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OSLO BAY APARTMENTS

TRAFFIC IMPACT ANALYSIS

FINAL REPORT

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City of Poulsbo

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GLOSSARY

AM Peak Hour – The highest four consecutive fifteen-minute volume intervals during the AM peak period of travel. The AM peak hour is generally characterized by morning commute travel.

Capacity – As a travel demand modeling input, capacity represents the practical limit of vehicles which can be served by a network element in a given unit of time. In general, as demand increases relative to capacity on a given network element, delay increases and speed decreases. In the Poulsbo travel demand model, capacity is expressed in units of vehicles per hour.

Highway Capacity Manual 6th Edition (HCM 6) – A publication of the Transportation Research Board of the National Academies of Science. HCM6 contains concepts, guidelines, and computational procedures for computing the capacity and levels of service of various transportation facilities, including street segments and intersections.

Level of Service (LOS) – A qualitative description of the operating performance of an element of transportation infrastructure such as a roadway or an intersection. LOS is typically expressed as a letter score from LOS A, representing free flow conditions with minimal delays, to LOS F, representing breakdown of flow or gridlock with high delays.

Major approach – At an intersection, the major approaches are generally those that serve the higher traffic volumes. At minor-road-only stop control intersections, traffic on major approaches is not required to stop.

Minor approach – At an intersection, the minor approaches are generally those that serve the lower traffic volumes. At minor-road-only stop control intersections, traffic on minor approaches is required to stop.

PM peak hour – The highest four consecutive fifteen-minute volume intervals during the PM peak period of travel. PM peak hour represents the continuous one-hour period when traffic volumes on local roadways are typically at their peak, and generally corresponds to the period of rush hour traffic with commuters returning home from work.

Traffic assignment – The final step of the travel forecasting process. Traffic assignment concerns the selection of routes between origins and destinations in transportation networks. In general, traffic assignment assumes an equilibrium condition – in other words, travelers will strive to find the shortest (or least resistance) path from origin to destination, with network equilibrium occurring when no vehicle can decrease travel effort by shifting to a new path.

Trip distribution – The second step of the travel forecasting process. Trip distribution matches trip origins and destinations to develop a “trip table” or origin-destination matrix that displays the number of trips going from each origin to each destination.

Trip generation – The first step in the travel forecasting process. Trip generation predicts the number of trips originating in or destined for a transportation analysis zone.

Vehicle trip – A trip made by a motorized vehicle from an origin to a destination, usually assumed to be without stops. It may be associated with a more-than-one-person trip (for example, in a carpool). Vehicle trips are the units of travel in the Poulsbo travel demand model.

EXECUTIVE SUMMARY

PROJECT DESCRIPTION AND STUDY AREA

The Project is located northwest of the intersection of State Route 305 and State Route 307 (Bond Road) in the City of Poulsbo. The site consists of five land parcels comprising approximately 56 acres and is currently un-developed. The Project proposes 468 multi-family dwelling units and a future 160-unit senior care residential center. The senior care center will be entitled in the future under a separate permitting process but is included in this TIA to provide a comprehensive transportation impact analysis. The senior care center is comprised of 77 independent living (attached) units, 57 assisted living units, and 26 memory care units. Build-out is anticipated to occur by 2028.

The Project proposes two site access: one via right-in right-out access onto SR 305 and one via a new public street, Road L, which will connect to Viking Way opposite the Sonic/Arco driveway.

The study area for this analysis included 26 intersections and 16 roadway segments within the City of Poulsbo.

FINDINGS

The Project proposes transportation improvements to mitigation Project impacts at 16 locations in Poulsbo. Mitigation locations are identified in **Figure 1** and described in **Table 27**.

Key analysis findings are summarized below:

- The Project is anticipated to generate 3,619 weekday daily trips, 217 AM peak hour trips (split 59 in and 158 out), and 278 PM peak hour trips (split 170 in and 108 out).
- Project-generated trips will not cause any new LOS deficiencies but will add peak hour delay to six intersections with existing LOS deficiencies and two LOS-exempt intersections which operate at LOS F.
- The proposed mitigation will reduce peak hour delay to better than pre-Project conditions at all LOS deficient intersections.
- The proposed mitigation will reduce peak hour queuing on Viking Ave north of SR 305, preventing 95th percentile queues from impacting the Road L/Sonic/Arco intersection.
- The proposed mitigation will reduce stops along SR 305 during peak hours, reducing the likelihood of rear-end collisions and mitigates Project safety impacts.
- The Project proposes curb, gutter, and sidewalk along Vetter Rd, Road L, and Viking Ave from Road L to the southwest corner of the North Viking Transit Center. The Project also proposes a gravel trail connection from Road L to the existing asphalt trail on the west side of Vetter Rd. Nonmotorized connections are also proposed from Road L to SR 305 and on Viking Ave south of SR 305.
- The proposed mitigation will reduce emergency vehicle response time to better than pre-Project conditions.
- The construction traffic generated by the site occurs outside the AM and PM peak hours of the adjacent street system subject to City concurrency review and WSDOT SEPA review. No construction-related LOS impacts are anticipated to occur. Queuing impacts at Viking Ave/SR305 can be mitigated by scheduling truck arrivals and departures from the site outside of the AM and PM peak hours.

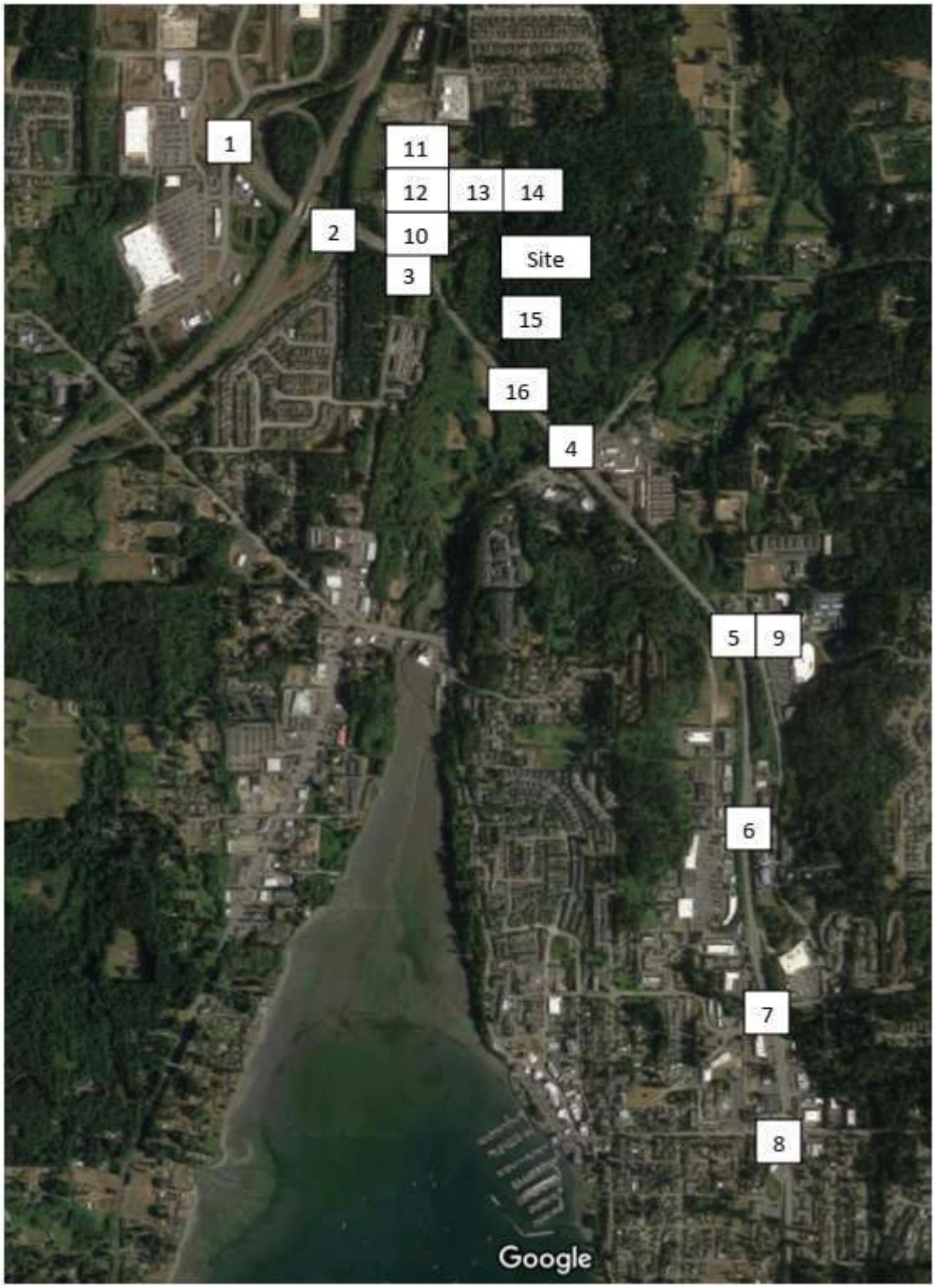


Figure 1. Proposed Traffic Mitigation Locations

INTRODUCTION

This report describes the Traffic Impact Analysis (TIA) for the Oslo Bay Apartments development, hereafter referred to as the Project, located in Poulsbo, Washington.

PROJECT DESCRIPTION

The Project is located northwest of the intersection of State Route 305 and State Route 307 (Bond Road) in the City of Poulsbo. The site consists of five land parcels comprising approximately 56 acres and is currently undeveloped. A vicinity map is provided in **Figure 2.**

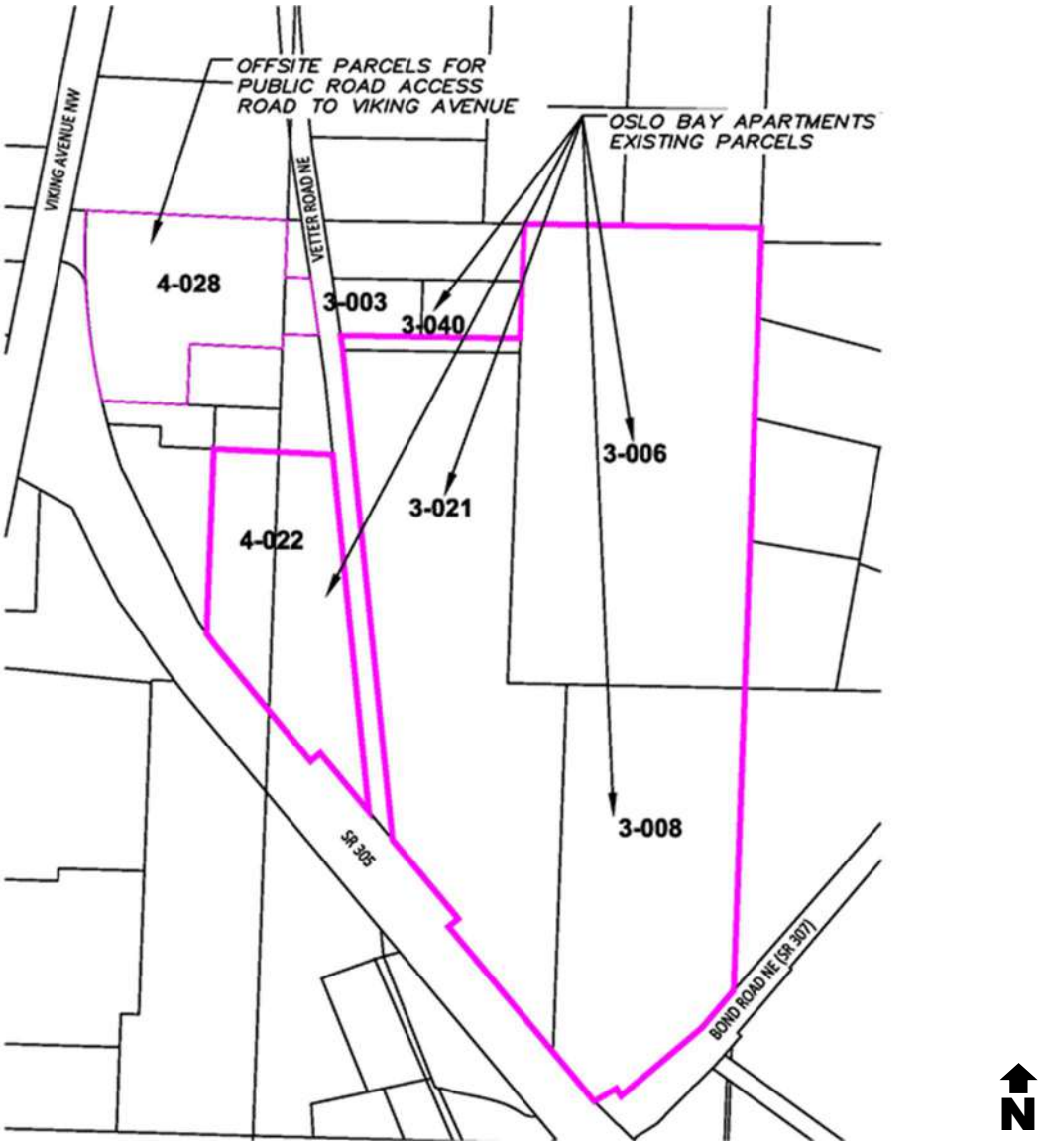


Figure 2. Vicinity Map

The Project proposes 468 multi-family dwelling units and a future 160-unit senior care residential center. The senior care center will be entitled in the future under a separate permitting process but is included in this TIA to provide a comprehensive transportation impact analysis. The senior care center is comprised of 77 independent living (attached) units, 57 assisted living units, and 26 memory care units. Build-out is anticipated to occur by 2028 for traffic analysis purposes. A preliminary site plan is provided in **Appendix A**.

Two site accesses are proposed:

- **Access to Viking Ave:** The project narrative described six access alternatives with various alignments and intersection configurations at Viking Ave. The preferred access alternative is described below.

  The Project will construct "Road L," a new public commercial collector street through the offsite parcels which will intersect Viking Ave opposite the existing Sonic/Arco driveway. Road L will be designed to City of Poulsbo Standards and Specifications Section 2, Commercial Collector streets "abut business, service, office, and professional activities."

  The Road L & Sonic/Arco driveway is proposed as a full access intersection with stop control on the Road L and Sonic/Arco approaches. Viking Ave will be free flowing. Viking Ave channelization will define the turn-lanes and utilize mountable raised traffic curbs to prevent unsafe driving behavior. The proposed configuration is shown in **Appendix B**.

  The provision of a marked crosswalk on the north leg of the proposed Viking Ave & Road L Intersection is proposed to serve pedestrian demand oriented to the west from the Project and the Park and Ride. The crossing should include high intensity signing at a minimum. A Rectangular Rapid-Flashing Beacon (RRFB) may be considered if pedestrian and vehicle volumes warrant its installation.

- **Access to SR 305**: The second access is by an extension of Vetter Rd through the site to intersect with SR 305 in a right-in/right-out intersection. The Vetter Rd right-of-way will be relocated to perpendicularly align with SR 305 at MP 13.08, approximately 1,350 feet north of SR 307. A conceptual drawing of the proposed access is shown in **Appendix C**. The access will be designed to current WSDOT standards and must be approved by WSDOT and the City.

STUDY AREA

STUDY INTERSECTIONS

The Project trip generation forecast, described later in this report, was used to identify study intersections for the TIA. Project-generated trips were input to the Poulsbo travel demand model to identify intersections that will be affected by 10 or more PM peak hour Project trips, consistent with City of Poulsbo TIA requirements. The intersections identified **Table 1** meet the 10-trip threshold.

Table 1. Study Intersections

ID	Intersection	Control Type	PM Volume (2028)[1]	PM Project Trips	Project Share of Total
1	SR 305 & Viking Ave	Signal	4,565	186	4.1%
3	SR 305 & SR 3 NB ramps	Signal	4,188	87	2.1%
11	Viking Ave & Finn Hill Rd	Signal	3,097	51	1.6%
12	SR 305 & Bond Rd (SR 307)	Signal	5,241	135	2.6%
13	Bond Rd & Front St	Signal	2,585	20	0.8%
14	SR 305 & NE Forest Rock Ln	Signal	3,603	89	2.5%
15	Forest Rock & 10th Ave NE	TWSC	995	19	1.9%
16	SR 305 & NE Liberty Rd	Signal	2,777	66	2.4%
17	SR 305 & Iverson Rd /Lincoln Rd	Signal	3,326	41	1.2%
18	SR 305 & NE Hostmark St	Signal	2,972	26	0.9%
19	Viking Ave & Liberty Rd	Signal	1,703	27	1.6%
22	Bond Rd & 1st Ave	TWSC	1,137	13	1.1%
58	SR 305 & SR 3 SB off-ramp	Signal	1,649	49	3.0%
59	Olympic College Way & Dauntless Dr	TWSC	603	13	2.2%
63	Olympic College Way & Reliance St	TWSC	589	12	2.0%
68	SR 307 & NE Bernt Rd	TWSC	2,123	19	0.9%
69	Bond Rd NE & Big Valley Rd	TWSC	2,095	19	0.9%
80	7th Ave NE & NE Liberty Rd	AWSC	732	21	2.9%
99	SR 305 & Noll Rd	TWSC	2,185	15	0.7%
102	Front St NE & NE Sunset St	AWSC	1,368	14	1.0%
103	Front St NE & Jensen Way NE	TWSC	1,485	18	1.2%
104	Front St & Torval Canyon Rd	TWSC	1,645	20	1.2%
220	Viking Ave & Edvard St	Signal	1,852	32	1.7%
312	Viking Ave & Stendahl Ct	TWSC	562	56	10.0%
600	SR 305 & Vetter Rd (planned)	TWSC	4,000	174	4.4%
654	Viking Ave & Road L/Sonic drwy[2]	TWSC	711	214	30.1%

[1]Source. Poulsbo travel demand model; [2]Sonic driveway includes 167 PM trips, equivalent to 26% of 2028 PM peak hour intersection volume

STUDY STREET SEGMENTS

The City of Poulsbo travel demand model was used to identify local street segments forecast to be affected by 10 or more PM peak hour Project trips, consistent with City of Poulsbo TIA requirements. The street segments identified **Table 2** meet the 10-trip threshold.

Table 2. Study Segments

ID	Sub-area[1]	Segment	Functional Classification[2]	PM Volume (2028)	PM Project Trips	Project Share of Total
301	HC	10th Ave (Forest Rock Ln to 600 ft n/o Liberty Rd)	Comml Collector	431	12	2.8%
306	HC	Liberty Rd (7th Ave to SR 305)	Comml Collector	386	20	5.2%
401	OP	Front St (Bond Rd to Torval Canyon Rd)	Minor Arterial	1,640	20	1.2%
402	OP	Front St (Torval Canyon Rd to Jensen Way N)	Minor Arterial	1,470	19	1.3%
403	OP	Front St (Jensen Way N to Sunset St)	Minor Arterial	1,349	15	1.1%
404	OP	Front St (Sunset St to Jensen Way S)	Minor Arterial	740	11	1.5%
501	W	Viking Ave (city limit to Bovela Ln)	Minor Arterial	1,672	27	1.6%
502	W	Viking Ave (Bovela Ln to Lindvig Way)	Minor Arterial	1,843	41	2.2%
503	W	Viking Ave (300 ft n/o Lindvig to SR 305)	Minor Arterial	539	56	10.4%
504	W	Viking Ave (SR 305 to Vetter Rd)	Comml Collector	656	145	22.1%
511	W	Lindvig Way (Viking Ave to Bond Rd)	Minor Arterial	2,399	11	0.5%
512	W	Bond Rd (Lindvig Way to SR 305)	Minor Arterial	1,085	12	1.1%
514	W	Olhava Way (Walmart S to Walmart N)	Comml Collector	911	29	3.2%
515	W	Olhava Way (Walmart N to Olympic College Way)	Comml Collector	911	29	3.2%
516	W	Olympic College Way (Olhava to Dauntless Dr)	Comml Collector	582	13	2.2%
521	W	Reliance St (Olympic College Way to Market Pl)	Comml Collector	375	9	2.4%

1. NE (Northeast Poulsbo), SE (Southeast), HC (Highway Commercial), (OP = Old Poulsbo), and W (West Poulsbo) Subareas (Transportation Plan)
2. Arterial Classification: Commercial Collector or Minor Arterial; source: 2016 City of Poulsbo Comprehensive Plan

2019 CONDITIONS

TRAFFIC COUNTS

Intersection turning movement counts were collected from 6-8 AM and 4-6 PM during the week of October 8, 2019. Traffic counts were reviewed to identify the AM and PM peak hour, defined as the four consecutive 15-minute intervals with the highest volumes during each peak period. The PM peak hour represents the one-hour period when traffic volumes are typically at their daily peak, and generally corresponds to the period of rush hour traffic with commuters returning home from work. This analysis evaluates both AM and PM peak hours. Traffic counts are provided in **Appendix D** and shown graphically in **Appendix E**.

72-hour average daily traffic counts were collected on SR 305 and SR 307 on October 8-10, 2019. Average daily traffic counts were used to develop daily volume peaking patterns for the purpose of segment LOS analysis. The 72-hour counts confirmed that the AM and PM peak hours of travel occur between 6-8 AM and 4-6 PM.

LEVEL OF SERVICE BASIS

Intersection LOS is based on the average delay experienced by a vehicle traveling through an intersection. Delay at a signalized intersection can be caused by waiting for the signal or waiting for the queue ahead to clear the signal. Delay at roundabouts and stop-controlled intersections is caused by waiting for a gap in traffic or waiting for a queue to clear the intersection or roundabout.

Table 3 shows the LOS and delay categories for signalized and unsignalized intersections. Delay is defined differently for signalized and all-way stop controlled intersections than for two-way stop controlled (i.e. stop control on minor approach) intersections. For signalized and all-way stop controlled intersections, LOS thresholds are based upon average control delay for all vehicles (on all approach legs) entering the intersection. For minor-approach-only stop controlled intersections, delay is reported for the movement with the worst (highest) delay.

Street segment LOS is defined using the ratio of a street's volume to capacity. The capacity for each road is defined based on the Poulsbo Transportation Plan using several factors, including number of lanes, functional classification, and design elements. Poulsbo segment LOS thresholds are shown in **Table 3**.

Table 3. Intersection Level of Service Thresholds

LOS	Signalized and Roundabout Delay (sec/veh)	Unsignalized Intersection Delay (sec/veh)	Roadway Segment Volume/Capacity (V/C)
A	< 10	< 10	< 60%
B	≥ 10 – 20	≥ 10 – 15	≥ 60% - 70%
C	≥ 20 – 35	≥ 15 – 25	≥ 70% - 80%
D	≥ 35 – 55	≥ 25 – 35	≥ 80% - 90%
E	≥ 55 – 80	≥ 35 – 50	≥ 90% - 100%
F	≥ 80	≥ 50	≥ 100%

LOS Methodology

Intersection delay and LOS were calculated in Synchro 10 software using HCM 6 methodology. Analysis inputs and parameters were set consistent with Washington State Department of Transportation (WSDOT) "Synchro & SimTraffic Protocol – August 2018." Roundabout LOS and delay were calculated in Sidra Intersection 8 software with inputs and parameters consistent with WSDOT "Sidra Policy Settings" dated October 2019. Segment LOS was analyzed according to capacity thresholds defined in the City of Poulsbo 2016 Transportation Plan.

LOS Policy

The City of Poulsbo 2016 Transportation Plan Policy TR-2.1 defines a LOS concurrency standard of LOS E for all transportation facilities in the City of Poulsbo, unless otherwise designated. Policy TR-2.1 also establishes a modified LOS F standard for "all local roadway sections designated Residential Collector and Residential Access."

Policy TR-2.2 establishes a LOS F concurrency standard for the following study corridors and intersections:

- Front Street NE from Bond Rd NE to NE Sunset St
- Viking Ave NW from the southern City Limits to NW Bovela Ln
- NW Lindvig Way from Viking Ave NW to Bond Road NE
- Viking Ave NW & NW Finn Hill Rd
- Front St NE & Jensen Way NE
- Front St NE & Torval Canyon Rd NE
- Forest Rock Ln NE & 10th Ave NE

Policy TR-2.5 notes that for those roadway segments and intersections with an LOS F standard, the City of Poulsbo may still require mitigation measures to be implemented. These may include transportation demand management, transportation systems management, projects that encourage or support other transportation modes, safety improvements such as pedestrian enhancements, signal timing optimization, pavement striping, signage and lighting, geometric modifications, or other measures.

The City of Poulsbo 2016 Transportation Plan Policy TR-2.9 states that the LOS standards adopted by the WSDOT are applicable to SR 3, SR 305, and SR 307. SR 3 and SR 305 are designated Highways of Statewide Significance (HSS) in the Washington State Highway System Plan, and have a LOS standard of LOS D. SR 307 is also designated as an HSS route with a LOS standard of D from SR 305 to 0.1 miles northeast of SR 305, and an LOS standard of C from 0.1 miles northeast of SR 305 to SR 104.

The concurrency provisions of the City of Poulsbo's 2016 Transportation Plan and any ordinance relating to concurrency do not apply to state-owned transportation facilities or highways of statewide significance. Appendix G of the Washington State Highway System Plan provides that "when a development affects a segment or intersection where the LOS is already below the applicable threshold, the predevelopment LOS will be used instead of the otherwise applicable deficiency level." Applicable mitigation for WSDOT facilities is addressed in this report, per the WSDOT Development Services Manual.

2019 LEVEL OF SERVICE

Existing AM and PM peak hour intersection delay and LOS results are summarized by movement in **Table 4** and **Table 5.** Full 2019 LOS reports are provided in **Appendix F**.

Table 4. 2019 AM Intersection Level of Service

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
1	SR 305 & Viking Ave	Signal	E (73.1)	B (13.3)	A (2.4)	D (42.8)	B (15.7)	B (15.7)	E (63.4)	E (63.6)	E (77.3)	E (69.1)	F (119)	-	C (23.7)	D	Yes
3	SR 305 & SR 3 NB ramps	Signal	B (16.1)	A (0.4)	-	-	A (4.6)	A (1.7)	-	C (28.4)	F (104.8)	-	-	-	D (39.4)	D	Yes
11	Viking Ave & Finn Hill Rd	Signal	C (29.0)	D (44.4)	C (30.3)	D (46.6)	D (46.5)	C (33.9)	E (62.4)	C (27.2)	F (183)	D (51.1)	C (25.7)	A 0.0	F (83.0)	F	Yes
12	SR 305 & Bond Rd/SR307	Signal	F (92.1)	D (49.2)	F (83.6)	F (116)	D (41.5)	B (15.2)	F (96.8)	D (43.0)	B (15.0)	C (25.2)	B (13.0)	B (12.3)	C (34.7)	D	Yes
13	Bond Rd & Front St	Signal	A (7.4)	A (5.2)	-	-	B (14.6)	B (14.7)	-	-	-	B (13.1)	-	A (7.1)	A (8.4)	E	Yes
14	SR 305 & NE Forest Rock Ln	Signal	E (78.9)	E (67.2)	-	-	D (54.1)	F (82.0)	F (134)	E (61.5)	E (60.6)	A (6.2)	A (0.6)	A (0.2)	C (27.2)	D	Yes
15	Forest Rock & 10th Ave NE	TWSC	A (7.7)	A (0.0)	-	A (7.6)	A (0.0)	-	-	B (13.3)	-	B (12.3)	B (11.6)	-	B (13.3)	F	Yes
16	SR 305 & NE Liberty Rd	Signal	E (69.8)	E (69.9)	-	E (69.8)	E (69.8)	-	F (83.5)	E (59.8)	E (58.0)	A 0.0	A (0.6)	A (0.1)	C (26.0)	D	Yes
17	SR 305 & Lincoln Rd	Signal	F (83.1)	E (58.3)	B (17.4)	F (85.5)	E (55.5)	E (65.9)	B (15.7)	A (1.3)	A (1.2)	E (72.7)	D (45.9)	D (44.5)	D (37.2)	D	Yes
18	SR 305 & NE Hostmark St	Signal	E (62.1)	E (65.4)	E (58.5)	E (68.9)	E (58.7)	F (94.5)	F (91.9)	B (14.1)	B (14.1)	E (66.6)	A (0.9)	A (0.8)	C (31.8)	D	Yes
19	Viking Ave & Liberty Ave	TWSC	-	C (16.9)	-	-	B (12.5)	-	A (8.2)	A (0.0)	-	A (9.1)	A (0.0)	-	C (16.9)	E	Yes
22	Bond Rd & First Ave	TWSC	-	A (0.0)	A (0.0)	A (8.4)	A (0.0)	-	-	B (14.2)	A (0.0)	-	-	A (0.0)	B (14.2)	E	Yes
58	SR 305 & SR 3 SB off-ramp	Signal	-	D (46.0)	D (37.6)	A (0.3)	A (0.0)	-	F (92.3)	-	A (0.0)	E (63.8)	E (65.4)	A (0.0)	D (38.5)	D	Yes
59	Olympic College Way & Dauntless Dr	TWSC	-	-	-	B (10.0)	-	A (0.0)	A (0.0)	A (0.0)	-	A (0.0)	A (0.0)	-	B (10.0)	E	Yes
63	Olympic College Way & Reliance St	TWSC	B (10.4)	-	A (8.6)	-	-	-	A (7.4)	A (0.0)	-	-	A (0.0)	A (0.0)	B (10.4)	E	Yes
68	SR 307 & NE Bernt Rd	TWSC	-	A (0.0)	A (0.0)	A (9.0)	A (0.4)	-	-	C (19.8)	-	-	-	-	C (19.8)	C	Yes
69	Bond Rd NE & Big Valley Rd NE	TWSC	A (9.9)	A (0.0)	-	-	A (0.0)	-	-	-	-	-	C (24.5)	-	C (24.5)	C	Yes[4]
80	7th Ave NE & NE Liberty Rd	AWSC	-	A (8.1)	A (7.9)	-	A (9.3)	A (7.2)	A (7.7)	A (8.1)	-	A (8.3)	A (8.4)	-	A (8.5)	E	Yes
99	SR 305 & Noll Rd	TWSC	A (8.7)	A (0.0)	-	-	A (0.0)	A 0.0	-	-	-	-	E (38.5)	-	E (38.5)	D	Yes[4]
102	Front St & NE Sunset St	AWSC	-	-	-	A (9.5)	-	A (9.2)	-	A (9.8)	-	B (10.7)	B (11.3)	-	B (10.6)	E	Yes
103	Front St & Jensen Way	TWSC	-	-	-	-	B (10.6)	-	-	A (0.0)	A (0.0)	A (7.9)	A (0.0)	-	B (10.6)	F	Yes
104	Front St NE & Torval Canyon Rd	TWSC	-	-	-	-	B (10.7)	-	-	A (0.0)	A (0.0)	A (8.0)	A (0.0)	-	B (10.7)	F	Yes
220	Viking Ave & Edvard Way	Signal	-	B (11.3)	B (11.4)	-	B (11.4)	-	A (4.8)	A (6.9)	A (6.7)	A (4.8)	A (5.0)	A (5.0)	A (6.3)	E	Yes
312	Viking Ave & Stendahl Ct	TWSC	-	A (9.9)	-	-	-	-	A (7.6)	A (0.0)	-	-	A (0.0)	A (0.0)	A (9.9)	E	Yes
654	Viking Ave & Sonic drwy	TWSC	-	A (9.2)	-	-	-	-	A (7.7)	A (0.0)	-	-	A (0.0)	A (0.0)	A (9.2)	E	Yes

1. Intersection control: TWSC (minor-approach stop control); AWSC (all-way stop control); Signal (traffic signal);
2. For TWSC, LOS and delay are reported for the highest-delay movement. For all other intersections, LOS represents intersection average.
3. Intersection LOS standard;
4. LOS controlled by delay on Kitsap County (non-WSDOT) approach

Table 5. 2019 PM Intersection Level of Service

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
1	SR 305 & Viking Ave	Signal	F (84.6)	B (13.1)	A (0.7)	D (49.6)	C (26.9)	C (27.1)	E (63.3)	E (64.1)	E (69.9)	F (81.3)	F (397)	-	D (42.8)	D	Yes
3	SR 305 & SR 3 NB ramps	Signal	C (32.6)	A (0.5)	-	-	C (22.7)	B (17.2)	-	C (29.7)	F (120)	-	-	-	D (46.7)	D	Yes
11	Viking Ave & Finn Hill Rd	Signal	C (32.4)	F (123)	C (33.3)	D (35.1)	D (35.2)	C (23.9)	E (65.4)	D (41.4)	F (608)	E (58.8)	D (41.8)	A (0.0)	F (170)	F	Yes
12	SR 305 & Bond Rd/SR307	Signal	F (87.1)	E (55.8)	F (83.9)	F (130)	D (43.5)	D (35.4)	E (77.4)	C (29.1)	B (13.1)	F (95.8)	E (57.5)	E (56.4)	E (55.1)	D	**No**
13	Bond Rd & Front St	Signal	B (15.8)	A (8.5)	-	-	C (21.1)	C (21.1)	-	-	-	B (19.3)	-	B (14.2)	B (15.4)	E	Yes
14	SR 305 & NE Forest Rock Ln	Signal	E (70.6)	E (56.0)	-	-	D (46.5)	F (190)	F (93.8)	F (134)	F (134)	E (69.5)	D (48.6)	C (32.7)	F (95.8)	D	**No**
15	Forest Rock & 10th Ave NE	TWSC	A (7.9)	A (0.0)	-	A (8.1)	A (0.0)	-	-	E (48.8)	-	C (18.3)	B (12.7)	-	E (48.8)	F	Yes
16	SR 305 & NE Liberty Rd	Signal	E (74.3)	E (73.3)	-	E (73.6)	E (74.3)	-	C (29.2)	E (76.2)	E (75.1)	C (31.1)	E (60.7)	D (35.8)	E (66.8)	D	**No**
17	SR 305 & Lincoln Rd	Signal	F (86.2)	E (77.5)	D (51.1)	F (95.8)	D (50.4)	B (19.8)	E (79.9)	E (70.0)	E (69.2)	D (49.3)	C (24.8)	C (24.7)	D (54.1)	D	Yes
18	SR 305 & NE Hostmark St	Signal	E (64.3)	E (74.6)	D (52.4)	E (66.2)	E (58.0)	F (94.9)	F (83.1)	E (71.7)	E (70.3)	C (31.5)	B (17.2)	B (17.1)	D (53.7)	D	Yes
19	Viking Ave & Liberty Ave	TWSC	-	D (30.4)	-	-	C (19.4)	-	A (9.6)	A (0.0)	-	A (9.4)	A (0.0)	-	D (30.4)	E	Yes
22	Bond Rd & First Ave	TWSC	-	A (0.0)	A (0.0)	A (8.9)	A 0.0	-	-	C (16.9)	-	-	-	-	C (16.9)	E	Yes
58	SR 305 & SR 3 SB off-ramp	Signal	-	D (46.9)	D (39.6)	A (5.0)	A (2.3)	-	F (95.1)	-	A (0.0)	E (60.8)	E (74.0)	A (0.0)	C (33.4)	D	Yes
59	Olympic College Way & Dauntless Dr	TWSC	-	-	-	B (10.7)	-	A (9.0)	A (0.0)	A (0.0)	-	A (7.7)	A (0.0)	-	B (10.7)	E	Yes
63	Olympic College Way & Reliance St	TWSC	B (10.8)	-	A (9.2)	-	-	-	A (7.7)	A (0.0)	-	-	A (0.0)	A (0.0)	B (10.8)	E	Yes
68	SR 307 & NE Bernt Rd	TWSC	-	A (0.0)	A (0.0)	B (11.5)	A (0.4)	-	-	C (20.3)	-	-	-	-	C (20.3)	C	Yes
69	Bond Rd NE & Big Valley Rd NE	TWSC	A (9.9)	A (0.0)	-	-	A (0.0)	A (0.0)	-	-	-	-	C (23.6)	-	C (23.6)	C	Yes[4]
80	7th Ave NE & NE Liberty Rd	AWSC	-	B (10.5)	A (8.5)	-	B (12.2)	A (8.3)	A (9.1)	B (12.7)	-	A (9.4)	B (10.4)	-	B (11.6)	E	Yes
99	SR 305 & Noll Rd	TWSC	B (11.2)	A (0.0)	-	-	A 0.0	A 0.0	-	-	-	-	F (85.1)	-	F (85.1)	D	Yes[4]
102	Front St & NE Sunset St	AWSC	-	-	-	B (10.5)	-	C (18.7)	-	C (20.9)	A (0.0)	C (17.6)	C (19.2)	-	C (19.2)	E	Yes
103	Front St & Jensen Way	TWSC	-	-	-	-	C (16.3)	-	-	A (0.0)	A (0.0)	A (9.4)	A (0.0)	-	C (16.3)	F	Yes
104	Front St NE & Torval Canyon Rd	TWSC	-	-	-	-	C (18.6)	-	-	A (0.0)	A (0.0)	A (9.9)	A (0.0)	-	C (18.6)	F	Yes
220	Viking Ave & Edvard Way	Signal	-	B (11.8)	B (11.8)	-	B (12.3)	-	A (4.9)	A (6.8)	A (6.8)	A (4.6)	A (6.4)	A (6.3)	A (6.8)	E	Yes
312	Viking Ave & Stendahl Ct	TWSC	-	B (10.6)	-	-	-	-	A (7.7)	A (0.0)	-	-	A (0.0)	A (0.0)	B (10.6)	E	Yes
654	Viking Ave & Sonic drwy	TWSC	-	A (9.8)	-	-	-	-	A (7.7)	A (0.0)	-	-	A (0.0)	A (0.0)	A (9.8)	E	Yes

1. Intersection control: TWSC (minor-approach stop control); AWSC (all-way stop control); Signal (traffic signal);
2. For TWSC, LOS and delay are reported for the highest-delay movement. For all other intersections, LOS represents intersection average.
3. Intersection LOS standard; 4. LOS controlled by delay on Kitsap County (non-WSDOT) approach

The intersection of Viking Ave & Fill Hill Rd operates at LOS F in both the AM and PM peak hours; however, this intersection is exempt from the citywide LOS E standard. Similarly, the intersection of Forest Rock Ln & 10th Ave operates at LOS F in the PM peak hour but is exempt from the citywide LOS E standard.

The four WSDOT intersections that currently operate with LOS deficiencies are shown below:

- SR 305 & Bond Rd (AM LOS C; PM LOS E) – Standard is LOS D
- SR 305 & Forest Rock Ln (AM LOS C; PM LOS F) – Standard is LOS D
- SR 305 & Liberty Rd (AM LOS C; PM LOS E) – Standard is LOS D
- SR 305 & Noll Rd (AM LOS E; PM LOS F) – Standard is LOS D

The intersection of SR 305 & Noll Rd operates at LOS F in the PM peak hour due to delay on the stop-controlled southbound (Noll Rd) approach. The delay does not impact the WSDOT-controlled movements on SR 305.

2019 segment LOS was calculated according to street segment classifications and segment capacity policy identified in the City of Poulsbo 2016 Transportation Plan. Segment capacity inputs and calculations are provided in **Appendix G**.

Three-day Average Daily Traffic (ADT) counts were collected at five locations on weekdays in June 2018. 2018 segment ADT, PM peak hour volume, and K-factors are summarized in **Table 6** for the counted locations.

Table 6. 2018 ADT Count Summary

ID	Location	2018		
		PM Peak Hr. Vol.	ADT	K
01E	SR 307 e/o Big Valley Rd	1,871	21,477	0.087
01N	Big Valley Rd n/o SR 307	213	2,065	0.103
01W	SR 307 w/o Big Valley Rd	2,053	23,215	0.088
02V	SR 305 w/o Viking Ave	3,505	44,086	0.080
03V	SR 305 n/o Noll Rd	1,924	24,941	0.077

Supplemental three-day ADT counts were collected at two locations on weekdays October 2019 to determine whether peaking patterns, specifically K-factor, had changed in the 16-month span between counts. ADT count locations, PM peak hour volumes, and K-factors are summarized in **Table 7**. This analysis indicated that K-factors had not changed significantly between June 2018 and October 2019.

Table 7. 2018-2019 K-Factor Comparison

ID	Location	2018			2019		
		PM Peak Hr. Vol.	ADT	K	PM Peak Hr. Vol.	ADT	K
01W	SR 307 w/o Big Valley Rd	2,053	23,215	0.088	1,979	22,247	0.089
02V	SR 305 w/o Viking Ave	3,505	44,086	0.080	3,087	39,520	0.078

Counted ADT and K-factors were reviewed and used to develop conversion factors shown in **Table 8**, for converting PM peak hour volumes to ADT for all analysis scenarios. This approach was accepted by City staff via email on October 7, 2019.

The K-factor thresholds were applied to the 2019 PM peak hour counts to calculate ADT for each study segment. Segment LOS results are summarized in **Table 9.**

Table 8. K-Factor Thresholds

PM Peak Hr. Volume	K-Factor
0 – 1,000	0.103
1,000 – 1,500	0.094
1,500 – 2,000	0.084
> 2,000	0.080

Table 9. 2019 Segment Level of Service

ID	Segment	ADT	Capacity	V/C	LOS Std.	LOS	Pass
301	10th Ave (Forest Rock Ln to 600 ft n/o Liberty Rd)	3,850	9,400	0.41	E	A	Yes
306	Liberty Rd (7th Ave to SR 305)	3,500	11,000	0.32	E	A	Yes
401	Front St (Bond Rd to Torval Canyon Rd)	18,500	24,000	0.77	F	C	Yes
402	Front St (Torval Canyon Rd to Jensen Way N)	14,950	18,000	0.83	F	D	Yes
403	Front St (Jensen Way N to Sunset St)	13,800	16,000	0.86	F	D	Yes
404	Front St (Sunset St to Jensen Way S)	6,900	16,000	0.43	E	A	Yes
501	Viking Ave (city limit to Bovela Ln)	18,250	29,000	0.63	F	B	Yes
502	Viking Ave (Bovela Ln to Lindvig Way)	20,200	29,000	0.70	E	B	Yes
503	Viking Ave (300 ft n/o Lindvig to SR 305)	5,050	18,000	0.28	E	A	Yes
504	Viking Ave (SR 305 to Vetter Rd)	4,900	8,840	0.55	E	A	Yes
511	Lindvig Way (Viking Ave to Bond Rd)	28,850	30,500	0.95	F	E	Yes
512	Bond Rd (Lindvig Way to SR 305)	11,400	16,150	0.71	E	C	Yes
514	Olhava Way (Walmart S to Walmart N)	9,500	14,600	0.65	E	B	Yes
515	Olhava Way (Walmart N to Olympic College Way)	9,500	21,600	0.44	E	A	Yes
516	Olympic College Way (Olhava to Dauntless Dr)	3,200	23,600	0.14	E	A	Yes
521	Reliance St (Olympic College Way to Market Pl)	1,550	19,000	0.08	E	A	Yes

All study segments currently satisfy City of Poulsbo segment LOS standards.

2019 QUEUING

Existing queues were analyzed for turn bays at all study intersections. 95th percentile queues were calculated in Synchro 10 software using HCM 6th Edition methodologies. 95th percentile queue is defined as the queue which will be exceeded during no more than 5 percent (3 minutes) of the peak hour. This queue metric does not represent the average driver experience but can be helpful for design of turn bay storage capacity. 95th percentile queues and existing turn bay storage lengths are summarized in **Table 10**.

Table 10. 2019 95th Percentile Turn Bay Queuing

ID	Intersection	Control Type[1]	Lane Group	Storage	AM Peak Hr		PM Peak Hr	
					95th %ile Queue	Exceeds Storage	95th %ile Queue	Exceeds Storage
1	SR 305 & Viking Ave	Signal	EB L	300	100		200	
			EB R	260	8		5	
			WB L	310	78		170	
			NB L	310	63		140	
			NB R	210	155		190	
			SB L	290	125		148	
			SBTR	360	243		550	Yes
3	SR 305 & SR 3 NB ramps	Signal	EB L	450	30		93	
			WB R	250	13		210	
			NBLT	1000	75		45	

ID	Intersection	Control Type[1]	Lane Group	Storage	AM Peak Hr		PM Peak Hr	
					95th %ile Queue	Exceeds Storage	95th %ile Queue	Exceeds Storage
			NB R	415	1358	Yes	1400	Yes
11	Viking Ave & Finn Hill Rd	Signal	EB L	125	30		55	
			EB R	175	73		80	
			WB R	125	28		93	
			NB L	125	73		183	Yes
			SB L	175	40		90	
			SB TR	125	0		0	
12	SR 305 & Bond Rd/SR307	Signal	EB L	300	20		78	
			EB R	260	468	Yes	503	Yes
			WB L	400	248		255	
			WB R	220	383	Yes	498	Yes
			NB L	550	255		370	
			NB R	250	50		98	
			SB LL	775	158		498	
13	Bond Rd & Front St	Signal	SB R	50	215	Yes	470	Yes
14	SR 305 & NE Forest Rock Ln	Signal	EB L	350	68		48	
			WB R	120	310	Yes	825	Yes
			NB L	300	5		8	
			SB L	650	45		410	
			SB R	210	3		175	
15	Forest Rock & 10th Ave NE	TWSC	EB L	50	3		5	
			WB L	100	0		0	
16	SR 305 & NE Liberty Rd	Signal	NB L	350	45		60	
			SB L	270	0		80	
			SB R	260	0		70	
17	SR 305 & Lincoln Rd	Signal	EB L	140	30		115	
			EB R	140	98		145	Yes
			WB L	250	148		238	
			WB R	160	320	Yes	150	
			NB L	440	23		183	
			SB L	370	220		223	
18	SR 305 & NE Hostmark St	Signal	EB L	200	63		105	
			EB R	150	188	Yes	198	Yes
			WB L	250	173		120	
			WB R	200	303	Yes	328	Yes
			NB L	350	118		275	
			SB L	300	235		208	
19	Viking Ave & Liberty Ave	TWSC	NB LT	200	0		0	
			SB LT	200	0		0	
22	Bond Rd & First Ave	TWSC	WB L	100	0		3	
58	SR 305 & SR 3 SB off-ramp	Signal	EB R	220	38		100	
			NB L	290	63		70	
			NB R	290	0		0	
			SB LL	300	265		195	
			SB R	320	0		0	
69	Bond Rd NE & Big Valley Rd NE	TWSC	EB L	50	3		10	
80	7th Ave NE & NE Liberty Rd	AWSC	NB L STOP	35	0		3	
			SB L STOP	35	0		3	
99	SR 305 & Noll Rd	TWSC	WB R	150	0		0	
102	Front St & NE Sunset St	AWSC	WB L STOP	50	0		0	
			SB L STOP	100	33		83	
103	Front St & Jensen Way	TWSC	SB L	100	3		5	
104	Front St NE & Torval Canyon Rd	TWSC	SB L	100	3		10	
220	Viking Ave & Edvard Way	Signal	EB LT	100	5		5	
			NB L	50	0		0	
			SB L	50	3		3	
312	Viking Ave & Stendahl Ct	TWSC	NB L	100	0		0	

95th percentile queues exceed turn bay storage on minor approach legs at the following SR 305 intersections:

- SR 3 NB off-ramp at SR 305 (AM & PM peak hours)
- Bond Rd EB right-turn at SR 305 (AM & PM)
- Bond Rd/SR 307 WB right-turn at SR 305 (AM & PM)
- Forest Rock Ln WB right-turn at SR 305 (AM & PM)
- Lincoln Rd EB right-turn at SR 305 (PM)
- Lincoln Rd WB right-turn at SR 305 (AM)
- NE Hostmark St EB right-turn at SR 305 (AM & PM)
- NE Hostmark St WB right-turn at SR 305 (AM & PM)

95th percentile queues exceed turn bay storage on major approach legs at the following major intersections:

- At Viking Ave/Finn Hill Rd, PM peak hour northbound left-turn 95th percentile queue exceeds the 125-foot storage.
- At Lindvig Way/Bond Rd/Front St, the southbound right-turn 95th percentile queue exceeds the available 50-foot storage during the AM and PM peak hours.
- At Viking Ave/SR 305, PM peak hour southbound (Viking Ave) through-right 95th percentile queue extends 550 feet and through the Sonic Drive-In access.

2019 Multimodal Access and Circulation

Destinations near the site that would likely be accessed by transit riders, pedestrians, and bicyclists include:

- Poulsbo's Fish Park and Nelson Park are both south of SR 305 with accesses off Viking Ave and NW Lindvig Way. Fish Park is also accessible off Bond Road NE. There are currently no continuous sidewalks or bike lanes connecting the site to these parks. Both parks are served by Route 344 Poulsbo Central from the North Kitsap Transit Center

- North Viking Park & Ride and North Viking Transit Center are between Viking Ave and Vetter Road NW north and west of the site. There are currently no continuous sidewalks or bike lanes connecting the site to these facilities. Routes served from the North Viking Transit Center include Route 301 North Kitsap Fast Ferry Express, Route 307 Kingston/North Viking Fast Ferry Express, Route 332 Poulsbo/Silverdale, Route 333 Silverdale/Poulsbo, Route 344 Poulsbo Central, Route 390 Poulsbo/Bainbridge, and Worker/Driver Buses to PSNS: Early North, Viking Express, Winslow.

- A Sonic Drive-In and Arco Gas Station are at the northwest corner of SR 305 and Viking Ave. There are currently no continuous sidewalks or bike lanes connecting the site to this location.

- North Kitsap Medical Center is located at the southeast corner of SR 305 and Bond Road (SR307) NE. There are currently no continuous sidewalks or bike lanes connecting the site to this location. The North Kitsap Medical Center is currently served by Route 390 Poulsbo Bainbridge from the North Kitsap Transit Center

- The Central Market is at the southeast corner of Little Valley Road NE/10th Avenue NE and NE Forest Rock Lane. There are currently no continuous sidewalks or bike lanes connecting the site to this location. The site is currently served by Route 344 Poulsbo Central from the North Kitsap Transit Center.

- Walmart Supercenter is on the west side of the SR 305 and SR 3 interchange. There are currently no continuous sidewalks or bike lanes connecting the site to this location. Bus stop served by Route 344 Poulsbo Central from the North Kitsap Transit Center.

Figure 3 illustrates the nonmotorized network in the vicinity of the site, and highlights nonmotorized destinations, local transit stops and park and rides.

The Project frontages on SR 305, Bond Road NE (SR307), and Viking Ave currently have paved shoulders and no sidewalks or bike lanes.

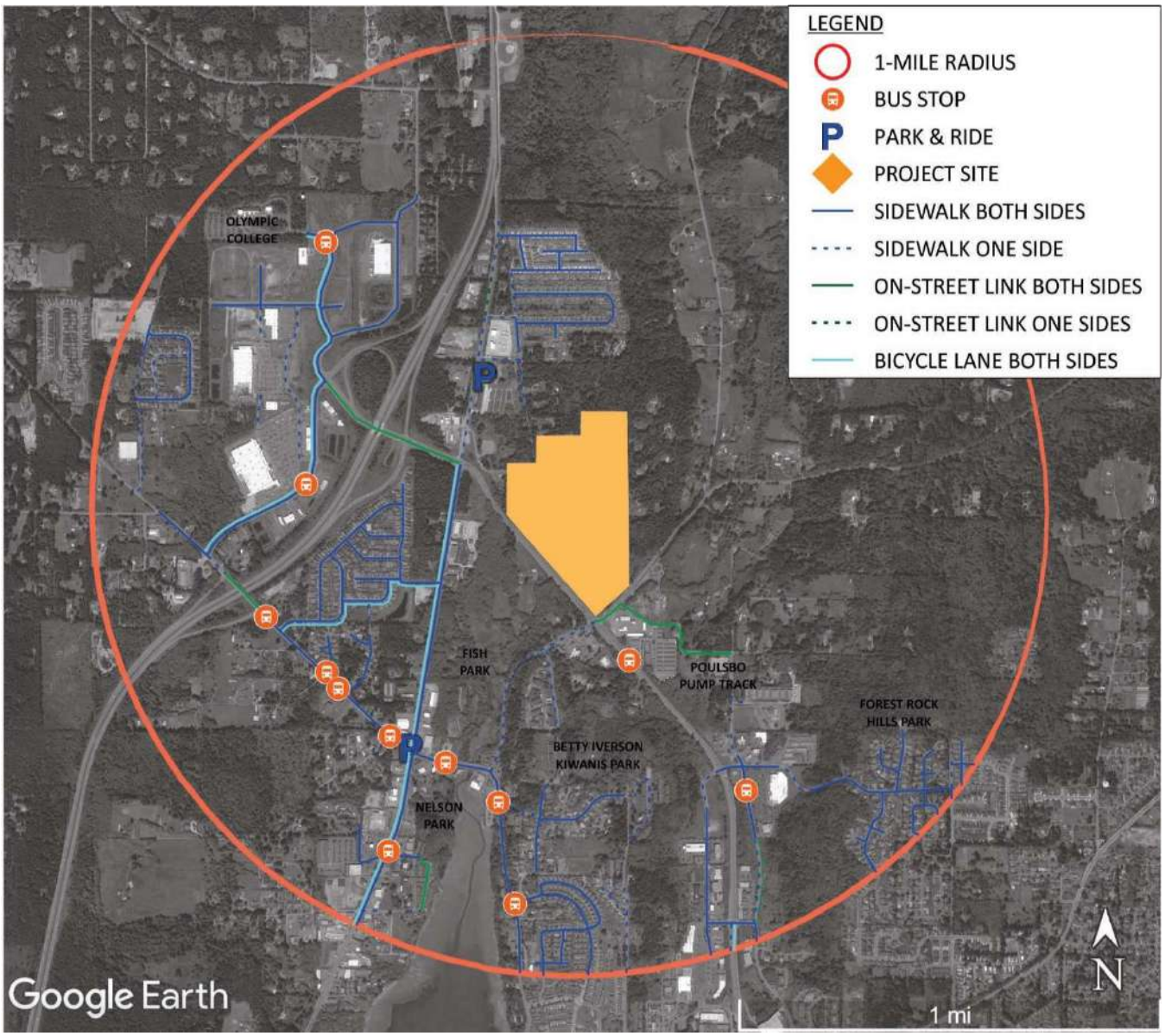


Figure 3. Transit and Nonmotorized Facilities

SR 305 has no sidewalks from NE Liberty Road north past Viking Ave. The signalized intersection at Viking Ave has marked crosswalks on Viking Ave and on the east side of the intersection across SR 305. The signalized intersection at SR 307/Bond Road NE includes marked crosswalks on all four approaches. To the west of the

Project, SR 305 includes an off-street pedestrian path across the SR 3 interchange. The commercial area to the east of the site includes sidewalks and bike lanes. There is currently very limited pedestrian activity on SR 305, as indicated by the AM and PM peak hour traffic counts.

Viking Ave includes sidewalk on the west side of the roadway along the Sonic and Arco sites on the opposite side of the street from the Project. Sidewalks are also provided around North Viking Park & Ride and North Viking Transit Center to the north and west of the Project. South of SR 305, Viking Ave includes curb, gutter, sidewalk, and bike lanes on both sides of the road and past Fish Park, Nelson Park and Poulsbo Junction Park & Ride near NW Lindvig Way.

Vetter Rd immediately north of the site consists of single lane travel lane that provides two-way access to several single-family homes up to the east frontage of the North Viking Park and Ride and North Viking Transit Center. At this point Vetter Rd widens slightly and includes an off-street paved pedestrian path along the back side of the North Viking Park & Ride and North Viking Transit Center. Curb, gutter, and sidewalk front the single-family residential development to the northwest of the site.

Bond Road NE south of SR 305 includes sidewalks on the east side of the road. North Kitsap Medical Center is accessible from Bond Road NE at the southeast corner of SR 305 and Bond Road NE. 1st Ave NE, which intersects with Bond Road NE south of SR 305, branches off to access Betty Iverson Kiwanis Park. Fish Park is between Bond Road NE and Viking Ave. An off-street link exists along Bond Road NE, north of SR 305, to NE Bernt Road to Poulsbo Pump Track, the local bike park.

The nearest transit stops to the site are located at the North Viking Transit Center and at SR 305 and SR 307/Bond Road NE. The North Viking Transit Center and North Viking Park & Ride are located on the east side of Viking Ave and to the north of the Project. The Park & Ride lot provides 266 parking spaces and serves Kitsap Transit routes #301 (North Kitsap Fast Ferry Express), #307 (Kingston/ North Viking Fast Ferry Express), #332 (Poulsbo/Silverdale), #333 (Silverdale/Poulsbo), #344 (Poulsbo Central), and #390 (Poulsbo/Bainbridge).

Transit stops at SR 305 and SR 307/Bond Road NE are served by Kitsap Transit route 390. Kitsap Transit Route 344 stops at Walmart on the west side of SR 3 on Olhava Way and at NW Finn Hill Road and NW Lindvig Way.

2019 TRAFFIC SAFETY

Crash records were obtained from WSDOT for all study intersections and segments for the five-year period from 2014 through 2018. Serious injury and fatal crashes are identified below. All serious injury and fatal crashes occurred in dry weather during daylight hours.

- June 2016 at SR 305 & Hostmark St: Southbound left-turning vehicle failed to grant right-of-way to northbound through-moving vehicle.
- August 2016 at SR 305 & Lincoln Rd: Northbound vehicle rear-ended stopped vehicle on SR 305.
- September 2017 at Forest Rock Ln & 10th Ave/Little Valley Rd: Westbound vehicle failed to yield right-of-way to pedestrian crossing Forest Rock Ln
- December 2017 at Front St & Torval Canyon Rd: Pedestrian struck when southbound vehicle failed to yield right-of-way. Pedestrian died of injuries

Intersection crash rates were calculated for each City intersection based on 2014-2018 crash history and 2019 traffic counts. Crash rates, expressed per Million Entering Vehicles (MEV), are indicated in **Table 11.** Generally,

crash rates exceeding 1.00 per MEV indicate a potential high-crash location and may warrant a more detailed analysis to determine possible mitigation. Crash rates for WSDOT intersections are described in a later section.

Table 11. 2014-2018 Intersection Crash History

ID	Intersection	Predominant Crash Type (%)	Fatal Injury (K)[1]	Serious Injury (A)[1]	Evident Injury (B)[1]	Possible Injury (C)[1]	PDO (O)[1,2]	All[1]	Crash Rate[3] (/MEV)
1	SR 305 & Viking Ave	Rear-end (68%)	0.0	0.0	1.2	3.6	9.4	14.2	-
3	SR 305 & SR 3 NB ramps	Rear-end (76%)	0.0	0.0	0.4	2.4	10.4	13.2	-
11	Viking Ave & Finn Hill Rd	Rear-end (34%)	0.0	0.0	0.8	0.6	4.4	5.8	0.49
12	SR 305 & Bond Rd/SR307	Rear-end (69%)	0.0	0.0	0.2	4.6	13.0	17.8	-
13	Bond Rd & Front St	Rear-end (47%)	0.0	0.0	0.0	0.4	3.4	3.8	0.38
14	SR 305 & Forest Rock Ln	Rear-end (63%)	0.0	0.0	0.4	1.8	5.4	7.6	-
15	Forest Rock Rd & 10th Ave NE	Entering (67%)	0.0	0.2	0.2	0.6	2.0	3.0	0.78
16	SR 305 & NE Liberty Rd	Rear-end (63%)	0.0	0.0	0.4	3.2	4.4	8.0	-
17	SR 305 & Lincoln Rd	Rear-end (48%)	0.0	0.2	0.2	2.2	5.8	8.4	-
18	SR 305 & NE Hostmark St	Rear-end (41%)	0.0	0.2	0.6	3.2	5.8	9.8	-
19	Viking Ave & Liberty Ave	Entering (38%)	0.0	0.0	0.2	0.4	1.0	1.6	0.25
22	Bond Rd & First Ave	Entering, Left-turn, Fixed object (25%)	0.0	0.0	0.0	0.2	0.6	0.8	0.18
58	SR 305 & SR 3 SB off-ramp	Entering (23%), Fixed object (23%)	0.0	0.0	0.0	0.8	1.8	2.6	-
59	Olympic Coll. Way & Dauntless	Entering (100%)	0.0	0.0	0.0	0.0	0.2	0.2	0.13
63	Olympic Coll. Way & Reliance	Entering (50%), Fixed object (50%)	0.0	0.0	0.0	0.0	0.4	0.4	0.27
68	SR 307 & NE Bernt Rd	Rear-end (40%)	0.0	0.0	0.0	0.4	0.6	1.0	-
80	7th Ave NE & NE Liberty Rd	Entering (40%), Fixed object (40%)	0.0	0.0	0.0	0.4	0.6	1.0	0.33
102	Front St & NE Sunset St	Rear-end (29%) Sideswipe (29%)	0.0	0.0	0.0	0.2	1.2	1.4	0.26
103	Front St & Jensen Way	Entering (38%)	0.0	0.0	0.0	0.6	1.0	1.6	0.28
104	Front St & Torval Canyon Rd	Rear-end (33%), Entering (33%)	0.2	0.0	0.0	0.2	1.4	1.8	0.29
220	Viking Ave & Edvard Way	Entering (29%)	0.0	0.0	0.4	0.6	1.8	2.8	0.34
312	Viking Ave & Stendahl Ct	Fixed object (100%)	0.0	0.0	0.0	0.0	0.2	0.2	0.09
654	Viking Ave & Sonic drwy	Rear-end (100%)	0.0	0.0	0.0	0.0	0.2	0.2	0.10

[1]Crashes per year, 2014-2018; [2]Property damage only crashes;
[3]Intersection crash rate per Million Entering Vehicles (MEV), calculated for City intersections only

The highest crash rate among City intersections is 0.78 per MEV at Forest Rock Rd and 10th Ave NE. Crash history indicates an average of 3 crashes per year at the intersection, of which 67 percent are entering collisions. The intersection does not meet MUTCD signal warrants for crash history.

Rear-end collisions are the predominant crash type along the SR 305 corridor, representing over 60 percent of crashes at the SR 305 intersections with SR 3 NB, Viking Ave, SR 307/Bond Rd, Forest Rock Ln, and Liberty Rd. This is not uncommon for congested signalized arterial corridors with mainline queuing during peak hours.

Segment crash rates were analyzed for all study segments. Segment crash rates are typically expressed in terms of crashes per 100 million (100M) vehicle-miles traveled (VMT) and are calculated using the following equation:

$$R = \frac{C * 100{,}000{,}000}{V * 365 * N * L}$$

where:

R = Crash rate expressed as crashes per 100M VMT, N = Number of years of crash data,
C = Total number of crashes in the study period, L = Length of roadway segment in miles
V = Average daily traffic (ADT) volume,

The WSDOT *2015 Annual Collision Summary* indicates a statewide average rate of 196.2 crashes per 100M VMT and a Kitsap County average crash rate of 175.4 crashes per 100M VMT. Segment crash rates are summarized in **Table 12**.

Table 12. 2014-2018 City Street Segment Crash Summary

ID	Segment	2014-2018 Crash Frequency (crashes/yr)						Crash Rate[2]
		Fatal Injury (K)	Serious Injury (A)	Evident Injury (B)	Possible Injury (C)	PDO (O)[1]	All	
301	10th Ave (Forest Rock Ln to 600' n/o Liberty Rd)	0.0	0.2	0.0	0.0	0.4	0.6	1.7
306	Liberty Rd (7th Ave to SR 305)	0.0	0.0	0.0	0.2	0.0	0.2	3.1
401	Front St (Bond Rd to Torval Canyon Rd)	0.2	0.0	0.0	0.4	3.2	3.8	8.0
402	Front St (Torval Canyon Rd to Jensen Way N)	0.0	0.0	0.0	0.8	0.8	1.6	1.2
403	Front St (Jensen Way N to Sunset St)	0.0	0.0	0.0	0.0	1.2	1.2	1.0
404	Front St (Sunset St to Jensen Way S)	0.0	0.0	0.0	1.0	1.0	2.0	2.6
501	Viking Ave (city limit to Bovela Ln)	0.0	0.0	0.0	0.6	1.4	2.0	0.8
502	Viking Ave (Bovela Ln to Lindvig Way)	0.0	0.0	0.6	1.0	3.8	5.4	1.3
503	Viking Ave (300 ft n/o Lindvig to SR 305)	0.0	0.0	0.0	0.2	1.0	1.2	1.0
504	Viking Ave (SR 305 to Vetter Rd)	0.0	0.0	0.2	0.2	0.2	0.6	1.4
511	Lindvig Way (Viking Ave to Bond Rd)	0.0	0.0	0.0	0.2	1.8	2.0	1.0
512	Bond Rd (Lindvig Rd to SR 305)	0.0	0.0	0.0	0.2	1.4	1.6	0.8
514	Olhava Way (Walmart S to Walmart N)	0.0	0.0	0.2	0.0	0.0	0.2	0.6
515	Olhava Way (Walmart N to Olympic Coll. Way)	0.0	0.0	0.0	0.6	2.8	3.4	10.9
516	Olympic College Way (Olhava to Dauntless Dr)	0.0	0.0	0.0	0.8	1.4	2.2	17.1
521	Reliance St (Olympic College Way to Market Pl)	0.0	0.0	0.0	0.0	0.0	0.0	2.5
							Kitsap County Average	175.4
							Washington State Average	196.2

1. Property Damage Only (PDO) crashes; [2]Crash rate per 100 million Vehicle-Miles Traveled (VMT)

Crash rates for City street segments range from 90.3 percent to 99.7 percent lower than the Kitsap County average of 175.4 crashes per 100M VMT.

A predictive crash analysis was conducted for two highway segments identified by WSDOT staff. The segments included SR 305 at the Poulsbo Business Park driveway (MP 12.64 to MP 12.74) and SR 307 from Bond Rd to just

west of SR 104 (MP 0.00 to MP 5.00). The WSDOT Highway Safety Manual-based predictive crash analysis model was calibrated to match the 2014-2018 crash history for each segment. The calibrated crash analysis model resutls are summarized in **Table 13** for each Collision Analysis Location (CAL). Safety analysis reports are provided in **Appendix H**.

Table 13. 2019 CAL Predictive Crash Analysis Model Calibration Results

ID	Route	Limits	Length	ADT	Predicted Crashes / Year			Crash Rate (/100M VMT)
					Fatal and Injury (KABC)	Property Dmg Only (PDO)	Total (KABCO)	
1	SR 305	MP12.64 – MP12.74	0.10	35,000				
		2014-2018 Crash History			0.2	1.4	1.6	125.2
		2019 Predictive Crash Analysis Model Output			0.5	1.1	1.6	125.2
2	SR 307	MP0.00 – MP5.00	5.00	20,000				
		2014-2018 Crash History			14.2	24.0	38.2	104.7
		2019 Predictive Crash Analysis Model Output			10.6	27.5	38.1	104.4

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

On SR 305, the calibrated (modeled) crash rate of 125.2 crashes per 100M VMT matched the observed crash history. On SR 307, the calibrated crash rate of 104.4 crashes/100M VMT was 0.3 percent less than the observed crash rate of 104.7 crashes/100M VMT. These results were sufficient to consider the predictive crash model to be calibrated. The calibrated crash model was used to forecasts future crash rates and Project safety impacts, as described later in this report.

2028 WITHOUT-PROJECT CONDITIONS

2028 NON-PROJECT GROWTH

Future non-Project growth was calculated as the sum of pipeline growth and background growth. City of Poulsbo staff provided a list of permitted developments, shown in **Table 14**, which were approved but not constructed or occupied as of September 2019. A map of pipeline development is provided in **Appendix I**. The 15 developments, totaling 452 new PM peak hour primary trips, were used to update the Poulsbo travel demand model, with the assumption that all pipeline developments will be completed and occupied by 2028. For comparison, the estimated trip generation of the Project is 248 new PM peak hour primary trips.

Table 14. City of Poulsbo Pipeline Development

ID	Project Name	Type	Sept. 2019 Status	Pipeline PM Trips
3001	Westwood Crossing	Single-family	25% Occupied	26
3002	Fairfield Hotel	Commercial	Unoccupied	85
3003	Liberty Bay LLC Apt	Mixed use	Unoccupied	10
3010	Vanaheimr - Old Police Station	Multi-family	Unoccupied	17
3011	Whitford Cottages	Single-family	90% Occupied	1
3014	Cleaver BLA	Single-family	80% Occupied	2
3015	Lone Pine	Single-family	50% Occupied	7
3016	Languanet	Single-family	90% Occupied	2
3017	Mesford PRD	Single-family	Unoccupied	81
3018	Woodcreek / Peninsula Glen	Multi-family	Unoccupied	40
3019	Morrow Manor	Multi-family	Unoccupied	5
3020	Poulsbo Meadows	Single-family	Unoccupied	44
3023	Crystal View	Single-family	Unoccupied	44
3024	Blue Heron Plat	Single-family	Unoccupied	81
3025	Liberty Landing	Single-family	Unoccupied	7
		Non-Project Pipeline PM Peak Hour Growth		**452**

External trip growth, i.e. regional growth generated external to City of Poulsbo pipeline development, was calculated using a 2 percent simple annual growth rate, per City of Poulsbo May 2019 TIA requirements. The 2 percent external/regional trip growth was input to the travel demand model's external Traffic Analysis Zones. City staff accepted the pipeline and background growth assumptions via email on September 10, 2019.

2028 Without-Project traffic volume forecasts were compared to the 2036 forecasts identified in the SR 305 Needs and Opportunities Study (Parametrix 2017). In general, the 2028 PM Without-Project forecasts were 20 to 25 percent higher than the 2036 PM forecasts identified in the Parametrix study. This indicates that this TIA's growth forecast is likely to represent a highly conservative "worst-case" future congestion scenario.

2028 TRANSPORTATION NETWORK IMPROVEMENTS

All 2028 scenarios assumed completion of the Noll Road Corridor Project, including realignment of Noll Road to intersect SR 305 at Johnson Road NE, with a new roundabout at the improved intersection. The existing Noll Rd

intersection will be maintained as a full access stop-control intersection for local property access. All future year analyses accounted for travel demand redistribution associated with this improvement.

2028 WITHOUT-PROJECT LEVEL OF SERVICE

Year 2028 Without-Project intersection LOS results are summarized in **Table 15** and **Table 16**. The 2028 Without-Project intersection LOS reports are provided in **Appendix J**.

Table 15. 2028 AM Without-Project Intersection Level of Service

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
1	SR 305 & Viking Ave	Signal	E (79.1)	B (12.4)	A (0.4)	D (46.2)	B (17.2)	B (17.1)	E (62.5)	E (62.8)	E (76.5)	F (91.8)	F (221)	-	C (27.9)	D	Yes
3	SR 305 & SR 3 NB ramps	Signal	C (26.6)	A (0.5)	-	-	C (26.8)	B (14.8)	-	C (28.5)	F (149)	-	-	-	E (64.4)	D	**No**
11	Viking Ave & Finn Hill Rd	Signal	C (29.0)	D (44.4)	C (30.3)	D (46.6)	D (46.5)	C (33.9)	E (62.4)	C (27.2)	F (182)	D (51.1)	C (25.7)	A (0.0)	F (94.8)	F	Yes
12	SR 305 & Bond Rd/SR307	Signal	F (89.8)	D (51.2)	D (46.6)	F (111)	D (43.1)	B (16.2)	F (96.2)	D (43.6)	B (14.5)	C (24.1)	B (12.3)	B (11.5)	C (31.9)	D	Yes
13	Bond Rd & Front St	Signal	A (7.7)	A (5.4)	-	-	B (15.1)	B (15.1)	-	-	-	B (13.4)	-	A (7.2)	A (8.6)	E	Yes
14	SR 305 & NE Forest Rock Ln	Signal	E (79.3)	E (67.1)	-	-	D (54.2)	F (82.0)	F (133)	E (61.3)	E (60.4)	A (6.1)	A (0.5)	A (0.1)	C (27.2)	D	Yes
15	Forest Rock & 10th Ave NE	TWSC	A (7.7)	A (0.0)	-	A (7.6)	A (0.0)	-	-	B (13.5)	-	B (12.4)	B (11.7)	-	B (13.5)	F	Yes
16	SR 305 & NE Liberty Rd	Signal	E (69.8)	E (69.9)	-	E (69.8)	E (69.8)	-	F (84.3)	E (68.7)	E (67.1)	A 0.0	A (0.6)	A (0.1)	C (29.5)	D	Yes
17	SR 305 & Lincoln Rd	Signal	F (83.1)	E (58.1)	B (17.8)	F (85.3)	E (55.2)	E (66.3)	B (16.6)	A (1.3)	A (1.2)	E (72.9)	D (44.9)	D (43.5)	D (36.8)	D	Yes
18	SR 305 & NE Hostmark St	Signal	E (62.1)	E (65.5)	E (59.5)	E (71.5)	E (59.0)	F (119)	F (90)	B (14.8)	B (14.7)	E (66.1)	A (1.0)	A (0.9)	C (34.0)	D	Yes
19	Viking Ave & Liberty Ave	TWSC	-	C (18.1)	-	-	B (12.9)	-	A (8.3)	A (0.0)	-	A (9.3)	A (0.0)	-	C (18.1)	E	Yes
22	Bond Rd & First Ave	TWSC	-	A (0.0)	A (0.0)	A (8.4)	A (0.0)	-	-	B (14.1)	-	-	-	-	B (14.1)	E	Yes
58	SR 305 & SR 3 SB off-ramp	Signal	-	D (46.0)	D (37.6)	A (0.3)	A 0.0	-	F (93.1)	-	A (0.0)	E (63.8)	E (65.1)	A (0.0)	D (38.6)	D	Yes
59	Olympic College Way & Dauntless Dr	TWSC	-	-	-	B (11.1)	-	A (0.0)	A (0.0)	A (0.0)	-	A (0.0)	A (0.0)	-	B (11.1)	E	Yes
63	Olympic College Way & Reliance St	TWSC	B (11.5)	-	A (8.7)	-	-	-	A (7.4)	A 0.0	-	A (0.0)	A (0.0)	-	B (11.5)	E	Yes
68	SR 307 & NE Bernt Rd	TWSC	-	A (0.0)	A (0.0)	A (9.1)	A (0.5)	-	-	C (21.2)	-	-	-	-	C (21.2)	C	Yes
69	Bond Rd NE & Big Valley Rd NE	TWSC	A (9.9)	A (0.0)	-	-	A 0.0	A 0.0	-	-	-	-	C (24.4)	-	C (24.4)	C	Yes[4]
80	7th Ave NE & NE Liberty Rd	AWSC	-	A (8.1)	A (7.8)	-	A (9.3)	A (7.2)	A (7.7)	A (8.1)	-	A (8.2)	A (8.3)	-	A (8.5)	E	Yes
99	SR 305 & Noll Rd	TWSC	A (8.9)	A (0.0)	-	-	A 0.0	A 0.0	-	-	-	-	E (37.6)	-	E (37.6)	D	Yes[4]
102	Front St & NE Sunset St	AWSC	-	-	-	A (9.5)	-	A (9.3)	-	A (9.9)	A (0.0)	B (10.9)	B (11.6)	-	B (10.7)	E	Yes
103	Front St & Jensen Way	TWSC	-	-	-	-	B (10.7)	-	-	A (0.0)	A (0.0)	A (7.9)	A (0.0)	-	B (10.7)	F	Yes
104	Front St NE & Torval Canyon Rd	TWSC	-	-	-	-	B (10.8)	-	-	A (0.0)	A (0.0)	A (8.0)	A (0.0)	-	B (10.8)	F	Yes
220	Viking Ave & Edvard Way	Signal	-	B (11.7)	B (11.8)	-	B (11.9)	-	A (4.7)	A (6.8)	A (6.8)	A (4.5)	A (5.0)	A (5.0)	A (6.3)	E	Yes
312	Viking Ave & Stendahl Ct	TWSC	-	A (9.8)	-	-	-	-	A (7.6)	A (0.0)	-	-	A (0.0)	A (0.0)	A (9.8)	E	Yes
654	Viking Ave & Sonic drwy	TWSC	-	A (9.2)	-	-	-	-	A (7.7)	A (0.0)	-	-	A (0.0)	A (0.0)	A (9.2)	E	Yes

1. Intersection control: TWSC (minor-approach stop control); AWSC (all-way stop control); Signal (traffic signal);
2. For TWSC, LOS and delay are reported for the highest-delay movement. For all other intersections, LOS represents intersection average.

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass

3. Intersection LOS standard; 4. LOS controlled by delay on Kitsap County (non-WSDOT) approach

Table 16. 2028 PM Without-Project Intersection Level of Service

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
1	SR 305 & Viking Ave	Signal	E (73.3)	E (61.5)	A (0.1)	D (48.8)	C (25.6)	C (25.9)	E (67.4)	E (69.1)	E (67.5)	E (78.7)	F (389)	-	E (60.2)	D	**No**
3	SR 305 & SR 3 NB ramps	Signal	D (38.6)	A (0.6)	-	-	C (26.0)	B (15.5)	-	C (29.8)	F (255)	-	-	-	F (98.7)	D	**No**
11	Viking Ave & Finn Hill Rd	Signal	C (34.5)	E (66.3)	D (37.3)	E (64.7)	E (65.8)	C (33.8)	F (87.9)	D (49.1)	F (671)	F (97.2)	D (52.1)	A (0.0)	F (199)	F	Yes
12	SR 305 & Bond Rd/SR307	Signal	F (90.7)	E (73.7)	C (20.4)	F (123)	D (47.6)	B (19.5)	E (79.3)	E (61.3)	B (15.1)	E (78.5)	D (54.1)	D (53.0)	E (57.0)	D	**No**
13	Bond Rd & Front St	Signal	B (15.9)	A (9.0)	-	-	C (21.1)	C (21.1)	-	-	-	B (19.5)	-	B (13.8)	B (15.3)	E	Yes
14	SR 305 & NE Forest Rock Ln	Signal	E (70.9)	E (56.5)	-	-	D (46.4)	F (177)	F (93.8)	F (130)	F (130)	D (49.4)	B (15.5)	B (10.4)	E (77.1)	D	**No**
15	Forest Rock & 10th Ave NE	TWSC	A (7.9)	A (0.0)	-	A (8.0)	A (0.0)	-	-	F (62.2)	-	C (18.3)	C (15.3)	-	F (62.2)	F	Yes
16	SR 305 & NE Liberty Rd	Signal	E (74.2)	E (72.8)	-	E (73.7)	E (74.5)	-	C (31.7)	E (73.6)	E (72.5)	C (31.1)	E (67.0)	C (32.4)	E (68.2)	D	**No**
17	SR 305 & Lincoln Rd	Signal	F (89.1)	F (80.4)	D (49.9)	F (94.3)	D (47.9)	B (19.2)	E (79.7)	E (70.3)	E (69.6)	D (49.9)	C (25.2)	C (25.1)	D (53.5)	D	Yes
18	SR 305 & NE Hostmark St	Signal	D (52.9)	E (79.1)	E (67.3)	D (54.4)	E (59.6)	F (76.4)	F (82.9)	E (72.5)	E (71.1)	C (24.5)	A (9.1)	A (8.9)	D (49.1)	D	Yes
19	Viking Ave & Liberty Ave	TWSC	-	D (34.4)	-	-	C (21.5)	-	A (9.8)	A (0.0)	A (0.0)	A (9.7)	A (0.0)	A (0.0)	D (34.4)	E	Yes
22	Bond Rd & First Ave	TWSC	-	A (0.0)	A (0.0)	A (8.9)	A (0.0)	-	-	C (16.9)	-	-	-	-	C (16.9)	E	Yes
58	SR 305 & SR 3 SB off-ramp	Signal	-	D (48.6)	D (39.8)	A (2.5)	A (0.0)	-	F (90.9)	A (0.0)	A (0.0)	E (61.9)	E (74.3)	A (0.0)	C (30.2)	D	Yes
59	Olympic College Way & Dauntless Dr	TWSC	-	-	-	B (12.6)	-	A (9.4)	A (0.0)	A (0.0)	-	A (8.1)	A 0.0	-	B (12.6)	E	Yes
63	Olympic College Way & Reliance St	TWSC	B (13.2)	-	A (9.8)	-	-	-	A (8.0)	A (0.0)	-	A (0.0)	A (0.0)	-	B (13.2)	E	Yes
68	SR 307 & NE Bernt Rd	TWSC	-	A (0.0)	A (0.0)	B (11.9)	A (0.6)	-	-	C (21.0)	-	-	-	-	C (21.0)	C	Yes
69	Bond Rd NE & Big Valley Rd NE	TWSC	A (9.9)	A (0.0)	-	-	A (0.0)	A (0.0)	-	-	-	-	D (32.8)	-	D (32.8)	C	Yes[4]
80	7th Ave NE & NE Liberty Rd	AWSC	-	B (10.2)	A (8.4)	-	B (11.7)	A (8.2)	A (9.0)	B (12.1)	-	A (9.3)	B (10.2)	-	B (11.1)	E	Yes
99	SR 305 & Noll Rd	TWSC	B (10.9)	A (0.0)	-	-	A (0.0)	A (0.0)	-	-	-	-	F (52.9)	-	F (52.9)	D	Yes[4]
102	Front St & NE Sunset St	AWSC	-	-	-	B (10.6)	-	C (19.2)	-	C (21.3)	A (0.0)	C (19.0)	C (21.0)	-	C (20.1)	E	Yes
103	Front St & Jensen Way	TWSC	-	-	-	-	C (16.3)	-	-	A (0.0)	A (0.0)	A (9.5)	A (0.0)	-	C (16.3)	F	Yes
104	Front St NE & Torval Canyon Rd	TWSC	-	-	-	-	C (18.8)	-	-	A (0.0)	A (0.0)	B (10.1)	A (0.0)	-	C (18.8)	F	Yes
220	Viking Ave & Edvard Way	Signal	-	B (12.3)	B (12.3)	-	B (12.9)	-	A (4.8)	A (6.9)	A (6.8)	A (4.6)	A (6.3)	A (6.3)	A (6.8)	E	Yes
312	Viking Ave & Stendahl Ct	TWSC	-	B (10.5)	-	-	-	-	A (7.7)	A (0.0)	-	-	A (0.0)	A (0.0)	B (10.5)	E	Yes
654	Viking Ave & Sonic drwy	TWSC	-	A (9.8)	-	-	-	-	A (7.7)	A (0.0)	-	-	A (0.0)	A (0.0)	A (9.8)	E	Yes

1. Intersection control: TWSC (minor-approach stop control); AWSC (all-way stop control); Signal (traffic signal);
2. For TWSC, LOS and delay are reported for the highest-delay movement. For all other intersections, LOS represents intersection average.
3. Intersection LOS standard; 4. LOS controlled by delay on Kitsap County (non-WSDOT) approach

The following WSDOT intersections will not meet the WSDOT LOS standards in the 2028 Without-Project condition:

- SR 305 & Viking Ave (AM LOS C; PM LOS E) - Standard is LOS D
- SR 305 & SR 3 NB ramps (AM LOS E; PM LOS F) - Standard is LOS D
- SR 305 & Bond Rd/SR 307 (AM LOS D; PM LOS E) - Standard is LOS D
- SR 305 & NE Forest Rock Ln (AM LOS C; PM LOS E) - Standard is LOS D
- SR 305 & NE Liberty Rd (AM LOS C; PM LOS E) - Standard is LOS D

The intersection of SR 305 & Viking Ave NW represents a new LOS deficiency in the 2028 Without-Project condition. This new failure is a result of pipeline development and background growth.

The intersection of Viking Ave & Finn Hill Rd will continue to operate at LOS F but meets the City's LOS F standard. Similarly, the intersection of Forest Rock Ln & 10th Ave will degrade from LOS E to LOS F in the PM peak hour but will continue to meet the City's LOS F standard.

The intersection of SR 305 & Noll Rd will operate at LOS F in the PM peak hour due to delay on the stop-controlled southbound (Noll Rd) approach. The delay impacts a very small number of entering vehicles and does not impact the WSDOT owned SR 305; therefore, no WSDOT LOS deficiency is triggered.

Year 2028 without-Project segment LOS results, summarized in **Table 17**, indicate no segment LOS deficiencies.

Table 17. 2028 Without-Project Segment Level of Service

ID	Segment	ADT	Capacity	V/C	LOS Std.[1]	LOS	Pass
301	10th Ave (Forest Rock Ln to 600 ft n/o Liberty Rd)	4,050	9,400	0.43	E	A	Yes
306	Liberty Rd (7th Ave to SR 305)	3,550	11,000	0.32	E	A	Yes
401	Front St (Bond Rd to Torval Canyon Rd)	19,300	24,000	0.80	F	D	Yes
402	Front St (Torval Canyon Rd to Jensen Way N)	15,450	18,000	0.86	F	D	Yes
403	Front St (Jensen Way N to Sunset St)	14,200	16,000	0.89	F	D	Yes
404	Front St (Sunset St to Jensen Way S)	7,100	16,000	0.44	E	A	Yes
501	Viking Ave (city limit to Bovela Ln)	19,600	29,000	0.68	F	B	Yes
502	Viking Ave (Bovela Ln to Lindvig Way)	21,450	29,000	0.74	E	C	Yes
503	Viking Ave (300 ft n/o Lindvig to SR 305)	4,700	18,000	0.26	E	A	Yes
504	Viking Ave (SR 305 to Vetter Rd)	4,950	8,840	0.56	E	A	Yes
511	Lindvig Way (Viking Ave to Bond Rd)	29,850	30,500	0.98	F	E	Yes
512	Bond Rd (Lindvig Way to SR 305)	11,400	16,150	0.71	E	C	Yes
514	Olhava Way (Walmart S to Walmart N)	8,550	14,600	0.59	E	A	Yes
515	Olhava Way (Walmart N to Olympic College Way)	8,550	21,600	0.40	E	A	Yes
516	Olympic College Way (Olhava to Dauntless Dr)	5,500	23,600	0.23	E	A	Yes
521	Reliance St (Olympic College Way to Market Pl)	3,550	19,000	0.19	E	A	Yes

[1]Corridor LOS standard

2028 WITHOUT-PROJECT QUEUING

95th percentile queues for the 2028 Without-Project scenario are summarized in **Table 18**.

Table 18. 2028 Without-Project 95th Percentile Turn Bay Queuing

ID	Intersection	Control Type[1]	Lane Group	Storage	AM Peak Hr		PM Peak Hr	
					95th %ile Queue	Exceeds Storage	95th %ile Queue	Exceeds Storage
1	SR 305 & Viking Ave	Signal	EB L	300	115		160	
			EB R	260	3		0	
			WB L	310	90		158	
			NB L	310	70		150	
			NB R	210	173		128	
			SB L	290	168		138	
			SBTR	360	335		543	Yes
3	SR 305 & SR 3 NB ramps	Signal	EB L	450	35		90	
			WB R	250	93		165	
			NBLT	1000	83		50	
			NB R	415	1633	Yes	2205	Yes
11	Viking Ave & Finn Hill Rd	Signal	EB L	125	33		65	
			EB R	175	78		175	
			WB R	125	30		130	Yes
			NB L	125	80		248	Yes
			SB L	175	43		138	
			SB TR	125	0		0	
12	SR 305 & Bond Rd/SR307	Signal	EB L	300	23		88	
			EB R	260	370	Yes	243	
			WB L	400	245		243	
			WB R	220	403	Yes	365	Yes
			NB L	550	260		380	
			NB R	250	50		80	
			SB LL	775	155		568	
13	Bond Rd & Front St	Signal	SB R	50	225	Yes	10	
14	SR 305 & NE Forest Rock Ln	Signal	EB L	350	68		38	
			WB R	120	310	Yes	780	Yes
			NB L	300	3		8	
			SB L	650	45		310	
			SB R	210	3		60	
15	Forest Rock & 10th Ave NE	TWSC	EB L	50	3		5	
			WB L	100	0		0	
16	SR 305 & NE Liberty Rd	Signal	NB L	350	45		73	
			SB L	270	0		78	
			SB R	260	3		30	
17	SR 305 & Lincoln Rd	Signal	EB L	140	68		105	
			EB R	140	198	Yes	138	
			WB L	250	150		228	
			WB R	160	328	Yes	133	
			NB L	440	25		148	
			SB L	370	223		205	
18	SR 305 & NE Hostmark St	Signal	EB L	200	68		90	
			EB R	150	198	Yes	213	Yes
			WB L	250	190		103	
			WB R	200	348	Yes	260	Yes
			NB L	350	125		263	
			SB L	300	245		175	
19	Viking Ave & Liberty Ave	TWSC	NB LT	200	0		0	
			SB LT	200	0		0	
22	Bond Rd & First Ave	TWSC	WB L	100	0		3	
58	SR 305 & SR 3 SB off-ramp	Signal	EB R	220	40		128	
			NB L	290	65		60	
			NB R	290	0		0	
			SB LL	300	270		193	
			SB R	320				
69	Bond Rd NE & Big Valley Rd NE	TWSC	EB L	50	3		10	

ID	Intersection	Control Type[1]	Lane Group	Storage	AM Peak Hr		PM Peak Hr	
					95th %ile Queue	Exceeds Storage	95th %ile Queue	Exceeds Storage
80	7th Ave NE & NE Liberty Rd	AWSC	NB L	35	0		3	
			SB L	35	0		3	
99	SR 305 & Noll Rd	TWSC	WB R	150	0		0	
102	Front St & NE Sunset St	AWSC	WB L	50	0		0	
			SB L	100	35		95	
103	Front St & Jensen Way	TWSC	SB L	100	3		8	
104	Front St NE & Torval Canyon Rd	TWSC	SB L	100	3		13	
220	Viking Ave & Edvard Way	Signal	EB LT	100	5		5	
			NB L	50	0		0	
			SB L	50	3		3	
312	Viking Ave & Stendahl Ct	TWSC	NB L	100	0		0	

95th percentile queues exceed turn bay storage on minor approach legs at the following SR 305 intersections:

- At Viking Ave/SR 305, southbound (Viking Ave) PM peak hour through-right 95th percentile queue extends 543 feet and through the Sonic/Arco driveway. In the AM peak hour, the southbound queue extends 335 feet and does not reach the Sonic/Arco driveway.
- SR 3 NB off-ramp at SR 305 (AM & PM peak hours)
- Bond Rd EB right-turn at SR 305 (AM)
- Bond Rd/SR 307 WB right-turn at SR 305 (AM & PM)
- Forest Rock Ln WB right-turn at SR 305 (AM & PM)
- Lincoln Rd WB right-turn at SR 305 (AM)
- Lincoln Rd EB right-turn at SR 305 (AM)
- NE Hostmark St EB right-turn at SR 305 (AM & PM)
- NE Hostmark St WB right-turn at SR 305 (AM)

95th percentile queues exceed turn bay storage at the following City of Poulsbo intersections:

- Viking Ave NB left-turn at Finn Hill Rd (PM)
- Lindvig Way WB right-turn at Viking Ave (PM)
- Bond Rd SB right-turn at Front St (AM)

PROJECT TRIP GENERATION

Project-generated trips were calculated for the AM peak hour, PM peak hour, and weekday daily periods using the data and methodology described in *Trip Generation Manual, 11th Edition* (Institute of Transportation Engineers 2021).

The proposed multi-family residential use will consist of three-story buildings and is consistent with Institute of Transportation Engineers (ITE) land use code #220 "Multifamily Housing (Low-Rise)." Trips generated by the 77 independent living units were calculated using ITE land use code #252 "Senior Adult Housing – Attached," and trips generated by the 57 assisted living units were calculated using ITE land use code #254 "Assisted Living."

ITE does not publish trip generation data specific to memory care facilities. However, land use code #254 "Assisted Living" includes facilities which offer memory care services, as stated by the ITE land use description: "Alzheimer's and ALS care are commonly offered by these facilities." Further, ITE land use data for Assisted Living facilities is based on trip generation studies at sites similar in size to the Project. Based on the published data, trips generated by the 26-unit memory care facility were calculated using ITE land use code #254 "Assisted Living."

AM peak hour, PM peak hour, and weekday daily trip generation forecasts are summarized in **Table 19**. The Project is anticipated to generate 3,619 weekday trips, including 217 trips (split 59 in/158 out) in the AM peak hour and 278 trips (split 170 in/108 out) in the PM peak hour of travel.

Table 19. Project Trip Generation

Use	ITE #	Size	Trip Rate	Trips-In	Trips-Out	Trips -Total
Weekday Daily						
Multifamily Housing (Low-Rise)	220	468 DU	**6.74**	1,577	1,577	3,154
Sr. Adult Housing – Multifamily	252	77 DU	**3.24**	125	124	249
Assisted Living	254	83 beds	**2.6**	108	108	216
Total				1,810	1,809	3,619
AM Peak Hour						
Multifamily Housing (Low-Rise)	220	468 DU	**0.4**	45	142	187
Sr. Adult Housing – Multifamily	252	77 DU	**0.2**	5	10	15
Assisted Living	254	83 beds	**0.18**	9	6	15
Total				59	158	217
PM Peak Hour						
Multifamily Housing (Low-Rise)	220	468 DU	**0.51**	151	88	239
Sr. Adult Housing – Multifamily	252	77 DU	**0.25**	11	8	19
Assisted Living	254	83 beds	**0.24**	8	12	20
Total				170	108	278

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The City of Poulsbo travel demand model, provided by City of Poulsbo staff, was used to forecast PM peak hour Project trip distribution and assignment based on local and regional trip generators and transportation network conditions. The travel demand model represents the most refined tool available for forecasting the travel demand patterns of new development in and around the City of Poulsbo. It represents current Poulsbo zoning and land use policy, including the background and pipeline growth described above, and has been calibrated to reflect the PM peak hour travel demand interactions between major housing and employment generators in the area.

A PM peak hour trip distribution and assignment plot, provided in **Figure 4**, was reviewed, and accepted by City staff and consultants during the scoping phase of this analysis. A turning movement-level Project trip assignment graphic is included in **Appendix E.**

Most Project-generated trips will access the site from the north via the SR 3/SR 305 interchange or from the south via SR 305. Smaller shares of Project trips will access the site via Viking Ave to the southwest, via SR 307 to the northeast, and via Front St.

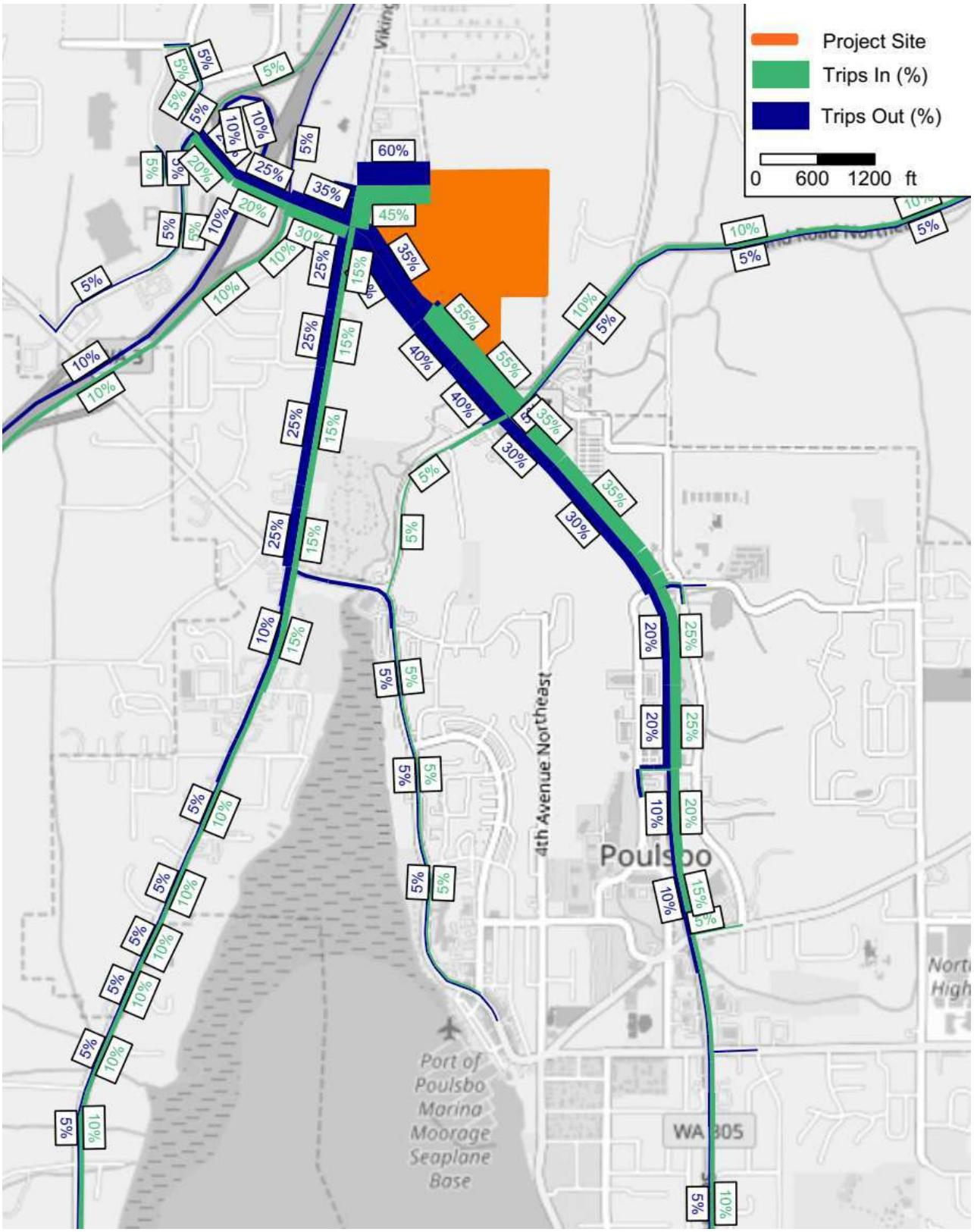


Figure 4. PM Peak Hour Project Trip Distribution and Assignment

2028 WITH-PROJECT UNMITIGATED CONDITIONS

An initial evaluation of year 2028 conditions with Project trips was developed to identify Project impacts, assuming none of the proposed transportation mitigation strategies are implemented. The "Unmitigated With-Project" analysis is summarized in this section.

