder of the site consisting of general retail uses (evaluated as a shopping center).

A summary of the trip generation calculations for the reasonable worst-case development scenarios based on allowable development levels under the existing and proposed City of Sandy zoning is provided in Table 3 below. Detailed trip generation calculations are also included in the technical appendix.

Table 3 - Zone Change Trip Generation Summary

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	Total
Existing R1, R2 and C3 Zoning							
6.628 Acres R-1 (92 Duplex Units)	13	29	42	29	22	51	650
4.439 Acres R-2 (50 Homes)	9	28	37	32	18	50	472
2.611 Acres C-3 (28,433 sf)							
Fast Food w/o Drive Thru (5,000 sf)	64	62	126	74	68	142	1732
-Pass-by Trips (43%)	-27	-27	-54	-31	-31	-62	-744
Day Care Center (5,000 sf)	30	25	55	27	29	56	238
Supermarket (18,433 sf)	41	29	70	85	85	170	1968
-Pass-by Trips (36%)	-13	-13	-26	-31	-31	-62	-708
Net Trips (Existing Zoning)	**117**	**133**	**250**	**185**	**160**	**345**	**3608**
Proposed Zoning							
0.906 Acres R-1 (12 Duplex Units)	2	4	6	4	3	7	86
1.233 Acres R-2 (14 Homes)	3	7	10	9	5	14	132
6.504 Acres R-3 (130 Apartments)	14	46	60	46	27	73	952
3.609 Acres C-3 (35,720 sf Retail)							
Fast Food w/o Drive Thru (5,000 sf)	64	62	126	74	68	142	1732
-Pass-by Trips (43%)	-27	-27	-54	-31	-31	-62	-744
Day Care Center (5,000 sf)	30	25	55	27	29	56	238
Supermarket (25,720 sf)	44	30	74	129	128	257	2838
-Pass-by Trips (36%)	-13	-13	-26	-46	-46	-92	-1022
1.755 Acres POS (Public Park)	0	0	0	0	0	0	2
Net Trips (Proposed Zoning)	**117**	**134**	**251**	**212**	**183**	**395**	**4214**
Net Change In Site Trips	**0**	**1**	**1**	**27**	**23**	**50**	**606**

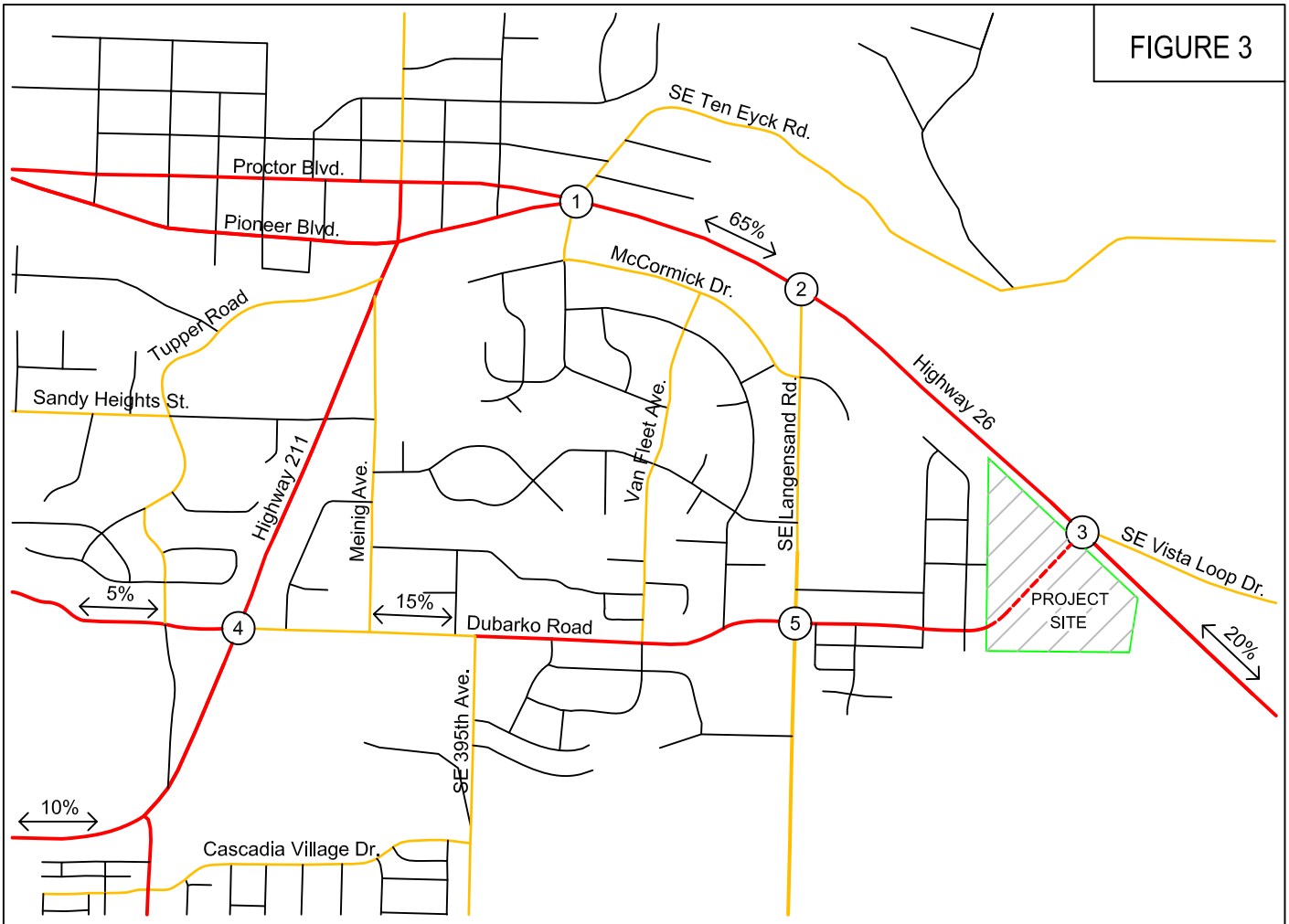
Based on the zone change analysis, the proposed zone change could result in a net increase of 1 site trip during the morning peak hour, a net increase of 50 trips during the evening peak hour, and a net increase of 606 daily trips. The zone change may therefore result in a significant increase in site traffic as measured at the planning horizon under the "reasonable worst case" development scenario. Accordingly, some form of mitigation is necessary to meet the requirements of Oregon's Transportation Planning Rule. A detailed analysis based on the requirements of Oregon's Transportation Planning Rule including a recommended condition of approval which is be sufficient to ensure that the zone change does not result in a significant effect is provided in the "Transportation Planning Rule Analysis" section found on page 26 of this report.

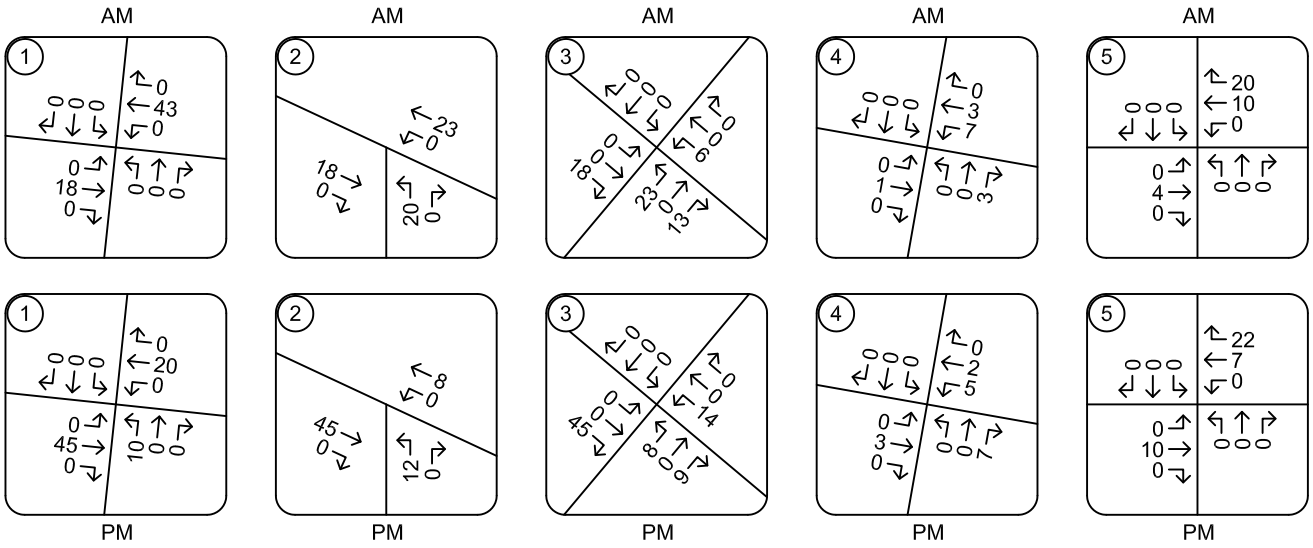
TRIP DISTRIBUTION

The directional distribution of site trips to and from the project site was estimated based the existing travel patterns in the site vicinity, as well as the locations of likely trip destinations and major transportation routes. Overall, 65 percent of the anticipated site trips are projected to travel to and from the northwest on Highway 26, 20 percent are projected to travel to and from the southeast on Highway 26, and the remaining 15 percent of site trips are projected to travel to and from the west on Dubarko Road.

The trip distribution percentages and trip assignment for residential development within the proposed subdivision are shown in Figure 3 on page 16.

FIGURE 3





TRAFFIC VOLUMES
Proposed Development - Primary Site Trips
Morning and Evening Peak Hours

FUTURE CONDITIONS ANALYSIS

BACKGROUND VOLUMES

In order to determine the expected impact of site trips on the study area intersections, it is necessary to compare traffic conditions both with and without the addition of the projected traffic from the proposed development. This comparison is made for future traffic conditions at the time of project completion. It is anticipated that the proposed use will be completed and occupied within four years. Accordingly, the analysis was conducted for year 2024 traffic conditions.

Prior to adding the projected site trips to the study intersections, the existing traffic volumes were adjusted to account for background traffic growth over time. Based on data from ODOT's Future Volume Tables, the growth rate for traffic volumes on Highway 26 in the site vicinity was calculated to be 1.93 percent per year (linear). The growth rate for traffic volumes on Highway 211 was calculated to be 3.16 percent per year (linear). These growth rates were applied to the through traffic volumes on the highways. All other turning movements had a growth factor of 2 percent per year (exponential) applied.

In addition to the background growth, anticipated site trips from the "The Views" residential development were added to the background traffic volumes. The projected site trips for this residential development are shown in Figure 8 in the attached technical appendix.

Figure 4 on page 18 shows the projected year 2024 background traffic volumes at the study intersections during the morning and evening peak hours.

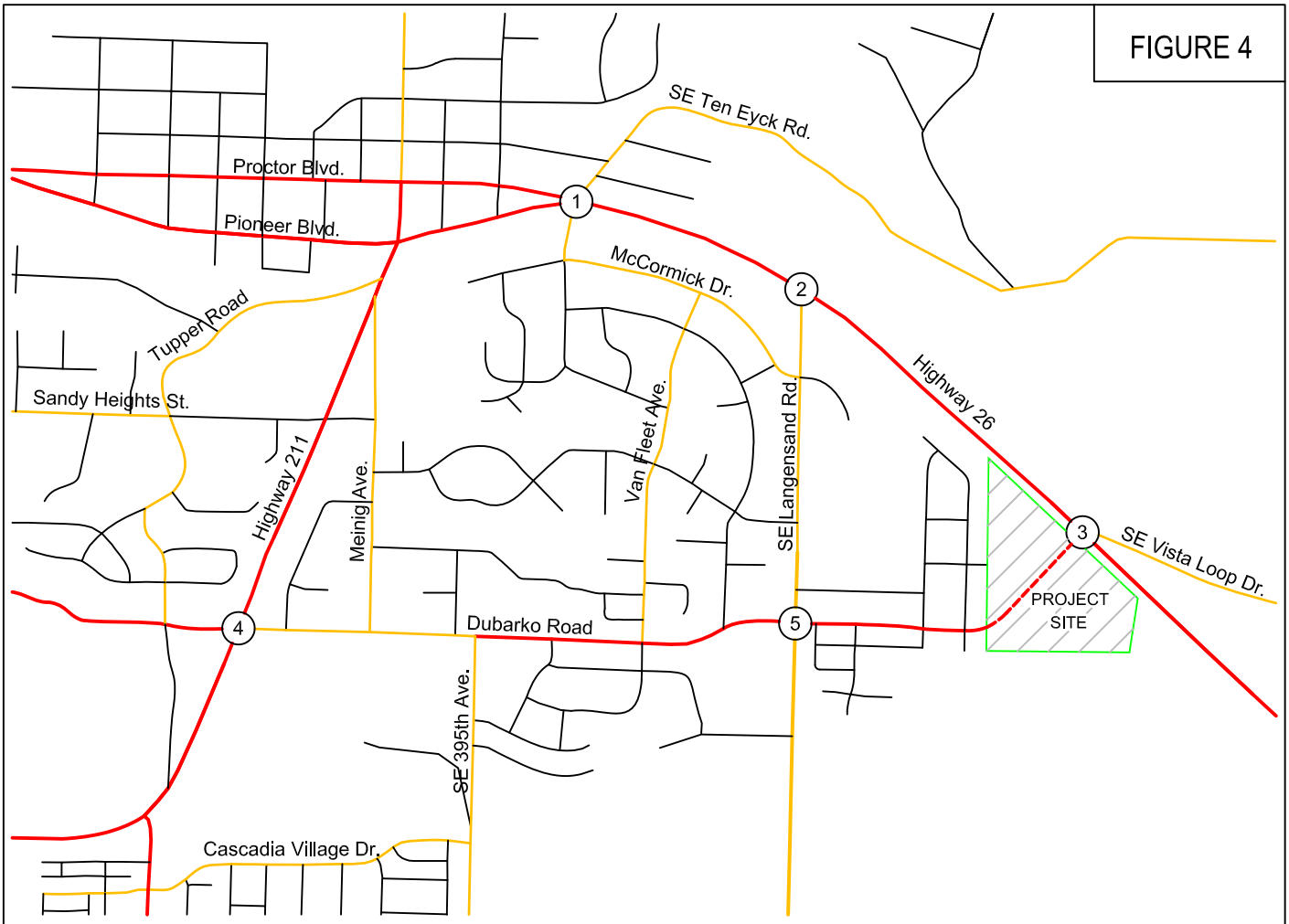
BACKGROUND VOLUMES PLUS SITE TRIPS

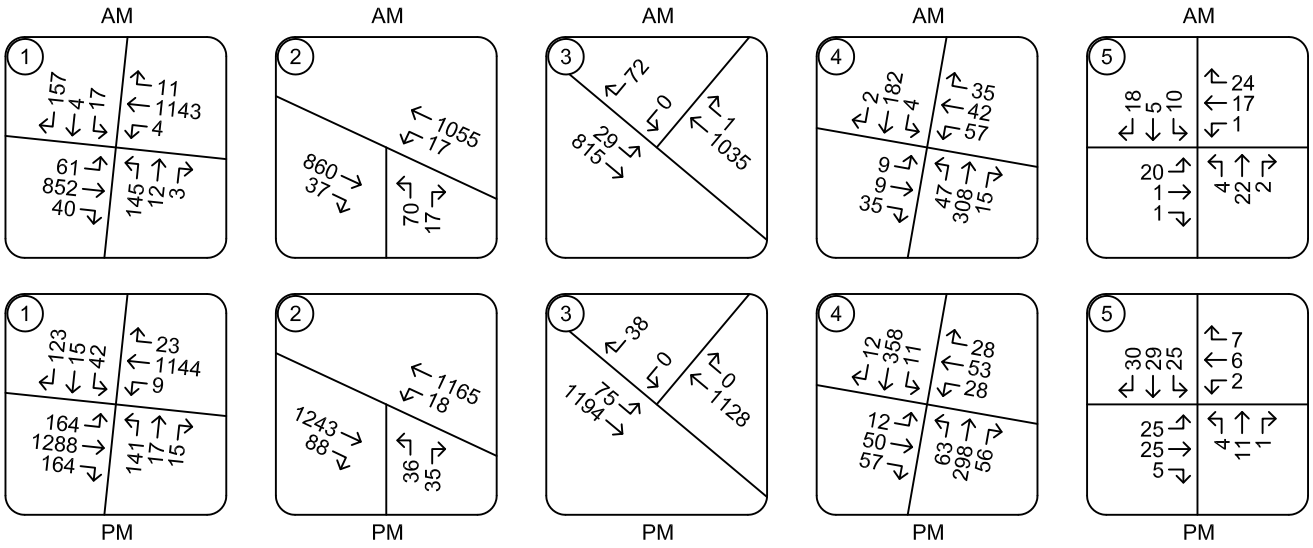
Peak hour trips calculated to be generated by the proposed development were added to the projected year 2024 background traffic volumes to obtain the year 2024 total traffic volumes following completion of the proposed residential development.

In addition to the addition of anticipated site trips, some existing traffic is expected to divert upon completion of the Dubarko Road connection to Highway 26. Drivers traveling between locations east of the city on Highway 26 and locations south of the city on Highway 211 will have an alternative travel route available that will serve as a shorter travel route and bypass some congestion within the City of Sandy. The new road connection will also serve as an alternative travel route for residents living in areas to the west of the subject property traveling to and from destinations to the east on Highway 26. A diagram showing the projected trip diversions associated with completion of the Dubarko Road connection to Highway 26 is provided as Figure 7 in the attached technical appendix.

Figure 5 on page 19 shows the projected year 2024 peak hour volumes including background growth, site trips from the proposed development, and diverted trips associated with the proposed connection of Dubarko Road to Highway 26 for the morning and evening peak hours.

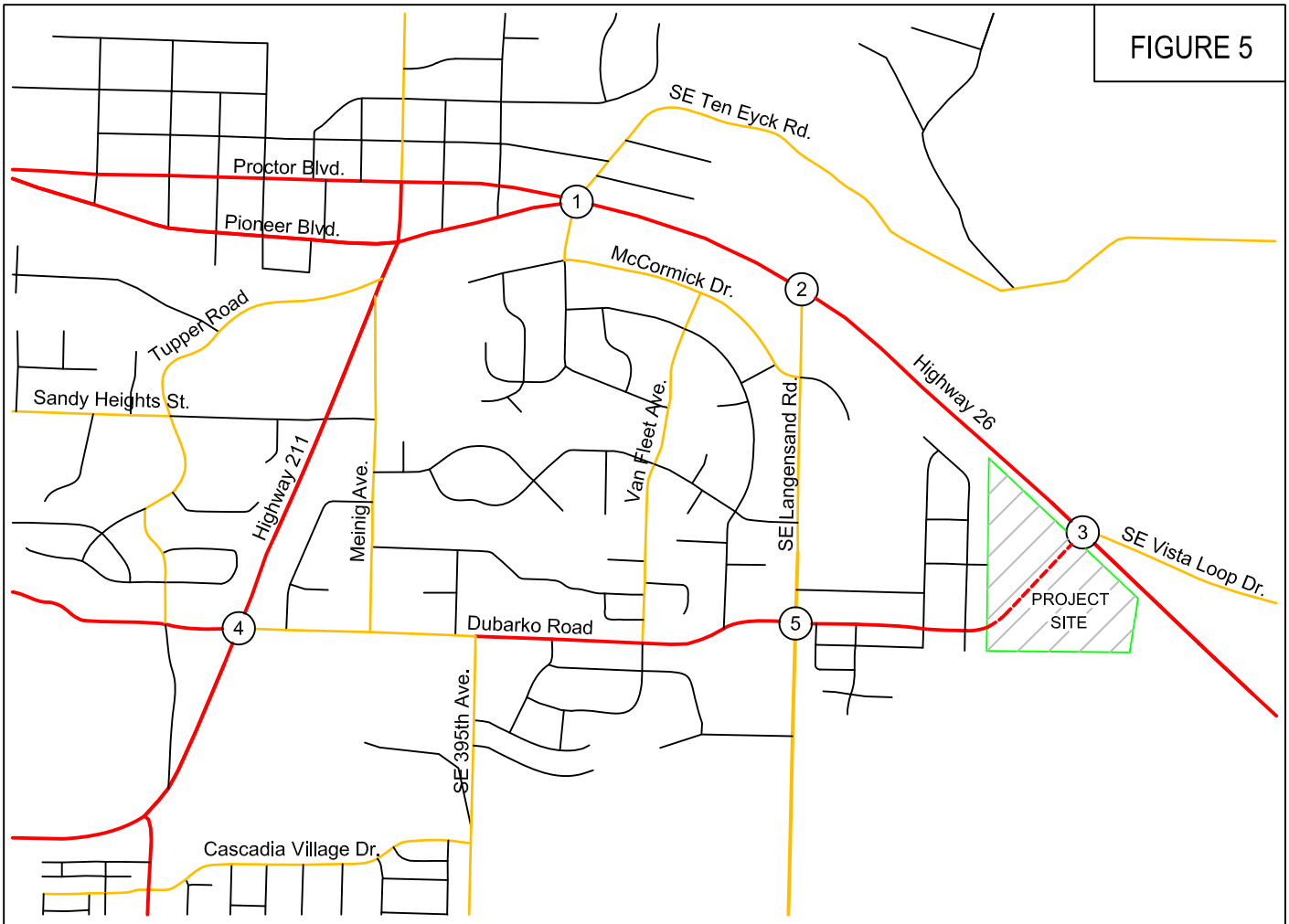
FIGURE 4

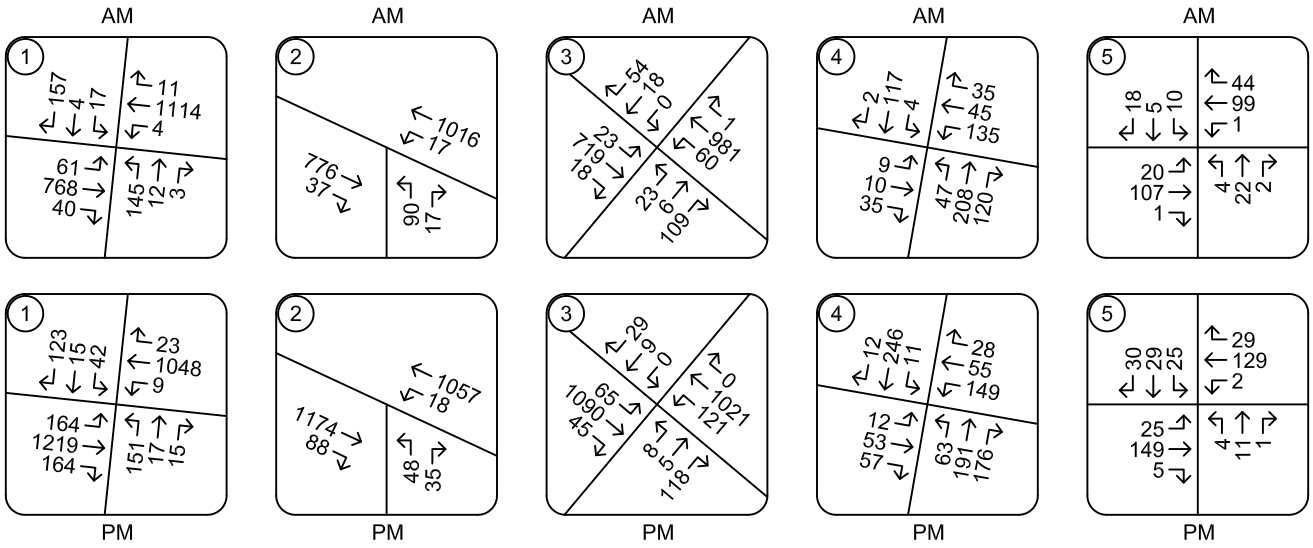




TRAFFIC VOLUMES
2024 Background Conditions
Morning and Evening Peak Hours

FIGURE 5





TRAFFIC VOLUMES
2024 Background Plus Site Trips
Morning and Evening Peak Hours

OPERATIONAL ANALYSIS

The operational analysis for future traffic conditions was again conducted using Synchro analysis software, with outputs based on the analysis methodologies contained in the *HIGHWAY CAPACITY MANUAL*. The analysis was prepared for the intersections' morning and evening peak hours.

The results of the operational analysis are summarized in Table 4 below. Detailed analysis worksheets are also included in the technical appendix.

Table 4 - Operational Analysis Summary: Year 2024 Future Conditions

Intersection	AM Peak Hour			PM Peak Hour		
	Delay	LOS	v/c*	Delay	LOS	v/c*
Highway 26 at Ten Eyck Road						
2024 Background Conditions	25.1	C	0.70	29.4	C	0.78
2024 Background plus Site	24.7	C	0.69	29.5	C	0.76
Highway 26 at Langensand Road						
2024 Background Conditions	95.4	F	0.33 / 0.70	169.9	F	0.41 / 0.72
2024 Background plus Site	93.8	F	0.32 / 0.77	168.0	F	0.39 / 0.80
Highway 26 at Vista Loop Drive						
2024 Background Conditions	14.4	B	0.33 / 0.17	14.3	B	0.38 / 0.09
2024 Background plus Site	140.9	F	0.31 / 0.58	533.0	F	0.34 / 0.89
Highway 211 at Dubarko Road						
2024 Background Conditions	21.2	C	0.33	32.9	D	0.41
2024 Background plus Site	23.3	C	0.51	74.7	F	0.89
2024 Background plus Site (AWSC)	18.0	C	0.64	29.9	D	0.79
Dubarko Road at Langensand Road						
2024 Background Conditions	9.4	A	0.05	9.9	A	0.04
2024 Background plus Site	10.5	B	0.20	11.3	B	0.23

*(major street v/c) / (minor-street v/c) is shown for unsignalized ODOT intersections.

Based on the results of the operational analysis, most study intersections are projected to operate acceptably through year 2024 either with or without the addition of site trips from the proposed development and the diversion of through trips between Highway 26 and Highway 211 onto Dubarko Road. The intersection of Highway 211 at Dubarko Road is projected to operate at level of service F during the evening peak hour; however, with conversion to all-way stop control the intersection is projected to operate at level of service D (meeting the city standard). Warrants for this treatment are discussed in more detail in the Safety analysis section of this report.

It should be noted that the intersections of Highway 26 at Ten Eyck Road and Highway 26 at Langensand Road operate slightly better with project completion than under background conditions. This is an expected result of the diversion of traffic onto Dubarko Road, which results in decreased through traffic volumes along Highway 26.

Although the intersection of Highway 26 at SE Vista Loop Drive is shown to operate acceptably during the morning and evening peak hours, the average delays for the northeast-bound left/through lane are projected to be 182 seconds during the morning peak hour and 533 seconds during the evening peak hour. These long delays indicate that the northeast-bound left/through lane is unlikely to accommodate any meaningful traffic volumes as vehicles are likely to divert to alternative (lower-delay) travel routes.

QUEUING ANALYSIS

In addition to the operational analysis, a queuing analysis was conducted to determine an appropriate storage length for a northwest-bound left-turn lane on Highway 26 at Dubarko Road.

The storage length provided for the northwest-bound left-turn lane on Highway 26 should be sufficient to accommodate the 95th percentile queue length for this movement. The 95th percentile queue is the length which is exceeded during five percent or less of the peak hour. Queue lengths in excess of the 95th percentile occur do not occur with sufficient frequency to allow for cost-effective design.

The queuing analysis was conducted for year 2024 background plus site trips conditions during the morning and evening peak hours. Based on the analysis, the projected 95th percentile queue lengths were 45 feet during the morning peak hour and 127 feet during the evening peak hour. Accordingly, it is recommended that if a new northwest-bound left turn lane is provided it should have a storage length of at least 130 feet.

SITE CIRCULATION CONSIDERATIONS

The proposed subdivision includes a new four-leg intersection on Dubarko Road. “Street A” will connect to Fawn Street to the north, providing for local-street connectivity within the development and extending connectivity for the existing residential homes west of the site. “Street B” will extend south from Dubarko Road stubbing at the property line to provide future connectivity to the south in conformance with the city’s Transportation System Plan.

It is anticipated that there may also be private access driveways on Dubarko Road within the subject property. Future access driveways should be located outside the standing queue for the intersection of Highway 26 at Dubarko Road or be restricted to right-in, right-out access only in order to ensure that they can operate safely and efficiently.

SAFETY ANALYSIS

CRASH DATA ANALYSIS

Using data obtained from the Oregon Department of Transportation, a review of the five most recent years of available crash history (from January 2016 through December 2020) was performed for the study intersections. The crash data was evaluated based on the number, type, and severity of collisions, as well as the intersection crash rate. Crash rates allow comparison of relative safety risks at intersections with different lane configurations, volumes, and traffic control devices by accounting for both the number of crashes that occur during the study period and the number of vehicles that traveled through the intersection during that period. Crash rates are calculated using the standard assumption that evening peak hour volumes are approximately 10 percent of the average daily traffic volume at an intersection. The crash rates were compared to statewide crash rates for similar intersection types in order to identify any locations with crash rates in excess of the 90th percentile.

The intersection of Highway 26 at SE Ten Eyck Road had nine reported collisions during the five-year analysis period. These included five rear-end collisions, three turning-movement collisions, and one angle collision. The crashes resulted in no serious injuries or fatalities and six reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.18 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.86 crashes per million entering vehicles for signalized, four-way urban intersections in Oregon.

The intersection of Highway 26 at SE Langensand Road had six reported collisions during the five-year analysis period. These included four turning-movement collisions, one backing collision and one pedestrian collision. The pedestrian collision occurred when a pedestrian walking along the south side of Highway 26 crossing Langensand Road was struck by a driver making an eastbound right turn from the highway onto Langensand Road. The collision resulted in a report of a "possible injury/complaint of pain" by the pedestrian. Overall, the crashes resulted in one non-incapacitating injury and four reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.20 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.29 crashes per million entering vehicles for stop-controlled, three-way urban intersections in Oregon.

The intersection of Highway 26 at SE Vista Loop Drive had two reported crashes during the five-year analysis period. Both were turning movement collisions that resulted in property damage only. The crash rate for the intersection was calculated to be 0.051 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.475 crashes per million entering vehicles for stop-controlled, three-way rural intersections in Oregon.

The intersection of Highway 211 at Dubarko Road had 27 reported crashes during the five-year analysis period. These included 17 angle collisions, 3 turning-movement collisions, 3 rear-end collisions, 1 backing collision, 1 sideswipe-overtaking collision, 1 fixed-object collision, and 1 pedestrian collision. The crashes resulted in one incapacitating injury. There were 11 "non-incapacitating" injuries reported and 18 reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 1.72 crashes per million entering vehicles. This is above the 90th percentile crash rate of 1.08 crashes per million entering vehicles for rural unsignalized four-way intersections in the state of Oregon. The Oregon Department of Transportation undertook safety improvements at this intersection, including re-alignment of the minor-street approaches to intersect

at a 90-degree angle and the addition of some striping along the major-street to increase driver awareness of speed. However, the crash data for subsequent years showed no significant improvement in the crash frequency at this intersection. An examination of the current intersection configuration revealed no significant apparent hazards and adequate sight distance from the minor-street approaches, allowing drivers approaching the highway to select safe gaps when turning onto or crossing the highway. As described in the Warrant Analysis section of this report below, the intersection currently meets all-way stop control warrants based on crash history and is projected to meet all-way stop control warrants based on vehicular volume under year 2024 conditions with completion of the Dubarko Road connection to Highway 26. Accordingly, it is recommended that the intersection be converted to all-way stop control. No other safety mitigations are recommended at this time.

The intersection of Dubarko Road at SE Langensand Road had one reported collision during the five-year analysis period. It was an angle collision that resulted in property damage only. The crash rate for the intersection was calculated to be 0.35 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.408 crashes per million entering vehicles for stop-controlled, four-way urban intersections in Oregon.

Based on the crash data, the majority of the study intersections are currently operating acceptably with respect to safety. The intersection of Highway 211 at Dubarko Road has a high historical crash rate which recent safety improvements have not significantly improved. It is recommended that all-way stop control be considered for installation at this intersection. No other safety improvements are recommended for the study area intersections at this time.

TRAFFIC SIGNAL WARRANT ANALYSIS

Traffic signal warrants were examined for the unsignalized study intersections.

Based on the projected traffic volumes, traffic signal warrants are projected to be marginally met at for the intersection of Highway 211 at Dubarko Road under year 2024 30th-highest hour conditions with completion of the proposed development, the nearby "The Views" development, and completion of a full-movement connection between Highway 26 and Dubarko Road. Traffic signal warrants are not projected to be met for any of the other unsignalized study intersections for any of the analysis scenarios, and are not likely to be met under average traffic conditions.

An examination of the future turning movement volumes at the intersection of Highway 211 and Dubarko Road reveals that the proposed development will add 10 PM peak hour trips to the westbound side-street approach. This represents 5 percent of the future westbound traffic volume on Dubarko Road. In contrast, the connection of Dubarko Road as contemplated in the city's Transportation System Plan adds 116 PM peak hour trips to the westbound approach. This comparison demonstrates that the triggering event that causes signal warrants to be met under 30th-highest-hour conditions at this intersection upon project completion is not the Bull Run Terrace Development. Rather, it is the completion of the city's planned connection of Dubarko Road to Highway 26. Accordingly, a request to construct a traffic signal at this intersection would be disproportionate to the actual impacts of the proposed development. Since an alternative treatment is available which would not be disproportionate to the impact of the proposed development, installation of a traffic signal is not recommended at this time.

Since traffic volumes for Highway 211 at Dubarko Road are only projected to marginally meet signal warrants for 30th-highest hour conditions, all-way stop-control warrants were also examined for the intersection. Based on the analysis, all-way stop control warrants are currently met for Criterion B (crash history) and are projected to be met upon completion of the proposed development for Criterion C (minimum volumes). Accordingly, all-way stop control can be installed at this intersection. Upon installation of all-way stop control, the intersection would be projected to operate at level of service C during the morning peak hour, and level of service D during the evening peak hour. The maximum projected v/c ratio was determined to be 0.79 with implementation of all-way stop control.

Alternatively, consideration was given to installing a roundabout at the intersection of Highway 211 and Dubarko Road. Based on the operational analysis, installation of a roundabout would result in operation well within capacity and at level of service A. However, according to *Roundabouts: An Informational Guide*, published by the Federal Highway Administration, "It is generally not desirable to locate roundabouts in locations where grades through the intersection are greater than four percent. The installation of roundabouts on roadways with grades lower than three percent is generally not problematic." In this instance, Highway 211 has a constant grade of approximately 6 percent through its intersection with Dubarko Road. Accordingly, installation of a roundabout would not be recommended absent significant re-grading of the approach roadways. The potential for snow and ice at the intersection compound this concern.

TURN LANE WARRANT ANALYSIS

Turn lane warrants were also examined for the major-street approaches to the unsignalized study intersections. Left-turn lane warrants are intended to evaluate whether a meaningful safety benefit may be expected if the turning vehicles are provided with turn lane within the street, allowing left-turning drivers to move out of the through travel lane so that following vehicles may pass without conflicts.

The intersection of Highway 26 at Langensand Road already has left and right turn lanes in place.

The intersection of Highway 26 at Dubarko Road is projected to meet warrants for a northwest-bound left-turn lane and a southeast-bound right turn lane upon completion of the proposed development.

The intersection of Highway 211 at Dubarko Road currently meets warrants for a northbound left-turn lane and a northbound right-turn lane. However, the need for these turn lanes is not related to the proposed development. Further, the turn lane warrants would not be applicable and added lanes would not be needed if all-way stop control is installed at the intersection as recommended based on the safety analysis. Accordingly, no new turn lanes are recommended in conjunction with the proposed development.

The intersection of Dubarko Road at Langensand Road is not projected to meet turn lane warrants under any analysis scenarios. However, it was noted that the existing two-way stop control is currently oriented in a way that favors through traffic on Langensand Road. Upon completion of the Dubarko Road connection to Highway 26 the major street is projected to be Dubarko Road. Accordingly, consideration should be given to revising the traffic control at this intersection to remove the stop signs on the eastbound and westbound Dubarko Road approaches and install stop signs on the northbound and southbound Langensand Road approaches.

INTERSECTION SIGHT DISTANCE ANALYSIS

Intersection sight distance was evaluated for the proposed new Dubarko Road approach to Highway 26. The posted speed limit along Highway 26 is 55 mph. Using a design speed of 65 mph and designing for combination trucks, the minimum required intersection sight distance was calculated to be 1,195 feet in each direction.

The available intersection sight distances were measured from a position 14.5 feet behind the edge of the traveled way with a driver's eye height 3.5 feet above the driveway surface to an oncoming driver's eye height of 3.5 feet above the surface of the oncoming travel lane.

From the location of the proposed Dubarko Road approach to Highway 26, the available intersection sight distance was measured to be in excess of 1,200 feet in each direction. Since the available intersection sight distance is in excess of the minimum required, intersection sight distance was determined to be acceptable at this intersection. No sight distance mitigations are necessary or recommended.

TRANSPORTATION PLANNING RULE ANALYSIS

In order to allow the proposed zone change on the subject property, the City of Sandy must find that the requirements of Oregon's Transportation Planning Rule (OAR 660-012-0060) are met. This rule provides guidance regarding whether and how the potential transportation impacts of a plan amendment must be mitigated. The relevant portions of the Transportation Planning Rule are quoted below, along with responses specific to the proposed comprehensive plan amendment and zone change.

> **660-012-0060**
> **Plan and Land Use Regulation Amendments**
>
> *(1) If an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation (including a zoning map) would significantly affect an existing or planned transportation facility, then the local government must put in place measures as provided in section (2) of this rule, unless the amendment is allowed under section (3), (9) or (10) of this rule. A plan or land use regulation amendment significantly affects a transportation facility if it would:*
>
> *(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*

No changes are proposed to the functional classification of existing or planned transportation facilities.

> *(b) Change standards implementing a functional classification system; or*

No changes are proposed to the standards implementing the functional classification system.

> *(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.*
>
> *(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*
>
> *(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or*

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

Under the reasonable worst case development scenario, the proposed zone change would result in no significant change in trips during the morning peak hour, a net increase of 50 trips during the evening peak hour, and an increase of 606 daily trips. This represents an increase of 14.5 percent during the evening peak hour and 16.8 percent in daily trips. It is anticipated that these increases may result in a significant effect as measured at the planning horizon. Accordingly, some form of mitigation is required in order to approve the zone change application. Acceptable mitigation measures are described in OAR 660-012-0060(2).

(2) If a local government determines that there would be a significant effect, then the local government must ensure that allowed land uses are consistent with the identified function, capacity, and performance standards of the facility measured at the end of the planning period identified in the adopted TSP through one or a combination of the remedies listed in (a) through (e) below, unless the amendment meets the balancing test in subsection (2)(e) of this section or qualifies for partial mitigation in section (11) of this rule. A local government using subsection (2)(e), section (3), section (10) or section (11) to approve an amendment recognizes that additional motor vehicle traffic congestion may result and that other facility providers would not be expected to provide additional capacity for motor vehicles in response to this congestion.

It is anticipated that the increases in trip generation resulting from the proposed zone change may result in a significant effect as measured at the planning horizon. Accordingly, some form of mitigation as described in OAR 660-012-0060(2) is required. In this instance, mitigation would be provided pursuant to sub-section (d), which reads:

(d) Providing other measures as a condition of development or through a development agreement or similar funding method, including, but not limited to, transportation system management measures or minor transportation improvements. Local governments shall, as part of the amendment, specify when measures or improvements provided pursuant to this subsection will be provided.

One mechanism to ensure that future development under the proposed zoning does not result in a significant impact on surrounding transportation facilities is to apply a trip cap to the subject property.

Under the existing zoning, the reasonable worst case development scenario was calculated to result in 250 net new morning peak hour trips, 345 net evening peak hour trips, and 3,608 net new daily trips. Since the operational analysis demonstrated that the evening peak hour was the critical design hour for all intersections, an appropriate trip cap can be created by limiting the number of net new PM peak hour trips to a level no greater than that allowed under the existing zoning. Accordingly, a trip cap of 345 net new PM peak hour site trips is sufficient to address the potential transportation impacts of the proposed zone change.

It should be noted that in the prior Bull Run Terrace Traffic Impact Study dated September 28, 2020, the trip generation numbers varied somewhat from the current analysis. This is primarily due to the fact that duplex development is now permitted within low-density residential zones (but was not permitted at the time of the prior report). In the prior study, a slightly lower trip cap of 340 PM peak hour trips was proposed. To maintain consistency with that report and the numerous materials in the record, it is recommended that the trip cap be maintained at 340 PM peak hour trips.

Based on the transportation planning rule analysis for the proposed zone change, it is recommended that a trip cap of 340 PM net new peak hour trips be applied to the subject property as a condition of approval for the proposed zone change. No other mitigations are necessary or recommended in conjunction with the proposed zone change.

CONCLUSIONS

All study intersections are projected to operate within capacity under year 2024 traffic conditions either with or without the addition of site trips from the proposed development. However, upon completion of development within the proposed subdivision and the connection of Dubarko Road to Highway 26, it is projected that the intersection of Highway 26 at Dubarko Road will operate with very high delays for the northeast-bound Dubarko Road approach. Since vehicles exiting the site to the west can also travel west on Dubarko Road to Langensand Road prior to turning west on Highway 26, it is expected that some vehicles will divert and the actual delays will be lower than those reported.

The intersection of Highway 211 at Dubarko Road is projected to operate at level of service F during the evening peak hour if it continues to operate under two-way stop control upon completion of the proposed development. Based on the crash and warrant analysis, it is recommended that the intersection be converted to all-way stop control. With this safety mitigation in place, the intersection is projected to operate within capacity and at level of service D or better during the peak hours, meeting the standards of the City of Sandy.

Based on the crash data, the majority of the study intersections are currently operating acceptably with respect to safety. The intersection of Highway 211 at Dubarko Road has a high historical crash rate which recent safety improvements have not significantly improved. Based on the analysis it was recommended that the intersection be converted to all-way stop control. No other safety improvements are recommended for the study area intersections at this time.

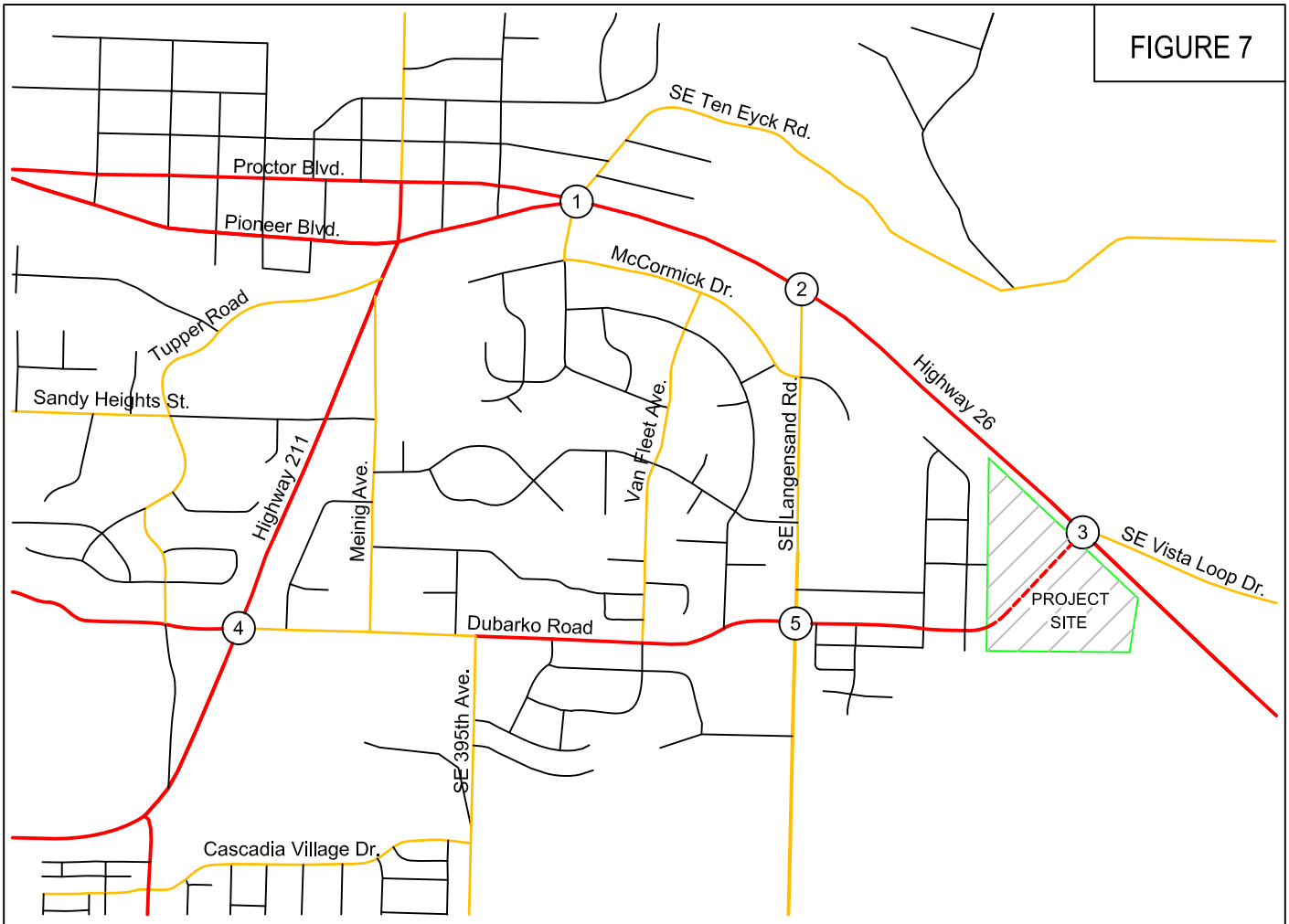
Based on the warrant analysis, a northwest-bound left-turn lane and a southeast-bound right-turn lane are projected to be warranted at the intersection of Highway 26 at Dubarko Road with completion of the Dubarko Road extension. No other turn lanes or traffic signals are recommended in conjunction with the proposed subdivision.

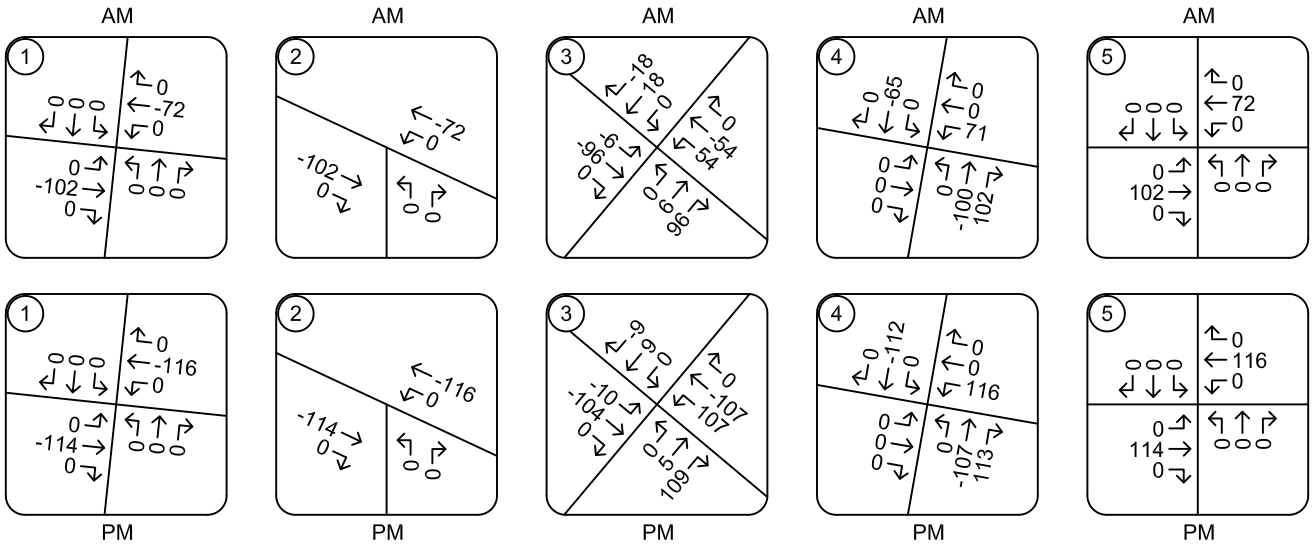
Intersection sight distance was evaluated for the new intersection of Highway 26 at Dubarko Road. The proposed intersection was found to have adequate sight distance in both directions.

A zone change is proposed for the subject property from the existing mix of R-1, R-2 and C-3 zoning to R-1, R-2, R-3, C-3 and POS zoning. It is recommended that the proposed zone change be approved with a condition of approval limiting the site to no more than 340 PM peak hour trips. With this condition of approval, the proposed zone change will not result in a significant effect on the transportation system and will meet the requirements of Oregon's Transportation Planning Rule.

APPENDIX

FIGURE 7

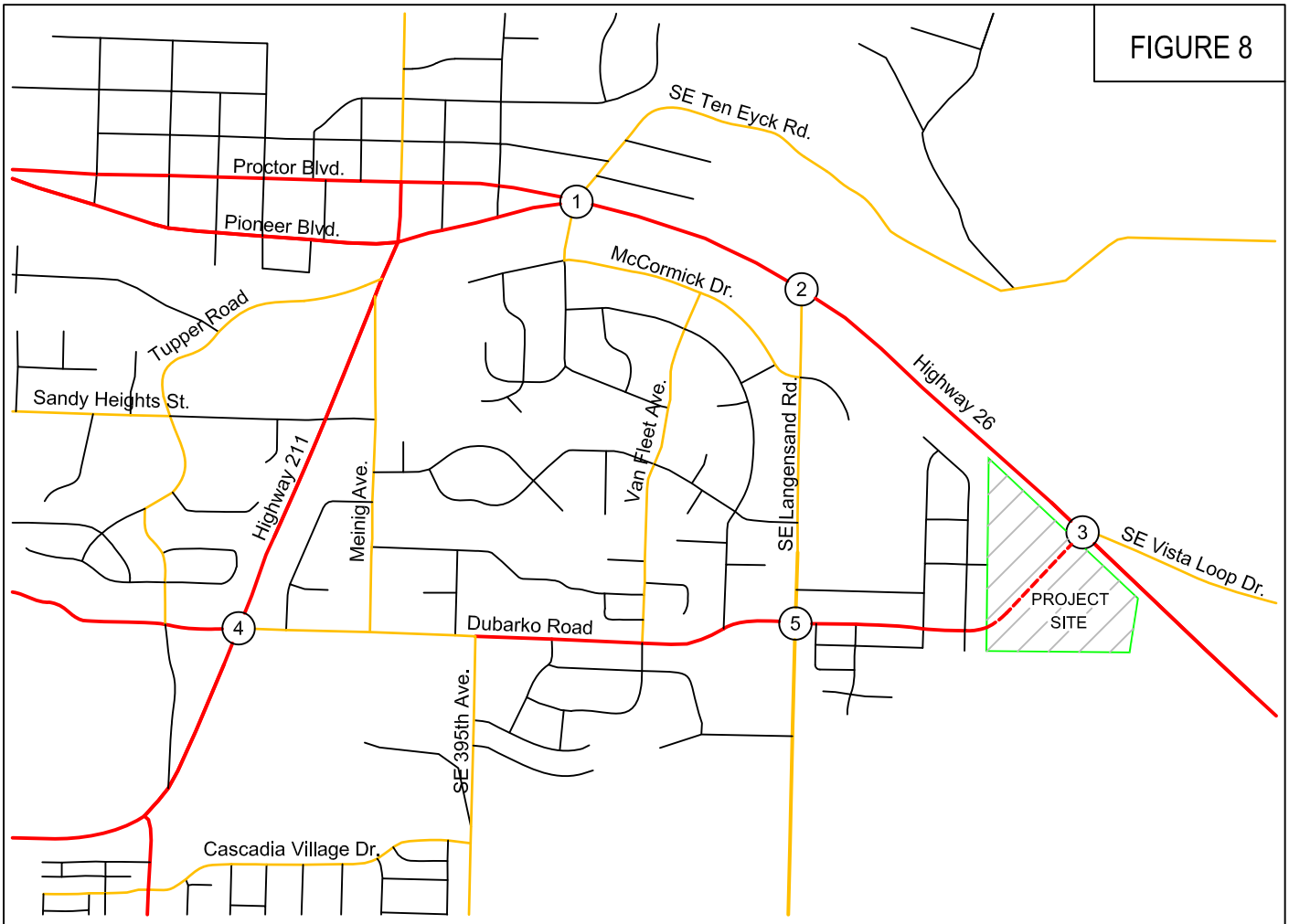


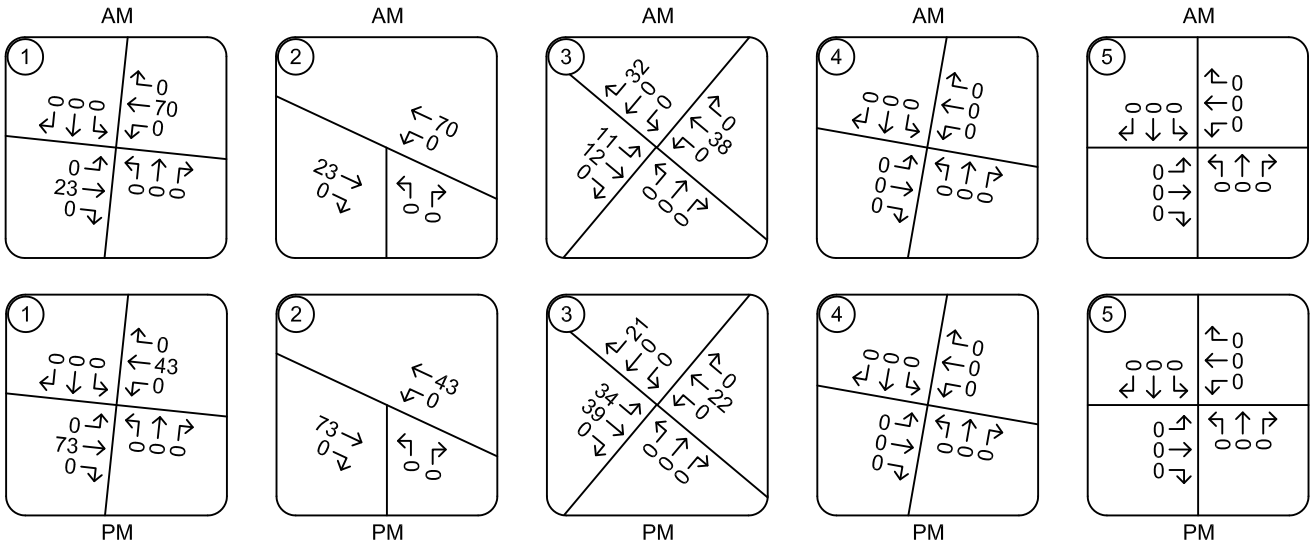


TRAFFIC VOLUMES
Diverted Trips Following Dubarko Connection to Hwy. 26
Morning and Evening Peak Hours

PAGE
APP1

FIGURE 8



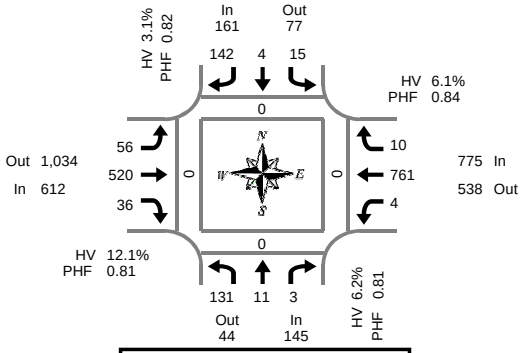


TRAFFIC VOLUMES
"The Views" Development - In-Process Site Trips
Morning and Evening Peak Hours

PAGE
APP2

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:00 AM to 8:00 AM

SE Ten Eyck Rd & Hwy 26

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	16	0	0	0	0	0	17	0	5	26	2	0	0	74	0	0	140	0	0	0	0
7:05 AM	10	0	1	0	1	0	10	0	2	18	3	0	1	65	2	0	113	0	0	0	0
7:10 AM	17	1	0	0	2	0	11	0	7	36	2	0	2	74	1	0	153	0	0	0	0
7:15 AM	12	0	0	0	1	2	9	0	9	40	2	0	1	84	1	0	161	0	0	0	0
7:20 AM	15	0	0	0	3	0	11	0	3	40	1	0	0	68	0	0	141	0	0	0	0
7:25 AM	14	1	0	0	1	1	16	0	2	40	4	0	0	70	1	0	150	0	0	0	0
7:30 AM	7	1	1	0	0	0	16	0	8	43	2	0	0	67	0	0	145	0	0	0	0
7:35 AM	12	2	0	0	3	0	12	0	0	56	5	0	0	57	1	0	148	0	0	0	0
7:40 AM	8	2	0	0	0	0	11	0	4	59	3	0	0	53	0	0	140	0	0	0	0
7:45 AM	12	1	1	0	2	0	11	0	4	53	3	0	0	45	2	0	134	0	0	0	0
7:50 AM	4	2	0	0	1	0	10	0	9	47	4	0	0	62	0	0	139	0	0	0	0
7:55 AM	4	1	0	0	1	1	8	0	3	62	5	0	0	42	2	0	129	0	0	0	0
8:00 AM	5	0	1	0	2	1	13	0	2	46	2	0	0	41	0	0	113	0	0	0	0
8:05 AM	6	0	0	0	1	1	5	0	8	50	2	0	0	42	2	0	117	0	0	0	0
8:10 AM	3	0	0	0	2	1	10	0	5	45	4	0	0	53	1	0	124	0	0	0	1
8:15 AM	12	0	0	0	2	0	7	0	3	38	1	0	0	34	1	0	98	0	0	0	0
8:20 AM	6	2	0	0	2	0	9	0	5	38	1	0	1	49	0	0	113	0	0	0	0
8:25 AM	8	0	0	0	1	0	11	0	4	44	3	0	0	39	2	0	112	0	0	0	1
8:30 AM	5	0	0	0	2	1	10	0	4	66	2	0	0	47	0	0	137	1	0	0	0
8:35 AM	10	0	0	0	3	0	13	0	6	59	5	0	0	45	1	0	142	0	0	0	0
8:40 AM	7	0	0	0	5	1	15	0	10	62	3	0	1	43	1	0	148	0	0	0	0
8:45 AM	5	0	0	0	1	0	12	0	5	69	5	0	0	63	0	0	160	0	0	0	0
8:50 AM	9	2	0	0	3	0	12	0	7	56	8	0	1	46	1	0	145	0	0	0	0
8:55 AM	8	1	0	0	2	0	13	0	6	51	8	0	2	44	1	0	136	0	0	0	0
Total Survey	215	16	4	0	41	9	272	0	121	1,144	80	0	9	1,307	20	0	3,238	1	0	0	2

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	43	1	1	0	3	0	38	0	14	80	7	0	3	213	3	0	406	0	0	0	0
7:15 AM	41	1	0	0	5	3	36	0	14	120	7	0	1	222	2	0	452	0	0	0	0
7:30 AM	27	5	1	0	3	0	39	0	12	158	10	0	0	177	1	0	433	0	0	0	0
7:45 AM	20	4	1	0	4	1	29	0	16	162	12	0	0	149	4	0	402	0	0	0	0
8:00 AM	14	0	1	0	5	3	28	0	15	141	8	0	0	136	3	0	354	0	0	0	1
8:15 AM	26	2	0	0	5	0	27	0	12	120	5	0	1	122	3	0	323	0	0	0	1
8:30 AM	22	0	0	0	10	2	38	0	20	187	10	0	1	135	2	0	427	1	0	0	0
8:45 AM	22	3	0	0	6	0	37	0	18	176	21	0	3	153	2	0	441	0	0	0	0
Total Survey	215	16	4	0	41	9	272	0	121	1,144	80	0	9	1,307	20	0	3,238	1	0	0	2

Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	145	44	189	0	161	77	238	0	612	1,034	1,646	0	775	538	1,313	0	1,693	0	0	0	0
%HV	6.2%				3.1%				12.1%				6.1%				8.0%				
PHF	0.81				0.82				0.81				0.84				0.93				

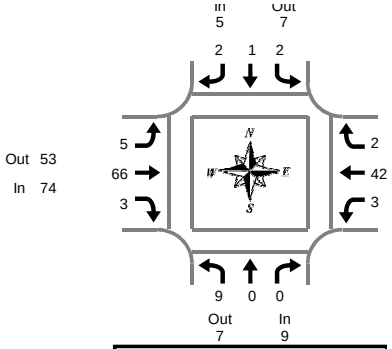
By Movement	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	131	11	3	145	15	4	142	161	56	520	36	612	4	761	10	775	1,693
%HV	6.9%	0.0%	0.0%	6.2%	13.3%	25.0%	1.4%	3.1%	8.9%	12.7%	8.3%	12.1%	75.0%	5.5%	20.0%	6.1%	8.0%
PHF	0.74	0.55	0.75	0.81	0.63	0.33	0.81	0.82	0.74	0.77	0.75	0.81	0.25	0.84	0.63	0.84	0.93

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	131	11	3	0	15	4	142	0	56	520	36	0	4	761	10	0	1,693	0	0	0	0
7:15 AM	102	10	3	0	17	7	132	0	57	581	37	0	1	684	10	0	1,641	0	0	0	1
7:30 AM	87	11	3	0	17	4	123	0	55	581	35	0	1	584	11	0	1,512	0	0	0	2
7:45 AM	82	6	2	0	24	6	122	0	63	610	35	0	2	542	12	0	1,506	1	0	0	2
8:00 AM	84	5	1	0	26	5	130	0	65	624	44	0	5	546	10	0	1,545	1	0	0	2

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



SE Ten Eyck Rd & Hwy 26

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	0	0	1	0	0	0	0	1	6	1	8	0	6	0	6	15
7:05 AM	0	0	0	0	0	0	0	0	0	5	0	5	0	5	0	5	10
7:10 AM	3	0	0	3	0	0	0	0	0	3	0	3	2	2	1	5	11
7:15 AM	1	0	0	1	0	1	0	1	2	6	0	8	1	1	0	2	12
7:20 AM	2	0	0	2	1	0	0	1	0	5	0	5	0	1	0	1	9
7:25 AM	0	0	0	0	0	0	0	0	0	6	1	7	0	1	0	1	8
7:30 AM	0	0	0	0	0	0	0	0	0	7	0	7	0	7	0	7	14
7:35 AM	0	0	0	0	1	0	0	1	0	7	0	7	0	6	0	6	14
7:40 AM	0	0	0	0	0	0	0	0	1	8	0	9	0	1	0	1	10
7:45 AM	0	0	0	0	0	0	1	1	0	6	0	6	0	4	0	4	11
7:50 AM	0	0	0	0	0	0	1	1	0	3	0	3	0	7	0	7	11
7:55 AM	2	0	0	2	0	0	0	0	1	4	1	6	0	1	1	2	10
8:00 AM	1	0	0	1	0	0	1	1	0	10	1	11	0	2	0	2	15
8:05 AM	0	0	0	0	1	0	1	2	0	9	0	9	0	7	1	8	19
8:10 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	6	0	6	8
8:15 AM	0	0	0	0	0	0	0	0	0	4	0	4	0	3	0	3	7
8:20 AM	0	0	0	0	0	0	1	1	0	5	0	5	1	2	0	3	9
8:25 AM	0	0	0	0	0	0	0	0	0	6	1	7	0	3	0	3	10
8:30 AM	0	0	0	0	1	0	0	1	2	6	0	8	0	3	0	3	12
8:35 AM	0	0	0	0	0	0	0	0	1	5	0	6	0	8	0	8	14
8:40 AM	0	0	0	0	0	0	1	1	0	5	0	5	0	1	0	1	7
8:45 AM	0	0	0	0	0	0	0	0	0	9	0	9	0	3	0	3	12
8:50 AM	0	0	0	0	0	0	0	0	1	4	0	5	1	8	0	9	14
8:55 AM	0	0	0	0	0	0	3	3	0	0	2	2	0	3	0	3	8
Total Survey	10	0	0	10	4	1	9	14	9	131	7	147	5	91	3	99	270

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	4	0	0	4	0	0	0	0	1	14	1	16	2	13	1	16	36
7:15 AM	3	0	0	3	1	1	0	2	2	17	1	20	1	3	0	4	29
7:30 AM	0	0	0	0	1	0	0	1	1	22	0	23	0	14	0	14	38
7:45 AM	2	0	0	2	0	0	2	2	1	13	1	15	0	12	1	13	32
8:00 AM	1	0	0	1	1	0	2	3	0	21	1	22	0	15	1	16	42
8:15 AM	0	0	0	0	0	0	1	1	0	15	1	16	1	8	0	9	26
8:30 AM	0	0	0	0	1	0	1	2	3	16	0	19	0	12	0	12	33
8:45 AM	0	0	0	0	0	0	3	3	1	13	2	16	1	14	0	15	34
Total Survey	10	0	0	10	4	1	9	14	9	131	7	147	5	91	3	99	270

Heavy Vehicle Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound SE Ten Eyck Rd			Southbound SE Ten Eyck Rd			Eastbound Hwy 26			Westbound Hwy 26			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	9	7	16	5	7	12	74	53	127	47	68	115	135
PHF	0.38			0.63			0.80			0.73			0.89

By Movement	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	9	0	0	9	2	1	2	5	5	66	3	74	3	42	2	47	135
PHF	0.38	0.00	0.00	0.38	0.50	0.25	0.25	0.63	0.63	0.75	0.75	0.80	0.25	0.75	0.50	0.73	0.89

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

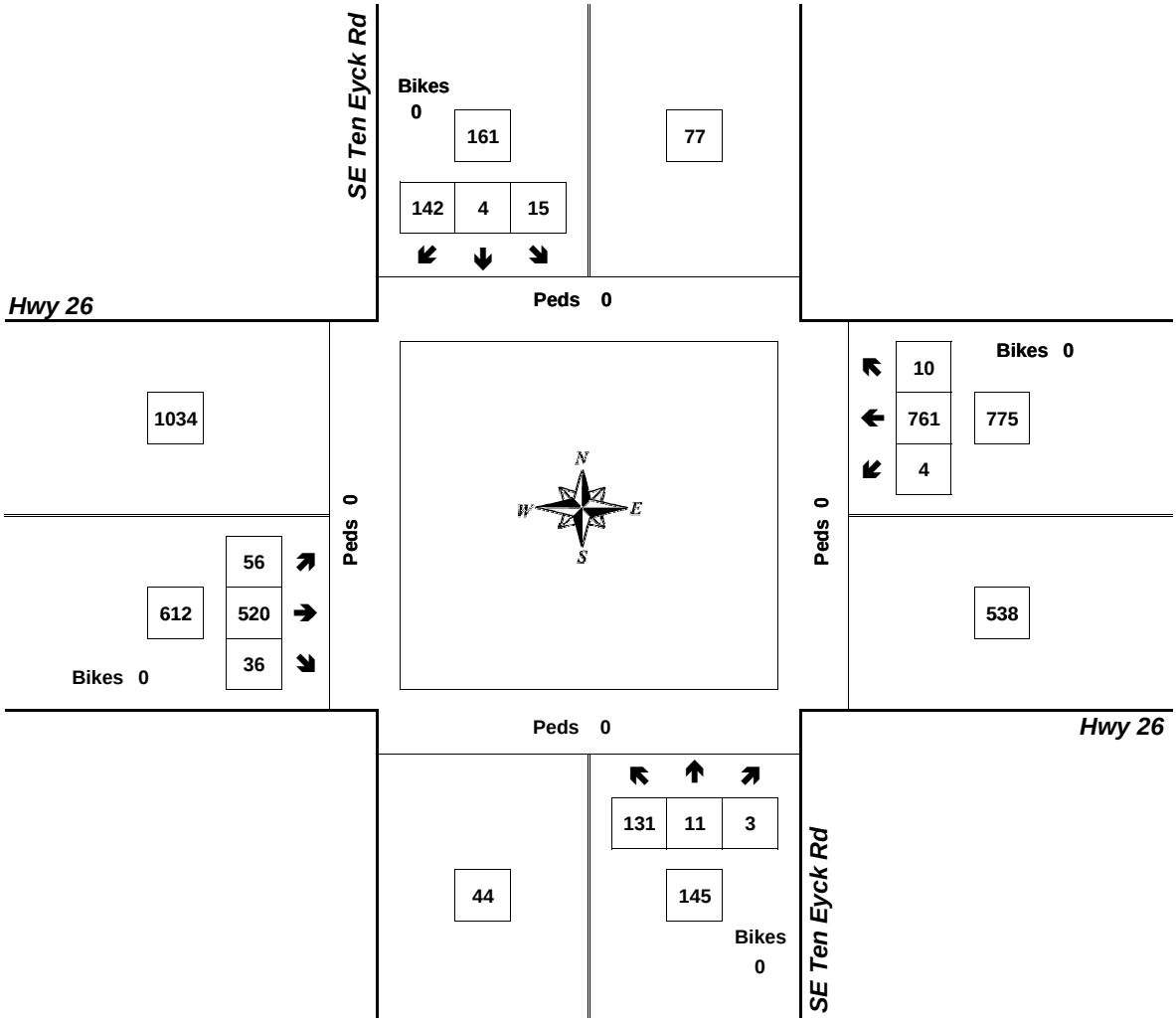
Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	9	0	0	9	2	1	2	5	5	66	3	74	3	42	2	47	135
7:15 AM	6	0	0	6	3	1	4	8	4	73	3	80	1	44	2	47	141
7:30 AM	3	0	0	3	2	0	5	7	2	71	3	76	1	49	2	52	138
7:45 AM	3	0	0	3	2	0	6	8	4	65	3	72	1	47	2	50	133
8:00 AM	1	0	0	1	2	0	7	9	4	65	4	73	2	49	1	52	135

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

SE Ten Eyck Rd & Hwy 26

7:00 AM to 8:00 AM
Wednesday, March 20, 2019

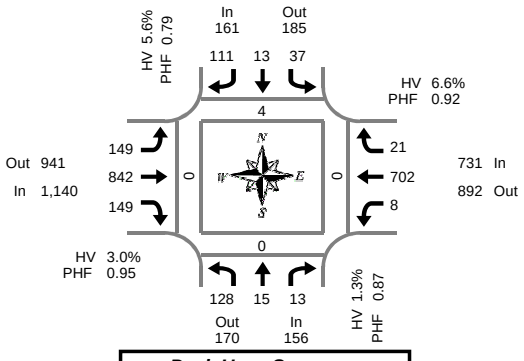


Approach	PHF	HV%	Volume
EB	0.81	12.1%	612
WB	0.84	6.1%	775
NB	0.81	6.2%	145
SB	0.82	3.1%	161
Intersection	0.93	8.0%	1,693

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

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

SE Ten Eyck Rd & Hwy 26

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	4	0	2	0	4	3	11	0	8	58	12	0	1	49	2	0	154	0	1	0	0
4:05 PM	10	1	0	0	7	1	5	0	12	63	8	0	1	53	3	0	164	0	0	0	0
4:10 PM	7	2	3	0	1	0	17	0	12	76	11	0	0	65	1	0	195	0	0	0	0
4:15 PM	14	0	1	0	7	1	9	0	18	71	15	0	0	62	1	0	199	0	0	0	0
4:20 PM	9	0	1	0	4	1	11	0	9	75	10	0	0	62	7	0	189	0	0	0	0
4:25 PM	12	2	0	0	5	0	10	0	12	61	14	0	0	52	0	0	168	0	0	0	0
4:30 PM	11	1	4	0	3	2	12	0	17	87	16	1	1	58	1	0	213	0	0	0	0
4:35 PM	15	0	0	0	2	2	6	0	6	59	14	0	0	65	3	0	172	0	0	0	0
4:40 PM	7	1	1	0	3	0	7	0	7	54	9	0	1	57	0	0	147	1	0	0	0
4:45 PM	8	1	0	0	4	1	3	0	13	71	15	1	3	51	3	0	173	0	0	0	0
4:50 PM	13	2	1	0	1	1	6	0	19	74	8	0	0	56	0	0	181	0	0	0	0
4:55 PM	7	1	0	0	1	0	12	0	10	67	14	0	3	57	1	0	173	1	0	0	0
5:00 PM	13	3	1	0	2	2	14	0	12	81	12	0	0	49	1	0	190	2	0	0	0
5:05 PM	12	2	1	0	4	3	4	0	14	66	11	0	0	68	3	1	188	0	0	0	0
5:10 PM	8	0	0	0	6	2	10	0	13	60	12	0	0	68	2	0	181	2	0	0	0
5:15 PM	8	2	1	0	6	2	8	0	9	70	11	0	0	57	1	0	175	0	0	0	0
5:20 PM	8	1	1	1	1	4	10	0	15	73	10	0	0	43	1	0	167	0	1	0	0
5:25 PM	9	1	0	0	4	2	8	0	14	74	11	0	0	43	0	0	166	0	0	0	0
5:30 PM	5	0	1	0	4	0	5	0	15	64	10	0	0	44	0	0	148	1	0	0	0
5:35 PM	5	1	0	0	7	0	9	0	17	50	4	1	0	39	0	0	132	0	0	0	0
5:40 PM	4	0	0	0	2	1	5	0	11	56	7	0	0	30	1	0	117	2	0	0	2
5:45 PM	4	1	0	0	3	2	8	0	14	76	6	0	3	41	1	0	159	0	0	0	0
5:50 PM	7	1	0	0	0	1	6	0	14	69	8	0	0	42	0	0	148	0	0	0	0
5:55 PM	10	1	0	0	0	2	3	0	16	65	10	0	0	51	1	0	159	0	0	0	0
Total Survey	210	24	18	1	81	33	199	0	307	1,620	258	3	13	1,262	33	1	4,058	9	2	0	2

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	21	3	5	0	12	4	33	0	32	197	31	0	2	167	6	0	513	0	1	0	0
4:15 PM	35	2	2	0	16	2	30	0	39	207	39	0	0	176	8	0	556	0	0	0	0
4:30 PM	33	2	5	0	8	4	25	0	30	200	39	1	2	180	4	0	532	1	0	0	0
4:45 PM	28	4	1	0	6	2	21	0	42	212	37	1	6	164	4	0	527	1	0	0	0
5:00 PM	33	5	2	0	12	7	28	0	39	207	35	0	0	185	6	1	559	4	0	0	0
5:15 PM	25	4	2	1	11	8	26	0	38	217	32	0	0	143	2	0	508	0	1	0	0
5:30 PM	14	1	1	0	13	1	19	0	43	170	21	1	0	113	1	0	397	3	0	0	2
5:45 PM	21	3	0	0	3	5	17	0	44	210	24	0	3	134	2	0	466	0	0	0	0
Total Survey	210	24	18	1	81	33	199	0	307	1,620	258	3	13	1,262	33	1	4,058	9	2	0	2

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	156	170	326	0	161	185	346	0	1,140	941	2,081	2	731	892	1,623	1	2,188	4	0	0	0
%HV	1.3%				5.6%				3.0%				6.6%				4.3%				
PHF	0.87				0.79				0.95				0.92				0.94				

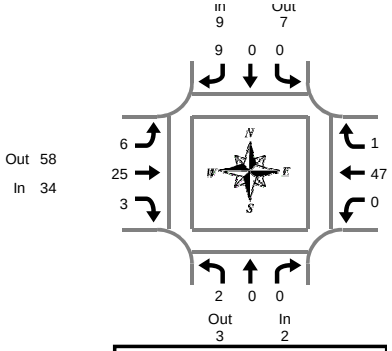
By Movement	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	128	15	13	156	37	13	111	161	149	842	149	1,140	8	702	21	731	2,188
%HV	1.6%	0.0%	0.0%	1.3%	0.0%	0.0%	8.1%	5.6%	4.0%	3.0%	2.0%	3.0%	0.0%	6.7%	4.8%	6.6%	4.3%
PHF	0.84	0.63	0.65	0.87	0.58	0.65	0.75	0.79	0.89	0.94	0.85	0.95	0.33	0.93	0.58	0.92	0.94

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	117	11	13	0	42	12	109	0	143	816	146	2	10	687	22	0	2,128	2	1	0	0
4:15 PM	129	13	10	0	42	15	104	0	150	826	150	2	8	705	22	1	2,174	6	0	0	0
4:30 PM	119	15	10	1	37	21	100	0	149	836	143	2	8	672	16	1	2,126	6	1	0	0
4:45 PM	100	14	6	1	42	18	94	0	162	806	125	2	6	605	13	1	1,991	8	1	0	2
5:00 PM	93	13	5	1	39	21	90	0	164	804	112	1	3	575	11	1	1,930	7	1	0	2