2028 With-Project Unmitigated Level of Service

Year 2028 with-Project intersection LOS results are summarized in **Table 20** and **Table 21**. The 2028 With-Project intersection LOS reports are provided in **Appendix K**. No improvements were assumed on Vetter Rd to the north of Road L. The Poulsbo travel demand model predicted potential non-site generated PM peak hour cut-through volumes of less than 50 vehicles per hour on Vetter Rd north of the Project.

Table 20. 2028 AM With-Project Unmitigated Intersection Level of Service

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
1	SR 305 & Viking Ave	Signal	F (85.6)	B (12.4)	A (0.4)	D (46.6)	B (19.4)	B (19.3)	E (63.1)	E (63.0)	E (76.3)	F (285)	F (348)	-	D (45.1)	D	Yes
3	SR 305 & SR 3 NB ramps	Signal	C (28.5)	A (0.5)	-	-	C (27.8)	B (14.8)	-	C (28.5)	F (152)	-	-	-	E (65.1)	D	**No**
11	Viking Ave & Finn Hill Rd	Signal	C (29.1)	D (45.7)	C (30.4)	D (49.4)	D (49.3)	C (34.4)	E (65.3)	C (28.8)	F (219)	E (56.8)	C (27.3)	A (0.0)	F (93.4)	F	Yes
12	SR 305 & Bond Rd/SR307	Signal	F (84.2)	D (51.2)	D (46.6)	F (111)	D (43.7)	B (17.5)	F (95.6)	D (42.9)	B (13.8)	C (25.2)	C (21.2)	B (15.0)	C (32.7)	D	Yes
13	Bond Rd & Front St	Signal	A (7.7)	A (5.5)	-	-	B (15.1)	B (15.1)	-	-	-	B (13.4)	-	A (7.2)	A (8.7)	E	Yes
14	SR 305 & NE Forest Rock Ln	Signal	E (79.7)	E (67.0)	-	-	D (53.8)	F (82.6)	F (133)	E (61.2)	E (60.4)	A (6.8)	A (0.5)	A (0.1)	C (27.0)	D	Yes
15	Forest Rock & 10th Ave NE	TWSC	A (7.7)	A (0.0)	-	A (7.7)	A (0.0)	-	-	B (13.8)	-	B (12.6)	B (11.8)	-	B (13.8)	F	Yes
16	SR 305 & NE Liberty Rd	Signal	E (70.1)	E (70.1)	-	E (70.0)	E (69.8)	-	F (84.3)	E (68.8)	E (67.1)	A (0.1)	A (0.6)	A (0.1)	C (29.4)	D	Yes
17	SR 305 & Lincoln Rd	Signal	F (82.6)	E (57.8)	B (18.1)	F (85.3)	D (55.0)	E (66.5)	C (33.6)	B (18.9)	B (18.8)	E (73.5)	D (44.3)	D (43.0)	D (42.0)	D	Yes
18	SR 305 & NE Hostmark St	Signal	E (62.2)	E (65.5)	E (59.5)	E (71.8)	E (59.1)	F (125)	F (90.0)	B (15.0)	B (15.0)	E (66.6)	A (1.0)	A (0.9)	C (34.6)	D	Yes
19	Viking Ave & Liberty Ave	TWSC	-	C (18.2)	-	-	B (13.0)	-	A (8.3)	A (0.0)	-	A (9.3)	A (0.0)	-	C (18.2)	E	Yes
22	Bond Rd & First Ave	TWSC	-	A (0.0)	A (0.0)	A (8.5)	A (0.0)	-	-	B (14.2)	-	-	-	-	B (14.2)	E	Yes
58	SR 305 & SR 3 SB off-ramp	Signal	-	D (46.1)	D (37.6)	A (0.3)	A (0.0)	-	F (93.1)	-	A (0.0)	E (63.9)	E (64.9)	A (0.0)	D (37.4)	D	Yes
59	Olympic College Way & Dauntless Dr	TWSC	-	-	-	B (11.2)	-	A (0.0)	A (0.0)	A (0.0)	-	A (0.0)	A (0.0)	-	B (11.2)	E	Yes
63	Olympic College Way & Reliance St	TWSC	B (11.7)	-	A (8.7)	-	-	-	A (7.4)	A (0.0)	-	A (0.0)	A (0.0)	-	B (11.7)	E	Yes
68	SR 307 & NE Bernt Rd	TWSC	-	A (0.0)	A (0.0)	A (9.1)	A (0.5)	-	-	C (21.5)	-	-	-	-	C (21.5)	C	Yes
69	Bond Rd NE & Big Valley Rd NE	TWSC	A (9.9)	A (0.0)	-	-	A (0.0)	A (0.0)	-	-	-	-	C (24.8)	-	C (24.8)	C	Yes[4]
80	7th Ave NE & NE Liberty Rd	AWSC	-	A (8.2)	A (7.9)	-	A (9.5)	A (7.2)	A (7.8)	A (8.2)	-	A (8.3)	A (8.4)	-	A (8.6)	E	Yes
99	SR 305 & Noll Rd	TWSC	A (8.9)	A (0.0)	-	-	A (0.0)	A (0.0)	-	-	-	-	E (38.2)	-	E (38.2)	D	Yes[4]
102	Front St & NE Sunset St	AWSC	-	-	-	A (9.5)	-	A (9.3)	-	A (9.9)	A (0.0)	B (11.0)	B (11.7)	-	B (10.8)	E	Yes
103	Front St & Jensen Way	TWSC	-	-	-	-	B (10.7)	-	-	A (0.0)	A (0.0)	A (7.9)	A (0.0)	-	B (10.7)	F	Yes
104	Front St NE & Torval Canyon Rd	TWSC	-	-	-	-	B (10.9)	-	-	A (0.0)	A (0.0)	A (8.1)	A (0.0)	-	B (10.9)	F	Yes
220	Viking Ave & Edvard	Signal	-	B	B	-	B	-	A	A	A	A	A	A	A	E	Yes

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
	Way			(11.8)	(11.9)		(12.0)		(4.7)	(6.8)	(6.8)	(4.5)	(5.1)	(5.1)	(6.3)		
312	Viking Ave & Stendahl Ct	TWSC	-	B (10.1)	-	-	-	-	A (7.7)	A (0.0)	-	-	A (0.0)	A (0.0)	B (10.1)	E	Yes
600	SR 305 & RIRO Site Access	TWSC	-	-	-	-	-	C (17.7)	-	A (0.0)	-	-	A (0.0)	-	C (17.7)	E	Yes
654	Viking Ave & Road L	TWSC	-	A (10.4)	-	-	B (12.5)	-	A (7.7)	A (0.0)	-	A (0.0)	A (0.0)	-	B (12.5)	D	Yes

1. Intersection control: TWSC (minor-approach stop control); AWSC (all-way stop control); Signal (traffic signal);
2. For TWSC, LOS and delay are reported for the highest-delay movement. For all other intersections, LOS represents intersection average.
3. Intersection LOS standard; 4. LOS controlled by delay on Kitsap County (non-WSDOT) approach

Table 21. 2028 PM With-Project Unmitigated Intersection Level of Service

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
1	SR 305 & Viking Ave	Signal	F (150)	E (60.9)	A (0.1)	D (49.6)	C (28.0)	C (28.4)	E (68.3)	E (68.8)	E (66.1)	F (159)	F (471)	-	E (71.0)	D	**No**
3	SR 305 & SR 3 NB ramps	Signal	D (41.4)	A (0.6)	-	-	C (24.4)	B (15.1)	-	C (29.8)	F (264)	-	-	-	F (100.6)	D	**No**
11	Viking Ave & Finn Hill Rd	Signal	C (34.5)	E (66.3)	D (37.3)	E (64.7)	E (65.8)	C (33.8)	F (87.9)	D (50.1)	F (671)	F (124)	D (52.4)	A (0.0)	F (197)	F	Yes
12	SR 305 & Bond Rd/SR307	Signal	F (93.5)	E (73.7)	C (20.4)	F (123)	D (48.8)	C (20.9)	E (78.0)	E (80.3)	B (15.1)	E (80.0)	E (57.8)	E (57.8)	E (63.0)	D	**No**
13	Bond Rd & Front St	Signal	B (16.3)	A (9.1)	-	-	C (21.2)	C (21.2)	-	-	-	B (19.7)	-	B (14.1)	B (15.5)	E	Yes
14	SR 305 & NE Forest Rock Ln	Signal	E (70.8)	E (56.4)	-	-	D (46.4)	F (192)	F (93.8)	F (146)	F (146)	D (50.3)	B (15.8)	B (10.5)	F (84.7)	D	**No**
15	Forest Rock & 10th Ave NE	TWSC	A (7.9)	A (0.0)	-	A (8.0)	A (0.0)	-	-	F (71.5)	-	C (18.6)	C (15.6)	-	F (71.5)	F	Yes
16	SR 305 & NE Liberty Rd	Signal	E (74.0)	E (72.4)	-	E (73.6)	E (74.5)	-	C (32.2)	E (79.2)	E (78.1)	C (31.6)	E (69.0)	C (32.6)	E (71.2)	D	**No**
17	SR 305 & Lincoln Rd	Signal	F (87.3)	F (80.4)	D (49.9)	F (94.3)	D (48.3)	B (19.9)	E (79.6)	E (70.7)	E (70.1)	D (50.5)	C (25.4)	C (25.2)	D (53.8)	D	Yes
18	SR 305 & NE Hostmark St	Signal	D (52.9)	E (78.1)	E (66.7)	D (54.4)	E (59.6)	F (83.4)	F (83.1)	E (72.3)	E (70.9)	C (25.0)	A (9.1)	A (9.0)	D (49.5)	D	Yes
19	Viking Ave & Liberty Ave	TWSC	-	E (35.6)	-	-	C (22.2)	-	A (9.9)	A (0.0)	-	A (9.8)	A (0.0)	-	E (35.6)	E	Yes
22	Bond Rd & First Ave	TWSC	-	A (0.0)	A (0.0)	A (8.9)	A (0.0)	-	-	C (17.1)	-	-	-	-	C (17.1)	E	Yes
58	SR 305 & SR 3 SB off-ramp	Signal	-	D (48.7)	D (39.8)	A (2.6)	A (0.0)	-	F (90.9)	-	A (0.0)	E (62.1)	E (74.3)	A (0.0)	C (30.1)	D	Yes
59	Olympic College Way & Dauntless Dr	TWSC	-	-	-	B (12.7)	-	A (9.4)	A (0.0)	A (0.0)	-	A (8.1)	A 0.0	-	B (12.7)	E	Yes
63	Olympic College Way & Reliance St	TWSC	B (13.4)	-	A (9.8)	-	-	-	A (8.0)	A (0.0)	-	A (0.0)	A (0.0)	-	B (13.4)	E	Yes
68	SR 307 & NE Bernt Rd	TWSC	-	A (0.0)	A (0.0)	B (12.0)	A (0.6)	-	-	C (21.2)	-	-	-	-	C (21.2)	C	Yes
69	Bond Rd NE & Big Valley Rd NE	TWSC	A (9.9)	A (0.0)	-	-	A (0.0)	A (0.0)	-	-	-	-	D (33.5)	-	D (33.5)	C	Yes[4]
80	7th Ave NE & NE Liberty Rd	AWSC	-	B (10.3)	A (8.4)	-	B (12.0)	A (8.2)	A (9.0)	B (12.5)	-	A (9.4)	B (10.3)	-	B (11.4)	E	Yes
99	SR 305 & Noll Rd	TWSC	B (11.0)	A (0.0)	-	-	A (0.0)	A (0.0)	-	-	-	-	F (54.2)	-	F (54.2)	D	Yes[4]
102	Front St & NE Sunset St	AWSC	-	-	-	B (10.6)	-	C (19.4)	-	C (22.1)	A (0.0)	C (19.3)	C (21.6)	-	C (20.7)	E	Yes
103	Front St & Jensen Way	TWSC	-	-	-	-	C (16.5)	-	-	A (0.0)	A (0.0)	A (9.5)	A (0.0)	-	C (16.5)	F	Yes
104	Front St NE & Torval Canyon Rd	TWSC	-	-	-	-	C (19.2)	-	-	A (0.0)	A (0.0)	B (10.2)	A (0.0)	-	C (19.2)	F	Yes
220	Viking Ave & Edvard Way	Signal	-	B (12.5)	B (12.5)	-	B (13.1)	-	A (4.8)	A (6.9)	A (6.8)	A (4.6)	A (6.3)	A (6.3)	A (6.8)	E	Yes
312	Viking Ave & Stendahl Ct	TWSC	-	B (10.7)	-	-	-	-	A (7.8)	A (0.0)	-	-	A (0.0)	A (0.0)	B (10.7)	E	Yes

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
600	SR 305 & RIRO Site Access	TWSC	-	-	-	-	-	C (20.8)	-	A (0.0)	A (0.0)	-	A (0.0)	-	C (20.8)	E	Yes
654	Viking Ave & Road L	TWSC		A (11.5)	-	-	B (14.3)	-	A (7.7)	A (0.0)	-	A (0.0)	A (0.0)	-	B (14.3)	D	Yes

1. Intersection control: TWSC (minor-approach stop control); AWSC (all-way stop control); Signal (traffic signal);
2. For TWSC, LOS and delay are reported for the highest-delay movement. For all other intersections, LOS represents intersection average.
3. Intersection LOS standard; 4. LOS controlled by delay on Kitsap County (non-WSDOT) approach

The addition of Project trips will cause no new intersection WSDOT or City of Poulsbo LOS deficiencies. LOS deficiencies will continue at the five WSDOT intersections identified as LOS-deficient in the 2028 Without-Project scenario. In addition, Project trips will increase the delay at the intersection of Forest Rock Ln & 10th Ave, which operates at LOS F in the Without-Project condition. These intersections and the incremental delay associated with Project-generated trips at each location are summarized in **Table 22**.

Table 22. 2028 With-Project Unmitigated Incremental Delay

ID	Intersection	Control Type	LOS Std	AM Peak Hr LOS			PM Peak Hr LOS		
				Without-Project LOS Delay (s)	Incre-mental Delay (s)	With-Project LOS Delay (s)	Without-Project LOS Delay (s)	Incre-mental Delay (s)	With-Project LOS Delay (s)
1	SR 305 & Viking Ave	Signal	D	C (27.9)	+17.2	D (45.1)	E (60.2)	+10.8	E (71.0)
3	SR 305 & SR 3 NB ramps	Signal	D	E (64.4)	+0.7	E (65.1)	F (98.7)	+1.9	F (100.6)
11	Viking Ave & Finn Hill Rd	Signal	F	F (94.8)	-	F (93.4)	F (199)	-	F (197)
12	SR 305 & Bond Rd/SR307	Signal	D	C (31.9)	+0.8	C (32.7)	E (57.0)	+6.0	E (63.0)
14	SR 305 & Forest Rock Ln	Signal	D	C (27.2)	-	C (27.0)	E (77.1)	+7.6	F (84.7)
15	Forest Rock Ln & 10th Ave	TWSC	F	B (13.5)	+0.3	B (13.8)	F (62.2)	+9.3	F (71.5)
16	SR 305 & NE Liberty Rd	Signal	D	C (29.5)	-	C (29.4)	E (68.2)	+3.0	E (71.2)
99	SR 305 & Noll Rd	TWSC	D	E (37.6)	+0.6	E (38.2)	F (52.9)	+1.3	F (54.2)

The intersection of Viking Ave & Finn Hill Rd will continue to operate at LOS F in both AM and PM peak hours in the 2028 With-Project Unmitigated scenario. Project trips will not cause an increase in overall vehicle delay.

The intersection of SR 305 & Noll Rd will operate at LOS E in the AM peak hour and LOS F in the PM peak hour, with no change in LOS from the Without-Project scenario. Project-generated trips will result in minor-approach delay increases of 0.6 seconds per vehicle in the AM peak hour and 1.3 seconds per vehicle in the PM peak hour. The delay does not impact the WSDOT-owned SR 305. No LOS deficiency is triggered.

The Project access on SR 305 will operate with at LOS C in both AM and PM peak hours, satisfying the minimum LOS E standard. The intersection of Viking Ave & Road L will operate at LOS B, satisfying minimum City of Poulsbo LOS D standard.

2028 With-Project Unmitigated segment LOS results are summarized in **Table 23.** No segment LOS deficiencies occur on City segments.

Table 23. 2028 With-Project Unmitigated Segment Level of Service

ID	Segment	ADT	Capacity	V/C	LOS Std.[1]	LOS	Pass
301	10th Ave (Forest Rock Ln to 600 ft n/o Liberty Rd)	4,200	9,400	0.45	E	A	Yes
306	Liberty Rd (7th Ave to SR 305)	3,750	11,000	0.34	E	A	Yes
401	Front St (Bond Rd to Torval Canyon Rd)	19,500	24,000	0.81	F	D	Yes
402	Front St (Torval Canyon Rd to Jensen Way N)	15,650	18,000	0.87	F	D	Yes
403	Front St (Jensen Way N to Sunset St)	14,350	16,000	0.90	F	D	Yes
404	Front St (Sunset St to Jensen Way S)	7,200	16,000	0.45	E	A	Yes
501	Viking Ave (city limit to Bovela Ln)	19,900	29,000	0.69	F	B	Yes
502	Viking Ave (Bovela Ln to Lindvig Way)	21,950	29,000	0.76	E	C	Yes
503	Viking Ave (300 ft n/o Lindvig to SR 305)	5,250	18,000	0.29	E	A	Yes
504	Viking Ave (SR 305 to Vetter Rd)	6,350	8,840	0.72	E	C	Yes
511	Lindvig Way (Viking Ave to Bond Rd)	30,000	30,500	0.98	F	E	Yes
512	Bond Rd (Lindvig Way to SR 305)	11,550	16,150	0.72	E	C	Yes
514	Olhava Way (Walmart S to Walmart N)	8,850	14,600	0.61	E	B	Yes
515	Olhava Way (Walmart N to Olympic College Way)	8,850	21,600	0.41	E	A	Yes
516	Olympic College Way (Olhava to Dauntless Dr)	5,650	23,600	0.24	E	A	Yes
521	Reliance St (Olympic College Way to Market Pl)	3,650	19,000	0.19	E	A	Yes

2028 With-Project Unmitigated Queuing

95th percentile queues for the unmitigated 2028 With-Project scenario are summarized in **Table 24**.

Table 24. 2028 With-Project Unmitigated 95th Percentile Turn Bay Queuing

ID	Intersection	Control Type[1]	Lane Group	Storage	AM Peak Hr		PM Peak Hr	
					95th %ile Queue	Exceeds Storage	95th %ile Queue	Exceeds Storage
1	SR 305 & Viking Ave	Signal	EB L	300	148		290	
			EB R	260	3		0	
			WB L	310	103		165	
			NB L	310	80		175	
			NB R	210	173		130	
			SB L	290	435	Yes	288	
			SBTR	360	493	Yes	645	Yes
3	SR 305 & SR 3 NB ramps	Signal	EB L	450	35		95	
			WB R	250	98		145	
			NBLT	1000	83		50	
			NB R	415	1653	Yes	2260	Yes
11	Viking Ave & Finn Hill Rd	Signal	EB L	125	33		65	
			EB R	175	78		175	
			WB R	125	30		130	Yes
			NB L	125	80		248	Yes
			SB L	175	70		183	<1 veh*
			SB TR	125	58		0	
12	SR 305 & Bond Rd/SR307	Signal	EB L	300	30		120	
			EB R	260	370	Yes	243	
			WB L	400	245		243	
			WB R	220	420	Yes	388	Yes
			NB L	550	258		373	
			NB R	250	48		80	
			SB LL	775	165		575	
13	Bond Rd & Front St	Signal	SB R	50	3		463	Yes
14	SR 305 & NE Forest Rock Ln	Signal	EB L	350	70		40	
			WB R	120	318	Yes	830	Yes
			NB L	300	3		8	

ID	Intersection	Control Type[1]	Lane Group	Storage	AM Peak Hr		PM Peak Hr	
					95th %ile Queue	Exceeds Storage	95th %ile Queue	Exceeds Storage
			SB L	650	53		310	
			SB R	210	3		60	
15	Forest Rock & 10th Ave NE	TWSC	EB L	50	3		5	
			WB L	100	0		0	
16	SR 305 & NE Liberty Rd	Signal	NB L	350	45		75	
			SB L	270	0		85	
			SB R	260	3		40	
17	SR 305 & Lincoln Rd	Signal	EB L	140	33		110	
			EB R	140	100		140	
			WB L	250	150		228	
			WB R	160	330	Yes	138	
			NB L	440	50		148	
			SB L	370	228		208	
18	SR 305 & NE Hostmark St	Signal	EB L	200	68		90	
			EB R	150	198	Yes	213	Yes
			WB L	250	190		103	
			WB R	200	358	Yes	278	Yes
			NB L	350	125		263	
			SB L	300	253		178	
19	Viking Ave & Liberty Ave	TWSC	NB LT	200	0		0	
			SB LT	200	0		0	
22	Bond Rd & First Ave	TWSC	WB L	100	0		3	
58	SR 305 & SR 3 SB off-ramp	Signal	EB R	220	40		98	
			NB L	290	65		60	
			NB R	290	0		0	
			SB LL	300	273		198	
			SB R	320	0		0	
69	Bond Rd NE & Big Valley Rd NE	TWSC	EB L	50	3		10	
80	7th Ave NE & NE Liberty Rd	AWSC	NB L	35	0		3	
			SB L	35	0		3	
99	SR 305 & Noll Rd	TWSC	WB R	150	0		0	
102	Front St & NE Sunset St	AWSC	WB L	50	0		0	
			SB L	100	35		95	
103	Front St & Jensen Way	TWSC	SB L	100	3		8	
104	Front St NE & Torval Canyon Rd	TWSC	SB L	100	3		13	
220	Viking Ave & Edvard Way	Signal	EB LT	100	5		5	
			NB L	50	0		0	
			SB L	50	3		3	
312	Viking Ave & Stendahl Ct	TWSC	NB L	100	0		0	
600	SR 305 & Vetter Rd	RIRO	SBR	-	18		13	
654	Viking Ave & Road L	TWSC	EB	-	8		18	
			WB	-	20		18	
			NBL	-	3		5	
			SBL	-	0		3	

*Calculated 95th percentile queue exceeds storage by less than one passenger car length

All turn bays identified as operating with 95th percentile queue spillback in the 2028 Without-Project condition will continue to exceed their storage in the unmitigated 2028 With-Project condition. 95th percentile queues exceed turn bay storage on minor approach legs at the following SR 305 intersections:

- At Viking Ave/SR 305, southbound (Viking Ave) through-right PM peak hour 95th percentile queue will extend 645 feet and through the Sonic/Arco driveway and North Kitsap Transit Center. This is 102 feet longer than the 2028 Without-Project condition. In the AM peak hour, the queue extends 493 feet and through the Sonic/Arco driveway, an increase of 158 feet relative to the Without-Project condition.
- SR 3 NB off-ramp at SR 305 (AM & PM peak hours)
- Bond Rd EB right-turn at SR 305 (AM)

- Bond Rd/SR 307 WB right-turn at SR 305 (AM & PM)
- Forest Rock Ln WB right-turn at SR 305 (AM & PM)
- Lincoln Rd WB right-turn at SR 305 (AM)
- Lincoln Rd EB right-turn at SR 305 (AM)
- NE Hostmark St EB right-turn at SR 305 (AM & PM)
- NE Hostmark St WB right-turn at SR 305 (AM)

95th percentile queues exceed turn bay storage at the following City of Poulsbo intersections:

- Viking Ave NB left-turn at Finn Hill Rd (PM)
- Viking Ave SB left-turn at Finn Hill Rd (PM)
- Lindvig Way WB right-turn at Viking Ave (PM)
- Bond Rd SB right-turn at Front St (PM)

The initial HCM 6th Edition analysis indicated a large increase in southbound right-turn 95th percentile queue from the 2028 PM Without-Project to the 2028 PM Unmitigated With-Project condition. Upon review of Synchro model outputs, the reported increase in queue appears to be the result of error in the software implementation of the Highway Capacity Manual 6th Edition (HCM6) signalized intersection queue calculation methodology.

A sensitivity analysis of southbound right-turn (SBR) queue outputs indicated an unusual sensitivity to westbound right-turn volume (WBR). Specifically, in the 2028 PM peak hour, SBR 95th percentile queue outputs increased significantly when westbound right-turn (WBR) volume increased from 81 vph to 82 vph. At WBR volume of vph, SBR 95th percentile queue was calculated as less than 25 feet. However, at WBR volume of 82 vph, the SBR 95th percentile queue result increases to greater than 450 feet. There is no corresponding change in delay or LOS output.

To verify the queue output, the intersection was analyzed in Synchro 10 using Highway Capacity Manual 2010 (HCM2010) methodology. Key findings are summarized in **Table 25**.

Table 25. 2028 Bond Rd & Front St Southbound Right-Turn Queue, HCM2010 Methodology

Scenario	Storage (ft)	95th Percentile Queue (ft)	
		AM Peak Hr	PM Peak Hr
2028 Without-Project	50	225	458
2028 With-Project	50	225	465

The HCM2010 analysis indicates AM and PM peak hour southbound right-turn 95th percentile queues will exceed the 50-foot southbound right-turn storage in both 2028 scenarios. The Project does not significantly impact southbound right-turn queuing and no mitigation is recommended at the intersection of Bond Rd & Front St.

2028 With-Project Unmitigated Multimodal Access and Circulation

The Project will increase demand for nonmotorized trips associated with commuting to work, accessing services, and accessing recreation. The proximity of the site to the North Viking Transit Center provides convenient access to transit for residents of the site and is closer to the site than most of the potential nonmotorized destinations identified earlier in this report.

There are two primary corridors available to pedestrians and bicyclists wishing to access the nonmotorized destinations near the site are:

- Viking Ave NW provides a direct connection to many destinations south of the site and is a fully improved complete multimodal street from SR 305 south to NW Finn Hill Road. The roadway provides a comfortable environment for all modes of travel in this segment. Viking Ave NW north of the SR305 has limited nonmotorized facilities.
- SR 305 provides a direct connection to many of the same destinations south of the site via SR305 and Bond Road NE. SR 305 nonmotorized facilities are limited to paved shoulders. The roadway is auto oriented and serves high traffic volumes. Opportunities to provide additional nonmotorized facilities are limited due to several pinch-points created by stream crossings and wetlands.

Viking Ave provides a safer multimodal corridor for nonmotorized travel than SR 305. The North Viking Transit Center provides convenient connections to Routes 344 Poulsbo Central and 390 Poulsbo/Bainbridge for non-automobile trips to destinations near the Project and beyond.

Viking Ave north of SR 305 does not have continuous nonmotorized facilities to which the site access at Road L or Ruth Haines Rd can connect. Improvements to nonmotorized connectivity are desirable to accommodate increased nonmotorized travel demand created by the Project and are identified in the mitigation section.

2028 With-Project Unmitigated Traffic Safety

Project-generated trips do not impact any City intersections with crash rates greater than 1.00/MEV. The intersection of Forest Rock Ln & 10th Ave exhibits the highest crash rate, at 0.78/MEV. The Project will add 19 PM peak hour trips to the intersection, an increase of 1.9 percent from the Without-Project condition. The intersection does not meet MUTCD signal warrants for crash history. However, the proposed mitigation identified later in this report are expected to improve safety to better than pre-Project conditions.

A predictive crash analysis was conducted for two highway segments identified by WSDOT staff. The results of the predictive analysis are summarized in **Table 26**. Reports are provided in **Appendix H**.

Table 26. State Route Predictive Crash Analysis Results

ID	Route	Limits	Length	ADT	Predicted Crashes / Year			Crash Rate (/100M VMT)
					Fatal and Injury (KABC)	Property Dmg Only (PDO)	Total (KABCO)	
1	SR 305	MP12.64 – MP12.74	0.10					
		2019 Existing Conditions		35,000	0.5	1.1	1.6	125.2
		2028 Without-Project		37,100	0.5	1.1	1.6	118.2
		2028 With-Project		39,483	0.5	1.2	1.7	119.2
2	SR 307	MP0.00 – MP5.00	5.00					
		2019 Existing Conditions		20,000	10.6	27.5	38.1	104.4
		2028 Without-Project		21,700	11.9	30.9	42.8	108.1
		2028 With-Project		22,243	12.3	32.0	44.3	109.1

On SR 305 from MP12.64 to MP12.74, Project trips will increase the predicted crash rate by 1.0 crash per 100M VMT, an increase of 0.8 percent. On SR 307 from MP 0 to MP 5, Project trips will increase the predicted crash rate by 1.0 crashes per 100M VMT, an increase of less than 1 percent. Injury crashes are anticipated to increase from 11.3 crashes per year to 11.6 crashes per year, an increase of 2.5 percent.

Proposed safety mitigation strategies are identified later in this report.

ON-SITE ROADWAYS AND SITE ACCESSES

ON-SITE ROADWAYS

All new public roadways will be constructed consistent with street design standards defined in the City of Poulsbo Standards and Specifications. Other on-site roadways will be private and will provide access to the proposed residential development. Nonmotorized facilities will be provided as shown on the site plans.

All new public roadways will be constructed consistent with street design standards defined in the City of Poulsbo Standards and Specifications. Other on-site roadways will be private and will provide access to residential development consistent with City of Poulsbo private street design standards.

VETTER ROAD, SOUTH OF PROJECT

The Project will complete the proposed Vetter Rd extension south of Road L as identified in the Comprehensive Plan to connect Vetter Rd with SR 305. Vetter Rd is identified as a future Neighborhood Collector street in the 2016 Comprehensive Plan.

A new intersection is proposed at Vetter Rd NE at SR 305. The new intersection is identified in the City of Poulsbo 2016 Transportation Plan as the terminus of Vetter Rd. The proposed intersection is restricted to right-turn in and right-turn out only operation. A right-turn lane is also proposed on SR 305 into Vetter Rd NE. The access will be designed to current WSDOT and City standards.

VETTER ROAD, NORTH OF PROJECT

Vetter Rd north of the Project site includes a narrow paved surface with the character of a driveway, with significant private landscaping encroaching into the right-of-way. One residence is very close to the right-of-way edge and appears to encroach into the right-of-way. No improvements are proposed for this segment of Vetter Rd to minimize impacts to the existing residents. The Road L connection to Viking Ave NW provides adequate site access and circulation.

Traffic modeling completed using the City's model confirmed there is no Project travel demand on Vetter Rd to the north of the site. The City's traffic model did identify demand for up to 50 non-Project northbound PM peak hour cut-through trips on Vetter Rd to the north of the site. The Project proposes restricting northbound through movements at the intersection of Road L & Vetter Rd to preclude northbound traffic from SR 305 or the Project from proceeding north of Road L on Vetter Rd.

ROAD L

The Project will construct "Road L," a new public commercial collector street through the offsite parcels which will intersect Viking Ave opposite the existing Sonic/Arco driveway. Road L will be designed to City of Poulsbo Standards and Specifications Section 2, Commercial Collector streets "abut business, service, office, and professional activities."

The Road L & Sonic/Arco driveway is proposed as a full access intersection with stop control on the Road L and Sonic/Arco approaches. Viking Ave will be free flowing.

City staff expressed concern about the existing use of the two-way-left-turn lane creating a safety issue after the construction of Road L. The proposed Viking Ave channelization will define the turn-lanes and utilize mountable raised traffic curbs to prevent the type of driver behavior currently observed. The proposed configuration is shown in **Appendix B**.

The provision of a marked crosswalk on the north leg of the proposed Viking Ave & Road L Intersection is proposed to serve pedestrian demand oriented to the west from the project and the Park and Ride. The crossing should include high intensity signing at a minimum. A Rectangular Rapid-Flashing Beacon (RRFB) may be considered if pedestrian and vehicle volumes warrant its installation.

The operational analysis of the Road L & Viking Ave intersection incorporated cross-traffic from Road L to the Sonic/Arco driveway and from southbound Viking Ave to Road L. The analysis indicated queue lengths of less than one vehicle in the Viking Ave left-turn pocket.

Feasibility of a roundabout at Road L & Viking Ave was also evaluated. The impact to the Sonic/Arco parcels resulting from the construction of well-designed roundabout was the primary reason for rejecting roundabout control. The entry design would impact public and private utilities and stormwater systems and would require approval of third parties. A roundabout is not necessary to meet LOS requirements or to provide adequate access to the site. A roundabout could be constructed by others in the future, if necessary, to accommodate future development. The right-of-way dedicated for Road L will accommodate a future roundabout.

RUTH HAINES RD

An alternative access identified in comments provided by Kitsap Transit dated September 1, 2020 suggests a previously considered and rejected access alternative consisting of the extension of Vetter Rd north from the offsite parcels through Kitsap County right-of-way and along the back of the North Kitsap Transit Park and Ride to a new public east/west street referred to as Ruth Haines Rd. Ruth Haines Rd was to be constructed by Kitsap Transit in exchange for the vacation of the section of Vetter Rd located between Kitsap Transit's facilities north of the North Kitsap Transit Park and Ride east of Viking Ave.

Kitsap Transit stated that they met with the City of Poulsbo to begin the design process for Ruth Haines Rd from Vetter Rd to Viking Ave north of the North Viking Transit Center. Kitsap Transit is proposing to design the roadway to City of Poulsbo standards with a slight variance to provide sidewalk on only one side due to the pathway and other pedestrian amenities on the transit center site. Kitsap Transit stated that they have not competed a traffic analysis for the Project at his time and they have no plans to improve Vetter Rd east of the North Viking Transit Center. Kitsap Transit expects to construct Ruth Haines Rd in the spring of 2022. The construction of Ruth Haines Rd without the completion of Vetter Rd along the east frontage of the North Viking Transit Center or the unincorporated section of Vetter Rd between the North Viking Transit Center and Road L on the Oslo Bay site provides no opportunity for shared access for vehicles or nonmotorized users. The intersection of Vetter R and Road L as designed is compatible with a future extension of Vetter Rd by others north of the Oslo Bay site.

PROPOSED MITIGATION

TRAFFIC MITIGATION SUMMARY

Project-generated trips create no new City of Poulsbo or WSDOT LOS deficiencies but will increase vehicle delay at the following intersections relative to Without-Project conditions. Incremental PM peak hour delay impacts are shown in parentheses:

- SR 305 & SR 3 NB ramps (+1.9 sec/veh)
- SR 305 & Viking Ave (+10.8 sec/veh)
- SR 305 & Bond Rd (+6.0 sec/veh)
- SR 305 & Forest Rock Ln (+7.6 sec/veh)
- SR 305 & Liberty Rd (+3.0 sec/veh)
- Forest Rock Ln & 10th Ave (+9.3 sec/veh)

The concurrency provisions of the Poulsbo Transportation Plan and any ordinance relating to concurrency do not apply to state-owned transportation facilities. The WSDOT Development Services Manual states the following in Section 4.1.06:

> *When a development affects a highway segments or intersection where the LOS is already below the applicable threshold, then the pre-development LOS is the condition that must be preserved. The time delay associated with the pre-development LOS is used rather than the otherwise applicable deficiency level.*

The SR 305 Needs and Opportunities Study (Parametrix 2017) identified traffic signal control upgrades as the most practical way to improve traffic operations in the SR 305 corridor. The existing traffic signal control system affected by the Project extends from the intersection of SR 305 & Hostmark to the interchange of SR 305 and SR3. The SR 305 signal control system includes eight intersections:

- SR 30 /SR 3 SB ramp (Olhava Way)
- SR 305/SR 3 NB ramp
- SR 305/Viking Ave
- SR 305/SR 307 (Bond Rd)
- SR 305/Forest Rock Ln
- SR 305/Liberty Rd
- SR 305/Lincoln Rd
- SR 305/Hostmark St

Five of the eight SR 305 intersections in the system are directly impacted by the Project and require mitigation to pre-development LOS and delay levels. The five SR 305 intersections with direct impacts that require mitigation include SR 3 NB ramps, Viking Ave, SR 307 (Bond Rd), Forest Rock Ln, and Liberty Lake Rd.

Three of the eight SR 305 intersections in the system are not directly impacted by the Project and do not require mitigation to pre-development LOS and delay levels. However, these three intersections require traffic signal controller upgrades to communicate with the other five traffic signal controllers in the system. The three SR 305 intersections that require controller upgrades for purposes of system continuity include SR 3 SB ramp (Olhava Way), Lincoln Rd, and Hostmark St.

The existing traffic signal control and detection systems at all eight intersections do not have the advanced traffic control capabilities of current traffic signal control systems. The vehicle detection systems are limited by induction loop placement and do not have robust bicycle detection capability. The controllers are outdated and no longer supported on the hardware or software side. The communication between the existing traffic signal controllers is non-functional at the SR 305 & SR 3 SB ramp (Olhava Way).

Discussions with the City, City Consultants, and WSDOT concluded that replacement of the outdated traffic signal control and detection equipment coupled with repair of the failed communication system at SR 305 & SR 3 SB ramp (Olhava Way) would mitigate the increased delay created by the Project generated trips by allowing

more advanced signal timing and phasing, more effective vehicle detection (motorized and nonmotorized) and compatibility with current and alternative emergency vehicle pre-emption systems.

The general approach to mitigation for direct impacts on SR 305 includes replacement of the existing traffic signal controllers and traffic signal controller cabinets with current WSDOT approved equipment (Type 342LX Traffic Signal Controller Cabinets and Econolite 2070 ATC-3 Traffic Signal Controllers) and replacement of the existing vehicle detection systems with Wavetronix Radar Detection Systems at the five intersections directly impacted by the Project. The remaining three intersections not directly impacted by the Project will have the existing traffic signal controllers replaced with Econolite Cobalt ATC traffic signal controllers to preserve corridor communications.

The applicant has started design of traffic signal control and communication enhancements at eight SR 305 intersections. The improvements include traffic signal controller replacements, traffic signal controllers, traffic signal controller cabinets, radar detection upgrades, and full intersection improvements.

Table 27 provides a summary of all proposed mitigation strategies. Conceptual drawings of SR 305 improvements are also provided in **Appendix L**. Note that WSDOT may request modifications to the proposed mitigation to meet their operational objectives.

Table 27. Proposed Mitigation Strategies

Impr ID	Intersection	Proposed Mitigation
1	SR 305 & SR 3 NB Ramp	• Replace the existing traffic signal controller cabinet and traffic signal controller. The existing traffic signal control equipment will be replaced with current WSDOT approved equipment (Type 342LX Traffic Signal Controller Cabinet and Econolite 2070 ATC-3 Traffic Signal Controller) • Replace the existing non-radar vehicle detection system with a Wavetronix Radar Detection system as required. • Provide fiber optic interconnect to SR 305 & Viking Ave traffic signal. • All work to be performed by the developer.
2	SR 305 & SR 3 SB Ramp	• Replace the existing traffic signal controller cabinet and traffic signal controller. The existing traffic signal control equipment will be replaced with current WSDOT approved equipment (Type 342LX Traffic Signal Controller Cabinet and Econolite 2070 ATC-3 Traffic Signal Controller) • Replace the existing vehicle detection system will a Wavetronix Radar Detection system. • Provide fiber optic interconnect to SR 305 & SR NB Ramp traffic signal. • All work to be performed by the developer.
3	SR 305 & Viking Ave	• Construct a 150-foot southbound right-turn lane on Viking Ave. • Re-channelize northbound Viking Ave. to include an exclusive dedicated left-turn lane and exclusive through lane to allow concurrent northbound and southbound left turns. Rephase the signal to allow for concurrent protected/permissive (FYA) left-turns northbound and southbound on Viking Ave. Modify the signal display as required. This modification improves LOS. This modification can be eliminated if other considerations such as downstream weaving outweigh the delay reduction. (Revised 10/22/21) • Provide accessible pedestrian signals including tactile/audible pushbuttons and countdown displays. • Replace the existing traffic signal controller cabinet and traffic signal controller. The existing traffic signal control equipment will be replaced with current WSDOT approved

Impr ID	Intersection	Proposed Mitigation
		equipment (Type 342LX Traffic Signal Controller Cabinet and Econolite 2070 ATC-3 Traffic Signal Controller) • Replace the existing vehicle detection system with a Wavetronix Radar Detection system. • Provide fiberoptic interconnect to the SR 305 & SR 307 signal to the south and the SR 305 NB ramps to the north. • Replace/upgrade the existing electrical service cabinet • All work to be performed by the developer.
4	SR 305 & Bond Rd (SR 307)	• Replace the existing traffic signal controller cabinet and traffic signal controller. The existing traffic signal control equipment will be replaced with current WSDOT approved equipment (Type 342LX Traffic Signal Controller Cabinet and Econolite 2070 ATC-3 Traffic Signal Controller) • Replace the existing vehicle detection system will a Wavetronix Radar Detection system. • Provide fiberoptic interconnect to SR 305 & Viking Ave and SR 305 Forest Rock Ln traffic signals. • Preserve the westbound Bond Rd to northbound SR 305 right turn overlap recently implemented by WSDOT. • Preserve the eastbound Bond Rd to southbound SR 305 right turn overlap implemented by WSDOT. • All work to be performed by the developer. (Revised 10/22/21)
5	SR 305 & Forest Rock Ln	• Replace the existing traffic signal controller cabinet and traffic signal controller. The existing traffic signal control equipment will be replaced with current WSDOT approved equipment (Type 342LX Traffic Signal Controller Cabinet and Econolite 2070 ATC-3 Traffic Signal Controller) • Replace the existing vehicle detection system with a Wavetronix Radar Detection system. • Provide fiberoptic interconnect to SR 305 & Bond Rd (SR 307) traffic signal. • All work to be performed by the developer.
6	SR 305 & Liberty Rd	• Replace the existing traffic signal controller with an Econolite Cobalt ATC traffic signal controller. • All work to be performed by the developer.
7	SR 305 & Lincoln Rd	• Replace the existing traffic signal controller with an Econolite Cobalt ATC traffic signal controller. • All work to be performed by the developer.
8	SR 305 & Hostmark St	• Replace the existing traffic signal controller with an Econolite Cobalt ATC traffic signal controller. • All work to be performed by the developer.
9	Forest Rock Ln & 10th Ave NE	• Convert existing two-way stop control to three-way stop control with eastbound Forest Rock Ln remaining free. • Provide new intersection signing and striping as required • Provide advance warning signs on westbound Forest Rock Ln as required. • All work to be performed by the developer. (Revised 10/22/21)
10	Viking Ave SR 305 to Road L/Sonic DW	• Provide continuous nonmotorized connections between SR 305 and Road L. • All work to be performed by the developer. (Revised 10/22/21)
11	Viking Ave Road L/Sonic DW to Transit Center	• Provide continuous nonmotorized connection on the east side of Viking Ave to the North Viking Transit Center.

Impr ID	Intersection	Proposed Mitigation
		• All work to be performed by developer. (Revised 10/22/21)
12	Viking Ave & Road L	• Construct new two-way stop control intersection aligned opposite the southern Sonic Arco driveway. • Provide northbound and southbound left-turn lanes • Provide required interaction and advance signing • All work to be performed by the developer. (Revised 10/22/21)
13	Vicinity of Road L	• Construct pedestrian connection from Road L to North Viking Transit Center. • All work to be performed by the developer. (Revised 10/22/21)
14	Road L & Vetter Rd	• Restrict northbound through traffic on Vetter Rd at Road L • Provide screening to parcel to the east and the parcel to the northwest of the new intersection. • All work to be performed by the developer. (Revised 10/22/21)
15	Vetter Rd Extension	• Construct Vetter Rd from the northern site boundary to SR 305. • All work to be performed by the developer. (Revised 10/22/21)
16	SR 305 & Vetter Rd	• Construct right-in-right out intersection to WSDOT standards. • All work to be performed by the developer. (Revised 10/22/21)

Intersection improvements are described in greater detail below for select locations. **Figure 5** on the following page provides a graphic depiction of the location of the proposed traffic mitigation.

SR 305 & VIKING AVE

This intersection provides primary vehicular site access and nonmotorized connectivity to Poulsbo. Multiple improvements to mitigate intersection delay to pre-Project levels and improve nonmotorized safety and connectivity are proposed, and a conceptual drawing is shown in **Figure 5**. New channelization will require an approved Intersection Control Evaluation (ICE) report, per the WSDOT Design Manual. The improvements are subject to WSDOT and City final design approval.

The intersection currently operates with split phasing on the Viking Ave approaches. This analysis evaluated the proposed change to flashing yellow arrow protected-permissive left-turn treatments on the Viking Ave approaches using the WSDOT Northwest Region whitepaper "A Guideline for Left Turn Movement Phasing Considerations." The available sight distance extends 400 feet for the northbound and southbound approaches, satisfying the required sight distance of 283 feet per the WSDOT methodology. Left-turn demand and opposing through volume on both approaches also satisfies the "rule-of-thumb" guidance identified in the whitepaper. The HCM6-based intersection analysis indicated that protected-permissive left-turn phasing will provide adequate crossing gaps for left-turning vehicles to navigate the intersection during the permissive phase. Sight distance and critical crossing gap calculations are provided in **Appendix M**.

The safety impacts of implementing protected-permitted left-turn treatments were evaluated using Crash Modification Factor (CMF) ID #7690, "Change from protected only to flashing yellow arrow protected/permissive left turn with time-of-day operation," obtained from the Crash Modification Factor Clearinghouse website. CMF 7690 includes a value of 0.901, indicating a 9.9% reduction in all crash types and severity levels. The selected CMF includes a four-star quality rating, indicating a high level of reliability.

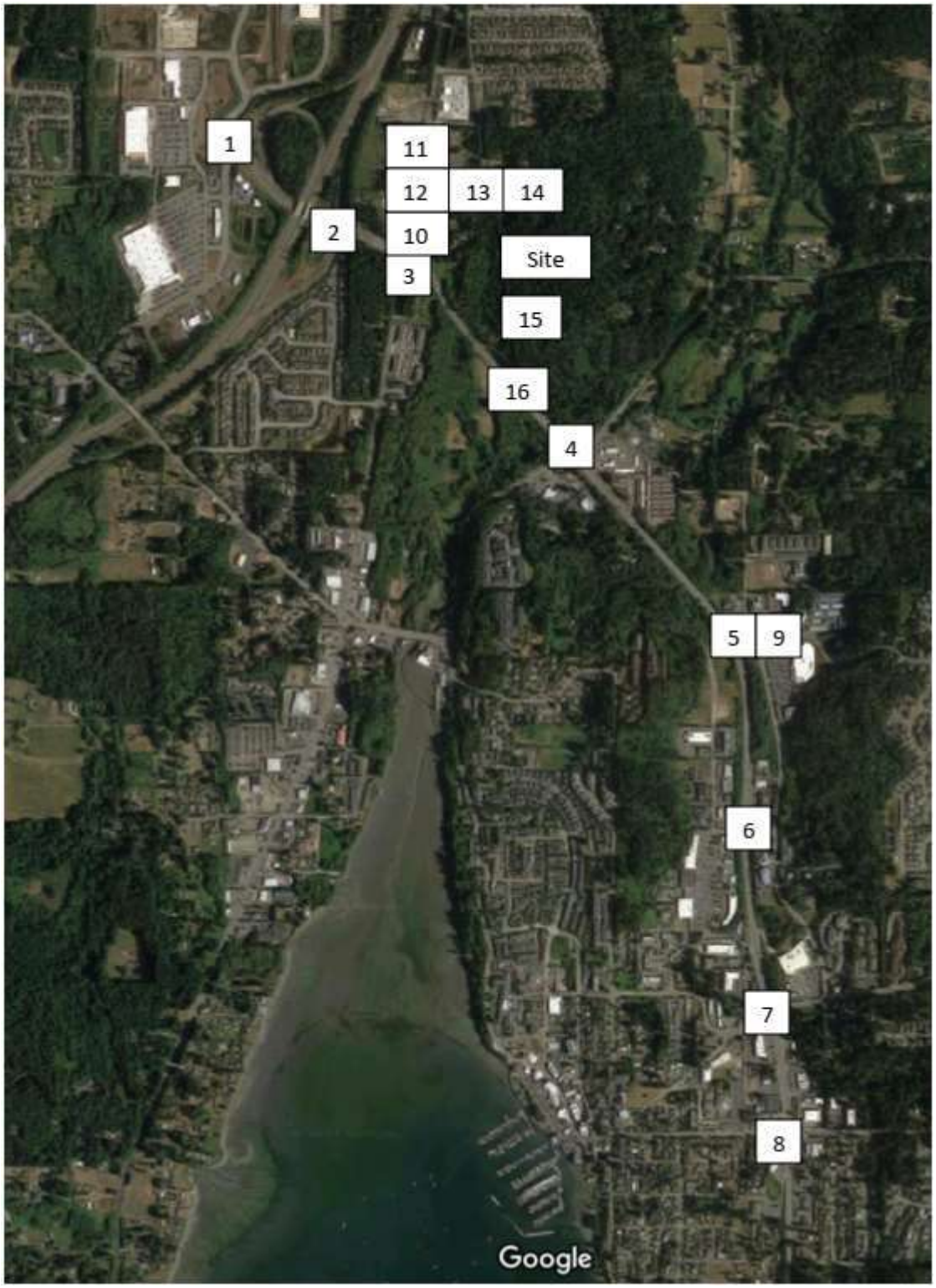


Figure 5. Proposed Traffic Mitigation Locations

The additional right-turn lane on southbound Viking Ave increases the crossing distance for nonmotorized users. Mitigating this increased exposure could include adding a pedestrian refuge island on Viking Ave. The median refuge could complicate weaving west of the intersection. Both items will be addressed in the ICE prepared for this intersection.

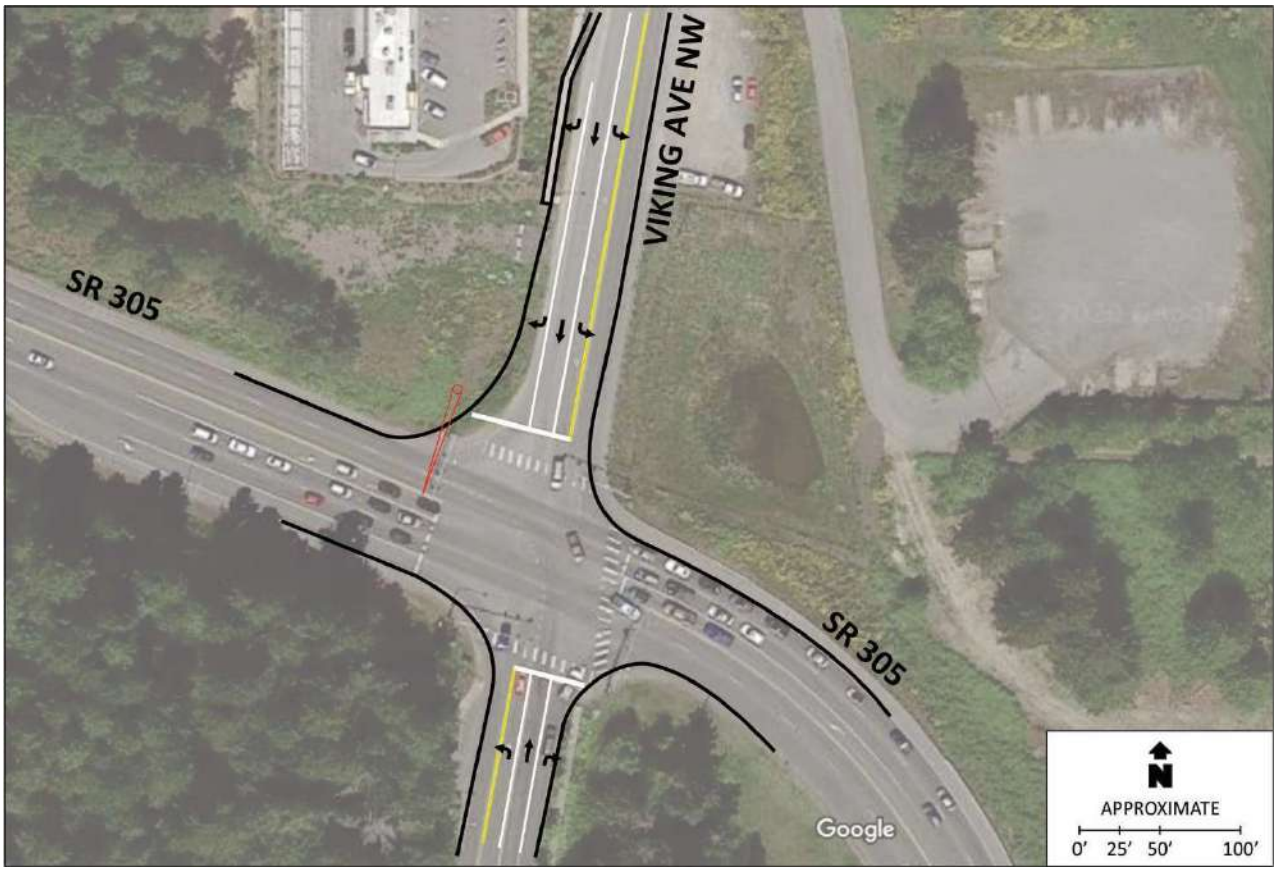


Figure 6. SR 305 and Viking Ave Conceptual Layout

In response to City concerns about southbound right-turn queuing in the proposed intersection channelization, alternative channelization was evaluated at this intersection. The alternative channelization included southbound right, through-right, and left-turn lanes on the southbound approach. This configuration would increase southbound right-turn capacity and queue storage. LOS and queuing results of the alternative channelization analysis are summarized in **Table 28** and **Table 29**.

Table 28. SR 305 & Viking Ave 2028 Level of Service Comparison

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]
AM Peak Hour													
Without-Project	E (79.1)	B (12.4)	A (0.4)	D (46.2)	B (17.2)	B (17.1)	E (62.5)	E (62.8)	E (76.5)	F (91.8)	F (221)	-	C (27.9)
With-Project; No Mitigation	F (85.6)	B (12.4)	A (0.4)	D (46.6)	B (19.4)	B (19.3)	E (63.1)	E (63.0)	E (76.3)	F (285)	F (348)	-	D (45.1)
With-Project; With Widening	C (28.1)	A (1.1)	A (0.1)	F (93.2)	D (47.2)	D (47.2)	E (57.4)	E (62.2)	E (77.9)	E (78.5)	E (65.2)	D (35.5)	C (30.0)
With-Project; Alternate Mitigation	C (28.1)	A (1.1)	A (0.1)	F (93.2)	D (47.2)	D (47.2)	E (57.6)	E (62.2)	E (77.9)	E (78.5)	E (67.3)	C (33.3)	C (30.1)
PM Peak Hour													
Without-Project	E (73.3)	E (61.5)	A (0.1)	D (48.8)	C (25.6)	C (25.9)	E (67.4)	E (69.1)	E (67.5)	E (78.7)	F (389)	-	E (60.2)
With-Project; No Mitigation	F (150)	E (60.9)	A (0.1)	D (49.6)	C (28.0)	C (28.4)	E (68.3)	E (68.8)	E (66.1)	F (159)	F (471)	-	E (71.0)
With-Project; With Widening	D (36.8)	F (47.4)	A (0.1)	D (47.2)	D (50.4)	D (51.8)	E (61.0)	E (64.2)	C (33.5)	E (69.4)	E (67.0)	C (26.4)	D (48.1)
With-Project; Alternate Mitigation	D (39.7)	F (47.4)	A (0.1)	D (49.1)	D (50.4)	D (51.8)	E (65.5)	E (61.2)	C (31.9)	E (63.8)	E (78.6)	C (25.2)	D (48.9)

Table 29. SR 305 & Viking Ave 2028 95th Percentile Queue Comparison

Lane Group	2028 Without-Project			2028 With-Project Without Mitigation			2028 With-Project With Widening			2028 With-Project With Alternate Mitigation		
	Storage	AM Queue[1]	PM Queue[1]	Storage	AM Queue[1]	PM Queue[1]	Storage	AM Queue[1]	PM Queue[1]	Storage	AM Queue[1]	PM Queue[1]
EBL	300	115	160	300	148	265	300	73	143	300	73	150
EBR	260	3	0	260	3	0	260	0	0	260	0	0
WBL	310	90	158	310	103	165	310	158	160	310	158	165
NBL	310	70	150	310	80	170	310	88	198	310	90	205
NBR	210	173	128	210	173	128	210	175	125	210	175	120
SBL	290	168	138	290	**398**	283	290	155	75	290	155	65
SBT	360	335	**543**	360	**470**	**640**	360	115	88	360	140	208
SBR	-	-	-	-	-	-	150	150	138	150	133	90

The analysis indicates that the intersection will operate with acceptable LOS and queuing in both mitigation alternatives. Alternative channelization will allow the southbound (Viking Ave) right-turn bay to accommodate the PM peak hour 95th percentile queue length. This alternative may impact bicycle mobility and safety. The alternative channelization is presented as an option but is not a recommended condition for approval.

The alternative channelization was evaluated at the request of the City of Poulsbo. The comments relative to bicycle interactions and safety at shared/dual right turn lanes are noted. The analysis was provided for informational purposes and was not intended to change the proposed mitigation (single right-turn lane) which is adequate to mitigate the impacts of the Project. The comments provided suggest a single exclusive right-turn lane will be safer for bicyclists and should be used until additional development creates demand that exceeds the capacity of the mitigation provided by Oslo Bay.

Transit Signal Priority (TSP) implementation was identified as a solution the City could request from WSDOT to address current queuing created by multiple buses exiting the North Viking Transit center simultaneously. Kitsap Transit staff confirmed that Transit Signal Priority (TSP) is currently installed on Kitsap Transit busses. It is

recommended that WSDOT activate TSP at the intersection of SR 305 & Viking Ave. Transit signal priority would reduce southbound Viking Ave queuing when multiple buses exit the transit center simultaneously. However, the proposed SR 305 & Viking Ave intersection mitigation is adequate to mitigate the Project queuing impacts and mitigating a pre-existing condition caused by Kitsap Transit is an unreasonable requirement for the Project to bear.

SR 305 & FOREST ROCK LN

Flashing Yellow Arrow operation for the southbound left-turn lane on SR 305/Forest Rock Ln was considered but is not recommended during the peak hour due to high conflicting through-movement demand. While this could reduce the platoon of vehicles entering Forest Rock Ln from the southbound left-turn lane, the reduction in safety would not be acceptable.

FOREST ROCK LN & 10TH AVE

Upon review of existing queuing conditions, signal operations and discussion with City staff, three-way stop control has been identified as the preferred mitigation at this intersection. This configuration will allow free movement on the eastbound approach, eliminating the possibility of queues interrupting operations at the SR 305/Forest Rock Ln signalized intersection to the west. New signing will include a westbound stop sign ahead sign, a westbound stop sign, and a supplementary eastbound "Oncoming Traffic Does Not Stop" sign. A stop bar will be required on westbound Forest Rock Ln.

A previous recommendation for all-way stop control at this intersection was based upon the occurrence of a pedestrian crash that was assumed to be at the intersection. Upon further investigation it was discovered that the pedestrian crash was not intersection related and all-way stop control would not have prevented it.

VIKING AVE & FINN HILL RD/LINDVIG WAY

With the addition of Project trips, 2028 average intersection delay decreases in the AM peak hour from 94.8 seconds per vehicle to 93.4 seconds per vehicle and in the PM peak hour from 199 seconds per vehicle to 197 seconds per vehicle. The Poulsbo travel demand model distributed Project trips to the intersection's underutilized northbound through-movement. This increased the efficiency of signal operations (with no timing changes) by increasing demand on the low-volume movement (this approach's timing is driven by the critical right turn movement), thereby reducing the overall average intersection delay. In other words, the increased northbound through volume was able to use the green time assigned to the critical northbound right turn movement resulting in more vehicles passing through the approach in the same amount of time, reducing average delay.

2028 WITH-PROJECT MITIGATED CONDITIONS

This section summarizes traffic conditions after completion of the proposed mitigation strategies.

2028 WITH-PROJECT MITIGATED LEVEL OF SERVICE

2028 With-Project Mitigated intersection delays and LOS are summarized in **Table 30** and **Table 31**. Detailed intersection capacity reports are provided in **Appendix N**.

Table 30. 2028 AM With-Project Mitigated Intersection Level of Service

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
1	SR 305 & Viking Ave																
	Without-Project	Signal	E (79.1)	B (12.4)	A (0.4)	D (46.2)	B (17.2)	B (17.1)	E (62.5)	E (62.8)	E (76.5)	F (91.8)	F (221)	-	C (27.9)	D	Yes
	With-Project; No Improvement	Signal	F (85.6)	B (12.4)	A (0.4)	D (46.6)	B (19.4)	B (19.3)	E (63.1)	E (63.0)	E (76.3)	F (285)	F (348)	-	D (45.1)	D	Yes
	With-Project; With Widening	Signal	C (28.1)	A (1.1)	A (0.1)	F (93.2)	D (47.2)	D (47.2)	E (57.4)	E (62.2)	E (77.9)	E (78.5)	E (65.2)	D (35.5)	C (30.0)	D	Yes
3	SR 305 & SR 3 NB ramps																
	Without-Project	Signal	C (26.6)	A (0.5)	-	-	C (26.8)	B (14.8)	-	C (28.5)	F (149)	-	-	-	E (64.4)	D	No
	With-Project; No Improvement	Signal	C (28.5)	A (0.5)	-	-	C (27.8)	B (14.8)	-	C (28.5)	F (152)	-	-	-	E (65.1)	D	No
	With-Project; w/Signal Retiming	Signal	C (23.6)	A (0.6)	-	-	B (13.3)	A (3.6)	-	C (26.6)	F (123)	-	-	-	D (48.9)	D	Yes
12	SR 305 & Bond Rd/SR307																
	Without-Project	Signal	F (89.8)	D (51.2)	D (46.6)	F (111)	D (43.1)	B (16.2)	F (96.2)	D (43.6)	B (14.5)	C (24.1)	B (12.3)	B (11.5)	C (31.9)	D	Yes
	With-Project; No Improvement	Signal	F (84.2)	D (51.2)	F (46.6	F (111)	D (43.7)	B (17.5)	F (95.6)	D (42.9)	B (13.8)	C (25.2)	C (21.2)	B (15.0)	C (32.7)	D	Yes
	With-Project; w/Phasing Impr.	Signal	F (84.2)	D (51.2)	D (46.6)	F (111)	D (43.7)	B (17.6)	F (94.9)	D (42.8)	A (7.1)	D (36.9)	D (35.1)	C (34.3)	D (40.0)	D	Yes
14	SR 305 & Forest Rock Ln																
	Without-Project	Signal	E (79.3)	E (67.1)	-	-	D (54.2)	F (82.0)	F (133)	E (61.3)	E (60.4)	A (6.1)	A (0.5)	A (0.1)	C (27.2)	D	Yes
	With-Project; No Improvement	Signal	E (79.7)	E (67.0)	-	-	D (53.8)	F (82.6)	F (133)	E (61.2)	E (60.4)	A (6.8)	A (0.5)	A (0.1)	C (27.1)	D	Yes
	With-Project; w/Signal Retiming.	Signal	E (79.7)	E (67.0)	-	-	D (53.8)	F (82.6)	F (133)	E (61.5)	E (60.6)	A (6.8)	A (0.6)	A (0.2)	C (27.1)	D	Yes
15	Forest Rock & 10th Ave NE																
	Without-Project	TWSC	A (7.7)	A (0.0)	-	A (7.6)	A (0.0)	-	-	B (13.5)	-	B (12.4)	B (11.7)	-	B (13.5)	F	Yes
	With-Project; No Improvement	TWSC	A (7.7)	A (0.0)	-	A (7.7)	A (0.0)	-	-	B (13.8)	-	B (12.6)	B (11.8)	-	B (13.8)	F	Yes
	With-Project ; w/All-Way Stop	AWSC	A (8.7)	A (9.5)	-	A (8.5)	A (9.7)	-	-	A (9.5)	-	A (9.2)	A (8.7)	-	A (9.4)	F	Yes
16	SR 305 & NE Liberty Rd																
	Without-Project	Signal	E (69.8)	E (69.9)	-	E (69.8)	E (69.8)	-	F (84.3)	E (68.7)	E (67.1)	A (0.0)	A (0.6)	A (0.1)	C (29.5)	D	Yes
	With-Project; No Improvement	Signal	E (70.1)	E (70.1)	-	E (70.0)	E (69.8)	-	F (84.3)	E (68.8)	E (67.1)	A (0.1)	A (0.6)	A (0.1)	C (29.4)	D	Yes
	With-Project; w/Signal Retiming	Signal	E (70.1)	E (70.0)	-	E (69.8)	E (69.8)	-	F (84.3)	E (69.1)	E (67.4)	A (0.0)	A (0.6)	A (0.1)	C (29.5)	D	Yes

1. Intersection control: TWSC (minor-approach stop control); AWSC (all-way stop control); Signal (traffic signal);
2. For TWSC, LOS and delay are reported for the highest-delay movement. For all other intersections, LOS represents intersection average; 3. Intersection LOS standard

Table 31. 2028 PM With-Project Mitigated Intersection Level of Service

ID	Intersection	Control Type[1]	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Tot[2]	LOS Std[3]	Pass
1	SR 305 & Viking Ave																
	Without-Project	Signal	E (73.3)	E (61.5)	A (0.1)	D (48.8)	C (25.6)	C (25.9)	E (67.4)	E (69.1)	E (67.5)	E (78.7)	F (389)	-	E (60.2)	D	No
	With-Project; No Improvement	Signal	F (150)	E (60.9)	A (0.1)	D (49.6)	C (28.0)	C (28.4)	E (68.3)	E (68.8)	E (66.1)	F (159)	F (471)	-	E (71.0)	D	No
	With-Project; With Widening	Signal	D (36.8)	F (47.4)	A (0.1)	D (47.2)	D (50.4)	D (51.8)	E (61.0)	E (64.2)	C (33.5)	E (69.4)	E (67.0)	C (26.4)	D (48.1)	D	Yes
3	SR 305 & SR 3 NB ramps																
	Without-Project	Signal	C (38.6)	A (0.6)	-	-	C (26.0)	B (15.5)	-	C (29.8)	F (255)	-	-	-	F (98.7)	D	No
	With-Project; No Improvement	Signal	D (41.4)	A (0.6)	-	-	C (24.4)	B (15.1)	-	C (29.8)	F (264)	-	-	-	F (100.6)	D	No
	With-Project; w/Signal Retiming	Signal	E (73.3)	A (0.7)	-	-	F (57.2)	C (21.2)	-	C (26.6)	F (204)	-	-	-	E (84.7)	D	Yes[4]
12	SR 305 & Bond Rd/SR307																
	Without-Project	Signal	F (90.7)	E (73.7)	C (20.4)	F (123)	D (47.6)	B (19.5)	E (79.3)	E (61.3)	B (15.1)	E (78.5)	D (54.1)	D (53.0)	E (57.0)	D	No
	With-Project; No Improvement	Signal	F (93.5)	E (73.7)	C (20.4)	F (123)	D (48.8)	C (20.9)	E (78.0)	E (80.3)	B (15.1)	E (80.0)	E (57.8)	E (57.8)	E (63.0)	D	No
	With-Project; w/Phasing Impr.	Signal	F (86.4)	E (66.1)	D (35.6)	F (426)	D (53.0)	C (25.9)	E (64.3)	F (39.8)	A (7.6)	E (79.4)	C (38.4)	D (37.5)	D (54.4)	D	Yes
14	SR 305 & Forest Rock Ln																
	Without-Project	Signal	E (70.9)	E (56.5)	-	-	D (46.4)	F (177)	F (93.8)	F (130)	F (130)	D (49.4)	B (15.5)	B (10.4)	E (77.1)	D	No
	With-Project; No Improvement	Signal	E (70.8)	E (56.4)	-	-	D (46.4)	F (192)	F (93.8)	F (146)	F (146)	D (50.3)	B (15.8)	B (10.5)	F (84.7)	D	No
	With-Project; w/Signal Retiming	Signal	D (70.9)	D (56.4)	-	-	D (45.7)	F (177)	F (92.4)	F (136)	F (136)	D (49.5)	A (0.8)	A (0.1)	E (74.1)	D	Yes[4]
15	Forest Rock & 10th Ave NE																
	Without-Project	TWSC	A (7.9)	A (0.0)	-	A (8.0)	A (0.0)	-	-	F (62.2)	-	C (18.3)	C (15.3)	-	F (62.2)	F	Yes
	With-Project; No Improvement	TWSC	A (7.9)	A (0.0)	-	A (8.0)	A (0.0)	-	-	F (71.5)	-	C (18.6)	C (15.6)	-	F (71.5)	F	Yes
	With-Project; w/All-Way Stop	AWSC	B (10.7)	C (17.2)	-	A (10.0)	B (14.4)	-	-	C (16.2)	-	B (10.9)	B (11.4)	-	C (15.1)	F	Yes
16	SR 305 & NE Liberty Rd																
	Without-Project	Signal	E (74.2)	E (72.8)	-	E (73.7)	E (74.5)	-	C (31.7)	E (73.6)	E (72.5)	C (31.1)	E (67.0)	C (32.4)	E (68.2)	D	No
	With-Project; No Improvement	Signal	E (74.0)	E (72.4)	-	E (73.6)	E (74.5)	-	C (32.2)	E (79.2)	E (78.1)	C (31.6)	E (69.0)	C (32.6)	E (71.2)	D	No
	With-Project; w/Signal Retiming	Signal	E (75.5)	E (72.9)	-	E (70.5)	E (71.4)	-	B (12.0)	A (1.0)	A (0.9)	F (215)	F (87.9)	D (38.2)	D (51.9)	D	Yes

1. Intersection control: TWSC (minor-approach stop control); AWSC (all-way stop control); Signal (traffic signal);
2. For TWSC, LOS and delay are reported for the highest-delay movement. For all other intersections, LOS represents intersection average.
3. Intersection LOS standard; 4. Meets WSDOT "do no harm" standard

The identified mitigation strategies will reduce intersection delays to less than pre-Project conditions at all study intersections. City of Poulsbo transportation concurrency and WSDOT SEPA policy are satisfied.

2028 With-Project Mitigated Queuing

The intersection LOS mitigation descried above was evaluated to determine its effect on mitigating Project generated queuing. 2028 With-Project 95th percentile queue results are summarized in **Table 32** for the 2028 Without-Project, 2028 With-Project Without-Mitigation, and 2028 With-Project With-Mitigation scenarios.

Table 32. 2028 With-Project Mitigated 95th Percentile Turn Bay Queuing

ID	Intersection	Lane Group	2028 Without-Project			2028 With-Project Without Mitigation			2028 With-Project With Mitigation		
			Storage	AM Queue[1]	PM Queue[1]	Storage	AM Queue[1]	PM Queue[1]	Storage	AM Queue[1]	PM Queue[1]
1	SR 305 & Viking Ave	EBL	300	115	160	300	148	265	300	73	143
		EBR	260	3	0	260	3	0	260	0	0
		WBL	310	90	158	310	103	165	310	158	160
		NBL	310	70	150	310	80	170	310	88	198
		NBR	210	173	128	210	173	128	210	175	125
		SBL	290	168	138	290	**398**	283	290	155	75
		SBT	360	335	**543**	360	**470**	**640**	360	115	88
		SBR	-	-	-	-	-	-	150	150	138
3	SR 305 & SR 3 NB ramps	EBL	450	35	90	450	35	93	450	35	125
		WBR	250	95	165	250	98	148	250	25	70
		NBLT	1000	85	50	1000	83	50	1000	80	48
		NBR	415	**1635**	**2205**	415	**1653**	**2255**	415	**1548**	**2075**
12	SR 305 & Bond Rd/SR307	EBL	300	23	88	300	30	90	300	30	113
		EBR	260	**370**	243	260	**480**	**440**	260	**370**	**323**
		WBL	400	245	243	250	245	245	250	225	378
		WBR	220	**403**	**365**	220	**425**	**385**	220	**423**	**423**
		NBL	550	260	380	550	260	375	550	258	338
		NBR	250	50	80	250	50	80	250	20	60
		SBL	775	155	568	775	180	575	775	233	565
14	SR 305 & Forest Rock Ln	EBL	350	68	38	350	70	40	350	70	40
		WBR	120	**310**	**780**	120	**318**	**820**	120	**318**	**800**
		NBL	300	3	8	300	5	10	300	3	8
		SBL	650	45	310	650	55	315	650	53	298
		SBR	210	3	60	210	5	60	210	3	0
15	Forest Rock & 10th Ave NE	EBL	50	3	5	50	3	5	50	5	13
		EBT	200	-	-	200	-	-	200	30	95
		WBL	100	0	0	100	0	0	100	3	3
		SBL	200	-	-	200	0	10	200	3	5
16	SR 305 & Liberty Rd	NBL	350	45	75	350	45	75	350	45	28
		SBL	270	0	80	270	0	85	270	0	213
		SBR	260	5	30	260	5	40	260	3	38

[1]95th percentile queue, in feet; **BOLD** indicates 95th percentile queue exceeds storage

All turn bays identified as operating with 95th percentile queue spillback in the 2028 Without-Project condition will continue to exceed their storage in the unmitigated 2028 With-Project condition. The effects if the proposed intersection mitigation on queues at impacted locations described below.

- At SR 305 & Viking Ave, the proposed improvements will reduce southbound 95th percentile queue to better than pre-Project conditions and will eliminate queue stacking at the Road L intersection.
- On eastbound Bond Rd at SR 305, 95th percentile right-turn queues will continue to exceed available storage but will be shorter than pre-Project conditions.

- On westbound Bond Rd (SR 307) at SR 305, 95th percentile right-turn queue will be within 2 car lengths of pre-Project conditions. Right-turn queue will exceed the available storage but will not reach the Valley Nursery driveway located 450 feet from the stop bar.
- On westbound Bond Rd (SR 307) at SR 305, westbound left-turn 95th percentile queues will extend through the Bernt Rd intersection but will not spill into the adjacent SR 307 through-lane. Left-turn 95th percentile queue will not reach the Valley Nursery driveway.
- At SR 305 & Forest Rock Ln, signal timing and hardware upgrades will improve 95th percentile queuing to within one car length of 2028 pre-Project conditions in the AM and PM peak hours.
- At Forest Rock Ln & 10th Ave, the construction of all-way stop or three-way stop control, in addition to "Do Not Block Intersection" signage, will reduce intersection delay and will reduce the likelihood of westbound queue stacking from SR 305 through 10th Ave.

2028 With-Project Mitigated Multimodal Access and Circulation

The Project proposes a curb, gutter, and sidewalk along Viking Ave from Road L to the southwest corner of the North Viking Transit Center. Nonmotorized connections are also proposed from Road L to SR 305 and on Viking Ave south of SR 305.

The proposed sidewalk will provide a safe, accessible, illuminated, and ADA-compliant nonmotorized connection to the west side of the North Viking Transit Center via Vetter Rd, Road L, and Viking Ave (where a pedestrian would catch the bus). Oslo Bay tenants will be instructed to use Road L to access the Transit Center.

In addition to the proposed Vetter/Road L/Viking Ave pedestrian connection, the Project proposes constructing a six-foot wide gravel trail from the north side of Road L to connect to the existing Kitsap Transit asphalt trail on the west side of Vetter Rd. This alternative route provides a more direct connection to the North Viking Transit Center, but requires pedestrians to cross three traffic aisles in the Transit Center parking lot while the Road L route requires pedestrians to cross only one driveway.

The proposed nonmotorized improvements will accommodate Project-generated nonmotorized travel to key nonmotorized trip generators, summarized below:

- Poulsbo's Fish Park and Nelson Park are south of SR 305 with accesses off Viking Ave and NW Lindvig Way. Fish Park is also accessible off Bond Road NE. The Project will provide continuous nonmotorized facilities on Viking Way from SR 305 and accessible pedestrian signals at the intersection of SR 305 and Viking Ave NW to the new Road L intersection to support nonmotorized travel. The two proposed nonmotorized connections from Road L to the North Viking Transit Center will provide access to Route 344 Poulsbo Central as a transit option.

- North Viking Park & Ride and Transit Center are between Viking Ave and Vetter Road NW north and west of the site. The Project will provide two nonmotorized connections to the North Viking site: an illuminated and ADA-compliant sidewalk route via Vetter Rd, Road L, and Viking Ave; and a gravel trail connection from the north side of Road L to the existing asphalt trail on the west side of Vetter Rd.

- Sonic Drive-In and Arco Gas Station are at the northwest corner of SR 305 and Viking Ave. The Project will provide a marked pedestrian crossing on the north leg of Viking Ave at the Road L intersection to provide nonmotorized connection across Viking Ave NW at the intersection.

- North Kitsap Medical Center is located at the southeast corner of SR 305 and Bond Road (SR 307) NE. The two proposed nonmotorized connections from Road L to the North Viking Transit Center will provide access to Route 390 Poulsbo Bainbridge, which serves the North Kitsap Medical Center.
- The Central Market is at the southeast corner of Little Valley Road NE/10th Avenue NE and NE Forest Rock Lane. The two proposed nonmotorized connections from Road L to the North Viking Transit Center will provide access to Route 344 Poulsbo Central, which serves the Central Market.
- Walmart Supercenter is on the west side of the SR 305 and SR 3 interchange. The two proposed nonmotorized connections from Road L to the North Viking Transit Center will provide access to Route 344 Poulsbo Central, which serves Walmart Supercenter.

2028 WITH-PROJECT MITIGATED TRAFFIC SAFETY

The traffic hardware and signal timing improvements described above will reduce queuing and congestion along the SR 305 and SR 307 corridors. By reducing queuing and unexpected stops, the proposed mitigation is also expected to reduce the frequency of rear-end collisions, which are the predominant crash type on the study corridors.

COMPLETE STREETS COMPLIANCE

City of Poulsbo Complete Streets policy is identified in PMC Chapter 14.06. The full policy statement, PMC 14.060.020, is provided below for reference:

> *The city will to the maximum extent practicable plan for, design, construct, operate, and maintain an appropriate and integrated transportation system that will meet the needs of all users including pedestrians, bicyclists and transit passengers of all ages and abilities, as well as trucks, buses and automobiles. The concept of complete streets includes but is not limited to transportation facilities such as road signs, pavement markings, street and sidewalk lighting, sidewalk and curb ramps complying with the Americans with Disabilities Act, transit accommodations, bicycle accommodations, speed control features, and streetscapes which promote pedestrian use. Recognizing that transportation needs vary, the system's design will be consistent with and supportive of local neighborhoods, commercial areas, downtown cores and other areas and must be balanced in a flexible, safe, and cost-effective manner.*

Per PMC 14.06.080, no Complete Streets performance measures are currently identified. The Project includes design consideration for the needs of on-site multimodal demand, including pedestrians, bicycles, transit, trucks, buses, and automobiles, as described earlier in this document. Complete Streets requirements are satisfied.

COMPREHENSIVE PLAN COMPLIANCE

This TIA was prepared using the travel demand model, growth forecasts, and LOS standards identified in the Poulsbo Comprehensive Plan. The results, findings, and recommendations included in this report are consistent with the adopted land use and transportation goals and policies in the Plan. The provision of on-site improvements to Vetter Rd within the Project limits is consistent with the Poulsbo 2016 Transportation Plan.

EMERGENCY ACCESS

The Fire Department has expressed concerns regarding access to the Oslo Bay site during peak periods of congestion on SR 305. The Fire Department specifically referenced concerns related to increases in traffic resulting from the Project.

In a memo dated September 26, 2019, Deputy Chief Bruce Peterson wrote, Fire Station 71 located at 911 NE Liberty Rd is the primary response station for the proposed Oslo Bay development, the response route will be from the south on northbound SR 305." He also wrote, "The City of Poulsbo estimates that just the Oslo Bay apartment portion of development, when built out, will add approximately 2,500 daily trips. This will further impact an already congested traffic corridor." Deputy Chief Peterson added, "We are also concerned that the proposed right in access from SR 305 into the development will not be accessible during high traffic times due to the responding units having to travel in the oncoming lanes and to cross the two turn lanes and the two north bound SR 305 traffic lanes to gain access. Our emergency vehicles do not use the right-hand shoulder to pass traffic. State law requires traffic to pull to the right when approached by or being overtaken by emergency vehicles."

RELATIVE IMPACT OF OSLO BAY TRAFFIC ON RESPONSE TIMES

Intersection delay was calculated for the three primary intersections between Oslo Bay and the Fire Station at 911 NE Liberty Road, as shown in **Table 33**. Delay for the key movements were calculated using Synchro 10 software HCM 6th Edition. Four cases were evaluated:

- 2019
- 2028 Without-Project (includes pipeline and background growth)
- 2028 With-Project Without-Mitigation
- 2028 With-Project With-Mitigation

Table 33. Emergency Access Route Control Delay Comparison

Location	2019		2028 Without-Project		2028 With-Project Without-Mitigation		2028 With-Project With-Mitigation	
	AM	PM	AM	PM	AM	PM	AM	PM
WB right-turn from Liberty to NB SR 305	69.8	74.3	69.8	74.5	69.8	74.5	69.8	71.4
NB through on SR 305 at Forest Rock	61.5	134.4	61.3	129.9	61.2	145.9	61.5	136.2
NB through on SR 305 at SR 307	63.6	64.1	43.6	61.3	42.9	80.3	42.8	39.8
Total (seconds)	194.9	272.8	174.7	265.7	173.9	300.7	174.1	247.4
Change from 2028 Without-Project					-0.8	+35.0	-0.6	-18.3

The last row of **Table 33** shows the calculated change in delay experienced by a northbound fire apparatus for each case. The 2028 With-Project condition shows a reduction of 0.8 seconds of delay in the AM peak and an increase of 35.0 seconds of delay in the PM peak hour relative to the 2028 Without-Project condition. The 2028 With-Project Mitigated condition shows a reduction of 0.6 seconds of delay in the AM peak hour and a decrease of 18.3 seconds of delay in the PM peak hour, indicating a decrease in congestion compared to the 2028

Without-Project condition. This decrease is a result of signal timing and coordination improvements along SR 305, most notably at the intersection of SR 305 & Bond Rd.

DESIGN OF RIRO ACCESS ON SR305

The design of the right-in right-out access on SR 305 should ensure that emergency vehicles can make a left turn from southbound SR 305 if necessary. In addition, the curbing and island on the RIRO channelization could be mountable.

ALTERNATE ROUTE TO AVOID SR 305 CONGESTION SOUTH OF SR 307

The Deputy Chief's memo identifies two potential routes from the Fire Station to Oslo Bay Apartments. There is another route not identified in the Fire Department's memo that uses more local streets and avoids congestion on northbound SR 305. This route avoids SR 305 from the Fire Station to SR 307 by using 10th Ave NE to Little Valley Rd NE to NE Bernt Rd to Bond Rd (SR 307) to SR 305. The distance is slightly longer, but congestion may be significantly less in the peak hour. Once the apparatus arrives at SR 307, it can use the opposing lanes to the SR 305 & Bond Rd/SR 307 intersection and then work its way up the northbound through lane to the right-in right-out access on SR 305. This route may provide a reasonable alternative during periods of congestion on SR 305.

EMERGENCY VEHICLE PREEMPTION SYSTEM IMPROVEMENTS

There may be an opportunity to improve the response of the emergency vehicle preemption system. Advance detection, or modified programming to clear more traffic from affected intersection before the apparatus arrives could be explored. This could include raising detectors to improve visibility or adding advance detectors. The proposed traffic signal hardware upgrades will support emergency enhanced vehicle preemption.

OTHER CONSIDERATIONS

Oslo Bay is within 1.1 miles of the Fire Station. Oslo Bay Apartments will be closer to the Fire Station than several other new residential properties. Locating new residential units closer to the Fire Station minimizes response time compared to the same number of units located further away from the Fire Station. The new RIRO access to SR 305 will provide an alternate route for emergency vehicles in the case that SR 305 or Viking Ave are blocked near the site.

EMERGENCY ACCESS MITIGATION

The proposed traffic signal equipment upgrades will provide for enhanced emergency vehicle preemption systems and mitigate congestion and delays to pre-Project levels. No additional mitigation is proposed.

CONSTRUCTION TRAFFIC

CONSTRUCTION TRAFFIC

Construction traffic volumes were estimated based upon a 60-month construction schedule. Trip types included inbound worker trips occurring between 6:00 AM and 7:00 AM, outbound worker trips occurring between 3:00 PM and 4:00 PM, and truck traffic occurring between 9:00 AM and 3:00 PM.

WORKER TRIP GENERATION

Worker trip generation was calculated based upon the estimated number of site workers per month. **Figure 7** identifies the number of workers expected on-site per month for the expected 60-month construction duration and one grading phase.

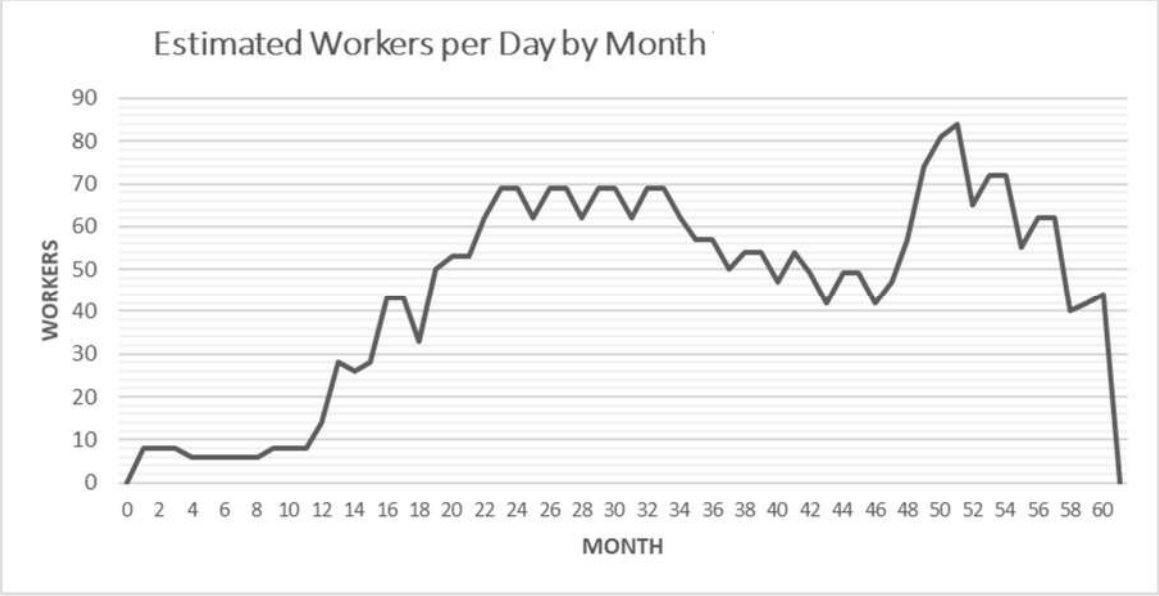


Figure 7. Estimated Site Workers per Day

The number of site workers on site varies over the Project schedule. The number of site workers increases from construction start through site development and plateaus at about 69 workers or less for the majority of building construction with a spike associated the completion of Building 5 in summer of 2026. Site workers are expected to enter the site between 6:00 AM and 7:00 AM and exit the site between 3:00 PM and 4:00 PM. These are hours are earlier than the peak hour of traffic of the adjacent streets for the site. Vehicle occupancy is assumed to be 1.0 occupant per vehicle.

Based upon the above assumptions the typical worker generated traffic generated by the Project is 69 inbound pre-AM Peak hour trips and 69 outbound pre-PM Peak hour trips. With a maximum estimated worker generated traffic generated by the Project is 84 inbound pre-AM Peak hour trips and 84 outbound pre-PM Peak hour trips.

TRUCK TRIP GENERATION

The volume and composition of truck trips is based upon the estimated truck traffic accessing the site. All truck traffic will be off-peak occurring between 9:00 AM and 3:00 PM. Truck traffic composition varies, as indicated below:

- Truck traffic in months 1 through 4 includes equipment mobilization, utility/storm related materials deliveries and 6 log trucks per day.
- Truck traffic in months 5 through 9 includes miscellaneous debris export, equipment mobilization, and material delivery and reflects generally balanced earthwork on the site.
- On-site grading and impart export haul are anticipated to occur from July 2022 through September 2022 and April 2023 through July 2023. 50 trucks per day are expected during this period.
- Other truck traffic in months 10 through 60 includes primarily building material deliveries.

Estimated trucks per day by month are shown in **Figure 8** and are summarized in **Appendix O**.

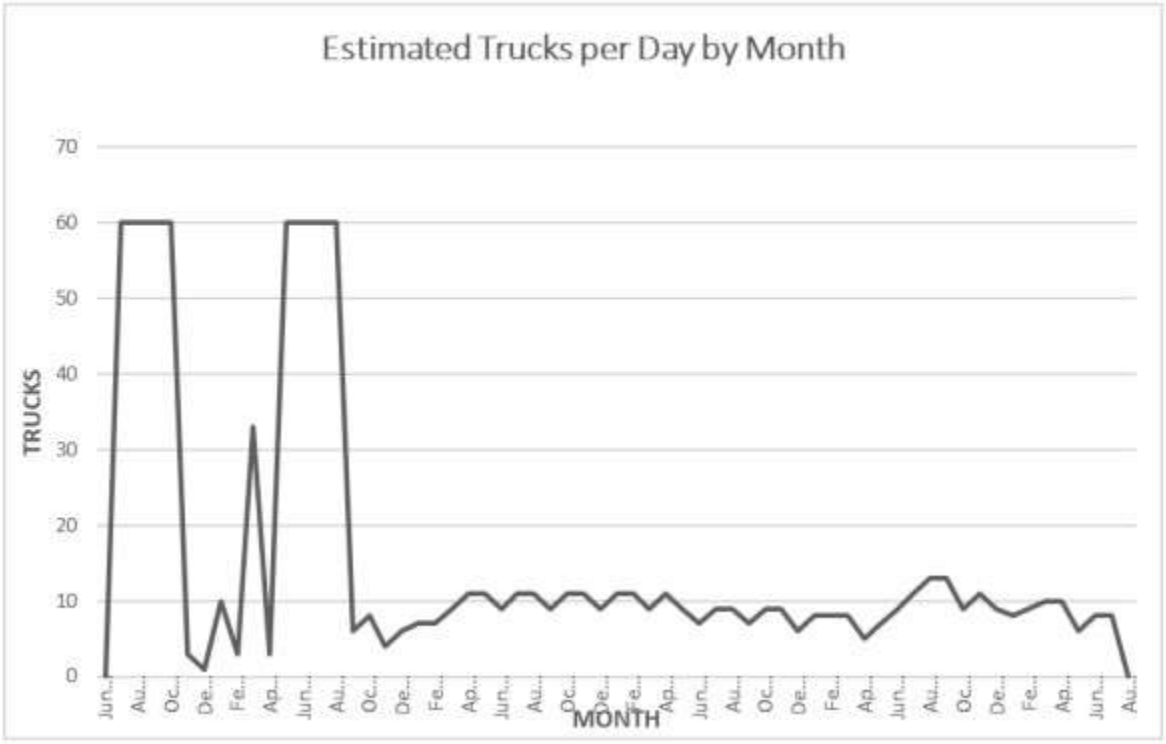


Figure 8. Estimated Trucks per Day by Month

Peak daily truck traffic generation of 60 trucks per day will occur from July through September 2022 and April through July of 2023. Typical truck generation is 11 trucks per day. Daily truck trips are calculated by multiplying the total trucks per day times two to reflect one inbound and one outbound trip per truck. Peak daily truck trip generation is 120 daily trips and typical daily truck trip generation for the remainder of the schedule is less than 22 daily trips.

DAILY TRIP GENERATION

Daily trip generation is made up of worker trips occurring between 6:00 AM and 7:00 AM and between 3:00 PM and 4:00 PM, and truck trips occurring between 9:00 AM and 3:00 PM.

Peak daily trip generation is calculated by combining the peak daily worker trips of 84 inbound and 84 outbound trips with the typical daily truck trip generation of 22 truck trips per day for total of 190 trips per day occurring in September 2026.

AVOIDING PEAK HOUR TRIP GENERATION

The peak hours of the adjacent street system are 7:00 AM to 8:00 AM and 4:00 PM to 5:00 PM. Construction will be scheduled such that construction workers arrive on the site prior to 7:00 AM and leave the site before or after the 4:00 PM to 5:00 PM peak of the adjacent street system.

CONSTRUCTION SITE ACCESS

Both the new Road L connection and the RIRO access on SR 305 will be used for construction access to distribute trips efficiently to the adjacent street network. The applicant is aware of the existing queuing on southbound Viking Ave at SR 305 and will schedule truck trips to avoid adding construction traffic that would exacerbate the existing queueing.

CONSTRUCTION ANALYSIS FINDINGS

The maximum daily truck traffic generated by the site of 60 trucks per day will occur from July through September 2022 and April through July of 2023. Typical truck trip generation will be under 20 trips per day. None of these truck trips will be scheduled to occur in the AM or PM peak hour of the adjacent street system.

The maximum worker generated traffic of 84 AM pre-trips and 84 pre-PM trips will occur in September of 2026. These trips will occur before the 7:00 AM to 8:00 AM peak hour and before or after the 4:00 PM to 5:00 PM peak hour of the adjacent street system.