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



SE Ten Eyck Rd & Hwy 26

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:10 PM to 5:10 PM

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	10	1	11	15
4:05 PM	0	0	0	0	1	0	0	1	0	6	0	6	0	3	1	4	11
4:10 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	8	0	8	10
4:15 PM	2	0	0	2	0	0	2	2	2	3	0	5	0	3	0	3	12
4:20 PM	0	0	0	0	0	0	2	2	1	3	0	4	0	5	1	6	12
4:25 PM	0	0	0	0	0	0	1	1	0	5	1	6	0	4	0	4	11
4:30 PM	0	0	0	0	0	0	2	2	1	0	0	1	0	3	0	3	6
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	5
4:40 PM	0	0	0	0	0	0	1	1	0	3	0	3	0	2	0	2	6
4:45 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	4	0	4	6
4:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7	7
4:55 PM	0	0	0	0	0	0	1	1	1	2	1	4	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	4	1	5	0	1	0	1	6
5:05 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	5	0	5	7
5:10 PM	0	0	0	0	0	0	0	0	1	3	0	4	0	4	0	4	8
5:15 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	2	0	2	4
5:20 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	5	0	5	6
5:25 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	1	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	3	1	4	0	3	0	3	7
5:35 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	4	0	4	6
5:40 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
5:45 PM	1	0	0	1	0	0	0	0	0	2	0	2	0	3	0	3	6
5:50 PM	1	0	0	1	0	0	0	0	0	1	1	2	0	4	0	4	7
5:55 PM	0	0	0	0	0	0	0	0	1	2	0	3	0	5	0	5	8
Total Survey	4	0	0	4	1	0	9	10	10	53	5	68	0	91	3	94	176

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

Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	1	0	0	1	0	12	0	12	0	21	2	23	36
4:15 PM	2	0	0	2	0	0	5	5	3	11	1	15	0	12	1	13	35
4:30 PM	0	0	0	0	0	0	3	3	1	3	0	4	0	10	0	10	17
4:45 PM	0	0	0	0	0	0	1	1	2	3	1	6	0	11	0	11	18
5:00 PM	0	0	0	0	0	0	0	0	1	9	1	11	0	10	0	10	21
5:15 PM	0	0	0	0	0	0	0	0	1	4	0	5	0	8	0	8	13
5:30 PM	0	0	0	0	0	0	0	0	1	6	1	8	0	7	0	7	15
5:45 PM	2	0	0	2	0	0	0	0	1	5	1	7	0	12	0	12	21
Total Survey	4	0	0	4	1	0	9	10	10	53	5	68	0	91	3	94	176

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound SE Ten Eyck Rd			Southbound SE Ten Eyck Rd			Eastbound Hwy 26			Westbound Hwy 26			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	3	5	9	7	16	34	58	92	48	25	73	93
PHF	0.25			0.45			0.57			0.71			0.66

By Movement	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	0	0	2	0	0	9	9	6	25	3	34	0	47	1	48	93
PHF	0.25	0.00	0.00	0.25	0.00	0.00	0.45	0.45	0.50	0.57	0.38	0.57	0.00	0.73	0.25	0.71	0.66

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

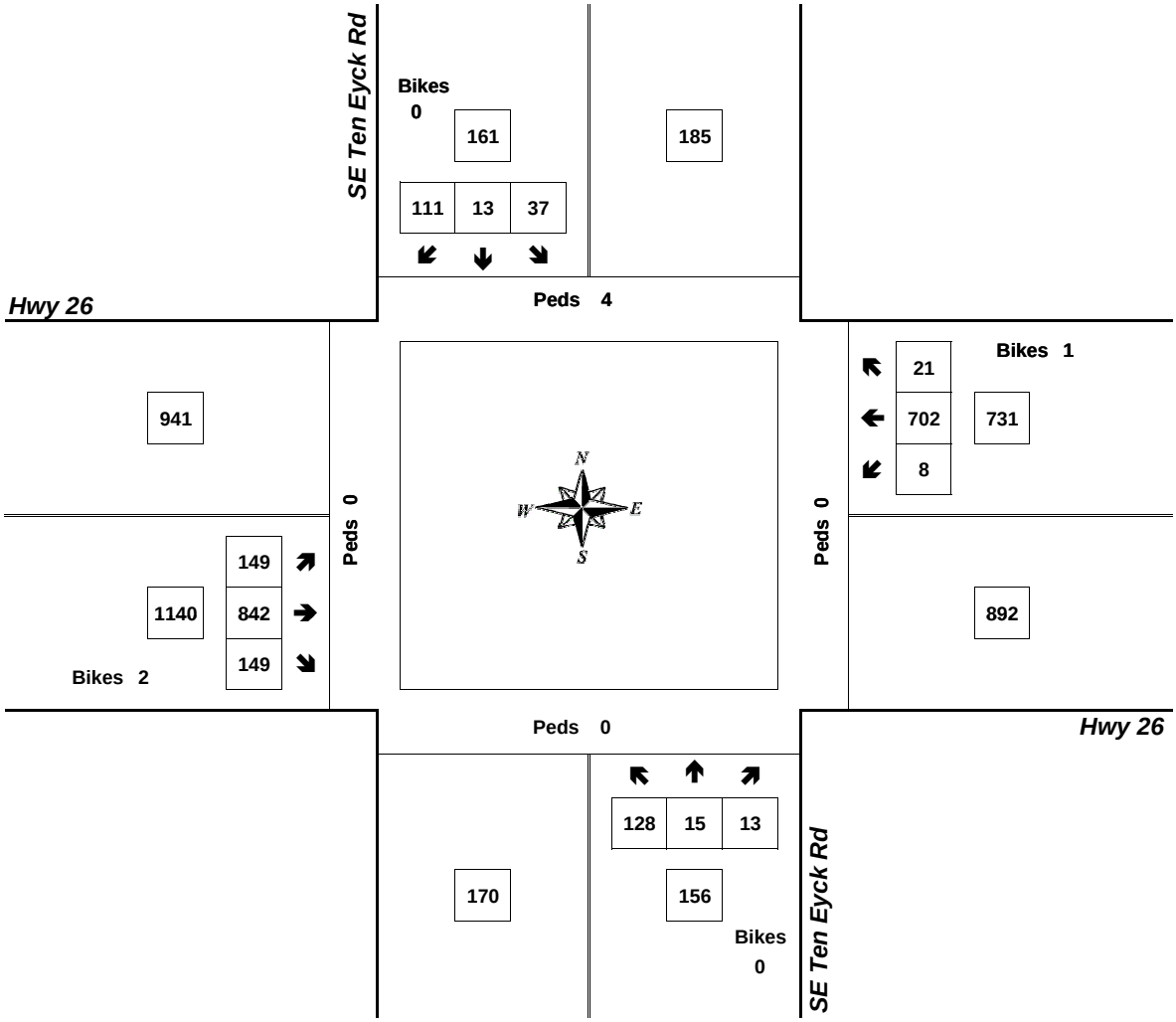
Interval Start Time	Northbound SE Ten Eyck Rd				Southbound SE Ten Eyck Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	2	0	0	2	1	0	9	10	6	29	2	37	0	54	3	57	106
4:15 PM	2	0	0	2	0	0	9	9	7	26	3	36	0	43	1	44	91
4:30 PM	0	0	0	0	0	0	4	4	5	19	2	26	0	39	0	39	69
4:45 PM	0	0	0	0	0	0	1	1	5	22	3	30	0	36	0	36	67
5:00 PM	2	0	0	2	0	0	0	0	4	24	3	31	0	37	0	37	70

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

SE Ten Eyck Rd & Hwy 26

4:10 PM to 5:10 PM
Tuesday, March 19, 2019

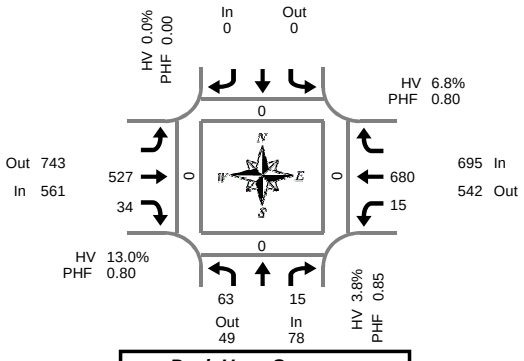


Approach	PHF	HV%	Volume
EB	0.95	3.0%	1,140
WB	0.92	6.6%	731
NB	0.87	1.3%	156
SB	0.79	5.6%	161
Intersection	0.94	4.3%	2,188

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

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

SE Langensand Rd & Hwy 26

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	4		0	0				0	25	1	0	2	62		0	94		0	0	0	0
7:05 AM	9		0	0				0	24	2	0	2	65		0	102		0	0	0	0
7:10 AM	3		0	0				0	22	2	0	0	74		0	101		0	0	0	0
7:15 AM	4		2	0				0	33	3	0	1	71		0	114		0	0	0	0
7:20 AM	9		2	0				0	52	1	0	0	71		0	135		0	0	0	0
7:25 AM	4		1	0				0	31	3	0	4	67		0	110		0	0	0	0
7:30 AM	5		2	0				0	39	5	0	0	60		0	111		0	0	0	0
7:35 AM	4		1	0				0	52	1	0	2	54		0	114		0	0	0	0
7:40 AM	8		0	0				0	56	3	0	2	41		0	110		0	0	0	0
7:45 AM	1		2	0				0	49	8	0	3	42		0	105		0	0	0	0
7:50 AM	4		2	0				0	56	2	0	1	52		0	117		0	0	0	0
7:55 AM	7		1	0				0	59	2	0	0	45		0	114		0	0	0	0
8:00 AM	5		2	0				0	54	2	0	0	38		0	101		0	0	0	0
8:05 AM	2		2	0				0	44	3	0	1	41		0	93		0	0	0	0
8:10 AM	2		2	0				0	41	1	0	0	49		0	95		0	0	0	0
8:15 AM	4		1	0				0	46	0	0	2	34		0	87		0	0	0	0
8:20 AM	2		1	0				0	40	3	0	0	42		0	88		0	0	0	0
8:25 AM	4		2	0				0	39	2	0	1	43		0	91		0	0	0	0
8:30 AM	5		4	0				0	53	1	0	2	37		0	102		0	0	0	0
8:35 AM	2		3	0				0	56	1	0	0	53		0	115		0	0	0	0
8:40 AM	1		2	0				0	53	8	0	1	47		0	112		0	0	0	0
8:45 AM	6		2	0				0	77	5	0	0	53		0	143		0	0	0	0
8:50 AM	4		4	0				0	52	2	0	5	60		0	127		0	0	0	0
8:55 AM	5		0	0				0	60	0	0	1	42		0	108		0	0	0	0
Total Survey	104		38	0				0	1,113	61	0	30	1,243		0	2,589		0	0	0	0

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	16		0	0				0	71	5	0	4	201		0	297		0	0	0	0
7:15 AM	17		5	0				0	116	7	0	5	209		0	359		0	0	0	0
7:30 AM	17		3	0				0	147	9	0	4	155		0	335		0	0	0	0
7:45 AM	12		5	0				0	164	12	0	4	139		0	336		0	0	0	0
8:00 AM	9		6	0				0	139	6	0	1	128		0	289		0	0	0	0
8:15 AM	10		4	0				0	125	5	0	3	119		0	266		0	0	0	0
8:30 AM	8		9	0				0	162	10	0	3	137		0	329		0	0	0	0
8:45 AM	15		6	0				0	189	7	0	6	155		0	378		0	0	0	0
Total Survey	104		38	0				0	1,113	61	0	30	1,243		0	2,589		0	0	0	0

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	78	49	127	0	0	0	0	0	561	743	1,304	0	695	542	1,237	0	1,334	0	0	0	0
%HV	3.8%				0.0%				13.0%				6.8%				9.2%				
PHF	0.85				0.00				0.80				0.80				0.93				

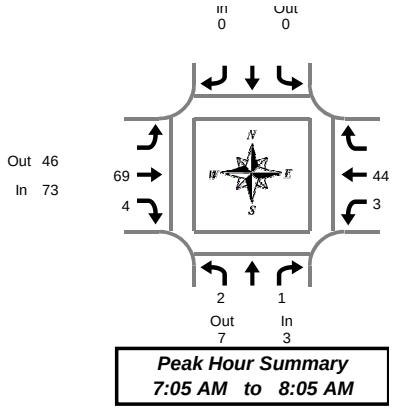
By Movement	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	63		15	78				0		527	34	561	15	680		695	1,334
%HV	3.2%	NA	6.7%	3.8%	NA	NA	NA	0.0%	NA	13.1%	11.8%	13.0%	20.0%	6.5%	NA	6.8%	9.2%
PHF	0.88		0.75	0.85				0.00		0.78	0.65	0.80	0.54	0.79		0.80	0.93

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes			North	South	East	West
7:00 AM	62		13	0				0	498	33	0	17	704		0	1,327		0	0	0	0
7:15 AM	55		19	0				0	566	34	0	14	631		0	1,319		0	0	0	0
7:30 AM	48		18	0				0	575	32	0	12	541		0	1,226		0	0	0	0
7:45 AM	39		24	0				0	590	33	0	11	523		0	1,220		0	0	0	0
8:00 AM	42		25	0				0	615	28	0	13	539		0	1,262		0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



SE Langensand Rd & Hwy 26

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		0	0				0	6	1	7		0	6		6	13
7:05 AM	0		0	0				0	4	1	5		0	6		6	11
7:10 AM	0		0	0				0	2	0	2		0	3		3	5
7:15 AM	0		0	0				0	6	0	6		0	3		3	9
7:20 AM	0		0	0				0	7	0	7		0	0		0	7
7:25 AM	0		0	0				0	5	1	6		1	2		3	9
7:30 AM	0		0	0				0	6	0	6		0	6		6	12
7:35 AM	0		0	0				0	5	0	5		1	7		8	13
7:40 AM	1		0	1				0	7	0	7		0	2		2	10
7:45 AM	0		0	0				0	11	1	12		1	3		4	16
7:50 AM	0		1	1				0	4	1	5		0	5		5	11
7:55 AM	1		0	1				0	3	0	3		0	5		5	9
8:00 AM	0		0	0				0	9	0	9		0	2		2	11
8:05 AM	1		0	1				0	11	1	12		0	7		7	20
8:10 AM	0		0	0				0	2	0	2		0	5		5	7
8:15 AM	0		0	0				0	3	0	3		0	4		4	7
8:20 AM	0		0	0				0	4	1	5		0	2		2	7
8:25 AM	0		1	1				0	4	1	5		0	3		3	9
8:30 AM	0		2	2				0	9	0	9		1	3		4	15
8:35 AM	1		1	2				0	5	0	5		0	6		6	13
8:40 AM	0		0	0				0	5	0	5		0	3		3	8
8:45 AM	0		0	0				0	7	0	7		0	1		1	8
8:50 AM	0		0	0				0	3	0	3		0	9		9	12
8:55 AM	0		0	0				0	4	0	4		0	4		4	8
Total Survey	4		5	9				0	132	8	140		4	97		101	250

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	0		0	0				0	12	2	14		0	15		15	29
7:15 AM	0		0	0				0	18	1	19		1	5		6	25
7:30 AM	1		0	1				0	18	0	18		1	15		16	35
7:45 AM	1		1	2				0	18	2	20		1	13		14	36
8:00 AM	1		0	1				0	22	1	23		0	14		14	38
8:15 AM	0		1	1				0	11	2	13		0	9		9	23
8:30 AM	1		3	4				0	19	0	19		1	12		13	36
8:45 AM	0		0	0				0	14	0	14		0	14		14	28
Total Survey	4		5	9				0	132	8	140		4	97		101	250

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound SE Langensand Rd			Southbound SE Langensand Rd			Eastbound Hwy 26			Westbound Hwy 26			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	7	10	0	0	0	73	46	119	47	70	117	123
PHF	0.38			0.00			0.76			0.69			0.79

By Movement	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	2		1	3				0	69	4	73		3	44		47	123
PHF	0.50		0.25	0.38				0.00	0.75	0.50	0.76		0.38	0.73		0.69	0.79

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

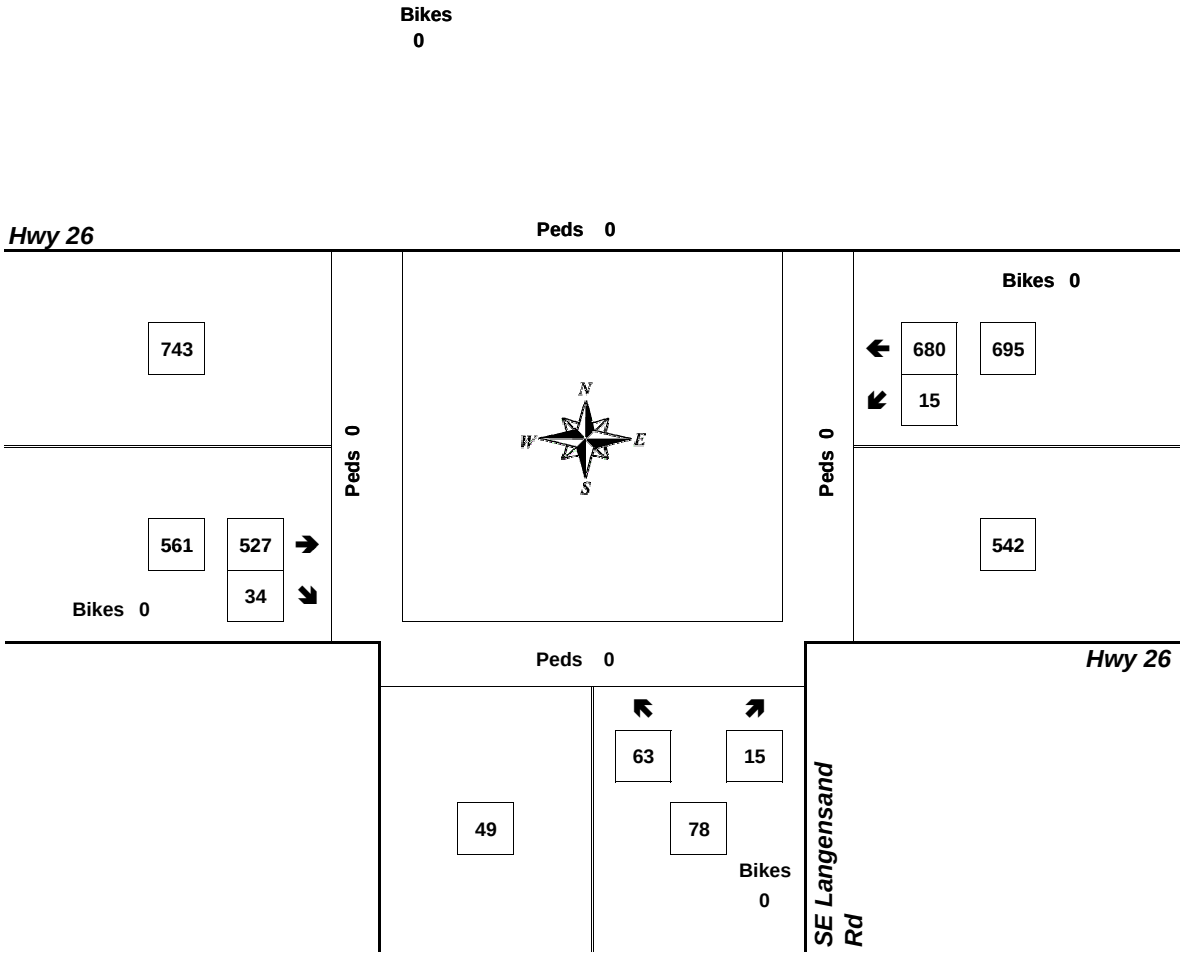
Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
7:00 AM	2		1	3				0	66	5	71		3	48		51	125
7:15 AM	3		1	4				0	76	4	80		3	47		50	134
7:30 AM	3		2	5				0	69	5	74		2	51		53	132
7:45 AM	3		5	8				0	70	5	75		2	48		50	133
8:00 AM	2		4	6				0	66	3	69		1	49		50	125

Peak Hour Summary

Clay Carney
(503) 833-2740

SE Langensand Rd & Hwy 26

7:05 AM to 8:05 AM
Wednesday, March 20, 2019

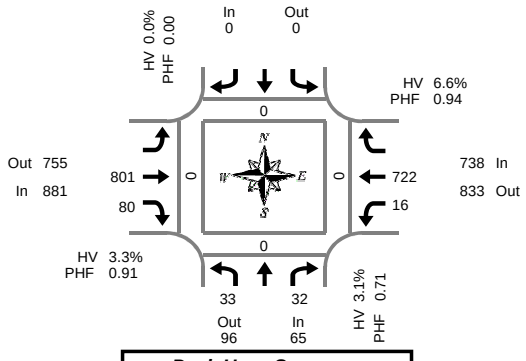


Approach	PHF	HV%	Volume
EB	0.80	13.0%	561
WB	0.80	6.8%	695
NB	0.85	3.8%	78
SB	0.00	0.0%	0
Intersection	0.93	9.2%	1,334

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

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

SE Langensand Rd & Hwy 26

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
4:00 PM	2		4	0				0	62	9	0	5	50		0	132	0	0	0	0
4:05 PM	1		2	0				0	69	6	0	3	52		0	133	0	0	0	0
4:10 PM	1		3	0				0	61	3	0	1	74		0	143	0	0	0	0
4:15 PM	6		1	0				0	76	5	0	1	50		0	139	0	0	0	0
4:20 PM	5		5	0				0	79	9	0	1	70		0	169	0	0	0	0
4:25 PM	6		0	1				0	58	8	0	1	49		0	122	0	0	0	0
4:30 PM	0		3	0				0	75	12	0	1	56		0	147	0	0	0	0
4:35 PM	2		5	0				0	61	7	0	1	64		0	140	0	0	0	0
4:40 PM	0		1	0				0	59	1	0	1	55		0	117	0	0	0	0
4:45 PM	1		1	0				0	64	3	0	2	63		0	134	0	0	0	0
4:50 PM	6		5	0				0	62	6	0	0	54		0	133	0	0	0	0
4:55 PM	3		0	0				0	72	5	0	2	56		0	138	0	0	0	0
5:00 PM	1		5	0				0	62	10	0	1	55		0	134	0	0	0	0
5:05 PM	2		3	0				0	72	11	0	4	76		0	168	0	0	0	0
5:10 PM	2		3	0				0	58	14	0	1	65		0	143	0	0	0	0
5:15 PM	1		2	0				0	51	8	0	2	59		0	123	0	0	0	0
5:20 PM	2		4	0				0	78	7	0	2	43		0	136	0	0	0	0
5:25 PM	3		1	0				0	71	5	0	1	42		0	123	0	0	0	0
5:30 PM	2		2	0				0	67	7	0	3	38		0	119	0	0	0	0
5:35 PM	1		1	0				0	60	5	0	1	38		0	106	0	0	0	0
5:40 PM	0		4	0				0	49	7	0	0	34		0	94	0	0	0	0
5:45 PM	2		1	0				0	69	7	0	1	45		0	125	0	0	0	0
5:50 PM	0		3	0				0	60	4	0	0	43		0	110	0	0	0	0
5:55 PM	4		1	0				0	65	8	0	3	52		0	133	0	0	0	0
Total Survey	53		60	1				0	1,560	167	0	38	1,283		0	3,161	0	0	0	0

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
4:00 PM	4		9	0				0	192	18	0	9	176		0	408	0	0	0	0
4:15 PM	17		6	1				0	213	22	0	3	169		0	430	0	0	0	0
4:30 PM	2		9	0				0	195	20	0	3	175		0	404	0	0	0	0
4:45 PM	10		6	0				0	198	14	0	4	173		0	405	0	0	0	0
5:00 PM	5		11	0				0	192	35	0	6	196		0	445	0	0	0	0
5:15 PM	6		7	0				0	200	20	0	5	144		0	382	0	0	0	0
5:30 PM	3		7	0				0	176	19	0	4	110		0	319	0	0	0	0
5:45 PM	6		5	0				0	194	19	0	4	140		0	368	0	0	0	0
Total Survey	53		60	1				0	1,560	167	0	38	1,283		0	3,161	0	0	0	0

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	65	96	161	1	0	0	0	0	881	755	1,636	0	738	833	1,571	0	1,684	0	0	0	0
%HV	3.1%				0.0%				3.3%				6.6%				4.8%				
PHF	0.71				0.00				0.91				0.94				0.93				

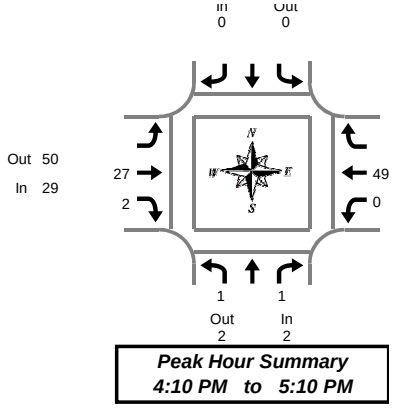
By Movement	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	33		32	65				0		801	80	881	16	722		738	1,684
%HV	3.0%	NA	3.1%	3.1%	NA	NA	NA	0.0%	NA	3.4%	2.5%	3.3%	0.0%	6.8%	NA	6.6%	4.8%
PHF	0.49		0.80	0.71				0.00		0.93	0.69	0.91	0.57	0.93		0.94	0.93

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
4:00 PM	33		30	1				0	798	74	0	19	693		0	1,647	0	0	0	0
4:15 PM	34		32	1				0	798	91	0	16	713		0	1,684	0	0	0	0
4:30 PM	23		33	0				0	785	89	0	18	688		0	1,636	0	0	0	0
4:45 PM	24		31	0				0	766	88	0	19	623		0	1,551	0	0	0	0
5:00 PM	20		30	0				0	762	93	0	19	590		0	1,514	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



SE Langensand Rd & Hwy 26

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:10 PM to 5:10 PM

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	3	0	3		0	11		11	14
4:05 PM	0		0	0				0	8	0	8		0	5		5	13
4:10 PM	0		0	0				0	2	0	2		0	7		7	9
4:15 PM	0		0	0				0	5	0	5		0	4		4	9
4:20 PM	1		0	1				0	4	1	5		0	4		4	10
4:25 PM	0		0	0				0	3	0	3		0	5		5	8
4:30 PM	0		1	1				0	1	1	2		0	3		3	6
4:35 PM	0		0	0				0	1	0	1		0	4		4	5
4:40 PM	0		0	0				0	2	0	2		0	3		3	5
4:45 PM	0		0	0				0	1	0	1		0	4		4	5
4:50 PM	0		0	0				0	2	0	2		0	6		6	8
4:55 PM	0		0	0				0	1	0	1		0	2		2	3
5:00 PM	0		0	0				0	3	0	3		0	1		1	4
5:05 PM	0		0	0				0	2	0	2		0	6		6	8
5:10 PM	0		0	0				0	0	1	1		0	4		4	5
5:15 PM	0		0	0				0	2	0	2		0	3		3	5
5:20 PM	0		0	0				0	0	0	0		0	5		5	5
5:25 PM	0		0	0				0	1	0	1		0	1		1	2
5:30 PM	0		0	0				0	4	0	4		0	2		2	6
5:35 PM	0		0	0				0	0	0	0		1	2		3	3
5:40 PM	0		0	0				0	1	0	1		0	3		3	4
5:45 PM	0		0	0				0	4	0	4		0	3		3	7
5:50 PM	0		0	0				0	1	0	1		0	2		2	3
5:55 PM	0		0	0				0	2	0	2		0	7		7	9
Total Survey	1		1	2				0	53	3	56		1	97		98	156

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	13	0	13		0	23		23	36
4:15 PM	1		0	1				0	12	1	13		0	13		13	27
4:30 PM	0		1	1				0	4	1	5		0	10		10	16
4:45 PM	0		0	0				0	4	0	4		0	12		12	16
5:00 PM	0		0	0				0	5	1	6		0	11		11	17
5:15 PM	0		0	0				0	3	0	3		0	9		9	12
5:30 PM	0		0	0				0	5	0	5		1	7		8	13
5:45 PM	0		0	0				0	7	0	7		0	12		12	19
Total Survey	1		1	2				0	53	3	56		1	97		98	156

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound SE Langensand Rd			Southbound SE Langensand Rd			Eastbound Hwy 26			Westbound Hwy 26			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	2	4	0	0	0	29	50	79	49	28	77	80
PHF	0.25			0.00			0.56			0.82			0.71

By Movement	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	1		1	2				0	27	2	29		0	49		49	80
PHF	0.25		0.25	0.25				0.00	0.56	0.25	0.56		0.00	0.82		0.82	0.71

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

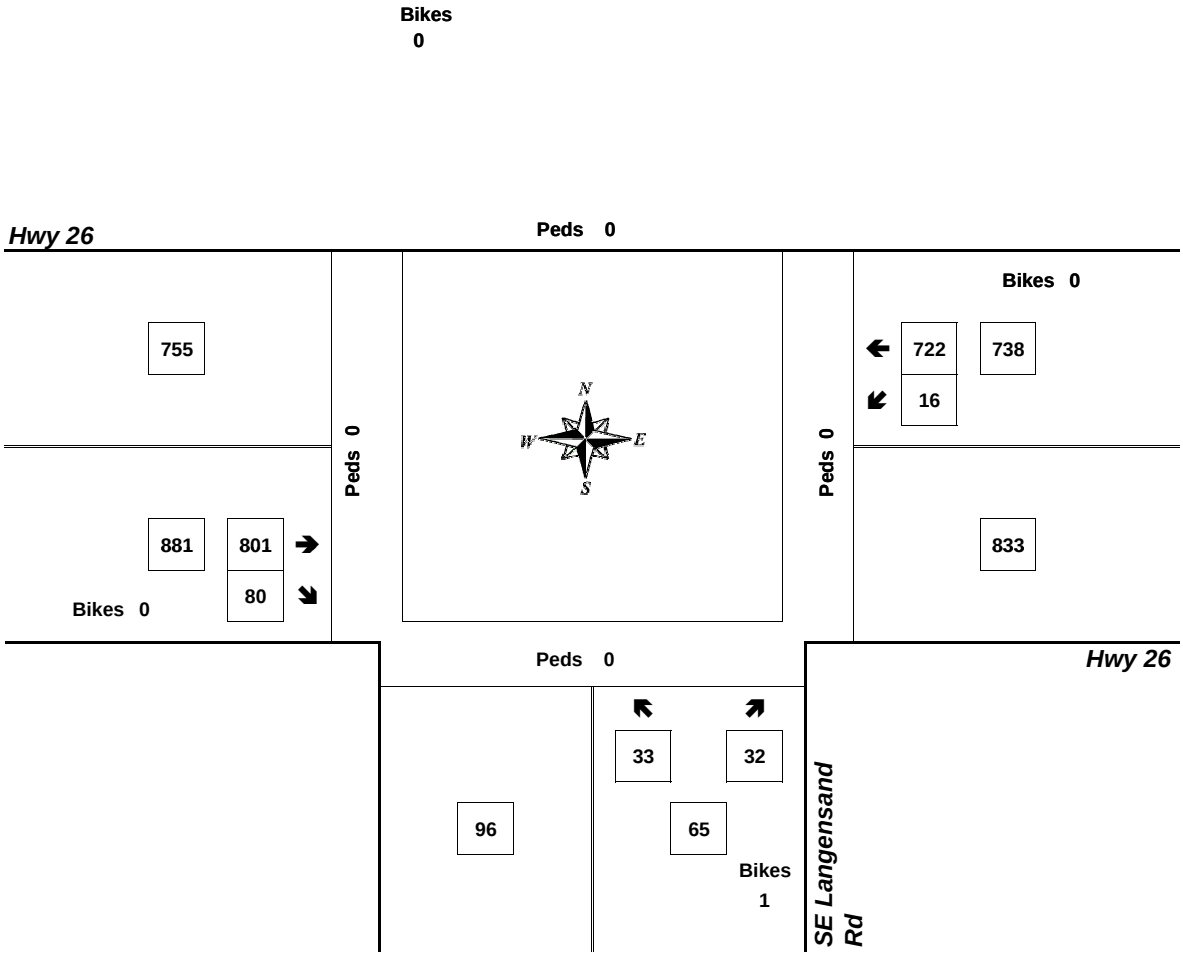
Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	1		1	2				0	33	2	35		0	58		58	95
4:15 PM	1		1	2				0	25	3	28		0	46		46	76
4:30 PM	0		1	1				0	16	2	18		0	42		42	61
4:45 PM	0		0	0				0	17	1	18		1	39		40	58
5:00 PM	0		0	0				0	20	1	21		1	39		40	61

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

SE Langensand Rd & Hwy 26

4:10 PM to 5:10 PM
Tuesday, March 19, 2019

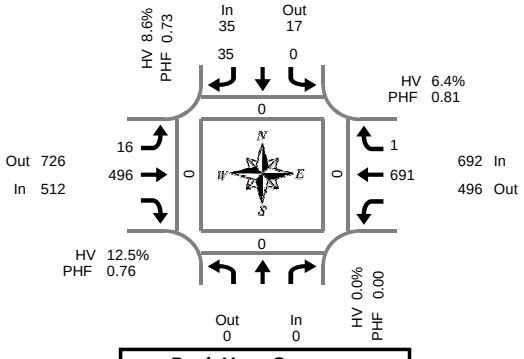


Approach	PHF	HV%	Volume
EB	0.91	3.3%	881
WB	0.94	6.6%	738
NB	0.71	3.1%	65
SB	0.00	0.0%	0
Intersection	0.93	4.8%	1,684

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

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



SE Vista Loop Dr & Hwy 26

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
7:00 AM				0	0		6	0	1	25		0		68	0	0	100	0	0	0	0
7:05 AM				0	0		2	0	0	25		0		54	0	0	81	0	0	0	0
7:10 AM				0	0		4	0	1	24		0		80	0	0	109	0	0	0	0
7:15 AM				0	0		2	0	2	32		0		71	0	0	107	0	0	0	0
7:20 AM				0	0		2	0	2	51		0		63	0	0	118	0	0	0	0
7:25 AM				0	0		4	0	1	31		0		62	0	0	98	0	0	0	0
7:30 AM				0	0		1	0	2	46		0		62	1	0	112	0	0	0	0
7:35 AM				0	0		4	0	0	43		0		49	0	0	96	0	0	0	0
7:40 AM				0	0		4	0	3	54		0		45	0	0	106	0	0	0	0
7:45 AM				0	0		4	0	0	54		0		44	0	0	102	0	0	0	0
7:50 AM				0	0		0	0	2	53		0		57	0	0	112	0	0	0	0
7:55 AM				0	0		2	0	2	58		0		36	0	0	98	0	0	0	0
8:00 AM				0	0		3	0	1	52		0		31	0	0	87	0	0	0	0
8:05 AM				0	0		2	0	3	44		0		40	0	0	89	0	0	0	0
8:10 AM				0	1		1	0	0	42		0		50	0	0	94	0	0	0	0
8:15 AM				0	0		0	0	1	46		0		32	0	0	79	0	0	0	0
8:20 AM				0	0		1	0	2	38		0		46	0	0	87	0	0	0	0
8:25 AM				0	0		0	0	3	39		0		42	0	0	84	0	0	0	0
8:30 AM				0	0		2	0	0	61		0		42	0	0	105	0	0	0	0
8:35 AM				0	0		0	0	0	56		0		44	0	0	100	0	0	0	0
8:40 AM				0	1		2	0	0	64		0		52	0	0	119	0	0	0	0
8:45 AM				0	0		1	0	0	66		0		56	0	0	123	0	0	0	0
8:50 AM				0	0		0	0	2	56		0		49	0	0	107	0	0	0	0
8:55 AM				0	0		2	0	2	61		0		42	0	0	107	0	0	0	0
Total Survey				0	2		49	0	30	1,121		0		1,217	1	0	2,420	0	0	0	0

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
7:00 AM				0	0		12	0	2	74		0		202	0	0	290	0	0	0	0
7:15 AM				0	0		8	0	5	114		0		196	0	0	323	0	0	0	0
7:30 AM				0	0		9	0	5	143		0		156	1	0	314	0	0	0	0
7:45 AM				0	0		6	0	4	165		0		137	0	0	312	0	0	0	0
8:00 AM				0	1		6	0	4	138		0		121	0	0	270	0	0	0	0
8:15 AM				0	0		1	0	6	123		0		120	0	0	250	0	0	0	0
8:30 AM				0	1		4	0	0	181		0		138	0	0	324	0	0	0	0
8:45 AM				0	0		3	0	4	183		0		147	0	0	337	0	0	0	0
Total Survey				0	2		49	0	30	1,121		0		1,217	1	0	2,420	0	0	0	0

Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	35	17	52	0	512	726	1,238	0	692	496	1,188	0	1,239	0	0	0	0
%HV	0.0%				8.6%				12.5%				6.4%				9.0%				
PHF	0.00				0.73				0.76				0.81				0.93				

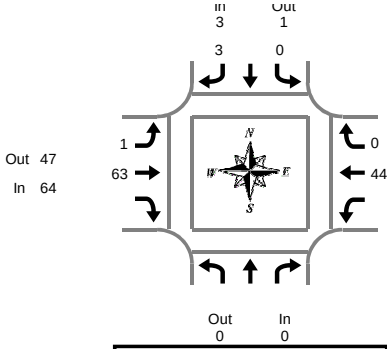
By Movement	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		35	35	16	496		512		691	1	692	1,239
%HV	NA	NA	NA	0.0%	0.0%	NA	8.6%	8.6%	6.3%	12.7%	NA	12.5%	NA	6.4%	0.0%	6.4%	9.0%
PHF				0.00	0.00		0.73	0.73	0.80	0.75		0.76		0.81	0.25	0.81	0.93

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
7:00 AM				0	0		35	0	16	496		0		691	1	0	1,239	0	0	0	0
7:15 AM				0	1		29	0	18	560		0		610	1	0	1,219	0	0	0	0
7:30 AM				0	1		22	0	19	569		0		534	1	0	1,146	0	0	0	0
7:45 AM				0	2		17	0	14	607		0		516	0	0	1,156	0	0	0	0
8:00 AM				0	2		14	0	14	625		0		526	0	0	1,181	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



SE Vista Loop Dr & Hwy 26

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:00 AM to 8:00 AM

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
7:00 AM				0	0		0	0	0	6		6		4	0	4	10
7:05 AM				0	0		0	0	0	4		4		5	0	5	9
7:10 AM				0	0		1	1	0	2		2		3	0	3	6
7:15 AM				0	0		0	0	0	3		3		2	0	2	5
7:20 AM				0	0		0	0	0	7		7		1	0	1	8
7:25 AM				0	0		0	0	0	5		5		3	0	3	8
7:30 AM				0	0		0	0	0	8		8		6	0	6	14
7:35 AM				0	0		1	1	0	4		4		5	0	5	10
7:40 AM				0	0		1	1	1	9		10		3	0	3	14
7:45 AM				0	0		0	0	0	7		7		3	0	3	10
7:50 AM				0	0		0	0	0	5		5		8	0	8	13
7:55 AM				0	0		0	0	0	3		3		1	0	1	4
8:00 AM				0	0		0	0	1	8		9		3	0	3	12
8:05 AM				0	0		1	1	1	10		11		5	0	5	17
8:10 AM				0	0		1	1	0	3		3		6	0	6	10
8:15 AM				0	0		0	0	0	4		4		3	0	3	7
8:20 AM				0	0		0	0	1	4		5		2	0	2	7
8:25 AM				0	0		0	0	1	5		6		3	0	3	9
8:30 AM				0	0		0	0	0	11		11		4	0	4	15
8:35 AM				0	0		0	0	0	5		5		8	0	8	13
8:40 AM				0	1		0	1	0	7		7		3	0	3	11
8:45 AM				0	0		0	0	0	8		8		4	0	4	12
8:50 AM				0	0		0	0	1	5		6		6	0	6	12
8:55 AM				0	0		0	0	0	1		1		3	0	3	4
Total Survey				0	1		5	6	6	134		140		94	0	94	240

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
7:00 AM				0	0		1	1	0	12		12		12	0	12	25
7:15 AM				0	0		0	0	0	15		15		6	0	6	21
7:30 AM				0	0		2	2	1	21		22		14	0	14	38
7:45 AM				0	0		0	0	0	15		15		12	0	12	27
8:00 AM				0	0		2	2	2	21		23		14	0	14	39
8:15 AM				0	0		0	0	2	13		15		8	0	8	23
8:30 AM				0	1		0	1	0	23		23		15	0	15	39
8:45 AM				0	0		0	0	1	14		15		13	0	13	28
Total Survey				0	1		5	6	6	134		140		94	0	94	240

Heavy Vehicle Peak Hour Summary
7:00 AM to 8:00 AM

By Approach	Northbound SE Vista Loop Dr			Southbound SE Vista Loop Dr			Eastbound Hwy 26			Westbound Hwy 26			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	3	1	4	64	47	111	44	63	107	111
PHF	0.00			0.38			0.73			0.79			0.73

By Movement	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		3	3	1	63		64		44	0	44	111
PHF				0.00	0.00		0.38	0.38	0.25	0.75		0.73		0.79	0.00	0.79	0.73

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

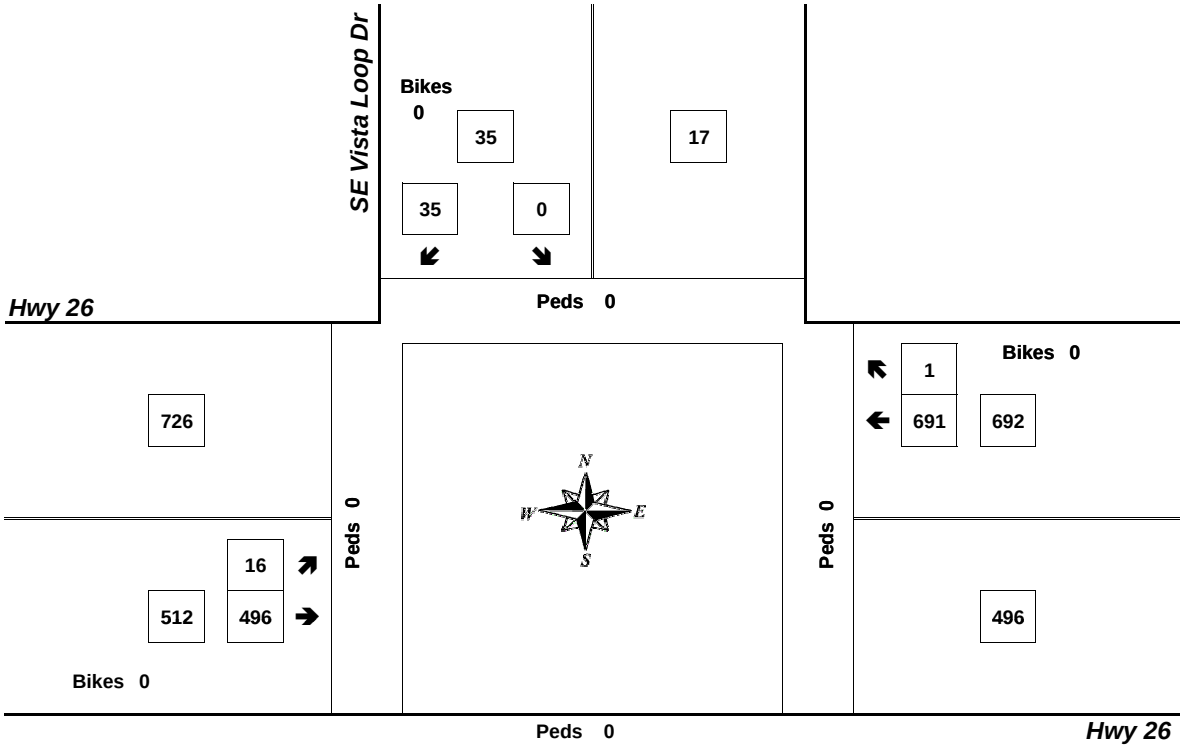
Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
7:00 AM				0	0		3	3	1	63		64		44	0	44	111
7:15 AM				0	0		4	4	3	72		75		46	0	46	125
7:30 AM				0	0		4	4	5	70		75		48	0	48	127
7:45 AM				0	1		2	3	4	72		76		49	0	49	128
8:00 AM				0	1		2	3	5	71		76		50	0	50	129

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

SE Vista Loop Dr & Hwy 26

7:00 AM to 8:00 AM
Wednesday, March 20, 2019

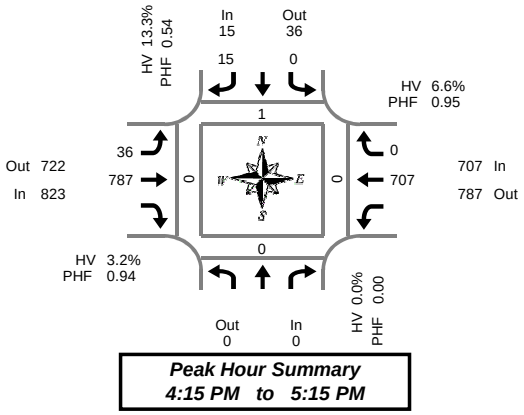


Approach	PHF	HV%	Volume
EB	0.76	12.5%	512
WB	0.81	6.4%	692
NB	0.00	0.0%	0
SB	0.73	8.6%	35
Intersection	0.93	9.0%	1,239

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

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:15 PM to 5:15 PM

SE Vista Loop Dr & Hwy 26

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
4:00 PM				0	0		2	0	1	53		0		55	0	0	111	0	0	0	0
4:05 PM				0	1		0	0	2	65		0		60	0	0	128	0	0	0	0
4:10 PM				0	0		3	0	5	61		0		62	0	0	131	0	0	0	0
4:15 PM				0	0		1	0	7	68		0		53	0	0	129	0	0	0	0
4:20 PM				0	0		3	0	2	86		0		68	0	0	159	0	0	0	0
4:25 PM				0	0		2	0	1	50		0		44	0	0	97	0	0	0	0
4:30 PM				0	0		2	0	3	76		1		63	0	0	144	0	0	0	0
4:35 PM				0	0		1	0	4	69		0		54	0	0	128	0	0	0	0
4:40 PM				0	0		0	0	2	51		1		68	0	0	121	1	0	0	0
4:45 PM				0	0		1	1	1	59		0		59	0	0	120	0	0	0	0
4:50 PM				0	0		0	0	2	70		0		59	0	0	131	0	0	0	0
4:55 PM				0	0		1	0	4	64		0		58	0	0	127	0	0	0	0
5:00 PM				0	0		2	0	3	69		0		54	0	0	128	0	0	0	0
5:05 PM				0	0		1	0	3	64		0		58	0	0	126	0	0	0	0
5:10 PM				0	0		1	0	4	61		0		69	0	0	135	0	0	0	0
5:15 PM				0	0		0	0	0	57		0		44	0	0	101	0	0	0	0
5:20 PM				0	0		0	0	1	73		0		39	0	0	113	0	0	0	0
5:25 PM				0	0		4	0	2	61		0		41	0	0	108	0	0	0	0
5:30 PM				0	0		2	0	4	76		0		39	0	0	121	0	0	0	0
5:35 PM				0	0		0	0	1	56		0		39	0	0	96	0	0	0	0
5:40 PM				0	0		3	0	0	62		0		29	0	0	94	0	0	0	0
5:45 PM				0	0		1	0	0	79		0		46	0	0	126	0	0	0	0
5:50 PM				0	0		0	0	1	60		0		45	0	0	106	0	0	0	0
5:55 PM				0	0		2	0	3	70		0		42	0	0	117	0	0	0	0
Total Survey				0	1		32	1	56	1,560		2		1,248	0	0	2,897	1	0	0	0

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
4:00 PM				0	1		5	0	8	179		0		177	0	0	370	0	0	0	0
4:15 PM				0	0		6	0	10	204		0		165	0	0	385	0	0	0	0
4:30 PM				0	0		3	0	9	196		2		185	0	0	393	1	0	0	0
4:45 PM				0	0		2	1	7	193		0		176	0	0	378	0	0	0	0
5:00 PM				0	0		4	0	10	194		0		181	0	0	389	0	0	0	0
5:15 PM				0	0		4	0	3	191		0		124	0	0	322	0	0	0	0
5:30 PM				0	0		5	0	5	194		0		107	0	0	311	0	0	0	0
5:45 PM				0	0		3	0	4	209		0		133	0	0	349	0	0	0	0
Total Survey				0	1		32	1	56	1,560		2		1,248	0	0	2,897	1	0	0	0

Peak Hour Summary
4:15 PM to 5:15 PM

By Approach	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	0	0	0	15	36	51	1	823	722	1,545	2	707	787	1,494	0	1,545	1	0	0	0
%HV	0.0%				13.3%				3.2%				6.6%				4.9%				
PHF	0.00				0.54				0.94				0.95				0.97				

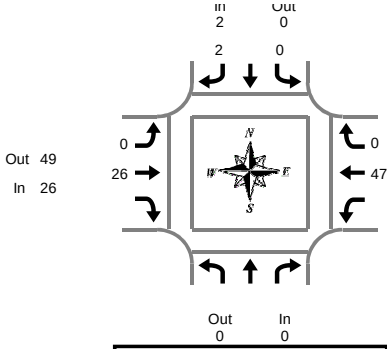
By Movement	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		15	15	36	787		823		707	0	707	1,545
%HV	NA	NA	NA	0.0%	0.0%	NA	13.3%	13.3%	0.0%	3.3%	NA	3.2%	NA	6.6%	0.0%	6.6%	4.9%
PHF				0.00	0.00		0.54	0.54	0.90	0.93		0.94		0.95	0.00	0.95	0.97

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
				Bikes	L		R	Bikes	L	T		Bikes		T	R	Bikes		North	South	East	West
4:00 PM				0	1		16	1	34	772		2		703	0	0	1,526	1	0	0	0
4:15 PM				0	0		15	1	36	787		2		707	0	0	1,545	1	0	0	0
4:30 PM				0	0		13	1	29	774		2		666	0	0	1,482	1	0	0	0
4:45 PM				0	0		15	1	25	772		0		588	0	0	1,400	0	0	0	0
5:00 PM				0	0		16	0	22	788		0		545	0	0	1,371	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



SE Vista Loop Dr & Hwy 26

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:15 PM to 5:15 PM

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
4:00 PM				0	0		1	1	0	2		2		10	0	10	13
4:05 PM				0	1		0	1	1	6		7		2	0	2	10
4:10 PM				0	0		1	1	1	2		3		7	0	7	11
4:15 PM				0	0		0	0	0	3		3		3	0	3	6
4:20 PM				0	0		1	1	0	6		6		4	0	4	11
4:25 PM				0	0		1	1	0	3		3		3	0	3	7
4:30 PM				0	0		0	0	0	1		1		1	0	1	2
4:35 PM				0	0		0	0	0	0		0		5	0	5	5
4:40 PM				0	0		0	0	0	3		3		3	0	3	6
4:45 PM				0	0		0	0	0	1		1		3	0	3	4
4:50 PM				0	0		0	0	0	2		2		8	0	8	10
4:55 PM				0	0		0	0	0	1		1		1	0	1	2
5:00 PM				0	0		0	0	0	4		4		4	0	4	8
5:05 PM				0	0		0	0	0	1		1		8	0	8	9
5:10 PM				0	0		0	0	0	1		1		4	0	4	5
5:15 PM				0	0		0	0	0	2		2		1	0	1	3
5:20 PM				0	0		0	0	0	0		0		5	0	5	5
5:25 PM				0	0		0	0	0	0		0		1	0	1	1
5:30 PM				0	0		0	0	0	2		2		2	0	2	4
5:35 PM				0	0		0	0	0	0		0		4	0	4	4
5:40 PM				0	0		0	0	0	2		2		2	0	2	4
5:45 PM				0	0		0	0	0	2		2		1	0	1	3
5:50 PM				0	0		0	0	0	0		0		2	0	2	2
5:55 PM				0	0		0	0	0	2		2		3	0	3	5
Total Survey				0	1		4	5	2	46		48		87	0	87	140

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
4:00 PM				0	1		2	3	2	10		12		19	0	19	34
4:15 PM				0	0		2	2	0	12		12		10	0	10	24
4:30 PM				0	0		0	0	0	4		4		9	0	9	13
4:45 PM				0	0		0	0	0	4		4		12	0	12	16
5:00 PM				0	0		0	0	0	6		6		16	0	16	22
5:15 PM				0	0		0	0	0	2		2		7	0	7	9
5:30 PM				0	0		0	0	0	4		4		8	0	8	12
5:45 PM				0	0		0	0	0	4		4		6	0	6	10
Total Survey				0	1		4	5	2	46		48		87	0	87	140

Heavy Vehicle Peak Hour Summary
4:15 PM to 5:15 PM

By Approach	Northbound SE Vista Loop Dr			Southbound SE Vista Loop Dr			Eastbound Hwy 26			Westbound Hwy 26			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	0	0	2	0	2	26	49	75	47	26	73	75
PHF	0.00			0.25			0.54			0.73			0.78

By Movement	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Total
				Total	L		R	Total	L	T		Total		T	R	Total	
Volume				0	0		2	2	0	26		26		47	0	47	75
PHF				0.00	0.00		0.25	0.25	0.00	0.54		0.54		0.73	0.00	0.73	0.78

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

Interval Start Time	Northbound SE Vista Loop Dr				Southbound SE Vista Loop Dr				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
				Total	L		R	Total	L	T		Total		T	R	Total	
4:00 PM				0	1		4	5	2	30		32		50	0	50	87
4:15 PM				0	0		2	2	0	26		26		47	0	47	75
4:30 PM				0	0		0	0	0	16		16		44	0	44	60
4:45 PM				0	0		0	0	0	16		16		43	0	43	59
5:00 PM				0	0		0	0	0	16		16		37	0	37	53

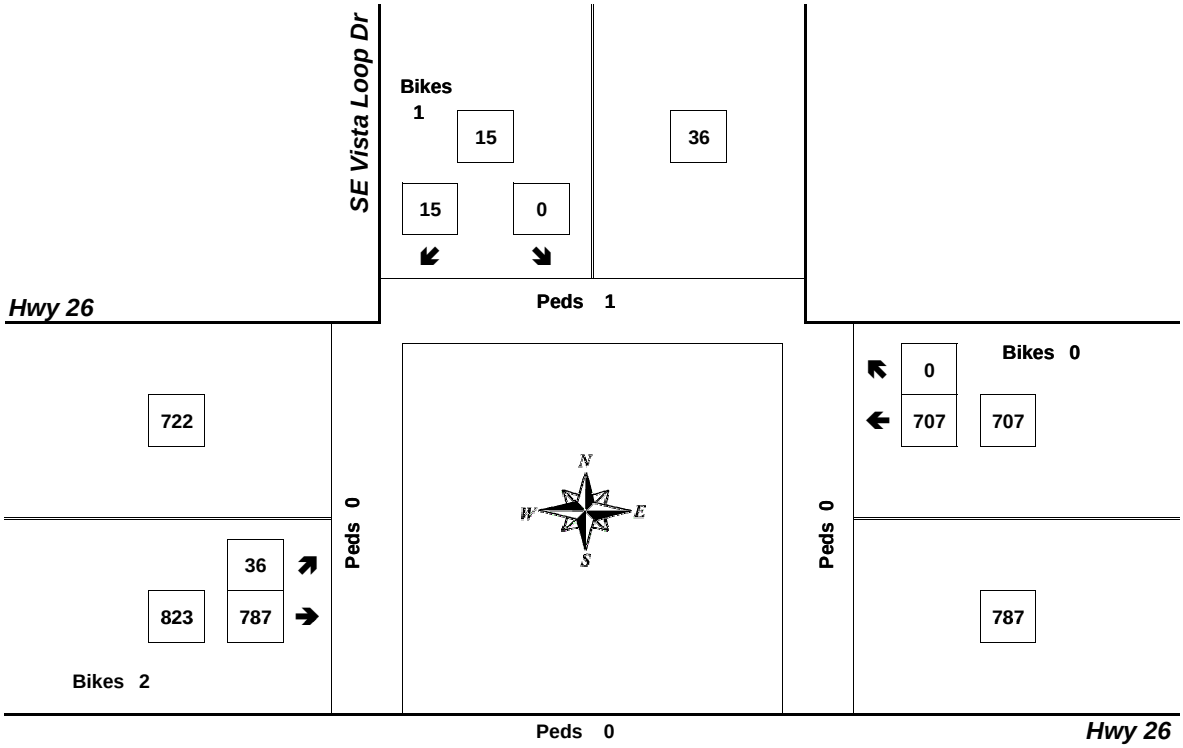
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

SE Vista Loop Dr & Hwy 26

4:15 PM to 5:15 PM
Tuesday, March 19, 2019



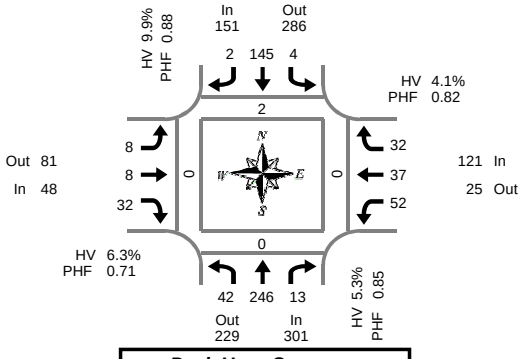
Bikes
0

Approach	PHF	HV%	Volume
EB	0.94	3.2%	823
WB	0.95	6.6%	707
NB	0.00	0.0%	0
SB	0.54	13.3%	15
Intersection	0.97	4.9%	1,545

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

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

Hwy 211 & Dubarko Rd

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	2	18	1	0	0	8	0	0	0	0	0	0	4	5	0	0	38	0	1	0	0
7:05 AM	3	20	1	0	0	12	0	0	0	0	0	0	3	1	5	0	45	0	0	0	0
7:10 AM	5	23	0	0	0	12	0	0	2	2	4	0	4	3	9	0	64	0	0	0	0
7:15 AM	5	32	0	0	0	9	0	0	1	0	2	0	4	2	2	0	57	1	0	0	0
7:20 AM	8	13	0	0	2	13	1	0	0	0	2	0	5	3	5	0	52	0	0	0	0
7:25 AM	1	23	2	0	0	13	0	0	1	1	5	0	4	3	3	0	56	0	0	0	0
7:30 AM	3	17	0	0	1	12	0	0	0	0	3	0	4	9	1	0	50	1	0	0	0
7:35 AM	2	23	0	0	0	17	0	0	0	0	7	0	6	5	1	0	61	0	0	0	0
7:40 AM	2	23	1	0	0	6	1	0	1	2	4	0	6	4	1	0	51	0	0	0	0
7:45 AM	4	20	3	0	0	14	0	0	0	1	0	0	3	1	0	0	46	0	0	0	0
7:50 AM	5	15	3	0	0	10	0	0	1	1	1	0	5	4	2	0	47	0	0	0	0
7:55 AM	1	21	2	0	1	15	0	0	1	0	3	0	3	1	1	0	49	0	0	0	0
8:00 AM	3	16	1	0	0	12	0	0	1	1	1	0	5	1	2	0	43	0	0	0	0
8:05 AM	2	15	0	0	0	7	0	0	1	1	2	0	4	0	3	0	35	1	0	0	0
8:10 AM	2	19	1	0	1	8	0	0	3	1	2	0	3	4	1	0	45	0	0	0	0
8:15 AM	3	27	1	0	0	8	0	0	0	0	1	0	1	3	2	0	46	0	0	0	0
8:20 AM	0	19	0	0	0	10	0	0	0	1	0	0	1	3	0	0	34	0	0	0	0
8:25 AM	6	8	1	0	0	8	0	0	0	1	1	0	1	1	2	0	29	0	0	0	0
8:30 AM	3	27	2	0	0	10	0	0	0	1	1	0	2	2	5	0	53	0	0	0	0
8:35 AM	1	14	0	0	0	16	0	0	0	1	0	0	2	2	0	0	36	0	0	0	0
8:40 AM	0	19	1	0	0	15	0	0	0	1	1	0	1	3	1	0	42	0	0	0	0
8:45 AM	1	21	1	0	0	15	1	0	0	2	3	0	1	2	4	0	51	0	0	0	0
8:50 AM	0	21	0	0	0	9	0	0	0	2	0	0	3	3	2	0	40	0	0	0	0
8:55 AM	4	20	1	0	1	10	0	0	1	3	2	0	3	3	3	0	51	0	0	0	0
Total Survey	66	474	22	0	6	269	3	0	13	22	45	0	78	68	55	0	1,121	3	1	0	0

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	10	61	2	0	0	32	0	0	2	2	4	0	11	9	14	0	147	0	1	0	0
7:15 AM	14	68	2	0	2	35	1	0	2	1	9	0	13	8	10	0	165	1	0	0	0
7:30 AM	7	63	1	0	1	35	1	0	1	2	14	0	16	18	3	0	162	1	0	0	0
7:45 AM	10	56	8	0	1	39	0	0	2	2	4	0	11	6	3	0	142	0	0	0	0
8:00 AM	7	50	2	0	1	27	0	0	5	3	5	0	12	5	6	0	123	1	0	0	0
8:15 AM	9	54	2	0	0	26	0	0	0	2	2	0	3	7	4	0	109	0	0	0	0
8:30 AM	4	60	3	0	0	41	0	0	0	3	2	0	5	7	6	0	131	0	0	0	0
8:45 AM	5	62	2	0	1	34	1	0	1	7	5	0	7	8	9	0	142	0	0	0	0
Total Survey	66	474	22	0	6	269	3	0	13	22	45	0	78	68	55	0	1,121	3	1	0	0

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	301	229	530	0	151	286	437	0	48	81	129	0	121	25	146	0	621	2	0	0	0
%HV	5.3%				9.9%				6.3%				4.1%				6.3%				
PHF	0.85				0.88				0.71				0.82				0.90				

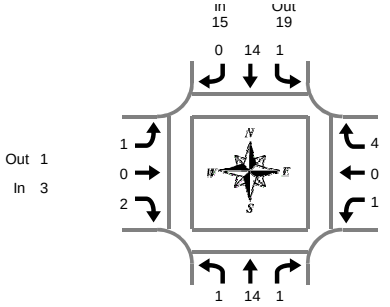
By Movement	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	42	246	13	301	4	145	2	151	8	8	32	48	52	37	32	121	621
%HV	2.4%	5.7%	7.7%	5.3%	25.0%	9.7%	0.0%	9.9%	12.5%	0.0%	6.3%	6.3%	1.9%	0.0%	12.5%	4.1%	6.3%
PHF	0.58	0.82	0.41	0.85	0.33	0.86	0.50	0.88	0.67	0.50	0.53	0.71	0.81	0.51	0.50	0.82	0.90

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	41	248	13	0	4	141	2	0	7	7	31	0	51	41	30	0	616	2	1	0	0
7:15 AM	38	237	13	0	5	136	2	0	10	8	32	0	52	37	22	0	592	3	0	0	0
7:30 AM	33	223	13	0	3	127	1	0	8	9	25	0	42	36	16	0	536	2	0	0	0
7:45 AM	30	220	15	0	2	133	0	0	7	10	13	0	31	25	19	0	505	1	0	0	0
8:00 AM	25	226	9	0	2	128	1	0	6	15	14	0	27	27	25	0	505	1	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Hwy 211 & Dubarko Rd

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:05 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
7:10 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	1	1	3
7:15 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
7:20 AM	0	0	0	0	1	1	0	2	0	0	0	0	1	0	0	1	3
7:25 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	2	3
7:30 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
7:35 AM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
7:40 AM	0	3	1	4	0	0	0	0	0	0	0	0	0	0	1	1	5
7:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
7:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:55 AM	1	0	0	1	0	3	0	3	0	0	0	0	0	0	0	0	4
8:00 AM	0	6	0	6	0	2	0	2	0	0	0	0	0	0	0	0	8
8:05 AM	0	0	0	0	0	3	0	3	0	0	0	0	1	0	0	1	4
8:10 AM	0	2	0	2	0	0	0	0	0	0	0	0	1	1	0	2	4
8:15 AM	1	2	0	3	0	1	0	1	0	0	0	0	0	0	0	0	4
8:20 AM	0	2	0	2	0	2	0	2	0	1	0	1	0	0	0	0	5
8:25 AM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
8:30 AM	0	3	0	3	0	2	0	2	0	0	0	0	0	0	0	0	5
8:35 AM	0	3	0	3	0	4	0	4	0	0	0	0	0	0	0	0	7
8:40 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
8:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
8:50 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
8:55 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total Survey	2	31	1	34	1	31	0	32	1	1	2	4	3	3	4	10	80

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	0	2	0	1	0	1	0	0	1	1	0	1	1	2	6
7:15 AM	0	1	0	1	1	1	0	2	1	0	1	2	1	0	2	3	8
7:30 AM	0	5	1	6	0	4	0	4	0	0	0	0	0	0	1	1	11
7:45 AM	1	0	0	1	0	6	0	6	0	0	0	0	0	0	0	0	7
8:00 AM	0	8	0	8	0	5	0	5	0	0	0	0	2	1	0	3	16
8:15 AM	1	6	0	7	0	4	0	4	0	1	0	1	0	0	0	0	12
8:30 AM	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0	14
8:45 AM	0	2	0	2	0	3	0	3	0	0	0	0	0	1	0	1	6
Total Survey	2	31	1	34	1	31	0	32	1	1	2	4	3	3	4	10	80

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound Hwy 211			Southbound Hwy 211			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	16	17	33	15	19	34	3	1	4	5	2	7	39
PHF	0.57			0.63			0.38			0.42			0.81

By Movement	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	14	1	16	1	14	0	15	1	0	2	3	1	0	4	5	39
PHF	0.25	0.58	0.25	0.57	0.25	0.58	0.00	0.63	0.25	0.00	0.25	0.38	0.25	0.00	0.50	0.42	0.81

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	8	1	10	1	12	0	13	1	0	2	3	1	1	4	6	32
7:15 AM	1	14	1	16	1	16	0	17	1	0	1	2	3	1	3	7	42
7:30 AM	2	19	1	22	0	19	0	19	0	1	0	1	2	1	1	4	46
7:45 AM	2	21	0	23	0	22	0	22	0	1	0	1	2	1	0	3	49
8:00 AM	1	23	0	24	0	19	0	19	0	1	0	1	2	2	0	4	48

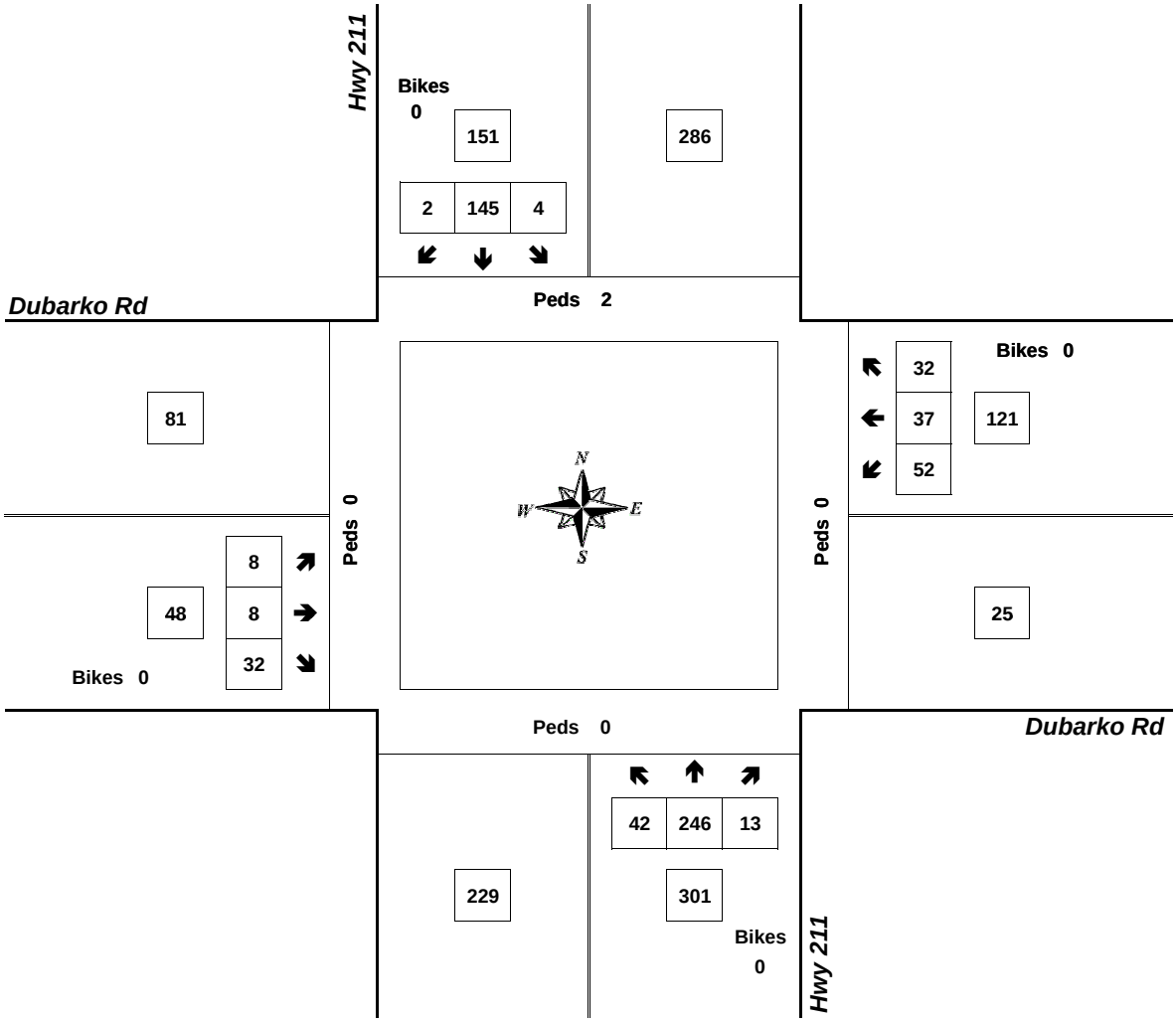
Peak Hour Summary

All Traffic Data Services Inc.

Clay Carney
(503) 833-2740

Hwy 211 & Dubarko Rd

7:05 AM to 8:05 AM
Wednesday, March 20, 2019

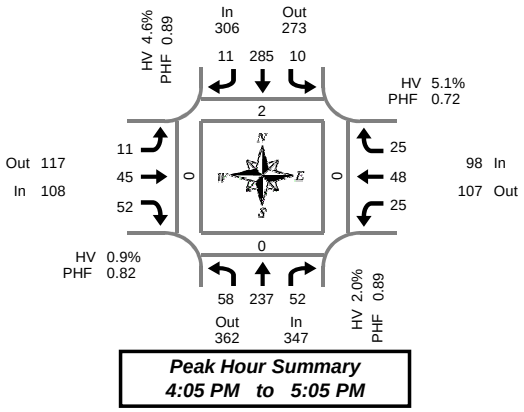


Approach	PHF	HV%	Volume
EB	0.71	6.3%	48
WB	0.82	4.1%	121
NB	0.85	5.3%	301
SB	0.88	9.9%	151
Intersection	0.90	6.3%	621

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

Total Vehicle Summary

Clay Carney
(503) 833-2740



Peak Hour Summary
4:05 PM to 5:05 PM

Hwy 211 & Dubarko Rd

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	4	14	0	0	2	25	1	0	0	3	3	0	2	3	3	0	60	0	0	1	0
4:05 PM	4	28	3	0	1	31	0	0	1	7	6	0	2	6	2	0	91	0	0	0	0
4:10 PM	10	17	2	0	1	19	0	0	0	4	3	0	3	4	3	0	66	0	0	0	0
4:15 PM	4	20	6	0	2	20	1	0	2	7	3	1	1	5	1	0	72	0	0	0	0
4:20 PM	6	12	1	0	1	14	1	0	2	3	4	0	5	7	4	0	60	1	0	0	0
4:25 PM	5	16	4	0	1	21	1	0	3	3	4	0	2	4	1	0	65	0	0	0	0
4:30 PM	4	22	3	0	0	19	3	0	1	2	2	0	5	5	1	0	67	1	0	0	0
4:35 PM	2	23	7	0	0	29	1	0	1	2	1	0	0	1	3	0	70	0	0	0	0
4:40 PM	2	17	4	0	0	22	0	0	0	2	1	0	1	3	3	0	55	0	0	0	0
4:45 PM	10	23	7	0	2	29	1	0	0	6	8	0	3	2	0	0	91	0	0	0	0
4:50 PM	3	22	6	0	1	19	1	0	1	0	4	0	1	1	2	0	61	0	0	0	0
4:55 PM	4	20	3	0	0	20	2	0	0	6	2	0	1	6	1	0	65	0	0	0	0
5:00 PM	4	17	6	0	1	42	0	0	0	3	14	0	1	4	4	0	96	0	0	0	0
5:05 PM	2	24	5	0	0	20	0	0	0	4	5	0	1	2	3	0	66	0	0	0	0
5:10 PM	8	24	4	0	1	13	1	0	1	8	2	0	2	1	3	0	68	0	0	0	0
5:15 PM	4	13	4	0	1	19	1	0	0	4	3	0	5	3	0	0	57	0	0	0	0
5:20 PM	1	19	6	0	1	29	1	0	1	2	2	0	1	4	0	0	67	0	0	0	0
5:25 PM	5	14	6	0	0	17	1	0	1	3	9	0	2	4	3	0	65	0	0	0	0
5:30 PM	5	19	6	0	0	19	1	0	1	5	5	0	0	2	3	0	66	0	0	0	0
5:35 PM	5	15	1	0	2	24	0	0	1	5	6	0	1	2	1	0	63	0	0	0	0
5:40 PM	5	19	7	0	0	29	1	0	0	8	3	0	1	2	0	1	75	0	0	0	0
5:45 PM	4	15	8	0	0	16	1	0	0	7	3	0	3	0	0	0	57	0	0	0	0
5:50 PM	4	13	2	0	0	20	3	0	2	5	3	0	0	5	3	0	60	0	0	0	0
5:55 PM	5	13	2	0	1	18	0	0	0	2	3	0	2	1	1	0	48	0	0	0	0
Total Survey	110	439	103	0	18	534	22	0	18	101	99	1	45	77	45	1	1,611	2	0	1	0

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	18	59	5	0	4	75	1	0	1	14	12	0	7	13	8	0	217	0	0	1	0
4:15 PM	15	48	11	0	4	55	3	0	7	13	11	1	8	16	6	0	197	1	0	0	0
4:30 PM	8	62	14	0	0	70	4	0	2	6	4	0	6	9	7	0	192	1	0	0	0
4:45 PM	17	65	16	0	3	68	4	0	1	12	14	0	5	9	3	0	217	0	0	0	0
5:00 PM	14	65	15	0	2	75	1	0	1	15	21	0	4	7	10	0	230	0	0	0	0
5:15 PM	10	46	16	0	2	65	3	0	2	9	14	0	8	11	3	0	189	0	0	0	0
5:30 PM	15	53	14	0	2	72	2	0	2	18	14	0	2	6	4	1	204	0	0	0	0
5:45 PM	13	41	12	0	1	54	4	0	2	14	9	0	5	6	4	0	165	0	0	0	0
Total Survey	110	439	103	0	18	534	22	0	18	101	99	1	45	77	45	1	1,611	2	0	1	0

Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	347	362	709	0	306	273	579	0	108	117	225	1	98	107	205	0	859	2	0	0	0
%HV	2.0%				4.6%				0.9%				5.1%				3.1%				
PHF	0.89				0.89				0.82				0.72				0.94				

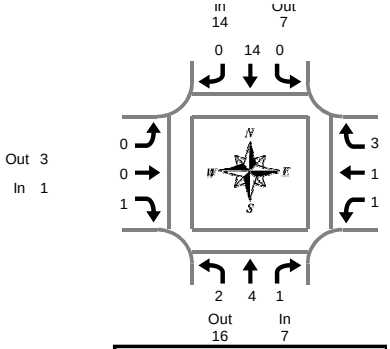
By Movement	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	58	237	52	347	10	285	11	306	11	45	52	108	25	48	25	98	859
%HV	3.4%	1.7%	1.9%	2.0%	0.0%	4.9%	0.0%	4.6%	0.0%	0.0%	1.9%	0.9%	4.0%	2.1%	12.0%	5.1%	3.1%
PHF	0.73	0.91	0.72	0.89	0.63	0.88	0.55	0.89	0.39	0.63	0.65	0.82	0.52	0.75	0.78	0.72	0.94