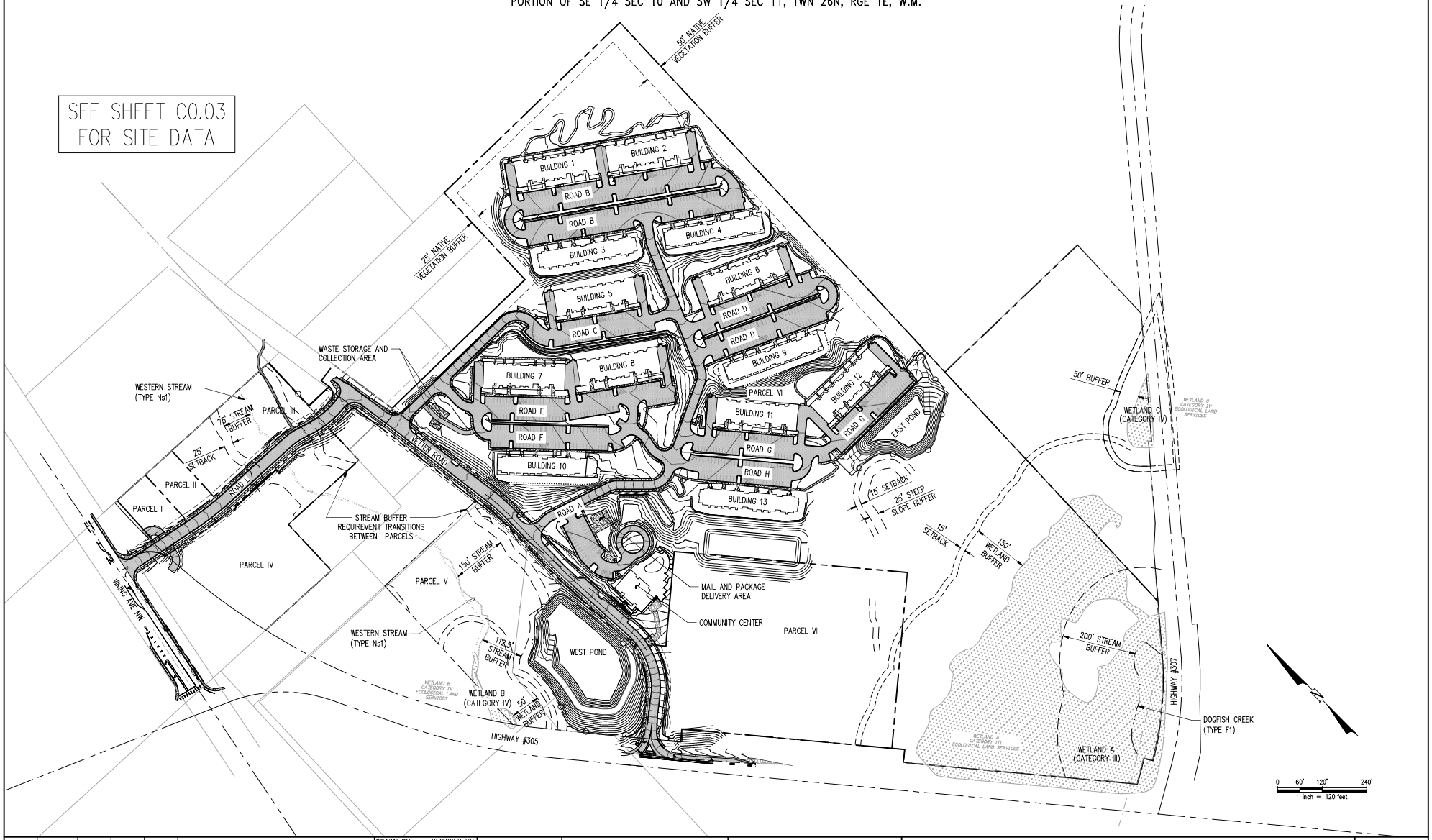
CONSTRUCTION ANALYSIS CONCLUSIONS

The construction traffic generated by the site occurs outside the AM and PM peak hours of the adjacent street system subject to City concurrency review and WSDOT SEPA review. No LOS impacts are anticipated to occur. Queuing impacts at Viking Ave/SR305 can be mitigated by scheduling truck arrivals and departures from the site outside of the AM and PM peak hours.

Appendix A. Preliminary Site Plan

PORTION OF SE 1/4 SEC 10 AND SW 1/4 SEC 11, TWN 26N, RGE 1E, W.M.

SEE SHEET C0.03
FOR SITE DATA



NO.	DATE	BY	CHD.	APPR.	REVISION

DRAWN BY KSA/TAD | DESIGNED BY JRN
CHECKED BY JRN | APPROVED BY JSF
DATE
DATE
J O B No. :2000329

CALL TWO BUSINESS DAYS BEFORE YOU DIG 1-800-424-5555

S C A L E: AS NOTED

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Seattle, WA 98101
206.622.5822
www.kpff.com

09/13/2021

OSLO BAY APARTMENTS
POULSBO, WASHINGTON

SITE PLAN

SHEET
C0.02

Sep 13, 2021 - 2:17pm JaneP C:\Temp\Acl\Publish_18780\C0.00_02 CVR.dwg

Appendix B. Road L Conceptual Layout

PORTION OF SE 1/4 SEC 10 AND SW 1/4 SEC 11, TWN 26N, RGE 1E, W.M.

SEE SHEET C1.00 FOR HORIZONTAL CONTROL NOTES

LEGEND

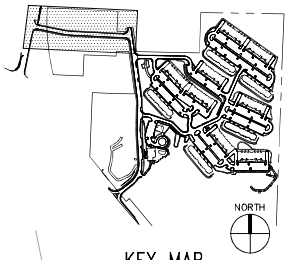
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CENTERLINE

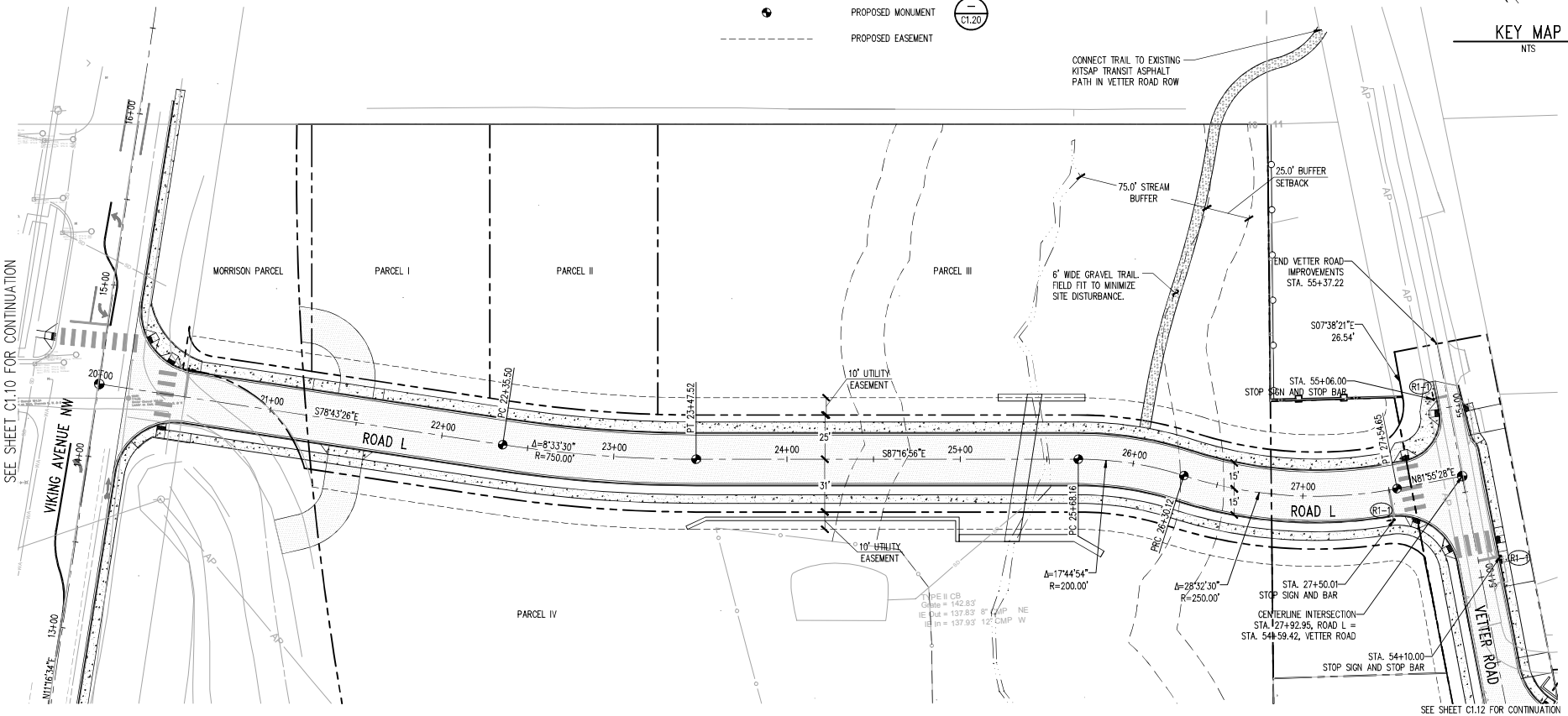
PROPOSED MONUMENT

PROPOSED EASEMENT

C1.20



KEY MAP
NTS



NO.	DATE	BY	CHD.	APPR.	REVISION

DRAWN BY KSA/TAD | DESIGNED BY JRN
CHECKED BY JRN | APPROVED BY JSF
DATE
DATE

J O B No. : 2000329

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S C A L E: AS NOTED

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09/13/2021

OSLO BAY APARTMENTS
POULSBO, WASHINGTON

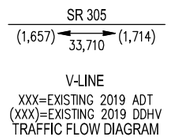
HORIZONTAL CONTROL AND CHANNELIZATION PLAN

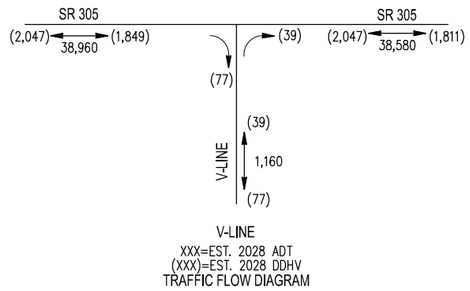
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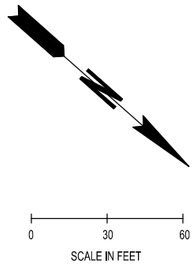
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Appendix C. SR 305 & Vetter Rd Conceptual Layout

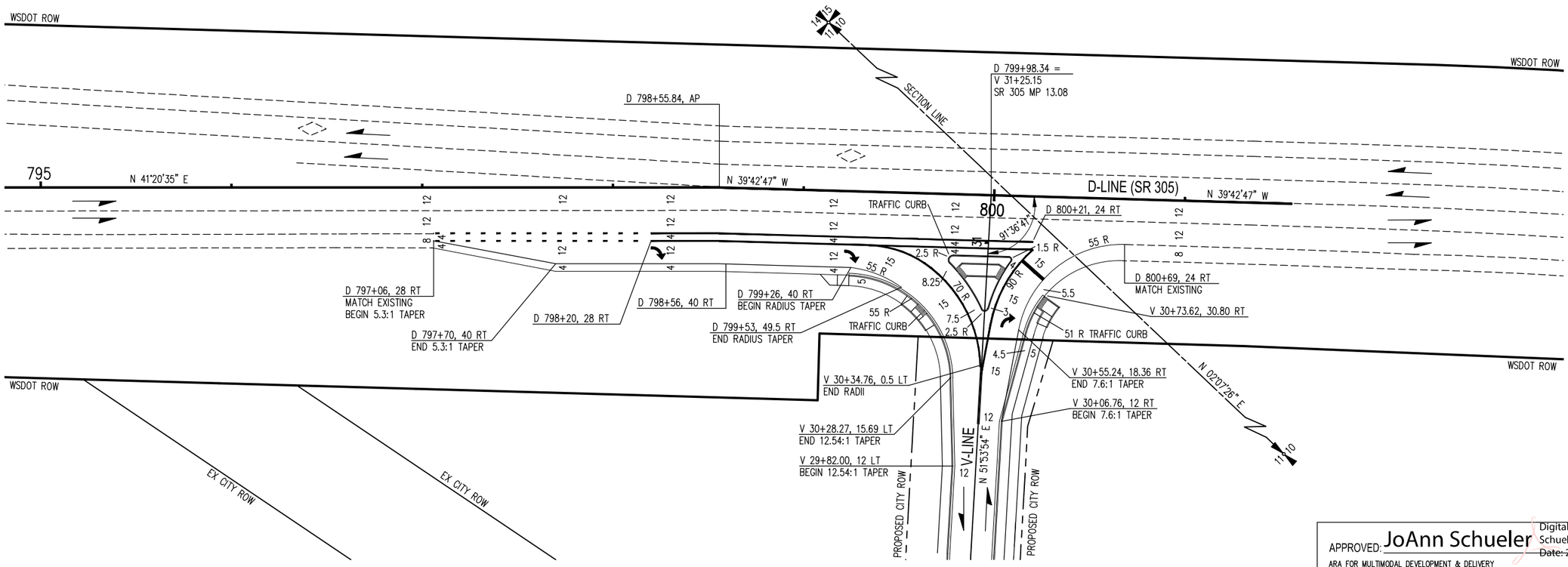
T. 26 N., R. 1 E., W.M.







DESIGN DATA FOR NHS ROUTE, NON-INTERSTATE IMPROVEMENTS		
ROADWAY	D–LINE (SR 305)	V–LINE (VETTER ROAD)
SUMMARY OF DESIGN		------
INTERSECTION CONTROL TYPE	UNSIGNALIZED	STOP
FUNCTIONAL CLASSIFICATION	U1 – URBAN PRINCIPAL ARTERIAL	COLLECTOR
ACCESS CONTROL	MANAGED ACCESS CLASS 3	------
TERRAIN CLASSIFICATION	ROLLING	------
DESIGN SPEED	40 MPH	25 MPH
POSTED SPEED	40 MPH	25 MPH
DESIGN VEHICLE	WB–40	WB–40
PERCENT TRUCKS	5%	<1%



APPROVED: JoAnn Schueler — Digitally signed by JoAnn Schueler Date: 2021.07.30 08:39:26 -07'00'
ARA FOR MULTIMODAL DEVELOPMENT & DELIVERY

CONCUR: Sarah Ott — Digitally signed by Sarah Ott Date: 2021.07.29 15:37:57 -07'00'
OLYMPIC REGION TRAFFIC ENGINEER

CONCUR: Andrew R. Larson — Digitally signed by Andrew R. Larson Date: 2021.07.12 07:43:11 -07'00'
OLYMPIC REGION DEVELOPMENT SERVICES ENGINEER

GEOMETRICS APPROVED WITHIN STATE HIGHWAY RIGHT–OF–WAY ONLY

△	REVISIONS	DATE	BY
1	1ST SUBMITTAL	12/18/20	SCJ
2	2ND SUBMITTAL	03/03/21	SCJ
3	3RD SUBMITTAL	04/05/21	SCJ

DESIGNED BY: M. WEYRAUCH | ISSUE DATE: 04/05/2021
DRAWN BY: M. WEYRAUCH | JOB No.: 3469.01
APPROVED BY: R. JEWELL | DRAWING FILE No.: 1582.01_PFA2.DWG

ALL DIMENSIONS AND STATION OFFSETS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 13266 — REGISTERED PROFESSIONAL ENGINEER — 04/05/2021

SCJ ALLIANCE
CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
P: 360-352-1465 F: 360-352-1509
SCJALLIANCE.COM

PROJECT NAME:
OSLO BAY APARTMENTS
SR 305 & VETTER ROAD
INTERSECTION IMPROVEMENTS

SR 305 /
SITE ACCESS I/S
MP 13.08

PLAN FOR APPROVAL

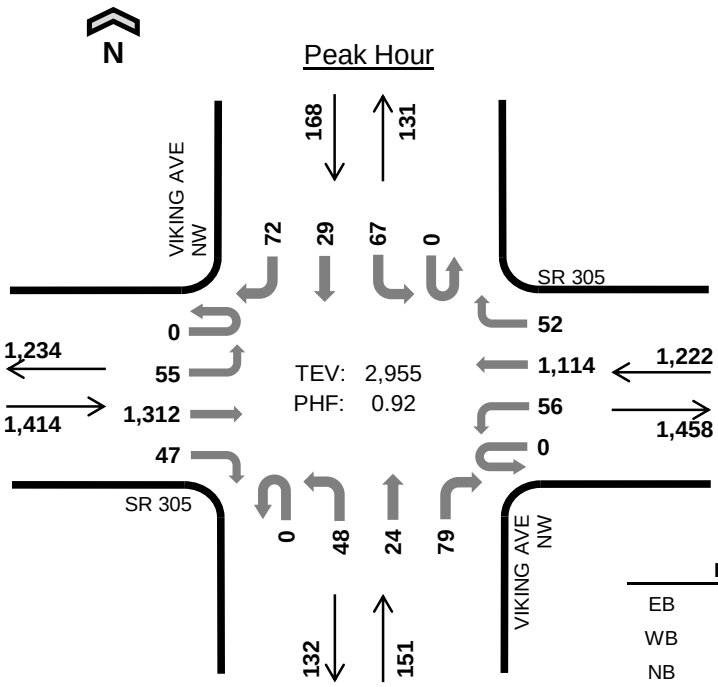
DRAWING No.: PFA-1
SHEET No.: 1 OF 1

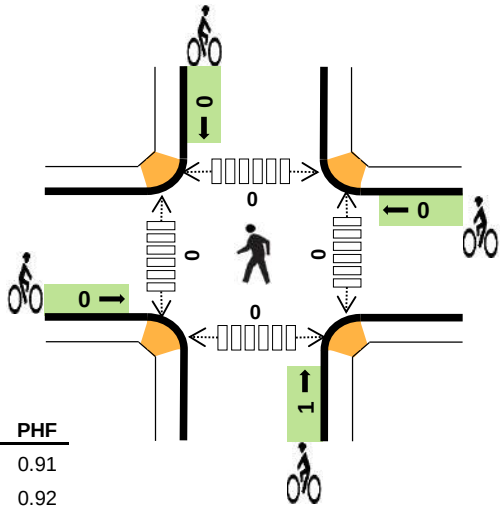
Apr 05, 2021 11:07:18am – User mattweyrauch
N:\PROJECTS\1582 EDWARD ROSE AND SONS\1582.01 SR 307 ROADWAY AND INTERSECTION IMPROVEMENTS\PHASE 30– SR 305 DESIGN\CADD\1582.01–PFA–1.DWG

Appendix D. Traffic Counts

VIKING AVE NW
SR 305

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	4.3%	0.91
WB	4.3%	0.92
NB	7.9%	0.82
SB	14.3%	0.95
TOTAL	5.1%	0.92

Two-Hour Count Summaries

Interval Start	SR 305 Eastbound				SR 305 Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	15	127	1	0	3	143	9	0	11	9	4	0	3	4	23	352	0
6:15 AM	0	13	164	1	0	6	230	8	0	3	6	7	0	9	4	5	456	0
6:30 AM	0	11	237	8	0	7	238	13	0	13	4	15	0	9	3	25	583	0
6:45 AM	0	14	259	6	0	5	253	18	0	13	7	9	0	12	5	30	631	2,022
7:00 AM	**0**	**16**	**272**	**9**	**0**	**9**	**257**	**10**	**0**	**9**	**1**	**15**	**0**	**17**	**6**	**16**	**637**	2,307
7:15 AM	**0**	**14**	**340**	**12**	**0**	**17**	**259**	**14**	**0**	**11**	**5**	**22**	**0**	**16**	**5**	**23**	**738**	2,589
7:30 AM	**0**	**11**	**335**	**16**	**0**	**13**	**296**	**15**	**0**	**12**	**8**	**26**	**0**	**17**	**8**	**19**	**776**	2,782
7:45 AM	**0**	**14**	**365**	**10**	**0**	**17**	**302**	**13**	**0**	**16**	**10**	**16**	**0**	**17**	**10**	**14**	**804**	**2,955**
Count Total	0	108	2,099	63	0	77	1,978	100	0	88	50	114	0	100	45	155	4,977	0
Peak Hour	**0**	**55**	**1,312**	**47**	**0**	**56**	**1,114**	**52**	**0**	**48**	**24**	**79**	**0**	**67**	**29**	**72**	**2,955**	**0**

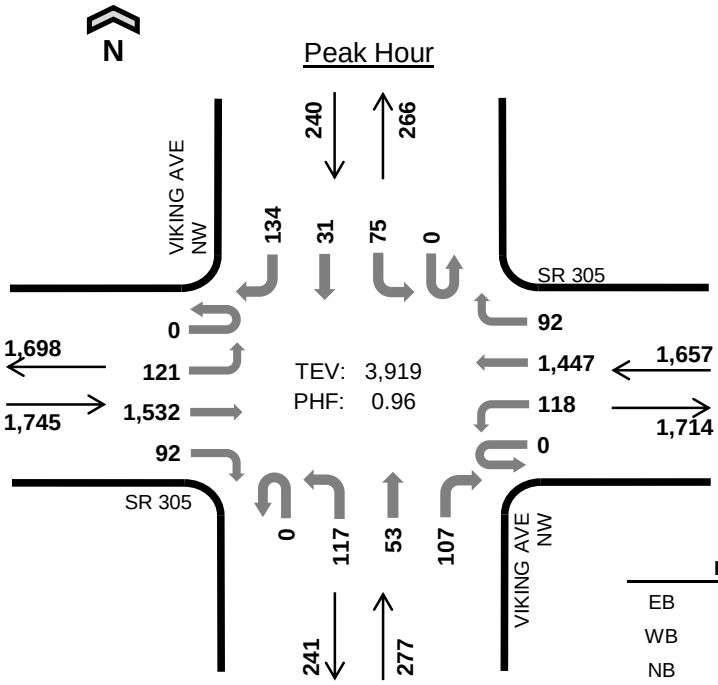
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

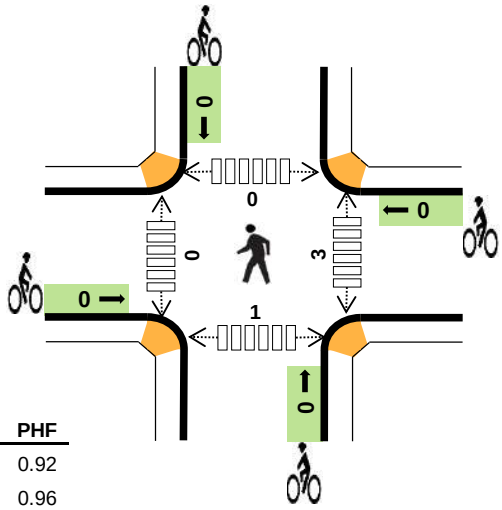
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	5	4	1	2	*12*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	6	4	0	3	*13*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	13	3	2	3	*21*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	11	8	1	2	*22*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**7**	**16**	**0**	**3**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**18**	**5**	**3**	**7**	***33***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**17**	**16**	**3**	**8**	***44***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**19**	**16**	**6**	**6**	***47***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
Count Total	96	72	16	34	*218*	0	0	1	0	*1*	0	0	0	0	*0*
Peak Hour	**61**	**53**	**12**	**24**	***150***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

VIKING AVE NW
SR 305

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	2.3%	0.92
WB	2.6%	0.96
NB	2.5%	0.92
SB	7.9%	0.94
TOTAL	2.8%	0.96

Two-Hour Count Summaries

Interval Start	SR 305 Eastbound				SR 305 Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	32	398	29	0	21	365	20	0	26	10	25	0	18	9	24	977	0
4:15 PM	**0**	**28**	**384**	**24**	**0**	**24**	**345**	**20**	**0**	**32**	**18**	**25**	**0**	**11**	**8**	**36**	**955**	0
4:30 PM	**0**	**34**	**346**	**24**	**0**	**31**	**372**	**28**	**0**	**35**	**11**	**26**	**0**	**19**	**10**	**30**	**966**	0
4:45 PM	**0**	**34**	**414**	**25**	**0**	**31**	**375**	**20**	**0**	**19**	**10**	**30**	**0**	**27**	**4**	**31**	**1,020**	3,918
5:00 PM	**0**	**25**	**388**	**19**	**0**	**32**	**355**	**24**	**0**	**31**	**14**	**26**	**0**	**18**	**9**	**37**	**978**	**3,919**
5:15 PM	0	27	367	29	0	29	356	23	0	18	11	25	0	17	8	26	936	3,900
5:30 PM	0	31	343	21	0	32	360	33	0	21	9	27	0	20	6	34	937	3,871
5:45 PM	0	17	320	18	0	32	311	14	0	24	9	22	0	16	14	27	824	3,675
Count Total	0	228	2,960	189	0	232	2,839	182	0	206	92	206	0	146	68	245	7,593	0
Peak Hour	**0**	**121**	**1,532**	**92**	**0**	**118**	**1,447**	**92**	**0**	**117**	**53**	**107**	**0**	**75**	**31**	**134**	**3,919**	**0**

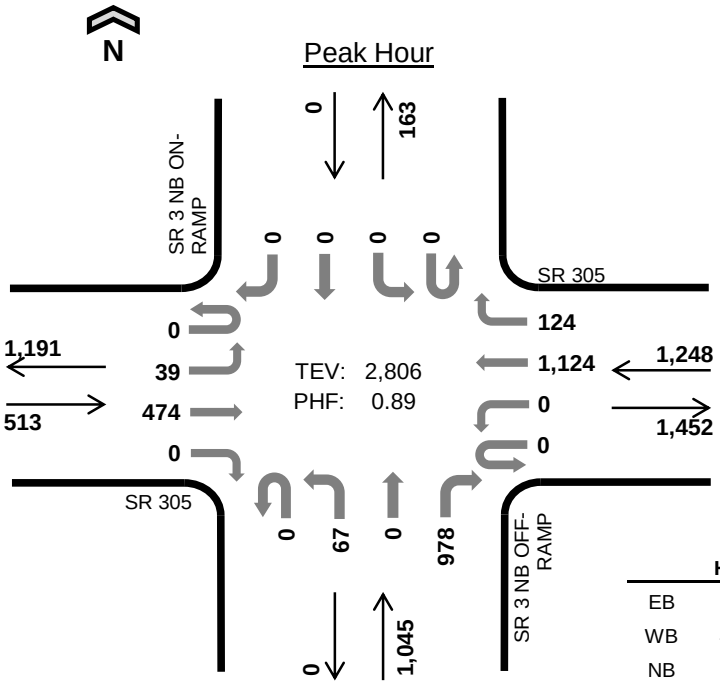
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

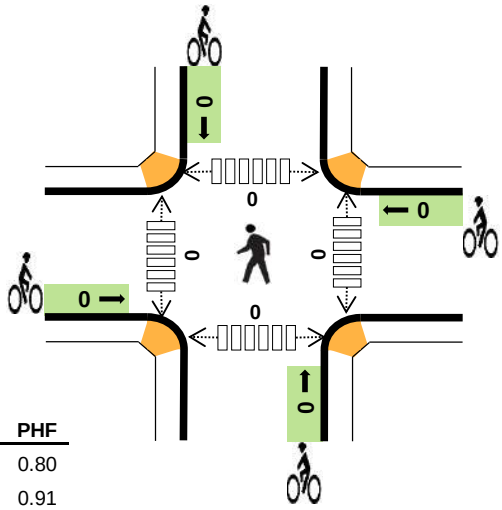
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	23	11	1	4	*39*	0	0	0	0	*0*	1	0	0	0	*1*
4:15 PM	**11**	**15**	**3**	**4**	***33***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:30 PM	**7**	**13**	**1**	**4**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**7**	**7**	**1**	**8**	***23***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**15**	**8**	**2**	**3**	***28***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	***2***
5:15 PM	7	8	1	6	*22*	0	0	0	0	*0*	2	0	0	0	*2*
5:30 PM	6	6	1	4	*17*	0	0	0	0	*0*	3	0	0	1	*4*
5:45 PM	6	3	1	1	*11*	0	0	0	0	*0*	0	0	0	1	*1*
Count Total	82	71	11	34	*198*	0	0	0	0	*0*	9	0	0	3	*12*
Peak Hour	**40**	**43**	**7**	**19**	***109***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**1**	***4***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

SR 3 NB RAMPS
SR 305

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	7.6%	0.80
WB	4.3%	0.91
NB	3.9%	0.91
SB	-	-
TOTAL	4.8%	0.89

Two-Hour Count Summaries

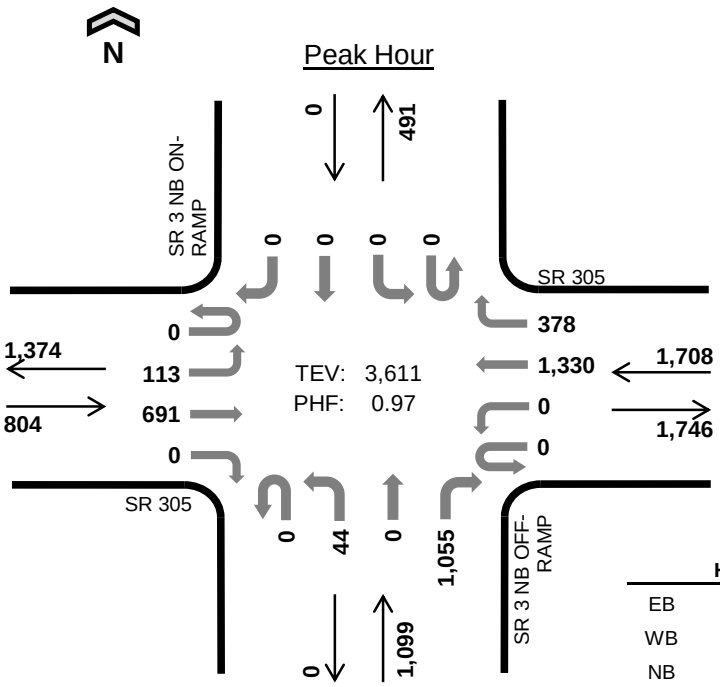
Interval Start	SR 305 Eastbound				SR 305 Westbound				SR 3 NB OFF-RAMP Northbound				SR 3 NB ON-RAMP Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	1	50	0	0	0	170	16	0	1	0	100	0	0	0	0	338	0
6:15 AM	0	3	59	0	0	0	218	19	0	4	0	134	0	0	0	0	437	0
6:30 AM	0	6	77	0	0	0	242	22	0	8	0	182	0	0	0	0	537	0
6:45 AM	0	8	82	0	0	0	260	40	0	7	0	187	0	0	0	0	584	1,896
7:00 AM	**0**	**10**	**91**	**0**	**0**	**0**	**253**	**30**	**0**	**16**	**0**	**205**	**0**	**0**	**0**	**0**	**605**	2,163
7:15 AM	**0**	**4**	**140**	**0**	**0**	**0**	**272**	**34**	**0**	**14**	**0**	**254**	**0**	**0**	**0**	**0**	**718**	2,444
7:30 AM	**0**	**9**	**99**	**0**	**0**	**0**	**292**	**26**	**0**	**18**	**0**	**250**	**0**	**0**	**0**	**0**	**694**	2,601
7:45 AM	**0**	**16**	**144**	**0**	**0**	**0**	**307**	**34**	**0**	**19**	**0**	**269**	**0**	**0**	**0**	**0**	**789**	**2,806**
Count Total	0	57	742	0	0	0	2,014	221	0	87	0	1,581	0	0	0	0	4,702	0
Peak Hour	**0**	**39**	**474**	**0**	**0**	**0**	**1,124**	**124**	**0**	**67**	**0**	**978**	**0**	**0**	**0**	**0**	**2,806**	**0**

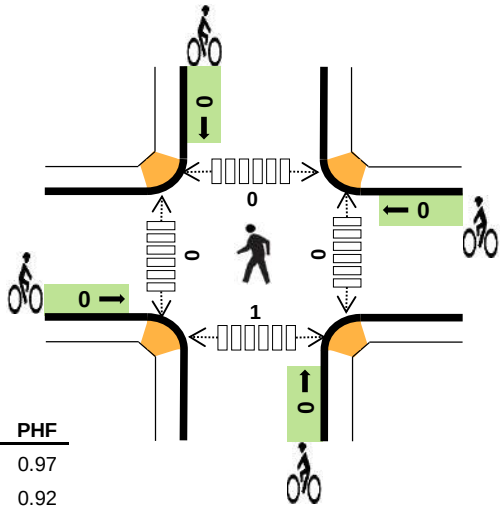
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	2	6	6	0	*14*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	2	3	10	0	*15*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	4	6	9	0	*19*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	7	11	7	0	*25*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**2**	**10**	**7**	**0**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**11**	**6**	**11**	**0**	***28***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**9**	**18**	**9**	**0**	***36***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**17**	**20**	**14**	**0**	***51***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	54	80	73	0	*207*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**39**	**54**	**41**	**0**	***134***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

SR 3 NB RAMPS
SR 305

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	2.4%	0.97
WB	2.6%	0.92
NB	2.1%	0.94
SB	-	-
TOTAL	2.4%	0.97

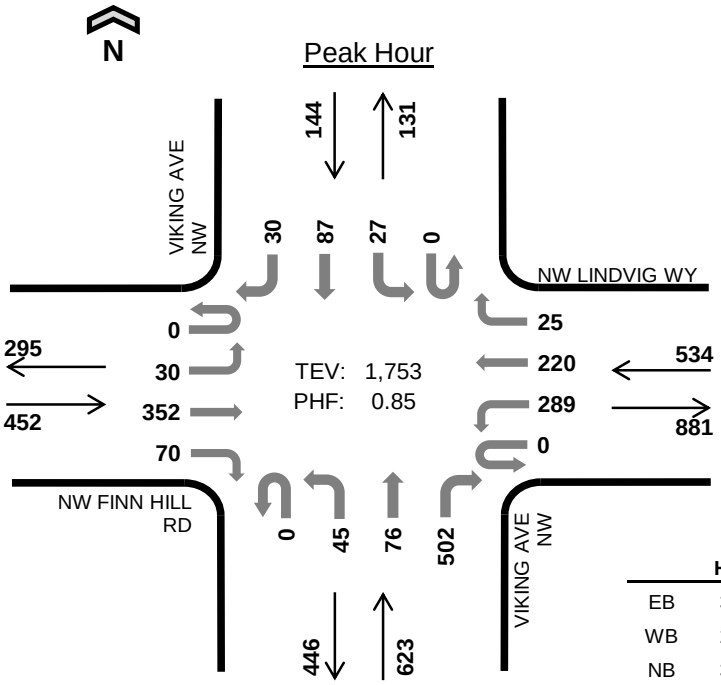
Two-Hour Count Summaries

Interval Start	SR 305 Eastbound				SR 305 Westbound				SR 3 NB OFF-RAMP Northbound				SR 3 NB ON-RAMP Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	1	29	182	0	0	0	316	81	0	7	0	262	0	0	0	0	878	0
4:15 PM	**0**	**26**	**166**	**0**	**0**	**0**	**322**	**77**	**0**	**19**	**0**	**272**	**0**	**0**	**0**	**0**	**882**	0
4:30 PM	**0**	**34**	**170**	**0**	**0**	**0**	**350**	**114**	**0**	**11**	**0**	**248**	**0**	**0**	**0**	**0**	**927**	0
4:45 PM	**0**	**24**	**177**	**0**	**0**	**0**	**333**	**85**	**0**	**10**	**0**	**274**	**0**	**0**	**0**	**0**	**903**	3,590
5:00 PM	**0**	**29**	**178**	**0**	**0**	**0**	**325**	**102**	**0**	**4**	**0**	**261**	**0**	**0**	**0**	**0**	**899**	**3,611**
5:15 PM	0	22	133	0	0	0	355	59	0	7	2	271	0	0	0	0	849	3,578
5:30 PM	0	28	169	0	0	0	349	57	0	14	0	227	0	0	0	0	844	3,495
5:45 PM	0	19	166	0	0	0	290	77	0	8	0	182	0	0	0	0	742	3,334
Count Total	1	211	1,341	0	0	0	2,640	652	0	80	2	1,997	0	0	0	0	6,924	0
Peak Hour	**0**	**113**	**691**	**0**	**0**	**0**	**1,330**	**378**	**0**	**44**	**0**	**1,055**	**0**	**0**	**0**	**0**	**3,611**	**0**

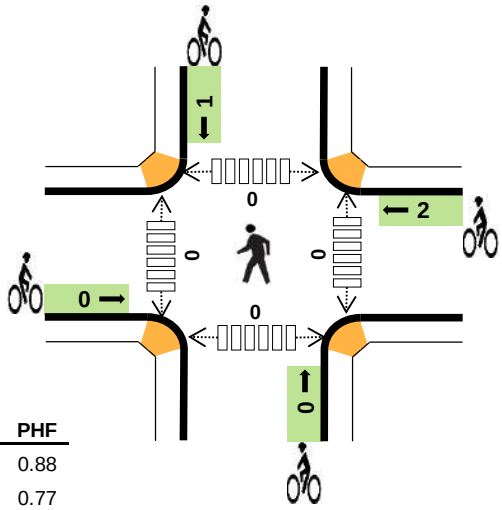
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	13	14	5	0	*32*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**3**	**15**	**8**	**0**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**3**	**12**	**4**	**0**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**5**	**9**	**5**	**0**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
5:00 PM	**8**	**8**	**6**	**0**	***22***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	5	11	2	0	*18*	0	1	0	0	*1*	0	0	0	0	*0*
5:30 PM	3	8	2	0	*13*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	4	3	4	0	*11*	0	0	0	0	*0*	0	0	0	1	*1*
Count Total	44	80	36	0	*160*	0	1	0	0	*1*	0	0	0	2	*2*
Peak Hour	**19**	**44**	**23**	**0**	***86***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***

VIKING AVE NW
NW FINN HILL RD



Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	3.5%	0.88
WB	2.1%	0.77
NB	3.4%	0.82
SB	6.9%	0.77
TOTAL	3.3%	0.85

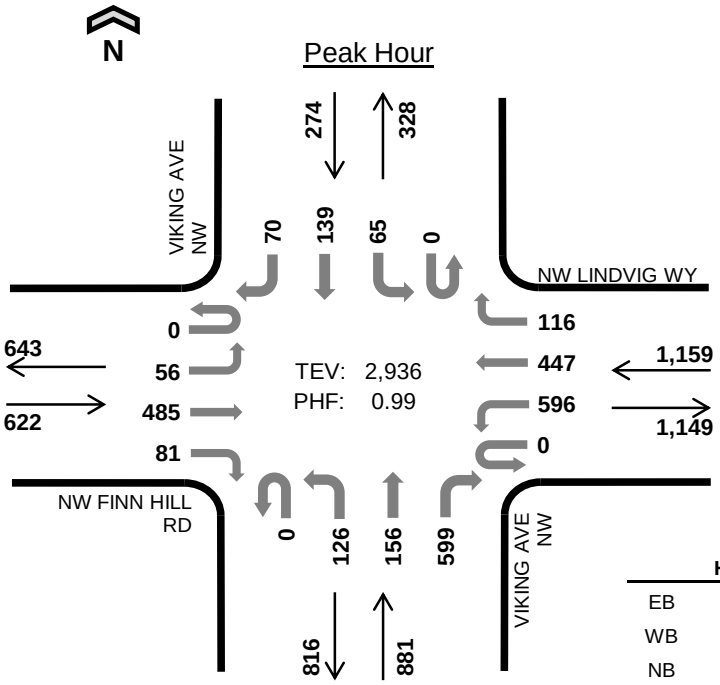
Two-Hour Count Summaries

Interval Start	NW FINN HILL RD				NW LINDVIG WY				VIKING AVE NW				VIKING AVE NW				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	6	11	8	0	31	21	4	0	3	9	29	0	0	8	2	132	0
6:15 AM	0	8	33	8	0	47	25	2	0	2	7	60	0	1	11	3	207	0
6:30 AM	0	4	38	11	0	48	32	6	0	9	18	65	0	4	12	3	250	0
6:45 AM	0	7	45	18	0	50	44	5	0	5	12	67	0	5	14	3	275	864
7:00 AM	**0**	**6**	**74**	**20**	**0**	**59**	**55**	**4**	**0**	**9**	**7**	**82**	**0**	**4**	**13**	**8**	**341**	1,073
7:15 AM	**0**	**7**	**100**	**22**	**0**	**69**	**48**	**5**	**0**	**9**	**22**	**132**	**0**	**8**	**20**	**4**	**446**	1,312
7:30 AM	**0**	**3**	**85**	**11**	**0**	**63**	**53**	**5**	**0**	**12**	**27**	**152**	**0**	**6**	**25**	**9**	**451**	1,513
7:45 AM	**0**	**14**	**93**	**17**	**0**	**98**	**64**	**11**	**0**	**15**	**20**	**136**	**0**	**9**	**29**	**9**	**515**	**1,753**
Count Total	0	55	479	115	0	465	342	42	0	64	122	723	0	37	132	41	2,617	0
Peak Hour	**0**	**30**	**352**	**70**	**0**	**289**	**220**	**25**	**0**	**45**	**76**	**502**	**0**	**27**	**87**	**30**	**1,753**	**0**

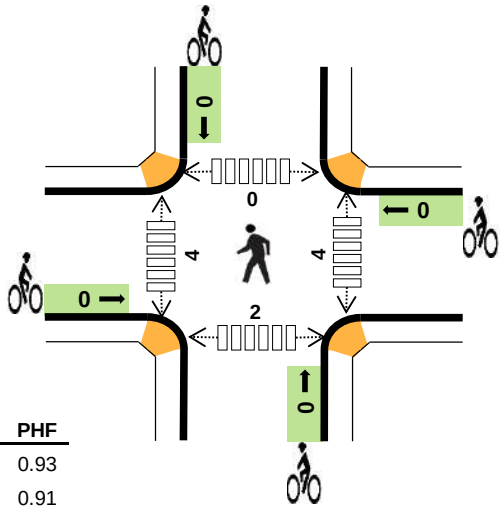
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	2	3	1	0	*6*	0	0	1	0	*1*	1	0	0	2	*3*
6:15 AM	1	3	0	1	*5*	0	0	0	0	*0*	2	0	0	0	*2*
6:30 AM	3	0	1	1	*5*	0	0	0	0	*0*	0	0	0	1	*1*
6:45 AM	2	0	0	1	*3*	0	0	0	0	*0*	0	0	0	1	*1*
7:00 AM	**3**	**1**	**3**	**2**	***9***	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**8**	**3**	**7**	**2**	***20***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**3**	**4**	**6**	**2**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**2**	**3**	**5**	**4**	***14***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
Count Total	24	17	23	13	*77*	0	2	1	1	*4*	3	0	0	4	*7*
Peak Hour	**16**	**11**	**21**	**10**	***58***	**0**	**2**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***

VIKING AVE NW
NW FINN HILL RD



Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	1.6%	0.93
WB	1.4%	0.91
NB	1.6%	0.91
SB	0.0%	0.94
TOTAL	1.4%	0.99

Two-Hour Count Summaries

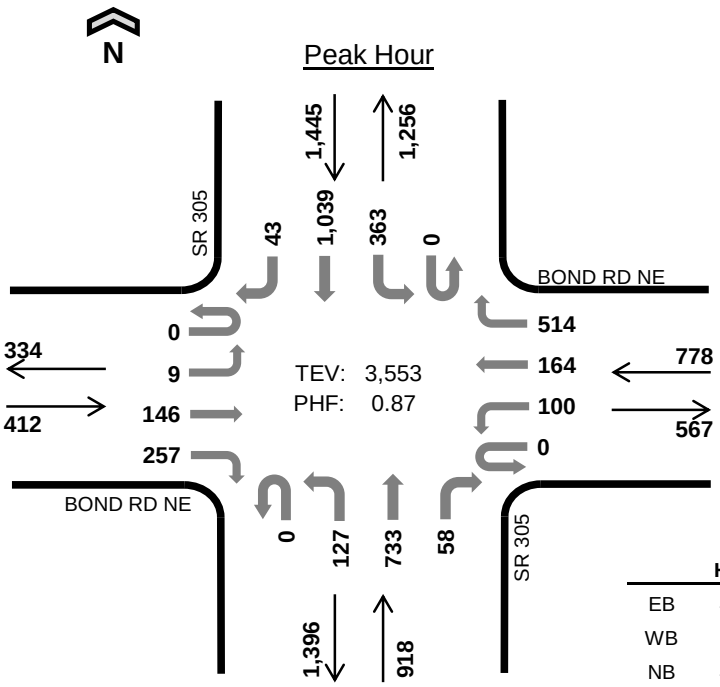
Interval Start	NW FINN HILL RD Eastbound				NW LINDVIG WY Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	14	134	25	0	146	90	18	0	21	40	157	0	20	40	14	719	0
4:15 PM	**0**	**19**	**127**	**18**	**0**	**135**	**88**	**32**	**0**	**31**	**43**	**168**	**0**	**19**	**35**	**16**	**731**	0
4:30 PM	**0**	**9**	**115**	**21**	**0**	**161**	**112**	**27**	**0**	**26**	**38**	**159**	**0**	**12**	**38**	**23**	**741**	0
4:45 PM	**0**	**15**	**131**	**21**	**0**	**140**	**115**	**30**	**0**	**35**	**41**	**133**	**0**	**17**	**40**	**14**	**732**	2,923
5:00 PM	**0**	**13**	**112**	**21**	**0**	**160**	**132**	**27**	**0**	**34**	**34**	**139**	**0**	**17**	**26**	**17**	**732**	**2,936**
5:15 PM	0	17	74	19	0	167	126	20	0	25	33	151	0	18	41	19	710	2,915
5:30 PM	0	4	73	21	0	171	119	20	0	28	29	126	0	19	46	12	668	2,842
5:45 PM	0	8	72	16	0	108	86	25	0	28	36	130	0	12	40	22	583	2,693
Count Total	0	99	838	162	0	1,188	868	199	0	228	294	1,163	0	134	306	137	5,616	0
Peak Hour	**0**	**56**	**485**	**81**	**0**	**596**	**447**	**116**	**0**	**126**	**156**	**599**	**0**	**65**	**139**	**70**	**2,936**	**0**

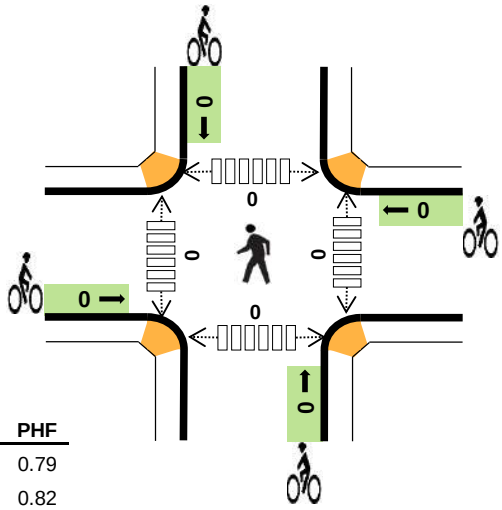
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	4	4	2	*13*	0	0	1	0	*1*	0	0	0	0	*0*
4:15 PM	**1**	**7**	**2**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**4**	**0**	**0**	*4*
4:30 PM	**5**	**3**	**4**	**0**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**2**	**3**	**6**	**0**	***11***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**2**	*4*
5:00 PM	**2**	**3**	**2**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	***2***
5:15 PM	0	6	6	1	*13*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	3	0	0	*5*	0	0	1	0	*1*	0	0	0	0	*0*
5:45 PM	1	3	0	1	*5*	0	0	0	0	*0*	2	1	0	0	*3*
Count Total	16	32	24	4	*76*	0	0	2	0	*2*	6	5	0	2	*13*
Peak Hour	**10**	**16**	**14**	**0**	***40***	**0**	**0**	**0**	**0**	***0***	**4**	**4**	**0**	**2**	***10***

SR 305
BOND RD NE

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	4.6%	0.79
WB	3.7%	0.82
NB	4.6%	0.84
SB	5.1%	0.88
TOTAL	4.6%	0.87

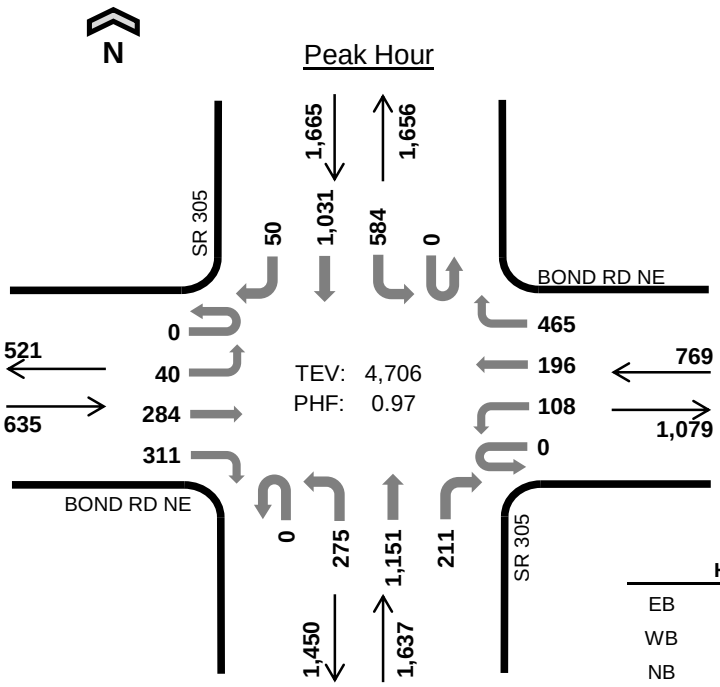
Two-Hour Count Summaries

Interval Start	BOND RD NE Eastbound				BOND RD NE Westbound				SR 305 Northbound				SR 305 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	1	9	12	0	6	12	74	0	15	96	7	0	35	89	7	363	0
6:15 AM	0	1	17	33	0	19	22	127	0	22	109	6	0	55	112	3	526	0
6:30 AM	0	1	27	21	0	7	26	131	0	22	117	12	0	80	162	11	617	0
6:45 AM	0	4	23	33	0	11	31	128	0	28	149	9	0	78	190	3	687	2,193
7:00 AM	**0**	**3**	**35**	**46**	**0**	**15**	**34**	**121**	**0**	**18**	**149**	**10**	**0**	**69**	**216**	**1**	**717**	2,547
7:15 AM	**0**	**2**	**26**	**70**	**0**	**31**	**44**	**124**	**0**	**22**	**177**	**14**	**0**	**102**	**267**	**14**	**893**	2,914
7:30 AM	**0**	**3**	**54**	**73**	**0**	**20**	**30**	**122**	**0**	**31**	**209**	**14**	**0**	**84**	**270**	**13**	**923**	3,220
7:45 AM	**0**	**1**	**31**	**68**	**0**	**34**	**56**	**147**	**0**	**56**	**198**	**20**	**0**	**108**	**286**	**15**	**1,020**	**3,553**
Count Total	0	16	222	356	0	143	255	974	0	214	1,204	92	0	611	1,592	67	5,746	0
Peak Hour	**0**	**9**	**146**	**257**	**0**	**100**	**164**	**514**	**0**	**127**	**733**	**58**	**0**	**363**	**1,039**	**43**	**3,553**	**0**

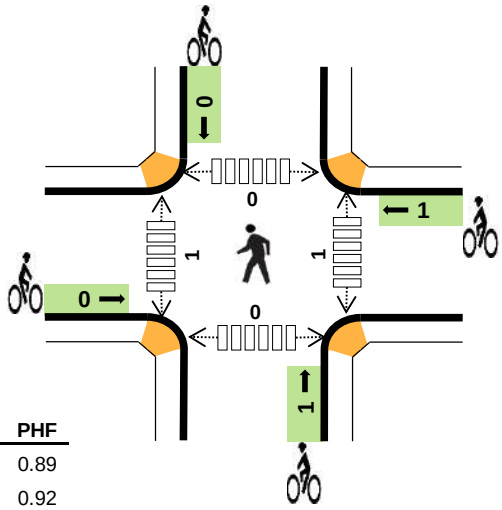
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	6	2	4	*12*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	0	0	4	8	*12*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	2	1	4	8	*15*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	0	5	8	10	*23*	2	0	0	0	*2*	1	0	0	0	*1*
7:00 AM	**2**	**6**	**13**	**9**	***30***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**4**	**3**	**4**	**13**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**11**	**12**	**11**	**20**	***54***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**2**	**8**	**14**	**32**	***56***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	21	41	60	104	*226*	2	0	0	0	*2*	1	0	0	0	*1*
Peak Hour	**19**	**29**	**42**	**74**	***164***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

SR 305
BOND RD NE



Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	1.6%	0.89
WB	2.9%	0.92
NB	3.6%	0.95
SB	1.9%	0.95
TOTAL	2.6%	0.97

Two-Hour Count Summaries

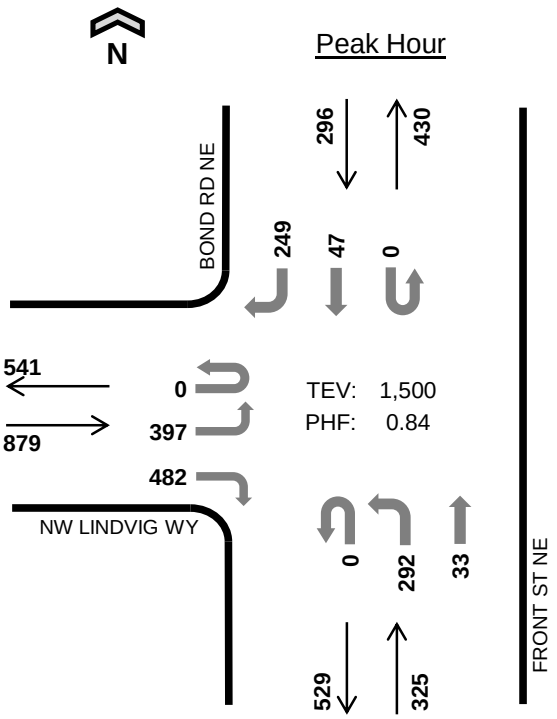
Interval Start	BOND RD NE Eastbound				BOND RD NE Westbound				SR 305 Northbound				SR 305 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**9**	**80**	**90**	**0**	**27**	**52**	**110**	**0**	**53**	**269**	**52**	**0**	**150**	**240**	**11**	**1,143**	0
4:15 PM	**0**	**12**	**76**	**74**	**0**	**22**	**43**	**95**	**0**	**68**	**313**	**44**	**0**	**134**	**290**	**11**	**1,182**	0
4:30 PM	**0**	**12**	**76**	**74**	**0**	**33**	**52**	**125**	**0**	**79**	**283**	**45**	**0**	**152**	**224**	**13**	**1,168**	0
4:45 PM	**0**	**7**	**52**	**73**	**0**	**26**	**49**	**135**	**0**	**75**	**286**	**70**	**0**	**148**	**277**	**15**	**1,213**	**4,706**
5:00 PM	0	15	63	67	0	28	40	98	0	65	269	43	0	145	271	6	1,110	4,673
5:15 PM	0	17	69	68	0	35	73	131	0	80	272	42	0	152	257	9	1,205	4,696
5:30 PM	0	7	47	55	0	36	54	133	0	86	278	44	0	128	234	14	1,116	4,644
5:45 PM	0	6	47	55	0	16	43	74	0	52	252	39	0	117	270	8	979	4,410
Count Total	0	85	510	556	0	223	406	901	0	558	2,222	379	0	1,126	2,063	87	9,116	0
Peak Hour	**0**	**40**	**284**	**311**	**0**	**108**	**196**	**465**	**0**	**275**	**1,151**	**211**	**0**	**584**	**1,031**	**50**	**4,706**	**0**

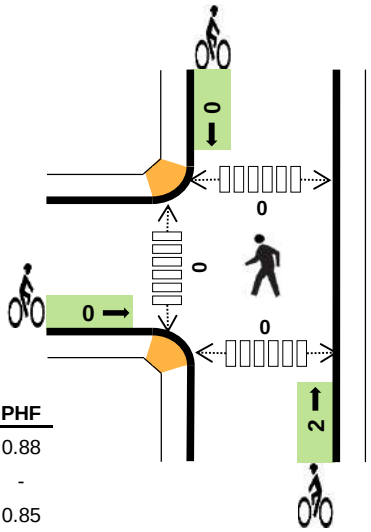
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**3**	**7**	**14**	**9**	***33***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**0**	**5**	**19**	**11**	***35***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**4**	**6**	**16**	**5**	***31***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	*2*
4:45 PM	**3**	**4**	**10**	**6**	***23***	**0**	**1**	**1**	**0**	***2***	**0**	**0**	**0**	**0**	***0***
5:00 PM	0	6	10	13	*29*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	1	3	9	8	*21*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	1	5	7	3	*16*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	2	4	5	*11*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	12	38	89	60	*199*	0	1	1	0	*2*	1	1	0	0	*2*
Peak Hour	**10**	**22**	**59**	**31**	***122***	**0**	**1**	**1**	**0**	***2***	**1**	**1**	**0**	**0**	***2***

FRONT ST NE
BOND RD NE

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	2.5%	0.88
WB	-	-
NB	2.8%	0.85
SB	2.4%	0.66
TOTAL	2.5%	0.84

Two-Hour Count Summaries

Interval Start	NW LINDVIG WY				0				FRONT ST NE				BOND RD NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	23	0	15	0	0	0	0	0	30	3	0	0	0	1	27	99	0
6:15 AM	0	55	0	38	0	0	0	0	0	30	3	0	0	0	4	45	175	0
6:30 AM	0	46	0	60	0	0	0	0	0	40	6	0	0	0	3	49	204	0
6:45 AM	0	55	0	57	0	0	0	0	0	49	7	0	0	0	5	49	222	700
7:00 AM	**0**	**73**	**0**	**89**	**0**	**0**	**0**	**0**	**0**	**71**	**8**	**0**	**0**	**0**	**9**	**46**	**296**	897
7:15 AM	**0**	**100**	**0**	**130**	**0**	**0**	**0**	**0**	**0**	**66**	**4**	**0**	**0**	**0**	**7**	**56**	**363**	1,085
7:30 AM	**0**	**131**	**0**	**120**	**0**	**0**	**0**	**0**	**0**	**70**	**10**	**0**	**0**	**0**	**14**	**52**	**397**	1,278
7:45 AM	**0**	**93**	**0**	**143**	**0**	**0**	**0**	**0**	**0**	**85**	**11**	**0**	**0**	**0**	**17**	**95**	**444**	**1,500**
Count Total	0	576	0	652	0	0	0	0	0	441	52	0	0	0	60	419	2,200	0
Peak Hour	**0**	**397**	**0**	**482**	**0**	**0**	**0**	**0**	**0**	**292**	**33**	**0**	**0**	**0**	**47**	**249**	**1,500**	**0**

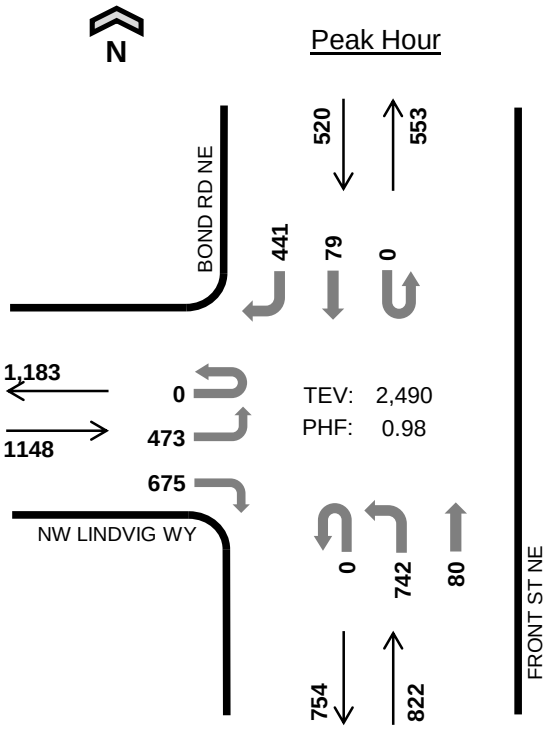
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	2	0	1	3	*6*	1	0	0	0	*1*	0	0	0	0	*0*
6:15 AM	0	0	3	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	1	0	0	0	*1*	0	0	2	0	*2*	0	0	0	0	*0*
7:00 AM	**4**	**0**	**1**	**1**	***6***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**8**	**0**	**3**	**3**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**9**	**0**	**2**	**2**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**0**	**3**	**1**	***5***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
Count Total	25	0	14	10	*49*	1	0	4	0	*5*	0	0	0	0	*0*
Peak Hr	**22**	**0**	**9**	**7**	***38***	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**0**	***0***

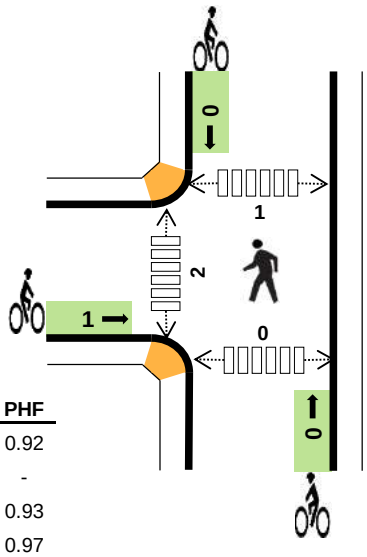
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

FRONT ST NE
BOND RD NE

Peak Hour



Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	0.9%	0.92
WB	-	-
NB	1.7%	0.93
SB	2.1%	0.97
TOTAL	1.4%	0.98

Two-Hour Count Summaries

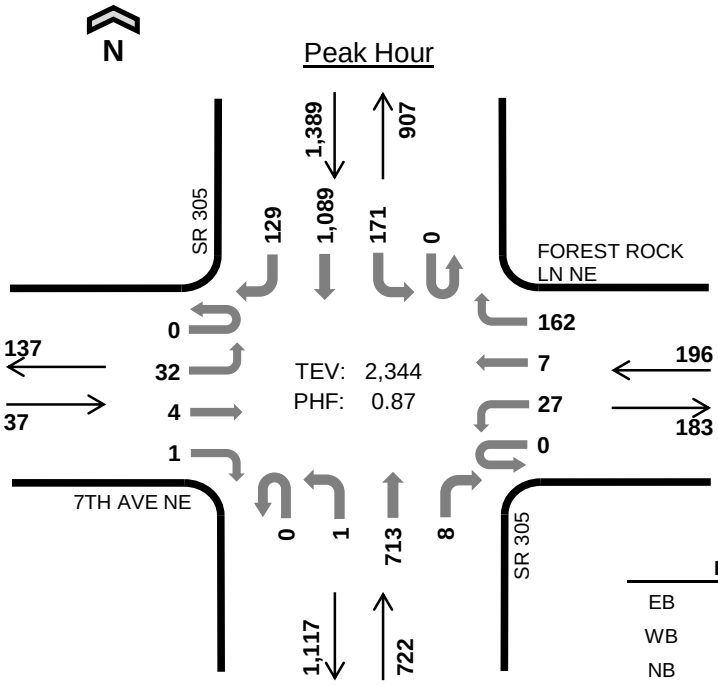
Interval Start	NW LINDVIG WY Eastbound				0 Westbound				FRONT ST NE Northbound				BOND RD NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	135	0	178	0	0	0	0	0	149	28	0	0	0	12	90	592	0
4:15 PM	**0**	**142**	**0**	**171**	**0**	**0**	**0**	**0**	**0**	**172**	**19**	**0**	**0**	**0**	**17**	**113**	**634**	0
4:30 PM	**0**	**103**	**0**	**177**	**0**	**0**	**0**	**0**	**0**	**193**	**28**	**0**	**0**	**0**	**22**	**104**	**627**	0
4:45 PM	**0**	**112**	**0**	**178**	**0**	**0**	**0**	**0**	**0**	**178**	**17**	**0**	**0**	**0**	**22**	**112**	**619**	2,472
5:00 PM	**0**	**116**	**0**	**149**	**0**	**0**	**0**	**0**	**0**	**199**	**16**	**0**	**0**	**0**	**18**	**112**	**610**	**2,490**
5:15 PM	0	105	0	157	0	0	0	0	1	156	19	0	0	0	26	135	599	2,455
5:30 PM	0	91	0	127	0	0	0	0	0	181	23	0	0	0	22	128	572	2,400
5:45 PM	0	90	0	131	0	0	0	0	0	136	14	0	0	0	29	83	483	2,264
Count Total	0	894	0	1,268	0	0	0	0	1	1,364	164	0	0	0	168	877	4,736	0
Peak Hour	**0**	**473**	**0**	**675**	**0**	**0**	**0**	**0**	**0**	**742**	**80**	**0**	**0**	**0**	**79**	**441**	**2,490**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

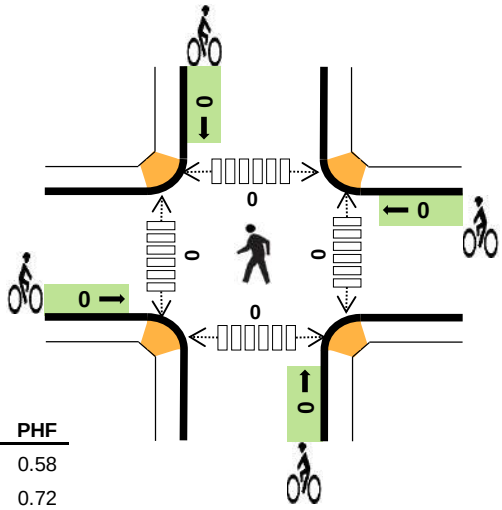
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	0	2	1	*6*	2	0	0	0	*2*	0	0	1	0	*1*
4:15 PM	**2**	**0**	**4**	**3**	***9***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**1**	**0**	*2*
4:30 PM	**4**	**0**	**4**	**4**	***12***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**3**	**0**	**4**	**2**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	*2*
5:00 PM	**1**	**0**	**2**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	2	0	3	2	*7*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	3	0	3	2	*8*	0	0	0	0	*0*	1	0	1	0	*2*
5:45 PM	3	0	0	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	21	0	22	17	*60*	3	0	0	0	*3*	2	2	3	0	*7*
Peak Hr	**10**	**0**	**14**	**11**	***35***	**1**	**0**	**0**	**0**	***1***	**1**	**2**	**1**	**0**	***4***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

SR 305
FOREST ROCK LN NE



Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	2.7%	0.58
WB	2.0%	0.72
NB	5.3%	0.88
SB	4.5%	0.91
TOTAL	4.5%	0.87

Two-Hour Count Summaries

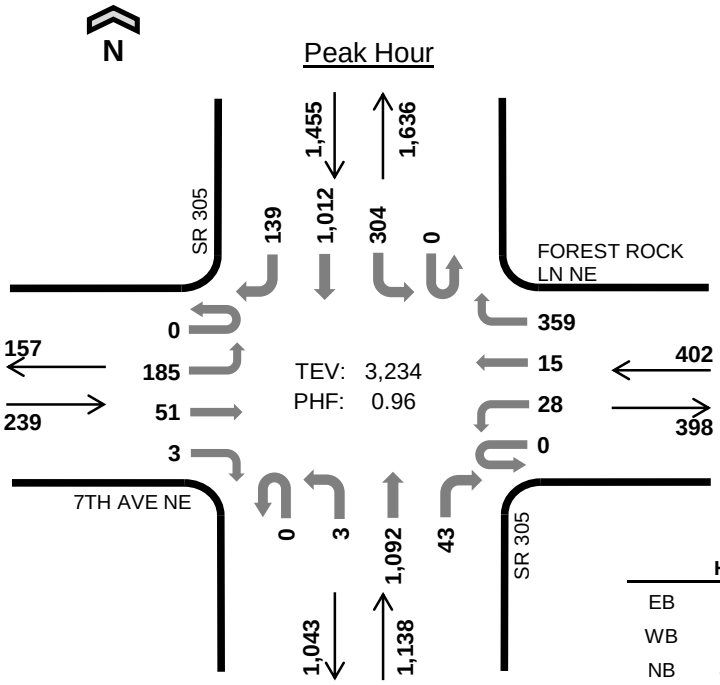
Interval Start	7TH AVE NE				FOREST ROCK LN NE				SR 305				SR 305				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	3	0	0	0	1	0	14	0	0	88	2	0	6	89	3	206	0
6:15 AM	0	1	0	0	0	4	0	17	0	0	126	0	0	12	141	13	314	0
6:30 AM	0	5	0	0	0	3	0	25	0	0	116	6	0	16	183	6	360	0
6:45 AM	0	2	0	0	0	1	0	29	0	0	144	2	0	33	180	20	411	1,291
7:00 AM	**0**	**4**	**1**	**0**	**0**	**5**	**1**	**27**	**0**	**0**	**143**	**2**	**0**	**29**	**237**	**18**	**467**	1,552
7:15 AM	**0**	**8**	**0**	**0**	**0**	**6**	**1**	**40**	**0**	**0**	**169**	**3**	**0**	**43**	**289**	**25**	**584**	1,822
7:30 AM	**0**	**7**	**0**	**1**	**0**	**5**	**2**	**41**	**0**	**0**	**197**	**2**	**0**	**51**	**280**	**36**	**622**	2,084
7:45 AM	**0**	**13**	**3**	**0**	**0**	**11**	**3**	**54**	**0**	**1**	**204**	**1**	**0**	**48**	**283**	**50**	**671**	**2,344**
Count Total	0	43	4	1	0	36	7	247	0	1	1,187	18	0	238	1,682	171	3,635	0
Peak Hour	**0**	**32**	**4**	**1**	**0**	**27**	**7**	**162**	**0**	**1**	**713**	**8**	**0**	**171**	**1,089**	**129**	**2,344**	**0**

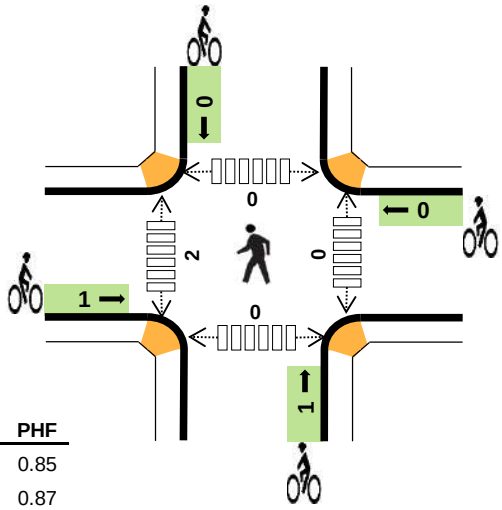
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	2	4	*6*	0	0	0	1	*1*	0	0	0	0	*0*
6:15 AM	0	1	6	3	*10*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	1	0	1	7	*9*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	0	0	7	6	*13*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**0**	**1**	**11**	**6**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**1**	**3**	**11**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**10**	**22**	***32***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**2**	**14**	**23**	***40***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	2	5	54	82	*143*	0	0	0	1	*1*	0	0	0	0	*0*
Peak Hour	**1**	**4**	**38**	**62**	***105***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

SR 305
FOREST ROCK LN NE

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %	PHF
EB	0.8%	0.85
WB	1.7%	0.87
NB	4.3%	0.89
SB	1.8%	0.95
TOTAL	2.6%	0.96

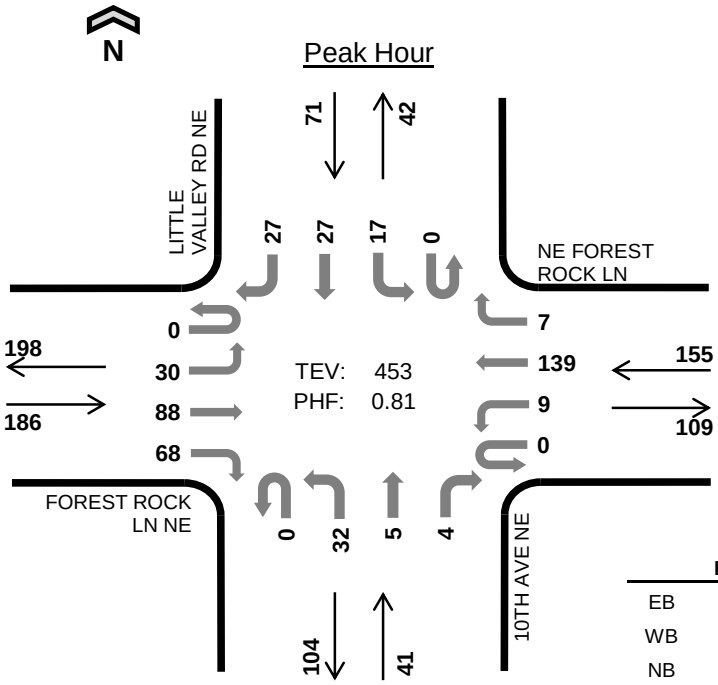
Two-Hour Count Summaries

Interval Start	7TH AVE NE Eastbound				FOREST ROCK LN NE Westbound				SR 305 Northbound				SR 305 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**44**	**11**	**0**	**0**	**5**	**3**	**83**	**0**	**1**	**286**	**14**	**0**	**73**	**247**	**33**	**800**	0
4:15 PM	**0**	**54**	**16**	**0**	**0**	**9**	**5**	**89**	**0**	**0**	**242**	**3**	**0**	**75**	**244**	**45**	**782**	0
4:30 PM	**0**	**51**	**11**	**2**	**0**	**5**	**4**	**107**	**0**	**2**	**261**	**9**	**0**	**89**	**239**	**27**	**807**	0
4:45 PM	**0**	**36**	**13**	**1**	**0**	**9**	**3**	**80**	**0**	**0**	**303**	**17**	**0**	**67**	**282**	**34**	**845**	**3,234**
5:00 PM	0	76	9	0	0	6	6	103	0	0	214	10	0	85	223	38	770	3,204
5:15 PM	0	46	8	0	0	6	4	90	0	0	260	8	0	81	243	37	783	3,205
5:30 PM	0	34	8	0	0	1	2	74	0	0	288	6	0	62	256	32	763	3,161
5:45 PM	0	27	12	0	0	3	2	78	0	0	224	12	0	72	226	27	683	2,999
Count Total	0	368	88	3	0	44	29	704	0	3	2,078	79	0	604	1,960	273	6,233	0
Peak Hour	**0**	**185**	**51**	**3**	**0**	**28**	**15**	**359**	**0**	**3**	**1,092**	**43**	**0**	**304**	**1,012**	**139**	**3,234**	**0**

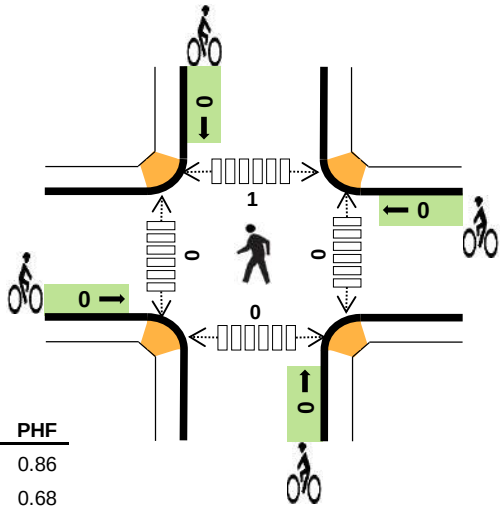
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**1**	**13**	**8**	***22***	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**0**	**0**	*1*
4:15 PM	**1**	**5**	**13**	**7**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**0**	**1**	**15**	**3**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
4:45 PM	**1**	**0**	**8**	**8**	***17***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
5:00 PM	2	2	6	6	*16*	0	0	0	1	*1*	0	0	0	0	*0*
5:15 PM	2	1	9	8	*20*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	5	4	*9*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	0	3	6	*10*	0	0	0	0	*0*	0	1	0	1	*2*
Count Total	7	10	72	50	*139*	1	0	1	1	*3*	0	3	0	1	*4*
Peak Hour	**2**	**7**	**49**	**26**	***84***	**1**	**0**	**1**	**0**	***2***	**0**	**2**	**0**	**0**	***2***

LITTLE VALLEY RD NE
FOREST ROCK LN NE



Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	3.2%	0.86
WB	1.9%	0.68
NB	2.4%	0.73
SB	2.8%	0.74
TOTAL	2.6%	0.81

Two-Hour Count Summaries

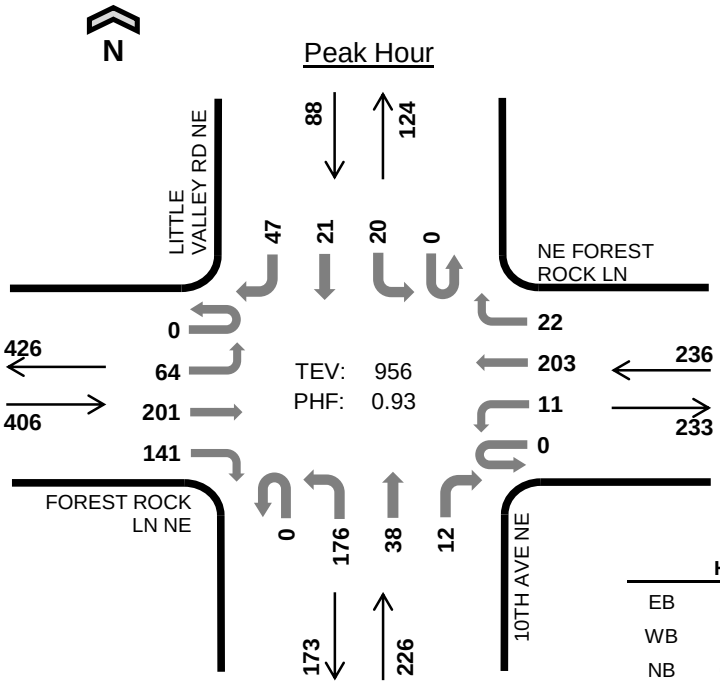
Interval Start	FOREST ROCK LN NE				NE FOREST ROCK LN				10TH AVE NE				LITTLE VALLEY RD NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	1	4	3	0	0	12	0	0	2	1	0	0	0	3	2	28	0
6:15 AM	0	2	6	4	0	0	15	0	0	1	0	0	0	0	1	5	34	0
6:30 AM	0	3	5	13	0	2	22	0	0	1	0	0	0	1	1	5	53	0
6:45 AM	0	5	12	18	0	1	23	0	0	3	1	1	0	1	8	4	77	192
7:00 AM	**0**	**11**	**10**	**11**	**0**	**1**	**27**	**0**	**0**	**4**	**0**	**2**	**0**	**4**	**5**	**7**	**82**	246
7:15 AM	**0**	**7**	**24**	**17**	**0**	**1**	**29**	**0**	**0**	**11**	**0**	**0**	**0**	**4**	**8**	**3**	**104**	316
7:30 AM	**0**	**9**	**31**	**14**	**0**	**3**	**34**	**3**	**0**	**8**	**1**	**1**	**0**	**6**	**9**	**9**	**128**	391
7:45 AM	**0**	**3**	**23**	**26**	**0**	**4**	**49**	**4**	**0**	**9**	**4**	**1**	**0**	**3**	**5**	**8**	**139**	**453**
Count Total	0	41	115	106	0	12	211	7	0	39	7	5	0	19	40	43	645	0
Peak Hour	**0**	**30**	**88**	**68**	**0**	**9**	**139**	**7**	**0**	**32**	**5**	**4**	**0**	**17**	**27**	**27**	**453**	**0**

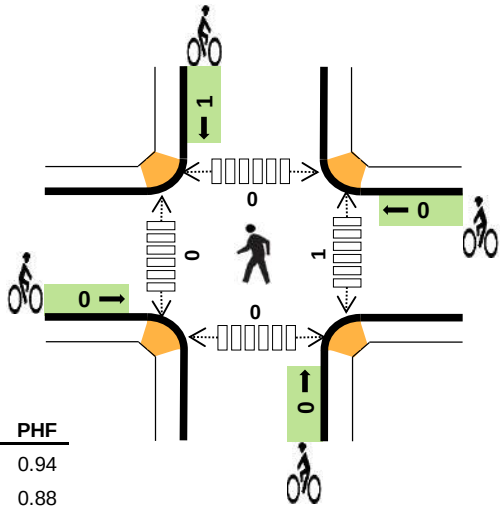
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	2	0	0	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:15 AM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**2**	**1**	**0**	**1**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**4**	**1**	**0**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	10	3	1	4	*18*	0	0	0	0	*0*	0	0	1	0	*1*
Peak Hour	**6**	**3**	**1**	**2**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***

LITTLE VALLEY RD NE
FOREST ROCK LN NE

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	1.2%	0.94
WB	1.7%	0.88
NB	0.0%	0.78
SB	4.5%	0.92
TOTAL	1.4%	0.93

Two-Hour Count Summaries

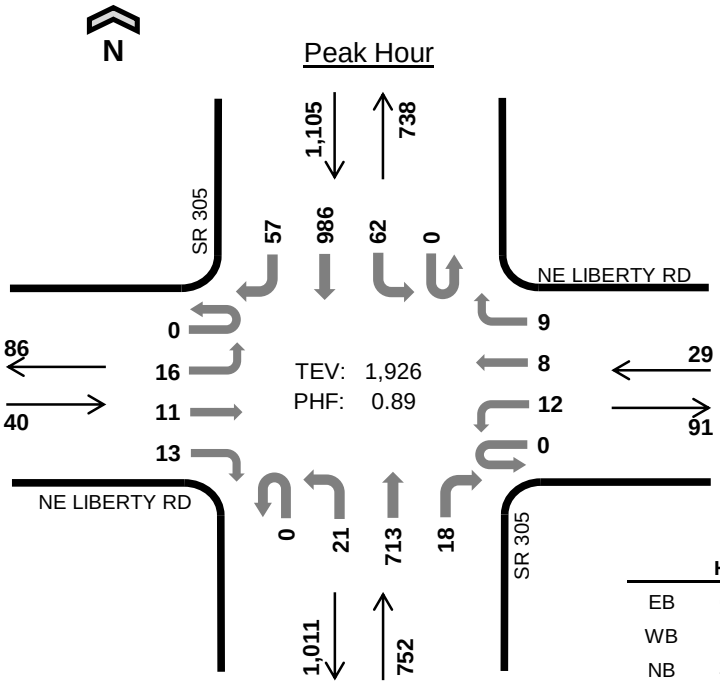
Interval Start	FOREST ROCK LN NE				NE FOREST ROCK LN				10TH AVE NE				LITTLE VALLEY RD NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	10	50	36	0	1	46	4	0	40	15	2	0	4	9	10	227	0
4:15 PM	**0**	**20**	**48**	**26**	**0**	**3**	**54**	**10**	**0**	**30**	**5**	**5**	**0**	**2**	**5**	**13**	**221**	0
4:30 PM	**0**	**14**	**53**	**41**	**0**	**3**	**56**	**3**	**0**	**46**	**12**	**2**	**0**	**6**	**5**	**13**	**254**	0
4:45 PM	**0**	**18**	**42**	**39**	**0**	**3**	**42**	**3**	**0**	**48**	**5**	**1**	**0**	**6**	**8**	**10**	**225**	927
5:00 PM	**0**	**12**	**58**	**35**	**0**	**2**	**51**	**6**	**0**	**52**	**16**	**4**	**0**	**6**	**3**	**11**	**256**	**956**
5:15 PM	0	12	46	37	0	2	46	7	0	35	7	7	0	5	5	9	218	953
5:30 PM	0	9	45	25	0	2	32	6	0	36	10	3	0	4	6	10	188	887
5:45 PM	1	10	47	38	0	6	39	5	0	35	7	8	0	3	6	5	210	872
Count Total	1	105	389	277	0	22	366	44	0	322	77	32	0	36	47	81	1,799	0
Peak Hour	**0**	**64**	**201**	**141**	**0**	**11**	**203**	**22**	**0**	**176**	**38**	**12**	**0**	**20**	**21**	**47**	**956**	**0**

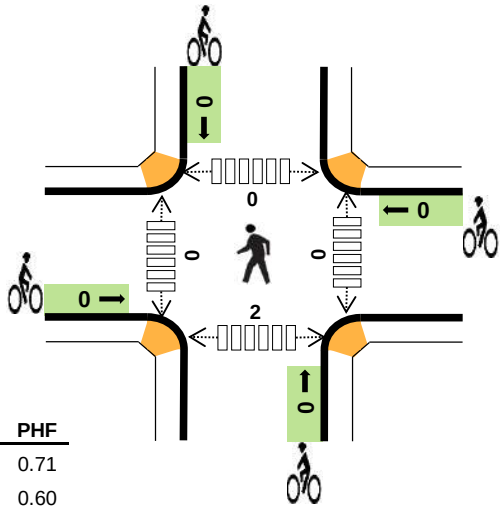
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	1	0	1	*5*	1	0	0	0	*1*	1	0	0	0	*1*
4:15 PM	**1**	**2**	**0**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**1**	**0**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:45 PM	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**3**	**2**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	12	6	0	5	*23*	1	0	0	1	*2*	2	0	0	0	*2*
Peak Hour	**5**	**4**	**0**	**4**	***13***	**0**	**0**	**0**	**1**	***1***	**1**	**0**	**0**	**0**	***1***

SR 305
NE LIBERTY RD

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	0.0%	0.71
WB	6.9%	0.60
NB	4.8%	0.88
SB	5.6%	0.92
TOTAL	5.2%	0.89

Two-Hour Count Summaries

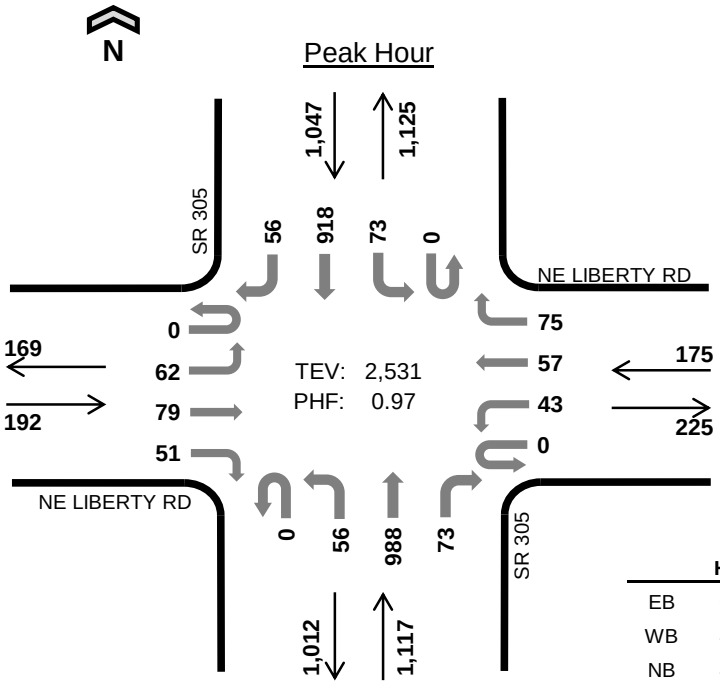
Interval Start	NE LIBERTY RD Eastbound				NE LIBERTY RD Westbound				SR 305 Northbound				SR 305 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	1	0	1	0	1	2	0	0	2	89	2	0	4	89	1	192	0
6:15 AM	0	5	1	0	0	0	0	0	0	4	123	2	0	5	132	9	281	0
6:30 AM	0	2	0	5	0	3	1	2	0	2	121	3	0	9	165	6	319	0
6:45 AM	0	0	0	0	0	3	0	1	0	1	142	3	0	4	171	15	340	1,132
7:00 AM	**0**	**2**	**1**	**2**	**0**	**2**	**0**	**1**	**0**	**4**	**150**	**3**	**0**	**5**	**220**	**8**	**398**	1,338
7:15 AM	**0**	**1**	**3**	**6**	**0**	**3**	**0**	**1**	**0**	**5**	**171**	**3**	**0**	**19**	**251**	**16**	**479**	1,536
7:30 AM	**0**	**4**	**6**	**1**	**0**	**1**	**4**	**5**	**0**	**2**	**193**	**7**	**0**	**15**	**262**	**10**	**510**	1,727
7:45 AM	**0**	**9**	**1**	**4**	**0**	**6**	**4**	**2**	**0**	**10**	**199**	**5**	**0**	**23**	**253**	**23**	**539**	**1,926**
Count Total	0	24	12	19	0	19	11	12	0	30	1,188	28	0	84	1,543	88	3,058	0
Peak Hour	**0**	**16**	**11**	**13**	**0**	**12**	**8**	**9**	**0**	**21**	**713**	**18**	**0**	**62**	**986**	**57**	**1,926**	**0**

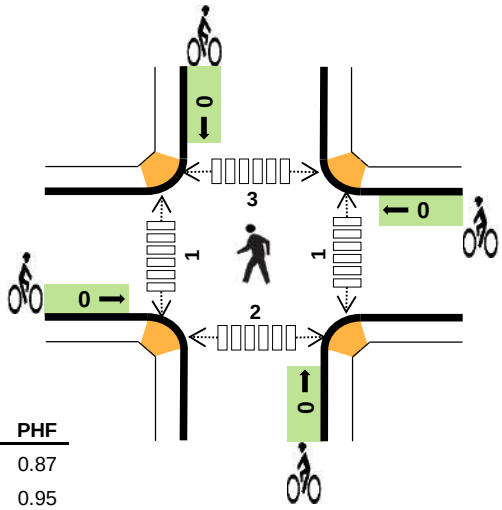
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	2	3	*5*	0	0	0	1	*1*	0	0	0	0	*0*
6:15 AM	1	0	6	4	*11*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	0	4	5	*9*	0	0	0	0	*0*	1	0	0	0	*1*
6:45 AM	0	0	3	5	*8*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**0**	**0**	**9**	**7**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:15 AM	**0**	**0**	**4**	**10**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**1**	**8**	**21**	***30***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:45 AM	**0**	**1**	**15**	**24**	***40***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	1	2	51	79	*133*	0	0	0	1	*1*	1	0	0	2	*3*
Peak Hour	**0**	**2**	**36**	**62**	***100***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	***2***

SR 305
NE LIBERTY RD

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	0.5%	0.87
WB	4.0%	0.95
NB	4.0%	0.97
SB	1.8%	0.87
TOTAL	2.8%	0.97

Two-Hour Count Summaries

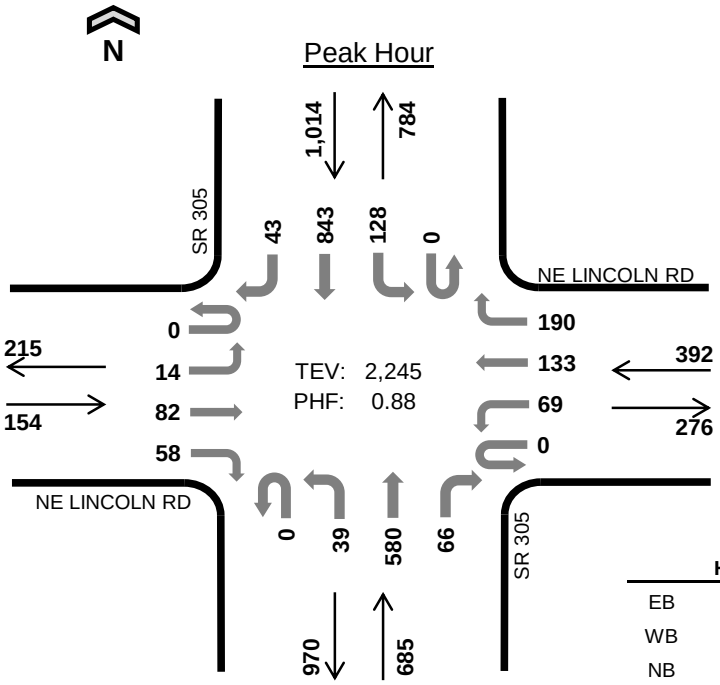
Interval Start	NE LIBERTY RD Eastbound				NE LIBERTY RD Westbound				SR 305 Northbound				SR 305 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**22**	**16**	**9**	**0**	**8**	**19**	**19**	**0**	**11**	**251**	**22**	**0**	**15**	**227**	**10**	**629**	0
4:15 PM	**0**	**12**	**25**	**18**	**0**	**12**	**12**	**21**	**0**	**17**	**251**	**16**	**0**	**24**	**228**	**17**	**653**	0
4:30 PM	**0**	**16**	**24**	**11**	**0**	**10**	**14**	**20**	**0**	**16**	**254**	**19**	**0**	**20**	**196**	**10**	**610**	0
4:45 PM	**0**	**12**	**14**	**13**	**0**	**13**	**12**	**15**	**0**	**12**	**232**	**16**	**0**	**14**	**267**	**19**	**639**	**2,531**
5:00 PM	0	18	31	16	0	12	17	26	0	16	225	19	0	18	202	18	618	2,520
5:15 PM	0	21	10	15	0	17	8	14	0	17	236	14	0	20	187	21	580	2,447
5:30 PM	0	14	22	14	0	8	11	17	0	10	228	10	0	13	238	18	603	2,440
5:45 PM	0	24	20	8	0	12	8	15	0	10	205	15	0	11	205	19	552	2,353
Count Total	0	139	162	104	0	92	101	147	0	109	1,882	131	0	135	1,750	132	4,884	0
Peak Hour	**0**	**62**	**79**	**51**	**0**	**43**	**57**	**75**	**0**	**56**	**988**	**73**	**0**	**73**	**918**	**56**	**2,531**	**0**

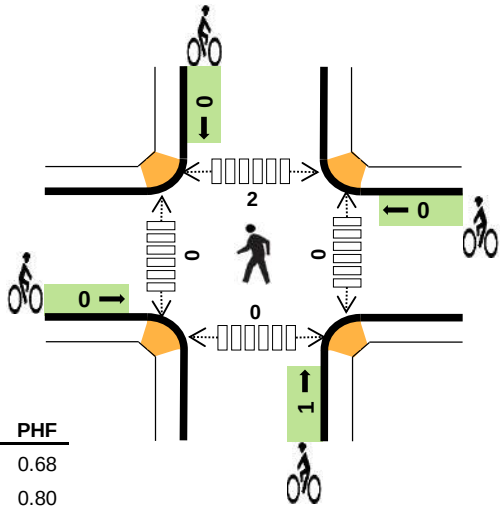
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**3**	**14**	**4**	***21***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**1**	**1**	*3*
4:15 PM	**0**	**3**	**10**	**6**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
4:30 PM	**0**	**1**	**14**	**2**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
4:45 PM	**1**	**0**	**7**	**7**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**1**	***2***
5:00 PM	0	1	12	5	*18*	0	0	0	1	*1*	0	0	1	0	*1*
5:15 PM	0	1	4	8	*13*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	1	2	2	3	*8*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	1	2	4	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	12	65	39	*118*	0	0	0	1	*1*	1	1	4	2	*8*
Peak Hour	**1**	**7**	**45**	**19**	***72***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**3**	**2**	***7***

SR 305
NE LINCOLN RD

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	1.9%	0.68
WB	1.3%	0.80
NB	6.0%	0.86
SB	6.2%	0.93
TOTAL	5.0%	0.88

Two-Hour Count Summaries

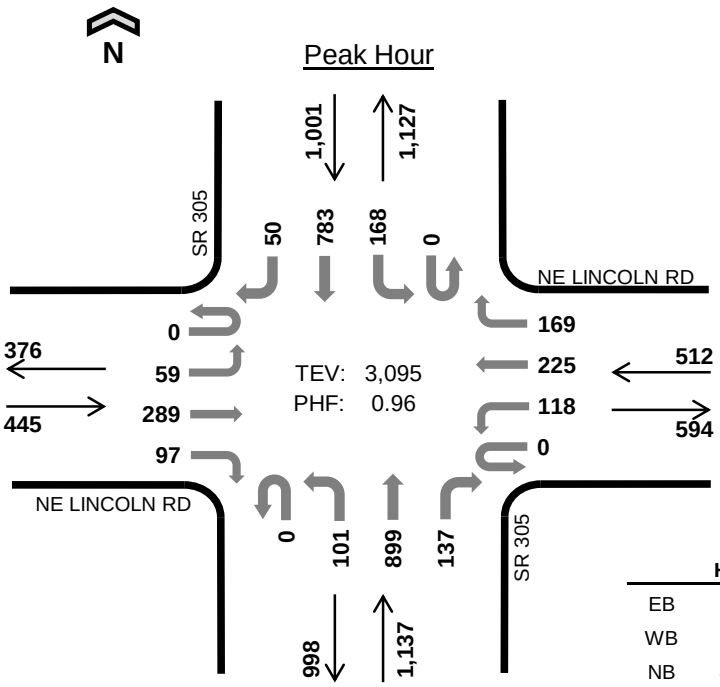
Interval Start	NE LINCOLN RD Eastbound				NE LINCOLN RD Westbound				SR 305 Northbound				SR 305 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	3	4	6	0	9	13	26	0	3	67	2	0	7	82	6	228	0
6:15 AM	0	1	5	10	0	10	24	29	0	4	99	4	0	15	114	5	320	0
6:30 AM	0	4	7	9	0	17	12	28	0	2	104	8	0	25	145	6	367	0
6:45 AM	0	3	6	8	0	11	18	41	0	2	93	8	0	16	140	7	353	1,268
7:00 AM	**0**	**3**	**16**	**16**	**0**	**8**	**18**	**38**	**0**	**5**	**127**	**13**	**0**	**20**	**203**	**8**	**475**	1,515
7:15 AM	**0**	**3**	**16**	**16**	**0**	**13**	**32**	**38**	**0**	**8**	**130**	**17**	**0**	**33**	**202**	**16**	**524**	1,719
7:30 AM	**0**	**6**	**32**	**19**	**0**	**28**	**37**	**57**	**0**	**9**	**159**	**19**	**0**	**47**	**220**	**5**	**638**	1,990
7:45 AM	**0**	**2**	**18**	**7**	**0**	**20**	**46**	**57**	**0**	**17**	**164**	**17**	**0**	**28**	**218**	**14**	**608**	**2,245**
Count Total	0	25	104	91	0	116	200	314	0	50	943	88	0	191	1,324	67	3,513	0
Peak Hour	**0**	**14**	**82**	**58**	**0**	**69**	**133**	**190**	**0**	**39**	**580**	**66**	**0**	**128**	**843**	**43**	**2,245**	**0**