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	58	234	46	0	11	268	12	0	11	45	41	1	26	47	24	0	823	2	0	1	0
4:15 PM	54	240	56	0	9	268	12	0	11	46	50	1	23	41	26	0	836	2	0	0	0
4:30 PM	49	238	61	0	7	278	12	0	6	42	53	0	23	36	23	0	828	1	0	0	0
4:45 PM	56	229	61	0	9	280	10	0	6	54	63	0	19	33	20	1	840	0	0	0	0
5:00 PM	52	205	57	0	7	266	10	0	7	56	58	0	19	30	21	1	788	0	0	0	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:05 PM to 5:05 PM

Hwy 211 & Dubarko Rd

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	1	0	1	0	4	0	4	0	0	1	1	1	0	0	1	7
4:05 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:10 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3
4:15 PM	0	1	0	1	0	4	0	4	0	0	0	0	0	0	0	0	5
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
4:25 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	1	3
4:35 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
4:40 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
4:50 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:55 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
5:00 PM	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
5:05 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:10 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:20 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:25 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:40 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
5:55 PM	0	0	0	0	0	2	0	2	0	0	1	1	1	0	0	1	4
Total Survey	3	9	2	14	0	23	0	23	0	0	3	3	3	1	3	7	47

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

Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	2	1	0	3	0	5	0	5	0	0	1	1	1	0	1	2	11
4:15 PM	0	1	0	1	0	6	0	6	0	0	0	0	1	1	0	2	9
4:30 PM	0	1	0	1	0	4	0	4	0	0	0	0	0	0	2	2	7
4:45 PM	0	1	1	2	0	1	0	1	0	0	1	1	0	0	0	0	4
5:00 PM	0	2	0	2	0	3	0	3	0	0	0	0	0	0	0	0	5
5:15 PM	1	2	1	4	0	0	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	3	0	3	0	0	1	1	1	0	0	1	5
Total Survey	3	9	2	14	0	23	0	23	0	0	3	3	3	1	3	7	47

Heavy Vehicle Peak Hour Summary
4:05 PM to 5:05 PM

By Approach	Northbound Hwy 211			Southbound Hwy 211			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	7	16	23	14	7	21	1	3	4	5	1	6	27
PHF	0.58			0.58			0.25			0.42			0.68

By Movement	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	4	1	7	0	14	0	14	0	0	1	1	1	1	3	5	27
PHF	0.25	0.50	0.25	0.58	0.00	0.58	0.00	0.58	0.00	0.00	0.25	0.25	0.25	0.25	0.38	0.42	0.68

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

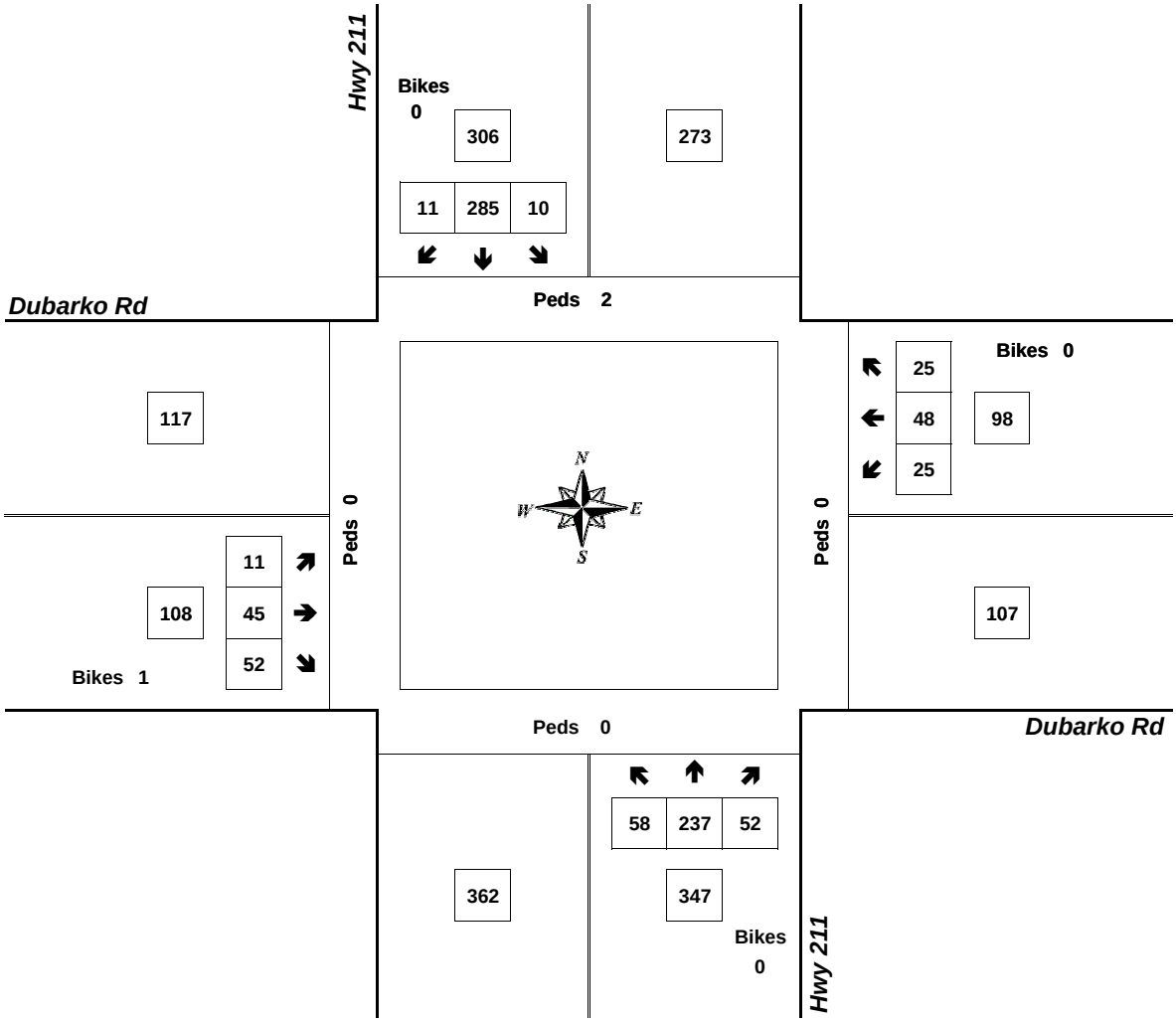
Interval Start Time	Northbound Hwy 211				Southbound Hwy 211				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	2	4	1	7	0	16	0	16	0	0	2	2	2	1	3	6	31
4:15 PM	0	5	1	6	0	14	0	14	0	0	1	1	1	1	2	4	25
4:30 PM	1	6	2	9	0	8	0	8	0	0	1	1	0	0	2	2	20
4:45 PM	1	6	2	9	0	5	0	5	0	0	1	1	0	0	0	0	15
5:00 PM	1	5	1	7	0	7	0	7	0	0	1	1	1	0	0	1	16

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

Hwy 211 & Dubarko Rd

4:05 PM to 5:05 PM
Tuesday, March 19, 2019

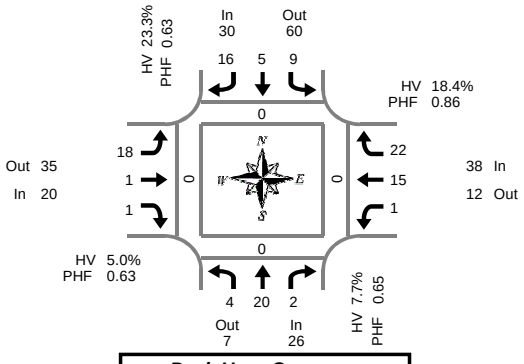


Approach	PHF	HV%	Volume
EB	0.82	0.9%	108
WB	0.72	5.1%	98
NB	0.89	2.0%	347
SB	0.89	4.6%	306
Intersection	0.94	3.1%	859

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

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:05 AM to 8:05 AM

SE Langensand Rd & Dubarko Rd

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	1	0	0	0	1	1	0	0	0	0	0	0	2	0	0	6	0	0	0	0
7:05 AM	2	1	0	0	1	0	3	0	1	1	0	0	0	2	3	0	14	0	0	0	0
7:10 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	1	2	0	5	0	0	0	0
7:15 AM	0	2	1	0	0	1	1	0	2	0	0	0	0	0	1	0	8	0	0	0	0
7:20 AM	0	0	0	0	0	0	0	0	3	0	0	0	1	3	2	0	9	0	0	0	0
7:25 AM	0	0	0	0	2	2	3	0	1	0	0	0	0	1	2	0	11	0	0	0	0
7:30 AM	0	6	0	0	0	0	3	0	0	0	0	0	0	1	1	0	11	0	0	0	0
7:35 AM	1	2	0	0	0	0	0	0	0	0	1	0	0	2	0	0	6	0	0	0	0
7:40 AM	0	0	1	0	2	1	3	0	0	0	0	0	0	2	2	0	11	0	0	0	0
7:45 AM	0	1	0	0	2	0	1	0	2	0	0	0	0	0	3	0	9	0	0	0	0
7:50 AM	1	1	0	0	1	0	2	0	3	0	0	0	0	1	3	0	12	0	0	0	0
7:55 AM	0	4	0	0	0	0	0	0	3	0	0	0	0	0	2	0	9	0	0	0	0
8:00 AM	0	3	0	0	0	1	0	0	2	0	0	0	0	2	1	0	9	0	0	0	0
8:05 AM	0	1	0	0	0	1	1	0	3	0	0	0	0	3	1	0	10	0	0	0	0
8:10 AM	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	3	1	0	0	0
8:15 AM	0	2	0	0	0	0	1	0	3	0	0	0	0	1	1	0	8	0	0	0	0
8:20 AM	1	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	5	0	0	0	0
8:25 AM	1	0	0	0	0	1	1	0	3	0	1	0	0	0	1	0	8	0	0	1	0
8:30 AM	0	0	0	0	0	0	0	0	2	2	0	0	1	2	1	0	8	0	0	0	0
8:35 AM	1	0	0	0	1	0	0	0	1	1	1	0	1	2	0	0	8	0	0	0	0
8:40 AM	1	1	0	0	0	3	2	0	1	0	0	0	0	1	0	0	9	0	0	0	0
8:45 AM	1	3	0	0	0	1	2	0	3	0	2	0	1	2	1	0	16	0	0	0	0
8:50 AM	1	4	1	0	0	1	2	0	2	0	0	0	0	1	3	0	15	0	0	0	0
8:55 AM	1	2	1	0	0	0	1	0	1	0	0	0	0	2	1	0	9	0	0	0	0
Total Survey	12	35	4	0	11	14	29	0	38	5	5	0	4	31	31	0	219	1	0	1	0

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	3	2	0	0	2	1	4	0	2	1	0	0	0	5	5	0	25	0	0	0	0
7:15 AM	0	2	1	0	2	3	4	0	6	0	0	0	1	4	5	0	28	0	0	0	0
7:30 AM	1	8	1	0	2	1	6	0	0	0	1	0	0	5	3	0	28	0	0	0	0
7:45 AM	1	6	0	0	3	0	3	0	8	0	0	0	0	1	8	0	30	0	0	0	0
8:00 AM	0	5	0	0	1	2	2	0	5	0	0	0	0	5	2	0	22	1	0	0	0
8:15 AM	2	2	0	0	0	2	3	0	7	1	1	0	0	1	2	0	21	0	0	1	0
8:30 AM	2	1	0	0	1	3	2	0	4	3	1	0	2	5	1	0	25	0	0	0	0
8:45 AM	3	9	2	0	0	2	5	0	6	0	2	0	1	5	5	0	40	0	0	0	0
Total Survey	12	35	4	0	11	14	29	0	38	5	5	0	4	31	31	0	219	1	0	1	0

Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	26	7	33	0	30	60	90	0	20	35	55	0	38	12	50	0	114	0	0	0	0
%HV	7.7%				23.3%				5.0%				18.4%				14.9%				
PHF	0.65				0.63				0.63				0.86				0.89				

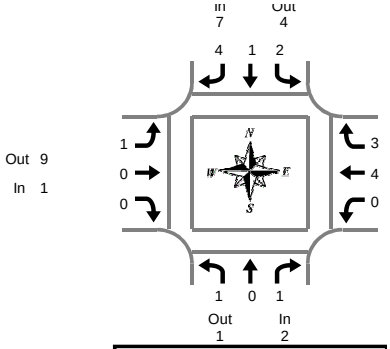
By Movement	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	20	2	26	9	5	16	30	18	1	1	20	1	15	22	38	114
%HV	25.0%	0.0%	50.0%	7.7%	22.2%	20.0%	25.0%	23.3%	5.6%	0.0%	0.0%	5.0%	0.0%	26.7%	13.6%	18.4%	14.9%
PHF	0.50	0.63	0.50	0.65	0.45	0.42	0.67	0.63	0.56	0.25	0.25	0.63	0.25	0.75	0.69	0.86	0.89

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	5	18	2	0	9	5	17	0	16	1	1	0	1	15	21	0	111	0	0	0	0
7:15 AM	2	21	2	0	8	6	15	0	19	0	1	0	1	15	18	0	108	1	0	0	0
7:30 AM	4	21	1	0	6	5	14	0	20	1	2	0	0	12	15	0	101	1	0	1	0
7:45 AM	5	14	0	0	5	7	10	0	24	4	2	0	2	12	13	0	98	1	0	1	0
8:00 AM	7	17	2	0	2	9	12	0	22	4	4	0	3	16	10	0	108	1	0	1	0

Heavy Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



SE Langensand Rd & Dubarko Rd

Wednesday, March 20, 2019
7:00 AM to 9:00 AM

Peak Hour Summary
7:05 AM to 8:05 AM

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
7:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
7:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
7:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
7:25 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
7:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	2
7:50 AM	0	0	0	0	1	0	0	1	1	0	0	1	0	1	1	2	4
7:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
8:05 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
8:10 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:20 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:25 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:35 AM	1	0	0	1	0	0	0	0	1	0	0	1	1	0	0	1	3
8:40 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:50 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	2	1	1	4	2	1	5	8	3	0	0	3	2	4	3	9	24

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	0	0	1	0	0	1	1	0	0	0	0	0	0	1	1	3
7:15 AM	0	0	1	1	0	0	1	1	0	0	0	0	0	3	0	3	5
7:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	2	0	1	3	1	0	0	1	0	1	1	2	6
8:00 AM	0	1	0	1	0	1	1	2	0	0	0	0	0	0	1	1	4
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
8:30 AM	1	0	0	1	0	0	0	0	1	0	0	1	2	0	0	2	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	2	1	1	4	2	1	5	8	3	0	0	3	2	4	3	9	24

Heavy Vehicle Peak Hour Summary
7:05 AM to 8:05 AM

By Approach	Northbound SE Langensand Rd			Southbound SE Langensand Rd			Eastbound Dubarko Rd			Westbound Dubarko Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	1	3	7	4	11	1	9	10	7	3	10	17
PHF	0.25			0.58			0.25			0.58			0.71

By Movement	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Dubarko Rd				Westbound Dubarko Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	1	0	1	2	2	1	4	7	1	0	0	1	0	4	3	7	17
PHF	0.25	0.00	0.25	0.25	0.25	0.25	0.50	0.58	0.25	0.00	0.00	0.25	0.00	0.33	0.38	0.58	0.71

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

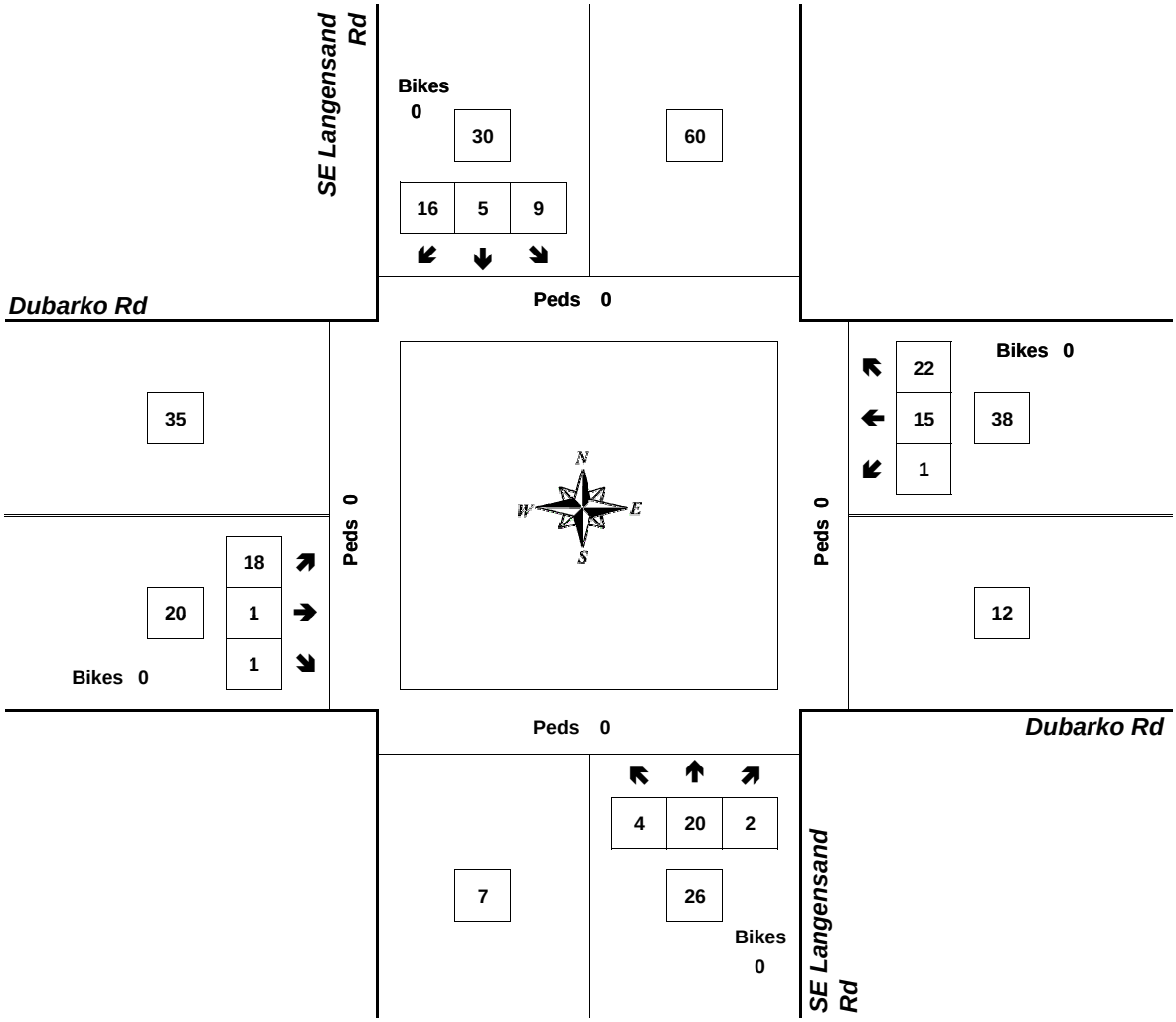
Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Dubarko Rd				Westbound Dubarko Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	1	0	1	2	2	0	4	6	1	0	0	1	0	4	2	6	15
7:15 AM	0	1	1	2	2	1	4	7	1	0	0	1	0	4	2	6	16
7:30 AM	0	1	0	1	2	1	3	6	2	0	0	2	0	1	2	3	12
7:45 AM	1	1	0	2	2	1	2	5	3	0	0	3	2	1	2	5	15
8:00 AM	1	1	0	2	0	1	1	2	2	0	0	2	2	0	1	3	9

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

SE Langensand Rd & Dubarko Rd

7:05 AM to 8:05 AM
Wednesday, March 20, 2019

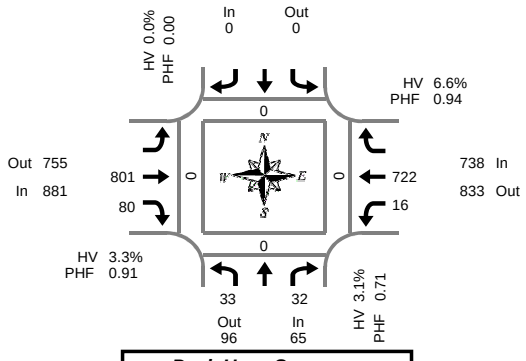


Approach	PHF	HV%	Volume
EB	0.63	5.0%	20
WB	0.86	18.4%	38
NB	0.65	7.7%	26
SB	0.63	23.3%	30
Intersection	0.89	14.9%	114

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

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:10 PM to 5:10 PM

SE Langensand Rd & Hwy 26

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
4:00 PM	2		4	0				0	62	9	0	5	50		0	132	0	0	0	0
4:05 PM	1		2	0				0	69	6	0	3	52		0	133	0	0	0	0
4:10 PM	1		3	0				0	61	3	0	1	74		0	143	0	0	0	0
4:15 PM	6		1	0				0	76	5	0	1	50		0	139	0	0	0	0
4:20 PM	5		5	0				0	79	9	0	1	70		0	169	0	0	0	0
4:25 PM	6		0	1				0	58	8	0	1	49		0	122	0	0	0	0
4:30 PM	0		3	0				0	75	12	0	1	56		0	147	0	0	0	0
4:35 PM	2		5	0				0	61	7	0	1	64		0	140	0	0	0	0
4:40 PM	0		1	0				0	59	1	0	1	55		0	117	0	0	0	0
4:45 PM	1		1	0				0	64	3	0	2	63		0	134	0	0	0	0
4:50 PM	6		5	0				0	62	6	0	0	54		0	133	0	0	0	0
4:55 PM	3		0	0				0	72	5	0	2	56		0	138	0	0	0	0
5:00 PM	1		5	0				0	62	10	0	1	55		0	134	0	0	0	0
5:05 PM	2		3	0				0	72	11	0	4	76		0	168	0	0	0	0
5:10 PM	2		3	0				0	58	14	0	1	65		0	143	0	0	0	0
5:15 PM	1		2	0				0	51	8	0	2	59		0	123	0	0	0	0
5:20 PM	2		4	0				0	78	7	0	2	43		0	136	0	0	0	0
5:25 PM	3		1	0				0	71	5	0	1	42		0	123	0	0	0	0
5:30 PM	2		2	0				0	67	7	0	3	38		0	119	0	0	0	0
5:35 PM	1		1	0				0	60	5	0	1	38		0	106	0	0	0	0
5:40 PM	0		4	0				0	49	7	0	0	34		0	94	0	0	0	0
5:45 PM	2		1	0				0	69	7	0	1	45		0	125	0	0	0	0
5:50 PM	0		3	0				0	60	4	0	0	43		0	110	0	0	0	0
5:55 PM	4		1	0				0	65	8	0	3	52		0	133	0	0	0	0
Total Survey	53		60	1				0	1,560	167	0	38	1,283		0	3,161	0	0	0	0

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
4:00 PM	4		9	0				0	192	18	0	9	176		0	408	0	0	0	0
4:15 PM	17		6	1				0	213	22	0	3	169		0	430	0	0	0	0
4:30 PM	2		9	0				0	195	20	0	3	175		0	404	0	0	0	0
4:45 PM	10		6	0				0	198	14	0	4	173		0	405	0	0	0	0
5:00 PM	5		11	0				0	192	35	0	6	196		0	445	0	0	0	0
5:15 PM	6		7	0				0	200	20	0	5	144		0	382	0	0	0	0
5:30 PM	3		7	0				0	176	19	0	4	110		0	319	0	0	0	0
5:45 PM	6		5	0				0	194	19	0	4	140		0	368	0	0	0	0
Total Survey	53		60	1				0	1,560	167	0	38	1,283		0	3,161	0	0	0	0

Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	65	96	161	1	0	0	0	0	881	755	1,636	0	738	833	1,571	0	1,684	0	0	0	0
%HV	3.1%				0.0%				3.3%				6.6%				4.8%				
PHF	0.71				0.00				0.91				0.94				0.93				

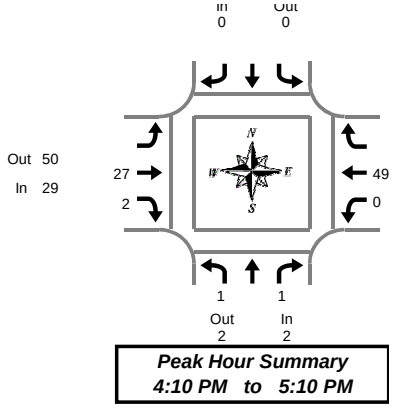
By Movement	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L		R	Total				Total		T	R	Total	L	T		Total	
Volume	33		32	65				0		801	80	881	16	722		738	1,684
%HV	3.0%	NA	3.1%	3.1%	NA	NA	NA	0.0%	NA	3.4%	2.5%	3.3%	0.0%	6.8%	NA	6.6%	4.8%
PHF	0.49		0.80	0.71				0.00		0.93	0.69	0.91	0.57	0.93		0.94	0.93

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total	Pedestrians Crosswalk			
	L		R	Bikes				Bikes	T	R	Bikes	L	T		Bikes		North	South	East	West
4:00 PM	33		30	1				0	798	74	0	19	693		0	1,647	0	0	0	0
4:15 PM	34		32	1				0	798	91	0	16	713		0	1,684	0	0	0	0
4:30 PM	23		33	0				0	785	89	0	18	688		0	1,636	0	0	0	0
4:45 PM	24		31	0				0	766	88	0	19	623		0	1,551	0	0	0	0
5:00 PM	20		30	0				0	762	93	0	19	590		0	1,514	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



SE Langensand Rd & Hwy 26

Tuesday, March 19, 2019
4:00 PM to 6:00 PM

Peak Hour Summary
4:10 PM to 5:10 PM

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	3	0	3		0	11		11	14
4:05 PM	0		0	0				0	8	0	8		0	5		5	13
4:10 PM	0		0	0				0	2	0	2		0	7		7	9
4:15 PM	0		0	0				0	5	0	5		0	4		4	9
4:20 PM	1		0	1				0	4	1	5		0	4		4	10
4:25 PM	0		0	0				0	3	0	3		0	5		5	8
4:30 PM	0		1	1				0	1	1	2		0	3		3	6
4:35 PM	0		0	0				0	1	0	1		0	4		4	5
4:40 PM	0		0	0				0	2	0	2		0	3		3	5
4:45 PM	0		0	0				0	1	0	1		0	4		4	5
4:50 PM	0		0	0				0	2	0	2		0	6		6	8
4:55 PM	0		0	0				0	1	0	1		0	2		2	3
5:00 PM	0		0	0				0	3	0	3		0	1		1	4
5:05 PM	0		0	0				0	2	0	2		0	6		6	8
5:10 PM	0		0	0				0	0	1	1		0	4		4	5
5:15 PM	0		0	0				0	2	0	2		0	3		3	5
5:20 PM	0		0	0				0	0	0	0		0	5		5	5
5:25 PM	0		0	0				0	1	0	1		0	1		1	2
5:30 PM	0		0	0				0	4	0	4		0	2		2	6
5:35 PM	0		0	0				0	0	0	0		1	2		3	3
5:40 PM	0		0	0				0	1	0	1		0	3		3	4
5:45 PM	0		0	0				0	4	0	4		0	3		3	7
5:50 PM	0		0	0				0	1	0	1		0	2		2	3
5:55 PM	0		0	0				0	2	0	2		0	7		7	9
Total Survey	1		1	2				0	53	3	56		1	97		98	156

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

Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	0		0	0				0	13	0	13		0	23		23	36
4:15 PM	1		0	1				0	12	1	13		0	13		13	27
4:30 PM	0		1	1				0	4	1	5		0	10		10	16
4:45 PM	0		0	0				0	4	0	4		0	12		12	16
5:00 PM	0		0	0				0	5	1	6		0	11		11	17
5:15 PM	0		0	0				0	3	0	3		0	9		9	12
5:30 PM	0		0	0				0	5	0	5		1	7		8	13
5:45 PM	0		0	0				0	7	0	7		0	12		12	19
Total Survey	1		1	2				0	53	3	56		1	97		98	156

Heavy Vehicle Peak Hour Summary
4:10 PM to 5:10 PM

By Approach	Northbound SE Langensand Rd			Southbound SE Langensand Rd			Eastbound Hwy 26			Westbound Hwy 26			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	2	2	4	0	0	0	29	50	79	49	28	77	80
PHF	0.25			0.00			0.56			0.82			0.71

By Movement	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Total
	L		R	Total				Total	T	R	Total		L	T		Total	
Volume	1		1	2				0	27	2	29		0	49		49	80
PHF	0.25		0.25	0.25				0.00	0.56	0.25	0.56		0.00	0.82		0.82	0.71

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

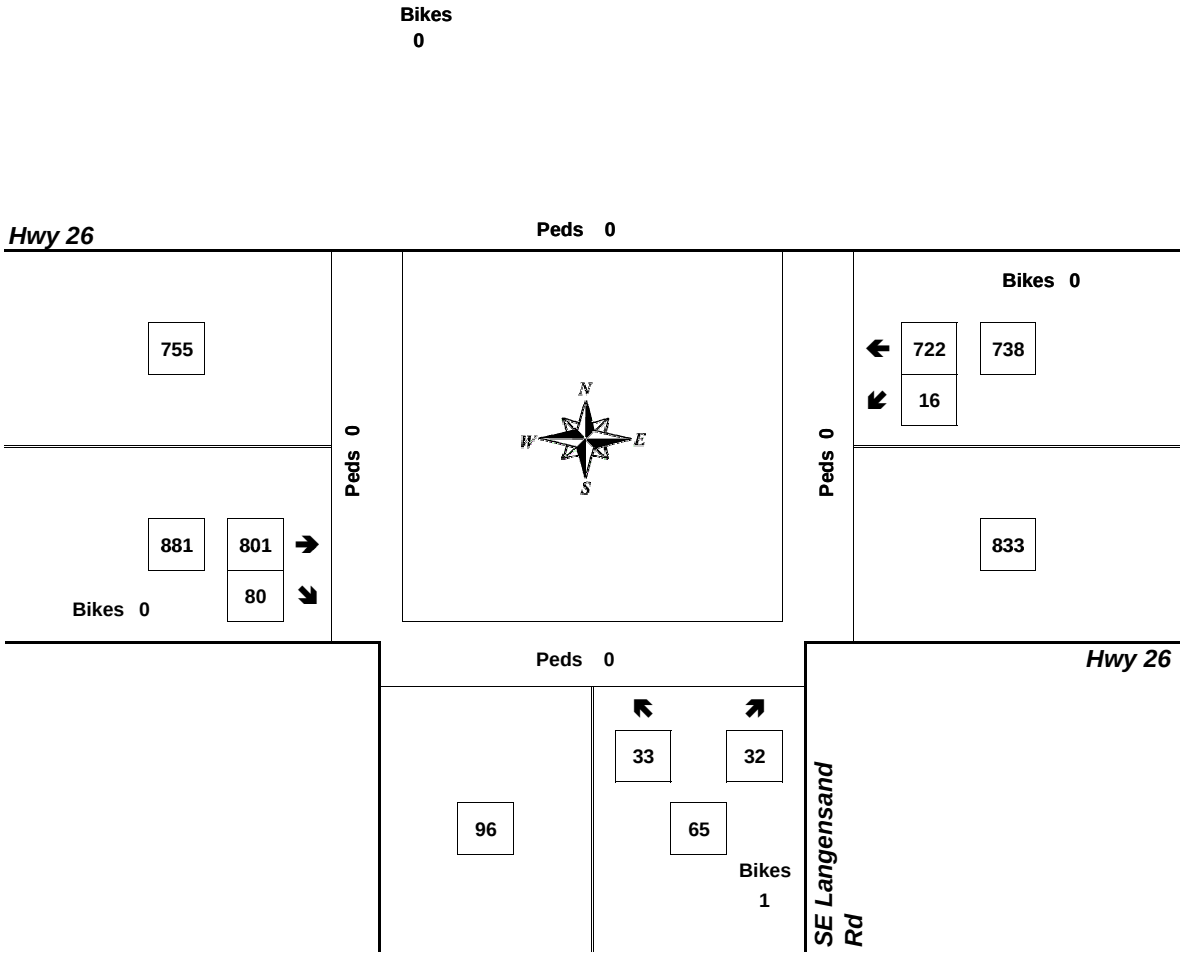
Interval Start Time	Northbound SE Langensand Rd				Southbound SE Langensand Rd				Eastbound Hwy 26				Westbound Hwy 26				Interval Total
	L		R	Total				Total	T	R	Total		L	T		Total	
4:00 PM	1		1	2				0	33	2	35		0	58		58	95
4:15 PM	1		1	2				0	25	3	28		0	46		46	76
4:30 PM	0		1	1				0	16	2	18		0	42		42	61
4:45 PM	0		0	0				0	17	1	18		1	39		40	58
5:00 PM	0		0	0				0	20	1	21		1	39		40	61

Peak Hour Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740

SE Langensand Rd & Hwy 26

4:10 PM to 5:10 PM
Tuesday, March 19, 2019



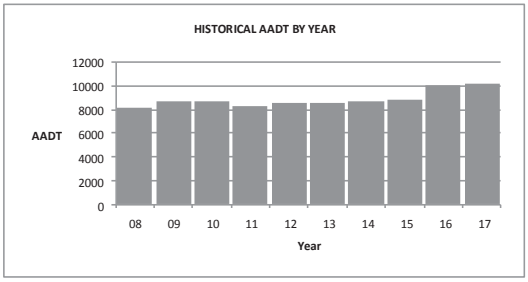
Approach	PHF	HV%	Volume
EB	0.91	3.3%	881
WB	0.94	6.6%	738
NB	0.71	3.1%	65
SB	0.00	0.0%	0
Intersection	0.93	4.8%	1,684

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

Location:	US26; MP 46.38; MT. HOOD HIGHWAY NO. 26; 0.30 mile east of Camp Creek Rd (USFS 28)	Site Name:	Rhododendron (03-006)
		Installed:	August, 1995

HISTORICAL TRAFFIC DATA

		Percent of AADT				
Year	AADT	Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2008	8162	233	22.9	20.1	19.1	18.2
2009	8737	197	22.3	19.6	18.4	17.8
2010	8714	207	21.6	19.8	18.9	18.5
2011	8330	214	24.7	20.0	18.6	18.1
2012	8480	227	24.0	21.0	20.2	19.4
2013	8527	213	23.4	21.1	20.3	19.1
2014	8652	216	23.2	21.1	20.3	19.2
2015	8861	242	21.4	20.3	19.4	18.7
2016	10071	208	22.9	19.6	18.8	17.9
2017	10223	200	19.9	19.1	18.1	17.5



2017 TRAFFIC DATA

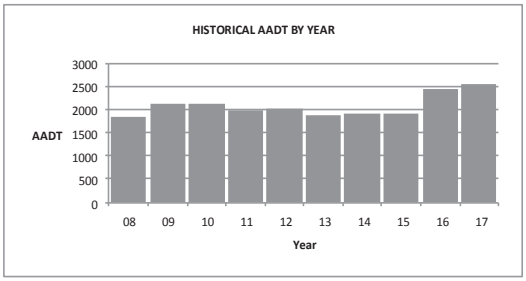
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	6744	66	9080	89
February	6533	64	9496	93
March	6763	66	9337	91
April	6166	60	8675	85
May	7675	75	9598	94
June	8568	84	10695	105
July	11291	110	13874	136
August	11738	115	13623	133
September	11300	111	12734	125
October	6589	64	8087	79
November	5493	54	7313	72
December	8753	86	10161	99

For Vehicle Classification data near your project, please go to the following web page: https://www.oregon.gov/ODOT/Data/Documents/TVT_2017.xlsx

Location:	OR35; MP 57.79; MT. HOOD HIGHWAY NO. 26; 0.02 mile east of Warm Springs Highway No. 53 (US26)	Site Name:	Mt. Hood Meadows (03-007)
		Installed:	September, 1995

HISTORICAL TRAFFIC DATA

		Percent of AADT				
Year	AADT	Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2008	1854	398	56.8	44.2	39.9	36.1
2009	2130	***	***	***	***	***
2010	2145	374	49.2	39.5	34.8	33.2
2011	1976	476	79.2	49.1	45.0	39.1
2012	2023	452	65.4	43.4	40.3	37.7
2013	1868	427	68.1	48.7	42.0	37.1
2014	1908	400	60.0	41.9	37.4	33.6
2015	1931	393	50.4	38.6	34.4	32.6
2016	2455	366	55.9	38.3	33.1	31.2
2017	2565	340	52.1	37.7	32.5	31.3



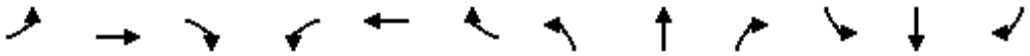
2017 TRAFFIC DATA

	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	2449	95	3616	141
February	1978	77	3362	131
March	1781	69	2833	110
April	1116	44	2050	80
May	1202	47	1609	63
June	1794	70	2070	81
July	2405	94	2837	111
August	2302	90	2614	102
September	3956	154	3993	156
October	1387	54	1614	63
November	768	30	1156	45
December	2499	97	2966	116

For Vehicle Classification data near your project, please go to the following web page: https://www.oregon.gov/ODOT/Data/Documents/TVT_2017.xlsx

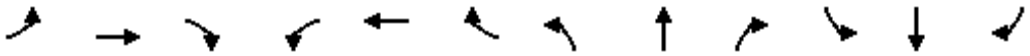
HWY	MP	DIR	HS	Location	2014	2015	2016	2036	RSQ
026	22.72	1		0.02 mile northwest of S.E. 362nd Drive, west city limits of Sandy		29500		41400	MODEL
026	23.85	1		0.02 mile west of Bluff Road		30100		42600	MODEL
026	23.89	1		0.02 mile east of Bluff Road		15100		21600	MODEL
026	24.02	1		0.02 mile west of Beers Avenue		15100		21600	MODEL
026	24.35	1		0.05 mile west of Eagle Creek-Sandy Highway (OR211)		14800		21600	MODEL
026	24.42	1		0.02 mile east of Eagle Creek-Sandy Highway (OR211)		12000		17100	MODEL
026	24.59	1		0.02 mile west of Ten Eyck Road		11200		16000	MODEL
026	23.89	2	W	0.02 mile east of Bluff Road		15200		21300	MODEL
026	24.04	2	W	0.02 mile west of Beers Avenue		15200		21300	MODEL
026	24.36	2	W	0.05 mile west of Eagle Creek-Sandy Highway (OR211)		14500		20700	MODEL
026	24.40	2	W	0.02 mile east of Eagle Creek-Sandy Highway (OR211)		12100		16900	MODEL
026	24.61	2	W	0.02 mile west of Ten Eyck Road		11700		16400	MODEL
026	25.10	1		0.02 mile west of Langensand Road		18000		25400	MODEL
026	25.66	1		0.10 mile east of Vista Loop Drive		19700		27600	MODEL

HWY	MP	DIR	HS	Location	2014	2015	2016	2036	RSQ
172	-0.13	1		0.10 mile east of Clackamas Highway (OR224)			5600	8800	MODEL
172	1.45	1		0.10 mile southwest of Judd Road			5800	9100	MODEL
172	1.65	1		0.10 mile northeast of Judd Road			6200	9600	MODEL
172	3.65	1		0.05 mile west of 362nd Drive			7600	11600	MODEL
172	3.75	1		0.05 mile east of 362nd Drive			5300	7900	MODEL
172	5.07	1		0.10 mile west of Bornstedt Road			4200	6900	MODEL
172	5.29	1		0.10 mile south of Dubarko Road			6500	10700	MODEL
172	5.50	1		0.11 mile north of Dubarko Road			5700	9200	MODEL
172	5.83	1		0.05 mile south of Mt. Hood Highway (US26-Eastbound)			5700	9200	MODEL
172	5.92	1		0.02 mile south of Mt. Hood Highway (US26-Westbound)			5000	8100	MODEL



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	770	37	4	998	10	134	11	3	15	4	145
Future Volume (vph)	57	770	37	4	998	10	134	11	3	15	4	145
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		1.00			0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			1.00	
Satd. Flow (prot)	1484	2949		1568	3137	1403		1575			1489	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.55			0.97	
Satd. Flow (perm)	1484	2949		1568	3137	1403		911			1450	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	61	819	39	4	1062	11	143	12	3	16	4	154
RTOR Reduction (vph)	0	3	0	0	0	5	0	1	0	0	107	0
Lane Group Flow (vph)	61	855	0	4	1062	6	0	157	0	0	67	0
Heavy Vehicles (%)	12%	12%	12%	6%	6%	6%	6%	6%	6%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases						6	4			8		
Actuated Green, G (s)	8.4	68.9		1.1	61.6	61.6		36.5			36.5	
Effective Green, g (s)	8.4	68.9		1.1	61.6	61.6		36.5			36.5	
Actuated g/C Ratio	0.07	0.57		0.01	0.51	0.51		0.30			0.30	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	103	1693		14	1610	720		277			441	
v/s Ratio Prot	c0.04	0.29		0.00	c0.34							
v/s Ratio Perm						0.00		c0.17			0.05	
v/c Ratio	0.59	0.51		0.29	0.66	0.01		0.57			0.15	
Uniform Delay, d1	54.1	15.3		59.1	21.5	14.3		35.1			30.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	8.8	1.1		10.9	2.1	0.0		8.2			0.2	
Delay (s)	63.0	16.4		70.0	23.6	14.3		43.3			30.6	
Level of Service	E	B		E	C	B		D			C	
Approach Delay (s)		19.5			23.7			43.3			30.6	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	770	37	4	998	10	134	11	3	15	4	145
Future Volume (veh/h)	57	770	37	4	998	10	134	11	3	15	4	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1586	1586	1586	1668	1668	1668	1668	1668	1668	1709	1709	1709
Adj Flow Rate, veh/h	61	819	39	4	1062	11	143	12	3	16	4	154
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, %	12	12	12	6	6	6	6	6	6	3	3	3
Cap, veh/h	75	1693	81	8	1692	755	326	25	6	55	29	396
Arrive On Green	0.05	0.58	0.58	0.01	0.53	0.53	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1511	2929	139	1589	3169	1414	884	84	19	75	95	1303
Grp Volume(v), veh/h	61	421	437	4	1062	11	158	0	0	174	0	0
Grp Sat Flow(s),veh/h/ln	1511	1507	1561	1589	1585	1414	986	0	0	1472	0	0
Q Serve(g_s), s	4.8	19.7	19.7	0.3	28.2	0.4	7.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.8	19.7	19.7	0.3	28.2	0.4	19.0	0.0	0.0	11.2	0.0	0.0
Prop In Lane	1.00		0.09	1.00		1.00	0.91		0.02	0.09		0.89
Lane Grp Cap(c), veh/h	75	871	903	8	1692	755	357	0	0	480	0	0
V/C Ratio(X)	0.82	0.48	0.48	0.48	0.63	0.01	0.44	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	146	871	903	73	1692	755	357	0	0	480	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.5	14.8	14.8	59.5	19.6	13.1	36.7	0.0	0.0	32.9	0.0	0.0
Incr Delay (d2), s/veh	18.7	1.9	1.9	38.0	1.8	0.0	3.9	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.1	7.4	0.2	10.7	0.2	4.4	0.0	0.0	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.2	16.7	16.7	97.5	21.4	13.2	40.6	0.0	0.0	33.4	0.0	0.0
LnGrp LOS	E	B	B	F	C	B	D	A	A	C	A	A
Approach Vol, veh/h		919			1077			158			174	
Approach Delay, s/veh		20.6			21.6			40.6			33.4	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	73.9		41.0	10.4	68.6		41.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	64.5		36.5	11.6	58.4		36.5				
Max Q Clear Time (g_c+I1), s	2.3	21.7		21.0	6.8	30.2		13.2				
Green Ext Time (p_c), s	0.0	7.1		0.8	0.0	9.6		1.1				

Intersection Summary			
HCM 6th Ctrl Delay		23.4	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	778	35	15	910	64	15
Future Vol, veh/h	778	35	15	910	64	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	215	-	120	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	13	13	7	7	4	4
Mvmt Flow	828	37	16	968	68	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	865	0	1344	414
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	516	-
Critical Hdwy	-	-	4.24	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	-	-	2.27	-	3.54	3.34
Pot Cap-1 Maneuver	-	-	743	-	140	582
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	558	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	743	-	137	582
Mov Cap-2 Maneuver	-	-	-	-	137	-
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	546	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	46.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	137	582	-	-	743	-
HCM Lane V/C Ratio	0.497	0.027	-	-	0.021	-
HCM Control Delay (s)	54.8	11.4	-	-	10	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	2.3	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	16	744	922	1	0	36
Future Vol, veh/h	16	744	922	1	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	220	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	13	13	6	6	9	9
Mvmt Flow	17	791	981	1	0	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	982	0	-	0	1412	491
Stage 1	-	-	-	-	982	-
Stage 2	-	-	-	-	430	-
Critical Hdwy	4.36	-	-	-	6.98	7.08
Critical Hdwy Stg 1	-	-	-	-	5.98	-
Critical Hdwy Stg 2	-	-	-	-	5.98	-
Follow-up Hdwy	2.33	-	-	-	3.59	3.39
Pot Cap-1 Maneuver	636	-	-	-	121	505
Stage 1	-	-	-	-	308	-
Stage 2	-	-	-	-	604	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	636	-	-	-	118	505
Mov Cap-2 Maneuver	-	-	-	-	118	-
Stage 1	-	-	-	-	300	-
Stage 2	-	-	-	-	604	-

Approach	SE	NW	SW
HCM Control Delay, s	0.2	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)	-	-	636	-	505
HCM Lane V/C Ratio	-	-	0.027	-	0.076
HCM Control Delay (s)	-	-	10.8	-	12.7
HCM Lane LOS	-	-	B	-	B
HCM 95th %tile Q(veh)	-	-	0.1	-	0.2

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	8	33	53	38	33	43	274	13	4	162	2
Future Vol, veh/h	8	8	33	53	38	33	43	274	13	4	162	2
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	90	-	-	125	-	-	-	-	-	330
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	1	1	1	5	5	5	2	2	2	5	5	5
Mvmt Flow	9	9	37	59	42	37	48	304	14	4	180	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	639	606	182	621	601	315	184	0	0	320	0	0
Stage 1	190	190	-	409	409	-	-	-	-	-	-	-
Stage 2	449	416	-	212	192	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.15	6.55	6.25	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.545	4.045	3.345	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	390	413	863	395	410	718	1391	-	-	1223	-	-
Stage 1	814	745	-	613	591	-	-	-	-	-	-	-
Stage 2	591	594	-	783	736	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	326	392	861	358	390	715	1388	-	-	1221	-	-
Mov Cap-2 Maneuver	326	392	-	358	390	-	-	-	-	-	-	-
Stage 1	778	741	-	586	565	-	-	-	-	-	-	-
Stage 2	496	568	-	738	732	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	16.2	1	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1388	-	-	356	861	371	715	1221	-	-
HCM Lane V/C Ratio	0.034	-	-	0.05	0.043	0.273	0.051	0.004	-	-
HCM Control Delay (s)	7.7	0	-	15.6	9.4	18.3	10.3	8	0	-
HCM Lane LOS	A	A	-	C	A	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	1.1	0.2	0	-	-

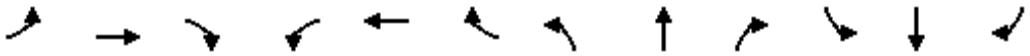
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	1	1	1	15	22	4	20	2	9	5	16
Future Vol, veh/h	18	1	1	1	15	22	4	20	2	9	5	16
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	115	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	5	5	18	18	18	8	8	8	23	23	23
Mvmt Flow	20	1	1	1	17	25	4	22	2	10	6	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	87	67	15	67	75	23	24	0	0	24	0	0
Stage 1	35	35	-	31	31	-	-	-	-	-	-	-
Stage 2	52	32	-	36	44	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.28	6.68	6.38	4.18	-	-	4.33	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.28	5.68	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.28	5.68	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.662	4.162	3.462	2.272	-	-	2.407	-	-
Pot Cap-1 Maneuver	891	818	1056	888	786	1009	1553	-	-	1465	-	-
Stage 1	973	860	-	946	839	-	-	-	-	-	-	-
Stage 2	953	862	-	940	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	848	810	1056	879	778	1009	1553	-	-	1465	-	-
Mov Cap-2 Maneuver	848	810	-	879	778	-	-	-	-	-	-	-
Stage 1	970	854	-	943	836	-	-	-	-	-	-	-
Stage 2	908	859	-	931	822	-	-	-	-	-	-	-

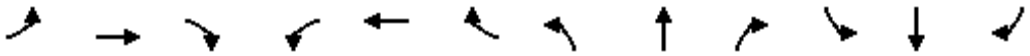
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	9.2	1.1	2.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1553	-	-	848	917	900	1465	-	-
HCM Lane V/C Ratio	0.003	-	-	0.024	0.002	0.047	0.007	-	-
HCM Control Delay (s)	7.3	0	-	9.3	8.9	9.2	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	1130	152	8	1022	21	131	15	13	38	13	113
Future Volume (vph)	152	1130	152	8	1022	21	131	15	13	38	13	113
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.98		1.00	1.00	0.85		0.99			0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.99	
Satd. Flow (prot)	1614	3163		1554	3107	1343		1646			1460	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.57			0.91	
Satd. Flow (perm)	1614	3163		1554	3107	1343		980			1339	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	160	1189	160	8	1076	22	138	16	14	40	14	119
RTOR Reduction (vph)	0	8	0	0	0	11	0	3	0	0	66	0
Lane Group Flow (vph)	160	1341	0	8	1076	11	0	165	0	0	107	0
Confl. Peds. (#/hr)						4						4
Confl. Bikes (#/hr)			2			1						
Heavy Vehicles (%)	3%	3%	3%	7%	7%	7%	1%	1%	1%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases						6	4			8		
Actuated Green, G (s)	16.2	74.0		1.0	58.8	58.8		31.5			31.5	
Effective Green, g (s)	16.2	74.0		1.0	58.8	58.8		31.5			31.5	
Actuated g/C Ratio	0.13	0.62		0.01	0.49	0.49		0.26			0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	217	1950		12	1522	658		257			351	
v/s Ratio Prot	c0.10	c0.42		0.01	0.35							
v/s Ratio Perm						0.01		c0.17			0.08	
v/c Ratio	0.74	0.69		0.67	0.71	0.02		0.64			0.30	
Uniform Delay, d1	49.9	15.3		59.3	23.9	15.7		39.3			35.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	12.3	2.0		89.5	2.8	0.0		11.7			0.5	
Delay (s)	62.1	17.3		148.8	26.7	15.8		51.0			36.0	
Level of Service	E	B		F	C	B		D			D	
Approach Delay (s)		22.1			27.3			51.0			36.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	1130	152	8	1022	21	131	15	13	38	13	113
Future Volume (veh/h)	152	1130	152	8	1022	21	131	15	13	38	13	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		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	1709	1709	1709	1654	1654	1654	1736	1736	1736	1668	1668	1668
Adj Flow Rate, veh/h	160	1189	160	8	1076	22	138	16	14	40	14	119
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, %	3	3	3	7	7	7	1	1	1	6	6	6
Cap, veh/h	186	1765	237	15	1605	698	285	32	24	108	50	267
Arrive On Green	0.11	0.62	0.62	0.01	0.51	0.51	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1628	2869	385	1576	3143	1368	876	123	91	270	191	1016
Grp Volume(v), veh/h	160	671	678	8	1076	22	168	0	0	173	0	0
Grp Sat Flow(s),veh/h/ln	1628	1624	1630	1576	1572	1368	1090	0	0	1477	0	0
Q Serve(g_s), s	11.6	32.5	32.9	0.6	30.6	1.0	6.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.6	32.5	32.9	0.6	30.6	1.0	18.1	0.0	0.0	11.3	0.0	0.0
Prop In Lane	1.00		0.24	1.00		1.00	0.82		0.08	0.23		0.69
Lane Grp Cap(c), veh/h	186	999	1003	15	1605	698	341	0	0	425	0	0
V/C Ratio(X)	0.86	0.67	0.68	0.52	0.67	0.03	0.49	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	264	999	1003	67	1605	698	341	0	0	425	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	52.2	15.1	15.2	59.1	21.8	14.6	39.9	0.0	0.0	36.9	0.0	0.0
Incr Delay (d2), s/veh	17.6	3.6	3.7	24.7	2.2	0.1	5.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	12.6	12.8	0.3	11.7	0.3	4.9	0.0	0.0	4.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	18.7	18.9	83.8	24.1	14.7	44.9	0.0	0.0	37.5	0.0	0.0
LnGrp LOS	E	B	B	F	C	B	D	A	A	D	A	A
Approach Vol, veh/h		1509			1106			168			173	
Approach Delay, s/veh		24.2			24.3			44.9			37.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	78.3		36.0	18.2	65.8		36.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	69.9		31.5	19.5	55.5		31.5				
Max Q Clear Time (g_c+I1), s	2.6	34.9		20.1	13.6	32.6		13.3				
Green Ext Time (p_c), s	0.0	13.4		0.7	0.2	9.0		1.0				

Intersection Summary			
HCM 6th Ctrl Delay		26.2	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1085	82	16	1043	34	33
Future Vol, veh/h	1085	82	16	1043	34	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	215	-	120	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	7	7	3	3
Mvmt Flow	1142	86	17	1098	36	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1228	0	1725	571
Stage 1	-	-	-	-	1142	-
Stage 2	-	-	-	-	583	-
Critical Hdwy	-	-	4.24	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.27	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	536	-	79	461
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	518	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	536	-	76	461
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	501	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	51.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	76	461	-	-	536	-
HCM Lane V/C Ratio	0.471	0.075	-	-	0.031	-
HCM Control Delay (s)	88.9	13.4	-	-	11.9	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	1.9	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.3

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	37	1070	1027	0	0	15
Future Vol, veh/h	37	1070	1027	0	0	15
Conflicting Peds, #/hr	0	0	0	1	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	220	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	7	7	13	13
Mvmt Flow	38	1103	1059	0	0	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1060	0	-	0	1688	532
Stage 1	-	-	-	-	1060	-
Stage 2	-	-	-	-	628	-
Critical Hdwy	4.16	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.23	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	647	-	-	-	75	464
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	646	-	-	-	70	463
Mov Cap-2 Maneuver	-	-	-	-	70	-
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	465	-

Approach	SE	NW	SW
HCM Control Delay, s	0.4	0	13
HCM LOS			B

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)	-	-	646	-	463
HCM Lane V/C Ratio	-	-	0.059	-	0.033
HCM Control Delay (s)	-	-	10.9	-	13
HCM Lane LOS	-	-	B	-	B
HCM 95th %tile Q(veh)	-	-	0.2	-	0.1

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	46	53	26	49	26	59	264	52	10	318	11
Future Vol, veh/h	11	46	53	26	49	26	59	264	52	10	318	11
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	90	-	-	125	-	-	-	-	-	330
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	5	5	5	2	2	2	5	5	5
Mvmt Flow	12	49	56	28	52	28	63	281	55	11	338	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	839	826	340	856	811	313	352	0	0	338	0	0
Stage 1	362	362	-	437	437	-	-	-	-	-	-	-
Stage 2	477	464	-	419	374	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.15	6.55	6.25	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.545	4.045	3.345	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	286	308	705	275	310	720	1207	-	-	1205	-	-
Stage 1	659	627	-	592	574	-	-	-	-	-	-	-
Stage 2	571	565	-	606	612	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	223	284	704	207	286	717	1205	-	-	1203	-	-
Mov Cap-2 Maneuver	223	284	-	207	286	-	-	-	-	-	-	-
Stage 1	615	619	-	552	536	-	-	-	-	-	-	-
Stage 2	462	527	-	508	604	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.6	21.7	1.3	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1205	-	-	270	704	253	717	1203	-	-
HCM Lane V/C Ratio	0.052	-	-	0.225	0.08	0.315	0.039	0.009	-	-
HCM Control Delay (s)	8.2	0	-	22.2	10.6	25.7	10.2	8	0	-
HCM Lane LOS	A	A	-	C	B	D	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.3	1.3	0.1	0	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	23	5	2	6	7	4	10	1	23	27	28
Future Vol, veh/h	23	23	5	2	6	7	4	10	1	23	27	28
Conflicting Peds, #/hr	2	0	1	3	0	4	1	0	3	4	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	3	3	3
Mvmt Flow	25	25	5	2	7	8	4	11	1	25	30	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	129	122	51	138	137	20	63	0	0	16	0	0
Stage 1	98	98	-	24	24	-	-	-	-	-	-	-
Stage 2	31	24	-	114	113	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.227	-	-
Pot Cap-1 Maneuver	844	768	1017	833	754	1058	1508	-	-	1595	-	-
Stage 1	908	814	-	994	875	-	-	-	-	-	-	-
Stage 2	986	875	-	891	802	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	815	749	1012	791	735	1050	1505	-	-	1589	-	-
Mov Cap-2 Maneuver	815	749	-	791	735	-	-	-	-	-	-	-
Stage 1	903	799	-	987	869	-	-	-	-	-	-	-
Stage 2	965	869	-	842	788	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9.2	2	2.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1505	-	-	815	785	864	1589	-	-
HCM Lane V/C Ratio	0.003	-	-	0.031	0.039	0.019	0.016	-	-
HCM Control Delay (s)	7.4	0	-	9.6	9.8	9.2	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	0	-	-

Trip Generation Calculation Worksheet

Land Use Description: Multi-Family Housing (Low-Rise*)
ITE Land Use Code: 220
Independent Variable: Dwelling Units
Quantity: 192 Dwelling Units
Setting: General Urban/Suburban and Rural (Not Close to Rail Transit)

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Equation: T = 0.31(X) + 22.85
Directional Distribution: 24% Entering 76% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Equation: T = 0.43(X) + 20.55
Directional Distribution: 63% Entering 37% Exiting

Total Weekday Traffic
Trip Equation: T = 6.41(X) + 75.31
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

192 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	20	62	82
PM Peak Hour	65	38	103
Weekday	653	653	1306

*"Low-Rise" applies to buildings with 2-3 floors.

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: Single-Family Attached Housing
ITE Land Use Code: 215
Independent Variable: Dwelling Units
Quantity: 8 Dwelling Units
Setting: General Urban/Suburban and Rural

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.48 trips per dwelling unit
Directional Distribution: 31% Entering 69% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.57 trips per dwelling unit
Directional Distribution: 57% Entering 43% Exiting

Total Weekday Traffic
Trip Rate: 7.2 trips per dwelling unit
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

8 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	1	3	4
PM Peak Hour	3	2	5
Weekday	29	29	58

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: General Office Building
ITE Land Use Code: 710
Independent Variable: Gross Floor Area
Quantity: 5.000 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 1.52 trips per ksf
Directional Distribution: 86% Entering 14% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 1.44 trips per ksf
Directional Distribution: 16% Entering 84% Exiting

Total Weekday Traffic
Trip Rate: 10.84 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

5.000 ksf General Office Building

	Entering	Exiting	Total
AM Peak Hour	7	1	8
PM Peak Hour	1	6	7
Weekday	27	27	54

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: Single-Family Attached Housing
ITE Land Use Code: 215
Independent Variable: Dwelling Units
Quantity: 92 Dwelling Units
Setting: General Urban/Suburban and Rural

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Equation: T = 0.52(X) - 5.70
Directional Distribution: 31% Entering 69% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Equation: T = 0.60(X) - 3.93
Directional Distribution: 57% Entering 43% Exiting

Total Weekday Traffic
Trip Equation: T = 7.62(X) - 50.48
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

92 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	13	29	42
PM Peak Hour	29	22	51
Weekday	325	325	650

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: Single-Family Detached Housing
ITE Land Use Code: 210
Independent Variable: Dwelling Units
Quantity: 50 Dwelling Units

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.74 trips per dwelling unit
Directional Distribution: 25% Entering 75% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.99 trips per dwelling unit
Directional Distribution: 63% Entering 37% Exiting

Total Weekday Traffic
Trip Rate: 9.44 trips per dwelling unit
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

50 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	9	28	37
PM Peak Hour	32	18	50
Weekday	236	236	472

Data Source: *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017

Trip Generation Calculation Worksheet

Land Use Description: Fast-Food Restaurant without Drive-Through
ITE Land Use Code: 933
Independent Variable: Gross Floor Area
Quantity: 5.000 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 25.10 trips per ksf
Directional Distribution: 51% Entering 49% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 28.34 trips per ksf
Directional Distribution: 52% Entering 48% Exiting

Total Weekday Traffic
Trip Rate: 346.23 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

5.0 ksf Fast-Food Restaurant w/o Drive Thru

	Entering	Exiting	Total
AM Peak Hour	64	62	126
PM Peak Hour	74	68	142
Weekday	866	866	1732

Data Source: *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017

Trip Generation Calculation Worksheet

Land Use Description: Day Care Center
ITE Land Use Code: 565
Independent Variable: Gross Floor Area
Quantity: 5.00 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 11.00 trips per ksf
Directional Distribution: 54% Entering 46% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 11.12 trips per ksf
Directional Distribution: 49% Entering 51% Exiting

Total Weekday Traffic
Trip Rate: 47.62 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

5.00 ksf Day Care Center

	Entering	Exiting	Total
AM Peak Hour	30	25	55
PM Peak Hour	27	29	56
Weekday	119	119	238

Data Source: *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017

Trip Generation Calculation Worksheet

Land Use Description: Supermarket
ITE Land Use Code: 850
Independent Variable: Gross Floor Area
Quantity: 18.433 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 3.82 trips per ksf
Directional Distribution: 58% Entering 42% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 9.24 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Total Weekday Traffic
Trip Rate: 106.78 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

18.433 ksf Supermarket

	Entering	Exiting	Total
AM Peak Hour	41	29	70
PM Peak Hour	85	85	170
Weekday	984	984	1968

Data Source: *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017

Trip Generation Calculation Worksheet

Land Use Description: Single-Family Attached Housing
ITE Land Use Code: 215
Independent Variable: Dwelling Units
Quantity: 12 Dwelling Units
Setting: General Urban/Suburban and Rural

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.48 trips per dwelling unit
Directional Distribution: 31% Entering 69% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.57 trips per dwelling unit
Directional Distribution: 57% Entering 43% Exiting

Total Weekday Traffic
Trip Rate: 7.2 trips per dwelling unit
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

12 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	2	4	6
PM Peak Hour	4	3	7
Weekday	43	43	86

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: Single-Family Detached Housing
ITE Land Use Code: 210
Independent Variable: Dwelling Units
Quantity: 14 Dwelling Units

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.74 trips per dwelling unit
Directional Distribution: 25% Entering 75% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.99 trips per dwelling unit
Directional Distribution: 63% Entering 37% Exiting

Total Weekday Traffic
Trip Rate: 9.44 trips per dwelling unit
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

14 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	3	7	10
PM Peak Hour	9	5	14
Weekday	66	66	132

Data Source: *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017

Trip Generation Calculation Worksheet

Land Use Description: Multi-Family Housing (Low-Rise)
ITE Land Use Code: 220
Independent Variable: Dwelling Units
Quantity: 130 Dwelling Units

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.46 trips per dwelling unit
Directional Distribution: 23% Entering 77% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.56 trips per dwelling unit
Directional Distribution: 63% Entering 37% Exiting

Total Weekday Traffic
Trip Rate: 7.32 trips per dwelling unit
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

130 Dwelling Units

	Entering	Exiting	Total
AM Peak Hour	14	46	60
PM Peak Hour	46	27	73
Weekday	476	476	952

Data Source: *Trip Generation Manual, 10th Edition* , Institute of Transportation Engineers, 2017

Trip Generation Calculation Worksheet

Land Use Description: Supermarket
ITE Land Use Code: 850
Independent Variable: Gross Floor Area
Quantity: 25.720 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 2.86 trips per ksf
Directional Distribution: 59% Entering 41% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Equation: Ln(T) = 0.81 Ln(X) + 2.92
Directional Distribution: 50% Entering 50% Exiting

Total Weekday Traffic
Trip Rate: T = 89.39(X) + 539.33
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

25.720 ksf Supermarket

	Entering	Exiting	Total
AM Peak Hour	44	30	74
PM Peak Hour	129	128	257
Weekday	1419	1419	2838

Data Source: Trip Generation Manual, 11th Edition, Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: Public Park
ITE Land Use Code: 411
Independent Variable: Acres
Quantity: 1.755 Acres

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.02 trips per acre
Directional Distribution: 59% Entering 41% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 0.11 trips per acre
Directional Distribution: 55% Entering 45% Exiting

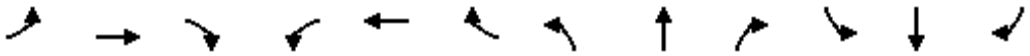
Total Weekday Traffic
Trip Rate: 0.78 trips per acre
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

1.755 Acre Park

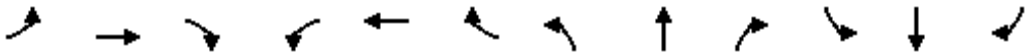
	Entering	Exiting	Total
AM Peak Hour	0	0	0
PM Peak Hour	0	0	0
Weekday	1	1	2

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	852	40	4	1143	11	145	12	3	17	4	157
Future Volume (vph)	61	852	40	4	1143	11	145	12	3	17	4	157
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		1.00			0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			1.00	
Satd. Flow (prot)	1484	2949		1568	3137	1403		1576			1489	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.53			0.97	
Satd. Flow (perm)	1484	2949		1568	3137	1403		879			1445	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	65	906	43	4	1216	12	154	13	3	18	4	167
RTOR Reduction (vph)	0	3	0	0	0	6	0	1	0	0	95	0
Lane Group Flow (vph)	65	946	0	4	1216	6	0	169	0	0	94	0
Heavy Vehicles (%)	12%	12%	12%	6%	6%	6%	6%	6%	6%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases						6	4			8		
Actuated Green, G (s)	8.1	69.0		1.0	61.9	61.9		36.5			36.5	
Effective Green, g (s)	8.1	69.0		1.0	61.9	61.9		36.5			36.5	
Actuated g/C Ratio	0.07	0.58		0.01	0.52	0.52		0.30			0.30	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	100	1695		13	1618	723		267			439	
v/s Ratio Prot	c0.04	0.32		0.00	c0.39							
v/s Ratio Perm						0.00		c0.19			0.07	
v/c Ratio	0.65	0.56		0.31	0.75	0.01		0.63			0.21	
Uniform Delay, d1	54.6	16.0		59.2	23.0	14.1		36.0			31.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	14.1	1.3		13.0	3.3	0.0		11.0			0.2	
Delay (s)	68.7	17.3		72.2	26.2	14.1		46.9			31.3	
Level of Service	E	B		E	C	B		D			C	
Approach Delay (s)		20.6			26.3			46.9			31.3	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	852	40	4	1143	11	145	12	3	17	4	157
Future Volume (veh/h)	61	852	40	4	1143	11	145	12	3	17	4	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1586	1586	1586	1668	1668	1668	1668	1668	1668	1709	1709	1709
Adj Flow Rate, veh/h	65	906	43	4	1216	12	154	13	3	18	4	167
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, %	12	12	12	6	6	6	6	6	6	3	3	3
Cap, veh/h	80	1693	80	8	1682	750	316	25	5	57	28	401
Arrive On Green	0.05	0.58	0.58	0.01	0.53	0.53	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1511	2929	139	1589	3169	1414	850	81	17	81	93	1318
Grp Volume(v), veh/h	65	466	483	4	1216	12	170	0	0	189	0	0
Grp Sat Flow(s),veh/h/ln	1511	1507	1561	1589	1585	1414	948	0	0	1492	0	0
Q Serve(g_s), s	5.1	22.7	22.7	0.3	35.1	0.5	9.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.1	22.7	22.7	0.3	35.1	0.5	21.5	0.0	0.0	12.3	0.0	0.0
Prop In Lane	1.00		0.09	1.00		1.00	0.91		0.02	0.10		0.88
Lane Grp Cap(c), veh/h	80	871	903	8	1682	750	345	0	0	487	0	0
V/C Ratio(X)	0.82	0.54	0.54	0.48	0.72	0.02	0.49	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	132	871	903	68	1682	750	345	0	0	487	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.3	15.5	15.5	59.5	21.4	13.3	37.9	0.0	0.0	33.3	0.0	0.0
Incr Delay (d2), s/veh	17.9	2.4	2.3	38.0	2.7	0.0	4.9	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	8.3	8.6	0.2	13.5	0.2	4.9	0.0	0.0	4.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.1	17.8	17.7	97.5	24.2	13.4	42.8	0.0	0.0	33.8	0.0	0.0
LnGrp LOS	E	B	B	F	C	B	D	A	A	C	A	A
Approach Vol, veh/h		1014			1232			170			189	
Approach Delay, s/veh		21.4			24.3			42.8			33.8	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	73.9		41.0	10.8	68.2		41.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	64.9		36.5	10.5	59.5		36.5				
Max Q Clear Time (g_c+I1), s	2.3	24.7		23.5	7.1	37.1		14.3				
Green Ext Time (p_c), s	0.0	8.1		0.8	0.0	10.3		1.2				

Intersection Summary												
HCM 6th Ctrl Delay			25.1									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	860	37	17	1055	70	17
Future Vol, veh/h	860	37	17	1055	70	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	215	-	120	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	13	13	7	7	4	4
Mvmt Flow	915	39	18	1122	74	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	954	0	1512	458
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	-	-	4.24	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	-	-	2.27	-	3.54	3.34
Pot Cap-1 Maneuver	-	-	686	-	109	544
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	507	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	686	-	106	544
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	494	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	79.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	106	544	-	-	686	-
HCM Lane V/C Ratio	0.703	0.033	-	-	0.026	-
HCM Control Delay (s)	95.4	11.8	-	-	10.4	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	3.7	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	29	815	1035	1	0	72
Future Vol, veh/h	29	815	1035	1	0	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	220	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	13	13	6	6	9	9
Mvmt Flow	31	867	1101	1	0	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1102	0	-	0	1598	551
Stage 1	-	-	-	-	1102	-
Stage 2	-	-	-	-	496	-
Critical Hdwy	4.36	-	-	-	6.98	7.08
Critical Hdwy Stg 1	-	-	-	-	5.98	-
Critical Hdwy Stg 2	-	-	-	-	5.98	-
Follow-up Hdwy	2.33	-	-	-	3.59	3.39
Pot Cap-1 Maneuver	569	-	-	-	90	461
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	558	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	569	-	-	-	85	461
Mov Cap-2 Maneuver	-	-	-	-	85	-
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	558	-

Approach	SE	NW	SW
HCM Control Delay, s	0.4	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)	-	-	569	-	461
HCM Lane V/C Ratio	-	-	0.054	-	0.166
HCM Control Delay (s)	-	-	11.7	-	14.4
HCM Lane LOS	-	-	B	-	B
HCM 95th %tile Q(veh)	-	-	0.2	-	0.6

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	9	35	57	42	35	47	308	15	4	182	2
Future Vol, veh/h	9	9	35	57	42	35	47	308	15	4	182	2
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	90	-	-	125	-	-	-	-	-	330
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	1	1	1	5	5	5	2	2	2	5	5	5
Mvmt Flow	10	10	39	63	47	39	52	342	17	4	202	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	712	677	204	693	671	355	206	0	0	361	0	0
Stage 1	212	212	-	457	457	-	-	-	-	-	-	-
Stage 2	500	465	-	236	214	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.15	6.55	6.25	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.545	4.045	3.345	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	349	376	839	354	374	682	1365	-	-	1181	-	-
Stage 1	792	729	-	578	563	-	-	-	-	-	-	-
Stage 2	555	565	-	760	720	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	283	355	837	317	353	679	1362	-	-	1179	-	-
Mov Cap-2 Maneuver	283	355	-	317	353	-	-	-	-	-	-	-
Stage 1	752	725	-	549	535	-	-	-	-	-	-	-
Stage 2	454	537	-	712	716	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	18.4	1	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1362	-	-	315	837	331	679	1179	-	-
HCM Lane V/C Ratio	0.038	-	-	0.063	0.046	0.332	0.057	0.004	-	-
HCM Control Delay (s)	7.7	0	-	17.2	9.5	21.2	10.6	8.1	0	-
HCM Lane LOS	A	A	-	C	A	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	1.4	0.2	0	-	-

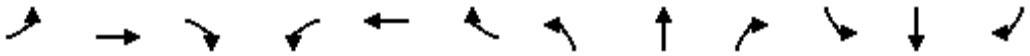
Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	1	1	1	17	24	4	22	2	10	5	18
Future Vol, veh/h	20	1	1	1	17	24	4	22	2	10	5	18
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	115	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	5	5	18	18	18	8	8	8	23	23	23
Mvmt Flow	22	1	1	1	19	27	4	25	2	11	6	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	95	73	16	73	82	26	26	0	0	27	0	0
Stage 1	38	38	-	34	34	-	-	-	-	-	-	-
Stage 2	57	35	-	39	48	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.28	6.68	6.38	4.18	-	-	4.33	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.28	5.68	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.28	5.68	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.662	4.162	3.462	2.272	-	-	2.407	-	-
Pot Cap-1 Maneuver	881	812	1055	880	779	1006	1550	-	-	1461	-	-
Stage 1	970	857	-	943	836	-	-	-	-	-	-	-
Stage 2	947	860	-	937	824	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	834	803	1055	871	770	1006	1550	-	-	1461	-	-
Mov Cap-2 Maneuver	834	803	-	871	770	-	-	-	-	-	-	-
Stage 1	967	850	-	940	833	-	-	-	-	-	-	-
Stage 2	898	857	-	927	817	-	-	-	-	-	-	-

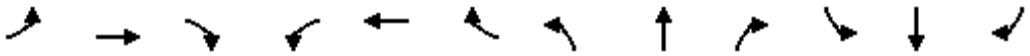
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	9.3	1	2.3
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1550	-	-	834	912	892	1461	-	-
HCM Lane V/C Ratio	0.003	-	-	0.027	0.002	0.053	0.008	-	-
HCM Control Delay (s)	7.3	0	-	9.4	9	9.3	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.2	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	1288	164	9	1144	23	141	17	15	42	15	123
Future Volume (vph)	164	1288	164	9	1144	23	141	17	15	42	15	123
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.98		1.00	1.00	0.85		0.99			0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.99	
Satd. Flow (prot)	1614	3166		1554	3107	1343		1645			1462	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.55			0.90	
Satd. Flow (perm)	1614	3166		1554	3107	1343		949			1334	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	173	1356	173	9	1204	24	148	18	16	44	16	129
RTOR Reduction (vph)	0	8	0	0	0	12	0	3	0	0	64	0
Lane Group Flow (vph)	173	1521	0	9	1204	12	0	179	0	0	125	0
Confl. Peds. (#/hr)						4						4
Confl. Bikes (#/hr)			2			1						
Heavy Vehicles (%)	3%	3%	3%	7%	7%	7%	1%	1%	1%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases						6	4			8		
Actuated Green, G (s)	16.5	74.0		1.0	58.5	58.5		31.5			31.5	
Effective Green, g (s)	16.5	74.0		1.0	58.5	58.5		31.5			31.5	
Actuated g/C Ratio	0.14	0.62		0.01	0.49	0.49		0.26			0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	221	1952		12	1514	654		249			350	
v/s Ratio Prot	c0.11	c0.48		0.01	0.39							
v/s Ratio Perm						0.01		c0.19			0.09	
v/c Ratio	0.78	0.78		0.75	0.80	0.02		0.72			0.36	
Uniform Delay, d1	50.0	17.0		59.4	25.7	15.9		40.2			36.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	16.4	3.2		128.3	4.4	0.1		16.4			0.6	
Delay (s)	66.4	20.1		187.6	30.1	15.9		56.6			36.6	
Level of Service	E	C		F	C	B		E			D	
Approach Delay (s)		24.8			31.0			56.6			36.6	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	1288	164	9	1144	23	141	17	15	42	15	123
Future Volume (veh/h)	164	1288	164	9	1144	23	141	17	15	42	15	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		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	1709	1709	1709	1654	1654	1654	1736	1736	1736	1668	1668	1668
Adj Flow Rate, veh/h	173	1356	173	9	1204	24	148	18	16	44	16	129
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, %	3	3	3	7	7	7	1	1	1	6	6	6
Cap, veh/h	199	1776	225	17	1581	688	274	33	24	109	52	267
Arrive On Green	0.12	0.61	0.61	0.01	0.50	0.50	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1628	2892	366	1576	3143	1368	838	125	93	276	197	1017
Grp Volume(v), veh/h	173	757	772	9	1204	24	182	0	0	189	0	0
Grp Sat Flow(s),veh/h/ln	1628	1624	1634	1576	1572	1368	1055	0	0	1491	0	0
Q Serve(g_s), s	12.5	40.4	41.5	0.7	37.0	1.1	8.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.5	40.4	41.5	0.7	37.0	1.1	20.5	0.0	0.0	12.5	0.0	0.0
Prop In Lane	1.00		0.22	1.00		1.00	0.81		0.09	0.23		0.68
Lane Grp Cap(c), veh/h	199	997	1003	17	1581	688	331	0	0	428	0	0
V/C Ratio(X)	0.87	0.76	0.77	0.53	0.76	0.03	0.55	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	251	997	1003	66	1581	688	331	0	0	428	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	51.7	16.7	16.9	59.0	24.0	15.1	41.0	0.0	0.0	37.3	0.0	0.0
Incr Delay (d2), s/veh	22.6	5.4	5.7	23.1	3.5	0.1	6.4	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	15.9	16.5	0.4	14.4	0.4	5.5	0.0	0.0	4.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.3	22.1	22.6	82.2	27.5	15.2	47.4	0.0	0.0	38.0	0.0	0.0
LnGrp LOS	E	C	C	F	C	B	D	A	A	D	A	A
Approach Vol, veh/h		1702			1237			182			189	
Approach Delay, s/veh		27.7			27.7			47.4			38.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	78.2		36.0	19.1	64.9		36.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	70.0		31.5	18.5	56.5		31.5				
Max Q Clear Time (g_c+I1), s	2.7	43.5		22.5	14.5	39.0		14.5				
Green Ext Time (p_c), s	0.0	14.1		0.7	0.2	8.9		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			29.4									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1243	88	18	1165	36	35
Future Vol, veh/h	1243	88	18	1165	36	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	-	160	215	-	120	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	7	7	3	3
Mvmt Flow	1308	93	19	1226	38	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1401	0	1959	654
Stage 1	-	-	-	-	1308	-
Stage 2	-	-	-	-	651	-
Critical Hdwy	-	-	4.24	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.27	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	459	-	55	407
Stage 1	-	-	-	-	215	-
Stage 2	-	-	-	-	478	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	459	-	53	407
Mov Cap-2 Maneuver	-	-	-	-	53	-
Stage 1	-	-	-	-	215	-
Stage 2	-	-	-	-	458	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	93.4
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	53	407	-	-	459	-
HCM Lane V/C Ratio	0.715	0.091	-	-	0.041	-
HCM Control Delay (s)	169.9	14.7	-	-	13.2	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	2.9	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.6