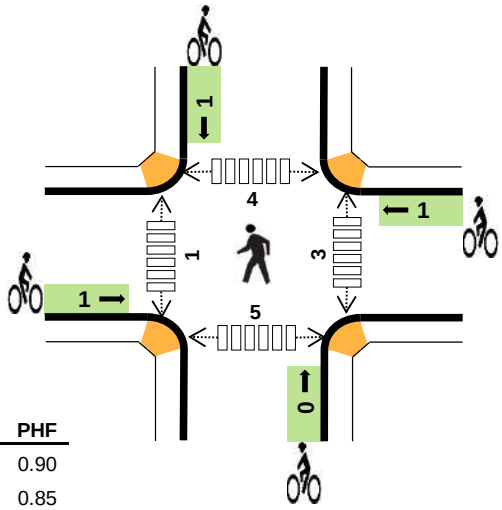
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	3	5	*8*	0	0	0	1	*1*	0	0	0	0	*0*
6:15 AM	2	0	5	2	*9*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	1	4	5	*10*	0	0	0	0	*0*	1	0	0	0	*1*
6:45 AM	0	0	4	2	*6*	0	0	0	0	*0*	0	0	0	1	*1*
7:00 AM	**1**	**2**	**9**	**10**	***22***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**1**	**0**	**5**	**10**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**1**	**1**	**13**	**21**	***36***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**2**	**0**	*2*
7:45 AM	**0**	**2**	**14**	**22**	***38***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	5	6	57	77	*145*	0	0	1	1	*2*	1	0	2	1	*4*
Peak Hour	**3**	**5**	**41**	**63**	***112***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**2**	**0**	***2***

SR 305
NE LINCOLN RD

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	1.1%	0.90
WB	1.6%	0.85
NB	4.0%	0.89
SB	1.9%	0.90
TOTAL	2.5%	0.96

Two-Hour Count Summaries

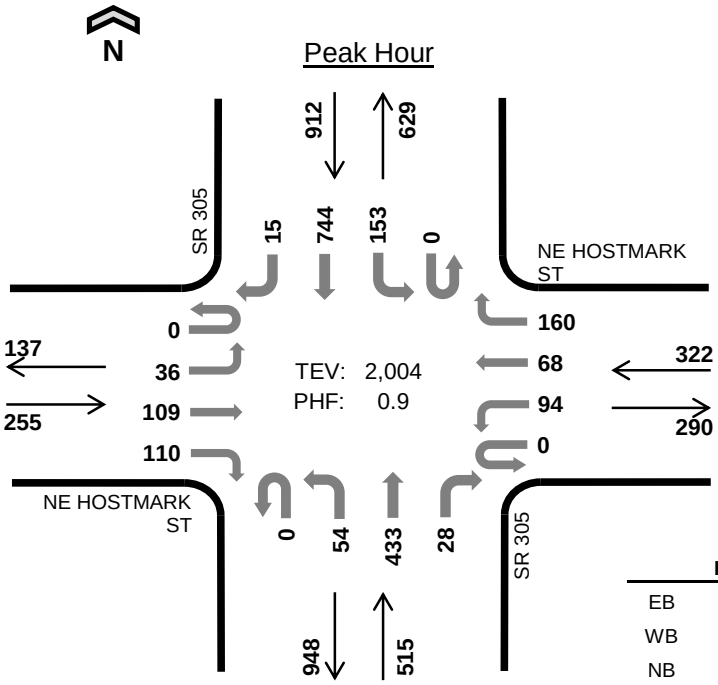
Interval Start	NE LINCOLN RD Eastbound				NE LINCOLN RD Westbound				SR 305 Northbound				SR 305 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	26	65	21	0	26	58	33	0	25	236	34	0	37	204	15	780	0
4:15 PM	**0**	**17**	**64**	**17**	**0**	**21**	**76**	**54**	**0**	**33**	**238**	**31**	**0**	**45**	**194**	**14**	**804**	0
4:30 PM	**0**	**12**	**69**	**31**	**0**	**36**	**63**	**47**	**0**	**29**	**213**	**25**	**0**	**36**	**177**	**11**	**749**	0
4:45 PM	**0**	**12**	**78**	**22**	**0**	**30**	**39**	**38**	**0**	**14**	**202**	**34**	**0**	**45**	**215**	**18**	**747**	3,080
5:00 PM	**0**	**18**	**78**	**27**	**0**	**31**	**47**	**30**	**0**	**25**	**246**	**47**	**0**	**42**	**197**	**7**	**795**	**3,095**
5:15 PM	0	14	62	21	0	42	52	40	0	20	185	32	0	30	176	11	685	2,976
5:30 PM	0	8	57	19	0	27	54	57	0	22	185	22	0	43	210	10	714	2,941
5:45 PM	0	10	53	23	0	17	41	27	0	21	208	23	0	35	180	9	647	2,841
Count Total	0	117	526	181	0	230	430	326	0	189	1,713	248	0	313	1,553	95	5,921	0
Peak Hour	**0**	**59**	**289**	**97**	**0**	**118**	**225**	**169**	**0**	**101**	**899**	**137**	**0**	**168**	**783**	**50**	**3,095**	**0**

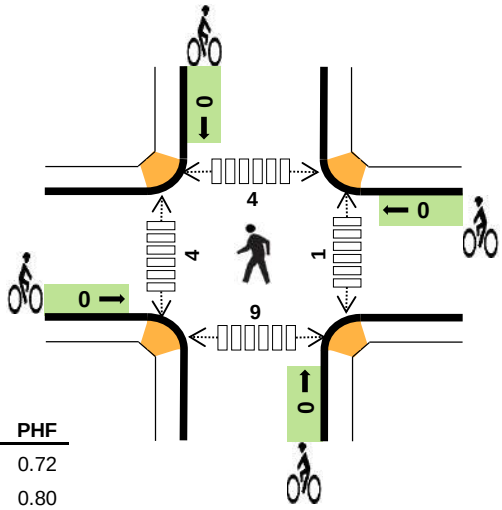
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	1	0	13	5	*19*	0	0	0	0	*0*	1	0	0	4	*5*
4:15 PM	**2**	**4**	**16**	**6**	***28***	**1**	**0**	**0**	**0**	***1***	**2**	**1**	**0**	**3**	*6*
4:30 PM	**2**	**3**	**10**	**2**	***17***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**3**	**0**	*4*
4:45 PM	**0**	**1**	**9**	**8**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
5:00 PM	**1**	**0**	**10**	**3**	***14***	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**0**	**2**	***2***
5:15 PM	1	1	1	7	*10*	0	0	0	0	*0*	0	0	1	0	*1*
5:30 PM	1	1	2	3	*7*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	1	4	3	*9*	0	0	0	0	*0*	0	0	2	0	*2*
Count Total	9	11	65	37	*122*	1	1	0	1	*3*	4	1	7	9	*21*
Peak Hour	**5**	**8**	**45**	**19**	***77***	**1**	**1**	**0**	**1**	***3***	**3**	**1**	**4**	**5**	***13***

SR 305
NE HOSTMARK ST

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	3.1%	0.72
WB	4.0%	0.80
NB	5.4%	0.88
SB	5.6%	0.92
TOTAL	5.0%	0.90

Two-Hour Count Summaries

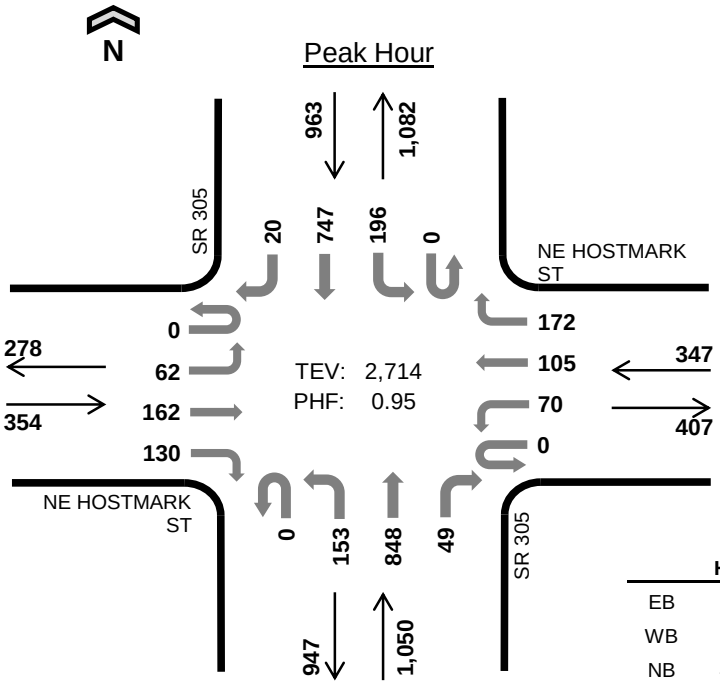
Interval Start	NE HOSTMARK ST Eastbound				NE HOSTMARK ST Westbound				SR 305 Northbound				SR 305 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	2	7	7	0	7	8	14	0	4	55	1	0	3	93	0	201	0
6:15 AM	0	4	6	19	0	9	17	21	0	4	72	2	0	3	120	1	278	0
6:30 AM	0	5	12	20	0	8	10	25	0	2	83	5	0	11	141	1	323	0
6:45 AM	0	7	6	13	0	11	9	11	0	8	88	5	0	26	118	1	303	1,105
7:00 AM	**0**	**10**	**7**	**28**	**0**	**22**	**9**	**28**	**0**	**10**	**103**	**5**	**0**	**24**	**183**	**3**	**432**	1,336
7:15 AM	**0**	**9**	**36**	**33**	**0**	**19**	**22**	**28**	**0**	**19**	**98**	**9**	**0**	**40**	**177**	**3**	**493**	1,551
7:30 AM	**0**	**11**	**48**	**30**	**0**	**28**	**15**	**50**	**0**	**10**	**108**	**6**	**0**	**55**	**189**	**4**	**554**	1,782
7:45 AM	**0**	**6**	**18**	**19**	**0**	**25**	**22**	**54**	**0**	**15**	**124**	**8**	**0**	**34**	**195**	**5**	**525**	**2,004**
Count Total	0	54	140	169	0	129	112	231	0	72	731	41	0	196	1,216	18	3,109	0
Peak Hour	**0**	**36**	**109**	**110**	**0**	**94**	**68**	**160**	**0**	**54**	**433**	**28**	**0**	**153**	**744**	**15**	**2,004**	**0**

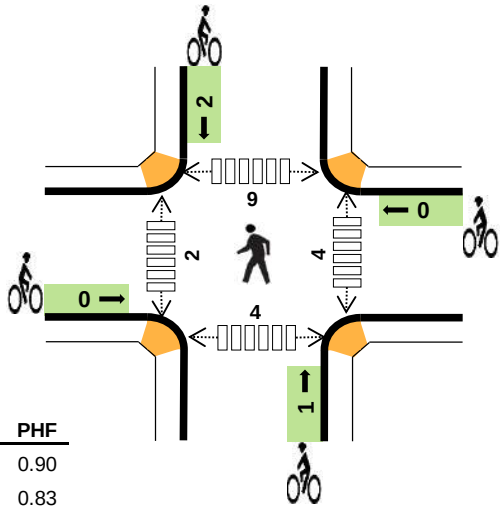
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	2	1	4	2	*9*	0	0	0	1	*1*	0	0	0	0	*0*
6:15 AM	3	1	5	3	*12*	0	0	0	0	*0*	0	0	2	0	*2*
6:30 AM	2	0	2	6	*10*	0	0	0	0	*0*	1	0	1	0	*2*
6:45 AM	0	2	11	2	*15*	0	0	0	0	*0*	1	0	0	0	*1*
7:00 AM	**3**	**0**	**11**	**8**	***22***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**2**	**2**	*5*
7:15 AM	**2**	**1**	**4**	**9**	***16***	**0**	**0**	**0**	**0**	***0***	**1**	**3**	**2**	**3**	*9*
7:30 AM	**3**	**6**	**5**	**15**	***29***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	*2*
7:45 AM	**0**	**6**	**8**	**19**	***33***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**2**	***2***
Count Total	15	17	50	64	*146*	0	0	0	1	*1*	3	4	7	9	*23*
Peak Hour	**8**	**13**	**28**	**51**	***100***	**0**	**0**	**0**	**0**	***0***	**1**	**4**	**4**	**9**	***18***

SR 305
NE HOSTMARK ST

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	2.3%	0.90
WB	2.6%	0.83
NB	4.6%	0.95
SB	1.5%	0.92
TOTAL	2.9%	0.95

Two-Hour Count Summaries

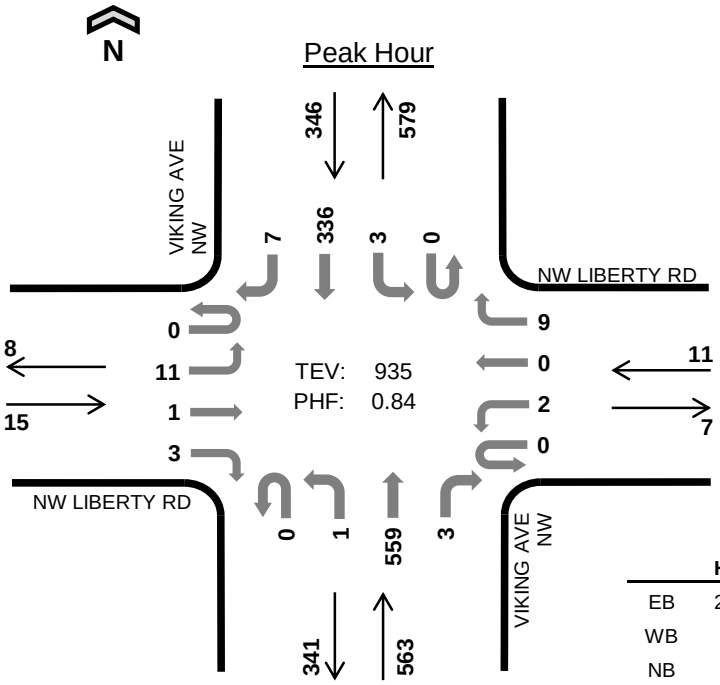
Interval Start	NE HOSTMARK ST Eastbound				NE HOSTMARK ST Westbound				SR 305 Northbound				SR 305 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	15	32	30	0	15	39	53	0	38	226	12	0	42	170	13	685	0
4:15 PM	**0**	**7**	**30**	**24**	**0**	**18**	**23**	**45**	**0**	**29**	**225**	**13**	**0**	**47**	**186**	**2**	**649**	0
4:30 PM	**0**	**17**	**49**	**32**	**0**	**18**	**25**	**33**	**0**	**50**	**216**	**9**	**0**	**39**	**181**	**8**	**677**	0
4:45 PM	**0**	**18**	**42**	**37**	**0**	**12**	**26**	**42**	**0**	**45**	**198**	**18**	**0**	**51**	**181**	**5**	**675**	2,686
5:00 PM	**0**	**20**	**41**	**37**	**0**	**22**	**31**	**52**	**0**	**29**	**209**	**9**	**0**	**59**	**199**	**5**	**713**	**2,714**
5:15 PM	0	16	48	23	0	18	32	35	0	28	172	10	0	44	169	5	600	2,665
5:30 PM	0	11	25	22	0	17	24	41	0	28	198	11	0	40	186	6	609	2,597
5:45 PM	0	8	25	20	0	9	13	27	0	18	192	9	0	45	171	3	540	2,462
Count Total	0	112	292	225	0	129	213	328	0	265	1,636	91	0	367	1,443	47	5,148	0
Peak Hour	**0**	**62**	**162**	**130**	**0**	**70**	**105**	**172**	**0**	**153**	**848**	**49**	**0**	**196**	**747**	**20**	**2,714**	**0**

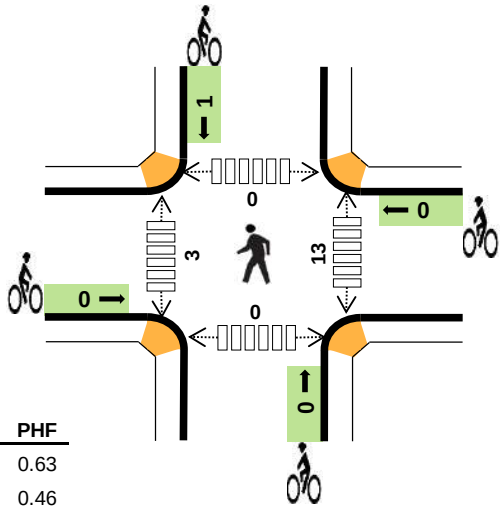
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	6	13	3	*24*	0	0	0	0	*0*	2	0	3	4	*9*
4:15 PM	**1**	**6**	**15**	**2**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**3**	**0**	*4*
4:30 PM	**1**	**2**	**7**	**2**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**1**	*4*
4:45 PM	**4**	**1**	**13**	**6**	***24***	**0**	**0**	**1**	**0**	***1***	**2**	**0**	**1**	**0**	*3*
5:00 PM	**2**	**0**	**13**	**4**	***19***	**0**	**0**	**0**	**2**	***2***	**2**	**1**	**2**	**3**	***8***
5:15 PM	1	1	2	4	*8*	0	1	0	0	*1*	0	0	0	1	*1*
5:30 PM	0	1	5	3	*9*	0	0	0	0	*0*	0	0	0	3	*3*
5:45 PM	1	0	3	2	*6*	0	0	0	0	*0*	2	0	1	0	*3*
Count Total	12	17	71	26	*126*	0	1	1	2	*4*	8	2	13	12	*35*
Peak Hour	**8**	**9**	**48**	**14**	***79***	**0**	**0**	**1**	**2**	***3***	**4**	**2**	**9**	**4**	***19***

VIKING AVE NW
NW LIBERTY RD

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	26.7%	0.63
WB	0.0%	0.46
NB	2.8%	0.88
SB	4.0%	0.73
TOTAL	3.6%	0.84

Two-Hour Count Summaries

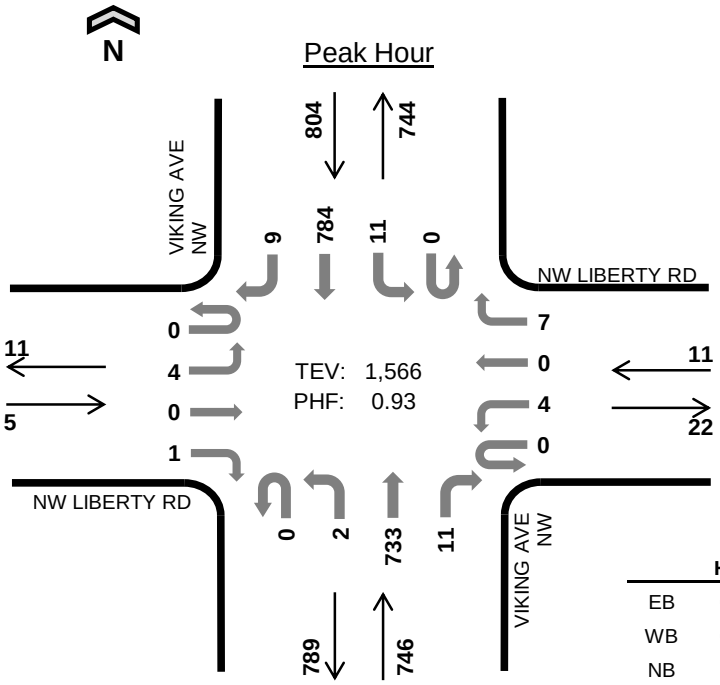
Interval Start	NW LIBERTY RD Eastbound				NW LIBERTY RD Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	0	1	0	0	0	1	0	0	35	0	0	0	45	1	83	0
6:15 AM	0	2	0	3	0	1	0	0	0	0	67	0	0	0	62	0	135	0
6:30 AM	0	1	0	1	0	0	0	0	0	0	74	0	0	0	60	0	136	0
6:45 AM	0	1	0	1	0	3	0	2	0	1	94	0	0	0	69	1	172	526
7:00 AM	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**89**	**0**	**0**	**1**	**62**	**2**	**157**	600
7:15 AM	**0**	**2**	**1**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**155**	**3**	**0**	**1**	**81**	**2**	**248**	713
7:30 AM	**0**	**4**	**0**	**2**	**0**	**0**	**0**	**6**	**0**	**0**	**160**	**0**	**0**	**1**	**78**	**0**	**251**	828
7:45 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**155**	**0**	**0**	**0**	**115**	**3**	**279**	**935**
Count Total	0	15	1	9	0	6	0	12	0	2	829	3	0	3	572	9	1,461	0
Peak Hour	**0**	**11**	**1**	**3**	**0**	**2**	**0**	**9**	**0**	**1**	**559**	**3**	**0**	**3**	**336**	**7**	**935**	**0**

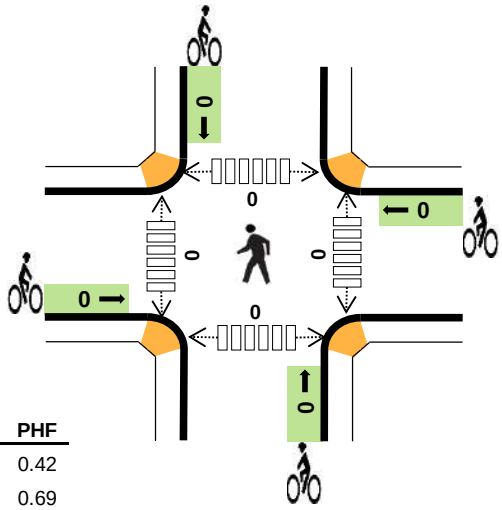
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	1	4	*5*	0	0	1	0	*1*	0	0	0	0	*0*
6:15 AM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	0	2	4	*6*	0	0	0	0	*0*	1	0	0	0	*1*
6:45 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	1	0	0	*1*
7:00 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**2**	**0**	**8**	**2**	***12***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**0**	*4*
7:30 AM	**1**	**0**	**3**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**9**	**1**	**0**	**0**	*10*
7:45 AM	**1**	**0**	**4**	**7**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	***2***
Count Total	4	0	20	23	*47*	0	0	1	1	*2*	14	4	0	0	*18*
Peak Hour	**4**	**0**	**16**	**14**	***34***	**0**	**0**	**0**	**1**	***1***	**13**	**3**	**0**	**0**	***16***

VIKING AVE NW
NW LIBERTY RD

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	0.0%	0.42
WB	0.0%	0.69
NB	1.9%	0.94
SB	1.2%	0.92
TOTAL	1.5%	0.93

Two-Hour Count Summaries

Interval Start	NW LIBERTY RD Eastbound				NW LIBERTY RD Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	5	0	3	0	0	0	3	189	3	0	3	172	4	382	0
4:15 PM	0	3	0	0	0	0	0	1	0	1	209	3	0	1	164	8	390	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**192**	**1**	**0**	**2**	**181**	**2**	**380**	0
4:45 PM	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**175**	**3**	**0**	**2**	**186**	**3**	**373**	1,525
5:00 PM	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**3**	**0**	**1**	**173**	**2**	**0**	**1**	**207**	**1**	**392**	1,535
5:15 PM	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**193**	**5**	**0**	**6**	**210**	**3**	**421**	**1,566**
5:30 PM	0	2	0	1	0	0	0	1	0	3	151	3	0	1	217	0	379	1,565
5:45 PM	0	1	0	0	0	0	0	2	0	1	153	1	0	1	164	3	326	1,518
Count Total	0	10	0	7	0	7	0	11	0	10	1,435	21	0	17	1,501	24	3,043	0
Peak Hour	**0**	**4**	**0**	**1**	**0**	**4**	**0**	**7**	**0**	**2**	**733**	**11**	**0**	**11**	**784**	**9**	**1,566**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

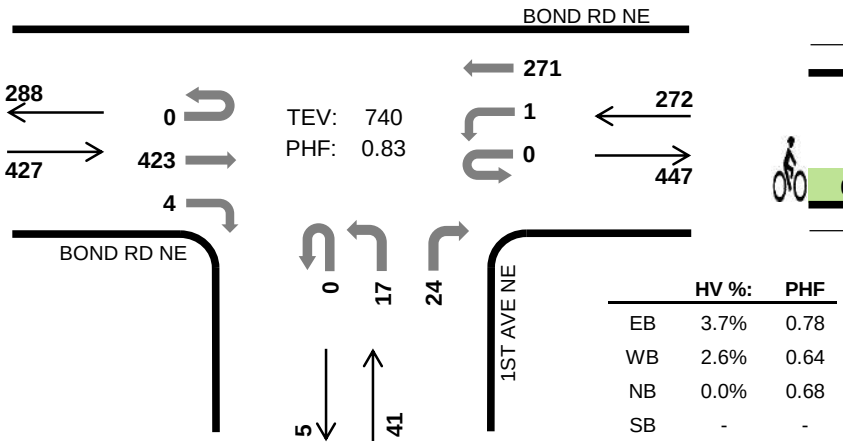
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	3	3	*6*	0	0	1	0	*1*	2	0	0	0	*2*
4:15 PM	0	0	2	8	*10*	0	0	0	0	*0*	5	0	4	0	*9*
4:30 PM	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**6**	**1**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**5**	**2**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**1**	**5**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	0	4	*4*	0	0	1	0	*1*	0	0	0	0	*0*
5:45 PM	0	0	1	3	*4*	0	0	1	0	*1*	0	0	0	0	*0*
Count Total	0	0	20	28	*48*	0	0	3	0	*3*	7	0	4	0	*11*
Peak Hour	**0**	**0**	**14**	**10**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

1ST AVE NE
BOND RD NE

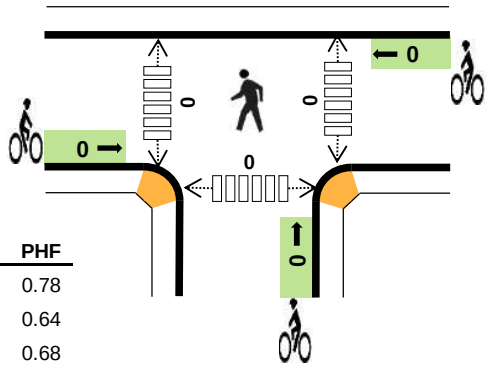
N

Peak Hour

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	3.7%	0.78
WB	2.6%	0.64
NB	0.0%	0.68
SB	-	-
TOTAL	3.1%	0.83



Two-Hour Count Summaries

Interval Start	BOND RD NE Eastbound				BOND RD NE Westbound				1ST AVE NE Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	24	1	1	3	23	0	0	5	0	5	0	0	0	0	62	0
6:15 AM	0	0	56	0	0	0	45	0	0	3	0	1	0	0	0	0	105	0
6:30 AM	0	0	53	0	0	0	44	0	0	5	0	0	0	0	0	0	102	0
6:45 AM	0	0	60	0	0	0	53	0	0	2	0	8	0	0	0	0	123	392
7:00 AM	**0**	**0**	**84**	**0**	**0**	**0**	**47**	**0**	**0**	**3**	**0**	**4**	**0**	**0**	**0**	**0**	**138**	468
7:15 AM	**0**	**0**	**99**	**1**	**0**	**0**	**57**	**0**	**0**	**8**	**0**	**7**	**0**	**0**	**0**	**0**	**172**	535
7:30 AM	**0**	**0**	**136**	**0**	**0**	**0**	**61**	**0**	**0**	**2**	**0**	**8**	**0**	**0**	**0**	**0**	**207**	640
7:45 AM	**0**	**0**	**104**	**3**	**0**	**1**	**106**	**0**	**0**	**4**	**0**	**5**	**0**	**0**	**0**	**0**	**223**	**740**
Count Total	0	0	616	5	1	4	436	0	0	32	0	38	0	0	0	0	1,132	0
Peak Hour	**0**	**0**	**423**	**4**	**0**	**1**	**271**	**0**	**0**	**17**	**0**	**24**	**0**	**0**	**0**	**0**	**740**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

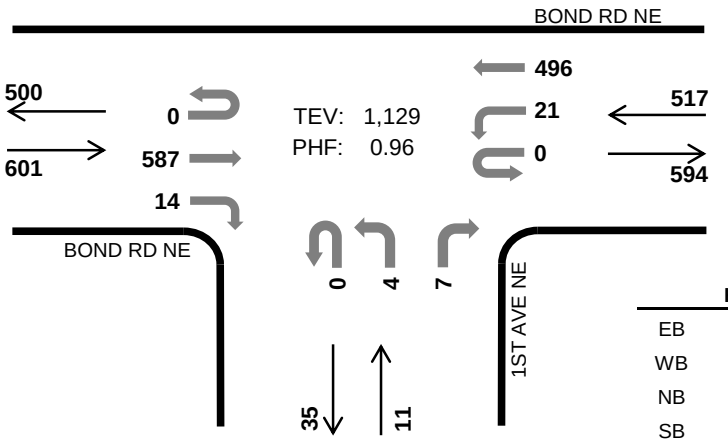
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	3	0	0	*3*	1	0	0	0	*1*	0	0	0	0	*0*
6:15 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	0	0	0	0	*0*	2	0	0	0	*2*	0	0	0	0	*0*
7:00 AM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**5**	**3**	**0**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**8**	**2**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	17	10	0	0	*27*	3	0	0	0	*3*	0	0	0	0	*0*
Peak Hr	**16**	**7**	**0**	**0**	***23***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

1ST AVE NE
BOND RD NE

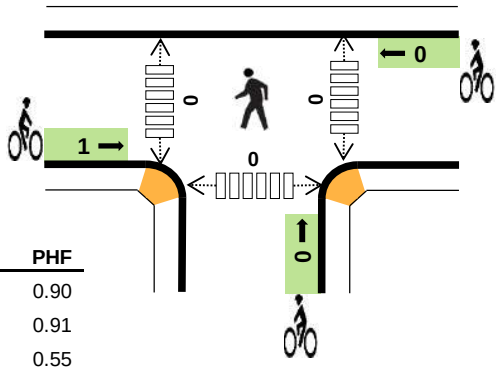
N

Peak Hour

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	2.2%	0.90
WB	2.1%	0.91
NB	9.1%	0.55
SB	-	-
TOTAL	2.2%	0.96



Two-Hour Count Summaries

Interval Start	BOND RD NE Eastbound				BOND RD NE Westbound				1ST AVE NE Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**161**	**6**	**0**	**1**	**115**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**284**	0
4:15 PM	**0**	**0**	**164**	**3**	**0**	**7**	**115**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**293**	0
4:30 PM	**0**	**0**	**130**	**3**	**0**	**7**	**135**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**276**	0
4:45 PM	**0**	**0**	**132**	**2**	**0**	**6**	**131**	**0**	**0**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**276**	**1,129**
5:00 PM	0	0	124	4	0	7	119	0	0	2	0	4	0	0	0	0	260	1,105
5:15 PM	0	0	109	7	0	9	162	0	0	0	0	3	0	0	0	0	290	1,102
5:30 PM	0	0	111	4	0	7	146	0	0	6	0	2	0	0	0	0	276	1,102
5:45 PM	0	0	99	2	0	7	99	0	0	1	0	7	0	0	0	0	215	1,041
Count Total	0	0	1,030	31	0	51	1,022	0	0	13	0	23	0	0	0	0	2,170	0
Peak Hour	**0**	**0**	**587**	**14**	**0**	**21**	**496**	**0**	**0**	**4**	**0**	**7**	**0**	**0**	**0**	**0**	**1,129**	**0**

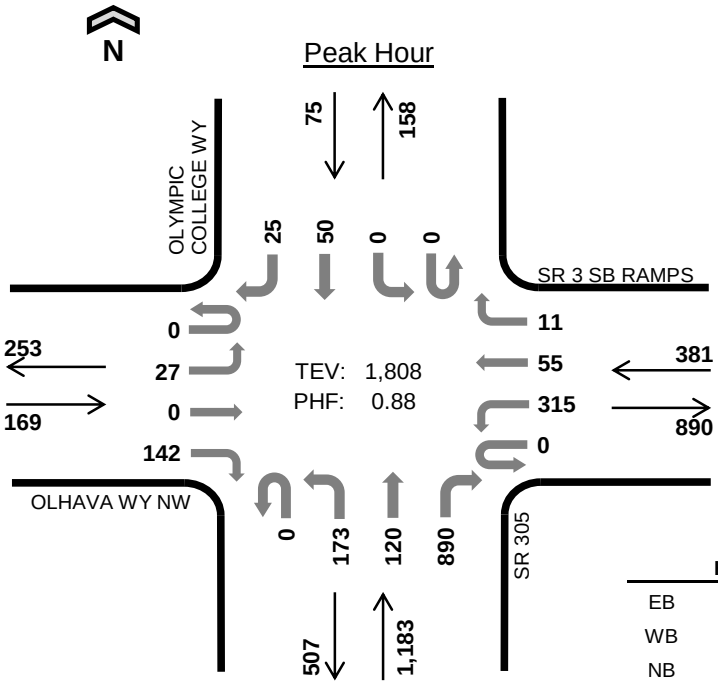
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

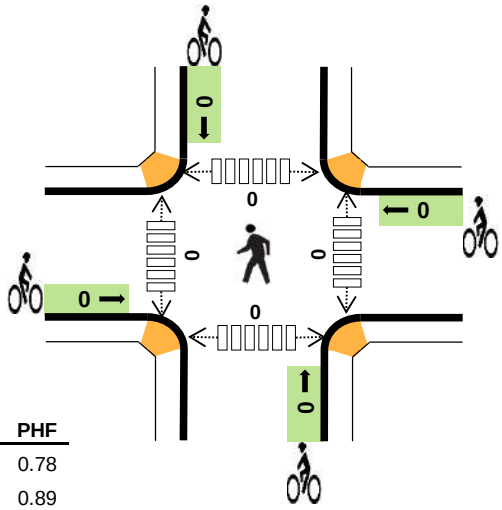
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**3**	**1**	**0**	**0**	***4***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**2**	**3**	**1**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**4**	**4**	**0**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**4**	**3**	**0**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	1	2	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	1	2	1	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	1	2	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	1	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	17	18	2	0	*37*	1	0	0	0	*1*	0	0	0	0	*0*
Peak Hr	**13**	**11**	**1**	**0**	***25***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

SR 305
SR 3 SB RAMPS

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	5.3%	0.78
WB	6.8%	0.89
NB	4.3%	0.90
SB	13.3%	0.67
TOTAL	5.3%	0.88

Two-Hour Count Summaries

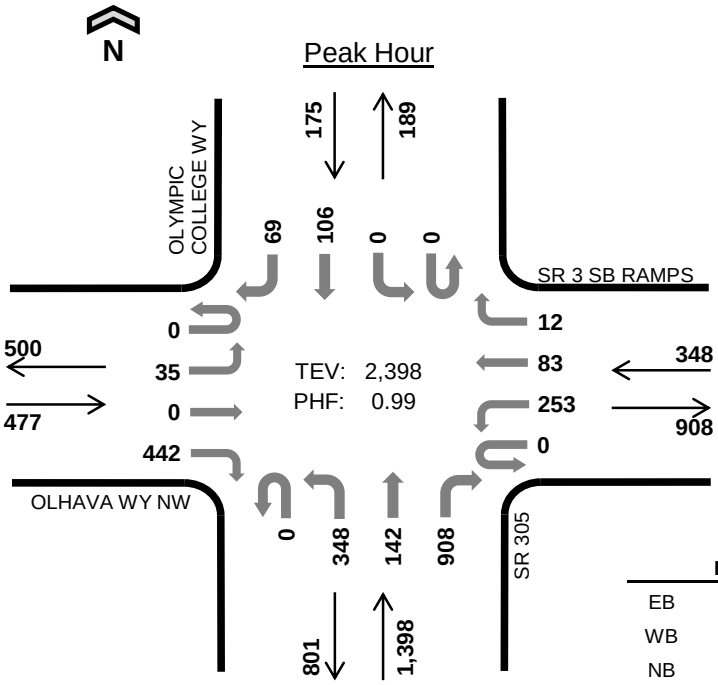
Interval Start	OLHAVA WY NW (Eastbound)				SR 3 SB RAMPS (Westbound)				SR 305 (Northbound)				OLYMPIC COLLEGE WY (Southbound)				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	4	0	9	0	37	6	2	0	15	1	144	0	0	4	2	224	0
6:15 AM	0	1	0	18	0	38	9	0	0	15	8	202	0	0	8	1	300	0
6:30 AM	0	2	0	21	0	54	7	0	0	19	13	224	0	0	6	2	348	0
6:45 AM	0	4	0	22	0	58	14	1	0	31	17	214	0	0	8	1	370	1,242
7:00 AM	**0**	**5**	**0**	**30**	**0**	**63**	**15**	**4**	**0**	**30**	**17**	**213**	**0**	**0**	**8**	**5**	**390**	1,408
7:15 AM	**0**	**8**	**0**	**29**	**0**	**98**	**8**	**1**	**0**	**31**	**29**	**228**	**0**	**0**	**13**	**2**	**447**	1,555
7:30 AM	**0**	**4**	**0**	**39**	**0**	**70**	**15**	**2**	**0**	**46**	**30**	**230**	**0**	**0**	**11**	**8**	**455**	1,662
7:45 AM	**0**	**10**	**0**	**44**	**0**	**84**	**17**	**4**	**0**	**66**	**44**	**219**	**0**	**0**	**18**	**10**	**516**	**1,808**
Count Total	0	38	0	212	0	502	91	14	0	253	159	1,674	0	0	76	31	3,050	0
Peak Hour	**0**	**27**	**0**	**142**	**0**	**315**	**55**	**11**	**0**	**173**	**120**	**890**	**0**	**0**	**50**	**25**	**1,808**	**0**

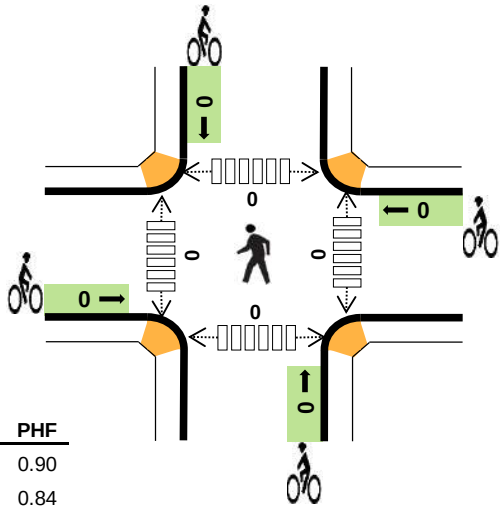
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	1	1	6	1	*9*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	1	1	4	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	2	2	6	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	2	2	3	3	*10*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**2**	**0**	**9**	**1**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**2**	**8**	**5**	**1**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**1**	**9**	**19**	**1**	***30***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**4**	**9**	**18**	**7**	***38***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	15	32	70	14	*131*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**9**	**26**	**51**	**10**	***96***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

SR 305
SR 3 SB RAMPS

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	1.5%	0.90
WB	3.4%	0.84
NB	2.9%	0.96
SB	6.3%	0.81
TOTAL	3.0%	0.99

Two-Hour Count Summaries

Interval Start	OLHAVA WY NW				SR 3 SB RAMPS				SR 305				OLYMPIC COLLEGE WY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	8	0	111	0	70	14	3	0	81	29	218	0	0	33	19	586	0
4:15 PM	**0**	**8**	**0**	**112**	**0**	**53**	**20**	**3**	**0**	**99**	**35**	**230**	**0**	**0**	**27**	**7**	**594**	0
4:30 PM	**0**	**10**	**0**	**102**	**0**	**77**	**23**	**3**	**0**	**87**	**43**	**210**	**0**	**0**	**23**	**20**	**598**	0
4:45 PM	**0**	**15**	**0**	**117**	**0**	**59**	**19**	**2**	**0**	**78**	**32**	**238**	**0**	**0**	**27**	**17**	**604**	2,382
5:00 PM	**0**	**2**	**0**	**111**	**0**	**64**	**21**	**4**	**0**	**84**	**32**	**230**	**0**	**0**	**29**	**25**	**602**	**2,398**
5:15 PM	0	11	0	66	0	63	9	3	0	60	33	243	0	0	26	12	526	2,330
5:30 PM	0	8	0	111	0	62	9	1	0	72	21	282	0	0	23	20	609	2,341
5:45 PM	0	4	0	88	0	67	13	3	0	68	30	207	0	0	27	13	520	2,257
Count Total	0	66	0	818	0	515	128	22	0	629	255	1,858	0	0	215	133	4,639	0
Peak Hour	**0**	**35**	**0**	**442**	**0**	**253**	**83**	**12**	**0**	**348**	**142**	**908**	**0**	**0**	**106**	**69**	**2,398**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

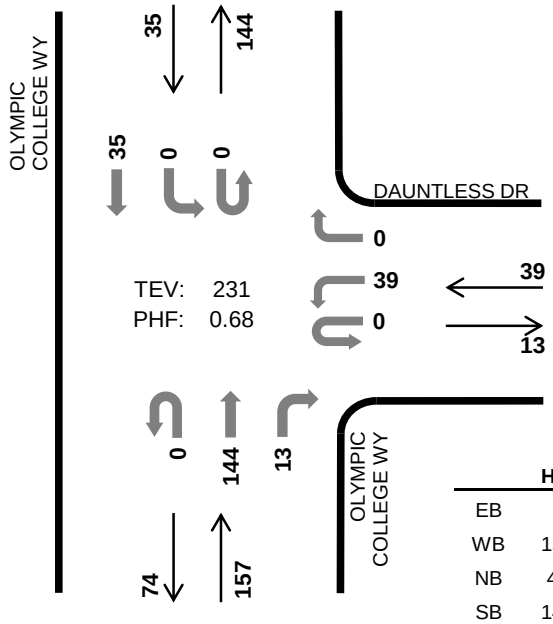
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	6	6	10	3	*25*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**3**	**0**	**10**	**2**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**0**	**3**	**13**	**5**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**3**	**3**	**8**	**2**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**6**	**10**	**2**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	3	2	10	1	*16*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	3	0	8	4	*15*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	1	3	2	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	20	21	72	21	*134*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**7**	**12**	**41**	**11**	***71***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

OLYMPIC COLLEGE WY
DAUNTLESS DR

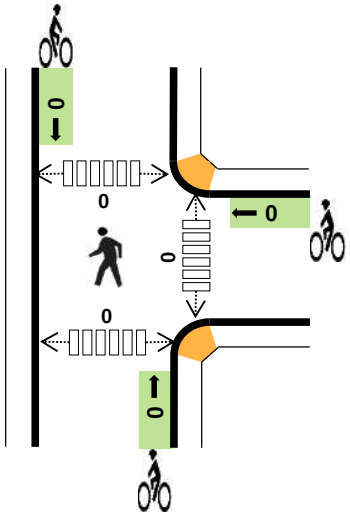
Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	15.4%	0.81
NB	4.5%	0.69
SB	14.3%	0.55
TOTAL	7.8%	0.68



Two-Hour Count Summaries

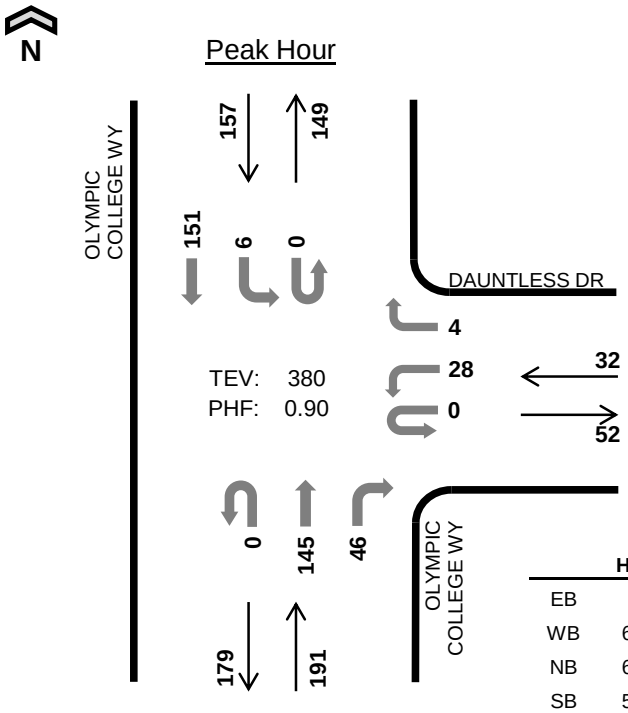
Interval Start	0				DAUNTLESS DR				OLYMPIC COLLEGE WY				OLYMPIC COLLEGE WY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	0	0	0	6	0	0	0	0	5	2	0	0	0	0	13	0
6:15 AM	0	0	0	0	0	5	0	0	0	0	5	4	0	0	4	0	18	0
6:30 AM	0	0	0	0	0	5	0	0	0	0	13	2	0	1	3	0	24	0
6:45 AM	0	0	0	0	0	5	0	0	0	0	19	3	0	0	6	0	33	88
7:00 AM	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**25**	**1**	**0**	**0**	**4**	**0**	**37**	112
7:15 AM	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**34**	**4**	**0**	**0**	**6**	**0**	**53**	147
7:30 AM	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**36**	**0**	**0**	**0**	**9**	**0**	**56**	179
7:45 AM	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**49**	**8**	**0**	**0**	**16**	**0**	**85**	**231**
Count Total	0	0	0	0	0	60	0	0	0	0	186	24	0	1	48	0	319	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**39**	**0**	**0**	**0**	**0**	**144**	**13**	**0**	**0**	**35**	**0**	**231**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

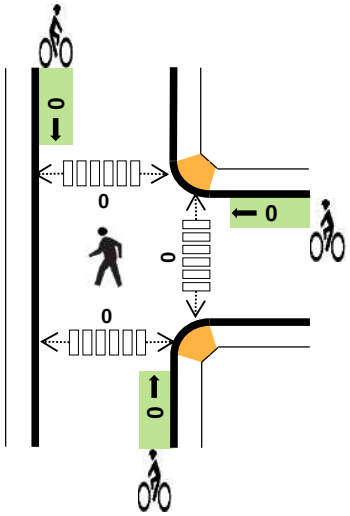
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	1	1	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**0**	**1**	**1**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**1**	**1**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**1**	**4**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**3**	**1**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	0	7	11	8	*26*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**0**	**6**	**7**	**5**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

OLYMPIC COLLEGE WY
DAUNTLESS DR

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	-	-
WB	6.3%	0.67
NB	6.8%	0.85
SB	5.7%	0.85
TOTAL	6.3%	0.90



Two-Hour Count Summaries

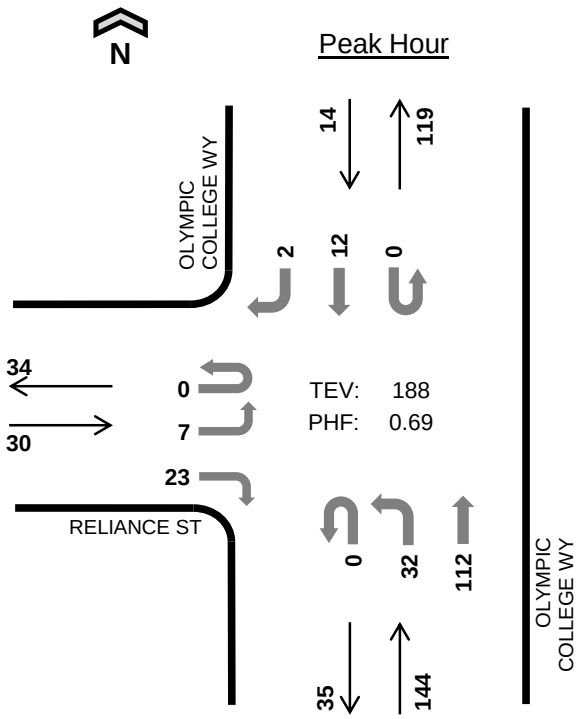
Interval Start	0				DAUNTLESS DR				OLYMPIC COLLEGE WY				OLYMPIC COLLEGE WY				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	7	0	1	0	0	30	11	0	1	47	0	97	0
4:15 PM	0	0	0	0	0	7	0	0	0	0	34	13	0	1	25	0	80	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**45**	**11**	**0**	**1**	**42**	**0**	**106**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**1**	**0**	**0**	**38**	**11**	**0**	**1**	**33**	**0**	**95**	378
5:00 PM	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**1**	**0**	**0**	**30**	**9**	**0**	**2**	**44**	**0**	**93**	374
5:15 PM	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**32**	**15**	**0**	**2**	**32**	**0**	**86**	**380**
5:30 PM	0	0	0	0	0	2	0	0	0	0	22	6	0	2	45	0	77	351
5:45 PM	0	0	0	0	0	6	0	0	0	0	22	13	0	1	29	0	71	327
Count Total	0	0	0	0	0	50	0	5	0	0	253	89	0	11	297	0	705	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**28**	**0**	**4**	**0**	**0**	**145**	**46**	**0**	**6**	**151**	**0**	**380**	**0**

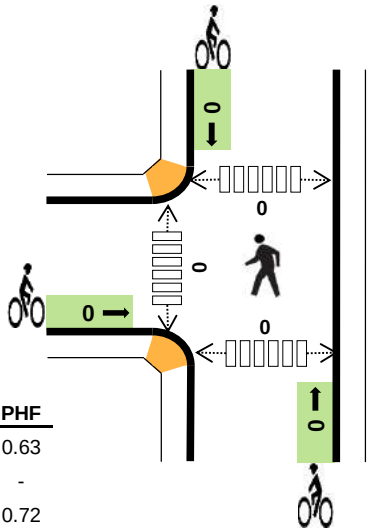
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	3	3	*6*	0	0	1	0	*1*	0	0	0	0	*0*
4:15 PM	0	0	2	2	*4*	0	0	0	0	*0*	0	0	1	0	*1*
4:30 PM	**0**	**1**	**4**	**4**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**1**	**3**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**1**	**4**	**1**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**4**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	4	4	*8*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	1	2	*3*	0	0	0	0	*0*	0	1	1	0	*2*
Count Total	0	2	23	20	*45*	0	0	1	0	*1*	0	1	2	0	*3*
Peak Hr	**0**	**2**	**13**	**9**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

OLYMPIC COLLEGE WY
RELIANCE ST

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	10.0%	0.63
WB	-	-
NB	4.9%	0.72
SB	7.1%	0.58
TOTAL	5.9%	0.69

Two-Hour Count Summaries

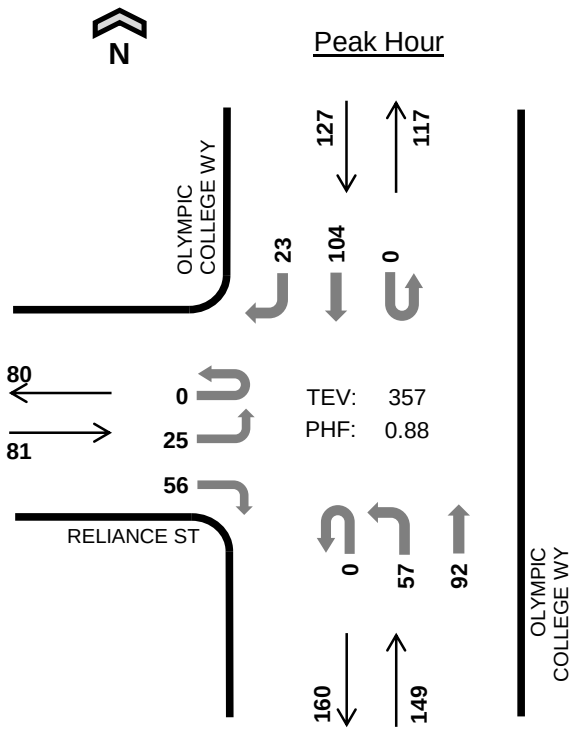
Interval Start	RELIANCE ST Eastbound				0 Westbound				OLYMPIC COLLEGE WY Northbound				OLYMPIC COLLEGE WY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	1	6	0
6:15 AM	0	0	0	2	0	0	0	0	0	1	4	0	0	0	2	0	9	0
6:30 AM	0	1	0	3	0	0	0	0	0	6	7	0	0	0	1	0	18	0
6:45 AM	0	2	0	5	0	0	0	0	0	7	12	0	0	0	1	0	27	60
7:00 AM	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**7**	**18**	**0**	**0**	**0**	**2**	**0**	**30**	84
7:15 AM	**0**	**2**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**9**	**25**	**0**	**0**	**0**	**0**	**1**	**43**	118
7:30 AM	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**7**	**28**	**0**	**0**	**0**	**5**	**0**	**47**	147
7:45 AM	**0**	**2**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**9**	**41**	**0**	**0**	**0**	**5**	**1**	**68**	**188**
Count Total	0	10	0	33	0	0	0	0	0	49	137	0	0	0	16	3	248	0
Peak Hour	**0**	**7**	**0**	**23**	**0**	**0**	**0**	**0**	**0**	**32**	**112**	**0**	**0**	**0**	**12**	**2**	**188**	**0**

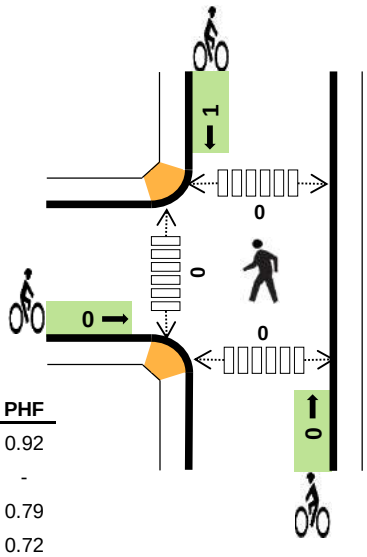
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	3	0	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**3**	**1**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**3**	**0**	**2**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	6	0	9	2	*17*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**3**	**0**	**7**	**1**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

OLYMPIC COLLEGE WY
RELIANCE ST

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	2.5%	0.92
WB	-	-
NB	7.4%	0.79
SB	5.5%	0.72
TOTAL	5.6%	0.88

Two-Hour Count Summaries

Interval Start	RELIANCE ST Eastbound				0 Westbound				OLYMPIC COLLEGE WY Northbound				OLYMPIC COLLEGE WY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	9	0	18	0	0	0	0	0	14	17	0	0	0	31	7	96	0
4:15 PM	0	9	0	12	0	0	0	0	0	15	19	0	0	0	13	3	71	0
4:30 PM	**0**	**7**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**18**	**29**	**0**	**0**	**0**	**28**	**4**	**101**	0
4:45 PM	**0**	**8**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**12**	**27**	**0**	**0**	**0**	**22**	**6**	**88**	356
5:00 PM	**0**	**6**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**13**	**18**	**0**	**0**	**0**	**37**	**7**	**91**	351
5:15 PM	**0**	**4**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**14**	**18**	**0**	**0**	**0**	**17**	**6**	**77**	**357**
5:30 PM	0	7	0	19	0	0	0	0	0	8	15	0	0	0	25	2	76	332
5:45 PM	0	6	0	10	0	0	0	0	0	10	12	0	0	0	20	2	60	304
Count Total	0	56	0	115	0	0	0	0	0	104	155	0	0	0	193	37	660	0
Peak Hour	**0**	**25**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**57**	**92**	**0**	**0**	**0**	**104**	**23**	**357**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

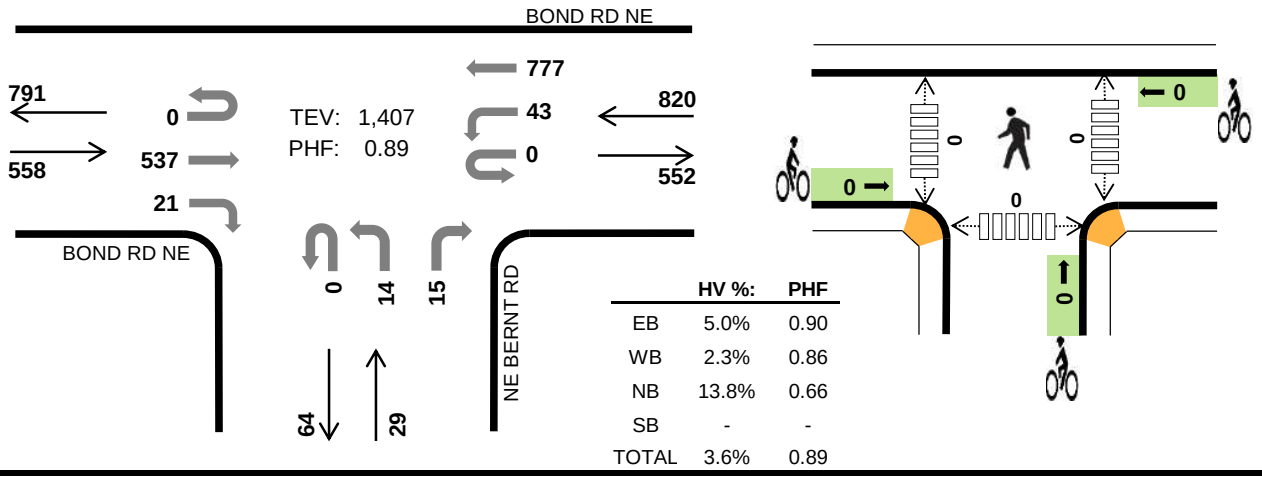
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	3	4	*8*	0	0	1	0	*1*	1	1	0	1	*3*
4:15 PM	0	0	2	2	*4*	0	0	0	0	*0*	2	1	0	0	*3*
4:30 PM	**1**	**0**	**3**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:45 PM	**1**	**0**	**1**	**2**	***4***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**4**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**0**	**3**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	3	4	*7*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	0	1	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	4	0	20	18	*42*	0	0	1	1	*2*	5	2	0	1	*8*
Peak Hr	**2**	**0**	**11**	**7**	***20***	**0**	**0**	**0**	**1**	***1***	**2**	**0**	**0**	**0**	***2***

NE BERNT RD
BOND RD NE

N

Peak Hour

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	5.0%	0.90
WB	2.3%	0.86
NB	13.8%	0.66
SB	-	-
TOTAL	3.6%	0.89

Two-Hour Count Summaries

Interval Start	BOND RD NE Eastbound				BOND RD NE Westbound				NE BERNT RD Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	58	0	0	5	101	0	0	0	0	0	0	0	0	0	164	0
6:15 AM	0	0	83	1	0	4	166	0	0	0	0	1	0	0	0	0	255	0
6:30 AM	0	0	101	9	0	0	164	0	0	1	0	0	0	0	0	0	275	0
6:45 AM	0	0	103	10	0	8	169	0	0	0	0	1	0	0	0	0	291	985
7:00 AM	**0**	**0**	**116**	**4**	**0**	**6**	**180**	**0**	**0**	**1**	**0**	**5**	**0**	**0**	**0**	**0**	**312**	1,133
7:15 AM	**0**	**0**	**131**	**4**	**0**	**16**	**188**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**346**	1,224
7:30 AM	**0**	**0**	**149**	**6**	**0**	**12**	**180**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**352**	1,301
7:45 AM	**0**	**0**	**141**	**7**	**0**	**9**	**229**	**0**	**0**	**7**	**0**	**4**	**0**	**0**	**0**	**0**	**397**	**1,407**
Count Total	0	0	882	41	0	60	1,377	0	0	15	0	17	0	0	0	0	2,392	0
Peak Hour	**0**	**0**	**537**	**21**	**0**	**43**	**777**	**0**	**0**	**14**	**0**	**15**	**0**	**0**	**0**	**0**	**1,407**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

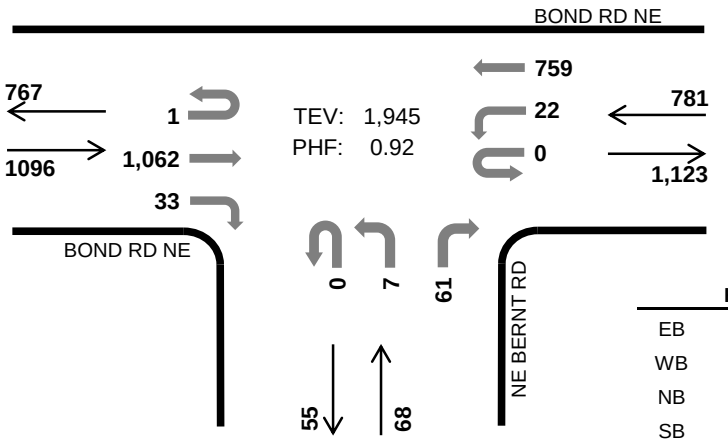
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	1	5	0	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	8	0	0	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	7	2	0	0	*9*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	5	6	0	0	*11*	2	0	0	0	*2*	0	0	0	0	*0*
7:00 AM	**2**	**5**	**0**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**6**	**4**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**8**	**8**	**0**	**0**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**12**	**2**	**4**	**0**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	49	32	4	0	*85*	2	0	0	0	*2*	0	0	0	0	*0*
Peak Hr	**28**	**19**	**4**	**0**	***51***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

NE BERNT RD
BOND RD NE

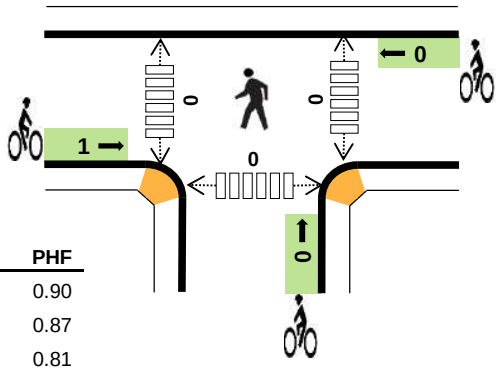
N

Peak Hour

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	2.9%	0.90
WB	2.7%	0.87
NB	2.9%	0.81
SB	-	-
TOTAL	2.8%	0.92



Two-Hour Count Summaries

Interval Start	BOND RD NE Eastbound				BOND RD NE Westbound				NE BERNT RD Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**1**	**0**	**292**	**11**	**0**	**6**	**198**	**0**	**0**	**1**	**0**	**20**	**0**	**0**	**0**	**0**	**529**	0
4:15 PM	**0**	**0**	**256**	**4**	**0**	**7**	**151**	**0**	**0**	**2**	**0**	**19**	**0**	**0**	**0**	**0**	**439**	0
4:30 PM	**0**	**0**	**243**	**12**	**0**	**7**	**218**	**0**	**0**	**3**	**0**	**11**	**0**	**0**	**0**	**0**	**494**	0
4:45 PM	**0**	**0**	**271**	**6**	**0**	**2**	**192**	**0**	**0**	**1**	**0**	**11**	**0**	**0**	**0**	**0**	**483**	**1,945**
5:00 PM	0	0	248	9	0	4	181	0	0	3	0	22	0	0	0	0	467	1,883
5:15 PM	0	0	228	6	0	9	238	0	0	3	0	17	0	0	0	0	501	1,945
5:30 PM	0	0	237	2	0	7	208	0	0	0	0	20	0	0	0	0	474	1,925
5:45 PM	0	0	183	4	1	5	123	0	0	3	0	12	0	0	0	0	331	1,773
Count Total	1	0	1,958	54	1	47	1,509	0	0	16	0	132	0	0	0	0	3,718	0
Peak Hour	**1**	**0**	**1,062**	**33**	**0**	**22**	**759**	**0**	**0**	**7**	**0**	**61**	**0**	**0**	**0**	**0**	**1,945**	**0**

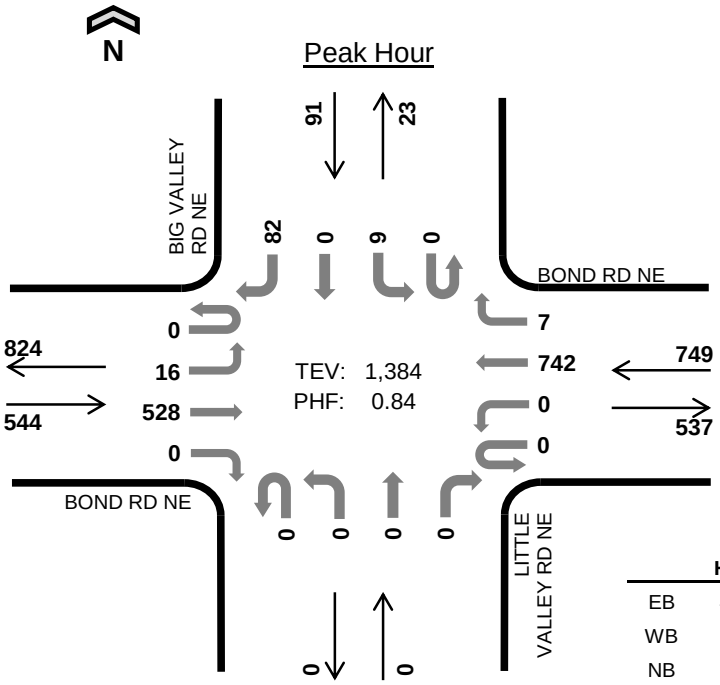
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

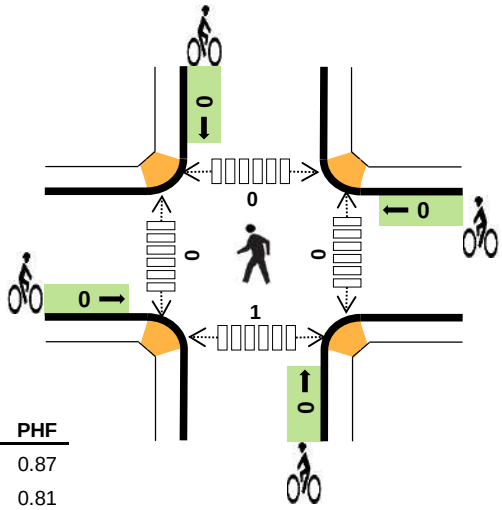
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**9**	**7**	**1**	**0**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**9**	**6**	**0**	**0**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**6**	**3**	**0**	**0**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**8**	**5**	**1**	**0**	***14***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
5:00 PM	7	5	0	0	*12*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	3	3	0	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	4	0	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	45	33	2	0	*80*	1	0	0	0	*1*	0	0	0	0	*0*
Peak Hr	**32**	**21**	**2**	**0**	***55***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

LITTLE VALLEY RD NE
BOND RD NE

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	4.6%	0.87
WB	3.2%	0.81
NB	-	-
SB	2.2%	0.84
TOTAL	3.7%	0.84

Two-Hour Count Summaries

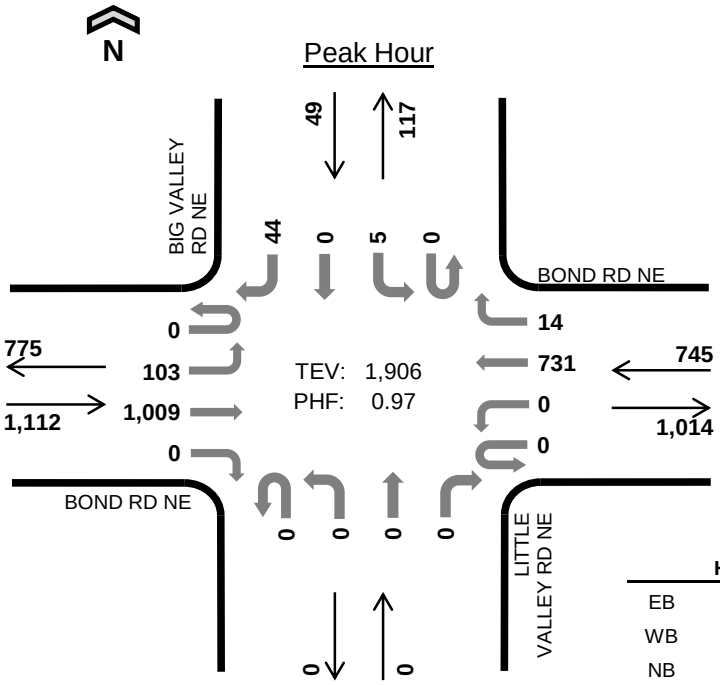
Interval Start	BOND RD NE Eastbound				BOND RD NE Westbound				LITTLE VALLEY RD NE Northbound				BIG VALLEY RD NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	56	0	0	0	94	0	0	0	0	0	0	0	0	10	160	0
6:15 AM	0	0	74	0	0	0	164	1	0	0	0	0	0	1	0	7	247	0
6:30 AM	0	4	103	0	0	0	155	0	0	0	0	0	0	0	0	4	266	0
6:45 AM	0	7	99	0	0	0	174	3	0	0	0	0	0	1	0	5	289	962
7:00 AM	**0**	**3**	**90**	**0**	**0**	**0**	**169**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**16**	**281**	1,083
7:15 AM	**0**	**4**	**146**	**0**	**0**	**0**	**175**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**26**	**354**	1,190
7:30 AM	**0**	**4**	**140**	**0**	**0**	**0**	**169**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**20**	**339**	1,263
7:45 AM	**0**	**5**	**152**	**0**	**0**	**0**	**229**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**20**	**410**	**1,384**
Count Total	0	27	860	0	0	0	1,329	11	0	0	0	0	0	11	0	108	2,346	0
Peak Hour	**0**	**16**	**528**	**0**	**0**	**0**	**742**	**7**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**82**	**1,384**	**0**

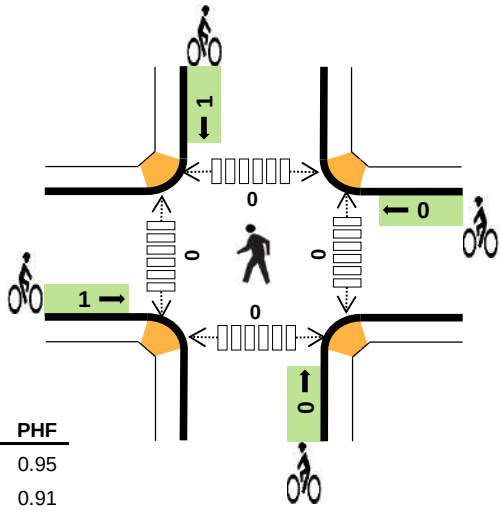
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	3	5	0	1	*9*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	5	0	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	6	2	0	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	5	5	0	0	*10*	2	0	0	0	*2*	0	0	0	0	*0*
7:00 AM	**3**	**7**	**0**	**1**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**5**	**3**	**0**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
7:30 AM	**6**	**11**	**0**	**1**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**11**	**3**	**0**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	44	36	0	3	*83*	2	0	0	0	*2*	0	0	0	1	*1*
Peak Hour	**25**	**24**	**0**	**2**	***51***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***

LITTLE VALLEY RD NE
BOND RD NE

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	2.2%	0.95
WB	2.8%	0.91
NB	-	-
SB	6.1%	0.77
TOTAL	2.6%	0.97

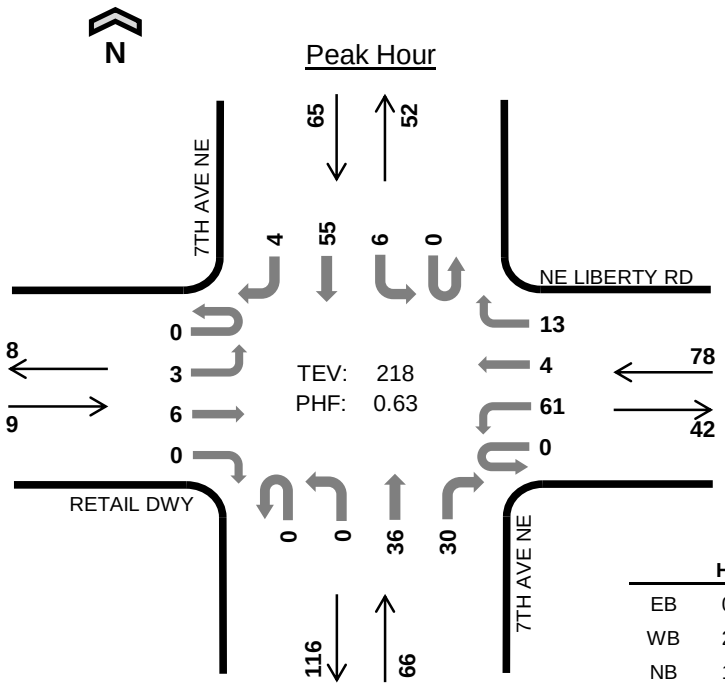
Two-Hour Count Summaries

Interval Start	BOND RD NE Eastbound				BOND RD NE Westbound				LITTLE VALLEY RD NE Northbound				BIG VALLEY RD NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**27**	**266**	**0**	**0**	**0**	**177**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**12**	**489**	0
4:15 PM	**0**	**29**	**263**	**0**	**0**	**0**	**166**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**470**	0
4:30 PM	**0**	**23**	**229**	**0**	**0**	**0**	**200**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**14**	**472**	0
4:45 PM	**0**	**24**	**251**	**0**	**0**	**0**	**188**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**10**	**475**	**1,906**
5:00 PM	0	19	253	0	0	0	156	1	0	0	0	0	0	2	0	15	446	1,863
5:15 PM	0	31	227	0	0	0	228	2	0	0	0	0	0	1	0	21	510	1,903
5:30 PM	0	29	228	0	0	0	187	2	0	0	0	0	0	0	0	15	461	1,892
5:45 PM	0	23	188	0	0	0	134	0	0	0	0	0	0	0	0	9	354	1,771
Count Total	0	205	1,905	0	0	0	1,436	19	0	0	0	0	0	8	0	104	3,677	0
Peak Hour	**0**	**103**	**1,009**	**0**	**0**	**0**	**731**	**14**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**44**	**1,906**	**0**

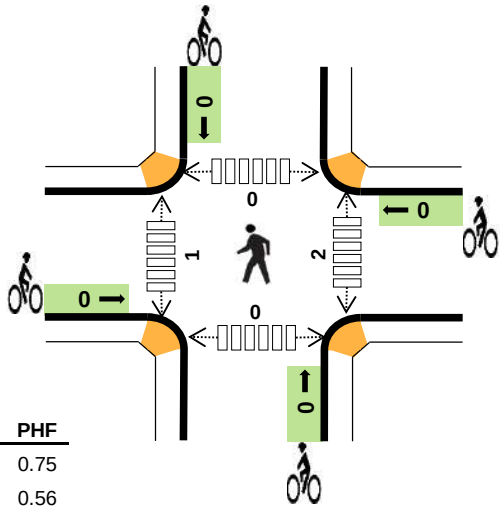
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**7**	**5**	**0**	**1**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**7**	**7**	**0**	**1**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**4**	**5**	**0**	**1**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**7**	**4**	**0**	**0**	***11***	**1**	**0**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***
5:00 PM	11	4	0	0	*15*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	4	3	0	0	*7*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	3	0	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	1	0	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	43	32	0	4	*79*	1	0	0	1	*2*	0	0	0	0	*0*
Peak Hour	**25**	**21**	**0**	**3**	***49***	**1**	**0**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***

7TH AVE NE
NE LIBERTY RD



Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	0.0%	0.75
WB	2.6%	0.56
NB	1.5%	0.55
SB	0.0%	0.86
TOTAL	1.4%	0.63

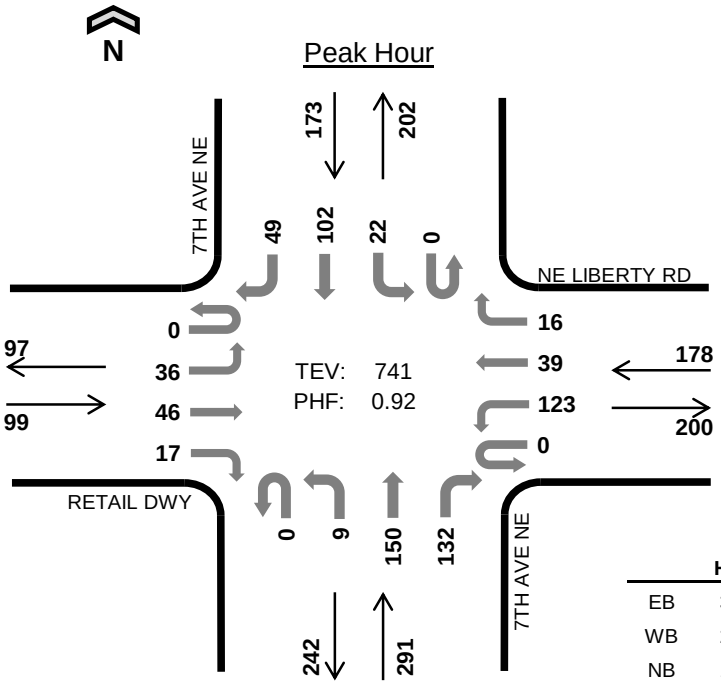
Two-Hour Count Summaries

Interval Start	RETAIL DWY Eastbound				NE LIBERTY RD Westbound				7TH AVE NE Northbound				7TH AVE NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	0	0	0	3	0	2	0	0	0	1	0	1	3	1	11	0
6:15 AM	0	0	2	0	0	7	2	3	0	0	2	5	0	0	6	4	31	0
6:30 AM	0	1	0	0	0	6	1	1	0	0	2	6	0	0	4	0	21	0
6:45 AM	0	0	0	0	0	14	2	0	0	0	4	1	0	0	9	0	30	93
7:00 AM	**0**	**1**	**2**	**0**	**0**	**9**	**1**	**1**	**0**	**0**	**2**	**2**	**0**	**2**	**10**	**0**	**30**	112
7:15 AM	**0**	**1**	**2**	**0**	**0**	**12**	**1**	**4**	**0**	**0**	**7**	**4**	**0**	**2**	**12**	**1**	**46**	127
7:30 AM	**0**	**0**	**1**	**0**	**0**	**12**	**1**	**2**	**0**	**0**	**10**	**11**	**0**	**1**	**15**	**3**	**56**	162
7:45 AM	**0**	**1**	**1**	**0**	**0**	**28**	**1**	**6**	**0**	**0**	**17**	**13**	**0**	**1**	**18**	**0**	**86**	**218**
Count Total	0	4	8	0	0	91	9	19	0	0	44	43	0	7	77	9	311	0
Peak Hour	**0**	**3**	**6**	**0**	**0**	**61**	**4**	**13**	**0**	**0**	**36**	**30**	**0**	**6**	**55**	**4**	**218**	**0**

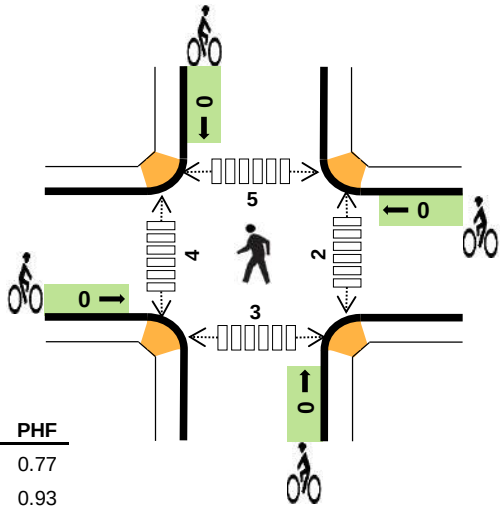
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	0	1	1	0	*2*	0	0	0	0	*0*	1	0	0	0	*1*
6:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	0	0	*1*
6:45 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:15 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
7:45 AM	**0**	**2**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
Count Total	0	3	2	1	*6*	0	0	0	0	*0*	4	1	0	0	*5*
Peak Hour	**0**	**2**	**1**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**0**	**0**	***3***

7TH AVE NE
NE LIBERTY RD



Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	3.0%	0.77
WB	2.8%	0.93
NB	1.4%	0.89
SB	1.2%	0.83
TOTAL	1.9%	0.92

Two-Hour Count Summaries

Interval Start	RETAIL DWY Eastbound				NE LIBERTY RD Westbound				7TH AVE NE Northbound				7TH AVE NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	11	4	0	24	8	9	0	2	37	33	0	5	25	8	168	0
4:15 PM	**0**	**7**	**10**	**4**	**0**	**27**	**10**	**7**	**0**	**1**	**44**	**33**	**0**	**7**	**30**	**15**	**195**	0
4:30 PM	**0**	**8**	**12**	**4**	**0**	**31**	**11**	**3**	**0**	**2**	**39**	**33**	**0**	**4**	**17**	**7**	**171**	0
4:45 PM	**0**	**12**	**14**	**6**	**0**	**31**	**8**	**2**	**0**	**6**	**30**	**21**	**0**	**5**	**24**	**14**	**173**	707
5:00 PM	**0**	**9**	**10**	**3**	**0**	**34**	**10**	**4**	**0**	**0**	**37**	**45**	**0**	**6**	**31**	**13**	**202**	**741**
5:15 PM	0	8	12	1	0	28	9	5	0	1	33	26	0	8	34	5	170	716
5:30 PM	0	7	8	1	0	24	10	6	0	3	21	39	0	7	24	11	161	706
5:45 PM	0	2	10	4	0	25	7	1	0	1	30	38	0	0	19	7	144	677
Count Total	0	55	87	27	0	224	73	37	0	16	271	268	0	42	204	80	1,384	0
Peak Hour	**0**	**36**	**46**	**17**	**0**	**123**	**39**	**16**	**0**	**9**	**150**	**132**	**0**	**22**	**102**	**49**	**741**	**0**

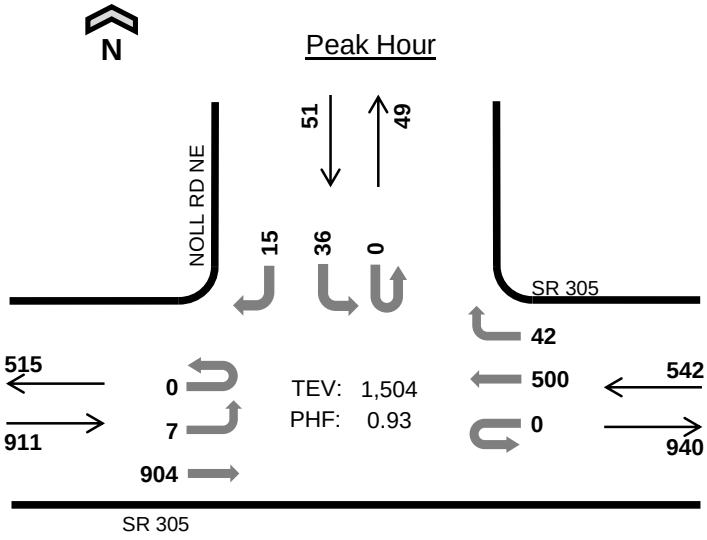
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

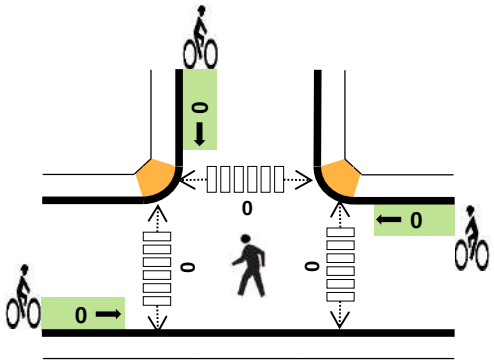
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	0	0	*1*	0	0	0	0	*0*	3	1	0	0	*4*
4:15 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**2**	**0**	*3*
4:30 PM	**0**	**2**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**2**	*5*
4:45 PM	**2**	**0**	**2**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**1**	**0**	*4*
5:00 PM	**1**	**3**	**1**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**1**	***2***
5:15 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	2	1	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	3	9	6	2	*20*	0	0	0	0	*0*	5	5	5	3	*18*
Peak Hour	**3**	**5**	**4**	**2**	***14***	**0**	**0**	**0**	**0**	***0***	**2**	**4**	**5**	**3**	***14***

NOLL RD NE
SR 305

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM

Peak Hour





	HV %:	PHF
EB	5.5%	0.91
WB	5.4%	0.86
NB	-	-
SB	5.9%	0.75
TOTAL	5.5%	0.93

Two-Hour Count Summaries

Interval Start	SR 305 Eastbound				SR 305 Westbound				0 Northbound				NOLL RD NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	1	108	0	0	0	59	2	0	0	0	0	0	7	0	2	179	0
6:15 AM	0	0	137	0	0	0	71	4	0	0	0	0	0	4	0	0	216	0
6:30 AM	0	0	186	0	0	0	86	3	0	0	0	0	0	6	0	0	281	0
6:45 AM	0	0	142	0	0	0	96	3	0	0	0	0	0	11	0	0	252	928
7:00 AM	**0**	**2**	**195**	**0**	**0**	**0**	**121**	**5**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**330**	1,079
7:15 AM	**0**	**1**	**233**	**0**	**0**	**0**	**115**	**8**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**4**	**367**	1,230
7:30 AM	**0**	**4**	**247**	**0**	**0**	**0**	**114**	**21**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**4**	**403**	1,352
7:45 AM	**0**	**0**	**229**	**0**	**0**	**0**	**150**	**8**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**5**	**404**	**1,504**
Count Total	0	8	1,477	0	0	0	812	54	0	0	0	0	0	64	0	17	2,432	0
Peak Hour	**0**	**7**	**904**	**0**	**0**	**0**	**500**	**42**	**0**	**0**	**0**	**0**	**0**	**36**	**0**	**15**	**1,504**	**0**

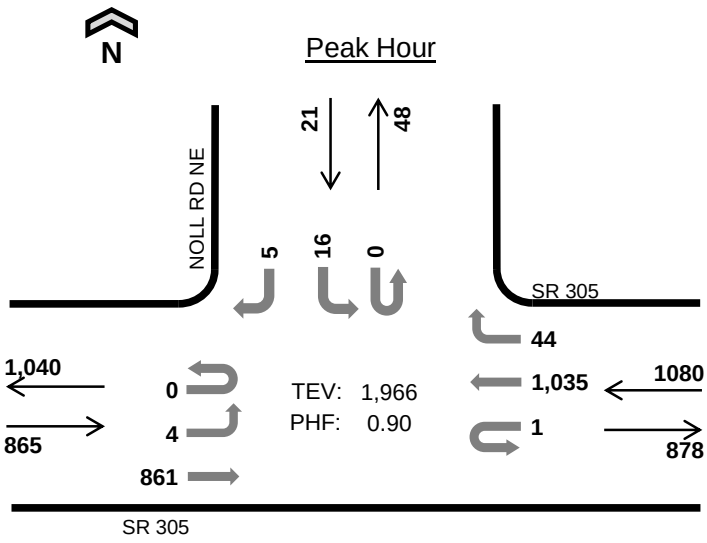
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

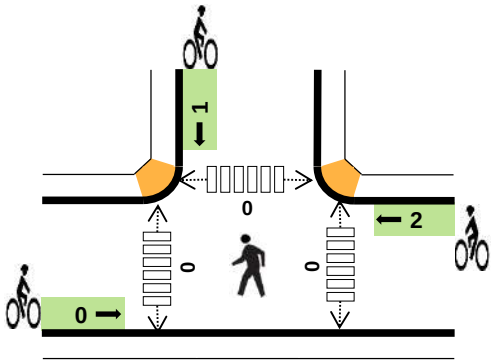
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	5	4	0	0	*9*	0	0	0	0	*0*	0	0	0	1	*1*
6:15 AM	6	8	0	0	*14*	0	0	0	0	*0*	0	0	0	1	*1*
6:30 AM	6	4	0	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	3	9	0	0	*12*	0	1	0	0	*1*	0	0	0	1	*1*
7:00 AM	**10**	**10**	**0**	**1**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**9**	**5**	**0**	**1**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**11**	**6**	**0**	**1**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**20**	**8**	**0**	**0**	***28***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	70	54	0	3	*127*	0	1	0	0	*1*	0	0	0	3	*3*
Peak Hr	**50**	**29**	**0**	**3**	***82***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

NOLL RD NE
SR 305

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	2.0%	0.89
WB	3.8%	0.91
NB	-	-
SB	0.0%	0.88
TOTAL	3.0%	0.90

Two-Hour Count Summaries

Interval Start	SR 305 Eastbound				SR 305 Westbound				0 Northbound				NOLL RD NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	188	0	0	0	274	11	0	0	0	0	0	2	0	3	479	0
4:15 PM	**0**	**1**	**194**	**0**	**0**	**0**	**255**	**9**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**2**	**464**	0
4:30 PM	**0**	**1**	**242**	**0**	**0**	**0**	**286**	**12**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**545**	0
4:45 PM	**0**	**1**	**193**	**0**	**0**	**0**	**233**	**18**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**451**	1,939
5:00 PM	**0**	**1**	**232**	**0**	**1**	**0**	**261**	**5**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**2**	**506**	**1,966**
5:15 PM	0	3	209	0	0	0	216	13	0	0	0	0	0	3	0	1	445	1,947
5:30 PM	0	1	193	0	0	0	208	5	0	0	0	0	0	4	0	1	412	1,814
5:45 PM	0	3	164	0	0	0	212	17	0	0	0	0	0	4	0	3	403	1,766
Count Total	0	12	1,615	0	1	0	1,945	90	0	0	0	0	0	29	0	13	3,705	0
Peak Hour	**0**	**4**	**861**	**0**	**1**	**0**	**1,035**	**44**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**5**	**1,966**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

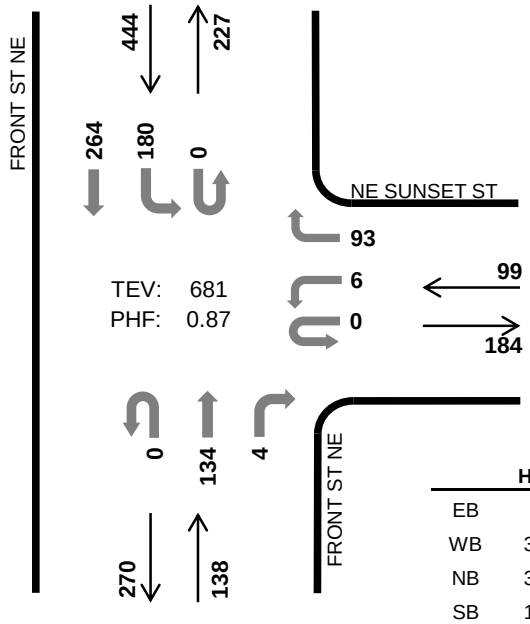
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	15	0	1	*20*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**4**	**13**	**0**	**0**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**2**	**3**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**7**	**11**	**0**	**0**	***18***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**4**	**14**	**0**	**0**	***18***	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**0**	**1**	***1***
5:15 PM	2	4	0	0	*6*	0	0	0	0	*0*	0	0	0	2	*2*
5:30 PM	3	2	0	0	*5*	0	0	0	0	*0*	0	0	0	2	*2*
5:45 PM	4	5	0	0	*9*	0	1	0	0	*1*	0	0	0	0	*0*
Count Total	30	67	0	1	*98*	0	3	0	1	*4*	0	0	0	5	*5*
Peak Hr	**17**	**41**	**0**	**0**	***58***	**0**	**2**	**0**	**1**	***3***	**0**	**0**	**0**	**1**	***1***

FRONT ST NE
NE SUNSET ST

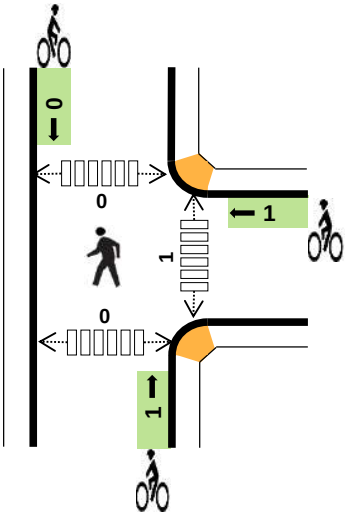
Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	3.0%	0.77
NB	3.6%	0.86
SB	1.6%	0.88
TOTAL	2.2%	0.87



Two-Hour Count Summaries

Interval Start	0				NE SUNSET ST				FRONT ST NE				FRONT ST NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	0	0	0	0	0	14	0	0	8	0	0	4	14	0	40	0
6:15 AM	0	0	0	0	0	0	0	11	0	0	13	1	0	9	27	0	61	0
6:30 AM	0	0	0	0	0	1	0	10	0	0	23	0	0	29	31	0	94	0
6:45 AM	0	0	0	0	0	0	0	19	0	0	20	0	0	32	23	0	94	289
7:00 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**22**	**0**	**0**	**24**	**1**	**0**	**40**	**55**	**0**	**144**	393
7:15 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**20**	**0**	**0**	**34**	**1**	**0**	**40**	**67**	**0**	**164**	496
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**0**	**39**	**1**	**0**	**45**	**71**	**0**	**177**	579
7:45 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**30**	**0**	**0**	**37**	**1**	**0**	**55**	**71**	**0**	**196**	**681**
Count Total	0	0	0	0	0	7	0	147	0	0	198	5	0	254	359	0	970	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**93**	**0**	**0**	**134**	**4**	**0**	**180**	**264**	**0**	**681**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	1	1	*2*	0	0	0	1	*1*	1	0	0	0	*1*
6:15 AM	0	1	2	1	*4*	0	0	0	0	*0*	1	1	0	1	*3*
6:30 AM	0	0	1	0	*1*	0	0	2	0	*2*	0	0	0	1	*1*
6:45 AM	0	0	0	0	*0*	0	0	0	0	*0*	3	0	0	1	*4*
7:00 AM	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**2**	**2**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	*2*
7:45 AM	**0**	**1**	**1**	**0**	***2***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
Count Total	0	4	9	9	*22*	0	1	3	1	*5*	6	2	0	3	*11*
Peak Hr	**0**	**3**	**5**	**7**	***15***	**0**	**1**	**1**	**0**	***2***	**1**	**1**	**0**	**0**	***2***

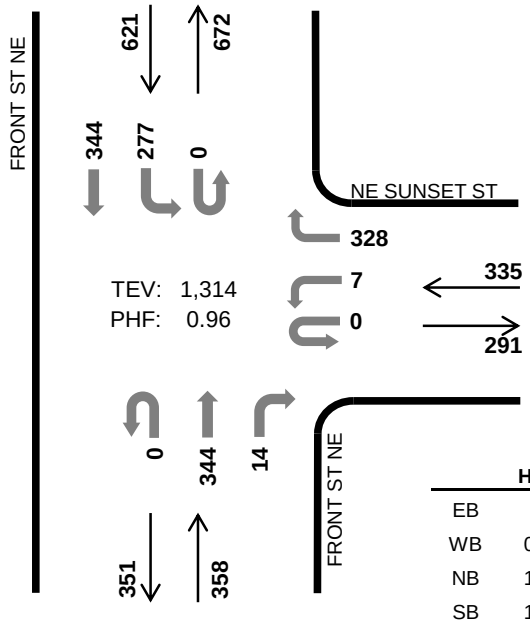
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

FRONT ST NE
NE SUNSET ST

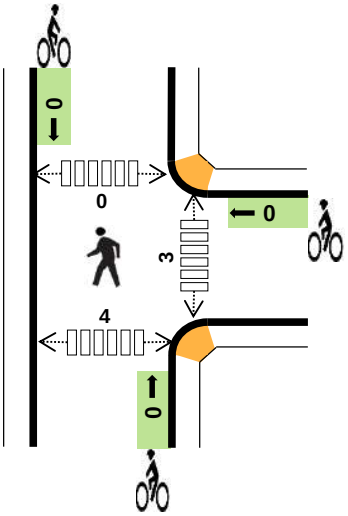
Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	0.6%	0.87
NB	1.4%	0.90
SB	1.3%	0.87
TOTAL	1.1%	0.96



Two-Hour Count Summaries

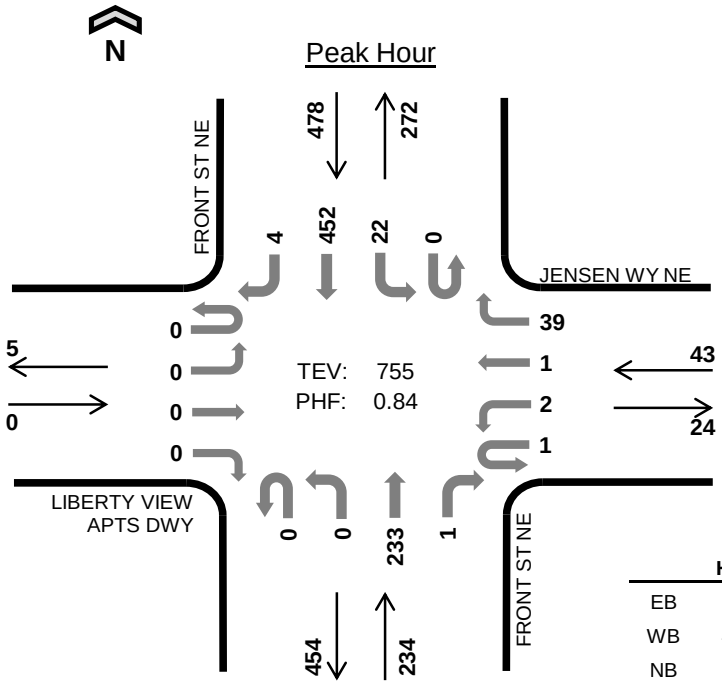
Interval Start	0				NE SUNSET ST				FRONT ST NE				FRONT ST NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	2	0	66	0	0	77	8	0	62	85	0	300	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**75**	**0**	**0**	**90**	**4**	**0**	**66**	**86**	**0**	**323**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**93**	**0**	**0**	**89**	**7**	**0**	**67**	**82**	**0**	**341**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**73**	**0**	**0**	**66**	**2**	**0**	**84**	**95**	**0**	**320**	1,284
5:00 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**87**	**0**	**0**	**99**	**1**	**0**	**60**	**81**	**0**	**330**	**1,314**
5:15 PM	0	0	0	0	0	0	0	76	0	0	76	4	0	46	87	0	289	1,280
5:30 PM	0	0	0	0	0	3	0	83	0	0	66	1	0	36	68	0	257	1,196
5:45 PM	0	0	0	0	0	1	0	44	0	0	70	2	0	44	72	0	233	1,109
Count Total	0	0	0	0	0	13	0	597	0	0	633	29	0	465	656	0	2,393	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**328**	**0**	**0**	**344**	**14**	**0**	**277**	**344**	**0**	**1,314**	**0**

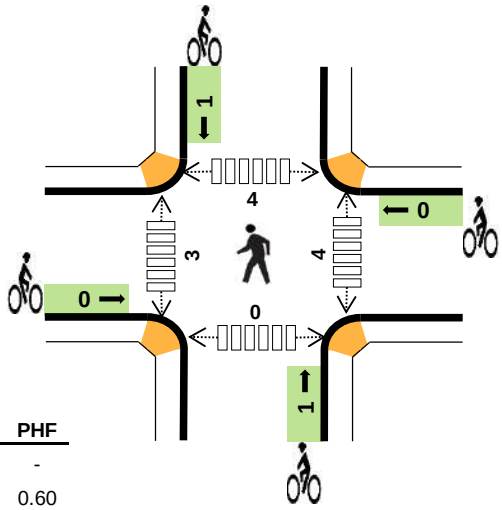
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	2	3	*6*	0	0	0	1	*1*	1	4	0	0	*5*
4:15 PM	**0**	**1**	**1**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**4**	**0**	**0**	*5*
4:30 PM	**0**	**1**	**1**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	*2*
4:45 PM	**0**	**0**	**1**	**4**	***5***	**0**	**0**	**0**	**0**	***0***	**2**	**3**	**0**	**3**	*8*
5:00 PM	**0**	**0**	**2**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**1**	***4***
5:15 PM	0	1	2	1	*4*	0	0	0	0	*0*	0	2	0	1	*3*
5:30 PM	0	3	0	1	*4*	0	0	0	0	*0*	1	1	0	1	*3*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	7	9	13	*29*	0	0	0	1	*1*	5	19	0	6	*30*
Peak Hr	**0**	**2**	**5**	**8**	***15***	**0**	**0**	**0**	**0**	***0***	**3**	**12**	**0**	**4**	***19***

FRONT ST NE
JENSEN WY NE

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	-	-
WB	4.7%	0.60
NB	3.4%	0.85
SB	1.9%	0.86
TOTAL	2.5%	0.84

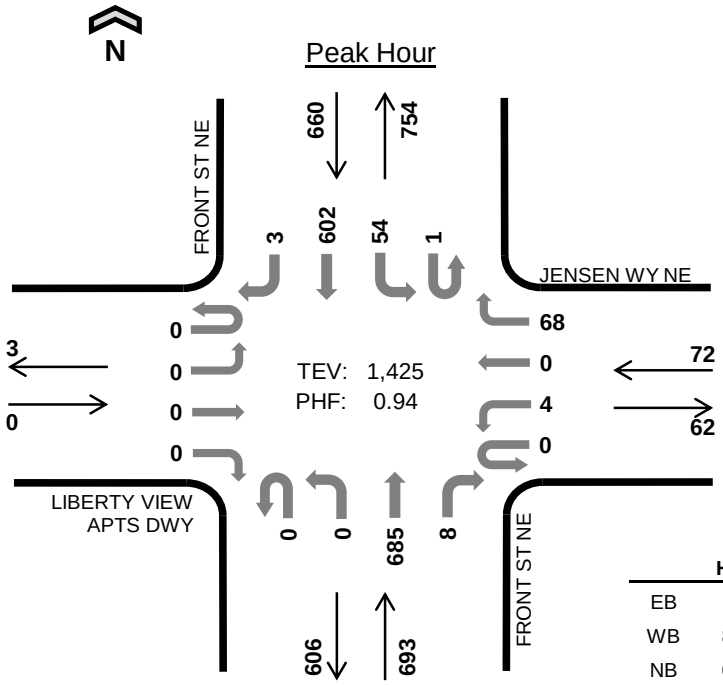
Two-Hour Count Summaries

Interval Start	LIBERTY VIEW APTS DWY				JENSEN WY NE				FRONT ST NE				FRONT ST NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	0	0	0	1	0	4	0	0	22	0	0	0	15	0	42	0
6:15 AM	0	0	0	0	0	0	0	2	0	0	24	0	0	1	37	0	64	0
6:30 AM	0	0	0	0	0	0	0	2	0	0	40	0	0	0	63	0	105	0
6:45 AM	0	0	0	0	0	1	0	7	0	0	38	0	0	1	57	0	104	315
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**48**	**1**	**0**	**3**	**86**	**1**	**153**	426
7:15 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**57**	**0**	**0**	**6**	**117**	**1**	**186**	548
7:30 AM	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**4**	**0**	**0**	**59**	**0**	**0**	**6**	**117**	**2**	**190**	633
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**17**	**0**	**0**	**69**	**0**	**0**	**7**	**132**	**0**	**226**	**755**
Count Total	0	0	0	0	1	4	1	54	0	0	357	1	0	24	624	4	1,070	0
Peak Hour	**0**	**0**	**0**	**0**	**1**	**2**	**1**	**39**	**0**	**0**	**233**	**1**	**0**	**22**	**452**	**4**	**755**	**0**

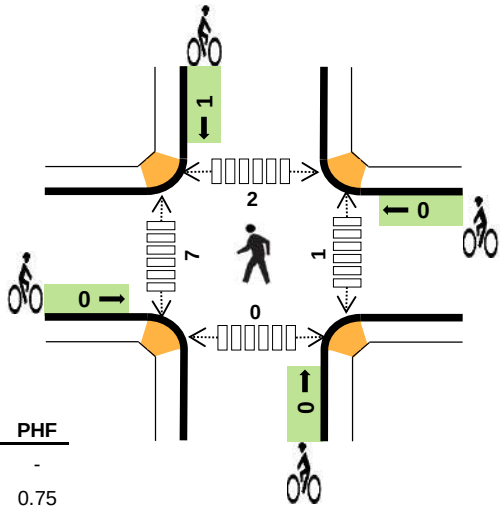
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	0	0	3	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	1	1	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	3	0	*3*
7:00 AM	**0**	**0**	**1**	**3**	***4***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**4**	**0**	*7*
7:15 AM	**0**	**0**	**4**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**0**	**0**	*3*
7:30 AM	**0**	**1**	**1**	**2**	***4***	**0**	**0**	**0**	**1**	***1***	**0**	**1**	**0**	**0**	*1*
7:45 AM	**0**	**1**	**2**	**0**	***3***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
Count Total	0	3	13	12	*28*	0	0	1	1	*2*	4	3	7	0	*14*
Peak Hour	**0**	**2**	**8**	**9**	***19***	**0**	**0**	**1**	**1**	***2***	**4**	**3**	**4**	**0**	***11***

FRONT ST NE
JENSEN WY NE



Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	8.3%	0.75
NB	0.9%	0.90
SB	0.9%	0.91
TOTAL	1.3%	0.94

Two-Hour Count Summaries

Interval Start	LIBERTY VIEW APTS DWY				JENSEN WY NE				FRONT ST NE				FRONT ST NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	10	0	0	148	2	0	15	151	0	327	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**14**	**0**	**0**	**168**	**3**	**1**	**7**	**146**	**2**	**342**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**18**	**0**	**0**	**185**	**1**	**0**	**22**	**154**	**0**	**381**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**22**	**0**	**0**	**142**	**1**	**0**	**16**	**165**	**0**	**348**	1,398
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**190**	**3**	**0**	**9**	**137**	**1**	**354**	**1,425**
5:15 PM	0	0	0	0	0	0	0	8	0	0	149	4	0	21	134	1	317	1,400
5:30 PM	0	0	0	0	0	1	0	12	0	0	151	2	0	17	104	0	287	1,306
5:45 PM	0	0	0	0	0	1	0	9	0	0	111	2	0	13	124	0	260	1,218
Count Total	0	0	0	0	0	7	0	107	0	0	1,244	18	1	120	1,115	4	2,616	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**68**	**0**	**0**	**685**	**8**	**1**	**54**	**602**	**3**	**1,425**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

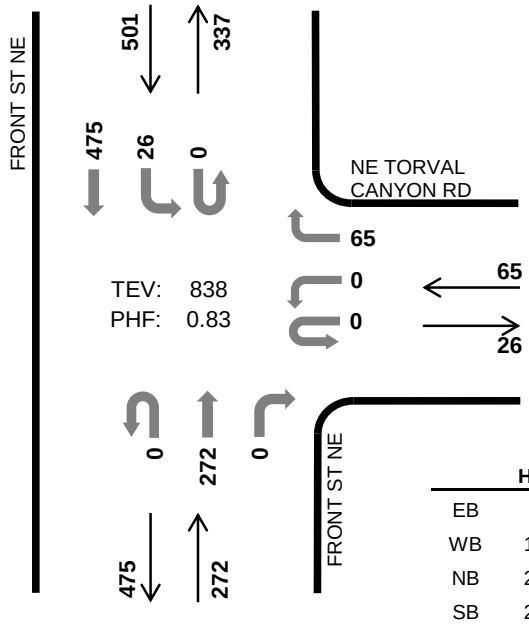
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	3	2	*5*	0	0	0	1	*1*	2	4	0	0	*6*
4:15 PM	**0**	**1**	**2**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	*2*
4:30 PM	**0**	**3**	**1**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**1**	**0**	*4*
4:45 PM	**0**	**2**	**1**	**2**	***5***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**1**	**0**	***4***
5:15 PM	0	0	3	1	*4*	0	0	0	0	*0*	0	1	0	0	*1*
5:30 PM	0	0	3	1	*4*	0	0	0	0	*0*	1	2	0	0	*3*
5:45 PM	0	0	0	0	*0*	0	1	0	2	*3*	1	0	1	0	*2*
Count Total	0	6	15	10	*31*	0	1	0	4	*5*	5	14	3	0	*22*
Peak Hour	**0**	**6**	**6**	**6**	***18***	**0**	**0**	**0**	**1**	***1***	**1**	**7**	**2**	**0**	***10***

FRONT ST NE
NE TORVAL CANYON RD

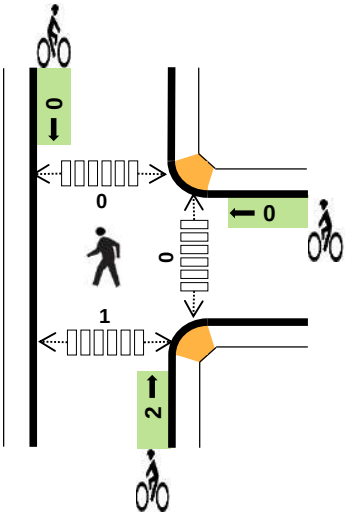
Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM

N

Peak Hour



	HV %:	PHF
EB	-	-
WB	1.5%	0.81
NB	2.9%	0.76
SB	2.0%	0.85
TOTAL	2.3%	0.83



Two-Hour Count Summaries

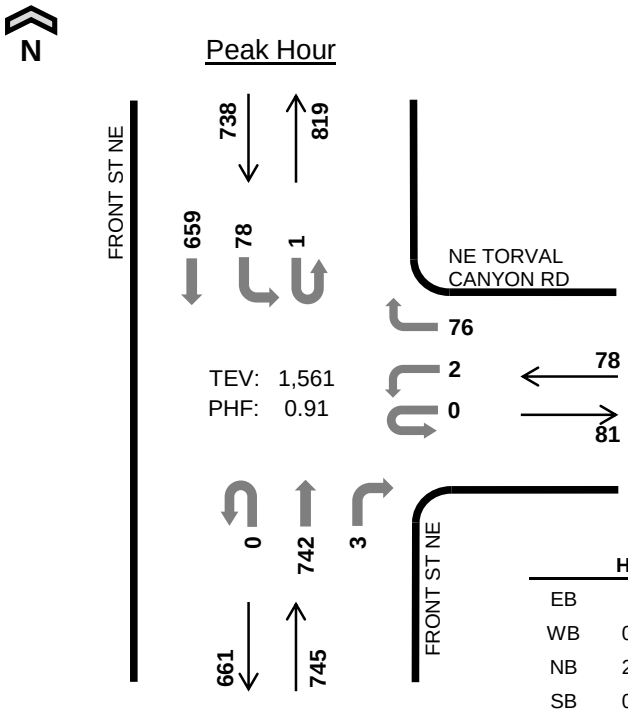
Interval Start	0				NE TORVAL CANYON RD				FRONT ST NE				FRONT ST NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	0	0	0	0	0	8	0	0	26	0	0	0	15	0	49	0
6:15 AM	0	0	0	0	0	0	0	6	0	0	26	0	0	1	40	0	73	0
6:30 AM	0	0	0	0	0	0	0	11	0	0	37	0	0	1	64	0	113	0
6:45 AM	0	0	0	0	0	0	0	11	1	0	50	0	0	3	58	0	123	358
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**0**	**58**	**0**	**0**	**5**	**89**	**0**	**172**	481
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**59**	**0**	**0**	**5**	**128**	**0**	**206**	614
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**0**	**66**	**0**	**0**	**7**	**119**	**0**	**208**	709
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**0**	**89**	**0**	**0**	**9**	**139**	**0**	**252**	**838**
Count Total	0	0	0	0	0	0	0	101	1	0	411	0	0	31	652	0	1,196	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**65**	**0**	**0**	**272**	**0**	**0**	**26**	**475**	**0**	**838**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

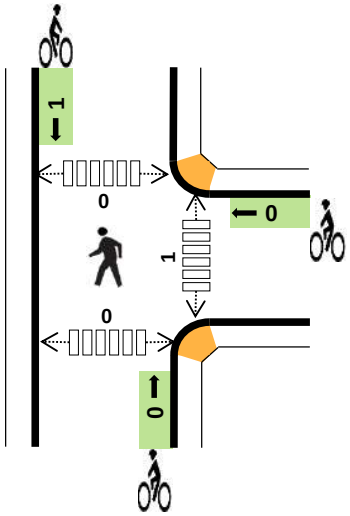
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	1	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	0	0	3	0	*3*	0	0	0	0	*0*	0	1	0	1	*2*
6:30 AM	0	0	1	0	*1*	0	0	2	0	*2*	0	0	0	0	*0*
6:45 AM	0	0	1	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**0**	**0**	**1**	**3**	***4***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**1**	**3**	**5**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:30 AM	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**1**	*2*
7:45 AM	**0**	**0**	**3**	**0**	***3***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
Count Total	0	1	14	14	*29*	0	0	4	0	*4*	0	3	0	2	*5*
Peak Hr	**0**	**1**	**8**	**10**	***19***	**0**	**0**	**2**	**0**	***2***	**0**	**2**	**0**	**1**	***3***

FRONT ST NE
NE TORVAL CANYON RD

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.72
NB	2.0%	0.92
SB	0.8%	0.92
TOTAL	1.3%	0.91



Two-Hour Count Summaries

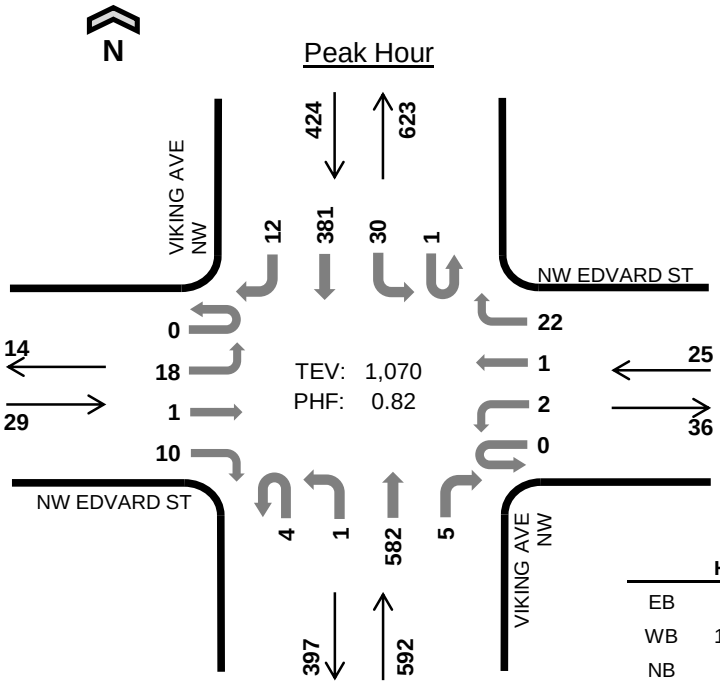
Interval Start	0				NE TORVAL CANYON RD				FRONT ST NE				FRONT ST NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	13	0	0	151	0	0	17	169	0	350	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**0**	**183**	**1**	**0**	**19**	**159**	**0**	**374**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**25**	**0**	**0**	**202**	**0**	**1**	**24**	**176**	**0**	**430**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**0**	**161**	**1**	**0**	**22**	**173**	**0**	**378**	1,532
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**0**	**196**	**1**	**0**	**13**	**151**	**0**	**379**	**1,561**
5:15 PM	0	0	0	0	0	0	0	9	0	0	155	1	0	18	156	0	339	1,526
5:30 PM	0	0	0	0	0	1	0	26	0	0	167	0	0	27	122	0	343	1,439
5:45 PM	0	0	0	0	0	0	0	17	0	0	121	0	0	17	135	0	290	1,351
Count Total	0	0	0	0	0	3	0	141	0	0	1,336	4	1	157	1,241	0	2,883	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**76**	**0**	**0**	**742**	**3**	**1**	**78**	**659**	**0**	**1,561**	**0**

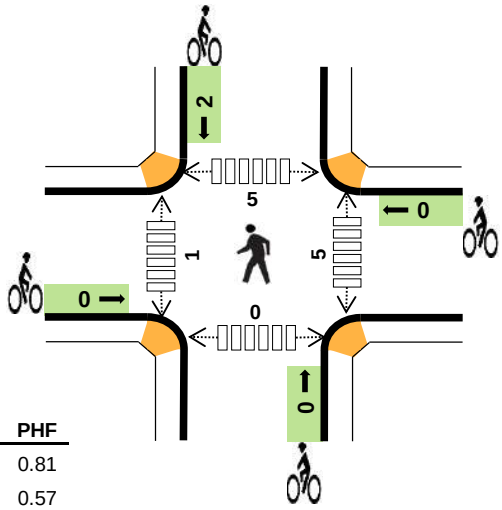
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	2	*3*	0	0	0	1	*1*	1	2	0	1	*4*
4:15 PM	**0**	**0**	**4**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
4:30 PM	**0**	**0**	**4**	**3**	***7***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**5**	**2**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	*2*
5:00 PM	**0**	**0**	**2**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	***2***
5:15 PM	0	0	3	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	3	1	*4*	0	0	0	0	*0*	1	1	0	0	*2*
5:45 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	22	10	*32*	0	0	0	2	*2*	3	7	0	1	*11*
Peak Hr	**0**	**0**	**15**	**6**	***21***	**0**	**0**	**0**	**1**	***1***	**1**	**4**	**0**	**0**	***5***

VIKING AVE NW
NW EDVARD ST

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	3.4%	0.81
WB	12.0%	0.57
NB	3.2%	0.87
SB	4.0%	0.76
TOTAL	3.7%	0.82

Two-Hour Count Summaries

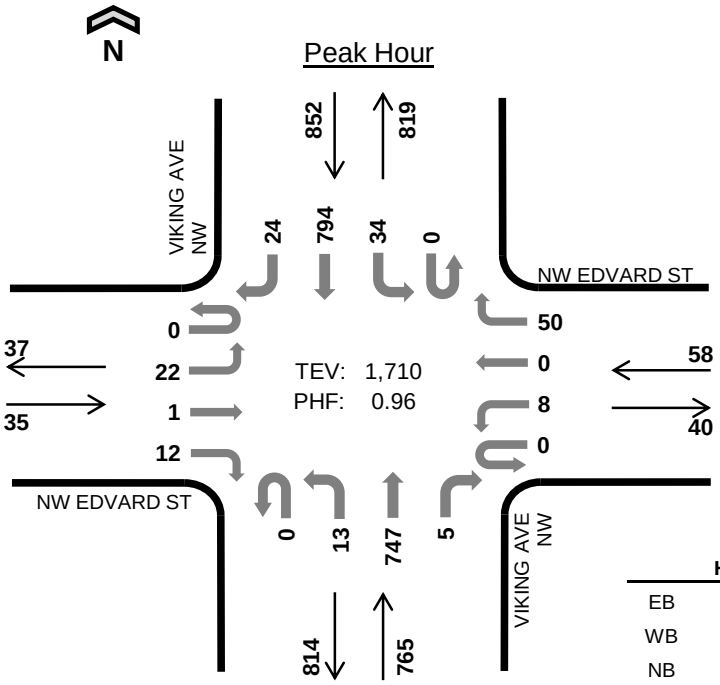
Interval Start	NW EDVARD ST Eastbound				NW EDVARD ST Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	2	0	1	0	0	0	4	0	0	37	0	1	1	46	0	92	0
6:15 AM	0	0	0	2	0	1	0	0	0	1	62	1	0	1	64	0	132	0
6:30 AM	0	0	0	5	0	0	0	7	0	0	86	0	0	3	61	2	164	0
6:45 AM	0	1	0	2	0	0	0	1	0	1	89	0	0	3	73	0	170	558
7:00 AM	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**3**	**1**	**0**	**86**	**0**	**0**	**4**	**79**	**3**	**180**	646
7:15 AM	**0**	**6**	**0**	**3**	**0**	**0**	**1**	**4**	**1**	**0**	**169**	**0**	**0**	**8**	**95**	**4**	**291**	805
7:30 AM	**0**	**2**	**1**	**4**	**0**	**1**	**0**	**10**	**1**	**0**	**164**	**0**	**1**	**5**	**85**	**0**	**274**	915
7:45 AM	**0**	**7**	**0**	**2**	**0**	**1**	**0**	**5**	**1**	**1**	**163**	**5**	**0**	**13**	**122**	**5**	**325**	**1,070**
Count Total	0	21	1	20	0	3	1	34	4	3	856	6	2	38	625	14	1,628	0
Peak Hour	**0**	**18**	**1**	**10**	**0**	**2**	**1**	**22**	**4**	**1**	**582**	**5**	**1**	**30**	**381**	**12**	**1,070**	**0**

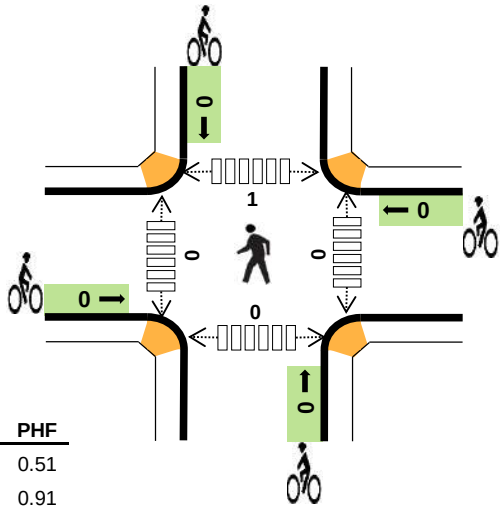
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	1	4	*5*	0	0	2	0	*2*	0	0	0	0	*0*
6:15 AM	0	0	1	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	0	1	4	*5*	0	0	0	0	*0*	1	0	0	0	*1*
6:45 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**2**	***2***	**4**	**0**	**5**	**0**	*9*
7:15 AM	**0**	**2**	**7**	**3**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**7**	**6**	***13***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	*2*
7:45 AM	**1**	**1**	**4**	**7**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
Count Total	1	3	23	27	*54*	0	0	2	2	*4*	6	1	5	0	*12*
Peak Hour	**1**	**3**	**19**	**17**	***40***	**0**	**0**	**0**	**2**	***2***	**5**	**1**	**5**	**0**	***11***

VIKING AVE NW
NW EDVARD ST

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV %:	PHF
EB	0.0%	0.51
WB	1.7%	0.91
NB	1.7%	0.96
SB	1.3%	0.94
TOTAL	1.5%	0.96

Two-Hour Count Summaries

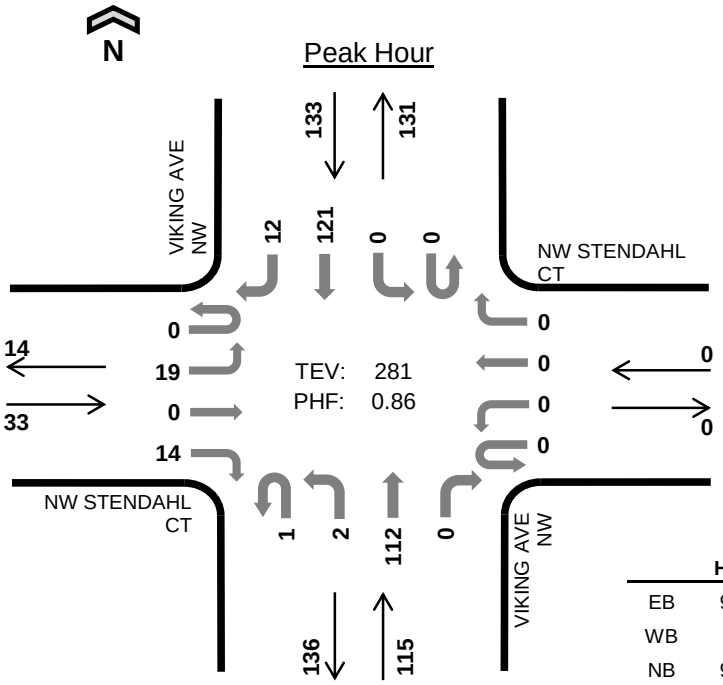
Interval Start	NW EDVARD ST Eastbound				NW EDVARD ST Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	9	0	1	0	1	0	10	0	1	189	2	1	11	180	16	421	0
4:15 PM	0	7	3	2	0	2	0	13	1	3	222	2	0	10	166	10	441	0
4:30 PM	**0**	**6**	**0**	**0**	**0**	**1**	**0**	**15**	**0**	**2**	**197**	**1**	**0**	**10**	**189**	**11**	**432**	0
4:45 PM	**0**	**6**	**0**	**3**	**0**	**2**	**0**	**10**	**0**	**5**	**177**	**1**	**0**	**4**	**197**	**5**	**410**	1,704
5:00 PM	**0**	**7**	**1**	**9**	**0**	**0**	**0**	**14**	**0**	**3**	**178**	**1**	**0**	**10**	**196**	**3**	**422**	1,705
5:15 PM	**0**	**3**	**0**	**0**	**0**	**5**	**0**	**11**	**0**	**3**	**195**	**2**	**0**	**10**	**212**	**5**	**446**	**1,710**
5:30 PM	0	11	0	5	0	0	0	7	1	3	163	0	0	17	209	6	422	1,700
5:45 PM	0	21	1	13	0	0	0	5	0	5	155	0	0	6	154	8	368	1,658
Count Total	0	70	5	33	0	11	0	85	2	25	1,476	9	1	78	1,503	64	3,362	0
Peak Hour	**0**	**22**	**1**	**12**	**0**	**8**	**0**	**50**	**0**	**13**	**747**	**5**	**0**	**34**	**794**	**24**	**1,710**	**0**

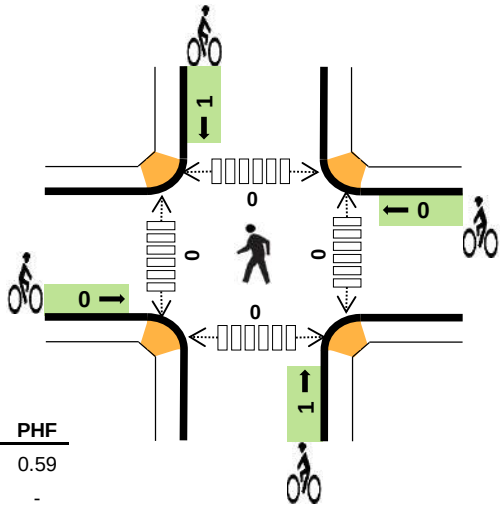
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	2	5	*8*	0	0	1	0	*1*	1	0	0	0	*1*
4:15 PM	1	1	1	6	*9*	0	0	0	0	*0*	0	3	0	0	*3*
4:30 PM	**0**	**0**	**3**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
4:45 PM	**0**	**0**	**6**	**1**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**0**	**3**	**3**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**0**	**1**	**1**	**5**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	0	0	4	*4*	0	0	1	0	*1*	0	0	0	0	*0*
5:45 PM	0	0	1	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	2	17	28	*49*	0	0	2	0	*2*	1	3	1	0	*5*
Peak Hour	**0**	**1**	**13**	**11**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***

VIKING AVE NW
NW STENDAHL CT

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	9.1%	0.59
WB	-	-
NB	9.6%	0.74
SB	6.8%	0.83
TOTAL	8.2%	0.86

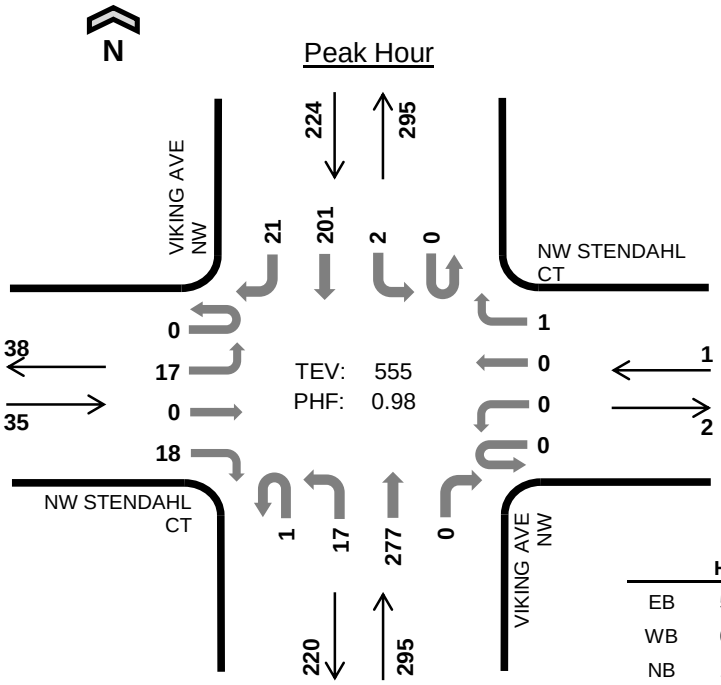
Two-Hour Count Summaries

Interval Start	NW STENDAHL CT Eastbound				NW STENDAHL CT Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	5	0	2	0	0	0	0	0	0	15	0	0	0	9	0	31	0
6:15 AM	0	2	0	2	0	0	0	0	0	0	12	0	0	0	13	0	29	0
6:30 AM	0	6	0	0	0	0	0	0	0	0	24	0	0	0	20	0	50	0
6:45 AM	0	2	0	2	0	0	0	0	0	0	18	0	0	0	18	1	41	151
7:00 AM	**0**	**6**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**20**	**3**	**41**	161
7:15 AM	**0**	**11**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**0**	**0**	**0**	**31**	**3**	**77**	209
7:30 AM	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**37**	**0**	**0**	**0**	**37**	**3**	**82**	241
7:45 AM	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**1**	**1**	**37**	**0**	**0**	**0**	**33**	**3**	**81**	**281**
Count Total	0	34	0	20	0	0	0	0	1	2	181	0	0	0	181	13	432	0
Peak Hour	**0**	**19**	**0**	**14**	**0**	**0**	**0**	**0**	**1**	**2**	**112**	**0**	**0**	**0**	**121**	**12**	**281**	**0**

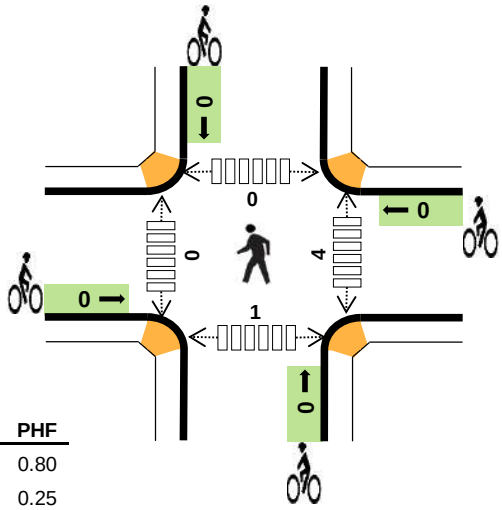
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	2	0	0	0	*2*
6:15 AM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	0	0	1	0	*1*	0	0	0	0	*0*	2	0	0	0	*2*
7:00 AM	**1**	**0**	**0**	**3**	***4***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**2**	**0**	**2**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**0**	**3**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**0**	**6**	**3**	***9***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
Count Total	3	0	13	12	*28*	0	0	1	1	*2*	4	0	0	0	*4*
Peak Hour	**3**	**0**	**11**	**9**	***23***	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***

VIKING AVE NW
NW STENDAHL CT



Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	5.7%	0.80
WB	0.0%	0.25
NB	1.7%	0.91
SB	1.3%	0.93
TOTAL	1.8%	0.98

Two-Hour Count Summaries

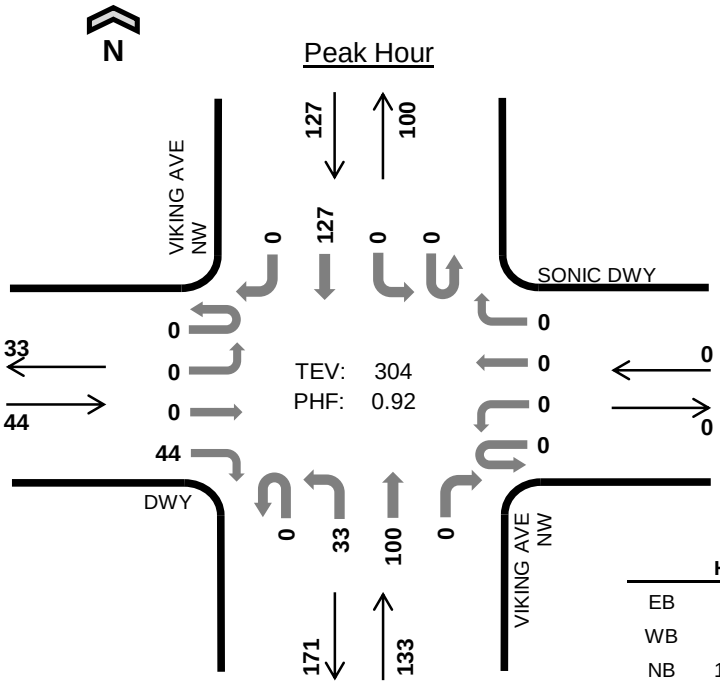
Interval Start	NW STENDAHL CT Eastbound				NW STENDAHL CT Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**4**	**71**	**0**	**0**	**1**	**52**	**4**	**139**	0
4:15 PM	**0**	**4**	**0**	**6**	**0**	**0**	**0**	**1**	**0**	**6**	**62**	**0**	**0**	**0**	**52**	**2**	**133**	0
4:30 PM	**0**	**6**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**68**	**0**	**0**	**0**	**50**	**10**	**141**	0
4:45 PM	**0**	**5**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**5**	**76**	**0**	**0**	**1**	**47**	**5**	**142**	**555**
5:00 PM	0	3	0	4	0	0	0	0	0	4	58	0	0	0	43	11	123	539
5:15 PM	0	2	0	4	0	0	0	0	0	6	54	0	0	0	60	7	133	539
5:30 PM	0	6	0	5	0	0	0	0	0	11	48	0	0	0	51	4	125	523
5:45 PM	0	7	0	5	0	1	0	0	0	6	47	0	0	0	51	6	123	504
Count Total	0	35	0	36	0	1	0	1	1	44	484	0	0	2	406	49	1,059	0
Peak Hour	**0**	**17**	**0**	**18**	**0**	**0**	**0**	**1**	**1**	**17**	**277**	**0**	**0**	**2**	**201**	**21**	**555**	**0**

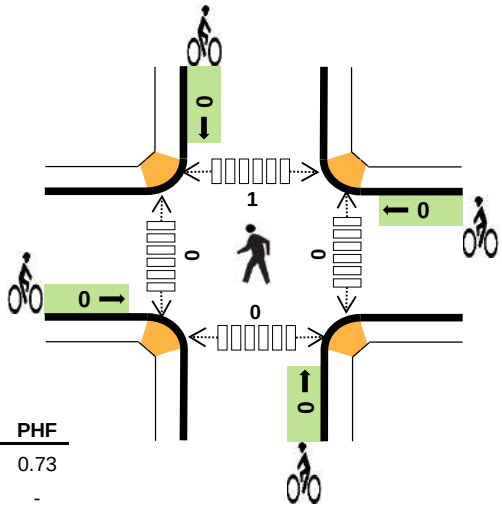
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**1**	**0**	**1**	**3**	***5***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:15 PM	**1**	**0**	**2**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:30 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**1**	***2***
5:00 PM	0	0	2	1	*3*	0	0	0	0	*0*	2	0	0	0	*2*
5:15 PM	0	0	2	1	*3*	0	0	0	0	*0*	2	0	0	0	*2*
5:30 PM	1	0	0	0	*1*	0	0	1	0	*1*	0	0	0	1	*1*
5:45 PM	0	0	1	2	*3*	0	0	0	0	*0*	3	0	0	0	*3*
Count Total	3	0	10	7	*20*	0	0	1	0	*1*	11	0	0	2	*13*
Peak Hour	**2**	**0**	**5**	**3**	***10***	**0**	**0**	**0**	**0**	***0***	**4**	**0**	**0**	**1**	***5***

VIKING AVE NW
SONIC DWY

Date: Tue, Oct 08, 2019
Count Period: 6:00 AM to 8:00 AM
Peak Hour: 6:45 AM to 7:45 AM





	HV %:	PHF
EB	6.8%	0.73
WB	-	-
NB	13.5%	0.88
SB	11.8%	0.91
TOTAL	11.8%	0.92

Two-Hour Count Summaries

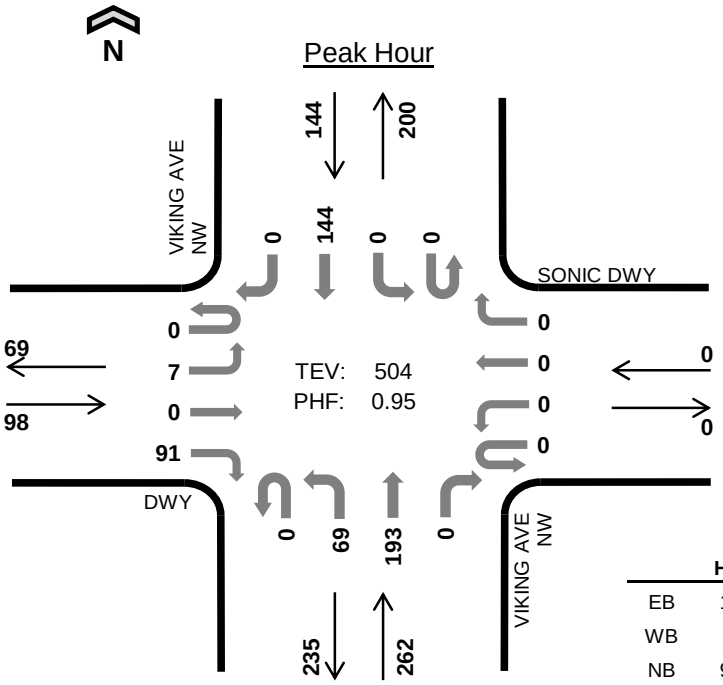
Interval Start	DWY Eastbound				SONIC DWY Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:00 AM	0	0	0	9	0	0	0	0	0	6	25	0	0	0	20	0	60	0
6:15 AM	0	0	0	8	0	0	0	0	0	4	23	0	0	0	9	0	44	0
6:30 AM	0	0	0	16	0	0	0	0	0	7	18	0	0	0	21	0	62	0
6:45 AM	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**11**	**27**	**0**	**0**	**0**	**30**	**0**	**83**	249
7:00 AM	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**5**	**22**	**0**	**0**	**0**	**30**	**0**	**67**	256
7:15 AM	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**8**	**24**	**0**	**0**	**0**	**32**	**0**	**76**	288
7:30 AM	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**9**	**27**	**0**	**0**	**0**	**35**	**0**	**78**	**304**
7:45 AM	0	1	0	15	0	0	0	0	0	10	25	0	0	0	28	0	79	300
Count Total	0	1	0	92	0	0	0	0	0	60	191	0	0	0	205	0	549	0
Peak Hour	**0**	**0**	**0**	**44**	**0**	**0**	**0**	**0**	**0**	**33**	**100**	**0**	**0**	**0**	**127**	**0**	**304**	**0**

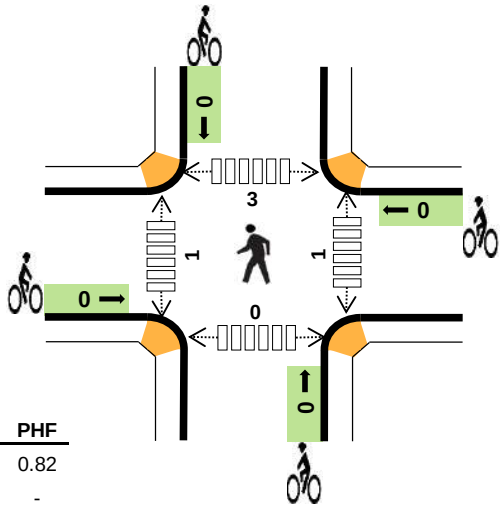
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:00 AM	0	0	0	2	*2*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	0	0	2	3	*5*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	2	0	2	1	*5*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	**0**	**0**	**3**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:00 AM	**0**	**0**	**5**	**3**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:15 AM	**2**	**0**	**6**	**5**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**1**	**0**	**4**	**5**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
7:45 AM	0	0	4	5	*9*	0	0	1	0	*1*	0	0	0	0	*0*
Count Total	5	0	26	26	*57*	0	0	1	0	*1*	0	0	1	0	*1*
Peak Hour	**3**	**0**	**18**	**15**	***36***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***

VIKING AVE NW
SONIC DWY

Date: Tue, Oct 08, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	1.0%	0.82
WB	-	-
NB	9.2%	0.92
SB	12.5%	0.90
TOTAL	8.5%	0.95

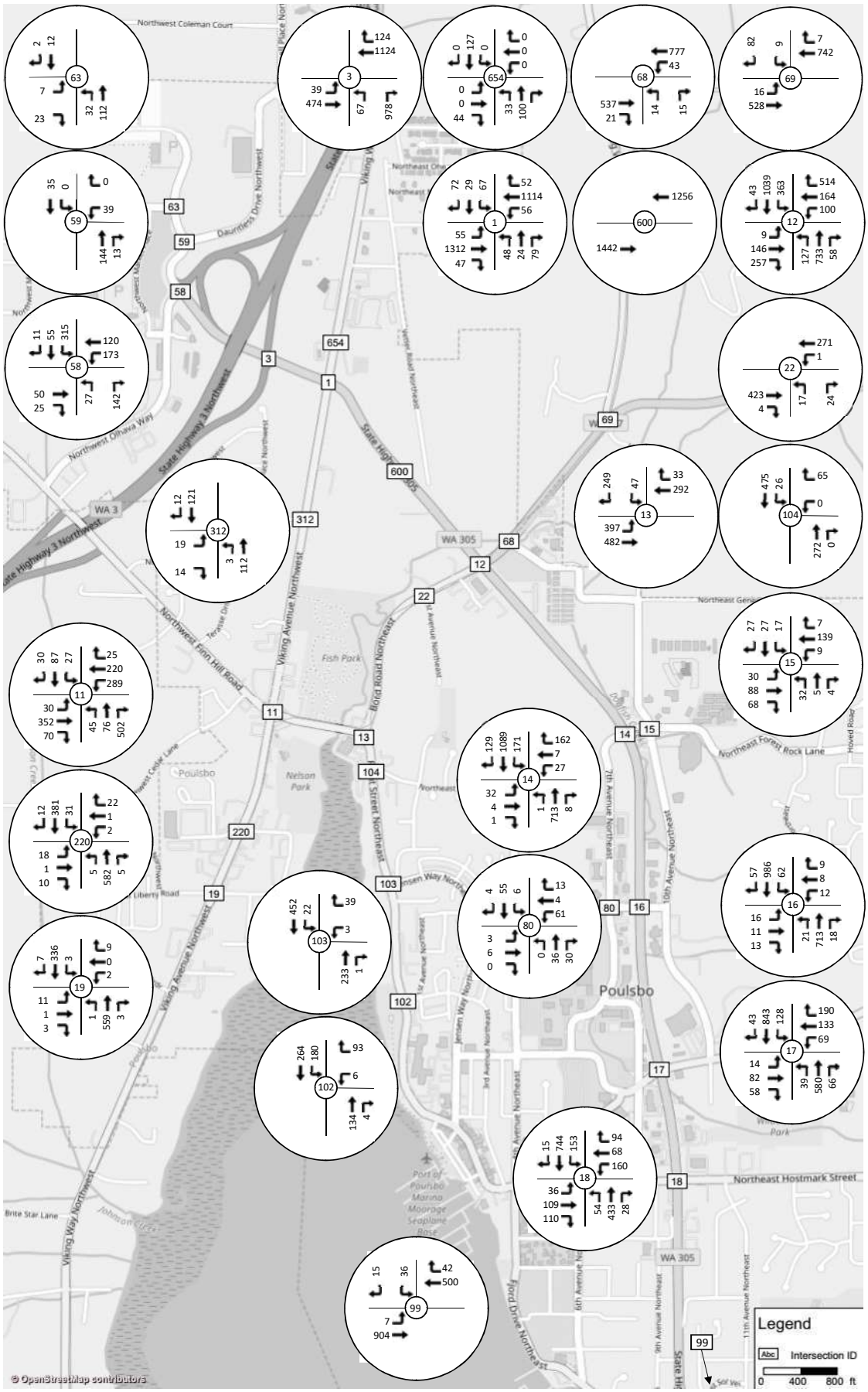
Two-Hour Count Summaries

Interval Start	DWY Eastbound				SONIC DWY Westbound				VIKING AVE NW Northbound				VIKING AVE NW Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	26	0	0	0	0	0	15	44	0	0	0	26	0	112	0
4:15 PM	**0**	**1**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**20**	**44**	**0**	**0**	**0**	**40**	**0**	**122**	0
4:30 PM	**0**	**3**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**18**	**53**	**0**	**0**	**0**	**35**	**0**	**133**	0
4:45 PM	**0**	**2**	**0**	**28**	**0**	**0**	**0**	**0**	**0**	**16**	**48**	**0**	**0**	**0**	**31**	**0**	**125**	492
5:00 PM	**0**	**1**	**0**	**22**	**0**	**0**	**0**	**0**	**0**	**15**	**48**	**0**	**0**	**0**	**38**	**0**	**124**	**504**
5:15 PM	0	2	0	21	0	0	0	0	0	9	52	0	0	0	29	0	113	495
5:30 PM	0	2	0	23	0	0	0	0	0	22	49	0	0	0	34	0	130	492
5:45 PM	0	2	0	27	0	0	0	0	0	10	28	0	0	0	27	0	94	461
Count Total	0	14	0	188	0	0	0	0	0	125	366	0	0	0	260	0	953	0
Peak Hour	**0**	**7**	**0**	**91**	**0**	**0**	**0**	**0**	**0**	**69**	**193**	**0**	**0**	**0**	**144**	**0**	**504**	**0**

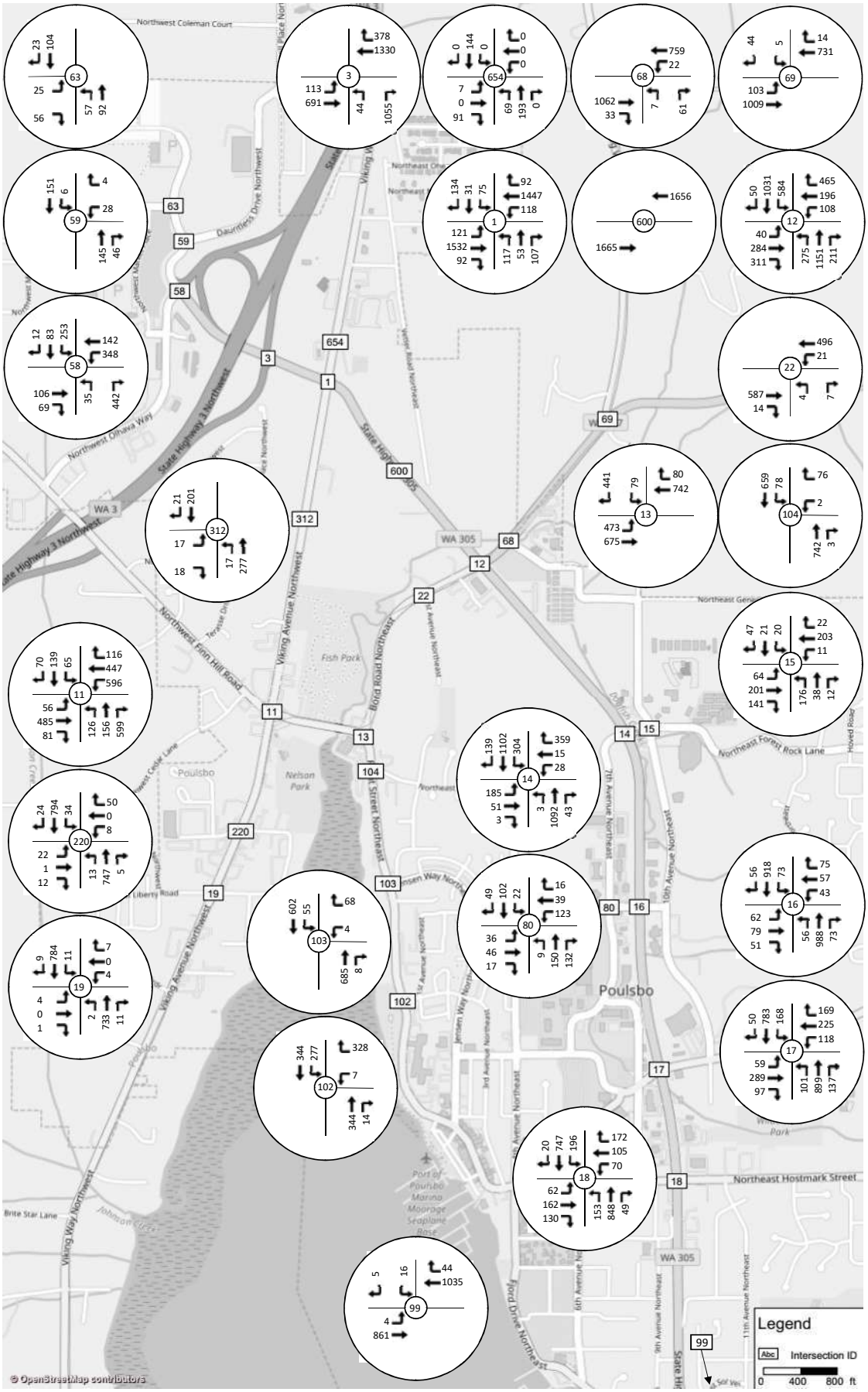
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	3	4	*7*	0	0	0	0	*0*	0	0	2	0	*2*
4:15 PM	**0**	**0**	**8**	**4**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
4:30 PM	**1**	**0**	**6**	**7**	***14***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
4:45 PM	**0**	**0**	**4**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	*2*
5:00 PM	**0**	**0**	**6**	**3**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
5:15 PM	0	0	3	6	*9*	0	0	0	1	*1*	2	1	1	0	*4*
5:30 PM	0	0	6	4	*10*	0	0	0	0	*0*	3	0	1	0	*4*
5:45 PM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	1	0	38	33	*72*	0	0	0	1	*1*	6	2	7	0	*15*
Peak Hour	**1**	**0**	**24**	**18**	***43***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**3**	**0**	***5***

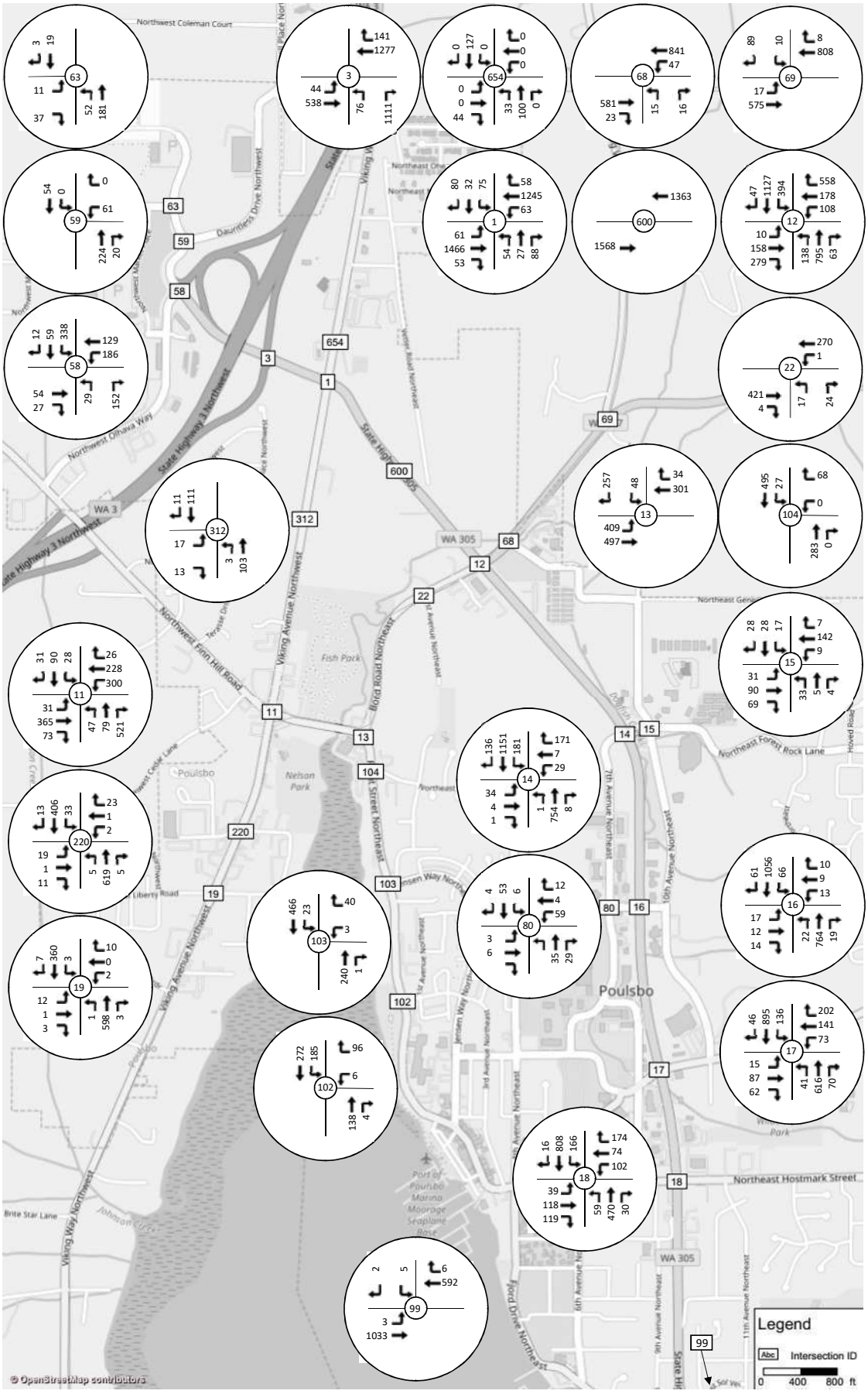
Appendix E. Traffic Volume Plots



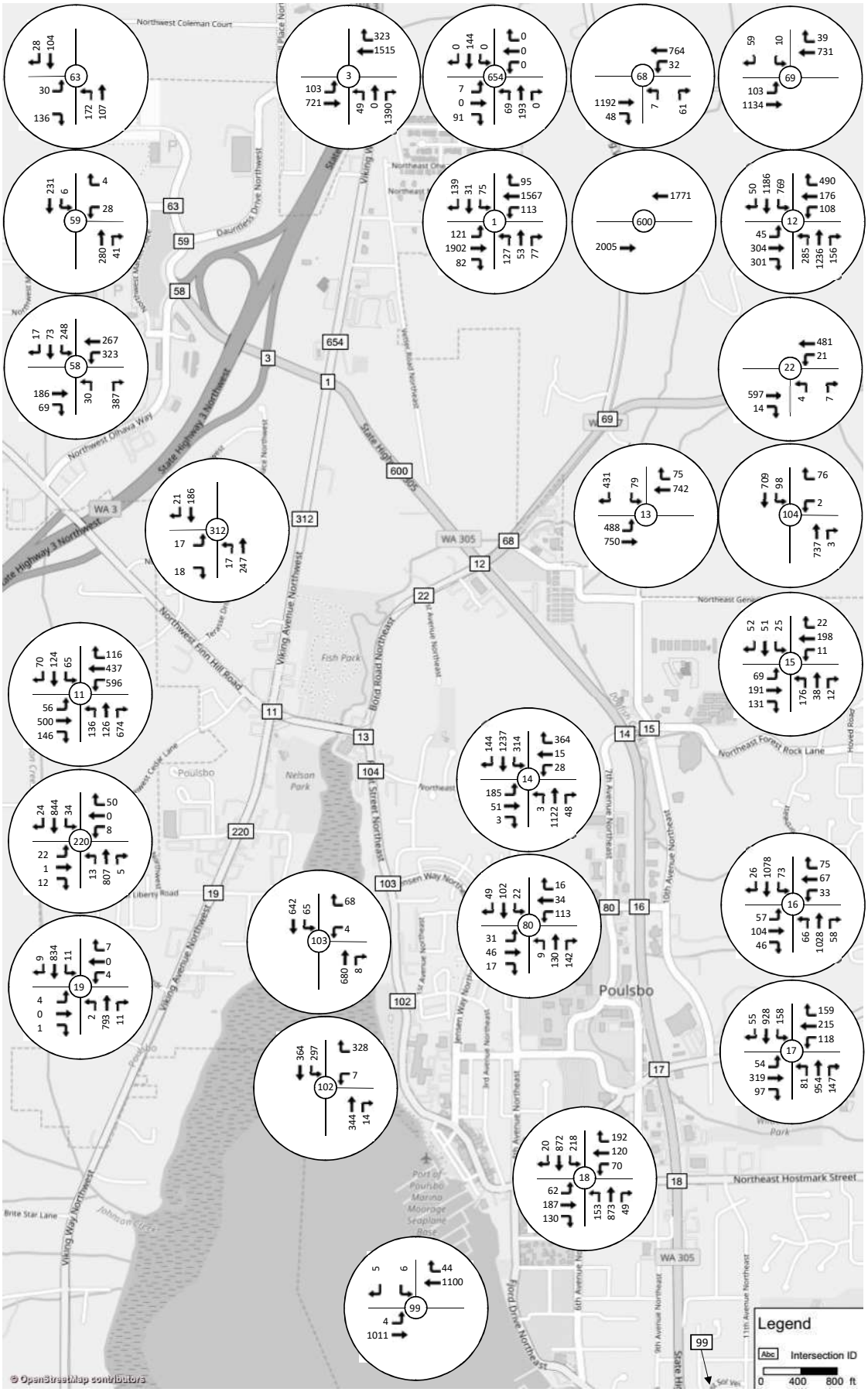
2019 AM Peak Hour Volumes



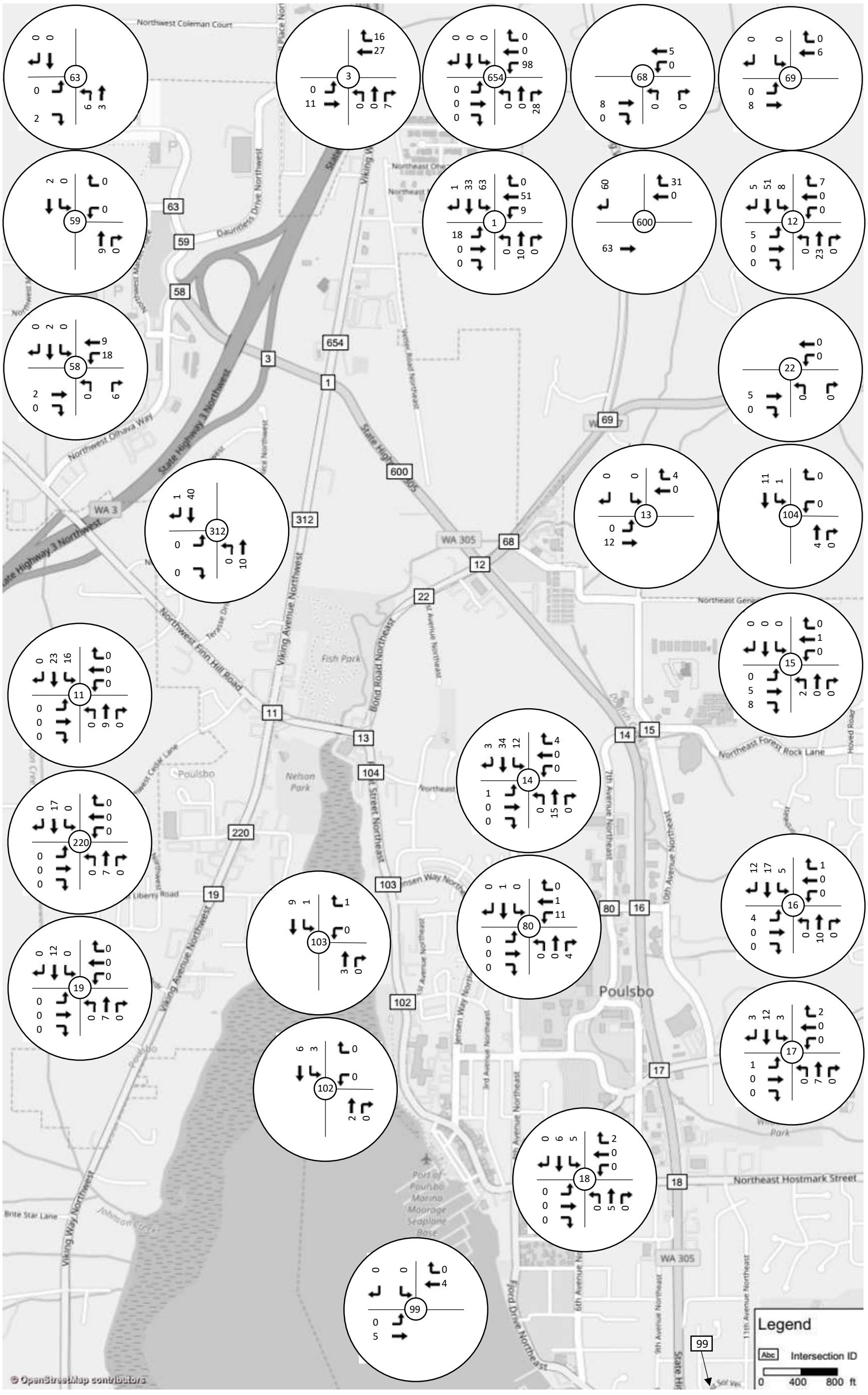
2019 PM Peak Hour Volumes



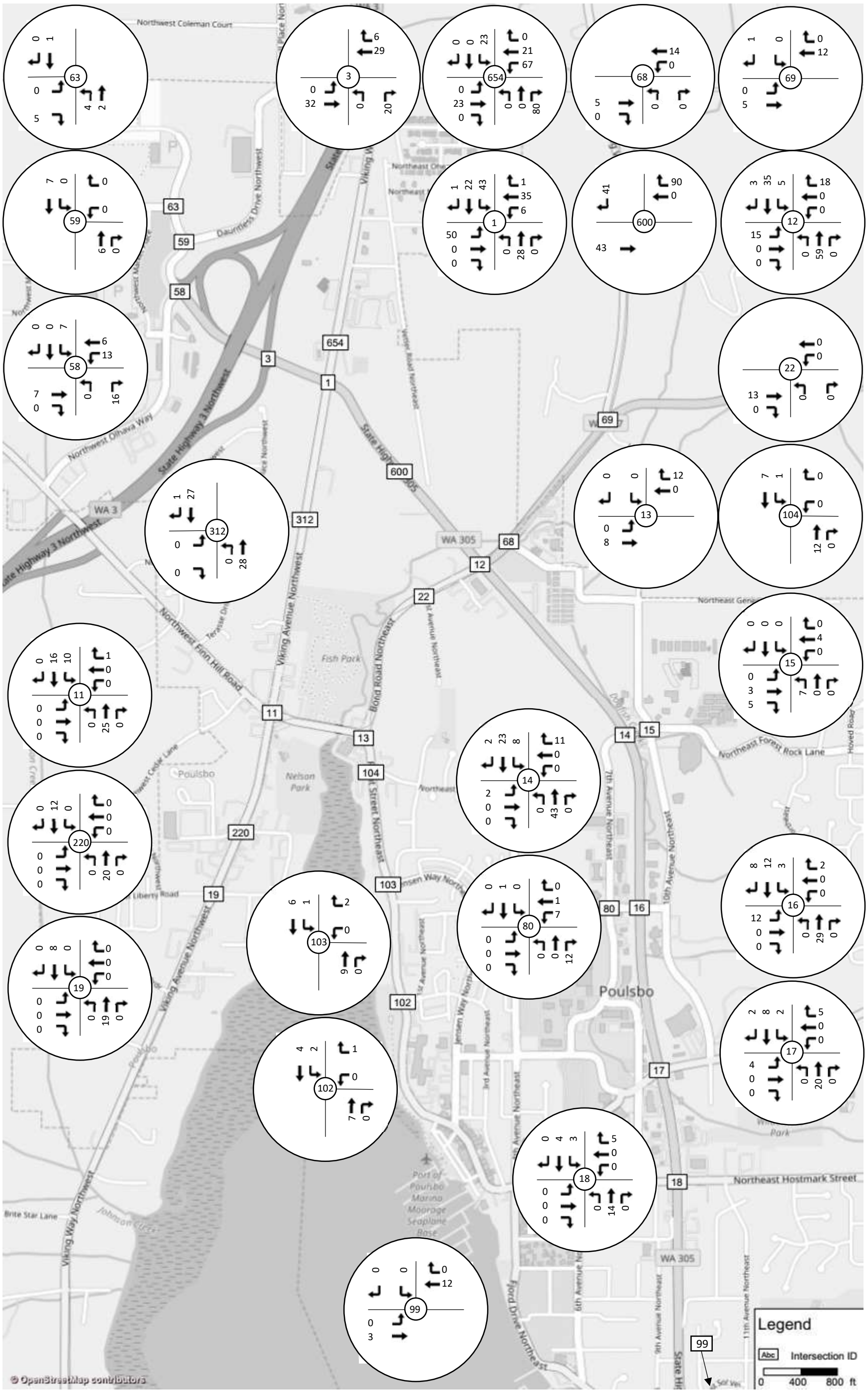
2028 AM Without-Project Volumes



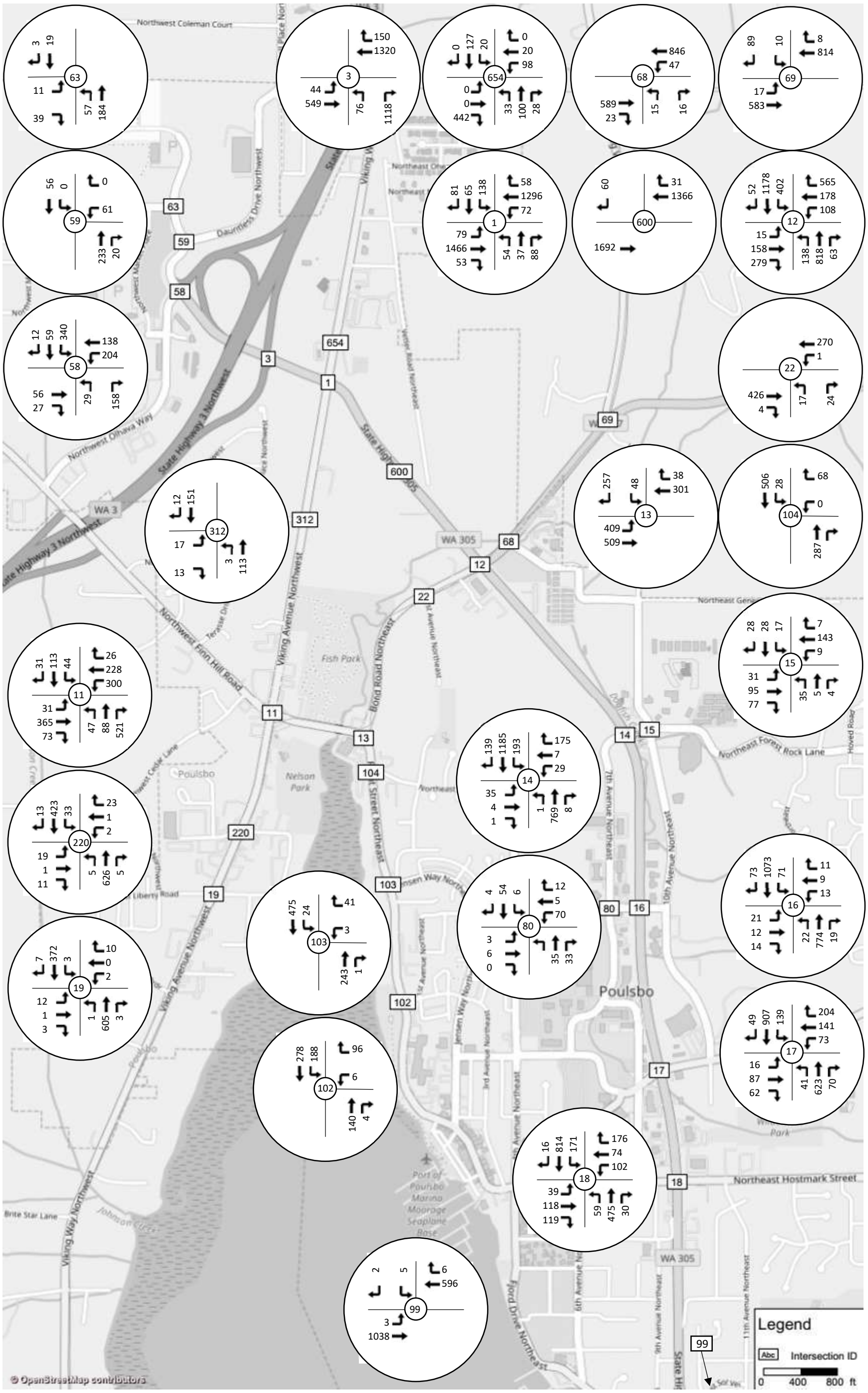
2028 PM Without-Project Volumes



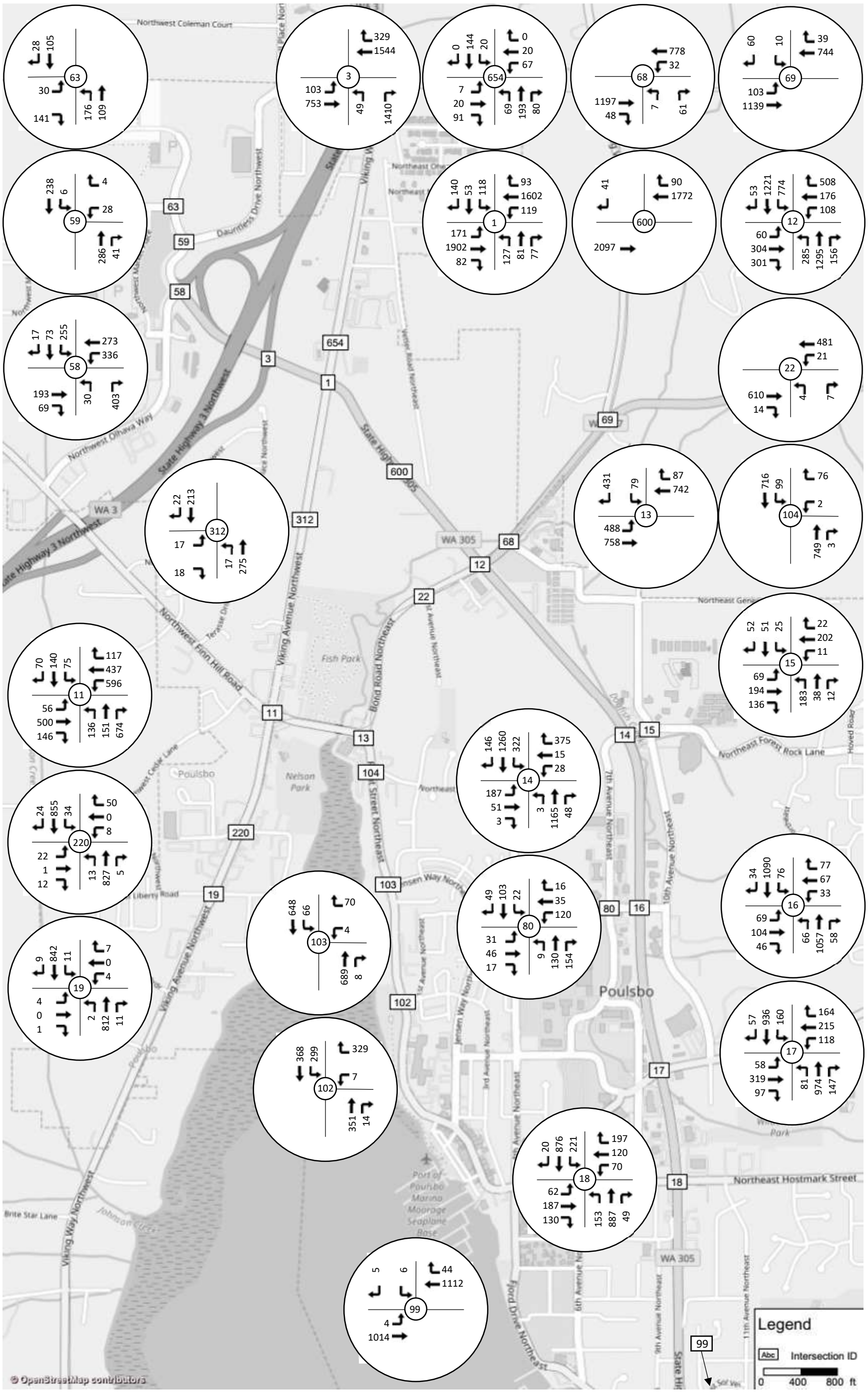
AM Peak Hour Project Trips



PM Peak Hour Project Trips



2028 AM With-Project Volumes

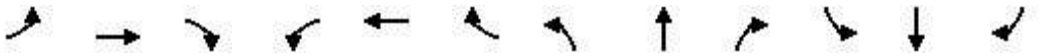


2028 PM With-Project Volumes

Appendix F. 2019 Intersection Capacity Reports

HCM 6th Signalized Intersection Summary
1: Viking Ave NW & SR305

10/22/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	1312	47	56	1114	52	48	24	79	67	29	72
Future Volume (veh/h)	55	1312	47	56	1114	52	48	24	79	67	29	72
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		0.99	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	1744	1744	1744	1744	1744	1744	1688	1688	1688	1603	1603	1603
Adj Flow Rate, veh/h	60	1426	51	61	1211	57	39	44	86	73	32	78
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	8	8	8	14	14	14
Cap, veh/h	75	1521	794	397	2111	99	126	133	111	130	35	86
Arrive On Green	0.09	0.92	0.92	0.24	0.66	0.66	0.08	0.08	0.08	0.09	0.09	0.09
Sat Flow, veh/h	1661	3313	1478	1661	3222	152	1607	1688	1409	1527	414	1008
Grp Volume(v), veh/h	60	1426	51	61	622	646	39	44	86	73	0	110
Grp Sat Flow(s),veh/h/ln	1661	1657	1478	1661	1657	1717	1607	1688	1409	1527	0	1422
Q Serve(g_s), s	5.0	36.0	0.4	4.1	29.4	29.5	3.3	3.5	8.5	6.5	0.0	10.9
Cycle Q Clear(g_c), s	5.0	36.0	0.4	4.1	29.4	29.5	3.3	3.5	8.5	6.5	0.0	10.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.71
Lane Grp Cap(c), veh/h	75	1521	794	397	1086	1125	126	133	111	130	0	121
V/C Ratio(X)	0.80	0.94	0.06	0.15	0.57	0.57	0.31	0.33	0.78	0.56	0.00	0.91
Avail Cap(c_a), veh/h	124	1685	868	397	1086	1125	328	345	288	130	0	121
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.0	4.6	2.3	42.7	13.5	13.5	61.8	61.9	64.2	62.4	0.0	64.4
Incr Delay (d2), s/veh	9.1	8.7	0.1	0.1	2.2	2.1	1.7	1.7	13.1	6.7	0.0	54.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	6.5	0.3	3.1	16.3	16.8	2.5	2.8	6.2	5.0	0.0	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.1	13.3	2.4	42.8	15.7	15.7	63.4	63.6	77.3	69.1	0.0	119.3
LnGrp LOS	E	B	A	D	B	B	E	E	E	E	A	F
Approach Vol, veh/h		1537			1329			169			183	
Approach Delay, s/veh		15.3			16.9			70.5			99.3	
Approach LOS		B			B			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	43.0	65.9		17.0	11.0	98.0		16.1				
Change Period (Y+Rc), s	4.9	* 4.9		4.9	4.6	4.9		4.9				
Max Green Setting (Gmax), s	9.4	* 72		12.1	10.6	71.0		29.0				
Max Q Clear Time (g_c+I1), s	6.1	38.0		12.9	7.0	31.5		10.5				
Green Ext Time (p_c), s	0.0	18.9		0.0	0.0	13.1		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		23.7
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	474	0	0	1124	124	67	0	978	0	0	0
Future Volume (veh/h)	39	474	0	0	1124	124	67	0	978	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1688	1688	0	0	1744	1744	1744	1744	1744			
Adj Flow Rate, veh/h	44	533	0	0	1263	139	75	0	1099			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	8	8	0	0	4	4	4	4	4			
Cap, veh/h	263	1764	0	0	1600	713	636	0	996			
Arrive On Green	0.07	1.00	0.00	0.00	0.97	0.97	0.38	0.00	0.38			
Sat Flow, veh/h	1607	3291	0	0	3400	1478	1661	0	2601			
Grp Volume(v), veh/h	44	533	0	0	1263	139	75	0	1099			
Grp Sat Flow(s),veh/h/ln	1607	1603	0	0	1657	1478	1661	0	1300			
Q Serve(g_s), s	1.9	0.0	0.0	0.0	7.8	0.6	4.1	0.0	54.4			
Cycle Q Clear(g_c), s	1.9	0.0	0.0	0.0	7.8	0.6	4.1	0.0	54.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	263	1764	0	0	1600	713	636	0	996			
V/C Ratio(X)	0.17	0.30	0.00	0.00	0.79	0.19	0.12	0.00	1.10			
Avail Cap(c_a), veh/h	280	1764	0	0	1600	713	636	0	996			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	15.8	0.0	0.0	0.0	1.4	1.3	28.3	0.0	43.8			
Incr Delay (d2), s/veh	0.3	0.4	0.0	0.0	3.2	0.5	0.1	0.0	61.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.2	0.2	0.0	0.0	2.6	0.5	3.0	0.0	54.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	0.4	0.0	0.0	4.6	1.7	28.4	0.0	104.8			
LnGrp LOS	B	A	A	A	A	A	C	A	F			
Approach Vol, veh/h		577			1402			1174				
Approach Delay, s/veh		1.6			4.3			99.9				
Approach LOS		A			A			F				

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	83.0		59.0	9.5	73.5
Change Period (Y+Rc), s	4.9		4.6	4.6	4.9
Max Green Setting (Gmax), s	78.1		54.4	6.4	67.1
Max Q Clear Time (g_c+I1), s	2.0		56.4	3.9	9.8
Green Ext Time (p_c), s	3.8		0.0	0.0	13.3

Intersection Summary	
HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	352	70	289	220	25	45	76	502	27	87	30
Future Volume (veh/h)	30	352	70	289	220	25	45	76	502	27	87	30
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		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	1744	1744	1744	1772	1772	1772	1758	1758	1758	1702	1702	1702
Adj Flow Rate, veh/h	35	414	82	300	316	29	53	89	591	32	102	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	7	7	7
Cap, veh/h	453	476	403	362	380	314	74	541	459	90	1032	
Arrive On Green	0.27	0.27	0.27	0.21	0.21	0.21	0.04	0.31	0.31	0.06	0.32	0.00
Sat Flow, veh/h	1661	1744	1478	1688	1772	1466	1674	1758	1490	1621	3318	0
Grp Volume(v), veh/h	35	414	82	300	316	29	53	89	591	32	102	0
Grp Sat Flow(s),veh/h/ln	1661	1744	1478	1688	1772	1466	1674	1758	1490	1621	1617	0
Q Serve(g_s), s	1.7	24.3	4.6	18.2	18.3	1.7	3.3	4.0	33.0	2.0	2.4	0.0
Cycle Q Clear(g_c), s	1.7	24.3	4.6	18.2	18.3	1.7	3.3	4.0	33.0	2.0	2.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	453	476	403	362	380	314	74	541	459	90	1032	
V/C Ratio(X)	0.08	0.87	0.20	0.83	0.83	0.09	0.71	0.16	1.29	0.35	0.10	
Avail Cap(c_a), veh/h	697	732	620	551	579	479	156	541	459	242	1176	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.0	37.2	30.0	40.2	40.3	33.7	50.5	27.0	37.1	48.8	25.7	0.0
Incr Delay (d2), s/veh	0.1	7.2	0.2	6.4	6.2	0.1	11.9	0.1	145.6	2.3	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(95%),veh/ln	1.2	16.8	2.9	12.9	13.5	1.1	2.9	3.0	45.2	1.6	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	44.4	30.3	46.6	46.5	33.9	62.4	27.2	182.7	51.1	25.7	0.0
LnGrp LOS	C	D	C	D	D	C	E	C	F	D	C	
Approach Vol, veh/h		531			645			733			134	A
Approach Delay, s/veh		41.2			46.0			155.1			31.8	
Approach LOS		D			D			F			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	33.2	8.8	38.2	27.0	10.0	37.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	45.0	10.0	39.0	35.0	16.0	33.0
Max Q Clear Time (g_c+I1), s	26.3	5.3	4.4	20.3	4.0	35.0
Green Ext Time (p_c), s	3.0	0.0	0.6	2.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	83.0
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	146	257	100	164	514	127	733	58	363	1039	43
Future Volume (veh/h)	9	146	257	100	164	514	127	733	58	363	1039	43
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	1730	1730	1730	1744	1744	1744	1730	1730	1730	1730	1730	1730
Adj Flow Rate, veh/h	10	168	295	115	189	591	146	843	67	417	1194	49
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	5	5	5	4	4	4	5	5	5	5	5	5
Cap, veh/h	17	371	314	127	490	829	160	922	417	896	1460	60
Arrive On Green	0.01	0.21	0.21	0.08	0.28	0.28	0.19	0.56	0.57	0.56	0.93	0.93
Sat Flow, veh/h	1647	1730	1466	1661	1744	1478	1647	3287	1466	3196	3135	129
Grp Volume(v), veh/h	10	168	295	115	189	591	146	843	67	417	593	650
Grp Sat Flow(s),veh/h/ln	1647	1730	1466	1661	1744	1478	1647	1643	1466	1598	1557	1707
Q Serve(g_s), s	0.9	12.0	28.1	9.8	12.4	4.7	12.3	32.8	2.4	11.0	15.5	15.5
Cycle Q Clear(g_c), s	0.9	12.0	28.1	9.8	12.4	4.7	12.3	32.8	2.4	11.0	15.5	15.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	17	371	314	127	490	829	160	922	417	896	725	795
V/C Ratio(X)	0.59	0.45	0.94	0.90	0.39	0.71	0.91	0.91	0.16	0.47	0.82	0.82
Avail Cap(c_a), veh/h	64	432	366	127	502	840	166	1148	517	896	725	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.0	48.5	54.8	65.0	41.2	12.6	56.6	29.6	14.3	24.9	3.1	3.1
Incr Delay (d2), s/veh	22.1	0.6	28.8	51.0	0.4	2.6	40.2	13.4	0.7	0.3	9.9	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	9.0	18.7	9.9	9.2	15.3	10.2	16.0	2.0	6.3	6.1	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.1	49.2	83.6	116.0	41.5	15.2	96.8	43.0	15.0	25.2	13.0	12.3
LnGrp LOS	F	D	F	F	D	B	F	D	B	C	B	B
Approach Vol, veh/h		473			895			1056			1660	
Approach Delay, s/veh		71.6			33.7			48.7			15.8	
Approach LOS		E			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.9	71.6	6.6	45.0	45.2	45.3	16.0	35.6
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	14.3	61.1	6.0	41.4	25.8	* 50	11.4	36.0
Max Q Clear Time (g_c+I1), s	14.3	17.5	2.9	14.4	13.0	34.8	11.8	30.1
Green Ext Time (p_c), s	0.0	11.1	0.0	3.0	1.2	5.5	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	34.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	397	482	292	33	47	249
Future Volume (veh/h)	397	482	292	33	47	249
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1758	1758	1758	1758	1772	1772
Adj Flow Rate, veh/h	473	574	348	39	56	296
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	755	1043	660	73	340	711
Arrive On Green	0.27	0.59	0.22	0.22	0.20	0.20
Sat Flow, veh/h	1674	1758	3110	336	1688	1502
Grp Volume(v), veh/h	473	574	191	196	56	296
Grp Sat Flow(s),veh/h/ln	1674	1758	1670	1688	1688	1502
Q Serve(g_s), s	7.0	7.7	3.9	4.0	1.1	5.0
Cycle Q Clear(g_c), s	7.0	7.7	3.9	4.0	1.1	5.0
Prop In Lane	1.00			0.20	1.00	1.00
Lane Grp Cap(c), veh/h	755	1043	365	369	340	711
V/C Ratio(X)	0.63	0.55	0.52	0.53	0.16	0.42
Avail Cap(c_a), veh/h	2447	4601	2057	2079	866	1179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.6	4.8	13.4	13.5	12.9	6.7
Incr Delay (d2), s/veh	0.9	0.5	1.2	1.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	2.9	2.4	2.4	0.6	8.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.4	5.2	14.6	14.7	13.1	7.1
LnGrp LOS	A	A	B	B	B	A
Approach Vol, veh/h		1047	387		352	
Approach Delay, s/veh		6.2	14.6		8.1	
Approach LOS		A	B		A	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	27.1	11.8	14.6	12.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	102.0	20.0	50.0	48.0
Max Q Clear Time (g_c+I1), s	9.7	7.0	9.0	6.0
Green Ext Time (p_c), s	4.8	1.0	1.6	2.5

Intersection Summary	
HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	4	1	27	7	162	1	713	8	171	1089	129
Future Volume (veh/h)	32	4	1	27	7	162	1	713	8	171	1089	129
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	1758	1758	1758	1772	1772	1772	1730	1730	1730	1744	1744	1744
Adj Flow Rate, veh/h	37	5	1	31	8	186	1	820	9	197	1252	148
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	3	3	3	2	2	2	5	5	5	4	4	4
Cap, veh/h	58	49	10	191	49	206	3	873	10	711	2159	1020
Arrive On Green	0.03	0.03	0.03	0.14	0.14	0.14	0.00	0.52	0.52	0.86	1.00	1.00
Sat Flow, veh/h	1674	1422	284	1355	350	1502	1647	3330	37	1661	3139	1476
Grp Volume(v), veh/h	37	0	6	39	0	186	1	405	424	197	1252	148
Grp Sat Flow(s),veh/h/ln	1674	0	1707	1704	0	1502	1647	1643	1723	1661	1569	1476
Q Serve(g_s), s	3.1	0.0	0.5	2.9	0.0	17.3	0.1	32.8	32.8	3.2	0.0	0.0
Cycle Q Clear(g_c), s	3.1	0.0	0.5	2.9	0.0	17.3	0.1	32.8	32.8	3.2	0.0	0.0
Prop In Lane	1.00		0.17	0.79		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	58	0	59	240	0	206	3	431	452	711	2159	1020
V/C Ratio(X)	0.64	0.00	0.10	0.16	0.00	0.90	0.37	0.94	0.94	0.28	0.58	0.15
Avail Cap(c_a), veh/h	389	0	397	348	0	301	70	480	504	711	2159	1020
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.91	0.91	0.91	0.52	0.52	0.52
Uniform Delay (d), s/veh	67.7	0.0	66.4	53.8	0.0	60.3	70.7	32.7	32.7	6.1	0.0	0.0
Incr Delay (d2), s/veh	11.2	0.0	0.7	0.3	0.0	21.7	63.4	28.7	27.9	0.1	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	0.0	0.4	2.3	0.0	12.4	0.2	18.7	19.4	1.8	0.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.9	0.0	67.2	54.1	0.0	82.0	134.1	61.5	60.6	6.2	0.6	0.2
LnGrp LOS	E	A	E	D	A	F	F	E	E	A	A	A
Approach Vol, veh/h		43			225			830			1597	
Approach Delay, s/veh		77.3			77.2			61.1			1.2	
Approach LOS		E			E			E			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	103.1		9.5	66.2	41.7		24.6
Change Period (Y+Rc), s	4.6	4.9		4.6	4.9	4.0		4.6
Max Green Setting (Gmax), s	6.3	55.3		33.0	19.9	42.0		29.0
Max Q Clear Time (g_c+I1), s	2.1	2.0		5.1	5.2	34.8		19.3
Green Ext Time (p_c), s	0.0	8.5		0.1	0.6	2.9		0.7