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	75	1194	1128	0	0	38
Future Vol, veh/h	75	1194	1128	0	0	38
Conflicting Peds, #/hr	0	0	0	1	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	220	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	3	3	7	7	13	13
Mvmt Flow	77	1231	1163	0	0	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1164	0	-	0	1934	584
Stage 1	-	-	-	-	1164	-
Stage 2	-	-	-	-	770	-
Critical Hdwy	4.16	-	-	-	7.06	7.16
Critical Hdwy Stg 1	-	-	-	-	6.06	-
Critical Hdwy Stg 2	-	-	-	-	6.06	-
Follow-up Hdwy	2.23	-	-	-	3.63	3.43
Pot Cap-1 Maneuver	590	-	-	-	51	428
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	390	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	589	-	-	-	44	427
Mov Cap-2 Maneuver	-	-	-	-	44	-
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	390	-

Approach	SE	NW	SW
HCM Control Delay, s	0.7	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NWT	NWR	SEL	SET	SWLn1
Capacity (veh/h)	-	-	589	-	427
HCM Lane V/C Ratio	-	-	0.131	-	0.092
HCM Control Delay (s)	-	-	12	-	14.3
HCM Lane LOS	-	-	B	-	B
HCM 95th %tile Q(veh)	-	-	0.5	-	0.3

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	50	57	28	53	28	63	298	56	11	358	12
Future Vol, veh/h	12	50	57	28	53	28	63	298	56	11	358	12
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	90	-	-	125	-	-	-	-	-	330
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	5	5	5	2	2	2	5	5	5
Mvmt Flow	13	53	61	30	56	30	67	317	60	12	381	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	933	920	383	952	903	351	396	0	0	379	0	0
Stage 1	407	407	-	483	483	-	-	-	-	-	-	-
Stage 2	526	513	-	469	420	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.15	6.55	6.25	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.545	4.045	3.345	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	247	272	667	236	274	686	1163	-	-	1163	-	-
Stage 1	623	599	-	559	548	-	-	-	-	-	-	-
Stage 2	537	538	-	569	584	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	182	248	666	167	249	683	1161	-	-	1161	-	-
Mov Cap-2 Maneuver	182	248	-	167	249	-	-	-	-	-	-	-
Stage 1	576	590	-	517	506	-	-	-	-	-	-	-
Stage 2	422	497	-	464	575	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.1	27.1	1.3	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1161	-	-	232	666	213	683	1161	-	-
HCM Lane V/C Ratio	0.058	-	-	0.284	0.091	0.405	0.044	0.01	-	-
HCM Control Delay (s)	8.3	0	-	26.6	10.9	32.9	10.5	8.1	0	-
HCM Lane LOS	A	A	-	D	B	D	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	0.3	1.8	0.1	0	-	-

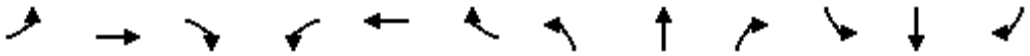
Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	25	5	2	6	7	4	11	1	25	29	30
Future Vol, veh/h	25	25	5	2	6	7	4	11	1	25	29	30
Conflicting Peds, #/hr	2	0	1	3	0	4	1	0	3	4	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	3	3	3
Mvmt Flow	27	27	5	2	7	8	4	12	1	27	32	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	137	130	54	147	146	21	67	0	0	17	0	0
Stage 1	105	105	-	25	25	-	-	-	-	-	-	-
Stage 2	32	25	-	122	121	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.227	-	-
Pot Cap-1 Maneuver	834	761	1013	821	745	1056	1503	-	-	1594	-	-
Stage 1	901	808	-	993	874	-	-	-	-	-	-	-
Stage 2	984	874	-	882	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	805	740	1008	776	725	1048	1500	-	-	1588	-	-
Mov Cap-2 Maneuver	805	740	-	776	725	-	-	-	-	-	-	-
Stage 1	896	792	-	986	868	-	-	-	-	-	-	-
Stage 2	963	868	-	829	780	-	-	-	-	-	-	-

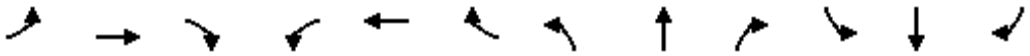
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.8	9.3	1.9	2.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1500	-	-	805	774	856	1588	-	-
HCM Lane V/C Ratio	0.003	-	-	0.034	0.043	0.019	0.017	-	-
HCM Control Delay (s)	7.4	0	-	9.6	9.9	9.3	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	768	40	4	1114	11	145	12	3	17	4	157
Future Volume (vph)	61	768	40	4	1114	11	145	12	3	17	4	157
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frt	1.00	0.99		1.00	1.00	0.85		1.00			0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			1.00	
Satd. Flow (prot)	1484	2946		1568	3137	1403		1576			1489	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.53			0.97	
Satd. Flow (perm)	1484	2946		1568	3137	1403		879			1445	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	65	817	43	4	1185	12	154	13	3	18	4	167
RTOR Reduction (vph)	0	3	0	0	0	6	0	1	0	0	107	0
Lane Group Flow (vph)	65	857	0	4	1185	6	0	169	0	0	82	0
Heavy Vehicles (%)	12%	12%	12%	6%	6%	6%	6%	6%	6%	3%	3%	3%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases						6	4			8		
Actuated Green, G (s)	8.5	69.0		1.0	61.5	61.5		36.5			36.5	
Effective Green, g (s)	8.5	69.0		1.0	61.5	61.5		36.5			36.5	
Actuated g/C Ratio	0.07	0.58		0.01	0.51	0.51		0.30			0.30	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	105	1693		13	1607	719		267			439	
v/s Ratio Prot	c0.04	0.29		0.00	c0.38							
v/s Ratio Perm						0.00		c0.19			0.06	
v/c Ratio	0.62	0.51		0.31	0.74	0.01		0.63			0.19	
Uniform Delay, d1	54.2	15.3		59.2	22.9	14.3		36.0			30.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	10.4	1.1		13.0	3.1	0.0		11.0			0.2	
Delay (s)	64.6	16.4		72.2	26.0	14.3		46.9			31.0	
Level of Service	E	B		E	C	B		D			C	
Approach Delay (s)		19.8			26.0			46.9			31.0	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	768	40	4	1114	11	145	12	3	17	4	157
Future Volume (veh/h)	61	768	40	4	1114	11	145	12	3	17	4	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1586	1586	1586	1668	1668	1668	1668	1668	1668	1709	1709	1709
Adj Flow Rate, veh/h	65	817	43	4	1185	12	154	13	3	18	4	167
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, %	12	12	12	6	6	6	6	6	6	3	3	3
Cap, veh/h	80	1684	89	8	1682	750	316	25	5	57	28	401
Arrive On Green	0.05	0.58	0.58	0.01	0.53	0.53	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1511	2912	153	1589	3169	1414	850	81	17	81	93	1318
Grp Volume(v), veh/h	65	423	437	4	1185	12	170	0	0	189	0	0
Grp Sat Flow(s),veh/h/ln	1511	1507	1559	1589	1585	1414	948	0	0	1492	0	0
Q Serve(g_s), s	5.1	19.7	19.7	0.3	33.6	0.5	9.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.1	19.7	19.7	0.3	33.6	0.5	21.5	0.0	0.0	12.3	0.0	0.0
Prop In Lane	1.00		0.10	1.00		1.00	0.91		0.02	0.10		0.88
Lane Grp Cap(c), veh/h	80	871	901	8	1682	750	345	0	0	487	0	0
V/C Ratio(X)	0.82	0.49	0.49	0.48	0.70	0.02	0.49	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	145	871	901	68	1682	750	345	0	0	487	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	56.3	14.8	14.8	59.5	21.1	13.3	37.9	0.0	0.0	33.3	0.0	0.0
Incr Delay (d2), s/veh	17.8	1.9	1.9	38.0	2.5	0.0	4.9	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	7.2	7.4	0.2	12.9	0.2	4.9	0.0	0.0	4.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.0	16.8	16.7	97.5	23.6	13.4	42.8	0.0	0.0	33.8	0.0	0.0
LnGrp LOS	E	B	B	F	C	B	D	A	A	C	A	A
Approach Vol, veh/h		925			1201			170			189	
Approach Delay, s/veh		20.8			23.8			42.8			33.8	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	73.9		41.0	10.8	68.2		41.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	64.9		36.5	11.5	58.5		36.5				
Max Q Clear Time (g_c+I1), s	2.3	21.7		23.5	7.1	35.6		14.3				
Green Ext Time (p_c), s	0.0	7.1		0.8	0.0	10.1		1.2				

Intersection Summary			
HCM 6th Ctrl Delay		24.7	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	776	37	17	1016	90	17
Future Vol, veh/h	776	37	17	1016	90	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	160	215	-	120	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	13	13	7	7	4	4
Mvmt Flow	826	39	18	1081	96	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	865	0	1403	413
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	577	-
Critical Hdwy	-	-	4.24	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	-	-	2.27	-	3.54	3.34
Pot Cap-1 Maneuver	-	-	743	-	128	583
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	519	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	743	-	125	583
Mov Cap-2 Maneuver	-	-	-	-	125	-
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	507	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	80.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	125	583	-	-	743	-
HCM Lane V/C Ratio	0.766	0.031	-	-	0.024	-
HCM Control Delay (s)	93.8	11.4	-	-	10	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	4.4	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	23	719	18	60	981	1	23	6	109	0	18	54
Future Vol, veh/h	23	719	18	60	981	1	23	6	109	0	18	54
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	220	-	-	200	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	13	13	2	2	6	6	2	2	2	9	2	9
Mvmt Flow	24	757	19	63	1033	1	24	6	115	0	19	57

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1034	0	0	776	0	0	1467	1975	388	1590	1984	517
Stage 1	-	-	-	-	-	-	815	815	-	1160	1160	-
Stage 2	-	-	-	-	-	-	652	1160	-	430	824	-
Critical Hdwy	4.36	-	-	4.14	-	-	7.54	6.54	6.94	7.68	6.54	7.08
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.68	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.68	5.54	-
Follow-up Hdwy	2.33	-	-	2.22	-	-	3.52	4.02	3.32	3.59	4.02	3.39
Pot Cap-1 Maneuver	606	-	-	836	-	-	89	61	611	67	61	485
Stage 1	-	-	-	-	-	-	338	389	-	197	268	-
Stage 2	-	-	-	-	-	-	423	268	-	555	385	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	606	-	-	836	-	-	53	54	611	45	54	485
Mov Cap-2 Maneuver	-	-	-	-	-	-	53	54	-	45	54	-
Stage 1	-	-	-	-	-	-	324	373	-	189	248	-
Stage 2	-	-	-	-	-	-	319	248	-	426	370	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.3	0.6	39.2	45.4
HCM LOS			E	E

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	53	611	836	-	-	606	-	-	162
HCM Lane V/C Ratio	0.576	0.188	0.076	-	-	0.04	-	-	0.468
HCM Control Delay (s)	140.9	12.2	9.7	-	-	11.2	-	-	45.4
HCM Lane LOS	F	B	A	-	-	B	-	-	E
HCM 95th %tile Q(veh)	2.3	0.7	0.2	-	-	0.1	-	-	2.2

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	10	35	135	45	35	47	208	120	4	117	2
Future Vol, veh/h	9	10	35	135	45	35	47	208	120	4	117	2
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	90	-	-	125	-	-	-	-	-	330
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	1	1	1	5	5	5	2	2	2	5	5	5
Mvmt Flow	10	11	39	150	50	39	52	231	133	4	130	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	588	610	132	568	546	302	134	0	0	366	0	0
Stage 1	140	140	-	404	404	-	-	-	-	-	-	-
Stage 2	448	470	-	164	142	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.15	6.55	6.25	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.545	4.045	3.345	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	422	411	920	429	441	731	1451	-	-	1176	-	-
Stage 1	865	783	-	617	594	-	-	-	-	-	-	-
Stage 2	592	562	-	831	774	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	348	389	918	386	417	728	1448	-	-	1174	-	-
Mov Cap-2 Maneuver	348	389	-	386	417	-	-	-	-	-	-	-
Stage 1	823	778	-	587	565	-	-	-	-	-	-	-
Stage 2	486	535	-	781	769	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	21.2	0.9	0.3
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	368	918	393	728	1174	-	-
HCM Lane V/C Ratio	0.036	-	-	0.057	0.042	0.509	0.053	0.004	-	-
HCM Control Delay (s)	7.6	0	-	15.4	9.1	23.3	10.2	8.1	0	-
HCM Lane LOS	A	A	-	C	A	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.1	2.8	0.2	0	-	-

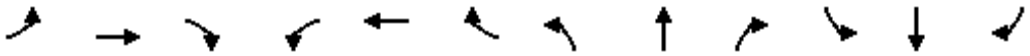
Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	107	1	1	99	44	4	22	2	10	5	18
Future Vol, veh/h	20	107	1	1	99	44	4	22	2	10	5	18
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	115	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	5	5	5	18	18	18	8	8	8	23	23	23
Mvmt Flow	22	120	1	1	111	49	4	25	2	11	6	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	152	73	16	133	82	26	26	0	0	27	0	0
Stage 1	38	38	-	34	34	-	-	-	-	-	-	-
Stage 2	114	35	-	99	48	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.28	6.68	6.38	4.18	-	-	4.33	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.28	5.68	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.28	5.68	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.662	4.162	3.462	2.272	-	-	2.407	-	-
Pot Cap-1 Maneuver	808	812	1055	803	779	1006	1550	-	-	1461	-	-
Stage 1	970	857	-	943	836	-	-	-	-	-	-	-
Stage 2	884	860	-	869	824	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	678	803	1055	704	770	1006	1550	-	-	1461	-	-
Mov Cap-2 Maneuver	678	803	-	704	770	-	-	-	-	-	-	-
Stage 1	967	850	-	940	833	-	-	-	-	-	-	-
Stage 2	726	857	-	739	817	-	-	-	-	-	-	-

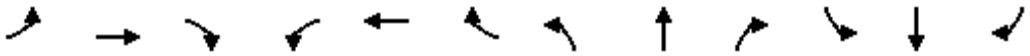
Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	10.4	1	2.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1550	-	-	678	805	829	1461	-	-
HCM Lane V/C Ratio	0.003	-	-	0.033	0.151	0.195	0.008	-	-
HCM Control Delay (s)	7.3	0	-	10.5	10.3	10.4	7.5	0	-
HCM Lane LOS	A	A	-	B	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.5	0.7	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	1219	164	8	1058	23	151	17	15	42	15	123
Future Volume (vph)	164	1219	164	8	1058	23	151	17	15	42	15	123
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00			0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.98		1.00	1.00	0.85		0.99			0.91	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.99	
Satd. Flow (prot)	1614	3163		1554	3107	1343		1646			1462	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.56			0.90	
Satd. Flow (perm)	1614	3163		1554	3107	1343		962			1331	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	173	1283	173	8	1114	24	159	18	16	44	16	129
RTOR Reduction (vph)	0	8	0	0	0	13	0	3	0	0	64	0
Lane Group Flow (vph)	173	1448	0	8	1114	11	0	190	0	0	125	0
Confl. Peds. (#/hr)						4						4
Confl. Bikes (#/hr)			2			1						
Heavy Vehicles (%)	3%	3%	3%	7%	7%	7%	1%	1%	1%	6%	6%	6%
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases						6	4			8		
Actuated Green, G (s)	16.8	72.0		1.0	56.2	56.2		33.5			33.5	
Effective Green, g (s)	16.8	72.0		1.0	56.2	56.2		33.5			33.5	
Actuated g/C Ratio	0.14	0.60		0.01	0.47	0.47		0.28			0.28	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	225	1897		12	1455	628		268			371	
v/s Ratio Prot	c0.11	c0.46		0.01	0.36							
v/s Ratio Perm						0.01		c0.20			0.09	
v/c Ratio	0.77	0.76		0.67	0.77	0.02		0.71			0.34	
Uniform Delay, d1	49.7	17.7		59.3	26.4	17.1		38.9			34.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	14.6	3.0		89.5	3.9	0.1		14.7			0.5	
Delay (s)	64.3	20.7		148.8	30.3	17.2		53.6			34.9	
Level of Service	E	C		F	C	B		D			C	
Approach Delay (s)		25.3			30.9			53.6			34.9	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	1219	164	8	1058	23	151	17	15	42	15	123
Future Volume (veh/h)	164	1219	164	8	1058	23	151	17	15	42	15	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		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	1709	1709	1709	1654	1654	1654	1736	1736	1736	1668	1668	1668
Adj Flow Rate, veh/h	173	1283	173	8	1114	24	159	18	16	44	16	129
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, %	3	3	3	7	7	7	1	1	1	6	6	6
Cap, veh/h	199	1717	230	15	1528	665	295	33	25	115	54	284
Arrive On Green	0.12	0.60	0.60	0.01	0.49	0.49	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1628	2869	384	1576	3143	1367	861	118	88	280	193	1017
Grp Volume(v), veh/h	173	722	734	8	1114	24	193	0	0	189	0	0
Grp Sat Flow(s),veh/h/ln	1628	1624	1630	1576	1572	1367	1067	0	0	1491	0	0
Q Serve(g_s), s	12.5	38.6	39.4	0.6	33.9	1.1	9.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.5	38.6	39.4	0.6	33.9	1.1	21.2	0.0	0.0	12.2	0.0	0.0
Prop In Lane	1.00		0.24	1.00		1.00	0.82		0.08	0.23		0.68
Lane Grp Cap(c), veh/h	199	972	976	15	1528	665	353	0	0	453	0	0
V/C Ratio(X)	0.87	0.74	0.75	0.52	0.73	0.04	0.55	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	264	972	976	67	1528	665	353	0	0	453	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	51.7	17.4	17.6	59.1	24.5	16.1	39.6	0.0	0.0	35.7	0.0	0.0
Incr Delay (d2), s/veh	20.4	5.1	5.3	24.7	3.1	0.1	6.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	15.3	15.7	0.3	13.1	0.4	5.7	0.0	0.0	4.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	22.6	22.9	83.8	27.6	16.2	45.6	0.0	0.0	36.3	0.0	0.0
LnGrp LOS	E	C	C	F	C	B	D	A	A	D	A	A
Approach Vol, veh/h		1629			1146			193			189	
Approach Delay, s/veh		28.0			27.8			45.6			36.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	76.3		38.0	19.2	62.8		38.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	67.9		33.5	19.5	53.5		33.5				
Max Q Clear Time (g_c+I1), s	2.6	41.4		23.2	14.5	35.9		14.2				
Green Ext Time (p_c), s	0.0	13.2		0.8	0.2	8.2		1.1				

Intersection Summary			
HCM 6th Ctrl Delay		29.5	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1174	88	18	1079	48	35
Future Vol, veh/h	1174	88	18	1079	48	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	-	160	215	-	120	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	7	7	3	3
Mvmt Flow	1236	93	19	1136	51	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1329	0	1842	618
Stage 1	-	-	-	-	1236	-
Stage 2	-	-	-	-	606	-
Critical Hdwy	-	-	4.24	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.27	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	490	-	66	430
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	504	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	490	-	63	430
Mov Cap-2 Maneuver	-	-	-	-	63	-
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	484	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	103.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	63	430	-	-	490	-
HCM Lane V/C Ratio	0.802	0.086	-	-	0.039	-
HCM Control Delay (s)	168	14.2	-	-	12.6	-
HCM Lane LOS	F	B	-	-	B	-
HCM 95th %tile Q(veh)	3.6	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	6.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	65	1090	45	121	1021	0	8	5	118	0	9	29
Future Vol, veh/h	65	1090	45	121	1021	0	8	5	118	0	9	29
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	220	-	-	200	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	3	3	2	2	7	7	2	2	2	13	2	13
Mvmt Flow	67	1124	46	125	1053	0	8	5	122	0	9	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1054	0	0	1170	0	0	2063	2585	585	2003	2608	529
Stage 1	-	-	-	-	-	-	1281	1281	-	1304	1304	-
Stage 2	-	-	-	-	-	-	782	1304	-	699	1304	-
Critical Hdwy	4.16	-	-	4.14	-	-	7.54	6.54	6.94	7.76	6.54	7.16
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.76	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.76	5.54	-
Follow-up Hdwy	2.23	-	-	2.22	-	-	3.52	4.02	3.32	3.63	4.02	3.43
Pot Cap-1 Maneuver	650	-	-	593	-	-	32	25	454	31	24	467
Stage 1	-	-	-	-	-	-	175	235	-	154	229	-
Stage 2	-	-	-	-	-	-	353	229	-	372	229	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	649	-	-	593	-	-	14	18	454	14	17	466
Mov Cap-2 Maneuver	-	-	-	-	-	-	14	18	-	14	17	-
Stage 1	-	-	-	-	-	-	157	211	-	138	180	-
Stage 2	-	-	-	-	-	-	247	180	-	238	205	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.6	1.3	67.1	126
HCM LOS			F	F

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	15	454	593	-	-	649	-	-	64
HCM Lane V/C Ratio	0.893	0.268	0.21	-	-	0.103	-	-	0.612
HCM Control Delay (s)	$ 532.6	15.8	12.7	-	-	11.2	-	-	126
HCM Lane LOS	F	C	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	2.1	1.1	0.8	-	-	0.3	-	-	2.6

Intersection	
Int Delay, s/veh	17.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	53	57	149	55	28	63	191	176	11	246	12
Future Vol, veh/h	12	53	57	149	55	28	63	191	176	11	246	12
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	0	2	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	90	-	-	125	-	-	-	-	-	330
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	5	5	5	2	2	2	5	5	5
Mvmt Flow	13	56	61	159	59	30	67	203	187	12	262	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	765	814	264	784	734	301	277	0	0	392	0	0
Stage 1	288	288	-	433	433	-	-	-	-	-	-	-
Stage 2	477	526	-	351	301	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.15	6.55	6.25	4.12	-	-	4.15	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.15	5.55	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.545	4.045	3.345	2.218	-	-	2.245	-	-
Pot Cap-1 Maneuver	321	313	777	307	344	732	1286	-	-	1150	-	-
Stage 1	722	675	-	595	577	-	-	-	-	-	-	-
Stage 2	571	530	-	659	660	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	247	287	776	226	315	729	1284	-	-	1148	-	-
Mov Cap-2 Maneuver	247	287	-	226	315	-	-	-	-	-	-	-
Stage 1	671	666	-	553	537	-	-	-	-	-	-	-
Stage 2	454	493	-	549	651	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.4	66.9	1.2	0.3
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1284	-	-	279	776	245	729	1148	-	-
HCM Lane V/C Ratio	0.052	-	-	0.248	0.078	0.886	0.041	0.01	-	-
HCM Control Delay (s)	8	0	-	22.1	10	74.7	10.1	8.2	0	-
HCM Lane LOS	A	A	-	C	B	F	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1	0.3	7.4	0.1	0	-	-

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	149	5	2	129	29	4	11	1	25	29	30
Future Vol, veh/h	25	149	5	2	129	29	4	11	1	25	29	30
Conflicting Peds, #/hr	2	0	1	3	0	4	1	0	3	4	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	115	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	7	7	7	3	3	3
Mvmt Flow	27	164	5	2	142	32	4	12	1	27	32	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	217	130	54	215	146	21	67	0	0	17	0	0
Stage 1	105	105	-	25	25	-	-	-	-	-	-	-
Stage 2	112	25	-	190	121	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.17	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.263	-	-	2.227	-	-
Pot Cap-1 Maneuver	739	761	1013	742	745	1056	1503	-	-	1594	-	-
Stage 1	901	808	-	993	874	-	-	-	-	-	-	-
Stage 2	893	874	-	812	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	596	740	1008	599	725	1048	1500	-	-	1588	-	-
Mov Cap-2 Maneuver	596	740	-	599	725	-	-	-	-	-	-	-
Stage 1	896	792	-	986	868	-	-	-	-	-	-	-
Stage 2	720	868	-	627	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	11.1	1.9	2.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1500	-	-	596	746	766	1588	-	-
HCM Lane V/C Ratio	0.003	-	-	0.046	0.227	0.23	0.017	-	-
HCM Control Delay (s)	7.4	0	-	11.3	11.2	11.1	7.3	0	-
HCM Lane LOS	A	A	-	B	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.9	0.9	0.1	-	-

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	10	35	135	45	35	47	208	120	4	117	2
Future Vol, veh/h	9	10	35	135	45	35	47	208	120	4	117	2
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, %	1	1	1	5	5	5	2	2	2	5	5	5
Mvmt Flow	10	11	39	150	50	39	52	231	133	4	130	2
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	9.3	12.6	18	10.7
HCM LOS	A	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	13%	47%	0%	75%	0%	3%	0%
Vol Thru, %	55%	53%	0%	25%	0%	97%	0%
Vol Right, %	32%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	375	19	35	180	35	121	2
LT Vol	47	9	0	135	0	4	0
Through Vol	208	10	0	45	0	117	0
RT Vol	120	0	35	0	35	0	2
Lane Flow Rate	417	21	39	200	39	134	2
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.642	0.04	0.063	0.37	0.06	0.229	0.003
Departure Headway (Hd)	5.547	6.828	5.872	6.664	5.572	6.125	5.398
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	650	524	609	540	642	586	662
Service Time	3.576	4.577	3.621	4.402	3.31	3.862	3.136
HCM Lane V/C Ratio	0.642	0.04	0.064	0.37	0.061	0.229	0.003
HCM Control Delay	18	9.9	9	13.3	8.7	10.7	8.2
HCM Lane LOS	C	A	A	B	A	B	A
HCM 95th-tile Q	4.6	0.1	0.2	1.7	0.2	0.9	0

Intersection	
Intersection Delay, s/veh	21.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	53	57	149	55	28	63	191	176	11	246	12
Future Vol, veh/h	12	53	57	149	55	28	63	191	176	11	246	12
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, %	1	1	1	5	5	5	2	2	2	5	5	5
Mvmt Flow	13	56	61	159	59	30	67	203	187	12	262	13
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	2	2
HCM Control Delay	11.2	15.9	29.9	16.4
HCM LOS	B	C	D	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	15%	18%	0%	73%	0%	4%	0%
Vol Thru, %	44%	82%	0%	27%	0%	96%	0%
Vol Right, %	41%	0%	100%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	430	65	57	204	28	257	12
LT Vol	63	12	0	149	0	11	0
Through Vol	191	53	0	55	0	246	0
RT Vol	176	0	57	0	28	0	12
Lane Flow Rate	457	69	61	217	30	273	13
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.8	0.147	0.115	0.46	0.054	0.517	0.022
Departure Headway (Hd)	6.298	7.672	6.855	7.638	6.544	6.81	6.074
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	576	467	522	471	547	530	589
Service Time	4.332	5.427	4.61	5.383	4.289	4.55	3.813
HCM Lane V/C Ratio	0.793	0.148	0.117	0.461	0.055	0.515	0.022
HCM Control Delay	29.9	11.8	10.5	16.8	9.7	16.7	9
HCM Lane LOS	D	B	B	C	A	C	A
HCM 95th-tile Q	7.8	0.5	0.4	2.4	0.2	2.9	0.1

Intersection: 1: Wolf Drive/Ten Eyck Road & Highway 26

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LTR
Maximum Queue (ft)	189	366	327	79	586	496	88	225	192
Average Queue (ft)	71	208	154	6	343	298	6	104	70
95th Queue (ft)	158	333	278	43	486	437	40	191	138
Link Distance (ft)		538	538		613	613		315	380
Upstream Blk Time (%)					0	0			
Queuing Penalty (veh)					0	0			
Storage Bay Dist (ft)	165			120			70		
Storage Blk Time (%)	0	11			34	31	0		
Queuing Penalty (veh)	1	7			1	4	0		

Intersection: 2: Langensand Road & Highway 26

Movement	EB	EB	WB	NB	NB
Directions Served	T	R	L	L	R
Maximum Queue (ft)	8	8	47	145	833
Average Queue (ft)	0	0	12	136	507
95th Queue (ft)	6	8	39	168	1023
Link Distance (ft)	701				876
Upstream Blk Time (%)					19
Queuing Penalty (veh)					0
Storage Bay Dist (ft)		160	215	120	
Storage Blk Time (%)				87	3
Queuing Penalty (veh)				15	3

Intersection: 3: Dubarko Road/Vista Loop Drive & Highway 26

Movement	SE	SE	NW	NE	NE	SW
Directions Served	L	TR	L	LT	R	LTR
Maximum Queue (ft)	75	9	59	155	92	366
Average Queue (ft)	18	0	21	66	43	152
95th Queue (ft)	54	6	45	156	72	428
Link Distance (ft)		1133		752	752	575
Upstream Blk Time (%)						5
Queuing Penalty (veh)						0
Storage Bay Dist (ft)	220		200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: Highway 211 & Dubarko Road

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LTR	LT	R
Maximum Queue (ft)	38	48	114	70	166	80	17
Average Queue (ft)	16	22	48	25	73	33	1
95th Queue (ft)	42	50	85	54	132	60	9
Link Distance (ft)	645		745		654	862	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		90		125			330
Storage Blk Time (%)			0				
Queuing Penalty (veh)			0				

Intersection: 5: Langensand Road & Dubarko Road

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	LTR	LTR	LTR
Maximum Queue (ft)	41	80	106	10	14
Average Queue (ft)	15	42	55	0	0
95th Queue (ft)	44	65	89	6	7
Link Distance (ft)		604	851	716	706
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	115				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 30

Intersection: 1: Wolf Drive/Ten Eyck Road & Highway 26

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	L	T	TR	L	T	T	R	LTR	LTR
Maximum Queue (ft)	190	551	527	77	519	448	92	227	209
Average Queue (ft)	152	347	303	9	349	294	10	112	89
95th Queue (ft)	226	521	485	46	476	415	52	192	176
Link Distance (ft)		538	538		613	613		315	380
Upstream Blk Time (%)		2	1		0				
Queuing Penalty (veh)		0	0		0				
Storage Bay Dist (ft)	165			120			70		
Storage Blk Time (%)	12	16			38	35	0		
Queuing Penalty (veh)	74	26			3	8	0		

Intersection: 2: Langensand Road & Highway 26

Movement	EB	WB	NB	NB
Directions Served	R	L	L	R
Maximum Queue (ft)	5	60	145	703
Average Queue (ft)	0	15	129	381
95th Queue (ft)	4	47	174	822
Link Distance (ft)				876
Upstream Blk Time (%)				2
Queuing Penalty (veh)				0
Storage Bay Dist (ft)	160	215	120	
Storage Blk Time (%)			84	1
Queuing Penalty (veh)			29	0

Intersection: 3: Dubarko Road/Vista Loop Drive & Highway 26

Movement	SE	SE	SE	NW	NW	NE	NE	SW
Directions Served	L	T	TR	L	T	LT	R	LTR
Maximum Queue (ft)	99	13	25	153	64	143	158	323
Average Queue (ft)	31	1	1	63	3	55	57	110
95th Queue (ft)	70	7	12	127	33	134	106	317
Link Distance (ft)		1135	1135		800	615	615	575
Upstream Blk Time (%)								0
Queuing Penalty (veh)								0
Storage Bay Dist (ft)	220			200				
Storage Blk Time (%)				0				
Queuing Penalty (veh)				0				

Intersection: 4: Highway 211 & Dubarko Road

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LTR	LT	R
Maximum Queue (ft)	60	67	120	74	251	160	42
Average Queue (ft)	33	32	60	22	100	69	6
95th Queue (ft)	58	59	103	56	193	125	24
Link Distance (ft)	645		745		654	862	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		90		125			330
Storage Blk Time (%)		0	0				
Queuing Penalty (veh)		0	0				

Intersection: 5: Langensand Road & Dubarko Road

Movement	EB	EB	WB	SB
Directions Served	L	TR	LTR	LTR
Maximum Queue (ft)	39	95	95	39
Average Queue (ft)	22	45	48	3
95th Queue (ft)	49	70	77	20
Link Distance (ft)		604	851	706
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	115			
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Network Summary

Network wide Queuing Penalty: 142

CITY OF SANDY, CLACKAMAS COUNTY **TEN EYCK RD at PROCTOR BLVD, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020**

1 - 4 of 6 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A L	M J U G	S I N	W C H	O R	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03911	N	N	N				10/27/2018	17	PROCTOR BLVD	INTER	5-LEG	N	N	UNK	S-1STOP	01	NONE 0	STRGHT									29
NONE							SA	0	SE TEN EYCK RD	NE		TRF SIGNAL	N	UNK	REAR		PRVTE	NE-SW								000	00
N							5P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	70	M	OR-Y		026	000	29
N							45 23 49.25	-122 15 19.74																OR<25				
																02	NONE 0	STOP										
																	PRVTE	NE-SW									011	00
																	PSNGR CAR		01	DRVR	INJC	55	F	OR-Y		000	000	00
																								OR<25				
03089	N	N	N				09/03/2018	14	PROCTOR BLVD	INTER	5-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									29
NONE							MO		SE TEN EYCK RD	SE		TRF SIGNAL	N	DRY	REAR		UNKN	SE-NW								000	00
N							3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	F	UNK		026	000	29
N							45 23 49.25	-122 15 19.75	002600200S00															UNK				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	INJC	25	F	OR-Y		000	000	00
																								OR>25				
03213	N	N	N				09/17/2019	14	PROCTOR BLVD	INTER	5-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT									29
NONE							TU		SE TEN EYCK RD	SE		TRF SIGNAL	N	DRY	REAR		PRVTE	SE-NW								000	00
N							3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	41	F	OTH-Y		026	000	29
N							45 23 49.26	-122 15 19.69	002600200S00															N-RES				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		01	DRVR	INJC	48	F	OR-Y		000	000	00
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									011	00
																	PSNGR CAR		02	PSNG	INJC	50	M			000	000	00
05173	N	N	N				11/08/2016	14	PROCTOR BLVD	INTER	5-LEG	N	N	CLR	ANGL-OTH	01	NONE 9	U-TURN									06
NONE							TU		SE TEN EYCK RD	W		TRF SIGNAL	N	DRY	TURN		N/A	W -W								000	00
N							5P			05	0		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N							45 23 49.25	-122 15 19.74	002600200S00		(02)													UNK				
																02	NONE 9	TURN-R										
																	N/A	NE-W									000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
04335	N	N	N				11/06/2018	14	PROCTOR BLVD	INTER	5-LEG	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT									02
NONE							TU		SE TEN EYCK RD	CN		TRF SIGNAL	N	DRY	TURN		N/A	SE-NW								000	00
N							2P			01	0		N	DAY	PDO		SEMI TOW		01	DRVR	NONE	00	Unk	UNK		000	000	00
N							45 23 49.25	-122 15 19.72	002600200S00															UNK				

URBAN NON-SYSTEM CRASH LISTING

CITY OF SANDY, CLACKAMAS COUNTY

TEN EYCK RD at PROCTOR BLVD, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

5 - 6 of 6 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D / D M R J S W / A U I C O / L G N H R / C S V L K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	SPCL USE / TRLR QTY / OWNER / V# TYPE	MOVE / FROM / TO	PRTC / P# TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED / LOC	ERROR	ACT EVENT	CAUSE
											02 NONE 9	TURN-R									
											N/A	NE-NW								015	00
											PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000	00
																	UNK				
00825	N N N N N	03/03/2020	14	PROCTOR BLVD	INTER	5-LEG	N	N	UNK	ANGL-OTH	01 NONE 0	STRGHT									04
CITY		TU		SE TEN EYCK RD	CN		TRF SIGNAL	N	WET	ANGL	PRVTE	NE-SW								000	00
N		10A			01	0		N	DAY	INJ	PSNGR CAR		01 DRVR	INJC	53	F	OR-Y		000	000	00
N		45 23 49.26	-122 15 19.75	002600200S00													OR<25				
											02 NONE 0	STRGHT									
											PRVTE	SE-NW								000	00
											PSNGR CAR		01 DRVR	NONE	64	M	OR-Y		020	000	04
																	OR>25				