Intersection Summary		
HCM 6th Ctrl Delay	27.2	
HCM 6th LOS	C	

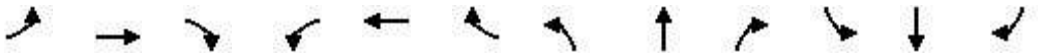
Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	88	68	9	139	7	32	5	4	17	27	27
Future Vol, veh/h	30	88	68	9	139	7	32	5	4	17	27	27
Conflicting Peds, #/hr	1	0	0	0	0	1	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	50	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	3	3	3
Mvmt Flow	37	109	84	11	172	9	40	6	5	21	33	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	182	0	0	193	0	0	457	429	151	431	467	178
Stage 1	-	-	-	-	-	-	225	225	-	200	200	-
Stage 2	-	-	-	-	-	-	232	204	-	231	267	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.12	6.52	6.22	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.518	4.018	3.318	3.527	4.027	3.327
Pot Cap-1 Maneuver	1387	-	-	1380	-	-	514	518	895	533	492	862
Stage 1	-	-	-	-	-	-	778	718	-	800	734	-
Stage 2	-	-	-	-	-	-	771	733	-	770	686	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1386	-	-	1380	-	-	455	499	895	511	474	861
Mov Cap-2 Maneuver	-	-	-	-	-	-	455	499	-	511	474	-
Stage 1	-	-	-	-	-	-	757	699	-	778	727	-
Stage 2	-	-	-	-	-	-	702	726	-	739	667	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.4	13.3	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	483	1386	-	-	1380	-	-	511	611
HCM Lane V/C Ratio	0.105	0.027	-	-	0.008	-	-	0.041	0.109
HCM Control Delay (s)	13.3	7.7	-	-	7.6	-	-	12.3	11.6
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.1	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	11	13	12	8	9	21	713	18	62	986	57
Future Volume (veh/h)	16	11	13	12	8	9	21	713	18	62	986	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1702	1702	1702	1730	1730	1730	1716	1716	1716
Adj Flow Rate, veh/h	18	12	15	13	9	10	24	801	20	70	1108	64
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	7	7	7	5	5	5	6	6	6
Cap, veh/h	50	34	43	44	31	34	37	858	21	846	2360	1111
Arrive On Green	0.04	0.04	0.04	0.03	0.03	0.04	0.04	0.54	0.54	1.00	1.00	1.00
Sat Flow, veh/h	1319	885	1111	1268	886	991	1647	3193	80	1634	3088	1454
Grp Volume(v), veh/h	24	0	21	17	0	15	24	391	430	70	1108	64
Grp Sat Flow(s),veh/h/ln	1734	0	1581	1638	0	1506	1647	1557	1715	1634	1544	1454
Q Serve(g_s), s	1.9	0.0	1.9	1.4	0.0	1.4	2.0	33.1	33.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.9	0.0	1.9	1.4	0.0	1.4	2.0	33.1	33.1	0.0	0.0	0.0
Prop In Lane	0.76		0.70	0.77		0.66	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	66	0	60	56	0	52	37	418	461	846	2360	1111
V/C Ratio(X)	0.36	0.00	0.35	0.30	0.00	0.29	0.65	0.93	0.93	0.08	0.47	0.06
Avail Cap(c_a), veh/h	348	0	317	479	0	440	64	487	536	846	2360	1111
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.90	0.90	0.90	0.84	0.84	0.84
Uniform Delay (d), s/veh	66.6	0.0	66.4	66.9	0.0	66.7	67.3	31.7	31.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	3.5	2.9	0.0	3.1	16.2	28.1	26.3	0.0	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.0	1.4	1.1	0.0	1.0	1.8	17.8	19.1	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	0.0	69.9	69.8	0.0	69.8	83.5	59.8	58.0	0.0	0.6	0.1
LnGrp LOS	E	A	E	E	A	E	F	E	E	A	A	A
Approach Vol, veh/h		45			32			845			1242	
Approach Delay, s/veh		69.8			69.8			59.5			0.5	
Approach LOS		E			E			E			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	113.5		10.4	78.5	43.2		9.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.0	47.0		29.0	8.1	44.9		42.0				
Max Q Clear Time (g_c+I1), s	4.0	2.0		3.9	2.0	35.1		3.4				
Green Ext Time (p_c), s	0.0	11.1		0.1	0.1	3.6		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		26.0	
HCM 6th LOS		C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	82	58	69	133	190	39	580	66	128	843	43
Future Volume (veh/h)	14	82	58	69	133	190	39	580	66	128	843	43
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		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1786	1786	1786	1716	1716	1716	1716	1716	1716
Adj Flow Rate, veh/h	16	93	66	78	151	216	44	659	75	145	958	49
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	1	1	1	6	6	6	6	6	6
Cap, veh/h	27	226	190	92	295	254	550	1646	187	162	1028	53
Arrive On Green	0.02	0.13	0.13	0.05	0.16	0.17	0.67	1.00	1.00	0.20	0.67	0.67
Sat Flow, veh/h	1688	1772	1495	1701	1786	1508	1634	2867	326	1634	3074	157
Grp Volume(v), veh/h	16	93	66	78	151	216	44	355	379	145	481	526
Grp Sat Flow(s),veh/h/ln	1688	1772	1495	1701	1786	1508	1634	1544	1649	1634	1544	1687
Q Serve(g_s), s	1.3	6.9	3.1	6.5	11.0	19.7	1.3	0.0	0.0	12.3	38.9	38.9
Cycle Q Clear(g_c), s	1.3	6.9	3.1	6.5	11.0	19.7	1.3	0.0	0.0	12.3	38.9	38.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.09
Lane Grp Cap(c), veh/h	27	226	190	92	295	254	550	886	947	162	517	564
V/C Ratio(X)	0.58	0.41	0.35	0.85	0.51	0.85	0.08	0.40	0.40	0.90	0.93	0.93
Avail Cap(c_a), veh/h	70	386	325	166	489	418	550	886	947	275	713	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	0.89	0.89	0.89
Uniform Delay (d), s/veh	69.4	57.1	16.4	66.6	54.1	57.3	15.6	0.0	0.0	56.2	22.1	22.1
Incr Delay (d2), s/veh	13.7	1.2	1.1	18.9	1.4	8.6	0.0	1.3	1.2	16.5	23.8	22.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	5.7	3.9	5.9	8.8	12.8	0.9	0.6	0.6	8.8	16.8	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.1	58.3	17.4	85.5	55.5	65.9	15.7	1.3	1.2	72.7	45.9	44.5
LnGrp LOS	F	E	B	F	E	E	B	A	A	E	D	D
Approach Vol, veh/h		175			445			778			1152	
Approach Delay, s/veh		45.1			65.8			2.0			48.6	
Approach LOS		D			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	53.2	52.9	7.4	28.5	19.2	86.9	12.8	23.2
Change Period (Y+Rc), s	4.9	* 4.9	4.6	4.6	4.6	4.9	4.6	4.6
Max Green Setting (Gmax), s	11.4	* 66	6.4	39.4	24.4	53.1	14.4	31.4
Max Q Clear Time (g_c+I1), s	13.3	40.9	3.3	21.7	14.3	2.0	8.5	8.9
Green Ext Time (p_c), s	0.0	7.1	0.0	1.4	0.3	5.3	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	109	110	94	68	160	54	433	28	153	744	15
Future Volume (veh/h)	36	109	110	94	68	160	54	433	28	153	744	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		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	1758	1758	1758	1744	1744	1744	1730	1730	1730	1716	1716	1716
Adj Flow Rate, veh/h	40	121	122	104	76	178	60	481	31	170	827	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	4	4	4	5	5	5	6	6	6
Cap, veh/h	161	182	150	159	208	172	70	1834	118	188	2142	44
Arrive On Green	0.02	0.10	0.10	0.04	0.12	0.12	0.04	0.60	0.60	0.23	1.00	1.00
Sat Flow, veh/h	1674	1758	1451	1661	1744	1444	1647	3054	196	1634	3183	65
Grp Volume(v), veh/h	40	121	122	104	76	178	60	245	267	170	401	443
Grp Sat Flow(s),veh/h/ln	1674	1758	1451	1661	1744	1444	1647	1557	1694	1634	1544	1704
Q Serve(g_s), s	0.0	9.4	10.3	0.7	5.7	13.5	5.1	10.6	10.6	14.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.4	10.3	0.7	5.7	13.5	5.1	10.6	10.6	14.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.04
Lane Grp Cap(c), veh/h	161	182	150	159	208	172	70	935	1017	188	1039	1147
V/C Ratio(X)	0.25	0.66	0.81	0.66	0.37	1.03	0.86	0.26	0.26	0.90	0.39	0.39
Avail Cap(c_a), veh/h	321	322	266	302	332	275	162	935	1017	357	1039	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	61.3	61.3	48.5	64.4	57.6	39.8	67.6	13.4	13.5	53.9	0.0	0.0
Incr Delay (d2), s/veh	0.8	4.1	10.0	4.5	1.1	54.7	24.3	0.7	0.6	12.7	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	7.9	7.5	6.9	4.7	12.1	4.7	6.8	7.4	9.4	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	65.4	58.5	68.9	58.7	94.5	91.9	14.1	14.1	66.6	0.9	0.8
LnGrp LOS	E	E	E	E	E	F	F	B	B	E	A	A
Approach Vol, veh/h		283			358			572			1014	
Approach Delay, s/veh		61.9			79.4			22.3			11.9	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.3	90.3	10.7	19.7	11.0	100.6	8.5	21.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.5	47.5	18.5	26.5	14.5	64.5	17.5	27.5
Max Q Clear Time (g_c+I1), s	16.4	12.6	2.7	12.3	7.1	2.0	2.0	15.5
Green Ext Time (p_c), s	0.5	2.0	0.3	0.8	0.1	3.6	0.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	1	3	2	0	9	1	559	3	3	336	7
Future Vol, veh/h	11	1	3	2	0	9	1	559	3	3	336	7
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	13	13	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	0	0	0	3	3	3	4	4	4
Mvmt Flow	13	1	4	2	0	11	1	665	4	4	400	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	750	1099	207	891	1101	348	411	0	0	682	0	0
Stage 1	415	415	-	682	682	-	-	-	-	-	-	-
Stage 2	335	684	-	209	419	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.58	6.98	7.5	6.5	6.9	4.16	-	-	4.18	-	-
Critical Hdwy Stg 1	6.58	5.58	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.58	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.04	3.34	3.5	4	3.3	2.23	-	-	2.24	-	-
Pot Cap-1 Maneuver	296	208	793	240	214	654	1137	-	-	893	-	-
Stage 1	580	586	-	411	453	-	-	-	-	-	-	-
Stage 2	647	442	-	779	593	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	289	204	791	234	210	647	1134	-	-	883	-	-
Mov Cap-2 Maneuver	289	204	-	234	210	-	-	-	-	-	-	-
Stage 1	578	582	-	406	448	-	-	-	-	-	-	-
Stage 2	636	437	-	770	589	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	12.5	0	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1134	-	-	321	490	883	-	-
HCM Lane V/C Ratio	0.001	-	-	0.056	0.027	0.004	-	-
HCM Control Delay (s)	8.2	-	-	16.9	12.5	9.1	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

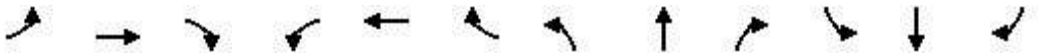
Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	423	4	1	271	17	24
Future Vol, veh/h	423	4	1	271	17	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	3	3	0	0
Mvmt Flow	510	5	1	327	20	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	515	0	842	513
Stage 1	-	-	-	-	513	-
Stage 2	-	-	-	-	329	-
Critical Hdwy	-	-	4.13	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.227	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1046	-	337	565
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1046	-	337	565
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	605	-
Stage 2	-	-	-	-	733	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	441	-	-	1046	-
HCM Lane V/C Ratio	0.112	-	-	0.001	-
HCM Control Delay (s)	14.2	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	50	25	173	120	0	27	0	142	315	55	11
Future Volume (veh/h)	0	50	25	173	120	0	27	0	142	315	55	11
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	0	1730	1730	1702	1702	0	1744	0	1744	1730	1799	1730
Adj Flow Rate, veh/h	0	57	28	197	136	0	31	0	161	358	62	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	5	5	7	7	0	4	0	4	5	5	5
Cap, veh/h	0	671	299	2367	2638	0	41	0	0	510	134	
Arrive On Green	0.00	0.20	0.20	0.97	1.00	0.00	0.02	0.00	0.00	0.13	0.07	0.00
Sat Flow, veh/h	0	3373	1466	3144	3318	0	1661	31		3196	1799	1466
Grp Volume(v), veh/h	0	57	28	197	136	0	31	92.3		358	62	0
Grp Sat Flow(s),veh/h/ln	0	1643	1466	1572	1617	0	1661	F		1598	1799	1466
Q Serve(g_s), s	0.0	2.0	2.0	0.0	0.0	0.0	2.6			15.6	4.7	0.0
Cycle Q Clear(g_c), s	0.0	2.0	2.0	0.0	0.0	0.0	2.6			15.6	4.7	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	671	299	2367	2638	0	41			510	134	
V/C Ratio(X)	0.00	0.08	0.09	0.08	0.05	0.00	0.75			0.70	0.46	
Avail Cap(c_a), veh/h	0	671	299	2367	2638	0	187			597	671	
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	45.8	37.0	0.3	0.0	0.0	68.8			60.7	63.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.6	0.0	0.0	0.0	23.5			3.0	2.5	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
%ile BackOfQ(95%),veh/ln	0.0	1.5	1.5	0.1	0.0	0.0	2.5			10.6	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.0	37.6	0.3	0.0	0.0	92.3			63.8	65.4	0.0
LnGrp LOS	A	D	D	A	A	A	F			E	E	
Approach Vol, veh/h		85			333						420	A
Approach Delay, s/veh		43.2			0.2						64.0	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2	3	4		6	7
Phs Duration (G+Y+Rc), s	86.9	33.0	7.5	14.6		119.9	22.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	28.0	29.0	16.0	53.0		61.0	22.0
Max Q Clear Time (g_c+I1), s	2.0	4.0	4.6	6.7		2.0	17.6
Green Ext Time (p_c), s	0.6	0.3	0.0	0.3		0.9	0.5

Intersection Summary	
HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	0	144	13	0	35
Future Vol, veh/h	39	0	144	13	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	8	8	5	5	8	8
Mvmt Flow	43	0	160	14	0	39

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	187	87	0	0	174	0
Stage 1	167	-	-	-	-	-
Stage 2	20	-	-	-	-	-
Critical Hdwy	6.96	7.06	-	-	4.26	-
Critical Hdwy Stg 1	5.96	-	-	-	-	-
Critical Hdwy Stg 2	5.96	-	-	-	-	-
Follow-up Hdwy	3.58	3.38	-	-	2.28	-
Pot Cap-1 Maneuver	768	935	-	-	1357	-
Stage 1	828	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	768	935	-	-	1357	-
Mov Cap-2 Maneuver	768	-	-	-	-	-
Stage 1	828	-	-	-	-	-
Stage 2	983	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	768	-	1357	-
HCM Lane V/C Ratio	-	-	0.056	-	-	-
HCM Control Delay (s)	-	-	10	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	-	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	23	32	112	12	2
Future Vol, veh/h	7	23	32	112	12	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	10	10	5	5	7	7
Mvmt Flow	10	33	46	162	17	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	273	19	20	0	-	0
Stage 1	19	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.15	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.245	-	-	-
Pot Cap-1 Maneuver	700	1036	1577	-	-	-
Stage 1	983	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	680	1036	1577	-	-	-
Mov Cap-2 Maneuver	683	-	-	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	770	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	1.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1577	-	683	1036	-	-
HCM Lane V/C Ratio	0.029	-	0.015	0.032	-	-
HCM Control Delay (s)	7.4	-	10.4	8.6	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0.1	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	537	21	43	777	14	15
Future Vol, veh/h	537	21	43	777	14	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	92
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	603	24	48	873	16	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	627	0	1148	314
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	533	-
Critical Hdwy	-	-	4.14	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	-	-	2.22	-	3.54	3.34
Pot Cap-1 Maneuver	-	-	951	-	189	676
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	547	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	951	-	170	676
Mov Cap-2 Maneuver	-	-	-	-	170	-
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	493	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	19.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	275	-	-	951	-
HCM Lane V/C Ratio	0.116	-	-	0.051	-
HCM Control Delay (s)	19.8	-	-	9	0.4
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	528	742	7	9	82
Future Vol, veh/h	16	528	742	7	9	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	19	629	883	8	11	98

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	891	0	-	0	1554	887
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	667	-
Critical Hdwy	4.15	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.245	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	748	-	-	-	125	343
Stage 1	-	-	-	-	402	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	748	-	-	-	122	343
Mov Cap-2 Maneuver	-	-	-	-	122	-
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	510	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	24.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	748	-	-	-	291
HCM Lane V/C Ratio	0.025	-	-	-	0.372
HCM Control Delay (s)	9.9	-	-	-	24.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.7

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	6	0	61	4	13	0	36	30	6	55	4
Future Vol, veh/h	3	6	0	61	4	13	0	36	30	6	55	4
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	0	0	0	3	3	3	2	2	2	0	0	0
Mvmt Flow	5	10	0	97	6	21	0	57	48	10	87	6
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.1	9	8.1	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	33%	0%	94%	0%	100%	0%
Vol Thru, %	100%	55%	67%	100%	6%	0%	0%	93%
Vol Right, %	0%	45%	0%	0%	0%	100%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	66	9	0	65	13	6	59
LT Vol	0	0	3	0	61	0	6	0
Through Vol	0	36	6	0	4	0	0	55
RT Vol	0	30	0	0	0	13	0	4
Lane Flow Rate	0	105	14	0	103	21	10	94
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0.136	0.021	0	0.159	0.025	0.014	0.128
Departure Headway (Hd)	5.007	4.688	5.309	5.141	5.544	4.37	5.469	4.92
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	767	675	0	649	820	656	730
Service Time	2.725	2.405	3.033	2.866	3.263	2.089	3.187	2.637
HCM Lane V/C Ratio	0	0.137	0.021	0	0.159	0.026	0.015	0.129
HCM Control Delay	7.7	8.1	8.1	7.9	9.3	7.2	8.3	8.4
HCM Lane LOS	N	A	A	N	A	A	A	A
HCM 95th-tile Q	0	0.5	0.1	0	0.6	0.1	0	0.4

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	904	500	42	36	15
Future Vol, veh/h	7	904	500	42	36	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	-	-	-	150	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	5	5	6	6
Mvmt Flow	8	972	538	45	39	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	583	0	-	0	1526	538
Stage 1	-	-	-	-	538	-
Stage 2	-	-	-	-	988	-
Critical Hdwy	4.16	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.254	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	972	-	-	-	127	535
Stage 1	-	-	-	-	577	-
Stage 2	-	-	-	-	354	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	972	-	-	-	125	535
Mov Cap-2 Maneuver	-	-	-	-	125	-
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	354	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	38.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	972	-	-	-	161
HCM Lane V/C Ratio	0.008	-	-	-	0.341
HCM Control Delay (s)	8.7	0	-	-	38.5
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	1.4

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	93	134	4	180	264
Future Vol, veh/h	6	93	134	4	180	264
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	4	4	2	2
Mvmt Flow	7	107	154	5	207	303
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.2	9.8	11.1
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	97%	0%	0%	0%	100%
Vol Right, %	3%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	138	6	93	180	264
LT Vol	0	6	0	180	0
Through Vol	134	0	0	0	264
RT Vol	4	0	93	0	0
Lane Flow Rate	159	7	107	207	303
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.228	0.013	0.16	0.315	0.42
Departure Headway (Hd)	5.184	6.615	5.403	5.485	4.983
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	690	540	662	654	722
Service Time	3.231	4.365	3.152	3.224	2.722
HCM Lane V/C Ratio	0.23	0.013	0.162	0.317	0.42
HCM Control Delay	9.8	9.5	9.2	10.7	11.3
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0.9	0	0.6	1.3	2.1

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	39	233	1	22	452
Future Vol, veh/h	3	39	233	1	22	452
Conflicting Peds, #/hr	0	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	8	8	1	1	1	1
Mvmt Flow	4	46	277	1	26	538

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	872	286	0	0	282	0
Stage 1	282	-	-	-	-	-
Stage 2	590	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.11	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.209	-
Pot Cap-1 Maneuver	313	739	-	-	1286	-
Stage 1	752	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	306	734	-	-	1282	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	696	1282	-
HCM Lane V/C Ratio	-	-	0.072	0.02	-
HCM Control Delay (s)	-	-	10.6	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

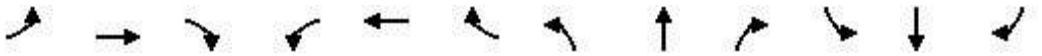
Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	65	272	0	26	475
Future Vol, veh/h	0	65	272	0	26	475
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	0	78	328	0	31	572

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	963	329	0	0	329	0
Stage 1	329	-	-	-	-	-
Stage 2	634	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	284	712	-	-	1231	-
Stage 1	729	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	277	711	-	-	1230	-
Mov Cap-2 Maneuver	277	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	516	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	711	1230	-
HCM Lane V/C Ratio	-	-	0.11	0.025	-
HCM Control Delay (s)	-	-	10.7	8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	1	10	2	1	22	5	582	5	31	381	12
Future Volume (veh/h)	18	1	10	2	1	22	5	582	5	31	381	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.97
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	1800	1800	1800	1772	1772	1772	1772	1772	1772	1786	1786	1786
Adj Flow Rate, veh/h	22	1	12	2	1	27	6	710	6	38	465	15
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	1	1	1
Cap, veh/h	395	12	158	147	8	140	608	1389	12	540	1512	49
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.01	0.41	0.41	0.05	0.45	0.45
Sat Flow, veh/h	1338	117	1515	75	74	1343	1688	3421	29	1701	3352	108
Grp Volume(v), veh/h	23	0	12	30	0	0	6	349	367	38	235	245
Grp Sat Flow(s),veh/h/ln	1455	0	1515	1492	0	0	1688	1683	1767	1701	1697	1763
Q Serve(g_s), s	0.0	0.0	0.2	0.0	0.0	0.0	0.1	4.3	4.3	0.3	2.4	2.4
Cycle Q Clear(g_c), s	0.3	0.0	0.2	0.5	0.0	0.0	0.1	4.3	4.3	0.3	2.4	2.4
Prop In Lane	0.96		1.00	0.07		0.90	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	407	0	158	295	0	0	608	684	717	540	766	796
V/C Ratio(X)	0.06	0.00	0.08	0.10	0.00	0.00	0.01	0.51	0.51	0.07	0.31	0.31
Avail Cap(c_a), veh/h	1681	0	1537	1648	0	0	1203	5610	5887	1247	5839	6067
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	0.0	11.2	11.3	0.0	0.0	4.8	6.1	6.1	4.5	4.8	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.6	0.6	0.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	0.1	0.2	0.0	0.0	0.0	1.3	1.4	0.1	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.3	0.0	11.4	11.4	0.0	0.0	4.8	6.7	6.7	4.5	5.0	5.0
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		35			30			722			518	
Approach Delay, s/veh		11.3			11.4			6.7			5.0	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	15.2		6.9	4.3	16.5		6.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	92.0		28.0	10.0	95.0		28.0				
Max Q Clear Time (g_c+I1), s	2.3	6.3		2.3	2.1	4.4		2.5				
Green Ext Time (p_c), s	0.0	4.9		0.1	0.0	3.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		6.3	
HCM 6th LOS		A	

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	14	3	112	121	12
Future Vol, veh/h	19	14	3	112	121	12
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	9	9	10	10	7	7
Mvmt Flow	22	16	3	130	141	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	284	149	155	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	136	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.2	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.29	-	-	-
Pot Cap-1 Maneuver	692	879	1378	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	691	878	1378	-	-	-
Mov Cap-2 Maneuver	711	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	874	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1378	-	773	-	-
HCM Lane V/C Ratio	0.003	-	0.05	-	-
HCM Control Delay (s)	7.6	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	44	33	100	127	0
Future Vol, veh/h	0	44	33	100	127	0
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	7	14	14	12	12
Mvmt Flow	0	48	36	109	138	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	138	138	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.24	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.326	-	-	-
Pot Cap-1 Maneuver	663	897	1375	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	646	897	1375	-	-	-
Mov Cap-2 Maneuver	680	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1375	-	897	-	-
HCM Lane V/C Ratio	0.026	-	0.053	-	-
HCM Control Delay (s)	7.7	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM 6th Signalized Intersection Summary
1: Viking Ave NW & SR305

10/22/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	1532	92	118	1447	92	117	53	107	75	31	134
Future Volume (veh/h)	121	1532	92	118	1447	92	117	53	107	75	31	134
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		0.99	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	1772	1772	1772	1758	1758	1758	1758	1758	1758	1688	1688	1688
Adj Flow Rate, veh/h	126	1596	96	123	1507	96	88	102	111	78	32	140
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	8	8	8
Cap, veh/h	145	1645	887	335	1928	122	171	180	151	114	19	85
Arrive On Green	0.17	0.98	0.98	0.20	0.60	0.60	0.10	0.10	0.10	0.07	0.07	0.07
Sat Flow, veh/h	1688	3367	1500	1674	3189	202	1674	1758	1477	1607	273	1194
Grp Volume(v), veh/h	126	1596	96	123	786	817	88	102	111	78	0	172
Grp Sat Flow(s),veh/h/ln	1688	1683	1500	1674	1670	1721	1674	1758	1477	1607	0	1467
Q Serve(g_s), s	10.3	29.5	0.2	9.0	49.9	50.7	7.1	7.9	10.4	6.7	0.0	10.1
Cycle Q Clear(g_c), s	10.3	29.5	0.2	9.0	49.9	50.7	7.1	7.9	10.4	6.7	0.0	10.1
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.81
Lane Grp Cap(c), veh/h	145	1645	887	335	1010	1041	171	180	151	114	0	104
V/C Ratio(X)	0.87	0.97	0.11	0.37	0.78	0.79	0.51	0.57	0.73	0.68	0.00	1.65
Avail Cap(c_a), veh/h	147	1707	914	335	1010	1041	342	359	302	114	0	104
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.0	1.2	0.5	49.1	21.0	21.1	60.4	60.7	61.9	64.4	0.0	66.0
Incr Delay (d2), s/veh	26.6	11.9	0.2	0.5	5.9	6.0	2.9	3.4	8.1	16.9	0.0	330.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	5.7	0.2	6.8	27.2	28.3	5.6	6.6	7.6	5.9	0.0	22.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.6	13.1	0.7	49.6	26.9	27.1	63.3	64.1	69.9	81.3	0.0	396.5
LnGrp LOS	F	B	A	D	C	C	E	E	E	F	A	F
Approach Vol, veh/h		1818			1726			301			250	
Approach Delay, s/veh		17.4			28.6			66.0			298.2	
Approach LOS		B			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	40.0	67.6		15.0	16.8	90.7		19.4				
Change Period (Y+Rc), s	4.9	* 4.9		4.9	4.6	4.9		4.9				
Max Green Setting (Gmax), s	11.6	* 72		10.1	12.4	71.2		29.0				
Max Q Clear Time (g_c+I1), s	11.0	31.5		12.1	12.3	52.7		12.4				
Green Ext Time (p_c), s	0.0	24.4		0.0	0.0	12.2		1.3				

Intersection Summary		
HCM 6th Ctrl Delay		42.8
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	691	0	0	1330	378	44	0	1055	0	0	0
Future Volume (veh/h)	113	691	0	0	1330	378	44	0	1055	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1758	1758	1772	1772	1772			
Adj Flow Rate, veh/h	116	712	0	0	1371	390	45	0	1088			
Peak Hour Factor	0.97	0.97	0.98	0.98	0.97	0.97	0.97	0.97	0.97			
Percent Heavy Veh, %	2	2	0	0	3	3	2	2	2			
Cap, veh/h	179	1923	0	0	1640	732	611	0	957			
Arrive On Green	0.10	1.00	0.00	0.00	0.65	0.65	0.36	0.00	0.36			
Sat Flow, veh/h	1688	3455	0	0	3428	1490	1688	0	2643			
Grp Volume(v), veh/h	116	712	0	0	1371	390	45	0	1088			
Grp Sat Flow(s),veh/h/ln	1688	1683	0	0	1670	1490	1688	0	1321			
Q Serve(g_s), s	4.8	0.0	0.0	0.0	44.5	19.8	2.5	0.0	51.4			
Cycle Q Clear(g_c), s	4.8	0.0	0.0	0.0	44.5	19.8	2.5	0.0	51.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	179	1923	0	0	1640	732	611	0	957			
V/C Ratio(X)	0.65	0.37	0.00	0.00	0.84	0.53	0.07	0.00	1.14			
Avail Cap(c_a), veh/h	199	1923	0	0	1640	732	611	0	957			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.45	0.45	1.00	0.00	1.00			
Uniform Delay (d), s/veh	26.5	0.0	0.0	0.0	20.3	16.0	29.7	0.0	45.3			
Incr Delay (d2), s/veh	6.1	0.5	0.0	0.0	2.4	1.3	0.1	0.0	74.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.7	0.3	0.0	0.0	18.7	8.4	1.8	0.0	56.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	0.5	0.0	0.0	22.7	17.2	29.7	0.0	120.0			
LnGrp LOS	C	A	A	A	C	B	C	A	F			
Approach Vol, veh/h		828			1761			1133				
Approach Delay, s/veh		5.0			21.5			116.4				
Approach LOS		A			C			F				

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	86.0		56.0	11.4	74.6
Change Period (Y+Rc), s	4.9		4.6	4.6	4.9
Max Green Setting (Gmax), s	81.1		51.4	8.4	68.1
Max Q Clear Time (g_c+I1), s	2.0		53.4	6.8	46.5
Green Ext Time (p_c), s	5.4		0.0	0.0	11.9

Intersection Summary	
HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	485	81	596	447	116	126	156	599	65	139	70
Future Volume (veh/h)	56	485	81	596	447	116	126	156	599	65	139	70
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		0.99	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	1772	1772	1772	1786	1786	1786	1772	1772	1772	1800	1800	1800
Adj Flow Rate, veh/h	57	490	82	527	557	117	127	158	605	66	140	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	0	0	0
Cap, veh/h	415	436	369	628	659	557	154	323	272	97	506	
Arrive On Green	0.25	0.25	0.25	0.37	0.37	0.37	0.09	0.18	0.18	0.06	0.15	0.00
Sat Flow, veh/h	1688	1772	1498	1701	1786	1509	1688	1772	1492	1714	3510	0
Grp Volume(v), veh/h	57	490	82	527	557	117	127	158	605	66	140	0
Grp Sat Flow(s),veh/h/ln	1688	1772	1498	1701	1786	1509	1688	1772	1492	1714	1710	0
Q Serve(g_s), s	2.9	27.0	4.8	31.1	31.4	5.8	8.1	8.8	20.0	4.1	4.0	0.0
Cycle Q Clear(g_c), s	2.9	27.0	4.8	31.1	31.4	5.8	8.1	8.8	20.0	4.1	4.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	415	436	369	628	659	557	154	323	272	97	506	
V/C Ratio(X)	0.14	1.12	0.22	0.84	0.85	0.21	0.83	0.49	2.22	0.68	0.28	
Avail Cap(c_a), veh/h	415	436	369	1023	1074	908	215	323	272	250	686	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.3	41.4	33.0	31.6	31.7	23.7	49.0	40.3	44.9	50.8	41.5	0.0
Incr Delay (d2), s/veh	0.1	81.3	0.3	3.4	3.5	0.2	16.4	1.1	562.9	8.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	31.2	3.2	19.2	20.2	3.7	7.3	7.0	78.9	3.6	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	122.7	33.3	35.1	35.2	23.9	65.4	41.4	607.8	58.8	41.8	0.0
LnGrp LOS	C	F	C	D	D	C	E	D	F	E	D	
Approach Vol, veh/h		629			1201			890			206	A
Approach Delay, s/veh		102.8			34.0			429.8			47.3	
Approach LOS		F			C			F			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	31.0	14.0	20.2	44.5	10.2	24.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	27.0	14.0	22.0	66.0	16.0	20.0
Max Q Clear Time (g_c+I1), s	29.0	10.1	6.0	33.4	6.1	22.0
Green Ext Time (p_c), s	0.0	0.1	0.6	7.1	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	170.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	284	311	108	196	465	275	1151	211	584	1031	50
Future Volume (veh/h)	40	284	311	108	196	465	275	1151	211	584	1031	50
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		0.99	1.00		0.99	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	1772	1772	1772	1758	1758	1758	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	41	293	321	111	202	479	284	1187	218	602	1063	52
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	3	3	3	4	4	4	2	2	2
Cap, veh/h	51	402	341	118	470	666	294	1238	550	599	1209	59
Arrive On Green	0.03	0.23	0.23	0.07	0.27	0.27	0.35	0.75	0.75	0.18	0.38	0.38
Sat Flow, veh/h	1688	1772	1502	1674	1758	1471	1661	3313	1458	3274	3183	156
Grp Volume(v), veh/h	41	293	321	111	202	479	284	1187	218	602	533	582
Grp Sat Flow(s),veh/h/ln	1688	1772	1502	1674	1758	1471	1661	1657	1458	1637	1595	1744
Q Serve(g_s), s	3.4	21.7	29.8	9.4	13.5	37.7	23.9	45.4	7.4	26.0	44.1	44.2
Cycle Q Clear(g_c), s	3.4	21.7	29.8	9.4	13.5	37.7	23.9	45.4	7.4	26.0	44.1	44.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	51	402	341	118	470	666	294	1238	550	599	606	662
V/C Ratio(X)	0.80	0.73	0.94	0.94	0.43	0.72	0.97	0.96	0.40	1.00	0.88	0.88
Avail Cap(c_a), veh/h	111	443	375	118	470	666	294	1238	550	599	606	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.59	0.59	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.4	50.8	53.9	65.7	43.1	31.8	45.5	17.0	11.8	58.0	41.0	41.0
Incr Delay (d2), s/veh	18.7	5.0	30.0	64.6	0.5	3.6	31.9	12.1	1.3	37.8	16.6	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	15.4	20.1	10.2	9.9	19.9	14.8	12.8	3.9	19.9	27.0	28.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.1	55.8	83.9	130.3	43.5	35.4	77.4	29.1	13.1	95.8	57.5	56.4
LnGrp LOS	F	E	F	F	D	D	E	C	B	F	E	E
Approach Vol, veh/h		655			792			1689			1717	
Approach Delay, s/veh		71.5			50.8			35.2			70.6	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.2	59.3	9.4	43.0	31.1	58.4	15.1	37.4
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.6	4.9	4.6	4.6
Max Green Setting (Gmax), s	25.6	51.2	9.8	36.7	26.5	50.3	10.5	36.0
Max Q Clear Time (g_c+I1), s	25.9	46.2	5.4	39.7	28.0	47.4	11.4	31.8
Green Ext Time (p_c), s	0.0	3.0	0.0	0.0	0.0	2.2	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	55.1
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	473	675	742	80	79	441
Future Volume (veh/h)	473	675	742	80	79	441
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1786	1786	1772	1772	1772	1772
Adj Flow Rate, veh/h	483	689	757	82	81	450
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	2	2	2	2
Cap, veh/h	560	1103	1039	113	443	722
Arrive On Green	0.22	0.62	0.34	0.34	0.26	0.26
Sat Flow, veh/h	1701	1786	3152	332	1688	1502
Grp Volume(v), veh/h	483	689	416	423	81	450
Grp Sat Flow(s),veh/h/ln	1701	1786	1683	1712	1688	1502
Q Serve(g_s), s	10.9	16.0	14.5	14.5	2.5	14.8
Cycle Q Clear(g_c), s	10.9	16.0	14.5	14.5	2.5	14.8
Prop In Lane	1.00			0.19	1.00	1.00
Lane Grp Cap(c), veh/h	560	1103	571	581	443	722
V/C Ratio(X)	0.86	0.62	0.73	0.73	0.18	0.62
Avail Cap(c_a), veh/h	1464	2732	1212	1232	506	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.8	7.9	19.3	19.3	19.1	12.8
Incr Delay (d2), s/veh	4.1	0.6	1.8	1.8	0.2	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.1	8.8	9.3	9.4	1.7	18.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.8	8.5	21.1	21.1	19.3	14.2
LnGrp LOS	B	A	C	C	B	B
Approach Vol, veh/h		1172	839		531	
Approach Delay, s/veh		11.5	21.1		15.0	
Approach LOS		B	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	45.2	21.5	18.6	26.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	102.0	20.0	50.0	48.0
Max Q Clear Time (g_c+I1), s	18.0	16.8	12.9	16.5
Green Ext Time (p_c), s	6.3	0.7	1.7	6.1

Intersection Summary	
HCM 6th Ctrl Delay	15.4
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	51	3	28	15	359	3	1092	43	304	1102	139
Future Volume (veh/h)	185	51	3	28	15	359	3	1092	43	304	1102	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1772	1772	1772	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	193	53	3	29	16	374	3	1138	45	317	1148	145
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	2	2	2	4	4	4	2	2	2
Cap, veh/h	222	218	12	226	125	301	8	990	39	381	1676	793
Arrive On Green	0.13	0.13	0.13	0.20	0.20	0.20	0.00	0.30	0.30	0.07	0.17	0.17
Sat Flow, veh/h	1701	1673	95	1106	610	1502	1661	3245	128	1688	3189	1499
Grp Volume(v), veh/h	193	0	56	45	0	374	3	581	602	317	1148	145
Grp Sat Flow(s),veh/h/ln	1701	0	1767	1717	0	1502	1661	1657	1717	1688	1595	1499
Q Serve(g_s), s	15.8	0.0	4.0	3.0	0.0	28.5	0.3	43.3	43.3	26.3	47.9	11.7
Cycle Q Clear(g_c), s	15.8	0.0	4.0	3.0	0.0	28.5	0.3	43.3	43.3	26.3	47.9	11.7
Prop In Lane	1.00		0.05	0.64		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	222	0	231	351	0	301	8	505	524	381	1676	793
V/C Ratio(X)	0.87	0.00	0.24	0.13	0.00	1.24	0.38	1.15	1.15	0.83	0.69	0.18
Avail Cap(c_a), veh/h	395	0	411	351	0	301	70	505	524	381	1676	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.82	0.82	0.82	0.41	0.41	0.41
Uniform Delay (d), s/veh	60.6	0.0	55.4	46.3	0.0	56.7	70.5	49.3	49.4	63.0	47.7	32.4
Incr Delay (d2), s/veh	10.0	0.0	0.5	0.2	0.0	133.4	23.3	85.1	84.9	6.5	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.9	0.0	3.3	2.4	0.0	33.0	0.3	41.0	42.3	16.4	25.5	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.6	0.0	56.0	46.5	0.0	190.2	93.8	134.4	134.2	69.5	48.6	32.7
LnGrp LOS	E	A	E	D	A	F	F	F	F	E	D	C
Approach Vol, veh/h		249			419			1186			1610	
Approach Delay, s/veh		67.3			174.7			134.2			51.3	
Approach LOS		E			F			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	80.0		23.1	37.5	47.8		33.6
Change Period (Y+Rc), s	4.6	4.9		4.6	4.9	4.0		4.6
Max Green Setting (Gmax), s	6.6	55.3		33.0	18.1	43.8		29.0
Max Q Clear Time (g_c+I1), s	2.3	49.9		17.8	28.3	45.3		30.5
Green Ext Time (p_c), s	0.0	2.9		0.7	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	95.8
HCM 6th LOS	F

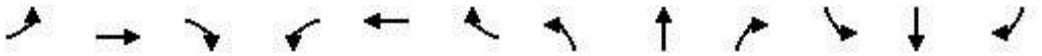
Intersection	
Int Delay, s/veh	13.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	201	141	11	203	22	176	38	12	20	21	47
Future Vol, veh/h	64	201	141	11	203	22	176	38	12	20	21	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	0	0	0	5	5	5
Mvmt Flow	69	216	152	12	218	24	189	41	13	22	23	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	242	0	0	368	0	0	721	696	293	712	760	230
Stage 1	-	-	-	-	-	-	430	430	-	254	254	-
Stage 2	-	-	-	-	-	-	291	266	-	458	506	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.1	6.5	6.2	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.55	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.5	4	3.3	3.545	4.045	3.345
Pot Cap-1 Maneuver	1330	-	-	1191	-	-	345	368	751	344	332	802
Stage 1	-	-	-	-	-	-	607	587	-	744	692	-
Stage 2	-	-	-	-	-	-	721	692	-	577	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1330	-	-	1191	-	-	291	346	750	293	312	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	291	346	-	293	312	-
Stage 1	-	-	-	-	-	-	575	556	-	705	685	-
Stage 2	-	-	-	-	-	-	647	685	-	498	507	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.4	48.8	14
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	309	1330	-	-	1191	-	-	293	540
HCM Lane V/C Ratio	0.786	0.052	-	-	0.01	-	-	0.073	0.135
HCM Control Delay (s)	48.8	7.9	-	-	8.1	-	-	18.3	12.7
HCM Lane LOS	E	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	6.3	0.2	-	-	0	-	-	0.2	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	79	51	43	57	75	56	988	73	73	918	56
Future Volume (veh/h)	62	79	51	43	57	75	56	988	73	73	918	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1744	1744	1744	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	64	81	53	44	59	77	58	1019	75	75	946	58
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	4	4	4	4	4	4	2	2	2
Cap, veh/h	85	111	74	61	82	107	637	1032	76	619	1027	483
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.38	0.34	0.34	0.37	0.32	0.32
Sat Flow, veh/h	1056	1369	918	777	1043	1365	1661	3048	224	1688	3189	1500
Grp Volume(v), veh/h	105	0	93	97	0	83	58	525	569	75	946	58
Grp Sat Flow(s),veh/h/ln	1733	0	1609	1705	0	1480	1661	1569	1703	1688	1595	1500
Q Serve(g_s), s	8.8	0.0	8.3	8.2	0.0	8.1	3.3	49.1	49.2	4.4	42.3	4.0
Cycle Q Clear(g_c), s	8.8	0.0	8.3	8.2	0.0	8.1	3.3	49.1	49.2	4.4	42.3	4.0
Prop In Lane	0.61		0.57	0.46		0.92	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	140	0	130	134	0	116	637	531	577	619	1027	483
V/C Ratio(X)	0.75	0.00	0.71	0.72	0.00	0.72	0.09	0.99	0.99	0.12	0.92	0.12
Avail Cap(c_a), veh/h	334	0	310	478	0	415	637	531	577	619	1103	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.61	0.61	0.61	0.81	0.81	0.81
Uniform Delay (d), s/veh	66.5	0.0	66.2	66.6	0.0	66.3	29.2	48.6	48.6	31.1	48.4	35.4
Incr Delay (d2), s/veh	7.8	0.0	7.1	7.0	0.0	8.0	0.0	27.6	26.5	0.1	12.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.5	0.0	6.6	6.8	0.0	5.9	2.4	29.0	31.0	3.2	24.6	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.3	0.0	73.3	73.6	0.0	74.3	29.2	76.2	75.1	31.1	60.7	35.8
LnGrp LOS	E	A	E	E	A	E	C	E	E	C	E	D
Approach Vol, veh/h		198			180			1152			1079	
Approach Delay, s/veh		73.8			74.0			73.3			57.3	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	61.7	52.6		17.0	59.3	55.1		16.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.8	51.7		29.0	7.9	50.6		42.0				
Max Q Clear Time (g_c+I1), s	5.3	44.3		10.8	6.4	51.2		10.2				
Green Ext Time (p_c), s	0.0	3.8		0.6	0.0	0.0		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		66.8	
HCM 6th LOS		E	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	289	97	118	225	169	101	899	137	168	783	50
Future Volume (veh/h)	59	289	97	118	225	169	101	899	137	168	783	50
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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1772	1772	1772	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	61	301	101	123	234	176	105	936	143	175	816	52
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	2	2	2	4	4	4	2	2	2
Cap, veh/h	71	335	278	140	404	341	121	1023	156	367	1598	102
Arrive On Green	0.04	0.19	0.19	0.08	0.23	0.23	0.05	0.24	0.24	0.22	0.51	0.51
Sat Flow, veh/h	1701	1786	1482	1688	1772	1473	1661	2806	429	1688	3126	199
Grp Volume(v), veh/h	61	301	101	123	234	176	105	523	556	175	416	452
Grp Sat Flow(s),veh/h/ln	1701	1786	1482	1688	1772	1473	1661	1569	1665	1688	1595	1730
Q Serve(g_s), s	5.1	23.4	8.4	10.2	16.7	9.3	8.9	46.1	46.1	12.9	24.5	24.5
Cycle Q Clear(g_c), s	5.1	23.4	8.4	10.2	16.7	9.3	8.9	46.1	46.1	12.9	24.5	24.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.26	1.00		0.12
Lane Grp Cap(c), veh/h	71	335	278	140	404	341	121	572	607	367	815	884
V/C Ratio(X)	0.85	0.90	0.36	0.88	0.58	0.52	0.87	0.91	0.92	0.48	0.51	0.51
Avail Cap(c_a), veh/h	131	389	322	177	435	367	200	615	652	367	815	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81	0.82	0.82	0.82
Uniform Delay (d), s/veh	67.6	56.4	50.3	64.4	48.7	18.6	66.8	51.5	51.5	48.5	23.0	23.0
Incr Delay (d2), s/veh	18.6	21.1	0.8	31.4	1.7	1.2	13.0	18.4	17.7	0.8	1.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	18.3	5.8	9.5	12.1	6.0	7.3	28.4	29.8	8.9	14.0	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.2	77.5	51.1	95.8	50.4	19.8	79.9	70.0	69.2	49.3	24.8	24.7
LnGrp LOS	F	E	D	F	D	B	E	E	E	D	C	C
Approach Vol, veh/h		463			533			1184			1043	
Approach Delay, s/veh		72.9			50.8			70.5			28.9	
Approach LOS		E			D			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	78.0	11.1	37.5	36.2	57.2	16.8	31.7
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	17.6	58.9	11.4	35.4	20.4	* 56	15.4	31.4
Max Q Clear Time (g_c+I1), s	10.9	26.5	7.1	18.7	14.9	48.1	12.2	25.4
Green Ext Time (p_c), s	0.1	6.2	0.0	1.6	0.3	4.2	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	54.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	162	130	70	105	172	153	848	49	196	747	20
Future Volume (veh/h)	62	162	130	70	105	172	153	848	49	196	747	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1758	1758	1758	1730	1730	1730	1772	1772	1772
Adj Flow Rate, veh/h	65	171	137	74	111	181	161	893	52	206	786	21
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, %	2	2	2	3	3	3	5	5	5	2	2	2
Cap, veh/h	164	209	173	154	239	199	180	971	57	638	1908	51
Arrive On Green	0.03	0.12	0.12	0.05	0.14	0.14	0.11	0.32	0.32	0.38	0.59	0.59
Sat Flow, veh/h	1688	1772	1467	1674	1758	1460	1647	3070	179	1688	3261	87
Grp Volume(v), veh/h	65	171	137	74	111	181	161	453	492	206	384	423
Grp Sat Flow(s),veh/h/ln	1688	1772	1467	1674	1758	1460	1647	1557	1692	1688	1595	1754
Q Serve(g_s), s	0.0	13.4	10.4	0.0	8.3	17.4	13.7	39.8	39.8	12.3	18.7	18.7
Cycle Q Clear(g_c), s	0.0	13.4	10.4	0.0	8.3	17.4	13.7	39.8	39.8	12.3	18.7	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.05
Lane Grp Cap(c), veh/h	164	209	173	154	239	199	180	492	535	638	933	1026
V/C Ratio(X)	0.40	0.82	0.79	0.48	0.46	0.91	0.90	0.92	0.92	0.32	0.41	0.41
Avail Cap(c_a), veh/h	301	275	227	260	272	226	276	618	672	638	933	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80
Uniform Delay (d), s/veh	62.7	61.1	39.4	63.9	56.6	60.5	62.5	46.8	46.8	31.3	16.1	16.1
Incr Delay (d2), s/veh	1.5	13.5	13.0	2.3	1.4	34.4	20.7	24.9	23.5	0.2	1.1	1.0
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(95%),veh/ln	4.2	11.1	7.9	4.8	6.8	13.1	11.0	25.6	27.2	8.3	10.7	11.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.3	74.6	52.4	66.2	58.0	94.9	83.1	71.7	70.3	31.5	17.2	17.1
LnGrp LOS	E	E	D	E	E	F	F	E	E	C	B	B
Approach Vol, veh/h		373			366			1106			1013	
Approach Delay, s/veh		64.6			77.9			72.7			20.1	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	49.9	11.6	21.8	20.5	88.1	9.1	24.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	28.5	56.9	16.1	22.5	24.3	61.1	16.1	22.5
Max Q Clear Time (g_c+I1), s	4.3	41.8	2.0	15.4	15.7	20.7	2.0	19.4
Green Ext Time (p_c), s	0.6	3.6	0.2	0.7	0.3	3.4	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	53.7
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	1	4	0	7	2	733	11	11	784	9
Future Vol, veh/h	4	0	1	4	0	7	2	733	11	11	784	9
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	-	-	-	-	-	-	200	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	4	0	1	4	0	8	2	788	12	12	843	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1270	1676	427	1244	1675	400	853	0	0	800	0	0
Stage 1	872	872	-	798	798	-	-	-	-	-	-	-
Stage 2	398	804	-	446	877	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.22	-	-	2.21	-	-
Pot Cap-1 Maneuver	127	96	582	133	96	605	782	-	-	825	-	-
Stage 1	316	371	-	350	401	-	-	-	-	-	-	-
Stage 2	605	398	-	567	369	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	124	94	582	131	94	605	782	-	-	825	-	-
Mov Cap-2 Maneuver	124	94	-	131	94	-	-	-	-	-	-	-
Stage 1	315	365	-	349	400	-	-	-	-	-	-	-
Stage 2	596	397	-	558	363	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.4	19.4	0	0.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	782	-	-	147	261	825	-	-
HCM Lane V/C Ratio	0.003	-	-	0.037	0.045	0.014	-	-
HCM Control Delay (s)	9.6	-	-	30.4	19.4	9.4	-	-
HCM Lane LOS	A	-	-	D	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

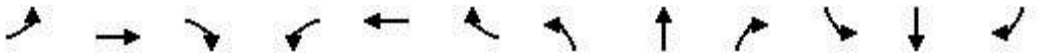
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	587	14	21	496	4	7
Future Vol, veh/h	587	14	21	496	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	10	10
Mvmt Flow	611	15	22	517	4	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	626	0	1180	619
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	561	-
Critical Hdwy	-	-	4.12	-	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	-	-	2.218	-	3.59	3.39
Pot Cap-1 Maneuver	-	-	956	-	203	474
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	556	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	956	-	198	474
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	543	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	315	-	-	956	-
HCM Lane V/C Ratio	0.036	-	-	0.023	-
HCM Control Delay (s)	16.9	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	106	69	348	142	0	35	0	442	253	83	12
Future Volume (veh/h)	0	106	69	348	142	0	35	0	442	253	83	12
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	0	1772	1772	1758	1758	0	1758	0	1758	1716	1784	1716
Adj Flow Rate, veh/h	0	107	70	352	143	0	35	0	446	256	84	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	2	2	3	3	0	3	0	3	6	6	6
Cap, veh/h	0	688	306	2407	2755	0	44	0	0	478	114	
Arrive On Green	0.00	0.20	0.20	0.59	0.82	0.00	0.03	0.00	0.00	0.12	0.06	0.00
Sat Flow, veh/h	0	3455	1499	3248	3428	0	1674	35		3170	1784	1454
Grp Volume(v), veh/h	0	107	70	352	143	0	35	95.1		256	84	0
Grp Sat Flow(s),veh/h/ln	0	1683	1499	1624	1670	0	1674	F		1585	1784	1454
Q Serve(g_s), s	0.0	3.7	5.0	0.0	1.1	0.0	3.0			11.0	6.6	0.0
Cycle Q Clear(g_c), s	0.0	3.7	5.0	0.0	1.1	0.0	3.0			11.0	6.6	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	688	306	2407	2755	0	44			478	114	
V/C Ratio(X)	0.00	0.16	0.23	0.15	0.05	0.00	0.79			0.54	0.73	
Avail Cap(c_a), veh/h	0	688	306	2407	2755	0	189			593	666	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	46.4	37.9	5.0	2.3	0.0	68.7			59.9	65.3	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.7	0.0	0.0	0.0	26.3			0.9	8.7	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
%ile BackOfQ(95%),veh/ln	0.0	2.9	4.0	2.4	0.5	0.0	2.8			7.8	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.9	39.6	5.0	2.3	0.0	95.1			60.8	74.0	0.0
LnGrp LOS	A	D	D	A	A	A	F			E	E	
Approach Vol, veh/h		177			495						340	A
Approach Delay, s/veh		44.0			4.2						64.1	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2	3	4		6	7					
Phs Duration (G+Y+Rc), s	88.1	33.0	7.7	13.1		121.1	20.9					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0					
Max Green Setting (Gmax), s	28.0	29.0	16.0	53.0		61.0	22.0					
Max Q Clear Time (g_c+I1), s	2.0	7.0	5.0	8.6		3.1	13.0					
Green Ext Time (p_c), s	1.2	0.7	0.0	0.4		0.9	0.6					

Intersection Summary												
HCM 6th Ctrl Delay			33.4									
HCM 6th LOS			C									

Notes

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

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	4	145	46	6	151
Future Vol, veh/h	28	4	145	46	6	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	6	7	7	6	6
Mvmt Flow	31	4	161	51	7	168

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	285	106	0	0	212	0
Stage 1	187	-	-	-	-	-
Stage 2	98	-	-	-	-	-
Critical Hdwy	6.92	7.02	-	-	4.22	-
Critical Hdwy Stg 1	5.92	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.56	3.36	-	-	2.26	-
Pot Cap-1 Maneuver	671	915	-	-	1327	-
Stage 1	814	-	-	-	-	-
Stage 2	903	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	667	915	-	-	1327	-
Mov Cap-2 Maneuver	667	-	-	-	-	-
Stage 1	814	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	667	915	1327	-
HCM Lane V/C Ratio	-	-	0.047	0.005	0.005	-
HCM Control Delay (s)	-	-	10.7	9	7.7	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	56	57	92	104	23
Future Vol, veh/h	25	56	57	92	104	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	7	7	6	6
Mvmt Flow	28	64	65	105	118	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	366	131	144	0	-	0
Stage 1	131	-	-	-	-	-
Stage 2	235	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.17	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.263	-	-	-
Pot Cap-1 Maneuver	632	916	1408	-	-	-
Stage 1	893	-	-	-	-	-
Stage 2	802	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	603	916	1408	-	-	-
Mov Cap-2 Maneuver	651	-	-	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	802	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	2.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1408	-	651	916	-	-
HCM Lane V/C Ratio	0.046	-	0.044	0.069	-	-
HCM Control Delay (s)	7.7	-	10.8	9.2	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0.2	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1062	33	22	759	7	61
Future Vol, veh/h	1062	33	22	759	7	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1154	36	24	825	8	66

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1190	0	1633	595
Stage 1	-	-	-	-	1172	-
Stage 2	-	-	-	-	461	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	577	-	91	445
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	577	-	84	445
Mov Cap-2 Maneuver	-	-	-	-	84	-
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	309	-	-	577	-
HCM Lane V/C Ratio	0.239	-	-	0.041	-
HCM Control Delay (s)	20.3	-	-	11.5	0.4
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	103	1009	731	14	5	44
Future Vol, veh/h	103	1009	731	14	5	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	3	3	6	6
Mvmt Flow	106	1040	754	14	5	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	768	0	-	0	2013	761
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	1252	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	846	-	-	-	63	399
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	264	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	846	-	-	-	55	399
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	264	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	846	-	-	-	244
HCM Lane V/C Ratio	0.126	-	-	-	0.207
HCM Control Delay (s)	9.9	-	-	-	23.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	0.8

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	46	17	123	39	16	9	150	132	22	102	49
Future Vol, veh/h	36	46	17	123	39	16	9	150	132	22	102	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	50	18	134	42	17	10	163	143	24	111	53
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10.2	11.8	12.6	10.3
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	44%	0%	76%	0%	100%	0%
Vol Thru, %	0%	53%	56%	0%	24%	0%	0%	68%
Vol Right, %	0%	47%	0%	100%	0%	100%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	282	82	17	162	16	22	151
LT Vol	9	0	36	0	123	0	22	0
Through Vol	0	150	46	0	39	0	0	102
RT Vol	0	132	0	17	0	16	0	49
Lane Flow Rate	10	307	89	18	176	17	24	164
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.017	0.462	0.161	0.029	0.317	0.026	0.043	0.259
Departure Headway (Hd)	6.258	5.422	6.49	5.557	6.487	5.394	6.419	5.683
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	573	665	553	643	555	663	558	632
Service Time	3.989	3.153	4.231	3.298	4.223	3.129	4.155	3.419
HCM Lane V/C Ratio	0.017	0.462	0.161	0.028	0.317	0.026	0.043	0.259
HCM Control Delay	9.1	12.7	10.5	8.5	12.2	8.3	9.4	10.4
HCM Lane LOS	A	B	B	A	B	A	A	B
HCM 95th-tile Q	0.1	2.4	0.6	0.1	1.4	0.1	0.1	1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	861	1035	44	16	5
Future Vol, veh/h	4	861	1035	44	16	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	4	4	0	0
Mvmt Flow	4	957	1150	49	18	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1199	0	-	0	2115	1150
Stage 1	-	-	-	-	1150	-
Stage 2	-	-	-	-	965	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	582	-	-	-	56	244
Stage 1	-	-	-	-	304	-
Stage 2	-	-	-	-	373	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	582	-	-	-	55	244
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	299	-
Stage 2	-	-	-	-	373	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	85.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	582	-	-	-	67
HCM Lane V/C Ratio	0.008	-	-	-	0.348
HCM Control Delay (s)	11.2	0	-	-	85.1
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	1.3

Intersection	
Intersection Delay, s/veh	19.2
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	328	344	14	277	344
Future Vol, veh/h	7	328	344	14	277	344
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	7	342	358	15	289	358
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	18.5	20.9	18.5
HCM LOS	C	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	96%	0%	0%	0%	100%
Vol Right, %	4%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	358	7	328	277	344
LT Vol	0	7	0	277	0
Through Vol	344	0	0	0	344
RT Vol	14	0	328	0	0
Lane Flow Rate	373	7	342	289	358
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.658	0.015	0.608	0.546	0.628
Departure Headway (Hd)	6.355	7.633	6.408	6.818	6.309
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	567	467	560	528	570
Service Time	4.424	5.406	4.18	4.592	4.082
HCM Lane V/C Ratio	0.658	0.015	0.611	0.547	0.628
HCM Control Delay	20.9	10.5	18.7	17.6	19.2
HCM Lane LOS	C	B	C	C	C
HCM 95th-tile Q	4.8	0	4.1	3.3	4.3

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	68	685	8	55	602
Future Vol, veh/h	4	68	685	8	55	602
Conflicting Peds, #/hr	0	2	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	8	1	1	1	1
Mvmt Flow	4	72	729	9	59	640

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1493	737	0	0	739	0
Stage 1	735	-	-	-	-	-
Stage 2	758	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.11	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.209	-
Pot Cap-1 Maneuver	132	409	-	-	872	-
Stage 1	464	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	123	408	-	-	871	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	421	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	395	871	-
HCM Lane V/C Ratio	-	-	0.194	0.067	-
HCM Control Delay (s)	-	-	16.3	9.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.2	-

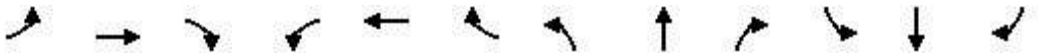
Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	76	742	3	78	659
Future Vol, veh/h	2	76	742	3	78	659
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	2	84	815	3	86	724

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1714	818	0	0	819	0
Stage 1	818	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	100	379	-	-	814	-
Stage 1	437	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	89	379	-	-	813	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	437	-	-	-	-	-
Stage 2	359	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.6	0	1.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	350	813	-
HCM Lane V/C Ratio	-	-	0.245	0.105	-
HCM Control Delay (s)	-	-	18.6	9.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1	12	8	0	50	13	747	5	34	794	24
Future Volume (veh/h)	22	1	12	8	0	50	13	747	5	34	794	24
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	1800	1800	1800	1772	1772	1772	1772	1772	1772	1786	1786	1786
Adj Flow Rate, veh/h	23	1	12	8	0	52	14	778	5	35	827	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	1	1	1
Cap, veh/h	398	12	174	155	6	148	462	1467	9	511	1535	46
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.02	0.43	0.43	0.05	0.46	0.46
Sat Flow, veh/h	1385	106	1523	146	54	1297	1688	3429	22	1701	3363	102
Grp Volume(v), veh/h	24	0	12	60	0	0	14	382	401	35	417	435
Grp Sat Flow(s),veh/h/ln	1492	0	1523	1496	0	0	1688	1683	1768	1701	1697	1768
Q Serve(g_s), s	0.0	0.0	0.2	0.2	0.0	0.0	0.1	4.9	4.9	0.3	5.2	5.2
Cycle Q Clear(g_c), s	0.4	0.0	0.2	1.1	0.0	0.0	0.1	4.9	4.9	0.3	5.2	5.2
Prop In Lane	0.96		1.00	0.13		0.87	1.00		0.01	1.00		0.06
Lane Grp Cap(c), veh/h	410	0	174	310	0	0	462	720	756	511	774	807
V/C Ratio(X)	0.06	0.00	0.07	0.19	0.00	0.00	0.03	0.53	0.53	0.07	0.54	0.54
Avail Cap(c_a), veh/h	1567	0	1447	1549	0	0	997	5254	5518	1175	5468	5697
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	11.7	12.0	0.0	0.0	4.8	6.2	6.2	4.5	5.8	5.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.3	0.0	0.0	0.0	0.6	0.6	0.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	0.1	0.5	0.0	0.0	0.0	1.6	1.7	0.1	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	0.0	11.8	12.3	0.0	0.0	4.9	6.8	6.8	4.6	6.4	6.3
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		36			60			797			887	
Approach Delay, s/veh		11.8			12.3			6.8			6.3	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	16.6		7.4	4.6	17.5		7.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	92.0		28.0	10.0	95.0		28.0				
Max Q Clear Time (g_c+I1), s	2.3	6.9		2.4	2.1	7.2		3.1				
Green Ext Time (p_c), s	0.0	5.5		0.1	0.0	6.2		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		6.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	18	17	277	201	21
Future Vol, veh/h	17	18	17	277	201	21
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	1	1
Mvmt Flow	17	18	17	283	205	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	534	218	227	0	-	0
Stage 1	217	-	-	-	-	-
Stage 2	317	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.12	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.218	-	-	-
Pot Cap-1 Maneuver	500	812	1341	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	729	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	493	811	1340	-	-	-
Mov Cap-2 Maneuver	571	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	728	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1340	-	674	-	-
HCM Lane V/C Ratio	0.013	-	0.053	-	-
HCM Control Delay (s)	7.7	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	91	69	193	144	0
Future Vol, veh/h	7	91	69	193	144	0
Conflicting Peds, #/hr	3	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	9	9	13	13
Mvmt Flow	7	96	73	203	152	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	505	154	153	0	-	0
Stage 1	153	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.19	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.281	-	-	-
Pot Cap-1 Maneuver	529	895	1386	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	500	894	1385	-	-	-
Mov Cap-2 Maneuver	575	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	713	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1385	-	860	-	-
HCM Lane V/C Ratio	0.052	-	0.12	-	-
HCM Control Delay (s)	7.7	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Appendix G. Segment Capacity Calculations

2019 Existing Conditions

ID	Sub-area	Name	From	To	Classification	Base Capacity	LT/RT Pocket Adj.	Bike Lane Adj.	Pvmt Width Adj.	Lanes	TWLTL (1=yes)	LT Pocket (1=yes)	RT Pocket (1=yes)	# of Bike Lanes	Pavement Width >13ft (1=yes)	# of sidewalks	# of walkable shoulders	Adjustment Factor	Capacity	PM Vol	K-factor	ADT	V/C	LOS
301	HC	10th Ave	Forest Rock	600 ft n/o Liberty	Comml Collector	4,500	1,000	800	400	2	0	0	0	0	1	2	0	100%	9,400	399	0.103	3,850	0.41	A
306	HC	Liberty	7th Ave	SR 305	Comml Collector	4,500	1,000	800	400	2	0	1	1	0	0	2	0	100%	11,000	361	0.103	3,500	0.32	A
401	OP	Front St	Bond	Torval Canyon	Minor	6,500	1,500	1,000	800	3	1	1	0	0	0	2	0	100%	24,000	1,555	0.084	18,500	0.77	C
402	OP	Front St	Torval Canyon	Jensen (N)	Minor	6,500	1,500	1,000	800	2	0	1	1	2	0	2	0	100%	18,000	1,406	0.094	14,950	0.83	D
403	OP	Front St	Jensen (N)	Sunset	Minor	6,500	1,500	1,000	800	2	1	0	0	0	0	2	0	100%	16,000	1,299	0.094	13,800	0.86	D
404	OP	Front St	Sunset	Jensen (S)	Minor	6,500	1,500	1,000	800	2	1	0	0	0	0	2	0	100%	16,000	709	0.103	6,900	0.43	A
501	W	Viking Way	S.C.L.	Bovela	Minor	6,500	1,500	1,000	800	4	1	0	0	0	0	2	0	100%	29,000	1,535	0.084	18,250	0.63	B
502	W	Viking Way	Bovela	Lindvig	Minor	6,500	1,500	1,000	800	4	1	0	0	0	0	2	0	100%	29,000	1,697	0.084	20,200	0.70	B
503	W	Viking Way	300 ft n/o Lindvig	SR 305	Minor	6,500	1,500	1,000	800	2	1	0	0	2	0	2	0	100%	18,000	518	0.103	5,050	0.28	A
504	W	Viking Way	SR 305	Vetter Rd	Comml Collector	4,500	1,000	800	400	2	0	1	0	0	1	1	1	85%	8,840	506	0.103	4,900	0.55	A
511	W	Lindvig	Viking	Bond	Minor	6,500	1,500	1,000	800	4	1	1	0	0	0	2	0	100%	30,500	2,308	0.080	28,850	0.95	E
512	W	Bond	Lindvig	SR 305	Minor	6,500	1,500	1,000	800	2	1	1	1	0	0	1	2	85%	16,150	1,073	0.094	11,400	0.71	C
514	W	Olhava	Walmart South	Walmart North	Comml Collector	4,500	1,000	800	400	2	1	0	1	2	0	2	0	100%	14,600	976	0.103	9,500	0.65	B
515	W	Olhava	Walmart North	Olympic Way	Comml Collector	4,500	1,000	800	400	4	0	1	1	2	0	2	0	100%	21,600	976	0.103	9,500	0.44	A
516	W	Oly. Coll. Way	Olhava	Dauntless Dr	Comml Collector	4,500	1,000	800	400	4	0	2	2	2	0	2	0	100%	23,600	329	0.103	3,200	0.14	A
521	W	Reliance St	Oly. Coll. Way	NW Market Pl	Comml Collector	4,500	1,000	800	400	4	0	1	0	0	0	2	0	100%	19,000	161	0.103	1,550	0.08	A

2028 Without-Project

ID	Sub-area	Name	From	To	Classification	Base Capacity	LT/RT Pocket Adj.	Bike Lane Adj.	Pvmt Width Adj.	Lanes	TWLTL (1=yes)	LT Pocket (1=yes)	RT Pocket (1=yes)	# of Bike Lanes	Pavement Width >13ft (1=yes)	# of sidewalks	# of walkable shoulders	Adjustment Factor	Capacity	PM Vol	K-factor	ADT	V/C	LOS
301	HC	10th Ave	Forest Rock	600 ft n/o Liberty	Comml Collector	4,500	1,000	800	400	2	0	0	0	0	1	2	0	100%	9,400	419	0.103	4,050	0.43	A
306	HC	Liberty	7th Ave	SR 305	Comml Collector	4,500	1,000	800	400	2	0	1	1	0	0	2	0	100%	11,000	366	0.103	3,550	0.32	A
401	OP	Front St	Bond	Torval Canyon	Minor	6,500	1,500	1,000	800	3	1	1	0	0	0	2	0	100%	24,000	1,620	0.084	19,300	0.80	D
402	OP	Front St	Torval Canyon	Jensen (N)	Minor	6,500	1,500	1,000	800	2	0	1	1	2	0	2	0	100%	18,000	1,451	0.094	15,450	0.86	D
403	OP	Front St	Jensen (N)	Sunset	Minor	6,500	1,500	1,000	800	2	1	0	0	0	0	2	0	100%	16,000	1,334	0.094	14,200	0.89	D
404	OP	Front St	Sunset	Jensen (S)	Minor	6,500	1,500	1,000	800	2	1	0	0	0	0	2	0	100%	16,000	729	0.103	7,100	0.44	A
501	W	Viking Way	S.C.L.	Bovela	Minor	6,500	1,500	1,000	800	4	1	0	0	0	0	2	0	100%	29,000	1,645	0.084	19,600	0.68	B
502	W	Viking Way	Bovela	Lindvig	Minor	6,500	1,500	1,000	800	4	1	0	0	0	0	2	0	100%	29,000	1,802	0.084	21,450	0.74	C
503	W	Viking Way	300 ft n/o Lindvig	SR 305	Minor	6,500	1,500	1,000	800	2	1	0	0	2	0	2	0	100%	18,000	483	0.103	4,700	0.26	A
504	W	Viking Way	SR 305	Vetter Rd	Comml Collector	4,500	1,000	800	400	2	0	1	0	0	1	1	1	85%	8,840	511	0.103	4,950	0.56	A
511	W	Lindvig	Viking	Bond	Minor	6,500	1,500	1,000	800	4	1	1	0	0	0	2	0	100%	30,500	2,388	0.080	29,850	0.98	E
512	W	Bond	Lindvig	SR 305	Minor	6,500	1,500	1,000	800	2	1	1	1	0	0	1	2	85%	16,150	1,073	0.094	11,400	0.71	C
514	W	Olhava	Walmart South	Walmart North	Comml Collector	4,500	1,000	800	400	2	1	0	1	2	0	2	0	100%	14,600	882	0.103	8,550	0.59	A
515	W	Olhava	Walmart North	Olympic Way	Comml Collector	4,500	1,000	800	400	4	0	1	1	2	0	2	0	100%	21,600	882	0.103	8,550	0.40	A
516	W	Oly. Coll. Way	Olhava	Dauntless Dr	Comml Collector	4,500	1,000	800	400	4	0	2	2	2	0	2	0	100%	23,600	569	0.103	5,500	0.23	A
521	W	Reliance St	Oly. Coll. Way	NW Market Pl	Comml Collector	4,500	1,000	800	400	4	0	1	0	0	0	2	0	100%	19,000	366	0.103	3,550	0.19	A

2028 With-Project

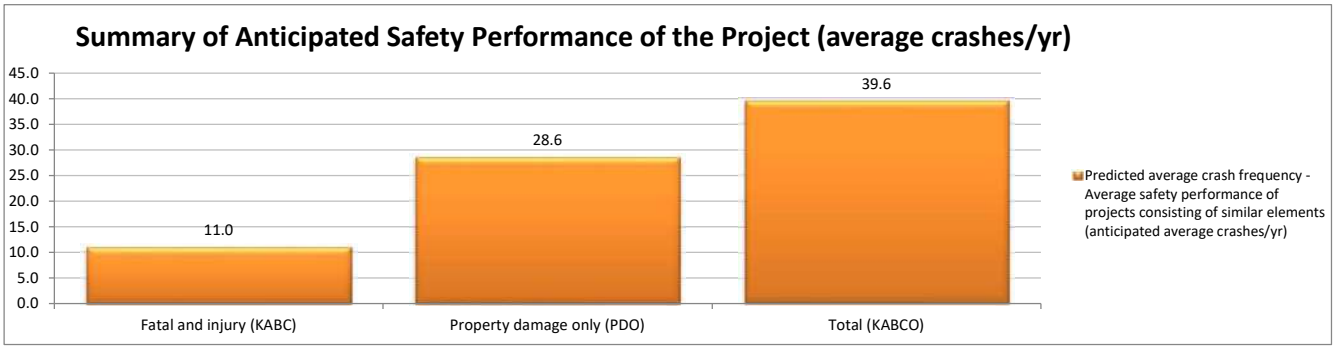
ID	Sub-area	Name	From	To	Classification	Base Capacity	LT/RT Pocket Adj.	Bike Lane Adj.	Pvmt Width Adj.	Lanes	TWLTL (1=yes)	LT Pocket (1=yes)	RT Pocket (1=yes)	# of Bike Lanes	Pavement Width >13ft (1=yes)	# of sidewalks	# of walkable shoulders	Adjustment Factor	Capacity	PM Vol	K-factor	ADT	V/C	LOS
301	HC	10th Ave	Forest Rock	600 ft n/o Liberty	Comml Collector	4,500	1,000	800	400	2	0	0	0	0	1	2	0	100%	9,400	431	0.103	4,200	0.45	A
306	HC	Liberty	7th Ave	SR 305	Comml Collector	4,500	1,000	800	400	2	0	1	1	0	0	2	0	100%	11,000	386	0.103	3,750	0.34	A
401	OP	Front St	Bond	Torval Canyon	Minor	6,500	1,500	1,000	800	3	1	1	0	0	0	2	0	100%	24,000	1,640	0.084	19,500	0.81	D
402	OP	Front St	Torval Canyon	Jensen (N)	Minor	6,500	1,500	1,000	800	2	0	1	1	2	0	2	0	100%	18,000	1,470	0.094	15,650	0.87	D
403	OP	Front St	Jensen (N)	Sunset	Minor	6,500	1,500	1,000	800	2	1	0	0	0	0	2	0	100%	16,000	1,349	0.094	14,350	0.90	D
404	OP	Front St	Sunset	Jensen (S)	Minor	6,500	1,500	1,000	800	2	1	0	0	0	0	2	0	100%	16,000	740	0.103	7,200	0.45	A
501	W	Viking Way	S.C.L.	Bovela	Minor	6,500	1,500	1,000	800	4	1	0	0	0	0	2	0	100%	29,000	1,672	0.084	19,900	0.69	B
502	W	Viking Way	Bovela	Lindvig	Minor	6,500	1,500	1,000	800	4	1	0	0	0	0	2	0	100%	29,000	1,843	0.084	21,950	0.76	C
503	W	Viking Way	300 ft n/o Lindvig	SR 305	Minor	6,500	1,500	1,000	800	2	1	0	0	2	0	2	0	100%	18,000	539	0.103	5,250	0.29	A
504	W	Viking Way	SR 305	Vetter Rd	Comml Collector	4,500	1,000	800	400	2	0	1	0	0	1	1	1	85%	8,840	656	0.103	6,350	0.72	C
511	W	Lindvig	Viking	Bond	Minor	6,500	1,500	1,000	800	4	1	1	0	0	0	2	0	100%	30,500	2,399	0.080	30,000	0.98	E
512	W	Bond	Lindvig	SR 305	Minor	6,500	1,500	1,000	800	2	1	1	1	0	0	1	2	85%	16,150	1,085	0.094	11,550	0.72	C
514	W	Olhava	Walmart South	Walmart North	Comml Collector	4,500	1,000	800	400	2	1	0	1	2	0	2	0	100%	14,600	911	0.103	8,850	0.61	B
515	W	Olhava	Walmart North	Olympic Way	Comml Collector	4,500	1,000	800	400	4	0	1	1	2	0	2	0	100%	21,600	911	0.103	8,850	0.41	A
516	W	Oly. Coll. Way	Olhava	Dauntless Dr	Comml Collector	4,500	1,000	800	400	4	0	2	2	2	0	2	0	100%	23,600	582	0.103	5,650	0.24	A
521	W	Reliance St	Oly. Coll. Way	NW Market Pl	Comml Collector	4,500	1,000	800	400	4	0	1	0	0	0	2	0	100%	19,000	375	0.103	3,650	0.19	A

Appendix H. Safety Analysis Reports

PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information	
Project Name	Oslo Bay Apartments TIA
Project Description	Oslo Bay Apartments
Reference Number	SR 305/SR 307; TSI prj #219073
Analyst	Andrew L. Bratlien, PE
Agency/Company	Transportation Solutions, Inc.
Contact Email	andrewb@tsinw.com
Contact Phone	(425) 883-4134
Date Completed	04/27/20

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)	Fatal and Injury Crashes/yr (KABC)	Property Damage Only Crashes/yr (PDO)
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Predicted average crash frequency $N_{predicted\ (KABC)}$	Predicted average crash frequency $N_{predicted\ (O)}$
INDIVIDUAL SEGMENTS			
Segment 1	1.5	0.5	1.1
Segment 2	38.1	10.6	27.5
COMBINED (sum of column)	39.6	11.0	28.6

PROJECT SUMMARY -- Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)
Fatal and injury (KABC)	11.0
Property damage only (PDO)	28.6
Total (KABCO)	39.6

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

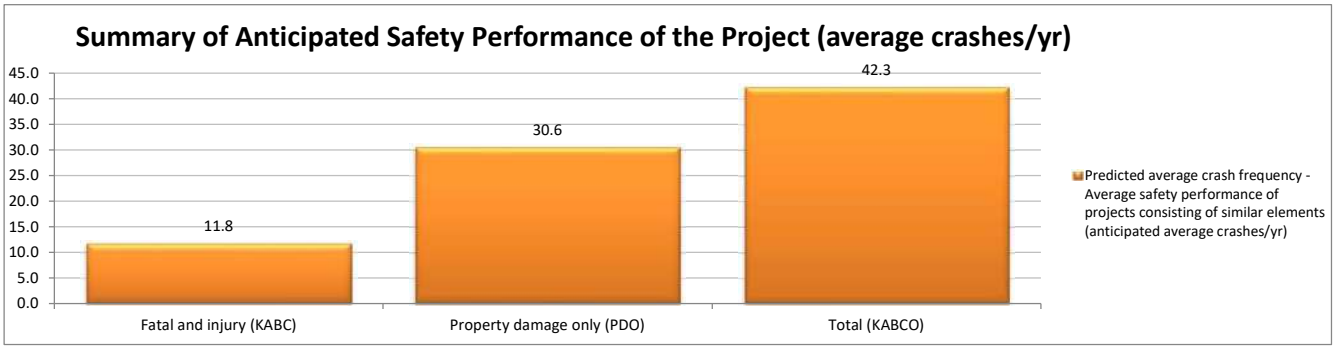
1. It is anticipated that a typical project such as this will, on average, experience 39.6 crashes per year (11 fatal and injury crashes per year; and 28.6 property damage only crashes per year).

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information	
Project Name	Oslo Bay Apartments TIA
Project Description	Oslo Bay Apartments
Reference Number	SR 305/SR 307; TSI prj #219073
Analyst	Andrew L. Bratlien, PE
Agency/Company	Transportation Solutions, Inc.
Contact Email	andrewb@tsinw.com
Contact Phone	(425) 883-4134
Date Completed	04/27/20

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)	Fatal and Injury Crashes/yr (KABC)	Property Damage Only Crashes/yr (PDO)
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Predicted average crash frequency $N_{predicted\ (KABC)}$	Predicted average crash frequency $N_{predicted\ (O)}$
INDIVIDUAL SEGMENTS			
Segment 1	1.6	0.5	1.1
Segment 2	40.7	11.3	29.4
COMBINED (sum of column)	42.3	11.8	30.6

PROJECT SUMMARY -- Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)
Fatal and injury (KABC)	11.8
Property damage only (PDO)	30.6
Total (KABCO)	42.3

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

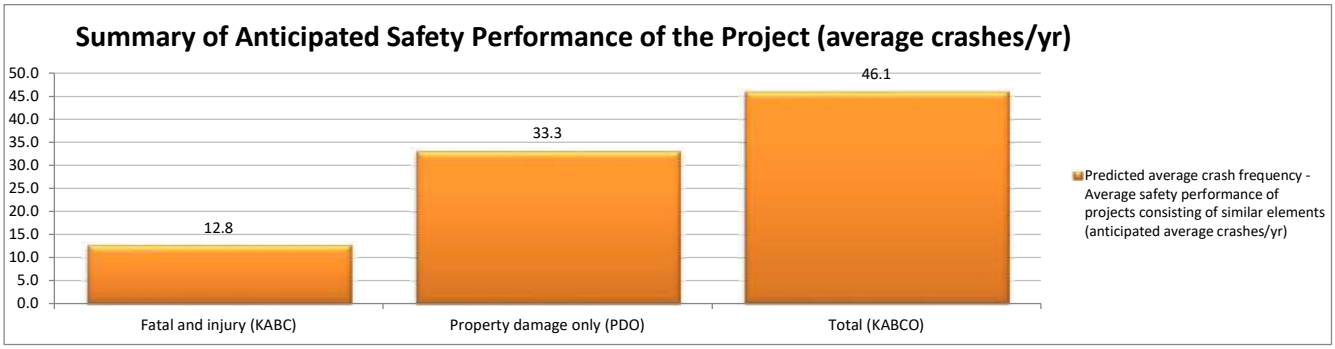
1. It is anticipated that a typical project such as this will, on average, experience 42.3 crashes per year (11.8 fatal and injury crashes per year; and 30.6 property damage only crashes per year).

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

PROJECT SAFETY PERFORMANCE SUMMARY REPORT

General Information	
Project Name	Oslo Bay Apartments TIA
Project Description	Oslo Bay Apartments
Reference Number	SR 305/SR 307; TSI prj #219073
Analyst	Andrew L. Bratlien, PE
Agency/Company	Transportation Solutions, Inc.
Contact Email	andrewb@tsinw.com
Contact Phone	(425) 883-4134
Date Completed	12/02/21

PROJECT SUMMARY



Project Element	Total Crashes/yr (KABCO)	Fatal and Injury Crashes/yr (KABC)	Property Damage Only Crashes/yr (PDO)
	Predicted average crash frequency $N_{predicted\ (KABCO)}$	Predicted average crash frequency $N_{predicted\ (KABC)}$	Predicted average crash frequency $N_{predicted\ (O)}$
INDIVIDUAL SEGMENTS			
Segment 1	1.8	0.5	1.2
Segment 2	44.3	12.3	32.0
COMBINED (sum of column)	46.1	12.8	33.3

PROJECT SUMMARY -- Site-Specific EB Method Summary Results for Urban and Suburban Arterial Project

Crash severity level	$N_{predicted(PROJECT)}$ Predicted average crash frequency - Average safety performance of projects consisting of similar elements (anticipated average crashes/yr)
Fatal and injury (KABC)	12.8
Property damage only (PDO)	33.3
Total (KABCO)	46.1

HSM1 Extended Spreadsheet for Part C Chapter 12 v.9

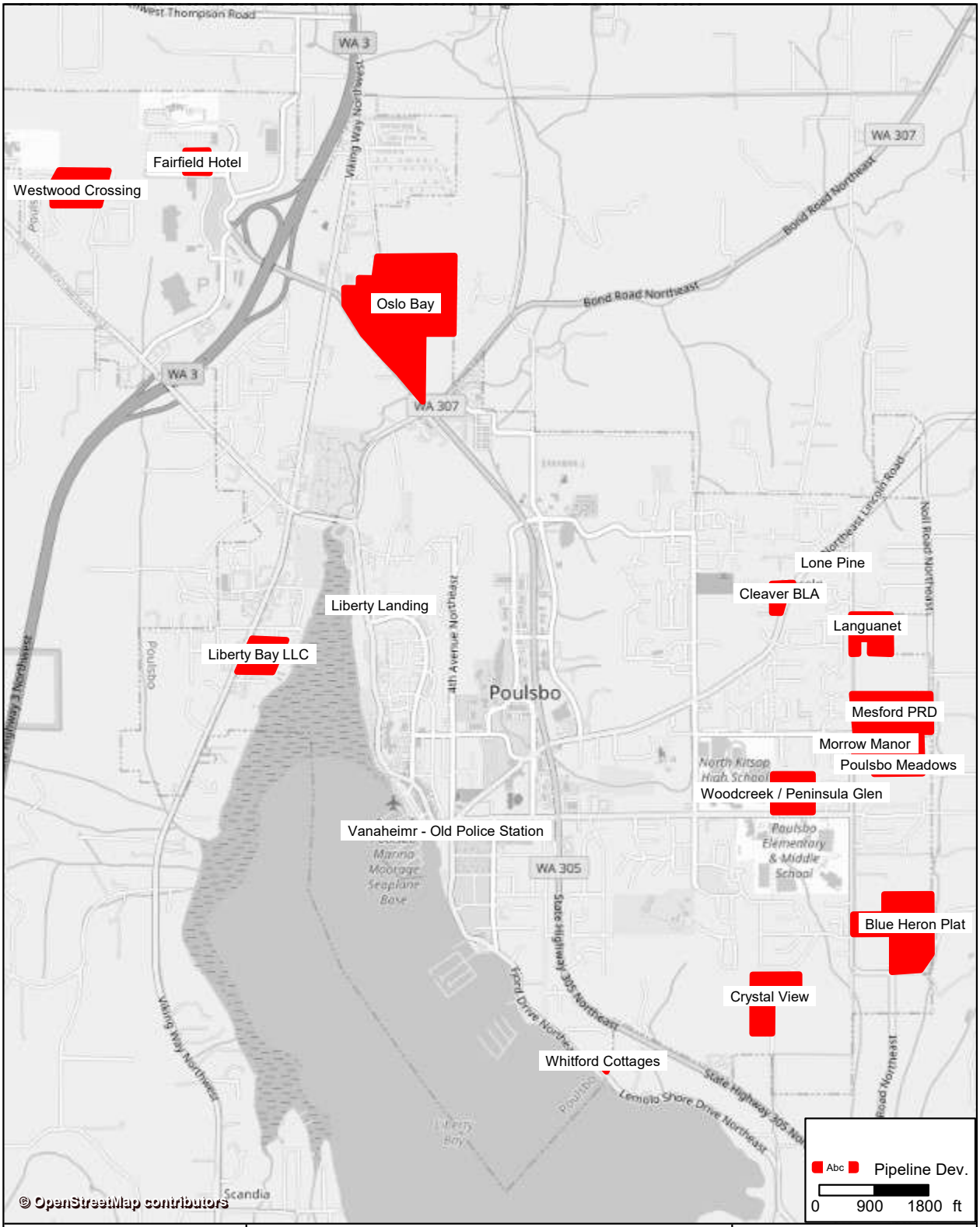
Discussion of Results

Given the potential effects of project characteristics on safety performance, results indicate that:

1. It is anticipated that a typical project such as this will, on average, experience 46.1 crashes per year (12.8 fatal and injury crashes per year; and 33.3 property damage only crashes per year).

Federal law 23 USC § 409 prohibits the discovery or admission into evidence of "reports, surveys, schedules, lists, or data" compiled or collected for the purpose of highway safety improvement projects that might qualify for federal safety improvement funding.

Appendix I. Map of Pipeline Development



22.04.2020/10:54:28	Pipeline Development	Poulsbo 2028 PM.ver
Transportation Solutions, Inc.		18.02

Appendix J. 2028 Without-Project Intersection Capacity Reports

HCM 6th Signalized Intersection Summary
1: Viking Ave NW & SR305

12/07/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	1466	53	63	1245	58	54	27	88	75	32	80
Future Volume (veh/h)	61	1466	53	63	1245	58	54	27	88	75	32	80
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		0.99	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	1744	1744	1744	1744	1744	1744	1688	1688	1688	1603	1603	1603
Adj Flow Rate, veh/h	66	1593	58	68	1353	63	44	50	96	82	35	87
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	8	8	8	14	14	14
Cap, veh/h	82	1635	856	351	2120	99	138	145	121	109	29	72
Arrive On Green	0.10	0.99	0.99	0.21	0.66	0.66	0.09	0.09	0.09	0.07	0.07	0.07
Sat Flow, veh/h	1661	3313	1478	1661	3224	150	1607	1688	1409	1527	408	1013
Grp Volume(v), veh/h	66	1593	58	68	694	722	44	50	96	82	0	122
Grp Sat Flow(s),veh/h/ln	1661	1657	1478	1661	1657	1717	1607	1688	1409	1527	0	1421
Q Serve(g_s), s	5.5	23.5	0.1	4.8	35.1	35.3	3.7	4.0	9.5	7.5	0.0	10.1
Cycle Q Clear(g_c), s	5.5	23.5	0.1	4.8	35.1	35.3	3.7	4.0	9.5	7.5	0.0	10.1
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.71
Lane Grp Cap(c), veh/h	82	1635	856	351	1090	1129	138	145	121	109	0	101
V/C Ratio(X)	0.81	0.97	0.07	0.19	0.64	0.64	0.32	0.34	0.79	0.75	0.00	1.21
Avail Cap(c_a), veh/h	108	1682	878	351	1090	1129	328	345	288	109	0	101
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.4	0.6	0.3	46.0	14.3	14.4	61.0	61.1	63.6	64.7	0.0	66.0
Incr Delay (d2), s/veh	15.7	11.8	0.1	0.2	2.9	2.8	1.6	1.7	12.9	27.1	0.0	155.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.6	5.2	0.1	3.6	18.9	19.6	2.8	3.2	6.9	6.7	0.0	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.1	12.4	0.4	46.2	17.2	17.1	62.5	62.8	76.5	91.8	0.0	221.4
LnGrp LOS	E	B	A	D	B	B	E	E	E	F	A	F
Approach Vol, veh/h		1717			1484			190			204	
Approach Delay, s/veh		14.6			18.5			69.7			169.3	
Approach LOS		B			B			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	44.2	65.7		15.0	11.6	98.3		17.1				
Change Period (Y+Rc), s	4.9	* 4.9		4.9	4.6	4.9		4.9				
Max Green Setting (Gmax), s	11.5	* 72		10.1	9.2	74.4		29.0				
Max Q Clear Time (g_c+I1), s	6.8	25.5		12.1	7.5	37.3		11.5				
Green Ext Time (p_c), s	0.0	26.0		0.0	0.0	15.3		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		27.9
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	538	0	0	1277	141	76	0	1111	0	0	0
Future Volume (veh/h)	44	538	0	0	1277	141	76	0	1111	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1688	1688	0	0	1744	1744	1744	1744	1744			
Adj Flow Rate, veh/h	48	585	0	0	1388	153	83	0	1208			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	8	8	0	0	4	4	4	4	4			
Cap, veh/h	154	1764	0	0	1596	712	636	0	996			
Arrive On Green	0.07	1.00	0.00	0.00	0.64	0.64	0.38	0.00	0.38			
Sat Flow, veh/h	1607	3291	0	0	3400	1478	1661	0	2601			
Grp Volume(v), veh/h	48	585	0	0	1388	153	83	0	1208			
Grp Sat Flow(s),veh/h/ln	1607	1603	0	0	1657	1478	1661	0	1300			
Q Serve(g_s), s	2.0	0.0	0.0	0.0	48.3	6.1	4.6	0.0	54.4			
Cycle Q Clear(g_c), s	2.0	0.0	0.0	0.0	48.3	6.1	4.6	0.0	54.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	154	1764	0	0	1596	712	636	0	996			
V/C Ratio(X)	0.31	0.33	0.00	0.00	0.87	0.21	0.13	0.00	1.21			
Avail Cap(c_a), veh/h	169	1764	0	0	1596	712	636	0	996			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.70	0.70	1.00	0.00	1.00			
Uniform Delay (d), s/veh	25.5	0.0	0.0	0.0	21.9	14.3	28.4	0.0	43.8			
Incr Delay (d2), s/veh	1.1	0.5	0.0	0.0	4.9	0.5	0.1	0.0	104.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.4	0.2	0.0	0.0	21.9	3.7	3.3	0.0	65.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	0.5	0.0	0.0	26.8	14.8	28.5	0.0	148.7			
LnGrp LOS	C	A	A	A	C	B	C	A	F			
Approach Vol, veh/h		633			1541			1291				
Approach Delay, s/veh		2.5			25.6			141.0				
Approach LOS		A			C			F				

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	83.0		59.0	9.7	73.3
Change Period (Y+Rc), s	4.9		4.6	4.6	4.9
Max Green Setting (Gmax), s	78.1		54.4	6.4	67.1
Max Q Clear Time (g_c+I1), s	2.0		56.4	4.0	50.3
Green Ext Time (p_c), s	4.2		0.0	0.0	9.5

Intersection Summary		
HCM 6th Ctrl Delay	64.4	
HCM 6th LOS	E	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	365	73	300	228	26	47	79	521	28	90	31
Future Volume (veh/h)	31	365	73	300	228	26	47	79	521	28	90	31
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		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	1744	1744	1744	1772	1772	1772	1758	1758	1758	1702	1702	1702
Adj Flow Rate, veh/h	36	429	86	310	327	31	55	93	613	33	106	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	7	7	7
Cap, veh/h	466	490	415	369	388	321	74	528	447	88	1003	
Arrive On Green	0.28	0.28	0.28	0.22	0.22	0.22	0.04	0.30	0.30	0.05	0.31	0.00
Sat Flow, veh/h	1661	1744	1478	1688	1772	1467	1674	1758	1490	1621	3318	0
Grp Volume(v), veh/h	36	429	86	310	327	31	55	93	613	33	106	0
Grp Sat Flow(s),veh/h/ln	1661	1744	1478	1688	1772	1467	1674	1758	1490	1621	1617	0
Q Serve(g_s), s	1.8	25.8	4.9	19.3	19.4	1.9	3.6	4.3	33.0	2.2	2.6	0.0
Cycle Q Clear(g_c), s	1.8	25.8	4.9	19.3	19.4	1.9	3.6	4.3	33.0	2.2	2.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	466	490	415	369	388	321	74	528	447	88	1003	
V/C Ratio(X)	0.08	0.88	0.21	0.84	0.84	0.10	0.74	0.18	1.37	0.37	0.11	
Avail Cap(c_a), veh/h	695	730	618	522	548	454	152	528	447	236	1147	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.1	37.7	30.2	41.1	41.1	34.3	51.9	28.4	38.5	50.2	27.0	0.0
Incr Delay (d2), s/veh	0.1	8.0	0.2	8.3	8.2	0.1	13.4	0.2	180.5	2.6	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(95%),veh/ln	1.3	17.8	3.1	13.8	14.4	1.2	3.2	3.3	51.8	1.7	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	45.7	30.4	49.4	49.3	34.4	65.2	28.6	218.9	52.8	27.1	0.0
LnGrp LOS	C	D	C	D	D	C	E	C	F	D	C	
Approach Vol, veh/h		551			668			761			139	A
Approach Delay, s/veh		42.3			48.6			184.6			33.2	
Approach LOS		D			D			F			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	34.9	8.9	38.1	28.1	10.0	37.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	46.0	10.0	39.0	34.0	16.0	33.0
Max Q Clear Time (g_c+I1), s	27.8	5.6	4.6	21.4	4.2	35.0
Green Ext Time (p_c), s	3.1	0.0	0.6	2.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	94.8
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	158	279	108	178	558	138	795	63	394	1127	47
Future Volume (veh/h)	10	158	279	108	178	558	138	795	63	394	1127	47
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	1730	1730	1730	1744	1744	1744	1730	1730	1730	1730	1730	1730
Adj Flow Rate, veh/h	11	172	303	117	193	607	150	864	68	428	1225	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	4	4	4	5	5	5	5	5	5
Cap, veh/h	19	347	440	132	468	822	164	935	422	920	1487	62
Arrive On Green	0.01	0.20	0.20	0.08	0.27	0.27	0.20	0.57	0.58	0.58	0.95	0.95
Sat Flow, veh/h	1647	1730	1466	1661	1744	1478	1647	3287	1466	3196	3133	130
Grp Volume(v), veh/h	11	172	303	117	193	607	150	864	68	428	608	668
Grp Sat Flow(s),veh/h/ln	1647	1730	1466	1661	1744	1478	1647	1643	1466	1598	1557	1706
Q Serve(g_s), s	0.9	12.5	25.9	9.9	12.9	5.0	12.7	33.9	2.4	11.0	12.9	12.9
Cycle Q Clear(g_c), s	0.9	12.5	25.9	9.9	12.9	5.0	12.7	33.9	2.4	11.0	12.9	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	19	347	440	132	468	822	164	935	422	920	739	810
V/C Ratio(X)	0.59	0.50	0.69	0.89	0.41	0.74	0.91	0.92	0.16	0.47	0.82	0.82
Avail Cap(c_a), veh/h	64	432	512	132	507	855	171	1097	494	920	739	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.9	50.4	43.9	64.7	42.7	13.1	56.3	29.2	13.8	23.8	2.2	2.2
Incr Delay (d2), s/veh	19.9	0.8	2.8	45.9	0.4	3.1	39.9	14.4	0.7	0.3	10.1	9.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	9.4	14.8	9.8	9.5	16.1	10.4	16.4	2.0	6.2	5.6	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.8	51.2	46.6	110.6	43.1	16.2	96.2	43.6	14.5	24.1	12.3	11.5
LnGrp LOS	F	D	D	F	D	B	F	D	B	C	B	B
Approach Vol, veh/h		486			917			1082			1704	
Approach Delay, s/veh		49.2			33.9			49.1			15.0	
Approach LOS		D			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	72.8	6.7	43.2	46.3	45.8	16.4	33.6
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	5.3	60.3	6.0	41.8	27.6	* 48	11.8	36.0
Max Q Clear Time (g_c+I1), s	4.7	14.9	2.9	14.9	13.0	35.9	11.9	27.9
Green Ext Time (p_c), s	0.0	11.7	0.0	3.1	1.3	5.0	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	409	497	301	34	48	257
Future Volume (veh/h)	409	497	301	34	48	257
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1758	1758	1758	1758	1772	1772
Adj Flow Rate, veh/h	487	592	358	40	57	306
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	755	1049	665	74	345	723
Arrive On Green	0.28	0.60	0.22	0.22	0.20	0.20
Sat Flow, veh/h	1674	1758	3111	335	1688	1502
Grp Volume(v), veh/h	487	592	197	201	57	306
Grp Sat Flow(s),veh/h/ln	1674	1758	1670	1688	1688	1502
Q Serve(g_s), s	7.5	8.2	4.2	4.2	1.1	5.3
Cycle Q Clear(g_c), s	7.5	8.2	4.2	4.2	1.1	5.3
Prop In Lane	1.00			0.20	1.00	1.00
Lane Grp Cap(c), veh/h	755	1049	367	371	345	723
V/C Ratio(X)	0.65	0.56	0.53	0.54	0.17	0.42
Avail Cap(c_a), veh/h	2375	4464	1996	2017	840	1163
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	4.9	13.8	13.9	13.2	6.8
Incr Delay (d2), s/veh	0.9	0.5	1.2	1.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	3.2	2.6	2.6	0.7	9.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.7	5.4	15.1	15.1	13.4	7.2
LnGrp LOS	A	A	B	B	B	A
Approach Vol, veh/h		1079	398		363	
Approach Delay, s/veh		6.4	15.1		8.2	
Approach LOS		A	B		A	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	28.0	12.2	15.1	12.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	102.0	20.0	50.0	48.0
Max Q Clear Time (g_c+I1), s	10.2	7.3	9.5	6.2
Green Ext Time (p_c), s	5.0	1.0	1.7	2.6

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	4	1	29	7	171	1	754	8	181	1151	136
Future Volume (veh/h)	34	4	1	29	7	171	1	754	8	181	1151	136
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	1758	1758	1758	1772	1772	1772	1730	1730	1730	1744	1744	1744
Adj Flow Rate, veh/h	37	4	1	32	8	186	1	820	9	197	1251	148
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	5	5	5	4	4	4
Cap, veh/h	57	46	12	192	48	206	3	872	10	712	2160	1021
Arrive On Green	0.03	0.03	0.03	0.14	0.14	0.14	0.00	0.52	0.52	0.86	1.00	1.00
Sat Flow, veh/h	1674	1357	339	1363	341	1502	1647	3330	37	1661	3139	1476
Grp Volume(v), veh/h	37	0	5	40	0	186	1	405	424	197	1251	148
Grp Sat Flow(s),veh/h/ln	1674	0	1697	1704	0	1502	1647	1643	1723	1661	1569	1476
Q Serve(g_s), s	3.1	0.0	0.4	2.9	0.0	17.3	0.1	32.8	32.8	3.1	0.0	0.0
Cycle Q Clear(g_c), s	3.1	0.0	0.4	2.9	0.0	17.3	0.1	32.8	32.8	3.1	0.0	0.0
Prop In Lane	1.00		0.20	0.80		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	57	0	58	240	0	206	3	430	451	712	2160	1021
V/C Ratio(X)	0.65	0.00	0.09	0.17	0.00	0.90	0.37	0.94	0.94	0.28	0.58	0.14
Avail Cap(c_a), veh/h	389	0	394	348	0	301	70	478	501	712	2160	1021
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	0.53	0.53	0.53
Uniform Delay (d), s/veh	67.7	0.0	66.4	53.9	0.0	60.3	70.7	32.8	32.8	6.0	0.0	0.0
Incr Delay (d2), s/veh	11.6	0.0	0.6	0.3	0.0	21.6	62.3	28.5	27.6	0.1	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	0.0	0.3	2.3	0.0	12.4	0.1	18.6	19.3	1.8	0.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.3	0.0	67.1	54.2	0.0	82.0	133.0	61.3	60.4	6.1	0.6	0.2
LnGrp LOS	E	A	E	D	A	F	F	E	E	A	A	A
Approach Vol, veh/h		42			226			830			1596	
Approach Delay, s/veh		77.8			77.0			60.9			1.2	
Approach LOS		E			E			E			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	103.1		9.5	66.3	41.7		24.6
Change Period (Y+Rc), s	4.6	4.9		4.6	4.9	4.0		4.6
Max Green Setting (Gmax), s	6.3	55.3		33.0	20.1	41.8		29.0
Max Q Clear Time (g_c+I1), s	2.1	2.0		5.1	5.1	34.8		19.3
Green Ext Time (p_c), s	0.0	8.5		0.1	0.6	2.9		0.7

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

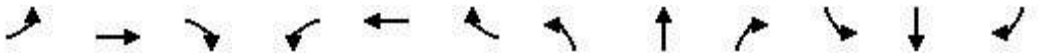
Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	90	69	9	142	7	33	5	4	17	28	28
Future Vol, veh/h	31	90	69	9	142	7	33	5	4	17	28	28
Conflicting Peds, #/hr	1	0	0	0	0	1	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	50	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	3	3	3
Mvmt Flow	38	111	85	11	175	9	41	6	5	21	35	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	185	0	0	196	0	0	467	437	154	438	475	181
Stage 1	-	-	-	-	-	-	230	230	-	203	203	-
Stage 2	-	-	-	-	-	-	237	207	-	235	272	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.12	6.52	6.22	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.518	4.018	3.318	3.527	4.027	3.327
Pot Cap-1 Maneuver	1384	-	-	1377	-	-	506	513	892	527	487	859
Stage 1	-	-	-	-	-	-	773	714	-	797	732	-
Stage 2	-	-	-	-	-	-	766	731	-	766	683	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1383	-	-	1377	-	-	446	495	892	505	469	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	446	495	-	505	469	-
Stage 1	-	-	-	-	-	-	752	695	-	775	725	-
Stage 2	-	-	-	-	-	-	694	724	-	734	665	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.4	13.5	11.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	474	1383	-	-	1377	-	-	505	606
HCM Lane V/C Ratio	0.109	0.028	-	-	0.008	-	-	0.042	0.114
HCM Control Delay (s)	13.5	7.7	-	-	7.6	-	-	12.4	11.7
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.1	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	12	14	13	9	10	22	764	19	66	1056	61
Future Volume (veh/h)	17	12	14	13	9	10	22	764	19	66	1056	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1702	1702	1702	1730	1730	1730	1716	1716	1716
Adj Flow Rate, veh/h	18	13	15	14	10	11	24	830	21	72	1148	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	7	7	7	5	5	5	6	6	6
Cap, veh/h	50	36	42	45	32	36	37	897	23	823	2355	1109
Arrive On Green	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.37	0.37	1.00	1.00	1.00
Sat Flow, veh/h	1292	939	1090	1249	900	996	1647	3191	81	1634	3088	1454
Grp Volume(v), veh/h	24	0	22	18	0	17	24	405	446	72	1148	66
Grp Sat Flow(s),veh/h/ln	1735	0	1585	1639	0	1505	1647	1557	1715	1634	1544	1454
Q Serve(g_s), s	1.9	0.0	1.9	1.6	0.0	1.5	2.0	35.4	35.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.9	0.0	1.9	1.6	0.0	1.5	2.0	35.4	35.4	0.0	0.0	0.0
Prop In Lane	0.74		0.69	0.76		0.66	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	67	0	61	59	0	54	37	438	482	823	2355	1109
V/C Ratio(X)	0.36	0.00	0.36	0.31	0.00	0.31	0.65	0.93	0.93	0.09	0.49	0.06
Avail Cap(c_a), veh/h	348	0	318	479	0	440	64	485	534	823	2355	1109
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	0.84	0.84	0.84
Uniform Delay (d), s/veh	66.6	0.0	66.4	66.8	0.0	66.6	68.3	43.0	43.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	3.5	3.0	0.0	3.2	16.0	25.7	24.0	0.0	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.6	0.0	1.5	1.2	0.0	1.1	1.8	21.8	23.4	0.0	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	0.0	69.9	69.8	0.0	69.8	84.3	68.7	67.1	0.0	0.6	0.1
LnGrp LOS	E	A	E	E	A	E	F	E	E	A	A	A
Approach Vol, veh/h		46			35			875			1286	
Approach Delay, s/veh		69.9			69.8			68.3			0.6	
Approach LOS		E			E			E			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	113.3		10.5	76.5	44.9		10.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.0	47.0		29.0	8.3	44.7		42.0				
Max Q Clear Time (g_c+I1), s	4.0	2.0		3.9	2.0	37.4		3.6				
Green Ext Time (p_c), s	0.0	11.8		0.1	0.1	3.1		0.1				

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	87	62	73	141	202	41	616	70	136	895	46
Future Volume (veh/h)	15	87	62	73	141	202	41	616	70	136	895	46
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		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1786	1786	1786	1716	1716	1716	1716	1716	1716
Adj Flow Rate, veh/h	16	95	67	79	153	220	45	670	76	148	973	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	1	1	1	6	6	6	6	6	6
Cap, veh/h	27	229	193	93	299	258	538	1634	185	165	1043	54
Arrive On Green	0.02	0.13	0.13	0.05	0.17	0.17	0.66	1.00	1.00	0.20	0.68	0.68
Sat Flow, veh/h	1688	1772	1495	1701	1786	1508	1634	2868	325	1634	3074	158
Grp Volume(v), veh/h	16	95	67	79	153	220	45	360	386	148	489	534
Grp Sat Flow(s),veh/h/ln	1688	1772	1495	1701	1786	1508	1634	1544	1649	1634	1544	1687
Q Serve(g_s), s	1.3	7.0	3.2	6.5	11.1	20.1	1.4	0.0	0.0	12.5	39.4	39.4
Cycle Q Clear(g_c), s	1.3	7.0	3.2	6.5	11.1	20.1	1.4	0.0	0.0	12.5	39.4	39.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.09
Lane Grp Cap(c), veh/h	27	229	193	93	299	258	538	880	940	165	524	572
V/C Ratio(X)	0.58	0.42	0.35	0.85	0.51	0.85	0.08	0.41	0.41	0.90	0.93	0.93
Avail Cap(c_a), veh/h	72	386	325	168	488	417	538	880	940	275	717	783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.87	0.87	0.87
Uniform Delay (d), s/veh	69.4	56.9	16.8	66.6	53.8	57.1	16.5	0.0	0.0	56.0	21.4	21.4
Incr Delay (d2), s/veh	13.7	1.2	1.1	18.7	1.4	9.2	0.0	1.3	1.2	17.0	23.5	22.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	5.8	4.0	6.0	8.8	13.1	1.0	0.6	0.6	8.9	16.6	17.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.1	58.1	17.8	85.3	55.2	66.3	16.6	1.3	1.2	72.9	44.9	43.5
LnGrp LOS	F	E	B	F	E	E	B	A	A	E	D	D
Approach Vol, veh/h		178			452			791			1171	
Approach Delay, s/veh		45.2			65.9			2.1			47.8	
Approach LOS		D			E			A			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	53.6	7.4	28.9	19.4	86.3	12.8	23.4
Change Period (Y+Rc), s	4.9	* 4.9	4.6	4.6	4.6	4.9	4.6	4.6
Max Green Setting (Gmax), s	7.2	* 66	6.6	39.3	24.4	53.0	14.5	31.4
Max Q Clear Time (g_c+I1), s	3.3	41.4	3.3	22.1	14.5	2.0	8.5	9.0
Green Ext Time (p_c), s	0.0	7.3	0.0	1.4	0.3	5.4	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	118	119	102	74	174	59	470	30	166	808	16
Future Volume (veh/h)	39	118	119	102	74	174	59	470	30	166	808	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		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	1758	1758	1758	1744	1744	1744	1730	1730	1730	1716	1716	1716
Adj Flow Rate, veh/h	42	128	129	111	80	189	64	511	33	180	878	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	4	4	4	5	5	5	6	6	6
Cap, veh/h	162	187	154	152	207	172	75	1815	117	198	2135	41
Arrive On Green	0.02	0.11	0.11	0.04	0.12	0.12	0.05	0.59	0.59	0.24	1.00	1.00
Sat Flow, veh/h	1674	1758	1452	1661	1744	1444	1647	3054	197	1634	3187	62
Grp Volume(v), veh/h	42	128	129	111	80	189	64	260	284	180	425	470
Grp Sat Flow(s),veh/h/ln	1674	1758	1452	1661	1744	1444	1647	1557	1694	1634	1544	1704
Q Serve(g_s), s	0.0	10.0	10.9	1.5	6.0	13.3	5.5	11.5	11.6	15.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.0	10.9	1.5	6.0	13.3	5.5	11.5	11.6	15.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.04
Lane Grp Cap(c), veh/h	162	187	154	152	207	172	75	925	1007	198	1035	1142
V/C Ratio(X)	0.26	0.68	0.84	0.73	0.39	1.10	0.85	0.28	0.28	0.91	0.41	0.41
Avail Cap(c_a), veh/h	309	309	256	301	332	275	174	925	1007	357	1035	1142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	61.3	61.2	48.0	65.0	57.8	39.1	67.3	14.0	14.0	53.0	0.0	0.0
Incr Delay (d2), s/veh	0.8	4.4	11.5	6.5	1.2	79.4	22.7	0.8	0.7	13.0	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	8.3	7.9	7.6	4.9	13.9	5.0	7.5	8.0	9.8	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	65.5	59.5	71.5	59.0	118.5	90.0	14.8	14.7	66.1	1.0	0.9
LnGrp LOS	E	E	E	E	E	F	F	B	B	E	A	A
Approach Vol, veh/h		299			380			608			1075	
Approach Delay, s/veh		62.4			92.2			22.7			11.9	
Approach LOS		E			F			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	89.4	10.3	20.1	11.5	100.1	8.5	21.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	48.5	18.5	25.5	15.5	64.5	16.5	27.5
Max Q Clear Time (g_c+I1), s	17.3	13.6	3.5	12.9	7.5	2.0	2.0	15.3
Green Ext Time (p_c), s	0.5	2.1	0.3	0.8	0.1	3.9	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑↑↱		↰	↑↑↱	
Traffic Vol, veh/h	12	1	3	2	0	10	1	598	3	3	360	7
Future Vol, veh/h	12	1	3	2	0	10	1	598	3	3	360	7
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	13	13	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	0	0	0	3	3	3	4	4	4
Mvmt Flow	14	1	4	2	0	12	1	712	4	4	429	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	802	1175	222	952	1177	371	440	0	0	729	0	0
Stage 1	444	444	-	729	729	-	-	-	-	-	-	-
Stage 2	358	731	-	223	448	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.58	6.98	7.5	6.5	6.9	4.16	-	-	4.18	-	-
Critical Hdwy Stg 1	6.58	5.58	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.58	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.04	3.34	3.5	4	3.3	2.23	-	-	2.24	-	-
Pot Cap-1 Maneuver	272	187	775	217	193	632	1109	-	-	857	-	-
Stage 1	557	569	-	385	431	-	-	-	-	-	-	-
Stage 2	627	421	-	765	576	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	265	183	773	212	189	625	1106	-	-	848	-	-
Mov Cap-2 Maneuver	265	183	-	212	189	-	-	-	-	-	-	-
Stage 1	555	565	-	380	426	-	-	-	-	-	-	-
Stage 2	615	416	-	756	572	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.1	12.9	0	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1106	-	-	293	472	848	-	-
HCM Lane V/C Ratio	0.001	-	-	0.065	0.03	0.004	-	-
HCM Control Delay (s)	8.3	-	-	18.1	12.9	9.3	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

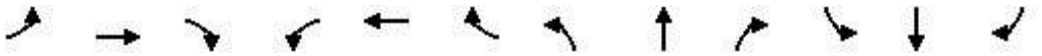
Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	421	4	1	270	17	24
Future Vol, veh/h	421	4	1	270	17	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	3	3	0	0
Mvmt Flow	507	5	1	325	20	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	512	0	837	510
Stage 1	-	-	-	-	510	-
Stage 2	-	-	-	-	327	-
Critical Hdwy	-	-	4.13	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.227	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1048	-	339	567
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1048	-	339	567
Mov Cap-2 Maneuver	-	-	-	-	339	-
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	443	-	-	1048	-
HCM Lane V/C Ratio	0.112	-	-	0.001	-
HCM Control Delay (s)	14.1	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	54	27	186	129	0	29	0	152	338	59	12
Future Volume (veh/h)	0	54	27	186	129	0	29	0	152	338	59	12
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	0	1730	1730	1702	1702	0	1744	0	1744	1730	1799	1730
Adj Flow Rate, veh/h	0	59	29	202	140	0	32	0	165	367	64	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	5	7	7	0	4	0	4	5	5	5
Cap, veh/h	0	671	299	2356	2630	0	42	0	0	518	138	
Arrive On Green	0.00	0.20	0.20	0.97	1.00	0.00	0.03	0.00	0.00	0.13	0.08	0.00
Sat Flow, veh/h	0	3373	1466	3144	3318	0	1661	32		3196	1799	1466
Grp Volume(v), veh/h	0	59	29	202	140	0	32	93.1		367	64	0
Grp Sat Flow(s),veh/h/ln	0	1643	1466	1572	1617	0	1661	F		1598	1799	1466
Q Serve(g_s), s	0.0	2.1	2.0	0.0	0.0	0.0	2.7			16.0	4.8	0.0
Cycle Q Clear(g_c), s	0.0	2.1	2.0	0.0	0.0	0.0	2.7			16.0	4.8	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	671	299	2356	2630	0	42			518	138	
V/C Ratio(X)	0.00	0.09	0.10	0.09	0.05	0.00	0.76			0.71	0.46	
Avail Cap(c_a), veh/h	0	671	299	2356	2630	0	187			597	671	
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	45.8	36.9	0.3	0.0	0.0	68.8			60.6	62.7	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.6	0.0	0.0	0.0	24.3			3.3	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	1.6	1.6	0.1	0.0	0.0	2.6			10.8	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.0	37.6	0.3	0.0	0.0	93.1			63.8	65.1	0.0
LnGrp LOS	A	D	D	A	A	A	F			E	E	
Approach Vol, veh/h		88			342						431	A
Approach Delay, s/veh		43.3			0.2						64.0	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2	3	4		6	7
Phs Duration (G+Y+Rc), s	86.5	33.0	7.6	14.9		119.5	22.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	28.0	29.0	16.0	53.0		61.0	22.0
Max Q Clear Time (g_c+I1), s	2.0	4.1	4.7	6.8		2.0	18.0
Green Ext Time (p_c), s	0.7	0.3	0.0	0.3		0.9	0.5

Intersection Summary	
HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	0	224	20	0	54
Future Vol, veh/h	61	0	224	20	0	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	8	8	5	5	8	8
Mvmt Flow	68	0	249	22	0	60

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	290	136	0	0	271	0
Stage 1	260	-	-	-	-	-
Stage 2	30	-	-	-	-	-
Critical Hdwy	6.96	7.06	-	-	4.26	-
Critical Hdwy Stg 1	5.96	-	-	-	-	-
Critical Hdwy Stg 2	5.96	-	-	-	-	-
Follow-up Hdwy	3.58	3.38	-	-	2.28	-
Pot Cap-1 Maneuver	661	869	-	-	1247	-
Stage 1	742	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	661	869	-	-	1247	-
Mov Cap-2 Maneuver	661	-	-	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	971	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	661	-	1247	-
HCM Lane V/C Ratio	-	-	0.103	-	-	-
HCM Control Delay (s)	-	-	11.1	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	-	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	37	52	181	19	3
Future Vol, veh/h	11	37	52	181	19	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	10	10	5	5	7	7
Mvmt Flow	16	54	75	262	28	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	442	30	32	0	-	0
Stage 1	30	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.15	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.245	-	-	-
Pot Cap-1 Maneuver	558	1022	1561	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	652	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	531	1022	1561	-	-	-
Mov Cap-2 Maneuver	569	-	-	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	1.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1561	-	569	1022	-	-
HCM Lane V/C Ratio	0.048	-	0.028	0.052	-	-
HCM Control Delay (s)	7.4	-	11.5	8.7	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	0.2	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	581	23	47	841	15	16
Future Vol, veh/h	581	23	47	841	15	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	632	25	51	914	16	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	657	0	1204	329
Stage 1	-	-	-	-	645	-
Stage 2	-	-	-	-	559	-
Critical Hdwy	-	-	4.14	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	-	-	2.22	-	3.54	3.34
Pot Cap-1 Maneuver	-	-	926	-	174	661
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	530	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	926	-	155	661
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	471	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	21.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	256	-	-	926	-
HCM Lane V/C Ratio	0.132	-	-	0.055	-
HCM Control Delay (s)	21.2	-	-	9.1	0.5
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	575	808	8	10	89
Future Vol, veh/h	17	575	808	8	10	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	18	625	878	9	11	97

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	887	0	-	0	1544	883
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	661	-
Critical Hdwy	4.15	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.245	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	751	-	-	-	126	345
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	514	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	751	-	-	-	123	345
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	514	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	24.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	751	-	-	-	292
HCM Lane V/C Ratio	0.025	-	-	-	0.369
HCM Control Delay (s)	9.9	-	-	-	24.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	6	0	59	4	12	0	35	29	6	53	4
Future Vol, veh/h	3	6	0	59	4	12	0	35	29	6	53	4
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	0	0	0	3	3	3	2	2	2	0	0	0
Mvmt Flow	5	10	0	94	6	19	0	56	46	10	84	6
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.1	9	8.1	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	33%	0%	94%	0%	100%	0%
Vol Thru, %	100%	55%	67%	100%	6%	0%	0%	93%
Vol Right, %	0%	45%	0%	0%	0%	100%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	64	9	0	63	12	6	57
LT Vol	0	0	3	0	59	0	6	0
Through Vol	0	35	6	0	4	0	0	53
RT Vol	0	29	0	0	0	12	0	4
Lane Flow Rate	0	102	14	0	100	19	10	90
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0.132	0.021	0	0.154	0.023	0.014	0.123
Departure Headway (Hd)	4.991	4.672	5.288	5.12	5.528	4.355	5.453	4.902
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	769	678	0	651	823	658	733
Service Time	2.707	2.389	3.01	2.842	3.245	2.073	3.17	2.619
HCM Lane V/C Ratio	0	0.133	0.021	0	0.154	0.023	0.015	0.123
HCM Control Delay	7.7	8.1	8.1	7.8	9.3	7.2	8.2	8.3
HCM Lane LOS	N	A	A	N	A	A	A	A
HCM 95th-tile Q	0	0.5	0.1	0	0.5	0.1	0	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1033	592	6	5	2
Future Vol, veh/h	3	1033	592	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	5	5	6	6
Mvmt Flow	3	1111	637	6	5	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	643	0	-	0	1754	637
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	1117	-
Critical Hdwy	4.16	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.254	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	923	-	-	-	92	470
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	307	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	923	-	-	-	91	470
Mov Cap-2 Maneuver	-	-	-	-	91	-
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	307	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	37.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	923	-	-	-	118
HCM Lane V/C Ratio	0.003	-	-	-	0.064
HCM Control Delay (s)	8.9	0	-	-	37.6
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	96	138	4	185	272
Future Vol, veh/h	6	96	138	4	185	272
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	4	4	2	2
Mvmt Flow	7	110	159	5	213	313
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.3	9.9	11.3
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	97%	0%	0%	0%	100%
Vol Right, %	3%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	142	6	96	185	272
LT Vol	0	6	0	185	0
Through Vol	138	0	0	0	272
RT Vol	4	0	96	0	0
Lane Flow Rate	163	7	110	213	313
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.236	0.013	0.167	0.325	0.434
Departure Headway (Hd)	5.209	6.656	5.444	5.5	4.998
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	687	537	657	653	719
Service Time	3.261	4.41	3.197	3.245	2.742
HCM Lane V/C Ratio	0.237	0.013	0.167	0.326	0.435
HCM Control Delay	9.9	9.5	9.3	10.9	11.6
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0.9	0	0.6	1.4	2.2

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	40	240	1	23	466
Future Vol, veh/h	3	40	240	1	23	466
Conflicting Peds, #/hr	0	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	8	8	1	1	1	1
Mvmt Flow	4	48	286	1	27	555

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	900	295	0	0	291	0
Stage 1	291	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.11	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.209	-
Pot Cap-1 Maneuver	302	730	-	-	1276	-
Stage 1	745	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	295	725	-	-	1272	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	743	-	-	-	-	-
Stage 2	520	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	687	1272	-
HCM Lane V/C Ratio	-	-	0.075	0.022	-
HCM Control Delay (s)	-	-	10.7	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

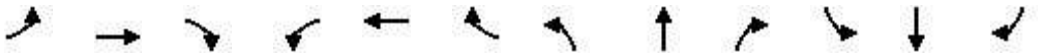
Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	68	283	0	27	495
Future Vol, veh/h	0	68	283	0	27	495
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	0	82	341	0	33	596

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1004	342	0	0	342	0
Stage 1	342	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	268	701	-	-	1217	-
Stage 1	719	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	260	700	-	-	1216	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	700	1216	-
HCM Lane V/C Ratio	-	-	0.117	0.027	-
HCM Control Delay (s)	-	-	10.8	8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1	11	2	1	23	5	619	5	33	406	13
Future Volume (veh/h)	19	1	11	2	1	23	5	619	5	33	406	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.97
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	1800	1800	1800	1772	1772	1772	1772	1772	1772	1786	1786	1786
Adj Flow Rate, veh/h	23	1	13	2	1	28	6	755	6	40	495	16
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	1	1	1
Cap, veh/h	388	12	161	141	8	143	598	1435	11	528	1564	50
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.01	0.42	0.42	0.06	0.47	0.47
Sat Flow, veh/h	1345	109	1514	69	76	1348	1688	3423	27	1701	3351	108
Grp Volume(v), veh/h	24	0	13	31	0	0	6	371	390	40	250	261
Grp Sat Flow(s),veh/h/ln	1454	0	1514	1493	0	0	1688	1683	1767	1701	1697	1763
Q Serve(g_s), s	0.0	0.0	0.2	0.0	0.0	0.0	0.1	4.7	4.7	0.4	2.7	2.7
Cycle Q Clear(g_c), s	0.4	0.0	0.2	0.5	0.0	0.0	0.1	4.7	4.7	0.4	2.7	2.7
Prop In Lane	0.96		1.00	0.06		0.90	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	400	0	161	292	0	0	598	706	741	528	792	822
V/C Ratio(X)	0.06	0.00	0.08	0.11	0.00	0.00	0.01	0.53	0.53	0.08	0.32	0.32
Avail Cap(c_a), veh/h	1614	0	1475	1582	0	0	1169	5388	5656	1201	5608	5827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	11.6	11.7	0.0	0.0	4.7	6.2	6.2	4.4	4.8	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.6	0.6	0.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	0.1	0.3	0.0	0.0	0.0	1.5	1.6	0.1	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	0.0	11.8	11.9	0.0	0.0	4.7	6.8	6.8	4.5	5.0	5.0
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		37			31			767			551	
Approach Delay, s/veh		11.7			11.9			6.8			5.0	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	16.0		7.1	4.3	17.4		7.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	92.0		28.0	10.0	95.0		28.0				
Max Q Clear Time (g_c+I1), s	2.4	6.7		2.4	2.1	4.7		2.5				
Green Ext Time (p_c), s	0.0	5.3		0.1	0.0	3.3		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		6.3	
HCM 6th LOS		A	

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	13	3	103	111	11
Future Vol, veh/h	17	13	3	103	111	11
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	9	9	10	10	7	7
Mvmt Flow	20	15	3	120	129	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	262	137	142	0	-	0
Stage 1	136	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.2	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.29	-	-	-
Pot Cap-1 Maneuver	712	893	1393	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	711	892	1393	-	-	-
Mov Cap-2 Maneuver	725	-	-	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	883	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1393	-	789	-	-
HCM Lane V/C Ratio	0.003	-	0.044	-	-
HCM Control Delay (s)	7.6	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	44	33	100	127	0
Future Vol, veh/h	0	44	33	100	127	0
Conflicting Peds, #/hr	1	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	7	14	14	12	12
Mvmt Flow	0	48	36	109	138	0

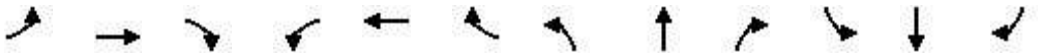
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	138	138	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.47	6.27	4.24	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.363	2.326	-	-	-
Pot Cap-1 Maneuver	663	897	1375	-	-	-
Stage 1	876	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	646	897	1375	-	-	-
Mov Cap-2 Maneuver	680	-	-	-	-	-
Stage 1	853	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	1.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1375	-	897	-	-
HCM Lane V/C Ratio	0.026	-	0.053	-	-
HCM Control Delay (s)	7.7	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

HCM 6th Signalized Intersection Summary
1: Viking Ave NW & SR305

12/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	1902	82	113	1567	92	127	53	77	75	31	139
Future Volume (veh/h)	121	1902	82	113	1567	92	127	53	77	75	31	139
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		0.99	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	1772	1772	1772	1758	1758	1758	1758	1758	1758	1688	1688	1688
Adj Flow Rate, veh/h	121	1902	82	113	1567	92	90	105	77	75	31	139
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	8	8	8
Cap, veh/h	140	1683	882	340	1995	117	147	154	129	114	19	85
Arrive On Green	0.17	1.00	1.00	0.20	0.62	0.62	0.09	0.09	0.09	0.07	0.07	0.07
Sat Flow, veh/h	1688	3367	1500	1674	3207	187	1674	1758	1474	1607	267	1199
Grp Volume(v), veh/h	121	1902	82	113	812	847	90	105	77	75	0	170
Grp Sat Flow(s),veh/h/ln	1688	1683	1500	1674	1670	1724	1674	1758	1474	1607	0	1466
Q Serve(g_s), s	9.9	71.0	0.0	8.2	50.8	51.8	7.4	8.2	7.1	6.5	0.0	10.1
Cycle Q Clear(g_c), s	9.9	71.0	0.0	8.2	50.8	51.8	7.4	8.2	7.1	6.5	0.0	10.1
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	140	1683	882	340	1039	1072	147	154	129	114	0	104
V/C Ratio(X)	0.86	1.13	0.09	0.33	0.78	0.79	0.61	0.68	0.60	0.66	0.00	1.63
Avail Cap(c_a), veh/h	147	1707	892	340	1039	1072	342	359	301	114	0	104
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.4	0.0	0.0	48.3	19.7	19.9	62.4	62.8	62.3	64.3	0.0	66.0
Incr Delay (d2), s/veh	14.9	61.4	0.1	0.4	5.9	5.9	4.9	6.2	5.2	14.4	0.0	322.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	19.7	0.0	6.3	28.2	29.4	6.0	7.1	5.1	5.5	0.0	21.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	61.5	0.1	48.8	25.6	25.9	67.4	69.1	67.5	78.7	0.0	388.9
LnGrp LOS	E	F	A	D	C	C	E	E	E	E	A	F
Approach Vol, veh/h		2105			1772			272			245	
Approach Delay, s/veh		59.7			27.2			68.1			293.9	
Approach LOS		E			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	33.3	76.4		15.0	16.4	93.2		17.4				
Change Period (Y+Rc), s	4.9	* 4.9		4.9	4.6	4.9		4.9				
Max Green Setting (Gmax), s	11.6	* 72		10.1	12.4	71.2		29.0				
Max Q Clear Time (g_c+I1), s	10.2	73.0		12.1	11.9	53.8		10.2				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	12.7		1.2				

Intersection Summary		
HCM 6th Ctrl Delay	60.2	
HCM 6th LOS	E	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	721	0	0	1515	323	49	0	1390	0	0	0
Future Volume (veh/h)	103	721	0	0	1515	323	49	0	1390	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1758	1758	1772	1772	1772			
Adj Flow Rate, veh/h	103	721	0	0	1515	323	49	0	1390			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0	0	3	3	2	2	2			
Cap, veh/h	150	1923	0	0	1655	738	611	0	957			
Arrive On Green	0.09	1.00	0.00	0.00	0.66	0.66	0.36	0.00	0.36			
Sat Flow, veh/h	1688	3455	0	0	3428	1490	1688	0	2643			
Grp Volume(v), veh/h	103	721	0	0	1515	323	49	0	1390			
Grp Sat Flow(s),veh/h/ln	1688	1683	0	0	1670	1490	1688	0	1321			
Q Serve(g_s), s	4.2	0.0	0.0	0.0	55.4	14.8	2.7	0.0	51.4			
Cycle Q Clear(g_c), s	4.2	0.0	0.0	0.0	55.4	14.8	2.7	0.0	51.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	150	1923	0	0	1655	738	611	0	957			
V/C Ratio(X)	0.68	0.37	0.00	0.00	0.92	0.44	0.08	0.00	1.45			
Avail Cap(c_a), veh/h	177	1923	0	0	1655	738	611	0	957			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.41	0.41	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.1	0.0	0.0	0.0	21.7	14.7	29.8	0.0	45.3			
Incr Delay (d2), s/veh	8.4	0.6	0.0	0.0	4.3	0.8	0.1	0.0	209.7			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.6	0.3	0.0	0.0	22.7	6.6	2.0	0.0	88.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	0.6	0.0	0.0	26.0	15.5	29.8	0.0	255.0			
LnGrp LOS	D	A	A	A	C	B	C	A	F			
Approach Vol, veh/h		824			1838			1439				
Approach Delay, s/veh		5.3			24.2			247.3				
Approach LOS		A			C			F				

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	86.0		56.0	10.7	75.3
Change Period (Y+Rc), s	4.9		4.6	4.6	4.9
Max Green Setting (Gmax), s	81.1		51.4	8.4	68.1
Max Q Clear Time (g_c+I1), s	2.0		53.4	6.2	57.4
Green Ext Time (p_c), s	5.5		0.0	0.0	7.8

Intersection Summary	
HCM 6th Ctrl Delay	98.7
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	500	146	596	437	116	136	126	674	65	124	70
Future Volume (veh/h)	56	500	146	596	437	116	136	126	674	65	124	70
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		0.99	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	1772	1772	1772	1786	1786	1786	1772	1772	1772	1800	1800	1800
Adj Flow Rate, veh/h	57	505	147	522	554	117	137	127	681	66	125	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	0	0	0
Cap, veh/h	518	544	460	565	593	501	160	345	291	87	515	
Arrive On Green	0.31	0.31	0.31	0.33	0.33	0.33	0.09	0.19	0.19	0.05	0.15	0.00
Sat Flow, veh/h	1688	1772	1499	1701	1786	1509	1688	1772	1492	1714	3510	0
Grp Volume(v), veh/h	57	505	147	522	554	117	137	127	681	66	125	0
Grp Sat Flow(s),veh/h/ln	1688	1772	1499	1701	1786	1509	1688	1772	1492	1714	1710	0
Q Serve(g_s), s	3.4	38.3	10.4	41.0	41.6	7.8	11.1	8.6	27.0	5.3	4.5	0.0
Cycle Q Clear(g_c), s	3.4	38.3	10.4	41.0	41.6	7.8	11.1	8.6	27.0	5.3	4.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	518	544	460	565	593	501	160	345	291	87	515	
V/C Ratio(X)	0.11	0.93	0.32	0.92	0.93	0.23	0.86	0.37	2.34	0.76	0.24	
Avail Cap(c_a), veh/h	572	601	508	589	618	523	195	345	291	87	515	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.4	46.5	36.9	44.6	44.8	33.5	61.8	48.4	55.8	65.0	51.9	0.0
Incr Delay (d2), s/veh	0.1	19.8	0.4	20.1	21.0	0.2	26.0	0.7	614.9	32.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	27.3	7.0	27.9	29.7	5.2	9.9	7.0	94.3	5.5	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	66.3	37.3	64.7	65.8	33.8	87.9	49.1	670.7	97.2	52.1	0.0
LnGrp LOS	C	E	D	E	E	C	F	D	F	F	D	
Approach Vol, veh/h		709			1193			945			191	A
Approach Delay, s/veh		57.8			62.2			502.6			67.7	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	46.6	17.1	24.9		50.0	11.0	31.0
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	47.0	16.0	18.0		48.0	7.0	27.0
Max Q Clear Time (g_c+I1), s	40.3	13.1	6.5		43.6	7.3	29.0
Green Ext Time (p_c), s	2.3	0.1	0.4		2.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	198.5
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	304	301	108	176	490	285	1236	156	769	1186	50
Future Volume (veh/h)	45	304	301	108	176	490	285	1236	156	769	1186	50
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		0.99	1.00		0.99	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	1772	1772	1772	1758	1758	1758	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	45	304	301	108	176	490	285	1236	156	769	1186	50
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	4	4	4	2	2	2
Cap, veh/h	53	335	550	118	401	696	294	1162	516	791	1340	56
Arrive On Green	0.03	0.19	0.19	0.07	0.23	0.23	0.35	0.70	0.71	0.24	0.42	0.42
Sat Flow, veh/h	1688	1772	1502	1674	1758	1470	1661	3313	1458	3274	3207	135
Grp Volume(v), veh/h	45	304	301	108	176	490	285	1236	156	769	589	647
Grp Sat Flow(s),veh/h/ln	1688	1772	1502	1674	1758	1470	1661	1657	1458	1637	1595	1747
Q Serve(g_s), s	3.8	23.8	16.4	9.1	12.2	5.0	24.0	49.8	5.6	33.1	48.5	48.6
Cycle Q Clear(g_c), s	3.8	23.8	16.4	9.1	12.2	5.0	24.0	49.8	5.6	33.1	48.5	48.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	53	335	550	118	401	696	294	1162	516	791	666	730
V/C Ratio(X)	0.84	0.91	0.55	0.92	0.44	0.70	0.97	1.06	0.30	0.97	0.88	0.89
Avail Cap(c_a), veh/h	111	443	641	118	448	735	294	1162	516	791	666	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.62	0.62	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.4	56.3	19.8	65.6	47.0	16.8	45.5	21.2	14.2	53.4	38.2	38.2
Incr Delay (d2), s/veh	22.3	17.4	0.6	57.4	0.6	2.7	33.7	40.1	0.9	25.1	15.9	14.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.5	17.9	9.7	9.7	9.2	14.6	15.2	22.6	3.2	22.7	28.9	31.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.7	73.7	20.4	123.0	47.6	19.5	79.3	61.3	15.1	78.5	54.1	53.0
LnGrp LOS	F	E	C	F	D	B	E	F	B	E	D	D
Approach Vol, veh/h		650			774			1677			2005	
Approach Delay, s/veh		50.2			40.3			60.1			63.1	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.2	64.7	9.6	37.5	39.7	55.2	15.1	32.0
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	25.6	51.2	9.8	36.7	26.5	* 50	10.5	36.0
Max Q Clear Time (g_c+I1), s	26.0	50.6	5.8	14.2	35.1	51.8	11.1	25.8
Green Ext Time (p_c), s	0.0	0.5	0.0	2.4	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	57.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	488	750	742	75	79	431
Future Volume (veh/h)	488	750	742	75	79	431
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1786	1786	1772	1772	1772	1772
Adj Flow Rate, veh/h	498	765	757	77	81	440
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	2	2	2	2
Cap, veh/h	572	1112	1042	106	433	723
Arrive On Green	0.22	0.62	0.34	0.34	0.26	0.26
Sat Flow, veh/h	1701	1786	3173	314	1688	1502
Grp Volume(v), veh/h	498	765	413	421	81	440
Grp Sat Flow(s),veh/h/ln	1701	1786	1683	1715	1688	1502
Q Serve(g_s), s	11.2	18.7	14.3	14.3	2.5	14.3
Cycle Q Clear(g_c), s	11.2	18.7	14.3	14.3	2.5	14.3
Prop In Lane	1.00			0.18	1.00	1.00
Lane Grp Cap(c), veh/h	572	1112	568	579	433	723
V/C Ratio(X)	0.87	0.69	0.73	0.73	0.19	0.61
Avail Cap(c_a), veh/h	1472	2747	1218	1241	509	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.6	8.2	19.3	19.3	19.3	12.6
Incr Delay (d2), s/veh	4.3	0.8	1.8	1.8	0.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.3	10.0	9.2	9.3	1.7	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.9	9.0	21.1	21.0	19.5	13.8
LnGrp LOS	B	A	C	C	B	B
Approach Vol, veh/h		1263	834		521	
Approach Delay, s/veh		11.7	21.1		14.7	
Approach LOS		B	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	45.3	21.0	18.9	26.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	102.0	20.0	50.0	48.0
Max Q Clear Time (g_c+I1), s	20.7	16.3	13.2	16.3
Green Ext Time (p_c), s	7.5	0.8	1.7	6.1

Intersection Summary	
HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	51	3	28	15	364	3	1122	48	314	1237	144
Future Volume (veh/h)	185	51	3	28	15	364	3	1122	48	314	1237	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1772	1772	1772	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	185	51	3	28	15	364	3	1122	48	314	1237	144
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	4	4	4	2	2	2
Cap, veh/h	214	210	12	228	122	301	8	986	42	389	1691	800
Arrive On Green	0.13	0.13	0.13	0.20	0.20	0.20	0.00	0.30	0.30	0.31	0.71	0.71
Sat Flow, veh/h	1701	1669	98	1117	599	1502	1661	3233	138	1688	3189	1499
Grp Volume(v), veh/h	185	0	54	43	0	364	3	575	595	314	1237	144
Grp Sat Flow(s),veh/h/ln	1701	0	1767	1716	0	1502	1661	1657	1715	1688	1595	1499
Q Serve(g_s), s	15.2	0.0	3.9	2.9	0.0	28.5	0.3	43.3	43.3	24.3	33.5	4.5
Cycle Q Clear(g_c), s	15.2	0.0	3.9	2.9	0.0	28.5	0.3	43.3	43.3	24.3	33.5	4.5
Prop In Lane	1.00		0.06	0.65		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	214	0	222	350	0	301	8	505	523	389	1691	800
V/C Ratio(X)	0.87	0.00	0.24	0.12	0.00	1.21	0.38	1.14	1.14	0.81	0.73	0.18
Avail Cap(c_a), veh/h	395	0	411	350	0	301	70	505	523	389	1691	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.82	0.82	0.82	0.28	0.28	0.28
Uniform Delay (d), s/veh	60.9	0.0	56.0	46.3	0.0	56.7	70.5	49.3	49.4	46.3	14.8	10.3
Incr Delay (d2), s/veh	10.0	0.0	0.6	0.2	0.0	120.4	23.3	80.5	80.3	3.6	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.5	0.0	3.2	2.3	0.0	31.2	0.3	39.9	41.2	12.7	12.1	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	0.0	56.5	46.4	0.0	177.2	93.8	129.9	129.7	49.9	15.6	10.4
LnGrp LOS	E	A	E	D	A	F	F	F	F	D	B	B
Approach Vol, veh/h		239			407			1173			1695	
Approach Delay, s/veh		67.7			163.4			129.7			21.5	
Approach LOS		E			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	80.7		22.4	38.2	47.8		33.6
Change Period (Y+Rc), s	4.6	4.9		4.6	4.9	4.0		4.6
Max Green Setting (Gmax), s	6.6	55.3		33.0	18.1	43.8		29.0
Max Q Clear Time (g_c+I1), s	2.3	35.5		17.2	26.3	45.3		30.5
Green Ext Time (p_c), s	0.0	6.8		0.7	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	77.2
HCM 6th LOS	E

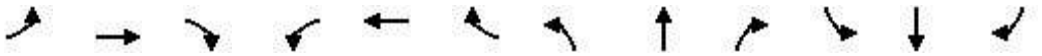
Intersection	
Int Delay, s/veh	17.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	191	131	11	198	22	176	38	12	25	51	52
Future Vol, veh/h	69	191	131	11	198	22	176	38	12	25	51	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	0	0	0	5	5	5
Mvmt Flow	74	205	141	12	213	24	189	41	13	27	55	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	237	0	0	346	0	0	729	685	277	701	743	225
Stage 1	-	-	-	-	-	-	424	424	-	249	249	-
Stage 2	-	-	-	-	-	-	305	261	-	452	494	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.1	6.5	6.2	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.55	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.5	4	3.3	3.545	4.045	3.345
Pot Cap-1 Maneuver	1336	-	-	1213	-	-	341	373	767	349	340	807
Stage 1	-	-	-	-	-	-	612	590	-	748	695	-
Stage 2	-	-	-	-	-	-	709	696	-	581	542	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1336	-	-	1213	-	-	262	349	766	297	318	807
Mov Cap-2 Maneuver	-	-	-	-	-	-	262	349	-	297	318	-
Stage 1	-	-	-	-	-	-	578	558	-	707	688	-
Stage 2	-	-	-	-	-	-	601	689	-	500	512	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.4	62.2	15.9
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	284	1336	-	-	1213	-	-	297	458
HCM Lane V/C Ratio	0.856	0.056	-	-	0.01	-	-	0.091	0.242
HCM Control Delay (s)	62.2	7.9	-	-	8	-	-	18.3	15.3
HCM Lane LOS	F	A	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	7.3	0.2	-	-	0	-	-	0.3	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	104	46	33	67	75	66	1028	58	73	1078	26
Future Volume (veh/h)	57	104	46	33	67	75	66	1028	58	73	1078	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1744	1744	1744	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	57	104	46	33	67	75	66	1028	58	73	1078	26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	4	4	4	4	4	4	2	2	2
Cap, veh/h	75	141	64	46	94	105	597	1051	59	619	1102	518
Arrive On Green	0.08	0.08	0.09	0.08	0.08	0.08	0.36	0.34	0.34	0.37	0.35	0.35
Sat Flow, veh/h	905	1699	773	603	1223	1367	1661	3106	175	1688	3189	1500
Grp Volume(v), veh/h	110	0	97	94	0	81	66	519	567	73	1078	26
Grp Sat Flow(s),veh/h/ln	1741	0	1637	1714	0	1479	1661	1569	1712	1688	1595	1500
Q Serve(g_s), s	9.1	0.0	8.6	7.9	0.0	7.9	3.9	48.4	48.5	4.2	49.5	1.7
Cycle Q Clear(g_c), s	9.1	0.0	8.6	7.9	0.0	7.9	3.9	48.4	48.5	4.2	49.5	1.7
Prop In Lane	0.52		0.47	0.35		0.92	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	145	0	136	132	0	114	597	531	579	619	1102	518
V/C Ratio(X)	0.76	0.00	0.71	0.71	0.00	0.71	0.11	0.98	0.98	0.12	0.98	0.05
Avail Cap(c_a), veh/h	335	0	315	481	0	415	597	531	580	619	1103	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.59	0.59	0.59	0.77	0.77	0.77
Uniform Delay (d), s/veh	66.4	0.0	66.0	66.7	0.0	66.5	31.6	48.4	48.4	31.0	47.9	32.3
Incr Delay (d2), s/veh	7.8	0.0	6.8	6.9	0.0	8.0	0.0	25.2	24.0	0.1	19.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.7	0.0	6.9	6.6	0.0	5.8	2.9	28.2	30.3	3.1	28.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.2	0.0	72.8	73.7	0.0	74.5	31.7	73.6	72.5	31.1	67.0	32.4
LnGrp LOS	E	A	E	E	A	E	C	E	E	C	E	C
Approach Vol, veh/h		207			175			1152			1177	
Approach Delay, s/veh		73.5			74.1			70.7			64.0	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	58.2	56.1		17.3	59.3	55.1		16.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.8	51.7		29.0	7.9	50.6		42.0				
Max Q Clear Time (g_c+I1), s	5.9	51.5		11.1	6.2	50.5		9.9				
Green Ext Time (p_c), s	0.0	0.2		0.6	0.0	0.1		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			68.2									
HCM 6th LOS			E									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	319	97	118	215	159	81	954	147	158	928	55
Future Volume (veh/h)	54	319	97	118	215	159	81	954	147	158	928	55
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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1772	1772	1772	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	54	319	97	118	215	159	81	954	147	158	928	55
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	4	4	4	2	2	2
Cap, veh/h	63	349	289	135	422	356	95	1035	159	350	1641	97
Arrive On Green	0.04	0.20	0.20	0.08	0.24	0.24	0.04	0.25	0.25	0.21	0.52	0.52
Sat Flow, veh/h	1701	1786	1482	1688	1772	1473	1661	2802	432	1688	3142	186
Grp Volume(v), veh/h	54	319	97	118	215	159	81	534	567	158	471	512
Grp Sat Flow(s),veh/h/ln	1701	1786	1482	1688	1772	1473	1661	1569	1664	1688	1595	1733
Q Serve(g_s), s	4.5	24.9	8.0	9.8	14.9	8.3	6.9	47.1	47.2	11.6	28.4	28.4
Cycle Q Clear(g_c), s	4.5	24.9	8.0	9.8	14.9	8.3	6.9	47.1	47.2	11.6	28.4	28.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.26	1.00		0.11
Lane Grp Cap(c), veh/h	63	349	289	135	422	356	95	580	615	350	833	905
V/C Ratio(X)	0.86	0.92	0.34	0.88	0.51	0.45	0.85	0.92	0.92	0.45	0.57	0.57
Avail Cap(c_a), veh/h	131	389	323	177	435	367	200	615	652	350	833	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.80	0.80	0.80
Uniform Delay (d), s/veh	68.0	56.0	49.2	64.7	46.9	18.4	67.7	51.4	51.4	49.2	23.0	23.0
Incr Delay (d2), s/veh	21.1	24.4	0.7	29.7	1.0	0.9	12.0	18.9	18.2	0.7	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.2	19.6	5.5	9.1	11.0	5.3	5.9	28.9	30.3	8.2	15.7	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.1	80.4	49.9	94.3	47.9	19.2	79.7	70.3	69.6	49.9	25.2	25.1
LnGrp LOS	F	F	D	F	D	B	E	E	E	D	C	C
Approach Vol, veh/h		470			492			1182			1141	
Approach Delay, s/veh		75.1			49.8			70.6			28.6	
Approach LOS		E			D			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	79.6	10.3	38.9	34.9	57.9	16.4	32.8
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	17.6	58.9	11.4	35.4	20.4	* 56	15.4	31.4
Max Q Clear Time (g_c+I1), s	8.9	30.4	6.5	16.9	13.6	49.2	11.8	26.9
Green Ext Time (p_c), s	0.1	7.1	0.0	1.4	0.3	3.8	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	53.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	187	130	70	120	192	153	873	49	218	872	20
Future Volume (veh/h)	62	187	130	70	120	192	153	873	49	218	872	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1758	1758	1758	1730	1730	1730	1772	1772	1772
Adj Flow Rate, veh/h	62	187	130	70	120	192	153	873	49	218	872	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	5	5	5	2	2	2
Cap, veh/h	186	220	182	147	228	189	172	950	53	645	1921	44
Arrive On Green	0.04	0.12	0.12	0.04	0.13	0.13	0.10	0.31	0.31	0.51	0.78	0.78
Sat Flow, veh/h	1688	1772	1469	1674	1758	1459	1647	3077	173	1688	3276	75
Grp Volume(v), veh/h	62	187	130	70	120	192	153	442	480	218	424	468
Grp Sat Flow(s),veh/h/ln	1688	1772	1469	1674	1758	1459	1647	1557	1693	1688	1595	1756
Q Serve(g_s), s	4.5	14.7	12.1	5.2	9.1	9.0	13.0	38.9	38.9	10.9	12.9	12.9
Cycle Q Clear(g_c), s	4.5	14.7	12.1	5.2	9.1	9.0	13.0	38.9	38.9	10.9	12.9	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.04
Lane Grp Cap(c), veh/h	186	220	182	147	228	189	172	481	523	645	935	1030
V/C Ratio(X)	0.33	0.85	0.71	0.48	0.53	1.02	0.89	0.92	0.92	0.34	0.45	0.45
Avail Cap(c_a), veh/h	305	275	228	256	272	226	268	607	660	645	935	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	51.9	60.9	59.7	52.0	57.7	14.7	62.8	47.4	47.4	24.3	7.9	7.9
Incr Delay (d2), s/veh	1.0	18.2	7.6	2.4	1.9	61.6	20.1	25.2	23.7	0.2	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	12.3	8.5	4.1	7.5	10.4	10.5	25.1	26.7	7.0	6.4	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	79.1	67.3	54.4	59.6	76.4	82.9	72.5	71.1	24.5	9.1	8.9
LnGrp LOS	D	E	E	D	E	F	F	E	E	C	A	A
Approach Vol, veh/h		379			382			1075			1110	
Approach Delay, s/veh		70.8			67.1			73.4			12.0	
Approach LOS		E			E			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	59.2	48.8	11.3	22.6	19.8	88.3	10.5	23.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	29.5	55.9	16.1	22.5	23.6	61.8	16.1	22.5
Max Q Clear Time (g_c+I1), s	12.9	40.9	7.2	16.7	15.0	14.9	6.5	11.1
Green Ext Time (p_c), s	0.7	3.4	0.1	0.6	0.3	3.9	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	1	4	0	7	2	793	11	11	834	9
Future Vol, veh/h	4	0	1	4	0	7	2	793	11	11	834	9
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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	4	0	1	4	0	8	2	853	12	12	897	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1357	1795	454	1336	1794	433	907	0	0	865	0	0
Stage 1	926	926	-	863	863	-	-	-	-	-	-	-
Stage 2	431	869	-	473	931	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.22	-	-	2.21	-	-
Pot Cap-1 Maneuver	110	81	559	114	81	576	746	-	-	780	-	-
Stage 1	293	350	-	320	374	-	-	-	-	-	-	-
Stage 2	578	372	-	546	348	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	107	80	559	112	80	576	746	-	-	780	-	-
Mov Cap-2 Maneuver	107	80	-	112	80	-	-	-	-	-	-	-
Stage 1	292	345	-	319	373	-	-	-	-	-	-	-
Stage 2	569	371	-	537	343	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.4	21.5	0	0.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	746	-	-	128	230	780	-	-
HCM Lane V/C Ratio	0.003	-	-	0.042	0.051	0.015	-	-
HCM Control Delay (s)	9.8	-	-	34.4	21.5	9.7	-	-
HCM Lane LOS	A	-	-	D	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

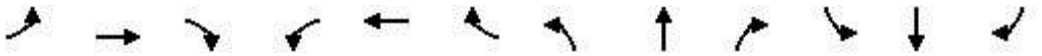
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	597	14	21	481	4	7
Future Vol, veh/h	597	14	21	481	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	10	10
Mvmt Flow	622	15	22	501	4	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	637	0	1175	630
Stage 1	-	-	-	-	630	-
Stage 2	-	-	-	-	545	-
Critical Hdwy	-	-	4.12	-	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	-	-	2.218	-	3.59	3.39
Pot Cap-1 Maneuver	-	-	947	-	204	467
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	565	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	947	-	199	467
Mov Cap-2 Maneuver	-	-	-	-	199	-
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	313	-	-	947	-
HCM Lane V/C Ratio	0.037	-	-	0.023	-
HCM Control Delay (s)	16.9	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	186	69	323	267	0	30	0	387	248	73	17
Future Volume (veh/h)	0	186	69	323	267	0	30	0	387	248	73	17
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	0	1772	1772	1758	1758	0	1758	0	1758	1716	1784	1716
Adj Flow Rate, veh/h	0	186	69	323	267	0	30	0	387	248	73	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	3	3	0	3	0	3	6	6	6
Cap, veh/h	0	688	306	2363	2783	0	41	0	0	451	103	
Arrive On Green	0.00	0.20	0.20	0.80	1.00	0.00	0.02	0.00	0.00	0.11	0.06	0.00
Sat Flow, veh/h	0	3455	1499	3248	3428	0	1674	30		3170	1784	1454
Grp Volume(v), veh/h	0	186	69	323	267	0	30	90.9		248	73	0
Grp Sat Flow(s),veh/h/ln	0	1683	1499	1624	1670	0	1674	F		1585	1784	1454
Q Serve(g_s), s	0.0	6.6	4.9	0.0	0.0	0.0	2.5			10.7	5.7	0.0
Cycle Q Clear(g_c), s	0.0	6.6	4.9	0.0	0.0	0.0	2.5			10.7	5.7	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	688	306	2363	2783	0	41			451	103	
V/C Ratio(X)	0.00	0.27	0.23	0.14	0.10	0.00	0.73			0.55	0.71	
Avail Cap(c_a), veh/h	0	688	306	2363	2783	0	189			593	666	
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	47.6	38.0	2.5	0.0	0.0	68.8			60.9	65.7	0.0
Incr Delay (d2), s/veh	0.0	1.0	1.7	0.0	0.0	0.0	22.1			1.0	8.6	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
%ile BackOfQ(95%),veh/ln	0.0	5.1	3.9	1.1	0.0	0.0	2.4			7.7	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	48.6	39.8	2.5	0.0	0.0	90.9			61.9	74.3	0.0
LnGrp LOS	A	D	D	A	A	A	F			E	E	
Approach Vol, veh/h		255			590						321	A
Approach Delay, s/veh		46.2			1.4						64.7	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2	3	4		6	7					
Phs Duration (G+Y+Rc), s	89.3	33.0	7.5	12.2		122.3	19.7					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0					
Max Green Setting (Gmax), s	28.0	29.0	16.0	53.0		61.0	22.0					
Max Q Clear Time (g_c+I1), s	2.0	8.6	4.5	7.7		2.0	12.7					
Green Ext Time (p_c), s	1.1	1.2	0.0	0.3		1.7	0.5					

Intersection Summary	
HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	4	280	41	6	231
Future Vol, veh/h	28	4	280	41	6	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	6	7	7	6	6
Mvmt Flow	31	4	311	46	7	257

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	477	179	0	0	357	0
Stage 1	334	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.92	7.02	-	-	4.22	-
Critical Hdwy Stg 1	5.92	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.56	3.36	-	-	2.26	-
Pot Cap-1 Maneuver	507	821	-	-	1170	-
Stage 1	686	-	-	-	-	-
Stage 2	857	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	503	821	-	-	1170	-
Mov Cap-2 Maneuver	503	-	-	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	851	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	503	821	1170	-
HCM Lane V/C Ratio	-	-	0.062	0.005	0.006	-
HCM Control Delay (s)	-	-	12.6	9.4	8.1	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	136	172	107	104	28
Future Vol, veh/h	30	136	172	107	104	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	7	7	6	6
Mvmt Flow	34	155	195	122	118	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	646	134	150	0	-	0
Stage 1	134	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.17	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.263	-	-	-
Pot Cap-1 Maneuver	435	912	1401	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	375	912	1401	-	-	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	600	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	4.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1401	-	473	912	-	-
HCM Lane V/C Ratio	0.14	-	0.072	0.169	-	-
HCM Control Delay (s)	8	-	13.2	9.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	0.2	0.6	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1192	48	32	764	7	61
Future Vol, veh/h	1192	48	32	764	7	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1192	48	32	764	7	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1240	0	1662	620
Stage 1	-	-	-	-	1216	-
Stage 2	-	-	-	-	446	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	552	-	87	428
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	609	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	552	-	78	428
Mov Cap-2 Maneuver	-	-	-	-	78	-
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	547	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	293	-	-	552	-
HCM Lane V/C Ratio	0.232	-	-	0.058	-
HCM Control Delay (s)	21	-	-	11.9	0.6
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	103	1134	731	39	10	59
Future Vol, veh/h	103	1134	731	39	10	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	6	6
Mvmt Flow	103	1134	731	39	10	59

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	770	0	-	0	2091	751
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	1340	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	844	-	-	-	56	404
Stage 1	-	-	-	-	459	-
Stage 2	-	-	-	-	239	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	844	-	-	-	49	404
Mov Cap-2 Maneuver	-	-	-	-	49	-
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	239	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	32.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	844	-	-	-	197
HCM Lane V/C Ratio	0.122	-	-	-	0.35
HCM Control Delay (s)	9.9	-	-	-	32.8
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	1.5

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	46	17	113	34	16	9	130	142	22	102	49
Future Vol, veh/h	31	46	17	113	34	16	9	130	142	22	102	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	50	18	123	37	17	10	141	154	24	111	53
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	9.9	11.4	12	10.1
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	40%	0%	77%	0%	100%	0%
Vol Thru, %	0%	48%	60%	0%	23%	0%	0%	68%
Vol Right, %	0%	52%	0%	100%	0%	100%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	272	77	17	147	16	22	151
LT Vol	9	0	31	0	113	0	22	0
Through Vol	0	130	46	0	34	0	0	102
RT Vol	0	142	0	17	0	16	0	49
Lane Flow Rate	10	296	84	18	160	17	24	164
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.017	0.437	0.148	0.028	0.285	0.026	0.042	0.254
Departure Headway (Hd)	6.193	5.319	6.378	5.465	6.421	5.324	6.303	5.568
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	581	680	562	654	561	672	569	645
Service Time	3.893	3.019	4.117	3.203	4.155	3.058	4.035	3.3
HCM Lane V/C Ratio	0.017	0.435	0.149	0.028	0.285	0.025	0.042	0.254
HCM Control Delay	9	12.1	10.2	8.4	11.7	8.2	9.3	10.2
HCM Lane LOS	A	B	B	A	B	A	A	B
HCM 95th-tile Q	0.1	2.2	0.5	0.1	1.2	0.1	0.1	1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	1011	1100	44	6	5
Future Vol, veh/h	4	1011	1100	44	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	4	4	0	0
Mvmt Flow	4	1011	1100	44	6	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1144	0	-	0	2119	1100
Stage 1	-	-	-	-	1100	-
Stage 2	-	-	-	-	1019	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	611	-	-	-	56	260
Stage 1	-	-	-	-	322	-
Stage 2	-	-	-	-	351	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	611	-	-	-	55	260
Mov Cap-2 Maneuver	-	-	-	-	55	-
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	351	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	52.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	611	-	-	-	86
HCM Lane V/C Ratio	0.007	-	-	-	0.128
HCM Control Delay (s)	10.9	0	-	-	52.9
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	20.1
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	328	344	14	297	364
Future Vol, veh/h	7	328	344	14	297	364
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	7	342	358	15	309	379
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	19	21.3	20.1
HCM LOS	C	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	96%	0%	0%	0%	100%
Vol Right, %	4%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	358	7	328	297	364
LT Vol	0	7	0	297	0
Through Vol	344	0	0	0	364
RT Vol	14	0	328	0	0
Lane Flow Rate	373	7	342	309	379
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.664	0.016	0.615	0.588	0.667
Departure Headway (Hd)	6.406	7.704	6.479	6.839	6.33
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	563	463	554	526	569
Service Time	4.476	5.482	4.255	4.616	4.107
HCM Lane V/C Ratio	0.663	0.015	0.617	0.587	0.666
HCM Control Delay	21.3	10.6	19.2	19	21
HCM Lane LOS	C	B	C	C	C
HCM 95th-tile Q	4.9	0	4.1	3.8	5

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	68	680	8	65	642
Future Vol, veh/h	4	68	680	8	65	642
Conflicting Peds, #/hr	0	2	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	8	1	1	1	1
Mvmt Flow	4	72	723	9	69	683

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1550	731	0	0	733	0
Stage 1	729	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.11	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.209	-
Pot Cap-1 Maneuver	121	412	-	-	876	-
Stage 1	467	-	-	-	-	-
Stage 2	422	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	111	411	-	-	875	-
Mov Cap-2 Maneuver	244	-	-	-	-	-
Stage 1	467	-	-	-	-	-
Stage 2	389	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	396	875	-
HCM Lane V/C Ratio	-	-	0.193	0.079	-
HCM Control Delay (s)	-	-	16.3	9.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-

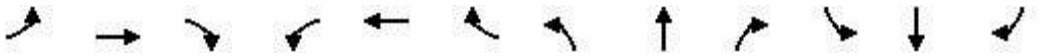
Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	76	737	3	98	709
Future Vol, veh/h	2	76	737	3	98	709
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	2	84	810	3	108	779

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1808	813	0	0	814	0
Stage 1	813	-	-	-	-	-
Stage 2	995	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	88	382	-	-	817	-
Stage 1	440	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	76	382	-	-	816	-
Mov Cap-2 Maneuver	76	-	-	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	313	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.8	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	346	816	-
HCM Lane V/C Ratio	-	-	0.248	0.132	-
HCM Control Delay (s)	-	-	18.8	10.1	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1	0.5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1	12	8	0	50	13	807	5	34	844	24
Future Volume (veh/h)	22	1	12	8	0	50	13	807	5	34	844	24
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	1800	1800	1800	1772	1772	1772	1772	1772	1772	1786	1786	1786
Adj Flow Rate, veh/h	23	1	12	8	0	52	14	841	5	35	879	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	1	1	1
Cap, veh/h	386	12	172	149	6	146	450	1529	9	495	1598	45
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.02	0.45	0.45	0.05	0.47	0.47
Sat Flow, veh/h	1388	105	1523	143	56	1297	1688	3431	20	1701	3370	96
Grp Volume(v), veh/h	24	0	12	60	0	0	14	413	433	35	443	461
Grp Sat Flow(s),veh/h/ln	1493	0	1523	1497	0	0	1688	1683	1768	1701	1697	1769
Q Serve(g_s), s	0.0	0.0	0.2	0.2	0.0	0.0	0.1	5.5	5.5	0.3	5.7	5.7
Cycle Q Clear(g_c), s	0.4	0.0	0.2	1.1	0.0	0.0	0.1	5.5	5.5	0.3	5.7	5.7
Prop In Lane	0.96		1.00	0.13		0.87	1.00		0.01	1.00		0.05
Lane Grp Cap(c), veh/h	398	0	172	302	0	0	450	750	788	495	804	839
V/C Ratio(X)	0.06	0.00	0.07	0.20	0.00	0.00	0.03	0.55	0.55	0.07	0.55	0.55
Avail Cap(c_a), veh/h	1506	0	1390	1488	0	0	962	5047	5302	1130	5253	5476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	12.2	12.6	0.0	0.0	4.8	6.2	6.2	4.5	5.7	5.7
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.3	0.0	0.0	0.0	0.6	0.6	0.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	0.1	0.6	0.0	0.0	0.0	1.8	1.9	0.1	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	0.0	12.3	12.9	0.0	0.0	4.8	6.9	6.8	4.6	6.3	6.3
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		36			60			860			939	
Approach Delay, s/veh		12.3			12.9			6.8			6.3	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	17.7		7.5	4.7	18.5		7.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	92.0		28.0	10.0	95.0		28.0				
Max Q Clear Time (g_c+I1), s	2.3	7.5		2.4	2.1	7.7		3.1				
Green Ext Time (p_c), s	0.0	6.2		0.1	0.0	6.8		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		6.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	18	17	247	186	21
Future Vol, veh/h	17	18	17	247	186	21
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	1	1
Mvmt Flow	17	18	17	252	190	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	488	203	212	0	-	0
Stage 1	202	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.12	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.218	-	-	-
Pot Cap-1 Maneuver	532	828	1358	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	753	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	524	827	1357	-	-	-
Mov Cap-2 Maneuver	594	-	-	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	752	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1357	-	695	-	-
HCM Lane V/C Ratio	0.013	-	0.051	-	-
HCM Control Delay (s)	7.7	-	10.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	91	69	193	144	0
Future Vol, veh/h	7	91	69	193	144	0
Conflicting Peds, #/hr	3	1	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	9	9	13	13
Mvmt Flow	7	96	73	203	152	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	505	154	153	0	-	0
Stage 1	153	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.19	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.281	-	-	-
Pot Cap-1 Maneuver	529	895	1386	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	714	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	500	894	1385	-	-	-
Mov Cap-2 Maneuver	575	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	713	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1385	-	860	-	-
HCM Lane V/C Ratio	0.052	-	0.12	-	-
HCM Control Delay (s)	7.7	-	9.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Appendix K. 2028 With-Project Intersection Capacity Reports

HCM 6th Signalized Intersection Summary
1: Viking Ave NW & SR305

12/07/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	1466	53	72	1296	58	54	37	88	138	65	81
Future Volume (veh/h)	79	1466	53	72	1296	58	54	37	88	138	65	81
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		0.99	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	1744	1744	1744	1744	1744	1744	1688	1688	1688	1603	1603	1603
Adj Flow Rate, veh/h	86	1593	58	78	1409	63	50	53	96	150	71	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	8	8	8	14	14	14
Cap, veh/h	104	1635	857	351	2081	93	139	146	122	109	46	57
Arrive On Green	0.12	0.99	0.99	0.21	0.64	0.64	0.09	0.09	0.09	0.07	0.07	0.07
Sat Flow, veh/h	1661	3313	1478	1661	3230	144	1607	1688	1409	1527	651	807
Grp Volume(v), veh/h	86	1593	58	78	721	751	50	53	96	150	0	159
Grp Sat Flow(s),veh/h/ln	1661	1657	1478	1661	1657	1718	1607	1688	1409	1527	0	1458
Q Serve(g_s), s	7.2	23.5	0.1	5.5	39.0	39.2	4.2	4.2	9.5	10.1	0.0	10.1
Cycle Q Clear(g_c), s	7.2	23.5	0.1	5.5	39.0	39.2	4.2	4.2	9.5	10.1	0.0	10.1
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	104	1635	857	351	1067	1107	139	146	122	109	0	104
V/C Ratio(X)	0.83	0.97	0.07	0.22	0.68	0.68	0.36	0.36	0.79	1.38	0.00	1.53
Avail Cap(c_a), veh/h	108	1682	878	351	1067	1107	328	345	288	109	0	104
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	61.4	0.6	0.3	46.4	15.9	16.0	61.2	61.2	63.6	65.9	0.0	66.0
Incr Delay (d2), s/veh	24.2	11.8	0.1	0.2	3.4	3.4	1.9	1.8	12.7	218.6	0.0	282.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	5.2	0.1	4.1	21.0	21.7	3.2	3.4	6.9	17.4	0.0	19.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.6	12.4	0.4	46.6	19.4	19.3	63.1	63.0	76.3	284.5	0.0	348.2
LnGrp LOS	F	B	A	D	B	B	E	E	E	F	A	F
Approach Vol, veh/h		1737			1550			199			309	
Approach Delay, s/veh		15.7			20.7			69.4			317.3	
Approach LOS		B			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	44.1	65.7		15.0	13.5	96.4		17.2				
Change Period (Y+Rc), s	4.9	* 4.9		4.9	4.6	4.9		4.9				
Max Green Setting (Gmax), s	11.5	* 72		10.1	9.2	74.4		29.0				
Max Q Clear Time (g_c+I1), s	7.5	25.5		12.1	9.2	41.2		11.5				
Green Ext Time (p_c), s	0.0	26.0		0.0	0.0	15.5		0.8				

Intersection Summary		
HCM 6th Ctrl Delay		45.1
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	549	0	0	1320	150	76	0	1118	0	0	0
Future Volume (veh/h)	44	549	0	0	1320	150	76	0	1118	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1688	1688	0	0	1744	1744	1744	1744	1744			
Adj Flow Rate, veh/h	48	597	0	0	1435	163	83	0	1215			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	8	8	0	0	4	4	4	4	4			
Cap, veh/h	143	1764	0	0	1596	712	636	0	996			
Arrive On Green	0.07	1.00	0.00	0.00	0.64	0.64	0.38	0.00	0.38			
Sat Flow, veh/h	1607	3291	0	0	3400	1478	1661	0	2601			
Grp Volume(v), veh/h	48	597	0	0	1435	163	83	0	1215			
Grp Sat Flow(s),veh/h/ln	1607	1603	0	0	1657	1478	1661	0	1300			
Q Serve(g_s), s	2.0	0.0	0.0	0.0	52.1	6.6	4.6	0.0	54.4			
Cycle Q Clear(g_c), s	2.0	0.0	0.0	0.0	52.1	6.6	4.6	0.0	54.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	143	1764	0	0	1596	712	636	0	996			
V/C Ratio(X)	0.34	0.34	0.00	0.00	0.90	0.23	0.13	0.00	1.22			
Avail Cap(c_a), veh/h	158	1764	0	0	1596	712	636	0	996			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.58	0.58	1.00	0.00	1.00			
Uniform Delay (d), s/veh	27.2	0.0	0.0	0.0	22.6	14.4	28.4	0.0	43.8			
Incr Delay (d2), s/veh	1.4	0.5	0.0	0.0	5.2	0.4	0.1	0.0	107.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.4	0.2	0.0	0.0	22.9	3.9	3.3	0.0	66.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	0.5	0.0	0.0	27.8	14.8	28.5	0.0	151.7			
LnGrp LOS	C	A	A	A	C	B	C	A	F			
Approach Vol, veh/h		645			1598			1298				
Approach Delay, s/veh		2.6			26.5			143.8				
Approach LOS		A			C			F				

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	83.0		59.0	9.7	73.3
Change Period (Y+Rc), s	4.9		4.6	4.6	4.9
Max Green Setting (Gmax), s	78.1		54.4	6.4	67.1
Max Q Clear Time (g_c+I1), s	2.0		56.4	4.0	54.1
Green Ext Time (p_c), s	4.4		0.0	0.0	8.3

Intersection Summary		
HCM 6th Ctrl Delay		65.1
HCM 6th LOS		E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	365	73	300	228	26	47	88	521	44	113	31
Future Volume (veh/h)	31	365	73	300	228	26	47	88	521	44	113	31
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		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	1744	1744	1744	1772	1772	1772	1758	1758	1758	1702	1702	1702
Adj Flow Rate, veh/h	36	429	86	310	327	31	55	104	613	52	133	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	7	7	7
Cap, veh/h	466	490	415	369	388	321	74	528	447	88	1003	
Arrive On Green	0.28	0.28	0.28	0.22	0.22	0.22	0.04	0.30	0.30	0.05	0.31	0.00
Sat Flow, veh/h	1661	1744	1478	1688	1772	1467	1674	1758	1490	1621	3318	0
Grp Volume(v), veh/h	36	429	86	310	327	31	55	104	613	52	133	0
Grp Sat Flow(s),veh/h/ln	1661	1744	1478	1688	1772	1467	1674	1758	1490	1621	1617	0
Q Serve(g_s), s	1.8	25.8	4.9	19.3	19.4	1.9	3.6	4.8	33.0	3.4	3.3	0.0
Cycle Q Clear(g_c), s	1.8	25.8	4.9	19.3	19.4	1.9	3.6	4.8	33.0	3.4	3.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	466	490	415	369	388	321	74	528	447	88	1003	
V/C Ratio(X)	0.08	0.88	0.21	0.84	0.84	0.10	0.74	0.20	1.37	0.59	0.13	
Avail Cap(c_a), veh/h	695	730	618	522	548	454	152	528	447	236	1147	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.1	37.7	30.2	41.1	41.1	34.3	51.9	28.6	38.5	50.8	27.3	0.0
Incr Delay (d2), s/veh	0.1	8.0	0.2	8.3	8.2	0.1	13.4	0.2	180.6	6.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	17.8	3.1	13.8	14.4	1.2	3.2	3.7	51.8	2.8	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	45.7	30.4	49.4	49.3	34.4	65.3	28.8	219.1	56.8	27.3	0.0
LnGrp LOS	C	D	C	D	D	C	E	C	F	E	C	
Approach Vol, veh/h		551			668			772			185	A
Approach Delay, s/veh		42.3			48.7			182.5			35.6	
Approach LOS		D			D			F			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	34.9	8.9	38.1	28.1	10.0	37.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	46.0	10.0	39.0	34.0	16.0	33.0
Max Q Clear Time (g_c+I1), s	27.8	5.6	5.3	21.4	5.4	35.0
Green Ext Time (p_c), s	3.1	0.0	0.8	2.6	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	93.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	158	279	108	178	565	138	818	63	402	1178	52
Future Volume (veh/h)	15	158	279	108	178	565	138	818	63	402	1178	52
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	1730	1730	1730	1744	1744	1744	1730	1730	1730	1730	1730	1730
Adj Flow Rate, veh/h	16	172	303	117	193	614	150	889	68	437	1280	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	4	4	4	5	5	5	5	5	5
Cap, veh/h	27	347	440	132	460	805	164	956	432	899	1482	66
Arrive On Green	0.02	0.20	0.20	0.08	0.26	0.26	0.20	0.58	0.59	0.56	0.95	0.95
Sat Flow, veh/h	1647	1730	1466	1661	1744	1478	1647	3287	1466	3196	3123	139
Grp Volume(v), veh/h	16	172	303	117	193	614	150	889	68	437	637	700
Grp Sat Flow(s),veh/h/ln	1647	1730	1466	1661	1744	1478	1647	1643	1466	1598	1557	1705
Q Serve(g_s), s	1.4	12.5	25.9	9.9	13.0	5.6	12.7	35.0	2.4	11.7	16.3	16.4
Cycle Q Clear(g_c), s	1.4	12.5	25.9	9.9	13.0	5.6	12.7	35.0	2.4	11.7	16.3	16.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	27	347	440	132	460	805	164	956	432	899	739	809
V/C Ratio(X)	0.60	0.50	0.69	0.89	0.42	0.76	0.91	0.93	0.16	0.49	0.86	0.86
Avail Cap(c_a), veh/h	64	432	512	132	507	846	171	1097	494	899	739	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.4	50.4	43.9	64.7	43.3	13.8	56.3	28.4	13.2	24.9	2.3	2.3
Incr Delay (d2), s/veh	14.8	0.8	2.8	45.9	0.5	3.7	39.3	14.5	0.7	0.3	12.7	11.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	9.4	14.8	9.8	9.6	16.8	10.3	16.5	1.9	6.6	6.7	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	51.2	46.6	110.6	43.7	17.5	95.6	42.9	13.8	25.2	15.0	14.2
LnGrp LOS	F	D	D	F	D	B	F	D	B	C	B	B
Approach Vol, veh/h		491			924			1107			1774	
Approach Delay, s/veh		49.5			34.8			48.3			17.2	
Approach LOS		D			C			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	72.8	7.4	42.5	45.3	46.7	16.4	33.6
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	5.3	60.3	6.0	41.8	27.6	* 48	11.8	36.0
Max Q Clear Time (g_c+I1), s	4.7	18.4	3.4	15.0	13.7	37.0	11.9	27.9
Green Ext Time (p_c), s	0.0	12.5	0.0	3.2	1.3	4.8	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	409	509	301	38	48	257
Future Volume (veh/h)	409	509	301	38	48	257
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1758	1758	1758	1758	1772	1772
Adj Flow Rate, veh/h	487	606	358	45	57	306
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	753	1050	662	82	345	721
Arrive On Green	0.28	0.60	0.22	0.22	0.20	0.20
Sat Flow, veh/h	1674	1758	3067	371	1688	1502
Grp Volume(v), veh/h	487	606	199	204	57	306
Grp Sat Flow(s),veh/h/ln	1674	1758	1670	1681	1688	1502
Q Serve(g_s), s	7.5	8.5	4.3	4.3	1.1	5.4
Cycle Q Clear(g_c), s	7.5	8.5	4.3	4.3	1.1	5.4
Prop In Lane	1.00			0.22	1.00	1.00
Lane Grp Cap(c), veh/h	753	1050	371	373	345	721
V/C Ratio(X)	0.65	0.58	0.54	0.55	0.17	0.42
Avail Cap(c_a), veh/h	2366	4445	1987	2000	837	1159
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	5.0	13.9	13.9	13.2	6.8
Incr Delay (d2), s/veh	0.9	0.5	1.2	1.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	3.4	2.6	2.7	0.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.7	5.5	15.1	15.1	13.4	7.2
LnGrp LOS	A	A	B	B	B	A
Approach Vol, veh/h		1093	403		363	
Approach Delay, s/veh		6.5	15.1		8.2	
Approach LOS		A	B		A	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	28.1	12.2	15.1	13.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	102.0	20.0	50.0	48.0
Max Q Clear Time (g_c+I1), s	10.5	7.4	9.5	6.3
Green Ext Time (p_c), s	5.2	1.0	1.7	2.6

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	4	1	29	7	175	1	769	8	193	1185	139
Future Volume (veh/h)	35	4	1	29	7	175	1	769	8	193	1185	139
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	1758	1758	1758	1772	1772	1772	1730	1730	1730	1744	1744	1744
Adj Flow Rate, veh/h	38	4	1	32	8	190	1	836	9	210	1288	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	5	5	5	4	4	4
Cap, veh/h	58	47	12	195	49	210	3	885	10	701	2151	1016
Arrive On Green	0.03	0.03	0.03	0.14	0.14	0.14	0.00	0.53	0.53	0.84	1.00	1.00
Sat Flow, veh/h	1674	1357	339	1363	341	1502	1647	3331	36	1661	3139	1476
Grp Volume(v), veh/h	38	0	5	40	0	190	1	412	433	210	1288	151
Grp Sat Flow(s),veh/h/ln	1674	0	1697	1704	0	1502	1647	1643	1723	1661	1569	1476
Q Serve(g_s), s	3.2	0.0	0.4	2.9	0.0	17.7	0.1	33.5	33.5	3.8	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.4	2.9	0.0	17.7	0.1	33.5	33.5	3.8	0.0	0.0
Prop In Lane	1.00		0.20	0.80		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	58	0	59	244	0	210	3	437	458	701	2151	1016
V/C Ratio(X)	0.66	0.00	0.09	0.16	0.00	0.90	0.37	0.94	0.94	0.30	0.60	0.15
Avail Cap(c_a), veh/h	389	0	394	348	0	301	70	478	501	701	2151	1016
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	0.48	0.48	0.48
Uniform Delay (d), s/veh	67.7	0.0	66.4	53.5	0.0	60.1	70.7	32.3	32.3	6.7	0.0	0.0
Incr Delay (d2), s/veh	12.0	0.0	0.6	0.3	0.0	22.5	62.3	28.9	28.1	0.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	0.0	0.3	2.3	0.0	12.7	0.1	18.9	19.6	2.1	0.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.7	0.0	67.0	53.8	0.0	82.6	133.0	61.2	60.4	6.8	0.6	0.1
LnGrp LOS	E	A	E	D	A	F	F	E	E	A	A	A
Approach Vol, veh/h		43			230			846			1649	
Approach Delay, s/veh		78.2			77.6			60.9			1.3	
Approach LOS		E			E			E			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	102.7		9.5	65.3	42.2		25.0
Change Period (Y+Rc), s	4.6	4.9		4.6	4.9	4.0		4.6
Max Green Setting (Gmax), s	6.6	55.3		33.0	20.1	41.8		29.0
Max Q Clear Time (g_c+I1), s	2.1	2.0		5.2	5.8	35.5		19.7
Green Ext Time (p_c), s	0.0	8.9		0.1	0.6	2.7		0.7

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

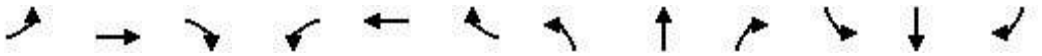
Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	95	77	9	143	7	35	5	4	17	28	28
Future Vol, veh/h	31	95	77	9	143	7	35	5	4	17	28	28
Conflicting Peds, #/hr	1	0	0	0	0	1	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	50	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	3	3	3
Mvmt Flow	38	117	95	11	177	9	43	6	5	21	35	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	187	0	0	212	0	0	480	450	165	451	493	183
Stage 1	-	-	-	-	-	-	241	241	-	205	205	-
Stage 2	-	-	-	-	-	-	239	209	-	246	288	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.12	6.52	6.22	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.13	5.53	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.518	4.018	3.318	3.527	4.027	3.327
Pot Cap-1 Maneuver	1381	-	-	1358	-	-	496	504	879	517	476	857
Stage 1	-	-	-	-	-	-	762	706	-	795	730	-
Stage 2	-	-	-	-	-	-	764	729	-	756	672	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1380	-	-	1358	-	-	436	485	879	495	458	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	436	485	-	495	458	-
Stage 1	-	-	-	-	-	-	741	686	-	773	723	-
Stage 2	-	-	-	-	-	-	692	722	-	724	653	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.4	13.8	12
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	463	1380	-	-	1358	-	-	495	597
HCM Lane V/C Ratio	0.117	0.028	-	-	0.008	-	-	0.042	0.116
HCM Control Delay (s)	13.8	7.7	-	-	7.7	-	-	12.6	11.8
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.1	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	12	14	13	9	11	22	774	19	71	1073	73
Future Volume (veh/h)	21	12	14	13	9	11	22	774	19	71	1073	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1702	1702	1702	1730	1730	1730	1716	1716	1716
Adj Flow Rate, veh/h	23	13	15	14	10	12	24	841	21	77	1166	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	7	7	7	5	5	5	6	6	6
Cap, veh/h	59	34	39	44	31	38	37	906	23	816	2350	1106
Arrive On Green	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.38	0.38	1.00	1.00	1.00
Sat Flow, veh/h	1481	855	995	1215	871	1050	1647	3193	80	1634	3088	1454
Grp Volume(v), veh/h	27	0	24	19	0	17	24	410	452	77	1166	79
Grp Sat Flow(s),veh/h/ln	1726	0	1604	1641	0	1495	1647	1557	1715	1634	1544	1454
Q Serve(g_s), s	2.2	0.0	2.1	1.6	0.0	1.6	2.0	35.8	35.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	2.1	1.6	0.0	1.6	2.0	35.8	35.9	0.0	0.0	0.0
Prop In Lane	0.86		0.62	0.74		0.70	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	69	0	64	59	0	54	37	442	487	816	2350	1106
V/C Ratio(X)	0.39	0.00	0.38	0.32	0.00	0.32	0.65	0.93	0.93	0.09	0.50	0.07
Avail Cap(c_a), veh/h	346	0	322	480	0	437	64	485	534	816	2350	1106
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	0.83	0.83	0.83
Uniform Delay (d), s/veh	66.5	0.0	66.3	66.7	0.0	66.6	68.3	42.8	42.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	3.7	3.0	0.0	3.3	16.0	26.0	24.3	0.0	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.0	1.6	1.3	0.0	1.2	1.8	22.1	23.7	0.0	0.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	0.0	70.0	69.8	0.0	69.8	84.3	68.8	67.1	0.1	0.6	0.1
LnGrp LOS	E	A	E	E	A	E	F	E	E	A	A	A
Approach Vol, veh/h		51			36			886			1322	
Approach Delay, s/veh		70.1			69.8			68.4			0.6	
Approach LOS		E			E			E			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	113.1		10.6	75.9	45.3		10.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.0	47.0		29.0	8.3	44.7		42.0				
Max Q Clear Time (g_c+I1), s	4.0	2.0		4.2	2.0	37.9		3.6				
Green Ext Time (p_c), s	0.0	12.2		0.1	0.1	2.9		0.1				

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	87	62	73	141	204	41	623	70	139	907	49
Future Volume (veh/h)	16	87	62	73	141	204	41	623	70	139	907	49
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		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1786	1786	1786	1716	1716	1716	1716	1716	1716
Adj Flow Rate, veh/h	17	95	67	79	153	222	45	677	76	151	986	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	1	1	1	6	6	6	6	6	6
Cap, veh/h	29	233	196	93	301	260	527	1625	182	168	1054	57
Arrive On Green	0.02	0.13	0.13	0.05	0.17	0.17	0.32	0.57	0.57	0.21	0.69	0.69
Sat Flow, veh/h	1688	1772	1495	1701	1786	1508	1634	2872	322	1634	3066	165
Grp Volume(v), veh/h	17	95	67	79	153	222	45	364	389	151	497	542
Grp Sat Flow(s),veh/h/ln	1688	1772	1495	1701	1786	1508	1634	1544	1650	1634	1544	1686
Q Serve(g_s), s	1.4	7.0	3.2	6.5	11.1	20.3	2.7	19.0	19.0	12.8	40.0	40.0
Cycle Q Clear(g_c), s	1.4	7.0	3.2	6.5	11.1	20.3	2.7	19.0	19.0	12.8	40.0	40.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.10
Lane Grp Cap(c), veh/h	29	233	196	93	301	260	527	874	933	168	531	580
V/C Ratio(X)	0.59	0.41	0.34	0.85	0.51	0.85	0.09	0.42	0.42	0.90	0.94	0.94
Avail Cap(c_a), veh/h	72	386	325	168	488	417	527	874	933	275	717	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.87	0.87	0.87
Uniform Delay (d), s/veh	69.3	56.6	17.1	66.6	53.7	57.1	33.5	17.5	17.5	55.7	20.8	20.8
Incr Delay (d2), s/veh	13.3	1.2	1.0	18.7	1.3	9.5	0.0	1.4	1.3	17.7	23.6	22.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	5.8	4.0	6.0	8.8	13.2	2.0	11.0	11.7	9.1	16.5	17.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.6	57.8	18.1	85.3	55.0	66.5	33.6	18.9	18.8	73.5	44.3	43.0
LnGrp LOS	F	E	B	F	D	E	C	B	B	E	D	D
Approach Vol, veh/h		179			454			798			1190	
Approach Delay, s/veh		45.3			65.9			19.7			47.4	
Approach LOS		D			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	54.2	7.5	29.1	19.7	85.7	12.8	23.7
Change Period (Y+Rc), s	4.9	* 4.9	4.6	4.6	4.6	4.9	4.6	4.6
Max Green Setting (Gmax), s	6.3	* 66	6.6	39.3	24.4	53.0	14.5	31.4
Max Q Clear Time (g_c+I1), s	14.7	42.0	3.4	22.3	14.8	21.0	8.5	9.0
Green Ext Time (p_c), s	0.0	7.4	0.0	1.4	0.3	5.2	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	118	119	102	74	176	59	475	30	171	814	16
Future Volume (veh/h)	39	118	119	102	74	176	59	475	30	171	814	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		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	1758	1758	1758	1744	1744	1744	1730	1730	1730	1716	1716	1716
Adj Flow Rate, veh/h	42	128	129	111	80	191	64	516	33	186	885	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	4	4	4	5	5	5	6	6	6
Cap, veh/h	162	187	154	151	206	171	75	1807	115	204	2137	41
Arrive On Green	0.02	0.11	0.11	0.04	0.12	0.12	0.05	0.59	0.59	0.25	1.00	1.00
Sat Flow, veh/h	1674	1758	1452	1661	1744	1444	1647	3056	195	1634	3187	61
Grp Volume(v), veh/h	42	128	129	111	80	191	64	262	287	186	429	473
Grp Sat Flow(s),veh/h/ln	1674	1758	1452	1661	1744	1444	1647	1557	1694	1634	1544	1705
Q Serve(g_s), s	0.0	10.0	10.9	1.5	6.0	13.2	5.5	11.8	11.8	15.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.0	10.9	1.5	6.0	13.2	5.5	11.8	11.8	15.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.04
Lane Grp Cap(c), veh/h	162	187	154	151	206	171	75	920	1002	204	1035	1143
V/C Ratio(X)	0.26	0.68	0.84	0.73	0.39	1.12	0.85	0.29	0.29	0.91	0.41	0.41
Avail Cap(c_a), veh/h	309	309	256	301	332	275	174	920	1002	357	1035	1143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	61.3	61.2	48.0	65.1	57.9	38.7	67.3	14.3	14.3	52.5	0.0	0.0
Incr Delay (d2), s/veh	0.8	4.4	11.5	6.7	1.2	85.9	22.7	0.8	0.7	14.1	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	8.3	7.9	7.6	4.9	14.3	5.0	7.6	8.1	10.1	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	65.5	59.5	71.8	59.1	124.7	90.0	15.0	15.0	66.6	1.0	0.9
LnGrp LOS	E	E	E	E	E	F	F	B	B	E	A	A
Approach Vol, veh/h		299			382			613			1088	
Approach Delay, s/veh		62.4			95.6			22.9			12.2	
Approach LOS		E			F			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	89.0	10.2	20.1	11.5	100.2	8.5	21.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.5	48.5	18.5	25.5	15.5	64.5	16.5	27.5
Max Q Clear Time (g_c+I1), s	17.7	13.8	3.5	12.9	7.5	2.0	2.0	15.2
Green Ext Time (p_c), s	0.5	2.2	0.3	0.8	0.1	4.0	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1	3	2	0	10	1	605	3	3	372	7
Future Vol, veh/h	12	1	3	2	0	10	1	605	3	3	372	7
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	13	13	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	0	0	0	3	3	3	4	4	4
Mvmt Flow	14	1	4	2	0	12	1	720	4	4	443	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	820	1197	229	967	1199	375	454	0	0	737	0	0
Stage 1	458	458	-	737	737	-	-	-	-	-	-	-
Stage 2	362	739	-	230	462	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.58	6.98	7.5	6.5	6.9	4.16	-	-	4.18	-	-
Critical Hdwy Stg 1	6.58	5.58	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.58	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.04	3.34	3.5	4	3.3	2.23	-	-	2.24	-	-
Pot Cap-1 Maneuver	264	182	767	212	187	628	1096	-	-	852	-	-
Stage 1	547	560	-	381	428	-	-	-	-	-	-	-
Stage 2	624	417	-	758	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	257	179	765	207	183	621	1093	-	-	843	-	-
Mov Cap-2 Maneuver	257	179	-	207	183	-	-	-	-	-	-	-
Stage 1	545	556	-	376	423	-	-	-	-	-	-	-
Stage 2	611	412	-	749	564	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.5	13	0	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1093	-	-	285	466	843	-	-
HCM Lane V/C Ratio	0.001	-	-	0.067	0.031	0.004	-	-
HCM Control Delay (s)	8.3	-	-	18.5	13	9.3	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

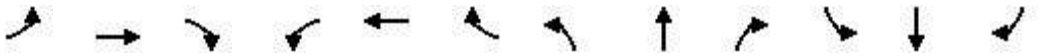
Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	426	4	1	270	17	24
Future Vol, veh/h	426	4	1	270	17	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	3	3	0	0
Mvmt Flow	513	5	1	325	20	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	518	0	843	516
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	327	-
Critical Hdwy	-	-	4.13	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.227	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1043	-	337	563
Stage 1	-	-	-	-	603	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1043	-	337	563
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	603	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	441	-	-	1043	-
HCM Lane V/C Ratio	0.112	-	-	0.001	-
HCM Control Delay (s)	14.2	-	-	8.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	56	27	204	138	0	29	0	158	340	59	12
Future Volume (veh/h)	0	56	27	204	138	0	29	0	158	340	59	12
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	0	1730	1730	1702	1702	0	1744	0	1744	1730	1799	1730
Adj Flow Rate, veh/h	0	61	29	222	150	0	32	0	172	370	64	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	5	7	7	0	4	0	4	5	5	5
Cap, veh/h	0	671	299	2351	2627	0	42	0	0	521	140	
Arrive On Green	0.00	0.20	0.20	0.97	1.00	0.00	0.03	0.00	0.00	0.13	0.08	0.00
Sat Flow, veh/h	0	3373	1466	3144	3318	0	1661	32		3196	1799	1466
Grp Volume(v), veh/h	0	61	29	222	150	0	32	93.1		370	64	0
Grp Sat Flow(s),veh/h/ln	0	1643	1466	1572	1617	0	1661	F		1598	1799	1466
Q Serve(g_s), s	0.0	2.1	2.0	0.0	0.0	0.0	2.7			16.1	4.8	0.0
Cycle Q Clear(g_c), s	0.0	2.1	2.0	0.0	0.0	0.0	2.7			16.1	4.8	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	671	299	2351	2627	0	42			521	140	
V/C Ratio(X)	0.00	0.09	0.10	0.09	0.06	0.00	0.76			0.71	0.46	
Avail Cap(c_a), veh/h	0	671	299	2351	2627	0	187			597	671	
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	45.8	36.9	0.3	0.0	0.0	68.8			60.5	62.6	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.6	0.0	0.0	0.0	24.3			3.3	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	1.6	1.6	0.1	0.0	0.0	2.6			10.9	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.1	37.6	0.3	0.0	0.0	93.1			63.9	64.9	0.0
LnGrp LOS	A	D	D	A	A	A	F			E	E	
Approach Vol, veh/h		90			372						434	A
Approach Delay, s/veh		43.3			0.2						64.0	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2	3	4		6	7
Phs Duration (G+Y+Rc), s	86.4	33.0	7.6	15.0		119.4	22.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	28.0	29.0	16.0	53.0		61.0	22.0
Max Q Clear Time (g_c+I1), s	2.0	4.1	4.7	6.8		2.0	18.1
Green Ext Time (p_c), s	0.7	0.4	0.0	0.3		1.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	0	233	20	0	56
Future Vol, veh/h	61	0	233	20	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	8	8	5	5	8	8
Mvmt Flow	68	0	259	22	0	62

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	301	141	0	0	281	0
Stage 1	270	-	-	-	-	-
Stage 2	31	-	-	-	-	-
Critical Hdwy	6.96	7.06	-	-	4.26	-
Critical Hdwy Stg 1	5.96	-	-	-	-	-
Critical Hdwy Stg 2	5.96	-	-	-	-	-
Follow-up Hdwy	3.58	3.38	-	-	2.28	-
Pot Cap-1 Maneuver	650	862	-	-	1236	-
Stage 1	733	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	650	862	-	-	1236	-
Mov Cap-2 Maneuver	650	-	-	-	-	-
Stage 1	733	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	650	-	1236	-
HCM Lane V/C Ratio	-	-	0.104	-	-	-
HCM Control Delay (s)	-	-	11.2	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	39	58	184	19	3
Future Vol, veh/h	11	39	58	184	19	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	10	10	5	5	7	7
Mvmt Flow	16	57	84	267	28	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	465	30	32	0	-	0
Stage 1	30	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.15	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.245	-	-	-
Pot Cap-1 Maneuver	541	1022	1561	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	512	1022	1561	-	-	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1561	-	554	1022	-	-
HCM Lane V/C Ratio	0.054	-	0.029	0.055	-	-
HCM Control Delay (s)	7.4	-	11.7	8.7	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	0.2	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	589	23	47	846	15	16
Future Vol, veh/h	589	23	47	846	15	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	640	25	51	920	16	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	665	0	1215	333
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	562	-
Critical Hdwy	-	-	4.14	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	-	-	2.22	-	3.54	3.34
Pot Cap-1 Maneuver	-	-	920	-	171	657
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	920	-	152	657
Mov Cap-2 Maneuver	-	-	-	-	152	-
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	469	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	21.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	252	-	-	920	-
HCM Lane V/C Ratio	0.134	-	-	0.056	-
HCM Control Delay (s)	21.5	-	-	9.1	0.5
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	583	814	8	10	89
Future Vol, veh/h	17	583	814	8	10	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	18	634	885	9	11	97

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	894	0	-	0	1560	890
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	670	-
Critical Hdwy	4.15	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.245	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	746	-	-	-	123	342
Stage 1	-	-	-	-	401	-
Stage 2	-	-	-	-	509	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	746	-	-	-	120	342
Mov Cap-2 Maneuver	-	-	-	-	120	-
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	509	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	24.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	746	-	-	-	288
HCM Lane V/C Ratio	0.025	-	-	-	0.374
HCM Control Delay (s)	9.9	-	-	-	24.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.7