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF SANDY, CLACKAMAS COUNTY

TEN EYCK RD at PIONEER BLVD, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

SER# / INVEST / RD DPT / UNLOC?	S P E E D	A L C	D R U G	J U N V	S C H L	M W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	SPCL USE / TRLR QTY / OWNER / V# TYPE	MOVE / FROM / TO	PRTC / P# TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED / LOC	ERROR	ACT EVENT	CAUSE

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF SANDY, CLACKAMAS COUNTY

WOLF DR at PROCTOR BLVD, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

SER# / INVEST / RD DPT / UNLOC?	S P / E / E / D	D M R J S W DATE / A U I C O DAY / L G N H R TIME / C S V L K LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF SANDY, CLACKAMAS COUNTY

WOLF DR at PIONEER BLVD, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

1 - 3 of 3 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A C	M J U G S	S I N V	W C O H L	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00635	N	N	N			02/17/2020	17	PIONEER BLVD	INTER	5-LEG	N	N	CLR	S-1STOP	01	NONE 9	STRGHT										29
NONE						MO	0	WOLF DR	S		TRF SIGNAL	N	DRY	REAR		N/A	S -N									000	00
N						2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N						45 23 49.25	-122 15 19.77																UNK				
															02	NONE 9	STOP										
																N/A	S -N									012	00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																							UNK				
03463	N	N	N	N	N	12/21/2020	14	PIONEER BLVD	INTER	5-LEG	N	N	CLR	S-1STOP	01	NONE 9	STRGHT										27,29
CITY						MO		WOLF DR	W		TRF SIGNAL	N	DRY	REAR		N/A	W -E									000	00
N						10A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N						45 23 49.25	-122 15 19.74	002600100S00															UNK				
															02	NONE 9	STOP										
																N/A	W -E									011	00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																							UNK				
00512	N	N	N	N	N	02/07/2017	14	PIONEER BLVD	INTER	5-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-L										04
CITY						TU		WOLF DR	CN		TRF SIGNAL	N	WET	TURN		PRVTE	S -W									000	00
N						4P			04	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJC	55	F	OR-Y		000	000	00
N						45 23 49.25	-122 15 19.74	002600100S00															OR<25				
															02	NONE 0	STRGHT										
																PRVTE	W -E									000	00
																PSNGR CAR		01	DRVR	NONE	63	M	OR-Y		020	000	04
																							OR>25				

CITY OF SANDY, CLACKAMAS COUNTY

LANGENSAND RD at MT HOOD HY, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

1 - 3 of 6 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D C	D R A L S	M J U G V	S I N L	W C H K	O R	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
05355	N	N	N				11/18/2016	14	LANGENSAND RD	INTER	3-LEG	N	N	RAIN	PED	01	NONE 0	TURN-R										19,02
CITY							FR		MT HOOD HY	S		UNKNOWN	N	WET	PED		PRVTE	S -SE									015		00
N							6P			06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		029	000		02
N							45 23 44.19	-122 15 .03	002600100S00															OR>25					
																		- STRGHT	01	PED	INJC	34	M		I XWK?	000	034		19
																		SE NW										
05056	N	N	N				12/01/2017	14	LANGENSAND RD	INTER	3-LEG	N	N	RAIN	ANGL-STP	01	NONE 0	TURN-R										08
NONE							FR		MT HOOD HY	S		STOP SIGN	N	WET	TURN		PRVTE	NW-S								000		00
N							9P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	27	F	OR-Y		001	000		08
N							45 23 44.19	-122 15 .03	002600100S00															OR<25					
																02	NONE 0	STOP										
																	PRVTE	S -N									012		00
																	PSNGR CAR		01	DRVR	INJC	27	F	OR-Y		000	000		00
																								OR<25					
																02	NONE 0	STOP										
																	PRVTE	S -N									012		00
																	PSNGR CAR		02	PSNG	INJC	25	M			000	000		00
01431	N	N	N				04/14/2017	14	LANGENSAND RD	INTER	3-LEG	N	N	CLR	O-1STOP	01	NONE 9	BACK										10
NONE							FR		MT HOOD HY	S		STOP SIGN	N	DRY	BACK		N/A	N -S								000		00
N							3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							45 23 44.19	-122 15 .03	002600100S00															UNK					
																02	NONE 9	STOP										
																	N/A	S -N									012		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
04571	N	N	Y	N	N		10/05/2016	14	LANGENSAND RD	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-L										013	02,08
CITY							WE		MT HOOD HY	CN		STOP SIGN	N	WET	TURN		PRVTE	S -W								015		00
N							6P			04	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	21	M	OR-Y		028	000		02
N							45 23 44.19	-122 15 .03	002600100S00															OR<25					
																02	NONE 0	STRGHT										
																	PRVTE	W -E									000	013	00
																	PSNGR CAR		01	DRVR	NONE	37	M	OR-Y		000	000		00
																								OR>25					
																03	NONE 0	STRGHT										
																	PRVTE	E -W									022		00
																	PSNGR CAR		01	DRVR	INJB	61	M	OR-Y		000	000		00
																								OR<25					

SER# / INVEST / RD DPT / UNLOC?	S P E D	D M R A U L G C	J S W DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC / INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
												03	NONE 0	STRGHT									
													PRVTE	E -W								022	00
													PSNGR CAR		02	PSNG / INJC	59	F			000	000	00
03612	N N N	N N	10/16/2019	14	LANGENSAND RD	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 9	TURN-L									02
CITY			WE		MT HOOD HY	CN		STOP SIGN	N	WET	TURN		N/A	S -NW								015	00
N			2P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR / NONE	00	Unk	UNK		000	000	00
N			45 23 44.19	-122 15 .03	002600100S00														UNK				
												02	NONE 9	STRGHT									
													N/A	SE-NW								000	00
													PSNGR CAR		01	DRVR / NONE	00	Unk	UNK		000	000	00
																			UNK				
04040	N N N		11/14/2019	14	LANGENSAND RD	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT									02
NONE			TH		MT HOOD HY	CN		STOP SIGN	N	DRY	TURN		N/A	E -W								000	00
N			8A			02	0		N	DAWN	PDO		SEMI TOW		01	DRVR / NONE	00	Unk	UNK		000	000	00
N			45 23 44.2	-122 15 .04	002600100S00														UNK				
												02	NONE 9	TURN-L									
													N/A	S -W								015	00
													PSNGR CAR		01	DRVR / NONE	00	Unk	UNK		000	000	00
																			UNK				

CITY OF SANDY, CLACKAMAS COUNTY

VISTA LP DR at MT HOOD HY, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

1 - 2 of 2 Crash records shown.

SER# / INVEST RD DPT / UNLOC?	S P E D	D M R A L C	J U G S	S I N V	W C H L	O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03785	N	N N	N				10/28/2019	14	MT HOOD HY	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 9	TURN-L										02
NONE							MO		VISTA LP DR	CN		STOP SIGN	N	DRY	TURN		N/A	NE-SE									015	00
N							7A			01	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N							45 23 8.77	-122 14 3.1	002600100S00															UNK				
																02	NONE 9	STRGHT										
																	N/A	NW-SE									000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
01564	N	N N	N				05/12/2019	14	MT HOOD HY	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 9	TURN-L										02
NONE							SU		VISTA LP DR	CN		STOP SIGN	N	DRY	TURN		N/A	NE-SE									015	00
N							8A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N							45 23 29.77	-122 14 35.28	002600100S00															UNK				
																02	NONE 9	STRGHT										
																	N/A	SE-NW									000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				

CITY OF SANDY, CLACKAMAS COUNTY

DUBARKO RD at EAGLE CRK-SANDY HY, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

1 - 4 of 27 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A C	M J U S	S I G V	W C N L	O H K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
02296	N	N	N		N	N	07/06/2019	16	DUBARKO RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT										27,29,32
CITY							SA		EAGLE CRK-SANDY HY	N		NONE	N	DRY	REAR		N/A	NE-SW								000	00
N							11A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N							45 23 22.65	-122 15 48.74	017200100S00															UNK				
																02	NONE 9	STOP										
																	N/A	NE-SW									011	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
01165	N	N	N				03/10/2016	16	DUBARKO RD	INTER	CROSS	N	N	CLR	O-1STOP	01	NONE 0	BACK										10
NONE							TH		EAGLE CRK-SANDY HY	E		STOP SIGN	N	DRY	BACK		PRVTE	W -E								000	00
N							6P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	22	M	OR-Y		011	000	10
N							45 23 22.76	-122 15 48.39	017200100S00															OR<25				
																02	NONE 0	STOP										
																	PRVTE	E -W									012	00
																	PSNGR CAR		01	DRVR	INJC	26	F	OR-Y		000	000	00
																								OR<25				
04008	N	N	N		N	N	11/02/2018	16	DUBARKO RD	INTER	CROSS	N	N	CLD	PED	01	NONE 0	STRGHT										02
CITY							FR		EAGLE CRK-SANDY HY	E		STOP SIGN	N	WET	PED		PRVTE	E -W								000	00
N							7P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	74	M	OR-Y		029	000	02
N							45 23 22.54	-122 15 48.5	017200100S00															OR<25				
																		- STRGHT N S	01	PED	INJC	36	M		I XWK?	000	034	00
01095	N	N	N		N	N	03/04/2016	16	DUBARKO RD	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										27,07,32
CITY							FR		EAGLE CRK-SANDY HY	SW		STOP SIGN	N	DRY	SS-O		PRVTE	NE-SW								000	00
N							4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	30	M	OR-Y		016,043,052	010	27,07,32
N							45 23 22.76	-122 15 48.39	017200100S00															OR<25				
																01	NONE 0	STRGHT										
																	PRVTE	NE-SW									000	00
																	PSNGR CAR		02	PSNG	NO<5	01	F			000	000	00
																02	NONE 0	STOP										
																	PRVTE	NE-SW									012	00
																	PSNGR CAR		01	DRVR	NONE	18	F	OR-Y		000	000	00
																								OR<25				
																03	NONE 0	STRGHT										
																	PRVTE	SW-NE									000	00
																	PSNGR CAR		01	DRVR	INJB	26	M	OR-Y		000	000	00
																								OR<25				

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A C	M J U S	S I G V	W C N L	O H K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00763	N	N	N		N	N	02/17/2016	16	DUBARKO RD	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 9	STRGHT											07
CITY					WE				EAGLE CRK-SANDY HY	SW		NONE	N	WET	REAR		N/A	S -N									000		00
N					5P					06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N					45 23 22.76		-122 15 48.39		017200100S00															UNK					
																02	NONE 9	STOP											
																	N/A	S -N									012		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
01324	N	N	N		N	N	04/19/2018	16	DUBARKO RD	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
CITY					TH				EAGLE CRK-SANDY HY	SW		UNKNOWN	N	DRY	REAR		PRVTE	SW-NE									000		00
N					6P					06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		026	000		29
N					45 23 22.55		-122 15 48.5		017200100S00															OR<25					
																02	NONE 0	STOP											
																	PRVTE	SW-NE									012		00
																	PSNGR CAR		01	DRVR	INJC	21	F	OR-Y		000	000		00
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	SW-NE									012		00
																	PSNGR CAR		02	PSNG	INJC	18	M			000	000		00
02483	N	N	N		N	N	09/09/2020	16	DUBARKO RD	INTER	CROSS	N	Y	CLD	FIX OBJ	01	NONE 9	STRGHT										043	10
CITY					WE	0			EAGLE CRK-SANDY HY	SW		NONE	N	DRY	FIX		N/A	NE-SW									000		00
N					4P					05	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N					45 23 22.54		-122 15 48.5																	UNK					
03589	N	N	N		N	N	08/05/2016	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
CITY					FR				EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL		PRVTE	E -W									015		00
N					6P					01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	77	M	OTH-Y		028	000		02
N					45 23 22.76		-122 15 48.39		017200100S00															N-RES					
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		01	DRVR	NONE	40	M	OR-Y		000	000		00
																								OR<25					
03967	N	N	N		N	N	08/30/2016	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
CITY					TU				EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E									015		00
N					12P					04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	61	F	OTH-Y		028	000		02
N					45 23 22.76		-122 15 48.39		017200100S00															N-RES					
																01	NONE 0	STRGHT											
																	PRVTE	W -E									015		00
																	PSNGR CAR		02	PSNG	INJC	06	F			000	000		00

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A L	M J U G	S I N V	W C H L	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
															02	NONE 0 PRVTE	STRGHT S -N								000		00
																PSNGR CAR		01	DRVR	INJB	53	F	OR-Y OR<25		000	000		00
02427	N	N	N			05/31/2016	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											03,32
CITY						TU		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	UNK	ANGL		N/A	W -E								000		00
N						11A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N						45 23 22.76	-122 15 48.39	017200100S00															UNK					
															02	NONE 9	STRGHT											
																N/A	N -S								000		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
02031	N	N	N	N	N	05/06/2016	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											02
CITY						FR		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL		N/A	N -S								000		00
N						4P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N						45 23 22.76	-122 15 48.39	017200100S00															UNK					
															02	NONE 9	STRGHT											
																N/A	E -W								000		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
00805	N	N	N	N	N	03/01/2017	16	DUBARKO RD	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT										082,013	02
CITY						WE		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E								015		00
N						3P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	17	F	OR-Y OR<25		028	000	082	02
N						45 23 22.76	-122 15 48.39	017200100S00																				
															02	NONE 0 PRVTE	STRGHT S -N									000	013	00
																PSNGR CAR		01	DRVR	INJC	43	M	OR-Y OR<25		000	000		00
															03	NONE 0 PRVTE	STOP E -W									022		00
																PSNGR CAR		01	DRVR	INJB	27	F	OR-Y OR<25		000	000		00
00846	N	N	N	N	N	03/04/2017	16	DUBARKO RD	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											02
CITY						SA		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	WET	ANGL		PRVTE	W -E								015		00
N						6P			04	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	21	M	OR-Y OR<25		028	000		02
N						45 23 22.76	-122 15 48.39	017200100S00																				
															02	NONE 0 PRVTE	STRGHT N -S									000		00
																PSNGR CAR		01	DRVR	INJC	21	F	OR-Y OR<25		000	000		00

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A C	M J U S	S I G V	W C N L	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02225	N	N	N			06/07/2017	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
CITY						WE		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL		PRVTE	S -N									000		00
N						4P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	40	M	OR-Y		000	000		00
N						45 23 22.76	-122 15 48.39	017200100S00															OR<25					
															02	NONE 0	STRGHT											
																PRVTE	W -E									015		00
																PSNGR CAR		01	DRVR	INJC	38	M	OR-Y		028	000		02
																							OR<25					
02958	N	N	N	N	N	07/21/2017	16	DUBARKO RD	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											02
CITY						FR		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	TURN		PRVTE	S -W									000		00
N						8P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	28	M	OR-Y		028	000		02
N						45 23 22.76	-122 15 48.39	017200100S00															OR<25					
															02	NONE 0	STRGHT											
																PRVTE	N -S									000		00
																PSNGR CAR		01	DRVR	INJB	29	F	OR-Y		000	000		00
																							OR<25					
00647	N	N	N	N	N	02/18/2017	16	DUBARKO RD	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 9	STRGHT											03
CITY						SA		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	WET	ANGL		N/A	W -E									000		00
N						7P			03	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N						45 23 22.76	-122 15 48.39	017200100S00															UNK					
															02	NONE 9	STRGHT											
																N/A	N -S									000		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																							UNK					
03467	N	N	N	N	N	08/23/2017	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											02
CITY						WE		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL		N/A	NE-SW									000		00
N						8A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N						45 23 22.76	-122 15 48.39	017200100S00															UNK					
															02	NONE 9	STRGHT											
																N/A	E -W									015		00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																							UNK					
03265	N	N	N			09/14/2018	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	TURN-L										082	02
CITY						FR		EAGLE CRK-SANDY HY	CN		FLASHBCN-R	N	DRY	TURN		PRVTE	W -N									015		00
N						9P			03	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	38	M	OR-Y		028	000	082	02
N						45 23 22.52	-122 15 48.53	017200100S00															OR<25					
															01	NONE 0	TURN-L											
																PRVTE	W -N									015		00
																PSNGR CAR		01	PSNG	INJC	35	F			000	000		00

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A L	M J U G	S I N	W C H	O R	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / TYPE / OWNER	MOVE / TO / FROM	P#	TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																01	NONE 0	TURN-L										
																	PRVTE	W -N								015		00
																	PSNGR CAR		02	PSNG	NONE	02	F		000	000		00
																02	NONE 0	STRGHT										
																	PRVTE	N -S								000		00
																	PSNGR CAR		01	DRVR	NONE	62	M	OR-Y OR<25	000	000		00
03281	N	N	N	N	N		09/23/2019	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
CITY							MO		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW								000		00
N							7A			02	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	NONE	31	M	OR-Y OR<25	000	000		00
N							45 23 22.59	-122 15 48.49	017200100S00																			
																02	NONE 0	STRGHT										
																	PRVTE	E -W								015		00
																	PSNGR CAR		01	DRVR	INJC	17	F	OR-Y OR<25	028	000		02
																02	NONE 0	STRGHT										
																	PRVTE	E -W								015		00
																	PSNGR CAR		02	PSNG	INJA	12	F		000	000		00
00075	N	N	N	N	N		01/08/2019	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT									013	27,02
CITY							TU		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL		PRVTE	N -S								000		00
N							4P			03	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	52	M	OR-Y OR<25	000	000		00
N							45 23 22.54	-122 15 48.5	017200100S00																			
																02	NONE 0	STRGHT										
																	PRVTE	E -W								015	013	00
																	PSNGR CAR		01	DRVR	INJC	16	F	OR-Y OR<25	028	000		27,02
																03	NONE 0	STOP										
																	PRVTE	W -E								022		00
																	PSNGR CAR		01	DRVR	NONE	21	M	OR-Y OR<25	000	000		00
00908	N	N	N				03/14/2019	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NO RPT							TH		EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL		PRVTE	S -N								000		00
N							2P			04	0		N	DAY	INJ		SEMI TOW		01	DRVR	INJC	58	M	OR-Y OR<25	000	000		00
N							45 23 22.76	-122 15 48.39	017200100S00																			
																02	NONE 0	STRGHT										
																	PRVTE	W -E								015		00
																	PSNGR CAR		01	DRVR	INJB	19	M	OR-Y OR<25	028	000		02
																02	NONE 0	STRGHT										
																	PRVTE	W -E								015		00
																	PSNGR CAR		02	PSNG	INJB	18	F		000	000		00

CITY OF SANDY, CLACKAMAS COUNTY

DUBARKO RD at EAGLE CRK-SANDY HY, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

22 - 25 of 27 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A C	M J U S	S I G V	W C N L	O H K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
01291	N	N	N		N	N	04/22/2019	16	DUBARKO RD	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT										02
CITY			MO				EAGLE CRK-SANDY HY			CN		STOP SIGN	N	DRY	ANGL		PRVTE	S -N								000	00
N			5P							04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	36	M	OR-Y		000	000	00
N			45 23 22.54		-122 15 48.5		017200100S00																	OR<25				
																02	NONE 0	STRGHT										
																	PRVTE	W -E								015	00
																	PSNGR CAR		01	DRVR	NONE	37	M	OR-Y		028	000	02
																								OR<25				
03399	N	N	N		N	N	10/03/2019	16	DUBARKO RD	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE	STRGHT										02
CITY			TH				EAGLE CRK-SANDY HY			CN		STOP SIGN	N	WET	ANGL		PRVTE	N -S								000	00
N			7P							03	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	48	F	OR-Y		000	000	00
N			45 23 22.78		-122 15 48.4		017200100S00																	OR<25				
																02	NONE	STRGHT										
																	PRVTE	W -E								015	00
																	PSNGR CAR		01	DRVR	NONE	19	M	OTH-Y		028	000	02
																								N-RES				
04270	N	N	N				11/29/2019	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
CITY			FR				EAGLE CRK-SANDY HY			CN		STOP SIGN	N	DRY	ANGL		PRVTE	N -S								000	00
N			5P							01	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y		000	000	00
N			45 23 22.55		-122 15 48.51		017200100S00																	OR<25				
																02	NONE 0	STRGHT										
																	PRVTE	E -W								015	00
																	PSNGR CAR		01	DRVR	INJC	59	F	OR-Y		028	000	02
																								OR<25				
01493	N	N	N		N	N	06/13/2020	16	DUBARKO RD	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT										27,02
CITY			SA				EAGLE CRK-SANDY HY			CN		STOP SIGN	N	WET	ANGL		PRVTE	S -N								000	00
N			4P							04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	82	F	OR-Y		000	000	00
N			45 23 22.54		-122 15 48.5		017200100S00																	OR<25				
																02	NONE 0	STRGHT										
																	PRVTE	W -E								015	00
																	PSNGR CAR		01	DRVR	NONE	21	M	OR-Y		028	038	27,02
																								OR<25				
																02	NONE 0	STRGHT										
																	PRVTE	W -E								015	00
																	PSNGR CAR		02	PSNG	INJC	25	M			000	000	00
02738	N	N	N		N	N	10/10/2020	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										03
CITY			SA				EAGLE CRK-SANDY HY			CN		STOP SIGN	N	DRY	TURN		PRVTE	S -N								000	00
N			3P							02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	61	M	OR-Y		000	000	00
N			45 23 22.58		-122 15 48.5		017200100S00																	OR<25				

URBAN NON-SYSTEM CRASH LISTING

CITY OF SANDY, CLACKAMAS COUNTY

DUBARKO RD at EAGLE CRK-SANDY HY, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

26 - 27 of 27 Crash records shown.

SER# INVEST RD DPT UNLOC?	S P E E D D A L C R U G S M J I N V S C H L W O R K	DATE DAY TIME LAT	CLASS DIST FROM LONG	CITY STREET FIRST STREET SECOND STREET LRS	RD CHAR DIRECT LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL TRAF- CONTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH COLL SVRTY	SPCL USE TRLR QTY OWNER V# TYPE	MOVE FROM TO	PRTC P# TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
											02 NONE 0	TURN-L										
											PRVTE	E -S								000		00
											PSNGR CAR		01 DRVR	INJC	19	M	OR-Y		021	000		03
																	OR>25					
02936	N N N N N	11/01/2020	16	DUBARKO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01 NONE 9	STRGHT									084	02
CITY		SU	0	EAGLE CRK-SANDY HY	CN		STOP SIGN	N	DRY	ANGL	N/A	SW-NE								000		00
N		1P			04	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000		00
N		45 23 22.55	-122 15 48.51														UNK					
											02 NONE 9	STRGHT										
											N/A	W -E								015		00
											PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000		00
																	UNK					

CITY OF SANDY, CLACKAMAS COUNTY

DUBARKO RD at LANGENSAND RD, City of Sandy, Clackamas County, 01/01/2016 to 12/31/2020

1 - 1 of 1 Crash records shown.

SER# INVEST RD DPT UNLOC?	S D M P R J S W E A U I C O E L G N H R D C S V L K	DATE DAY TIME LAT	CLASS DIST FROM LONG	CITY STREET FIRST STREET SECOND STREET LRS	RD CHAR DIRECT LOCTN	INT-TYPE (MEDIAN) LEGS (#LANES)	INT-REL TRAF- CONTL	OFFRD RNDBT DRVWY	WTHR SURF LIGHT	CRASH COLL SVRTY	SPCL USE TRLR QTY OWNER V# TYPE	MOVE FROM TO	PRTC P# TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00720	N N N N N	02/24/2020	16	DUBARKO RD	INTER	CROSS	N	N	CLD	ANGL-OTH	01 NONE 9	STRGHT									02
CITY		MO	0	LANGENSAND RD	CN		STOP SIGN	N	DRY	ANGL	N/A	W -E								015	00
N		3P			03	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000	00
N		45 23 23.89	-122 14														UNK				
			59.94																		
											02 NONE 9	STRGHT									
											N/A	N -S								000	00
											PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000	00
																	UNK				

Preliminary Traffic Signal Warrant Analysis

Project Name: Dubarko Road Development
Intersection: Highway 26 at Langensand Road
Scenario: 2024 Background Plus Site Trips

Number of Major Street Lanes: 2 — PM Peak Hour Volume 2359 (sum of both approaches)
Number of Minor Street Lanes 1 — PM Peak Hour Volume 70 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: Yes
Isolated Population Less than 10,000: No

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	1333	420	
Minor Street Volume	40	105	**No**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	1333	630	
Minor Street Volume	40	53	**No**
Combination Warrant[c]			
Major Street Volume	1333	504	
Minor Street Volume	40	84	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

Preliminary Traffic Signal Warrant Analysis

Project Name: Dubarko Road Development
Intersection: Highway 26 at Dubarko Road
Scenario: 2024 Background Plus Site Trips

Number of Major Street Lanes: 2
Number of Minor Street Lanes 1
Posted or 85th percentile speed > 40 mph: Yes
Isolated Population Less than 10,000: No

PM Peak Hour Volume 2342 (sum of both approaches)
PM Peak Hour Volume 30 (highest-volume approach)[a]
(Without delay diversions)

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	1323	420	
Minor Street Volume	17	105	**No**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	1323	630	
Minor Street Volume	17	53	**No**
Combination Warrant[c]			
Major Street Volume	1323	504	
Minor Street Volume	17	84	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

Preliminary Traffic Signal Warrant Analysis

Project Name: Dubarko Road Development
Intersection: Highway 211 at Dubarko Road
Scenario: 2024 Background Plus Site Trips (30th-Highest Hour)

Number of Major Street Lanes: 1 PM Peak Hour Volume 699 (sum of both approaches)
Number of Minor Street Lanes 1 PM Peak Hour Volume 204 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: Yes
Isolated Population Less than 10,000: No

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	395	350	
Minor Street Volume	115	105	**Yes**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	395	525	
Minor Street Volume	115	53	**No**
Combination Warrant[c]			
Major Street Volume	395	420	
Minor Street Volume	115	84	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

Preliminary Traffic Signal Warrant Analysis

Project Name: Dubarko Road Development
Intersection: Dubarko Road at Langensand Road
Scenario: 2024 Background Plus Site Trips

Number of Major Street Lanes: 1 — PM Peak Hour Volume 317 (sum of both approaches)
Number of Minor Street Lanes 1 — PM Peak Hour Volume 76 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: No
Isolated Population Less than 10,000: No

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	179	500	
Minor Street Volume	43	150	**No**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	179	750	
Minor Street Volume	43	75	**No**
Combination Warrant[c]			
Major Street Volume	179	600	
Minor Street Volume	43	120	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

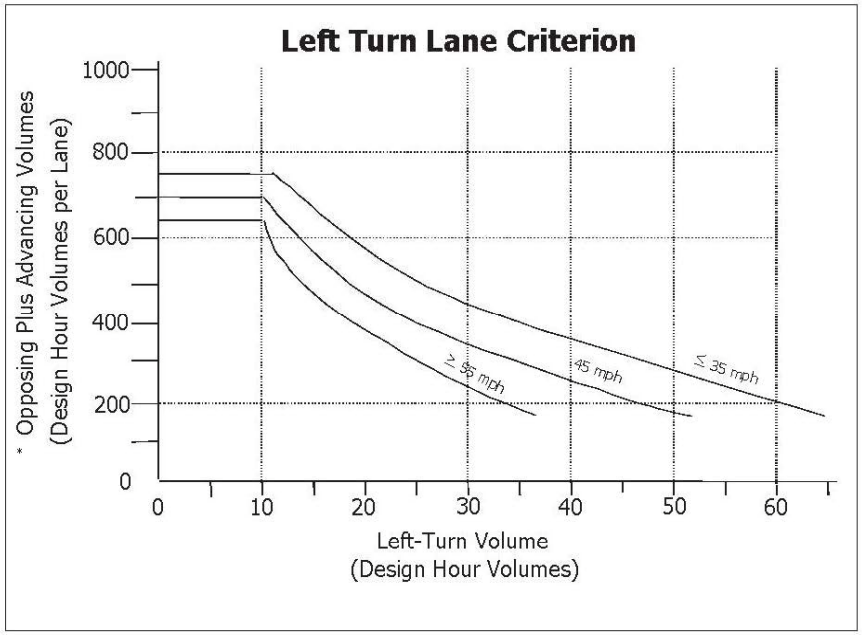
Left-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Bull Run Terrace Subdivision
Approach: Highway 26 WB at Dubarko Road
Scenario: 2024 Background plus Site Trips

Number of Advancing Lanes: 2
Number of Opposing Lanes: 2
Major-Street Design Speed: 55 mph

	AM Volume	PM Volume
Advancing Volume for Design Hour:	1042	1142
Opposing Volume for Design Hour:	760	1200
Design Hour Volume Per Lane:	901	1171
Number of Left Turns per Hour:	60	121
Left-turn lane warrants satisfied?	**YES**	**YES**

Exhibit 7-1 Left Turn Lane Criterion (TTI)



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

Right-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Bull Run Terrace Subdivision
Approach: Highway 26 Eastbound at Dubarko Road
Scenario: 2024 Background Plus Site Trips

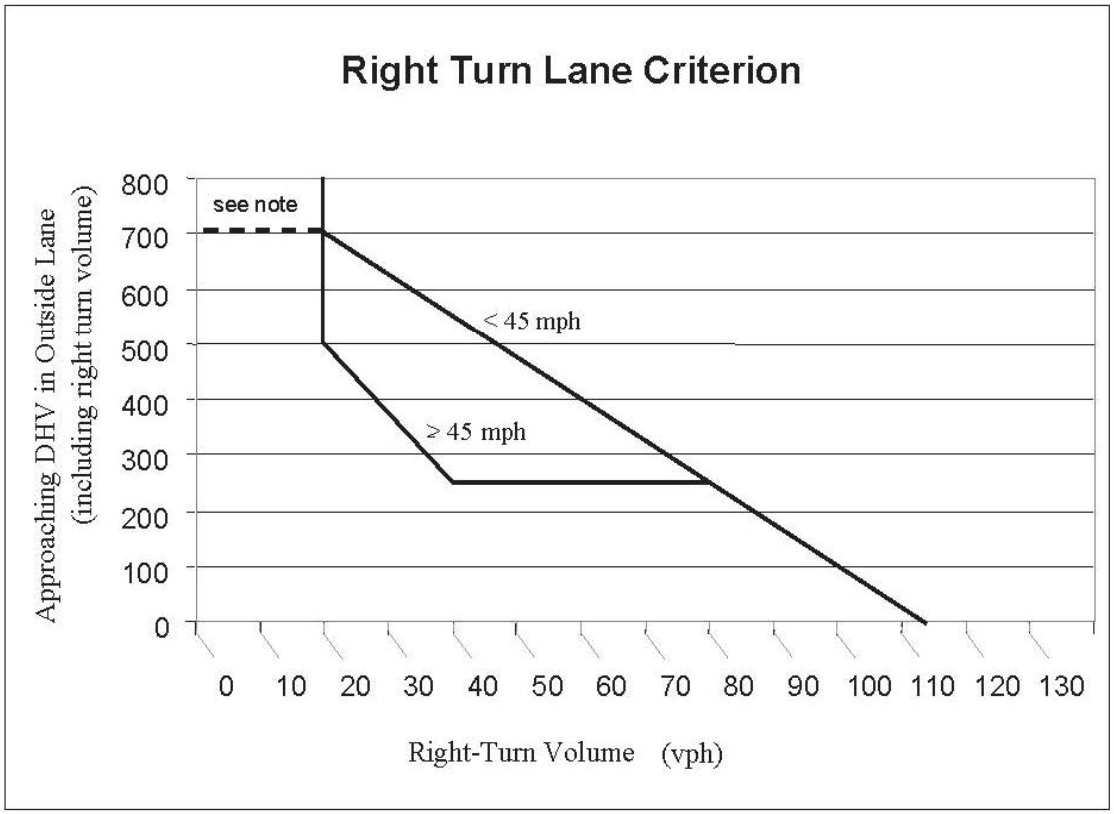
Major-Street Design Speed: 55 mph

	AM Volume	PM Volume
Number of Right Turns per Hour:	18	45
Approaching DVH in Outside Lane:	376	590
Calculated Turn Volume Threshold:	30	20
Right Turn Volume Exceeds Threshold?	**NO**	**YES**

Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of intersecting traffic is the principal reason for considering installation of a right turn lane. The vehicular volume criteria are determined using the curve in Exhibit 7-2.

Exhibit 7-2 Right Turn Lane Criterion



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

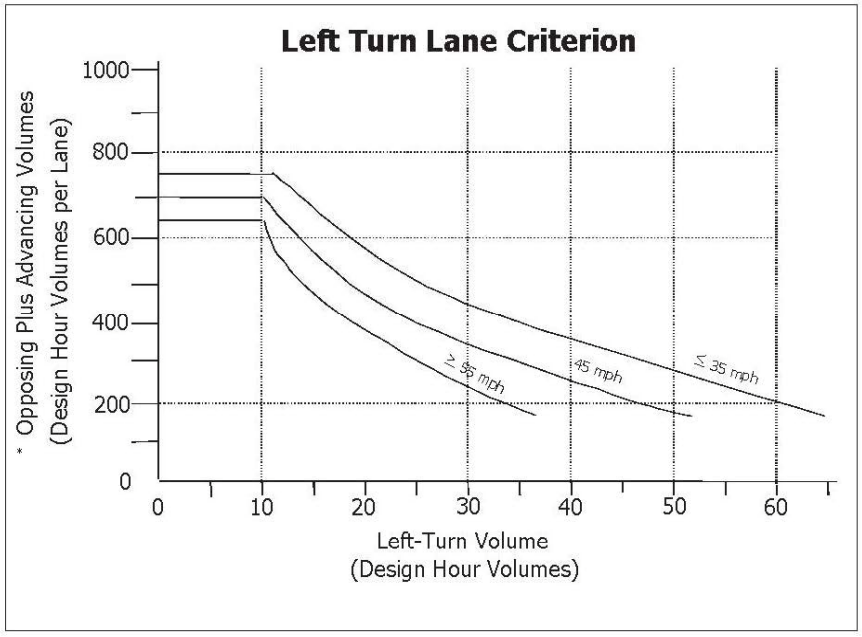
Left-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Bull Run Terrace Subdivision
Approach: Highway 211 NB at Dubarko Road
Scenario: 2024 Background plus Site Trips

Number of Advancing Lanes: 1
Number of Opposing Lanes: 1
Major-Street Design Speed: 45 mph

	AM Volume	PM Volume
Advancing Volume for Design Hour:	375	430
Opposing Volume for Design Hour:	121	257
Design Hour Volume Per Lane:	496	687
Number of Left Turns per Hour:	47	63
Left-turn lane warrants satisfied?	**YES**	**YES**

Exhibit 7-1 Left Turn Lane Criterion (TTI)



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

Right-Turn Lane Warrant Analysis (ODOT Methodology)

Project Name: Bull Run Terrace Subdivision
Approach: Highway 211 Northbound at Dubarko Road
Scenario: 2020 Existing Conditions

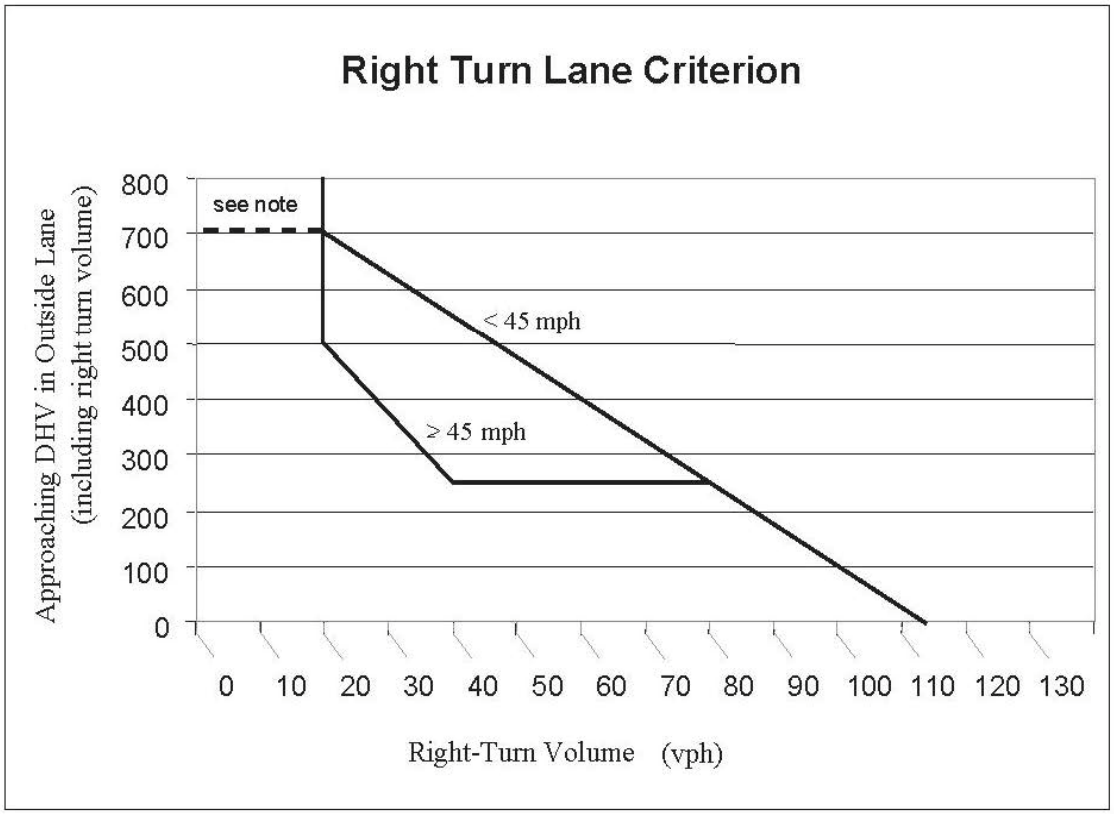
Major-Street Design Speed: 45 mph

	AM Volume	PM Volume
Number of Right Turns per Hour:	13	52
Approaching DVH in Outside Lane:	321	366
Calculated Turn Volume Threshold:	34	31
Right Turn Volume Exceeds Threshold?	**NO**	**YES**

Criterion 1: Vehicular Volume

The vehicular volume criterion is intended for application where the volume of intersecting traffic is the principal reason for considering installation of a right turn lane. The vehicular volume criteria are determined using the curve in Exhibit 7-2.

Exhibit 7-2 Right Turn Lane Criterion



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