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	6	0	70	5	12	0	35	33	6	54	4
Future Vol, veh/h	3	6	0	70	5	12	0	35	33	6	54	4
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	0	0	0	3	3	3	2	2	2	0	0	0
Mvmt Flow	5	10	0	111	8	19	0	56	52	10	86	6
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.2	9.2	8.2	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	33%	0%	93%	0%	100%	0%
Vol Thru, %	100%	51%	67%	100%	7%	0%	0%	93%
Vol Right, %	0%	49%	0%	0%	0%	100%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	68	9	0	75	12	6	58
LT Vol	0	0	3	0	70	0	6	0
Through Vol	0	35	6	0	5	0	0	54
RT Vol	0	33	0	0	0	12	0	4
Lane Flow Rate	0	108	14	0	119	19	10	92
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0.141	0.021	0	0.183	0.023	0.015	0.127
Departure Headway (Hd)	5.051	4.71	5.331	5.163	5.547	4.376	5.517	4.966
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	763	672	0	648	819	651	724
Service Time	2.769	2.428	3.06	2.892	3.27	2.099	3.235	2.684
HCM Lane V/C Ratio	0	0.142	0.021	0	0.184	0.023	0.015	0.127
HCM Control Delay	7.8	8.2	8.2	7.9	9.5	7.2	8.3	8.4
HCM Lane LOS	N	A	A	N	A	A	A	A
HCM 95th-tile Q	0	0.5	0.1	0	0.7	0.1	0	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1038	596	6	5	2
Future Vol, veh/h	3	1038	596	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	5	5	6	6
Mvmt Flow	3	1116	641	6	5	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	647	0	-	0	1763	641
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	1122	-
Critical Hdwy	4.16	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.254	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	920	-	-	-	90	468
Stage 1	-	-	-	-	517	-
Stage 2	-	-	-	-	306	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	920	-	-	-	89	468
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	306	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	38.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	920	-	-	-	116
HCM Lane V/C Ratio	0.004	-	-	-	0.065
HCM Control Delay (s)	8.9	0	-	-	38.2
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	96	140	4	188	278
Future Vol, veh/h	6	96	140	4	188	278
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	4	4	2	2
Mvmt Flow	7	110	161	5	216	320
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.3	9.9	11.4
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	97%	0%	0%	0%	100%
Vol Right, %	3%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	6	96	188	278
LT Vol	0	6	0	188	0
Through Vol	140	0	0	0	278
RT Vol	4	0	96	0	0
Lane Flow Rate	166	7	110	216	320
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.24	0.013	0.168	0.33	0.444
Departure Headway (Hd)	5.219	6.68	5.467	5.504	5.002
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	685	534	653	653	719
Service Time	3.272	4.437	3.223	3.249	2.747
HCM Lane V/C Ratio	0.242	0.013	0.168	0.331	0.445
HCM Control Delay	9.9	9.5	9.3	11	11.7
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0.9	0	0.6	1.4	2.3

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	41	243	1	24	475
Future Vol, veh/h	3	41	243	1	24	475
Conflicting Peds, #/hr	0	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	8	8	1	1	1	1
Mvmt Flow	4	49	289	1	29	565

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	917	298	0	0	294	0
Stage 1	294	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.11	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.209	-
Pot Cap-1 Maneuver	295	728	-	-	1273	-
Stage 1	743	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	287	723	-	-	1269	-
Mov Cap-2 Maneuver	399	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	685	1269	-
HCM Lane V/C Ratio	-	-	0.076	0.023	-
HCM Control Delay (s)	-	-	10.7	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

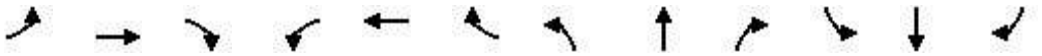
Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	68	287	0	28	506
Future Vol, veh/h	0	68	287	0	28	506
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	0	82	346	0	34	610

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1025	347	0	0	347	0
Stage 1	347	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	260	696	-	-	1212	-
Stage 1	716	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	252	695	-	-	1211	-
Mov Cap-2 Maneuver	252	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	490	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	695	1211	-
HCM Lane V/C Ratio	-	-	0.118	0.028	-
HCM Control Delay (s)	-	-	10.9	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1	11	2	1	23	5	626	5	33	423	13
Future Volume (veh/h)	19	1	11	2	1	23	5	626	5	33	423	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.97
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	1800	1800	1800	1772	1772	1772	1772	1772	1772	1786	1786	1786
Adj Flow Rate, veh/h	23	1	13	2	1	28	6	763	6	40	516	16
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	1	1	1
Cap, veh/h	387	12	161	140	8	143	589	1444	11	526	1575	49
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.01	0.42	0.42	0.06	0.47	0.47
Sat Flow, veh/h	1345	109	1514	68	76	1348	1688	3423	27	1701	3357	104
Grp Volume(v), veh/h	24	0	13	31	0	0	6	375	394	40	260	272
Grp Sat Flow(s),veh/h/ln	1454	0	1514	1492	0	0	1688	1683	1767	1701	1697	1764
Q Serve(g_s), s	0.0	0.0	0.2	0.0	0.0	0.0	0.1	4.8	4.8	0.4	2.8	2.8
Cycle Q Clear(g_c), s	0.4	0.0	0.2	0.5	0.0	0.0	0.1	4.8	4.8	0.4	2.8	2.8
Prop In Lane	0.96		1.00	0.06		0.90	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	398	0	161	291	0	0	589	710	745	526	796	827
V/C Ratio(X)	0.06	0.00	0.08	0.11	0.00	0.00	0.01	0.53	0.53	0.08	0.33	0.33
Avail Cap(c_a), veh/h	1605	0	1467	1573	0	0	1157	5357	5623	1194	5576	5797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	11.7	11.8	0.0	0.0	4.7	6.2	6.2	4.4	4.8	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.6	0.6	0.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	0.1	0.3	0.0	0.0	0.0	1.6	1.6	0.1	0.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	0.0	11.9	12.0	0.0	0.0	4.7	6.8	6.8	4.5	5.1	5.0
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		37			31			775			572	
Approach Delay, s/veh		11.8			12.0			6.8			5.0	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	16.2		7.1	4.3	17.6		7.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	92.0		28.0	10.0	95.0		28.0				
Max Q Clear Time (g_c+I1), s	2.4	6.8		2.4	2.1	4.8		2.5				
Green Ext Time (p_c), s	0.0	5.4		0.1	0.0	3.4		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		6.3	
HCM 6th LOS		A	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	13	3	113	151	12
Future Vol, veh/h	17	13	3	113	151	12
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	9	9	10	10	7	7
Mvmt Flow	20	15	3	131	176	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	184	190	0	-	0
Stage 1	183	-	-	-	-	-
Stage 2	137	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.2	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.29	-	-	-
Pot Cap-1 Maneuver	659	841	1337	-	-	-
Stage 1	832	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	658	840	1337	-	-	-
Mov Cap-2 Maneuver	688	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	873	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1337	-	747	-	-
HCM Lane V/C Ratio	0.003	-	0.047	-	-
HCM Control Delay (s)	7.7	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	60	1366	31	0	1692
Future Vol, veh/h	0	60	1366	31	0	1692
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	65	1485	34	0	1839

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	760	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	349	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	349	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	349	-
HCM Lane V/C Ratio	-	-	0.187	-
HCM Control Delay (s)	-	-	17.7	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.7	-

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	0	20	44	98	20	0	33	100	28	20	127	0
Future Vol, veh/h	0	20	44	98	20	0	33	100	28	20	127	0
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	-	-	-	-	-	-	50	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	14	14	14	12	12	12
Mvmt Flow	0	22	48	107	22	0	36	109	30	22	138	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	389	393	138	413	378	124	138	0	0	139	0	0
Stage 1	182	182	-	196	196	-	-	-	-	-	-	-
Stage 2	207	211	-	217	182	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.24	-	-	4.22	-	-
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	2.326	-	-	2.308	-	-
Pot Cap-1 Maneuver	570	543	910	549	554	927	1375	-	-	1385	-	-
Stage 1	820	749	-	806	739	-	-	-	-	-	-	-
Stage 2	795	728	-	785	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	537	520	910	488	531	927	1375	-	-	1385	-	-
Mov Cap-2 Maneuver	537	520	-	605	617	-	-	-	-	-	-	-
Stage 1	799	737	-	785	720	-	-	-	-	-	-	-
Stage 2	751	709	-	710	737	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	12.5	1.6	1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1375	-	-	737	607	1385	-	-
HCM Lane V/C Ratio	0.026	-	-	0.094	0.211	0.016	-	-
HCM Control Delay (s)	7.7	-	-	10.4	12.5	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.8	0	-	-

HCM 6th Signalized Intersection Summary
1: Viking Ave NW & SR305

12/07/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	1902	82	119	1602	93	127	81	77	118	53	140
Future Volume (veh/h)	171	1902	82	119	1602	93	127	81	77	118	53	140
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		0.99	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	1772	1772	1772	1758	1758	1758	1758	1758	1758	1688	1688	1688
Adj Flow Rate, veh/h	171	1902	82	119	1602	93	104	113	77	118	53	140
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	8	8	8
Cap, veh/h	147	1683	889	332	1968	114	155	163	136	114	29	77
Arrive On Green	0.17	1.00	1.00	0.20	0.61	0.61	0.09	0.09	0.09	0.07	0.07	0.07
Sat Flow, veh/h	1688	3367	1500	1674	3209	185	1674	1758	1475	1607	409	1079
Grp Volume(v), veh/h	171	1902	82	119	829	866	104	113	77	118	0	193
Grp Sat Flow(s),veh/h/ln	1688	1683	1500	1674	1670	1725	1674	1758	1475	1607	0	1488
Q Serve(g_s), s	12.4	71.0	0.0	8.7	54.2	55.4	8.5	8.9	7.1	10.1	0.0	10.1
Cycle Q Clear(g_c), s	12.4	71.0	0.0	8.7	54.2	55.4	8.5	8.9	7.1	10.1	0.0	10.1
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		0.73
Lane Grp Cap(c), veh/h	147	1683	889	332	1024	1057	155	163	136	114	0	106
V/C Ratio(X)	1.16	1.13	0.09	0.36	0.81	0.82	0.67	0.70	0.56	1.03	0.00	1.82
Avail Cap(c_a), veh/h	147	1707	899	332	1024	1057	342	359	301	114	0	106
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.27	0.27	0.27	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	58.6	0.0	0.0	49.1	21.1	21.3	62.4	62.5	61.7	65.9	0.0	66.0
Incr Delay (d2), s/veh	91.1	60.9	0.1	0.5	6.9	7.1	6.0	6.3	4.4	93.1	0.0	405.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.6	19.2	0.0	6.6	29.3	30.7	7.0	7.6	5.1	11.5	0.0	25.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	149.7	60.9	0.1	49.6	28.0	28.4	68.3	68.8	66.1	159.0	0.0	471.0
LnGrp LOS	F	F	A	D	C	C	E	E	E	F	A	F
Approach Vol, veh/h		2155			1814			294			311	
Approach Delay, s/veh		65.7			29.6			67.9			352.6	
Approach LOS		E			C			E			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.6	76.4		15.0	17.0	92.0		18.0				
Change Period (Y+Rc), s	4.9	* 4.9		4.9	4.6	4.9		4.9				
Max Green Setting (Gmax), s	11.6	* 72		10.1	12.4	71.2		29.0				
Max Q Clear Time (g_c+I1), s	10.7	73.0		12.1	14.4	57.4		10.9				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	10.3		1.3				

Intersection Summary		
HCM 6th Ctrl Delay		71.0
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	753	0	0	1544	329	49	0	1410	0	0	0
Future Volume (veh/h)	103	753	0	0	1544	329	49	0	1410	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1758	1758	1772	1772	1772			
Adj Flow Rate, veh/h	103	753	0	0	1544	329	49	0	1410			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0	0	3	3	2	2	2			
Cap, veh/h	145	1923	0	0	1655	738	611	0	957			
Arrive On Green	0.09	1.00	0.00	0.00	0.66	0.66	0.36	0.00	0.36			
Sat Flow, veh/h	1688	3455	0	0	3428	1490	1688	0	2643			
Grp Volume(v), veh/h	103	753	0	0	1544	329	49	0	1410			
Grp Sat Flow(s),veh/h/ln	1688	1683	0	0	1670	1490	1688	0	1321			
Q Serve(g_s), s	4.2	0.0	0.0	0.0	58.1	15.1	2.7	0.0	51.4			
Cycle Q Clear(g_c), s	4.2	0.0	0.0	0.0	58.1	15.1	2.7	0.0	51.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	145	1923	0	0	1655	738	611	0	957			
V/C Ratio(X)	0.71	0.39	0.00	0.00	0.93	0.45	0.08	0.00	1.47			
Avail Cap(c_a), veh/h	172	1923	0	0	1655	738	611	0	957			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.16	0.16	1.00	0.00	1.00			
Uniform Delay (d), s/veh	30.8	0.0	0.0	0.0	22.1	14.8	29.8	0.0	45.3			
Incr Delay (d2), s/veh	10.6	0.6	0.0	0.0	2.3	0.3	0.1	0.0	219.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	3.7	0.3	0.0	0.0	21.4	5.8	2.0	0.0	90.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	0.6	0.0	0.0	24.4	15.1	29.8	0.0	264.3			
LnGrp LOS	D	A	A	A	C	B	C	A	F			
Approach Vol, veh/h		856			1873			1459				
Approach Delay, s/veh		5.5			22.8			256.4				
Approach LOS		A			C			F				

Timer - Assigned Phs	2		4	5	6				
Phs Duration (G+Y+Rc), s	86.0		56.0	10.7	75.3				
Change Period (Y+Rc), s	4.9		4.6	4.6	4.9				
Max Green Setting (Gmax), s	81.1		51.4	8.4	68.1				
Max Q Clear Time (g_c+I1), s	2.0		53.4	6.2	60.1				
Green Ext Time (p_c), s	5.8		0.0	0.0	6.1				

Intersection Summary		
HCM 6th Ctrl Delay	100.6	
HCM 6th LOS	F	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	500	146	596	437	116	136	151	674	75	140	70
Future Volume (veh/h)	56	500	146	596	437	116	136	151	674	75	140	70
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		0.99	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	1772	1772	1772	1786	1786	1786	1772	1772	1772	1800	1800	1800
Adj Flow Rate, veh/h	57	505	147	522	554	117	137	153	681	76	141	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	0	0	0
Cap, veh/h	518	544	460	565	593	501	160	345	291	87	515	
Arrive On Green	0.31	0.31	0.31	0.33	0.33	0.33	0.09	0.19	0.19	0.05	0.15	0.00
Sat Flow, veh/h	1688	1772	1499	1701	1786	1509	1688	1772	1492	1714	3510	0
Grp Volume(v), veh/h	57	505	147	522	554	117	137	153	681	76	141	0
Grp Sat Flow(s),veh/h/ln	1688	1772	1499	1701	1786	1509	1688	1772	1492	1714	1710	0
Q Serve(g_s), s	3.4	38.3	10.4	41.0	41.6	7.8	11.1	10.5	27.0	6.1	5.1	0.0
Cycle Q Clear(g_c), s	3.4	38.3	10.4	41.0	41.6	7.8	11.1	10.5	27.0	6.1	5.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	518	544	460	565	593	501	160	345	291	87	515	
V/C Ratio(X)	0.11	0.93	0.32	0.92	0.93	0.23	0.86	0.44	2.34	0.88	0.27	
Avail Cap(c_a), veh/h	572	601	508	589	618	523	195	345	291	87	515	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.4	46.5	36.9	44.6	44.8	33.5	61.8	49.2	55.8	65.4	52.1	0.0
Incr Delay (d2), s/veh	0.1	19.8	0.4	20.1	21.0	0.2	26.0	0.9	614.9	58.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	27.3	7.0	27.9	29.7	5.2	9.9	8.3	94.3	7.3	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	66.3	37.3	64.7	65.8	33.8	87.9	50.1	670.7	123.9	52.4	0.0
LnGrp LOS	C	E	D	E	E	C	F	D	F	F	D	
Approach Vol, veh/h		709			1193			971			217	A
Approach Delay, s/veh		57.8			62.2			490.7			77.5	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	46.6	17.1	24.9		50.0	11.0	31.0
Change Period (Y+Rc), s	4.0	4.0	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	47.0	16.0	18.0		48.0	7.0	27.0
Max Q Clear Time (g_c+I1), s	40.3	13.1	7.1		43.6	8.1	29.0
Green Ext Time (p_c), s	2.3	0.1	0.5		2.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	196.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	304	301	108	176	508	285	1295	156	774	1221	53
Future Volume (veh/h)	60	304	301	108	176	508	285	1295	156	774	1221	53
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		0.99	1.00		0.99	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	1772	1772	1772	1758	1758	1758	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	60	304	301	108	176	508	285	1295	156	774	1221	53
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	4	4	4	2	2	2
Cap, veh/h	70	335	550	118	384	681	294	1162	516	791	1338	58
Arrive On Green	0.04	0.19	0.19	0.07	0.22	0.22	0.35	0.70	0.71	0.24	0.42	0.42
Sat Flow, veh/h	1688	1772	1502	1674	1758	1470	1661	3313	1458	3274	3203	139
Grp Volume(v), veh/h	60	304	301	108	176	508	285	1295	156	774	608	666
Grp Sat Flow(s),veh/h/ln	1688	1772	1502	1674	1758	1470	1661	1657	1458	1637	1595	1747
Q Serve(g_s), s	5.0	23.8	16.4	9.1	12.3	6.1	24.0	49.8	5.6	33.3	50.9	51.0
Cycle Q Clear(g_c), s	5.0	23.8	16.4	9.1	12.3	6.1	24.0	49.8	5.6	33.3	50.9	51.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	70	335	550	118	384	681	294	1162	516	791	666	730
V/C Ratio(X)	0.86	0.91	0.55	0.92	0.46	0.75	0.97	1.11	0.30	0.98	0.91	0.91
Avail Cap(c_a), veh/h	111	443	641	118	448	735	294	1162	516	791	666	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.58	0.58	0.58	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	56.3	19.8	65.6	48.2	17.3	45.5	21.2	14.2	53.5	38.9	38.9
Incr Delay (d2), s/veh	25.8	17.4	0.6	57.4	0.6	3.6	32.4	59.1	0.9	26.6	19.0	17.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.8	17.9	9.7	9.7	9.3	15.5	14.9	26.9	3.2	23.0	30.6	32.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.5	73.7	20.4	123.0	48.8	20.9	78.0	80.3	15.1	80.0	57.8	56.8
LnGrp LOS	F	E	C	F	D	C	E	F	B	F	E	E
Approach Vol, veh/h		665			792			1736			2048	
Approach Delay, s/veh		51.4			41.0			74.1			65.9	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.2	64.7	11.0	36.1	39.7	55.2	15.1	32.0
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	25.6	51.2	9.8	36.7	26.5	* 50	10.5	36.0
Max Q Clear Time (g_c+I1), s	26.0	53.0	7.0	14.3	35.3	51.8	11.1	25.8
Green Ext Time (p_c), s	0.0	0.0	0.0	2.5	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	63.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	488	758	742	87	79	431
Future Volume (veh/h)	488	758	742	87	79	431
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1786	1786	1772	1772	1772	1772
Adj Flow Rate, veh/h	498	773	757	89	81	440
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	2	2	2	2
Cap, veh/h	568	1115	1036	122	432	720
Arrive On Green	0.22	0.62	0.34	0.34	0.26	0.26
Sat Flow, veh/h	1701	1786	3122	357	1688	1502
Grp Volume(v), veh/h	498	773	420	426	81	440
Grp Sat Flow(s),veh/h/ln	1701	1786	1683	1707	1688	1502
Q Serve(g_s), s	11.3	19.2	14.7	14.7	2.5	14.5
Cycle Q Clear(g_c), s	11.3	19.2	14.7	14.7	2.5	14.5
Prop In Lane	1.00			0.21	1.00	1.00
Lane Grp Cap(c), veh/h	568	1115	575	583	432	720
V/C Ratio(X)	0.88	0.69	0.73	0.73	0.19	0.61
Avail Cap(c_a), veh/h	1455	2715	1204	1221	503	783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.8	8.3	19.4	19.4	19.5	12.8
Incr Delay (d2), s/veh	4.5	0.8	1.8	1.8	0.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.4	10.2	9.4	9.5	1.7	18.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.3	9.1	21.2	21.2	19.7	14.1
LnGrp LOS	B	A	C	C	B	B
Approach Vol, veh/h		1271	846		521	
Approach Delay, s/veh		11.9	21.2		14.9	
Approach LOS		B	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	45.9	21.2	19.0	26.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	102.0	20.0	50.0	48.0
Max Q Clear Time (g_c+I1), s	21.2	16.5	13.3	16.7
Green Ext Time (p_c), s	7.6	0.7	1.7	6.2

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	51	3	28	15	375	3	1165	48	322	1260	146
Future Volume (veh/h)	187	51	3	28	15	375	3	1165	48	322	1260	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1772	1772	1772	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	187	51	3	28	15	375	3	1165	48	322	1260	146
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	4	4	4	2	2	2
Cap, veh/h	216	212	12	228	122	301	8	988	41	387	1687	798
Arrive On Green	0.13	0.13	0.13	0.20	0.20	0.20	0.00	0.30	0.30	0.31	0.70	0.71
Sat Flow, veh/h	1701	1669	98	1117	599	1502	1661	3239	133	1688	3189	1499
Grp Volume(v), veh/h	187	0	54	43	0	375	3	596	617	322	1260	146
Grp Sat Flow(s),veh/h/ln	1701	0	1767	1716	0	1502	1661	1657	1716	1688	1595	1499
Q Serve(g_s), s	15.3	0.0	3.9	2.9	0.0	28.5	0.3	43.3	43.3	25.2	35.0	4.6
Cycle Q Clear(g_c), s	15.3	0.0	3.9	2.9	0.0	28.5	0.3	43.3	43.3	25.2	35.0	4.6
Prop In Lane	1.00		0.06	0.65		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	216	0	224	350	0	301	8	505	523	387	1687	798
V/C Ratio(X)	0.87	0.00	0.24	0.12	0.00	1.24	0.38	1.18	1.18	0.83	0.75	0.18
Avail Cap(c_a), veh/h	395	0	411	350	0	301	70	505	523	387	1687	798
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.82	0.82	0.82	0.22	0.22	0.22
Uniform Delay (d), s/veh	60.8	0.0	55.8	46.3	0.0	56.7	70.5	49.3	49.4	46.8	15.1	10.4
Incr Delay (d2), s/veh	10.0	0.0	0.5	0.2	0.0	134.7	23.3	96.6	96.6	3.5	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.6	0.0	3.2	2.3	0.0	33.2	0.3	43.6	45.0	12.8	12.2	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.8	0.0	56.4	46.4	0.0	191.5	93.8	145.9	145.9	50.3	15.8	10.5
LnGrp LOS	E	A	E	D	A	F	F	F	F	D	B	B
Approach Vol, veh/h		241			418			1216			1728	
Approach Delay, s/veh		67.6			176.6			145.8			21.8	
Approach LOS		E			F			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	80.5		22.6	38.0	47.8		33.6
Change Period (Y+Rc), s	4.6	4.9		4.6	4.9	4.0		4.6
Max Green Setting (Gmax), s	6.6	55.3		33.0	18.1	43.8		29.0
Max Q Clear Time (g_c+I1), s	2.3	37.0		17.3	27.2	45.3		30.5
Green Ext Time (p_c), s	0.0	6.8		0.7	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	84.7
HCM 6th LOS	F

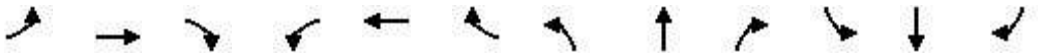
Intersection	
Int Delay, s/veh	19.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	194	136	11	202	22	183	38	12	25	51	52
Future Vol, veh/h	69	194	136	11	202	22	183	38	12	25	51	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	0	0	0	5	5	5
Mvmt Flow	74	209	146	12	217	24	197	41	13	27	55	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	241	0	0	355	0	0	739	695	283	711	756	229
Stage 1	-	-	-	-	-	-	430	430	-	253	253	-
Stage 2	-	-	-	-	-	-	309	265	-	458	503	-
Critical Hdwy	4.11	-	-	4.12	-	-	7.1	6.5	6.2	7.15	6.55	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.15	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.15	5.55	-
Follow-up Hdwy	2.209	-	-	2.218	-	-	3.5	4	3.3	3.545	4.045	3.345
Pot Cap-1 Maneuver	1331	-	-	1204	-	-	336	368	761	344	334	803
Stage 1	-	-	-	-	-	-	607	587	-	745	692	-
Stage 2	-	-	-	-	-	-	705	693	-	577	536	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1331	-	-	1204	-	-	257	344	760	292	312	803
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	344	-	292	312	-
Stage 1	-	-	-	-	-	-	573	554	-	703	685	-
Stage 2	-	-	-	-	-	-	597	686	-	496	506	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.4	71.5	16.2
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	278	1331	-	-	1204	-	-	292	451
HCM Lane V/C Ratio	0.901	0.056	-	-	0.01	-	-	0.092	0.246
HCM Control Delay (s)	71.5	7.9	-	-	8	-	-	18.6	15.6
HCM Lane LOS	F	A	-	-	A	-	-	C	C
HCM 95th %tile Q(veh)	8.1	0.2	-	-	0	-	-	0.3	1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	104	46	33	67	77	66	1057	58	76	1090	34
Future Volume (veh/h)	69	104	46	33	67	77	66	1057	58	76	1090	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1744	1744	1744	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	69	104	46	33	67	77	66	1057	58	76	1090	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	4	4	4	4	4	4	2	2	2
Cap, veh/h	90	140	64	46	94	107	589	1053	58	611	1103	519
Arrive On Green	0.09	0.09	0.09	0.08	0.08	0.08	0.35	0.34	0.34	0.36	0.35	0.35
Sat Flow, veh/h	1033	1613	734	595	1209	1386	1661	3112	171	1688	3189	1500
Grp Volume(v), veh/h	116	0	103	95	0	82	66	533	582	76	1090	34
Grp Sat Flow(s),veh/h/ln	1734	0	1645	1714	0	1476	1661	1569	1713	1688	1595	1500
Q Serve(g_s), s	9.7	0.0	9.0	8.0	0.0	8.0	4.0	50.1	50.1	4.5	50.3	2.2
Cycle Q Clear(g_c), s	9.7	0.0	9.0	8.0	0.0	8.0	4.0	50.1	50.1	4.5	50.3	2.2
Prop In Lane	0.60		0.45	0.35		0.94	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	151	0	143	133	0	114	589	531	580	611	1103	519
V/C Ratio(X)	0.77	0.00	0.72	0.71	0.00	0.72	0.11	1.00	1.00	0.12	0.99	0.07
Avail Cap(c_a), veh/h	334	0	317	481	0	414	589	531	580	611	1103	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.57	0.57	0.57	0.76	0.76	0.76
Uniform Delay (d), s/veh	66.1	0.0	65.7	66.7	0.0	66.4	32.1	49.0	49.0	31.6	48.1	32.4
Incr Delay (d2), s/veh	7.9	0.0	6.7	6.9	0.0	8.1	0.0	30.3	29.1	0.1	20.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	0.0	7.2	6.7	0.0	5.8	2.9	29.7	31.9	3.3	29.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.0	0.0	72.4	73.6	0.0	74.5	32.2	79.2	78.1	31.6	69.0	32.6
LnGrp LOS	E	A	E	E	A	E	C	F	F	C	E	C
Approach Vol, veh/h		219			177			1181			1200	
Approach Delay, s/veh		73.3			74.0			76.0			65.6	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	57.4	56.2		17.9	58.5	55.1		16.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.8	51.7		29.0	7.9	50.6		42.0				
Max Q Clear Time (g_c+I1), s	6.0	52.3		11.7	6.5	52.1		10.0				
Green Ext Time (p_c), s	0.0	0.0		0.7	0.0	0.0		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		71.2	
HCM 6th LOS		E	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	319	97	118	215	164	81	974	147	160	936	57
Future Volume (veh/h)	58	319	97	118	215	164	81	974	147	160	936	57
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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1772	1772	1772	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	58	319	97	118	215	164	81	974	147	160	936	57
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	4	4	4	2	2	2
Cap, veh/h	68	349	289	135	417	351	95	1050	158	344	1638	100
Arrive On Green	0.04	0.20	0.20	0.08	0.24	0.24	0.04	0.25	0.25	0.20	0.52	0.52
Sat Flow, veh/h	1701	1786	1482	1688	1772	1473	1661	2811	424	1688	3136	191
Grp Volume(v), veh/h	58	319	97	118	215	164	81	544	577	160	476	517
Grp Sat Flow(s),veh/h/ln	1701	1786	1482	1688	1772	1473	1661	1569	1666	1688	1595	1732
Q Serve(g_s), s	4.8	24.9	8.0	9.8	15.0	8.7	6.9	48.0	48.1	11.8	28.9	28.9
Cycle Q Clear(g_c), s	4.8	24.9	8.0	9.8	15.0	8.7	6.9	48.0	48.1	11.8	28.9	28.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		0.11
Lane Grp Cap(c), veh/h	68	349	289	135	417	351	95	586	622	344	833	905
V/C Ratio(X)	0.86	0.92	0.34	0.88	0.52	0.47	0.85	0.93	0.93	0.47	0.57	0.57
Avail Cap(c_a), veh/h	131	389	323	177	435	367	200	615	652	344	833	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79	0.80	0.80	0.80
Uniform Delay (d), s/veh	67.8	56.0	49.2	64.7	47.3	19.0	67.7	51.3	51.4	49.7	23.1	23.1
Incr Delay (d2), s/veh	19.5	24.4	0.7	29.7	1.0	1.0	11.9	19.4	18.7	0.8	2.3	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.4	19.6	5.5	9.1	11.1	5.6	5.9	29.4	30.9	8.3	15.9	17.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.3	80.4	49.9	94.3	48.3	19.9	79.6	70.7	70.1	50.5	25.4	25.2
LnGrp LOS	F	F	D	F	D	B	E	E	E	D	C	C
Approach Vol, veh/h		474			497			1202			1153	
Approach Delay, s/veh		75.0			49.9			71.0			28.8	
Approach LOS		E			D			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	79.6	10.8	38.5	34.3	58.4	16.4	32.8
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	17.6	58.9	11.4	35.4	20.4	* 56	15.4	31.4
Max Q Clear Time (g_c+I1), s	8.9	30.9	6.8	17.0	13.8	50.1	11.8	26.9
Green Ext Time (p_c), s	0.1	7.2	0.0	1.5	0.3	3.5	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	53.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	187	130	70	120	197	153	887	49	221	876	20
Future Volume (veh/h)	62	187	130	70	120	197	153	887	49	221	876	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1758	1758	1758	1730	1730	1730	1772	1772	1772
Adj Flow Rate, veh/h	62	187	130	70	120	197	153	887	49	221	876	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	5	5	5	2	2	2
Cap, veh/h	186	220	183	147	228	189	172	963	53	638	1921	44
Arrive On Green	0.04	0.12	0.12	0.04	0.13	0.13	0.10	0.31	0.31	0.50	0.78	0.78
Sat Flow, veh/h	1688	1772	1469	1674	1758	1459	1647	3080	170	1688	3276	75
Grp Volume(v), veh/h	62	187	130	70	120	197	153	448	488	221	426	470
Grp Sat Flow(s),veh/h/ln	1688	1772	1469	1674	1758	1459	1647	1557	1694	1688	1595	1756
Q Serve(g_s), s	4.5	14.7	12.1	5.2	9.1	9.1	13.0	39.5	39.5	11.2	13.0	13.0
Cycle Q Clear(g_c), s	4.5	14.7	12.1	5.2	9.1	9.1	13.0	39.5	39.5	11.2	13.0	13.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.04
Lane Grp Cap(c), veh/h	186	220	183	147	228	189	172	487	529	638	935	1030
V/C Ratio(X)	0.33	0.85	0.71	0.48	0.53	1.04	0.89	0.92	0.92	0.35	0.46	0.46
Avail Cap(c_a), veh/h	303	282	234	254	280	232	267	603	656	638	935	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	51.8	60.9	59.7	52.0	57.7	15.0	62.8	47.1	47.1	24.8	7.9	7.9
Incr Delay (d2), s/veh	1.0	17.2	7.0	2.4	1.9	68.4	20.3	25.2	23.8	0.2	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	12.2	8.5	4.1	7.5	11.1	10.5	25.4	27.1	7.1	6.4	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.9	78.1	66.7	54.4	59.6	83.4	83.1	72.3	70.9	25.0	9.1	9.0
LnGrp LOS	D	E	E	D	E	F	F	E	E	C	A	A
Approach Vol, veh/h		379			387			1089			1117	
Approach Delay, s/veh		70.1			70.8			73.2			12.2	
Approach LOS		E			E			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	58.6	49.4	11.3	22.7	19.8	88.3	10.5	23.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	29.5	55.5	15.9	23.1	23.5	61.5	15.9	23.1
Max Q Clear Time (g_c+I1), s	13.2	41.5	7.2	16.7	15.0	15.0	6.5	11.1
Green Ext Time (p_c), s	0.7	3.4	0.1	0.7	0.3	3.9	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	49.5
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	1	4	0	7	2	812	11	11	842	9
Future Vol, veh/h	4	0	1	4	0	7	2	812	11	11	842	9
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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	4	0	1	4	0	8	2	873	12	12	905	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1375	1823	458	1360	1822	443	915	0	0	885	0	0
Stage 1	934	934	-	883	883	-	-	-	-	-	-	-
Stage 2	441	889	-	477	939	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.22	-	-	2.21	-	-
Pot Cap-1 Maneuver	106	78	555	109	78	568	741	-	-	767	-	-
Stage 1	290	347	-	311	367	-	-	-	-	-	-	-
Stage 2	570	364	-	543	345	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	103	77	555	107	77	568	741	-	-	767	-	-
Mov Cap-2 Maneuver	103	77	-	107	77	-	-	-	-	-	-	-
Stage 1	289	341	-	310	366	-	-	-	-	-	-	-
Stage 2	561	363	-	533	339	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.6	22.2	0	0.1
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	741	-	-	123	221	767	-	-
HCM Lane V/C Ratio	0.003	-	-	0.044	0.054	0.015	-	-
HCM Control Delay (s)	9.9	-	-	35.6	22.2	9.8	-	-
HCM Lane LOS	A	-	-	E	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

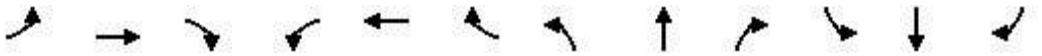
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	610	14	21	481	4	7
Future Vol, veh/h	610	14	21	481	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	10	10
Mvmt Flow	635	15	22	501	4	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	650	0	1188	643
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	545	-
Critical Hdwy	-	-	4.12	-	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	-	-	2.218	-	3.59	3.39
Pot Cap-1 Maneuver	-	-	936	-	200	459
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	565	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	936	-	195	459
Mov Cap-2 Maneuver	-	-	-	-	195	-
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	551	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	308	-	-	936	-
HCM Lane V/C Ratio	0.037	-	-	0.023	-
HCM Control Delay (s)	17.1	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	193	69	336	273	0	30	0	403	255	73	17
Future Volume (veh/h)	0	193	69	336	273	0	30	0	403	255	73	17
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	0	1772	1772	1758	1758	0	1758	0	1758	1716	1784	1716
Adj Flow Rate, veh/h	0	193	69	336	273	0	30	0	403	255	73	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	3	3	0	3	0	3	6	6	6
Cap, veh/h	0	688	306	2357	2783	0	41	0	0	451	103	
Arrive On Green	0.00	0.20	0.20	0.80	1.00	0.00	0.02	0.00	0.00	0.11	0.06	0.00
Sat Flow, veh/h	0	3455	1499	3248	3428	0	1674	30		3170	1784	1454
Grp Volume(v), veh/h	0	193	69	336	273	0	30	90.9		255	73	0
Grp Sat Flow(s),veh/h/ln	0	1683	1499	1624	1670	0	1674	F		1585	1784	1454
Q Serve(g_s), s	0.0	6.9	4.9	0.0	0.0	0.0	2.5			11.0	5.7	0.0
Cycle Q Clear(g_c), s	0.0	6.9	4.9	0.0	0.0	0.0	2.5			11.0	5.7	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	688	306	2357	2783	0	41			451	103	
V/C Ratio(X)	0.00	0.28	0.23	0.14	0.10	0.00	0.73			0.56	0.71	
Avail Cap(c_a), veh/h	0	688	306	2357	2783	0	189			593	666	
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	47.7	38.0	2.6	0.0	0.0	68.8			61.0	65.7	0.0
Incr Delay (d2), s/veh	0.0	1.0	1.7	0.0	0.0	0.0	22.1			1.1	8.6	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
%ile BackOfQ(95%),veh/ln	0.0	5.3	3.9	1.1	0.0	0.0	2.4			7.9	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	48.7	39.8	2.6	0.0	0.0	90.9			62.1	74.3	0.0
LnGrp LOS	A	D	D	A	A	A	F			E	E	
Approach Vol, veh/h		262			609						328	A
Approach Delay, s/veh		46.4			1.4						64.8	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2	3	4		6	7					
Phs Duration (G+Y+Rc), s	89.3	33.0	7.5	12.2		122.3	19.7					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0					
Max Green Setting (Gmax), s	28.0	29.0	16.0	53.0		61.0	22.0					
Max Q Clear Time (g_c+I1), s	2.0	8.9	4.5	7.7		2.0	13.0					
Green Ext Time (p_c), s	1.1	1.2	0.0	0.3		1.8	0.5					

Intersection Summary												
HCM 6th Ctrl Delay			30.1									
HCM 6th LOS			C									

Notes

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

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	4	286	41	6	238
Future Vol, veh/h	28	4	286	41	6	238
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	6	7	7	6	6
Mvmt Flow	31	4	318	46	7	264

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	487	182	0	0	364	0
Stage 1	341	-	-	-	-	-
Stage 2	146	-	-	-	-	-
Critical Hdwy	6.92	7.02	-	-	4.22	-
Critical Hdwy Stg 1	5.92	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.56	3.36	-	-	2.26	-
Pot Cap-1 Maneuver	500	817	-	-	1163	-
Stage 1	680	-	-	-	-	-
Stage 2	854	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	497	817	-	-	1163	-
Mov Cap-2 Maneuver	497	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	848	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	497	817	1163	-
HCM Lane V/C Ratio	-	-	0.063	0.005	0.006	-
HCM Control Delay (s)	-	-	12.7	9.4	8.1	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	141	176	109	105	28
Future Vol, veh/h	30	141	176	109	105	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	7	7	6	6
Mvmt Flow	34	160	200	124	119	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	659	135	151	0	-	0
Stage 1	135	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.17	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.263	-	-	-
Pot Cap-1 Maneuver	427	911	1400	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	366	911	1400	-	-	-
Mov Cap-2 Maneuver	465	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	592	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	4.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1400	-	465	911	-	-
HCM Lane V/C Ratio	0.143	-	0.073	0.176	-	-
HCM Control Delay (s)	8	-	13.4	9.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	0.2	0.6	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1197	48	32	778	7	61
Future Vol, veh/h	1197	48	32	778	7	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1197	48	32	778	7	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1245	0	1674	623
Stage 1	-	-	-	-	1221	-
Stage 2	-	-	-	-	453	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	549	-	85	426
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	604	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	549	-	76	426
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	542	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	21.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	289	-	-	549	-
HCM Lane V/C Ratio	0.235	-	-	0.058	-
HCM Control Delay (s)	21.2	-	-	12	0.6
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	103	1139	744	39	10	60
Future Vol, veh/h	103	1139	744	39	10	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	6	6
Mvmt Flow	103	1139	744	39	10	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	783	0	-	0	2109	764
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	1345	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	835	-	-	-	55	397
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	238	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	835	-	-	-	48	397
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	238	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	33.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	835	-	-	-	195
HCM Lane V/C Ratio	0.123	-	-	-	0.359
HCM Control Delay (s)	9.9	-	-	-	33.5
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	1.5

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	46	17	120	35	16	9	130	154	22	103	49
Future Vol, veh/h	31	46	17	120	35	16	9	130	154	22	103	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	50	18	130	38	17	10	141	167	24	112	53
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10	11.6	12.4	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	40%	0%	77%	0%	100%	0%
Vol Thru, %	0%	46%	60%	0%	23%	0%	0%	68%
Vol Right, %	0%	54%	0%	100%	0%	100%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	284	77	17	155	16	22	152
LT Vol	9	0	31	0	120	0	22	0
Through Vol	0	130	46	0	35	0	0	103
RT Vol	0	154	0	17	0	16	0	49
Lane Flow Rate	10	309	84	18	168	17	24	165
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.017	0.456	0.15	0.028	0.303	0.026	0.042	0.258
Departure Headway (Hd)	6.208	5.32	6.445	5.531	6.471	5.371	6.362	5.628
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	577	679	557	647	556	667	563	638
Service Time	3.937	3.048	4.182	3.267	4.203	3.102	4.095	3.361
HCM Lane V/C Ratio	0.017	0.455	0.151	0.028	0.302	0.025	0.043	0.259
HCM Control Delay	9	12.5	10.3	8.4	12	8.2	9.4	10.3
HCM Lane LOS	A	B	B	A	B	A	A	B
HCM 95th-tile Q	0.1	2.4	0.5	0.1	1.3	0.1	0.1	1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	1014	1112	44	6	5
Future Vol, veh/h	4	1014	1112	44	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	4	4	0	0
Mvmt Flow	4	1014	1112	44	6	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1156	0	-	0	2134	1112
Stage 1	-	-	-	-	1112	-
Stage 2	-	-	-	-	1022	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	604	-	-	-	55	256
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	350	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	604	-	-	-	54	256
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	312	-
Stage 2	-	-	-	-	350	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	54.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	604	-	-	-	84
HCM Lane V/C Ratio	0.007	-	-	-	0.131
HCM Control Delay (s)	11	0	-	-	54.2
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	20.7
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	329	351	14	299	368
Future Vol, veh/h	7	329	351	14	299	368
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	7	343	366	15	311	383
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	19.2	22.1	20.6
HCM LOS	C	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	96%	0%	0%	0%	100%
Vol Right, %	4%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	365	7	329	299	368
LT Vol	0	7	0	299	0
Through Vol	351	0	0	0	368
RT Vol	14	0	329	0	0
Lane Flow Rate	380	7	343	311	383
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.678	0.016	0.62	0.594	0.677
Departure Headway (Hd)	6.422	7.734	6.508	6.863	6.354
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	559	461	552	523	563
Service Time	4.495	5.511	4.284	4.643	4.133
HCM Lane V/C Ratio	0.68	0.015	0.621	0.595	0.68
HCM Control Delay	22.1	10.6	19.4	19.3	21.6
HCM Lane LOS	C	B	C	C	C
HCM 95th-tile Q	5.1	0	4.2	3.8	5.1

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	70	689	8	66	648
Future Vol, veh/h	4	70	689	8	66	648
Conflicting Peds, #/hr	0	2	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	8	1	1	1	1
Mvmt Flow	4	74	733	9	70	689

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1568	741	0	0	743	0
Stage 1	739	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.11	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.209	-
Pot Cap-1 Maneuver	118	407	-	-	869	-
Stage 1	462	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	108	406	-	-	868	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	385	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	391	868	-
HCM Lane V/C Ratio	-	-	0.201	0.081	-
HCM Control Delay (s)	-	-	16.5	9.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-

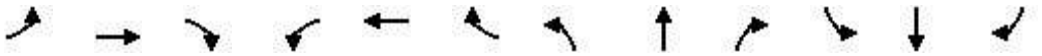
Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	76	749	3	99	716
Future Vol, veh/h	2	76	749	3	99	716
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	2	84	823	3	109	787

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1831	826	0	0	827	0
Stage 1	826	-	-	-	-	-
Stage 2	1005	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	85	375	-	-	808	-
Stage 1	433	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	73	375	-	-	807	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	433	-	-	-	-	-
Stage 2	309	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.2	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	807	-
HCM Lane V/C Ratio	-	-	0.253	0.135	-
HCM Control Delay (s)	-	-	19.2	10.2	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1	0.5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1	12	8	0	50	13	827	5	34	856	24
Future Volume (veh/h)	22	1	12	8	0	50	13	827	5	34	856	24
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	1800	1800	1800	1772	1772	1772	1772	1772	1772	1786	1786	1786
Adj Flow Rate, veh/h	23	1	12	8	0	52	14	861	5	35	892	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	1	1	1
Cap, veh/h	382	12	171	147	6	146	447	1551	9	490	1619	45
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.02	0.45	0.45	0.05	0.48	0.48
Sat Flow, veh/h	1389	105	1523	143	57	1297	1688	3432	20	1701	3371	94
Grp Volume(v), veh/h	24	0	12	60	0	0	14	422	444	35	449	468
Grp Sat Flow(s),veh/h/ln	1494	0	1523	1497	0	0	1688	1683	1768	1701	1697	1769
Q Serve(g_s), s	0.0	0.0	0.2	0.2	0.0	0.0	0.1	5.7	5.7	0.3	5.8	5.8
Cycle Q Clear(g_c), s	0.4	0.0	0.2	1.1	0.0	0.0	0.1	5.7	5.7	0.3	5.8	5.8
Prop In Lane	0.96		1.00	0.13		0.87	1.00		0.01	1.00		0.05
Lane Grp Cap(c), veh/h	394	0	171	299	0	0	447	761	799	490	815	850
V/C Ratio(X)	0.06	0.00	0.07	0.20	0.00	0.00	0.03	0.56	0.56	0.07	0.55	0.55
Avail Cap(c_a), veh/h	1484	0	1370	1467	0	0	952	4974	5225	1114	5177	5397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	12.4	12.8	0.0	0.0	4.7	6.2	6.2	4.5	5.7	5.7
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.3	0.0	0.0	0.0	0.6	0.6	0.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	0.1	0.6	0.0	0.0	0.0	1.9	2.0	0.1	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	0.0	12.5	13.1	0.0	0.0	4.8	6.9	6.8	4.6	6.3	6.3
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		36			60			880			952	
Approach Delay, s/veh		12.5			13.1			6.8			6.2	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	18.1		7.5	4.7	19.0		7.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	92.0		28.0	10.0	95.0		28.0				
Max Q Clear Time (g_c+I1), s	2.3	7.7		2.4	2.1	7.8		3.1				
Green Ext Time (p_c), s	0.0	6.4		0.1	0.0	6.9		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		6.8
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	18	17	275	213	22
Future Vol, veh/h	17	18	17	275	213	22
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	1	1
Mvmt Flow	17	18	17	281	217	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	544	230	240	0	-	0
Stage 1	229	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.12	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.218	-	-	-
Pot Cap-1 Maneuver	493	799	1327	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	486	798	1326	-	-	-
Mov Cap-2 Maneuver	567	-	-	-	-	-
Stage 1	789	-	-	-	-	-
Stage 2	730	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1326	-	666	-	-
HCM Lane V/C Ratio	0.013	-	0.054	-	-
HCM Control Delay (s)	7.8	-	10.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	41	1772	90	0	2097
Future Vol, veh/h	0	41	1772	90	0	2097
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	41	1772	90	0	2097

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	931	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	268	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	268	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	268	-
HCM Lane V/C Ratio	-	-	0.153	-
HCM Control Delay (s)	-	-	20.8	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.5	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	20	91	67	20	0	69	193	80	20	144	0
Future Vol, veh/h	7	20	91	67	20	0	69	193	80	20	144	0
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	-	-	-	-	-	-	50	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	92	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	9	9	9	13	13	13
Mvmt Flow	7	21	96	71	21	0	75	203	84	21	152	0

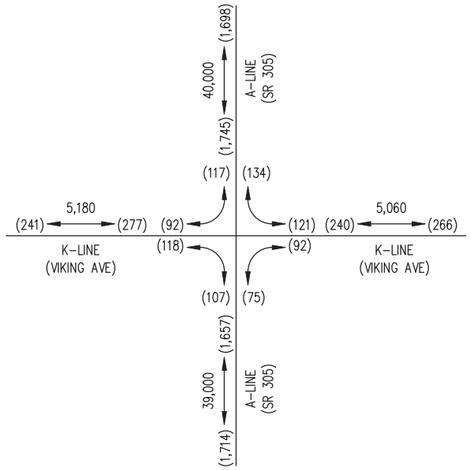
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	600	631	152	648	589	245	152	0	0	287	0	0
Stage 1	194	194	-	395	395	-	-	-	-	-	-	-
Stage 2	406	437	-	253	194	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.19	-	-	4.23	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.281	-	-	2.317	-	-
Pot Cap-1 Maneuver	416	401	900	386	423	799	1387	-	-	1215	-	-
Stage 1	812	744	-	634	608	-	-	-	-	-	-	-
Stage 2	626	583	-	756	744	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	381	373	900	312	393	799	1387	-	-	1215	-	-
Mov Cap-2 Maneuver	381	373	-	468	508	-	-	-	-	-	-	-
Stage 1	768	731	-	600	575	-	-	-	-	-	-	-
Stage 2	570	552	-	645	731	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	14.3	1.6	1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1387	-	-	682	477	1215	-	-
HCM Lane V/C Ratio	0.054	-	-	0.182	0.192	0.017	-	-
HCM Control Delay (s)	7.7	-	-	11.5	14.3	8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0.7	0.1	-	-

Appendix M. Evaluation of Protected-Permitted Left-Turn Signal Treatment

T. 26 N., R. 1 E., W.M.



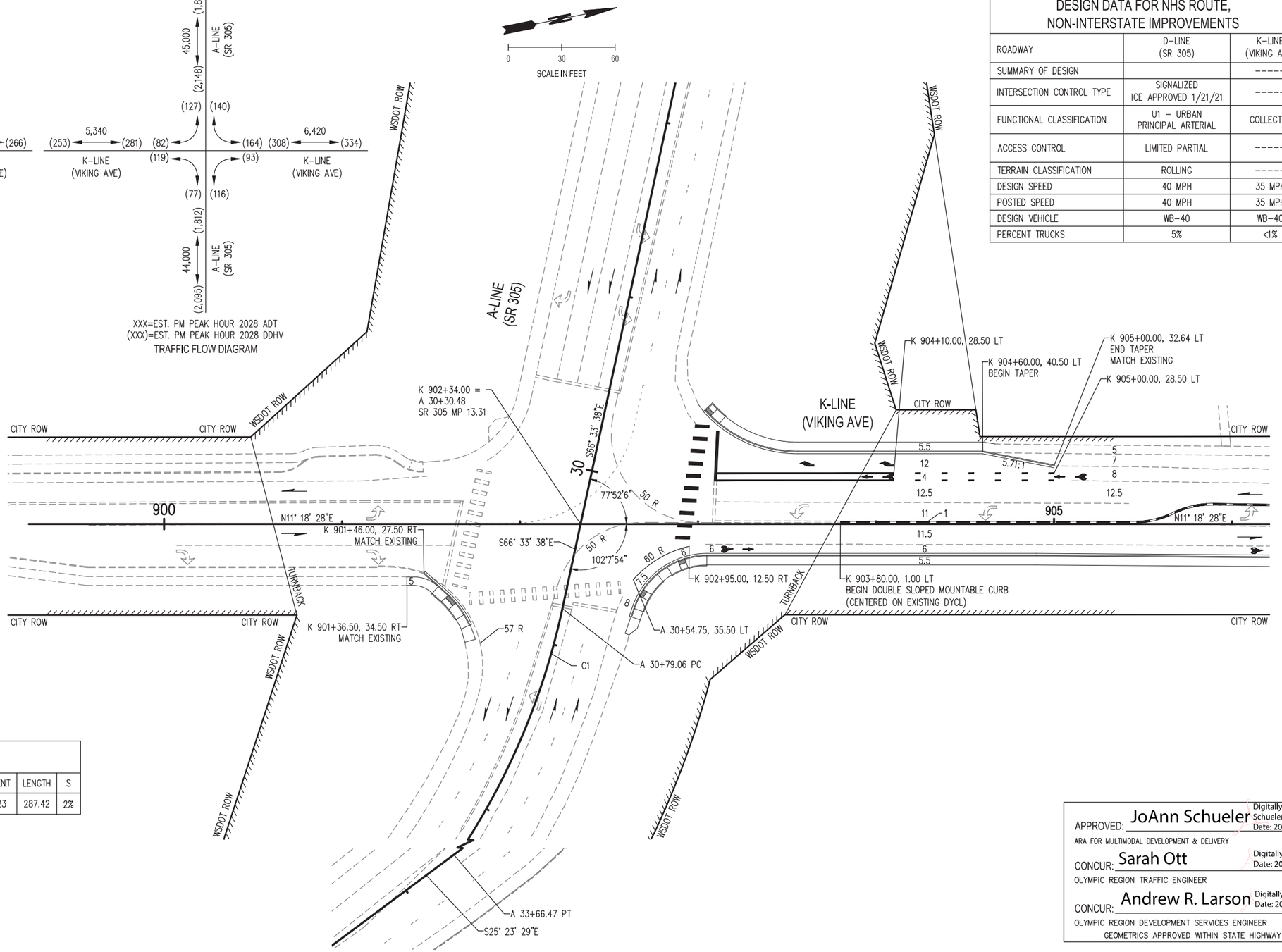
XXX=EST. PM PEAK HOUR 2019 ADT
(XXX)=EST. PM PEAK HOUR 2019 DDHV

TRAFFIC FLOW DIAGRAM

XXX=EST. PM PEAK HOUR 2028 ADT
(XXX)=EST. PM PEAK HOUR 2028 DDHV

TRAFFIC FLOW DIAGRAM

DESIGN DATA FOR NHS ROUTE, NON-INTERSTATE IMPROVEMENTS		
ROADWAY	D-LINE (SR 305)	K-LINE (VIKING AVE)
SUMMARY OF DESIGN		-----
INTERSECTION CONTROL TYPE	SIGNALIZED ICE APPROVED 1/21/21	-----
FUNCTIONAL CLASSIFICATION	U1 - URBAN PRINCIPAL ARTERIAL	COLLECTOR
ACCESS CONTROL	LIMITED PARTIAL	-----
TERRAIN CLASSIFICATION	ROLLING	-----
DESIGN SPEED	40 MPH	35 MPH
POSTED SPEED	40 MPH	35 MPH
DESIGN VEHICLE	WB-40	WB-40
PERCENT TRUCKS	5%	<1%



CURVE DATA						
	P.I. STATION	DELTA	RADIUS	TANGENT	LENGTH	S
C1	A 32+29.29	41°10'09"	400.00	150.23	287.42	2%

APPROVED: JoAnn Schueler — Digitally signed by JoAnn Schueler Date: 2021.07.30 08:35:50 -07'00'
ARA FOR MULTIMODAL DEVELOPMENT & DELIVERY

CONCUR: Sarah Ott — Digitally signed by Sarah Ott Date: 2021.07.29 15:25:00 -07'00'
OLYMPIC REGION TRAFFIC ENGINEER

CONCUR: Andrew R. Larson — Digitally signed by Andrew R. Larson Date: 2021.07.12 07:38:21 -07'00'
OLYMPIC REGION DEVELOPMENT SERVICES ENGINEER

GEOMETRICS APPROVED WITHIN STATE HIGHWAY RIGHT-OF-WAY ONLY

△	REVISIONS	DATE	BY
1	1ST SUBMITTAL	1/28/2021	SCJ
2	2ND SUBMITTAL	3/17/2021	SCJ
3	3RD SUBMITTAL (PREMYLAR)	4/5/2021	SCJ
4	4TH SUBMITTAL	6/09/2021	SCJ

DESIGNED BY: M. WEYRAUCH
DRAWN BY: M. WEYRAUCH
CHECKED BY: R. JEWELL
ISSUE DATE: 06/09/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01_PFA-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 22894 — REGISTERED PROFESSIONAL ENGINEER
06/09/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS

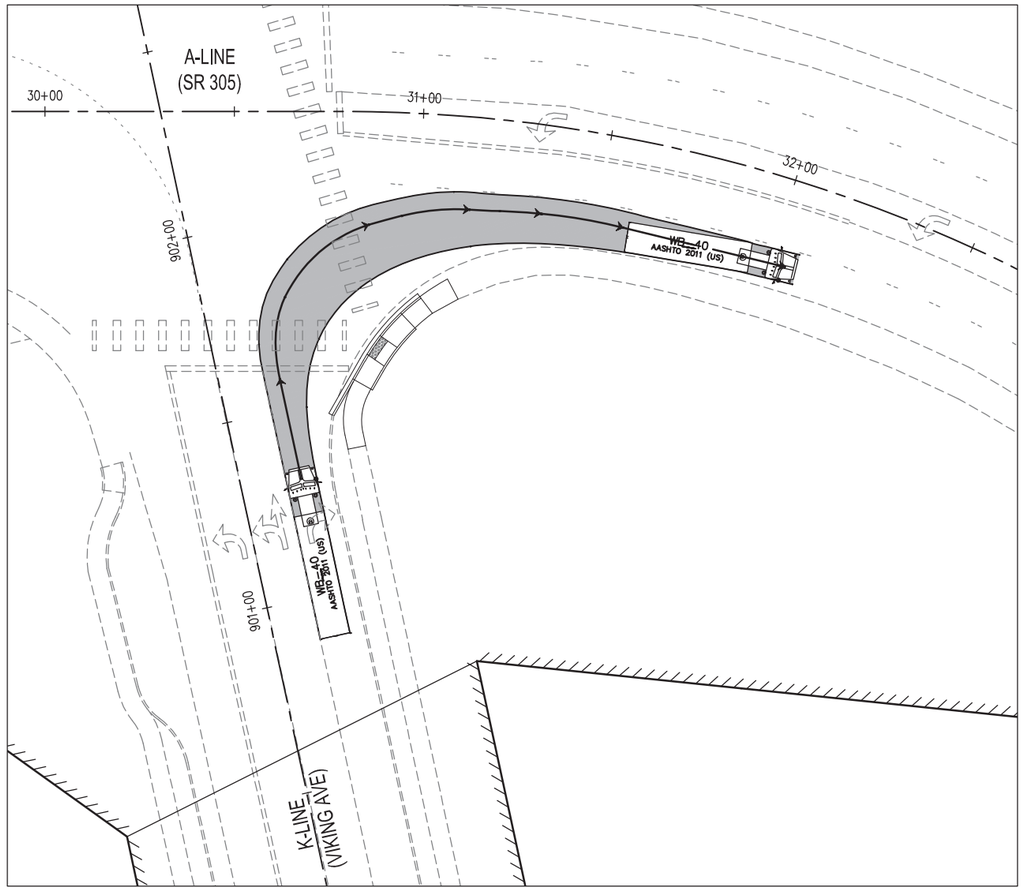
SR 305
VIKING AVENUE IMPROVEMENTS
MP 13.31

PLAN FOR APPROVAL

DRAWING No.: PFA-1
SHEET No.: 1 OF 1

Jun 09, 2021 - 2:08:10pm - User matt.weyrauch
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T. 26 N., R. 1 E., W.M.



0 20 40

SCALE IN FEET

△	REVISIONS	DATE	BY
1	1ST SUBMITTAL	1/28/2021	SCJ
2	2ND SUBMITTAL	3/17/2021	SCJ
3	3RD SUBMITTAL (PREMYLAR)	4/5/2021	SCJ
4	4TH SUBMITTAL	6/09/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL

ISSUE DATE: 06/09/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01_AT-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 32784 — REGISTERED PROFESSIONAL ENGINEER

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS

SR 305
VIKING AVENUE IMPROVEMENTS
MP 13.31

AUTOTURN EXHIBIT - WB-40

DRAWING No.: AT-3
SHEET No.: 3 OF 3

Jun 09, 2021 2:07:34pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01_AT-01.DWG

T. 26 N., R. 1 E., W.M.

SR 305 TRAFFIC SIGNAL SYSTEM UPGRADES

OWNER / APPLICANT

EDWARD ROSE AND SONS
38525 WOODWARD AVE
BLOOMFIELD HILLS, MI, 48304
CONTACT: MARK PERKOSKI
PH: (248) 539-2255

ENGINEER

CIVIL ENGINEER:
SCJ ALLIANCE
8730 TALLON LANE NE, SUITE 200
LACEY, WA 98516
CONTACT: ROBERT E. JEWELL, P.E.
PH: (360) 352-1465
FX: (360) 352-1509

UTILITIES

ELECTRIC: PUGET SOUND ENERGY
6522 KITSAP WAY
BREMERTON, WA 98312
CONTACT: JAKE HELGESTAD
PH: (425) 463-6441

SANITARY & WATER:
CITY OF POULSBO DEPARTMENT
OF PUBLIC WORKS
19050 JENSEN WAY NE
POULSBO, WA 98370
CONTACT: MIKE LUND, P.E.
PH: (360) 394-9757

TELEPHONE: LUMEN
75 THOMPSON ROAD
POULSBO, WA 98370
CONTACT: RAY JONES
PH: (253) 313-3666

GAS:
CASCADE NATURAL GAS
6522 KITSAP WAY
BREMERTON, WA 98312
CONTACT: MIKE DUNN
PH: (360) 479-3966

SIGNAL & STREET LIGHTING:
WSDOT
7407 31ST AVENUE NE
LACEY, WA 98516
CONTACT: WSDOT OLYMPIC
REGION SIGNAL SUPERINTENDENT
PH: (360) 357-2616

STORMWATER:
WSDOT
7407 31ST AVENUE NE
LACEY, WA 98516
CONTACT: JEFF SAWYER, P.E.
PH: (360) 570-6701

GOVERNING AGENCIES

WSDOT PORT ORCHARD
PROJECT ENGINEER OFFICE
8293 SPRING CREEK ROAD SE
PORT ORCHARD, WA 98367
CONTACT: LONE MOODY, P.E.
PH: (360) 874-3000

DIRECTOR OF ENGINEERING/CITY ENGINEER
POULSBO, WA 98370
CONTACT: DIANE LENIUS, P.E.
PH: (360) 394-9750

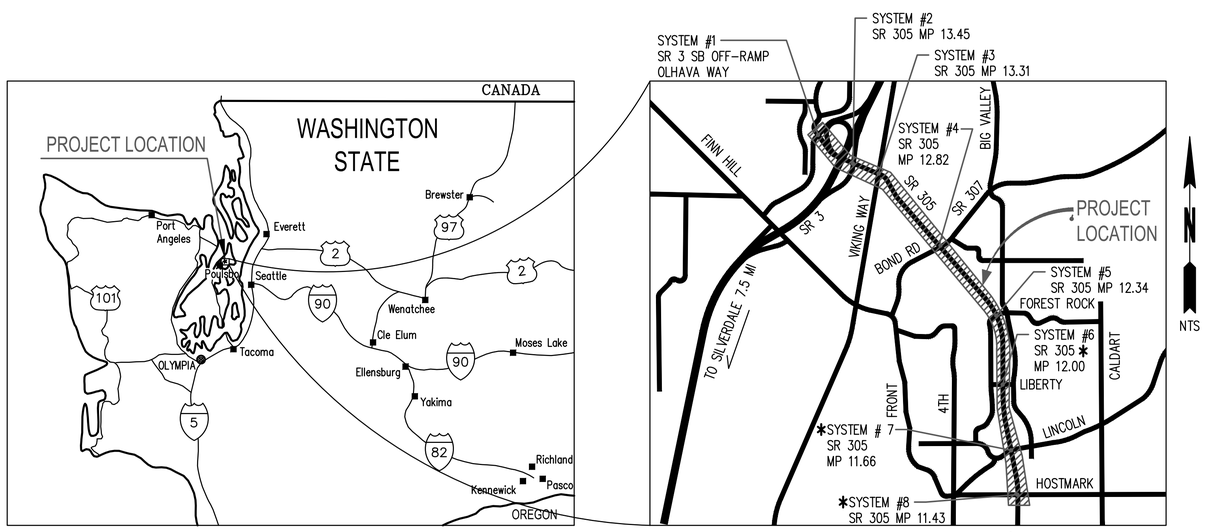
POULSBO,
WASHINGTON

VERTICAL DATUM:

NAVD 1988 (LEICA SMARTNET NETWORK)

BASIS OF BEARING:

THE BASIS OF BEARINGS WASHINGTON STATE COORDINATES, NORTH ZONE 83



VICINITY MAP
S. 11 T26 N., R.1E., W.M.
KITSAP COUNTY,
WASHINGTON

SHEET INDEX		
SHEET NO.	SHEET REF.	DESCRIPTION
1	CV-01	COVER SHEET
2	AL-01	HORIZONTAL ALIGNMENT PLAN
3	RM-01	REMOVAL PLANS
4	SD-01	STORM DRAINAGE AND TESC PLAN
5	PV-01	PAVING PLAN
6	RD-01	RAMP DETAILS
7	RD-02	RAMP DETAILS
8	CH-01	CHANNELIZATION PLAN
9	C-01	CONTROLLER, DETECTION, AND FIBER UPGRADES
10	C-02	CONTROLLER, DETECTION, AND FIBER UPGRADES
11	C-03	CONTROLLER, DETECTION, AND FIBER UPGRADES
12	TS-01	TRAFFIC SIGNAL PLAN – SYSTEM NO. 1
13	TS-02	WIRING DIAGRAM – SYSTEM NO. 1
14	TS-03	TRAFFIC SIGNAL PLAN – SYSTEM NO. 2
15	TS-04	WIRING DIAGRAM – SYSTEM NO. 2
16	TS-05	TRAFFIC SIGNAL PLAN – SYSTEM NO. 3
17	TS-06	WIRING SCHEDULE AND NOTES – SYSTEM NO. 3
18	TS-07	WIRING DIAGRAM – SYSTEM NO. 3
19	TS-08	SIGNAL SCHEDULE DETAIL CHART – SYSTEM NO. 3
20	TS-09	TRAFFIC SIGNAL PLAN – SYSTEM NO. 4
21	TS-10	WIRING DIAGRAM – SYSTEM NO. 4
22	TS-11	TRAFFIC SIGNAL PLAN – SYSTEM NO. 5
23	TS-12	WIRING DIAGRAM – SYSTEM NO. 5
24	TC-01	ADVANCE SIGNING PLAN
25	TC-02	TRAFFIC CONTROL PLAN
26	TC-03	TRAFFIC CONTROL PLAN
27	TC-04	TRAFFIC CONTROL PLAN
28	TC-05	TRAFFIC CONTROL PLAN
29	TC-06	TRAFFIC CONTROL PLAN

NOTES

1. WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE PROJECT SPECIFICATIONS, THE 2021 WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION WHICH ARE HEREBY REFERENCED AS A PART OF THESE PLANS.

2. THE DESIGN SHOWN IS BASED UPON THE ENGINEER'S UNDERSTANDING OF THE EXISTING CONDITIONS. THE EXISTING CONDITIONS SHOWN ON THIS PLAN SHEET ARE BASED UPON SURVEY, PREPARED BY TEAM 4 ENGINEERING. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING FIELD CONDITIONS PRIOR TO BIDDING THE PROPOSED WORK IMPROVEMENTS. IF CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER OR ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE WORK WHICH WOULD BE AFFECTED.

   CAUTION – NOTICE TO CONTRACTOR

3. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON THE PROJECT SURVEY AND OTHER RECORDS OF UTILITIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. CONTRACTOR TO CALL 1-800-424-5555 48 HOURS PRIOR TO PLANNED EXCAVATION. THE CONTRACTOR SHALL CONTACT THE WSDOT OLYMPIC REGION SIGNAL SUPERINTENDENT TO OBTAIN THE LOCATIONS OF ALL WSDOT-OWNED UTILITIES WITHIN THE PROJECT LIMITS. TO REQUEST UTILITY LOCATES, CALL 360-357-2616 DURING NORMAL BUSINESS HOURS (7:30 AM TO 4:00 PM) OR 360-704-3228 (AVAILABLE 7 DAYS PER WEEK BY VOICEMAIL.)

4. ECONOLITE COBALT ATC CONTROLLERS SHALL REPLACE THE EXISTING TRACONEX 390 CONTROLLERS IN THE EXISTING CABINETS AT THE LIBERTY (SYSTEM #6), LINCOLN (SYSTEM #7), AND HOSTMARK (SYSTEM #8) INTERSECTIONS ALONG SR 305.

5. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 CV-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 22894 — REGISTERED PROFESSIONAL ENGINEER
8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

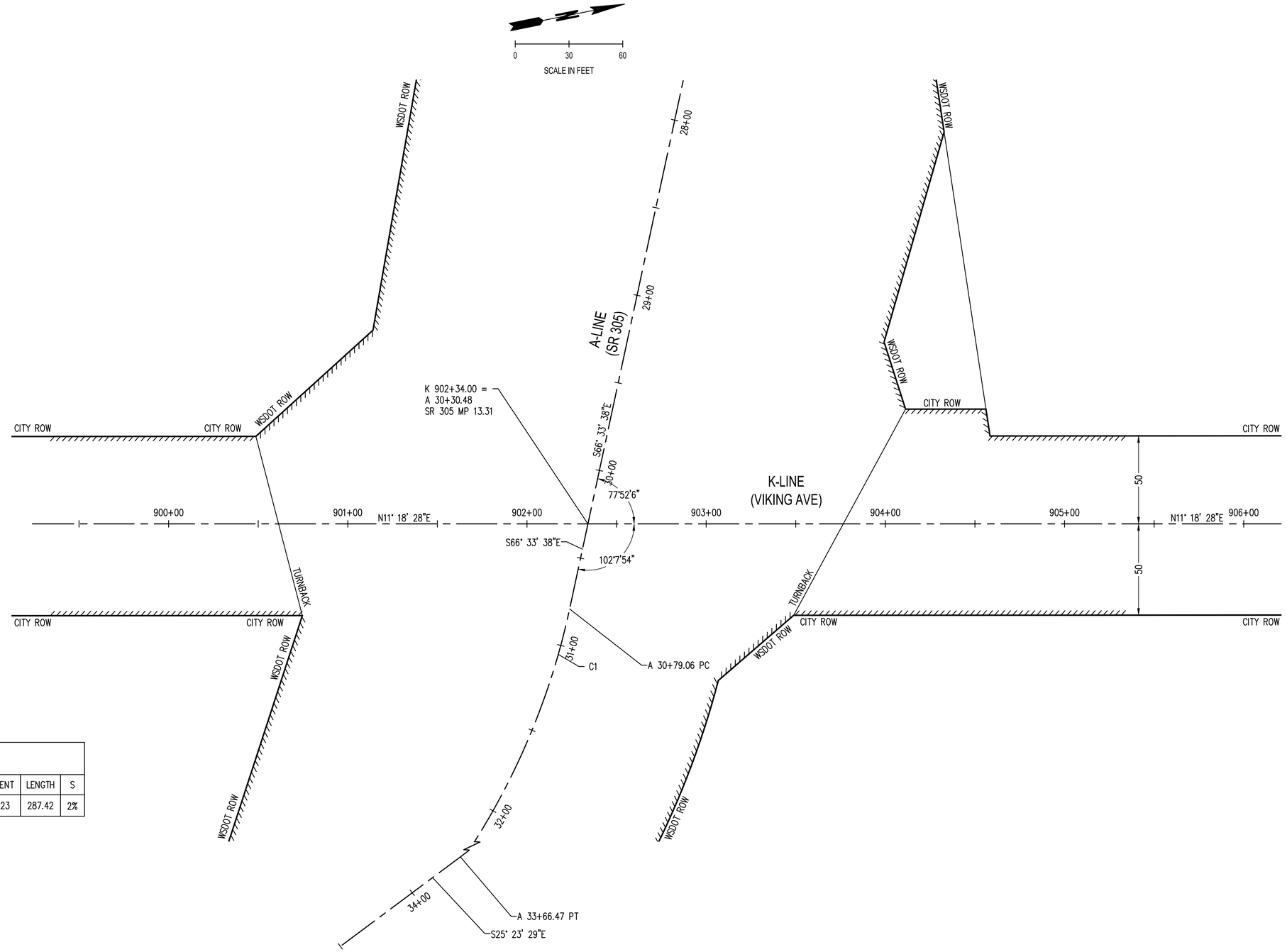
SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

COVER SHEET

DRAWING No.: CV-01
SHEET No.: 1 OF 29

Aug 16, 2021 1:35:53pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 CV-01.DWG

T. 26 N., R. 1 E., W.M.



CURVE DATA						
	P.I. STATION	DELTA	RADIUS	TANGENT	LENGTH	S
C1	A 32+29.29	41°10'09"	400.00	150.23	287.42	2%

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
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DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 AL-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 13784 — REGISTERED PROFESSIONAL ENGINEER
8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

HORIZONTAL ALIGNMENT PLAN

DRAWING No.: AL-01

SHEET No.: 2 OF 29

Aug 16, 2021 1:36:06pm – User matt.weyrauch
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T. 26 N., R. 1 E., W.M.

REMOVAL LEGEND

- SAWCUT (TYP)
- PLANING BITUMINOUS PAVEMENT (0.15')
- ASPHALT CONCRETE REMOVAL
- CEMENT CONCRETE SIDEWALK REMOVAL

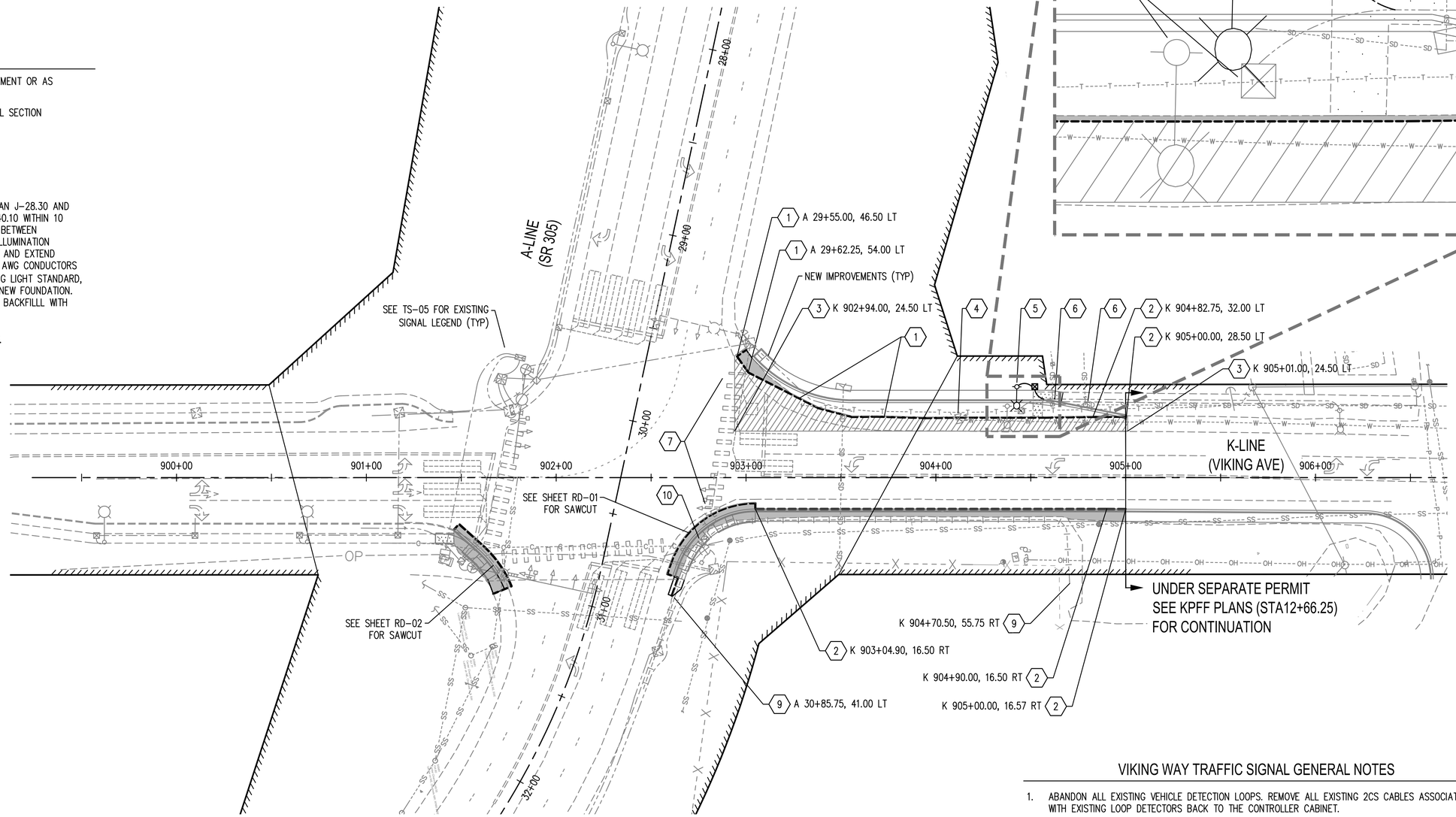
REMOVAL NOTES

1. SAWCUT MINIMUM 0.5 FT INSIDE EXISTING EDGE OF PAVEMENT OR AS OTHERWISE NOTED.
2. SAWCUT ALONG NEW EDGE OF GUTTER PAN. SEE TYPICAL SECTION A–A ON PV–01.
3. PLANING BITUMINOUS PAVEMENT. SEE ALSO PV–01.
4. ADJUST VALVE BOX CASING TO FINISHED GRADE.
5. INSTALL TYPE A FOUNDATION PER WSDOT STANDARD PLAN J–28.30 AND TYPE 1 JUNCTION BOX PER WSDOT STANDARD PLAN J–40.10 WITHIN 10 FEET OF FOUNDATION. INSTALL 2 INCH PVC CONDUIT IN BETWEEN FOUNDATION AND JUNCTION BOX. PULL BACK EXISTING ILLUMINATION CONDUCTORS, INTERCEPT EXISTING 2 INCH PVC CONDUIT AND EXTEND CONDUIT TO NEW JUNCTION BOX AND SPLICE NEW 2 #8 AWG CONDUCTORS (WITH #8 GROUND WIRE) TO EXISTING. RELOCATE EXISTING LIGHT STANDARD, LUMINAIRE, SLIP BASE AND ASSOCIATED EQUIPMENT TO NEW FOUNDATION. REMOVE EXISTING FOUNDATION AND JUNCTION BOX, AND BACKFILL WITH GRANULAR MATERIAL TO 95% COMPACTION.
6. SEE SHEET SD–01 FOR STORM DRAINAGE MODIFICATIONS.
7. REMOVE EXISTING PLASTIC PAVEMENT MARKINGS.
8. SEE CH–01 FOR SIGNING.
9. REMOVE AND DISPOSE OF EXISTING GUARDRAIL.
10. SEE TS–05 FOR PPB SIGNAL POLE REMOVAL.

EXISTING LEGEND

- WV — WATER VALVE
- CATCH BASIN
- DROP INLET
- SEWER MANHOLE
- UTILITY POLES
- POWER VAULT/JUNCTION BOX
- LIGHT STANDARD
- SIGN
- SD — STORM LINE
- SS — SANITARY SEWER LINE
- T — TELEPHONE LINE
- W — WATER LINE
- OH — OVERHEAD POWER LINE
- FENCE
- GUARDRAIL

0 30 60
SCALE IN FEET



VIKING WAY TRAFFIC SIGNAL GENERAL NOTES

1. ABANDON ALL EXISTING VEHICLE DETECTION LOOPS. REMOVE ALL EXISTING 2CS CABLES ASSOCIATED WITH EXISTING LOOP DETECTORS BACK TO THE CONTROLLER CABINET.
2. CONDUIT RUNS AND JUNCTION BOX LOCATIONS ARE SHOWN SCHEMATICALLY IN APPROXIMATE LOCATIONS. FINAL LOCATIONS MAY BE ADJUSTED TO AVOID CONFLICTS AND FOR EASE OF CONSTRUCTION. FINAL LOCATIONS FOR CONDUITS AND JUNCTION BOXES SHALL BE APPROVED BY THE WSDOT INSPECTOR PRIOR TO INSTALLATION.

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 RM-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 32894 — REGISTERED PROFESSIONAL ENGINEER — 8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

REMOVAL PLANS

DRAWING No.: RM-01
SHEET No.: 3 OF 29

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N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 RM-01.DWG

STORM DRAIN / EROSION LEGEND

	HIGH VISIBILITY SILT FENCE	WSDOT STD PLAN I-30.17
C C	CUT LINE	
F F	FILL LINE	
XXX	NEW INDEX CONTOUR	
XXX	NEW INTERMEDIATE CONTOUR (1' CONTOURS SHOWN)	
XXX	EX INDEX CONTOUR	
XXX	EX INTERMEDIATE CONTOUR	
	BIODEGRADABLE CHECK DAM	WSDOT STD. PLAN I-50.20
SD	SCHEDULE A STORM PIPE	
	TYPE 1 CATCH BASIN	WSDOT STD PLAN B-5.20
	DROP INLET TYPE 2	WSDOT STD PLAN B-45.40

STORM DRAINAGE NOTES

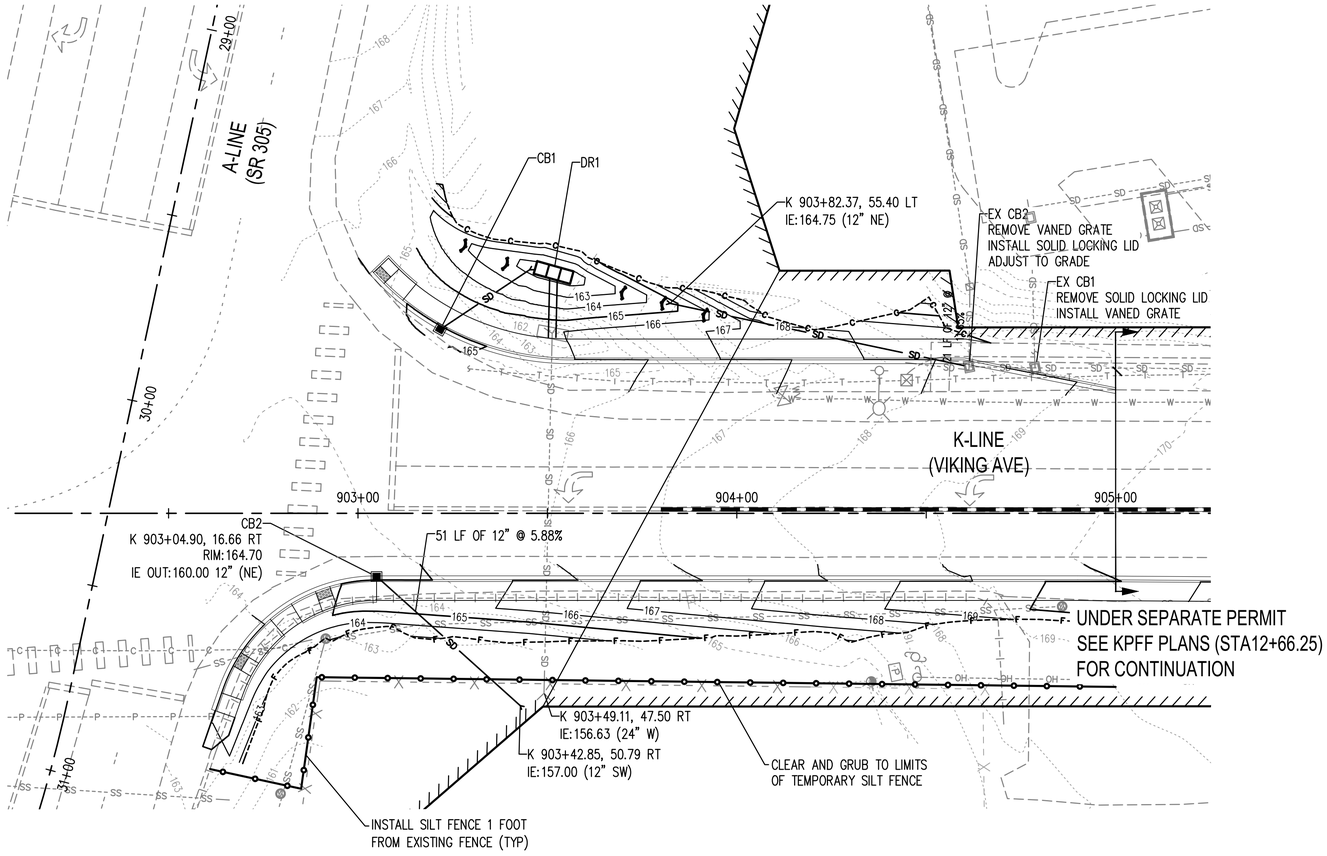
1. ALL NEW CATCH BASINS SHALL HAVE INLET PROTECTION DURING CONSTRUCTION PER WSDOT STD. PLAN I-40.20.
2. ALL TYPE 1 CATCH BASIN GRATES SHALL BE VANED GRATES UNLESS NOTED OTHERWISE, SEE WSDOT STANDARD PLAN B-30.30
3. STORM CONVEYANCE TESTING SHALL ADHERE TO WSDOT SPECIFICATIONS.
4. ALL CATCH BASIN STATIONS & OFFSETS RELATE CENTER OF STRUCTURE.
5. FOR PIPE ZONE BEDDING AND BACKFILL SEE WSDOT STANDARD PLAN B-55.20.
6. ALL PIPE OUTLETS SHALL HAVE 3:1 BEVELED ENDS AND QUARRY SPALLED OUTLET PROTECTION.

EROSION CONTROL NOTES

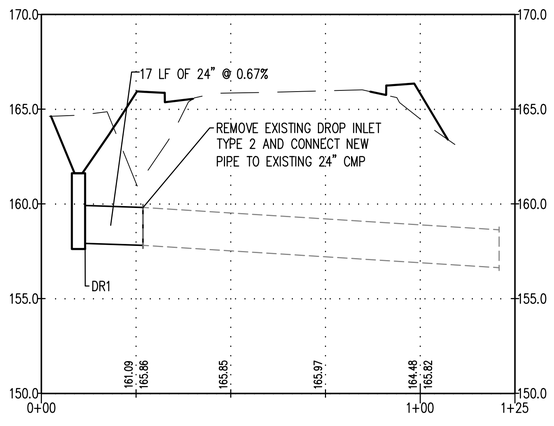
1. EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S CONTRACTOR. ANY PROBLEMS OCCURRING BEFORE FINAL ACCEPTANCE OF THE STORM SYSTEM BY WSDOT SHALL BE CORRECTED BY THE DEVELOPER'S CONTRACTOR.
2. WHEN EROSION OR SEDIMENTATION OCCURS TO ADJACENT PROPERTY OWNERS, ALL CONSTRUCTION WORK WITHIN THE DEVELOPMENT THAT AGGRAVATES THE SITUATION SHALL CEASE AND THE OWNER/CONTRACTOR WILL IMMEDIATELY COMMENCE RESTORATION METHODS. RESTORATION ACTIVITY WILL CONTINUE UNTIL SUCH TIME AS THE AFFECTED PROPERTY OWNER IS SATISFIED.
3. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHOWN ON THIS DRAWING SHALL BE INSTALLED PRIOR TO OR AS THE FIRST STAGE OF SITE PREPARATION.
4. WHEN THE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS SHOWN ON THIS DRAWING DO NOT PROVE ADEQUATE TO CONTROL EROSION AND SEDIMENTATION, THE APPLICANT/CONTRACTOR SHALL INSTALL ADDITIONAL FACILITIES AS NECESSARY TO PROTECT ADJACENT PROPERTIES, SENSITIVE AREAS, NATURAL WATER COURSES, AND/OR STORM DRAINAGE SYSTEMS.
5. IN ANY AREA WHICH HAS BEEN STRIPPED OF VEGETATION, ALL DISTURBED AREAS MUST BE IMMEDIATELY STABILIZED WITH AN APPROVED SOIL COVERING PRACTICE IN ACCORDANCE WITH SECTION 8-01.3(1). GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY DURING THE DATES OF MARCH 1 TO MAY 15 AND SEPTEMBER 1 TO OCTOBER 1. SEEDING MAY PROCEED, WHENEVER IT IS IN THE INTEREST OF THE APPLICANT/CONTRACTOR, BUT MUST BE AUGMENTED WITH MULCHING, NETTING, OR OTHER TREATMENT FOR THE REST OF THE MONTHS. SEE ALSO SECTION 8-01.3(2)F.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR FIELD LOCATING THE CLEARING LIMITS AND ESTABLISHING THOSE BOUNDARIES WITH BRIGHT COLORED FLAGGING. THE CONTRACTOR SHALL CLEAR TO THE LIMITS AS ESTABLISHED ON THIS PLAN AND FLAGGING IN THE FIELD.
7. ALL WORK ASSOCIATED WITH STABILIZING THE DISTURBED AREAS SHALL BE IN ACCORDANCE WITH SECTION 8-01 OF THE WSDOT 2021 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, THEREOF, UNLESS APPROVED OTHERWISE BY WSDOT.
8. THE NECESSARY FACILITIES SHALL BE MAINTAINED ON SITE TO PREVENT DEBRIS, DUST, AND MUD FROM ACCUMULATING ON WSDOT RIGHT-OF-WAY.
9. ALL TEMPORARY EROSION SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPs ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.
10. PROVIDE 2" THICK FINE COMPOST BLANKET OVER AREA TO BE SEEDED AND INCORPORATED INTO EXISTING SOIL. PLACE COMPOST AFTER FINAL GRADING AND PRIOR TO SEEDING. SEEDING FERTILIZING AND MULCHING (SEE SPECIAL PROVISIONS).

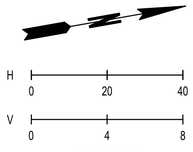
T. 26 N., R. 1 E., W.M.

SEE SHEET RM-01 FOR EXISTING LEGEND



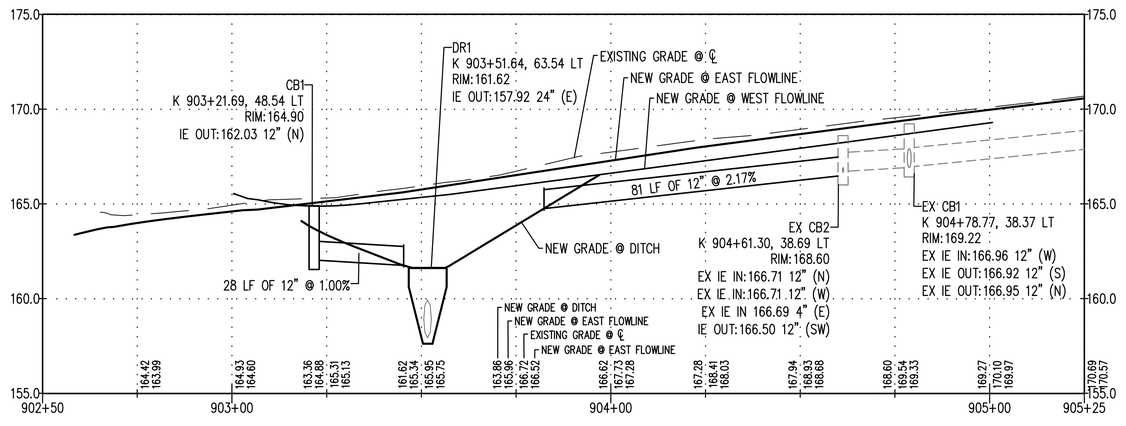
DR1 TO POND PROFILE





SCALE IN FEET

K PROFILE



△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: P HOLM
DRAWN BY: M MAYFARTH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 PP-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 13784 — REGISTERED PROFESSIONAL ENGINEER — 8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

STORM DRAINAGE AND TESC PLAN

DRAWING No.: SD-01
SHEET No.: 4 OF 29

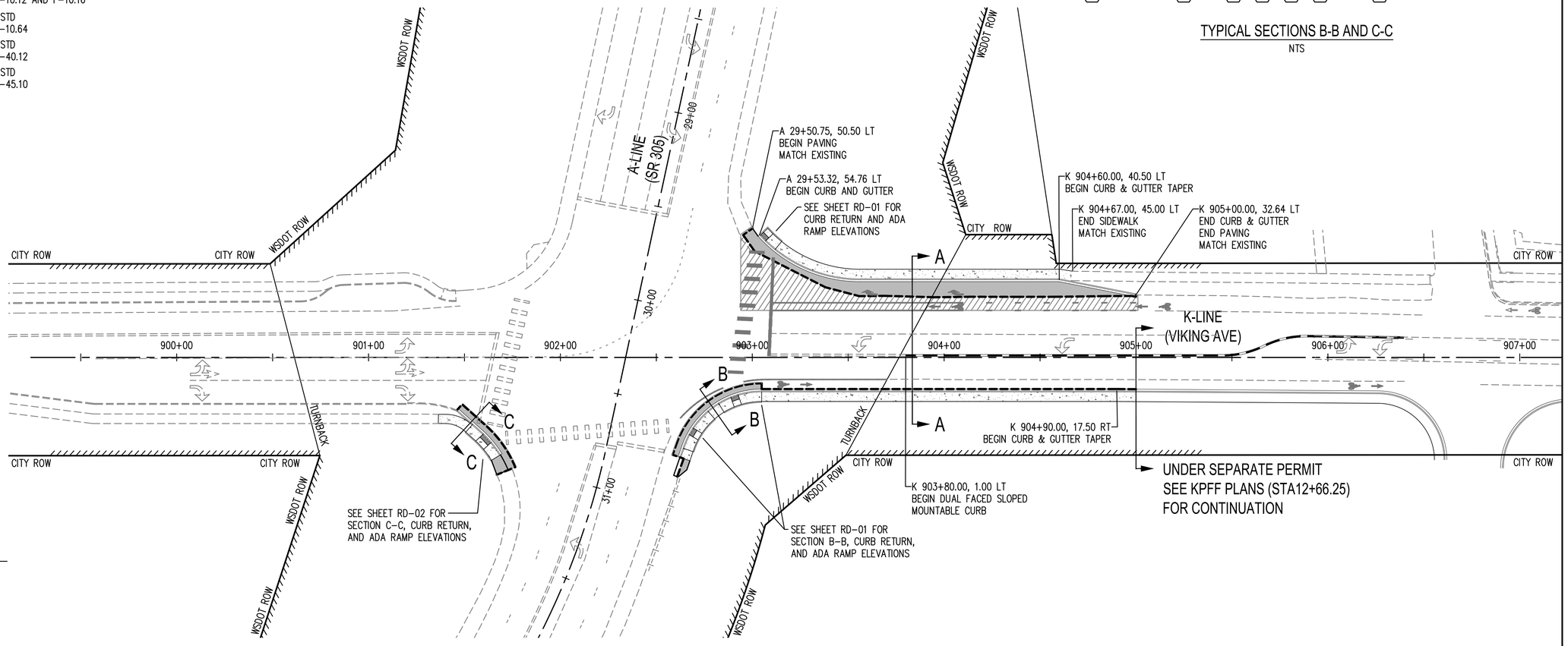
Aug 16, 2021 1:36:49pm – User matt.weyrauch
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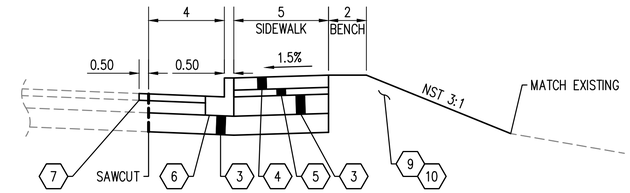
T. 26 N., R. 1 E., W.M.

PAVING LEGEND

	SAWCUT	SEE RM-1
	HMA CLASS 1/2 IN. PG 58H-22	SEE A-A
	PLANING BITUMINOUS PAVEMENT	
	CEMENT CONC. SIDEWALK	WSDOT STD PLAN F-30.10
	CEMENT CONC. TRAFFIC CURB AND GUTTER	WSDOT STD PLAN F-10.12 AND F-10.16
	PRECAST DUAL FACED SLOPED MOUNTABLE CURB	WSDOT STD PLAN F-10.64
	SIDEWALK RAMP TYPE PARALLEL A	WSDOT STD PLAN F-40.12
	DETECTABLE WARNING SURFACE	WSDOT STD PLAN F-45.10

0 30 60
SCALE IN FEET

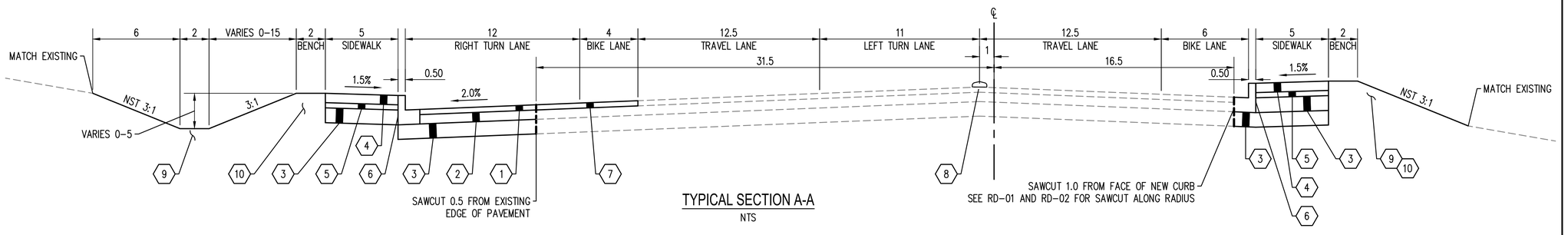




TYPICAL SECTIONS B-B AND C-C
NTS

ROADWAY SECTION KEY NOTES:

1. 0.15' HMA CLASS 1/2" PG 58H-22.
2. 0.35' HMA CLASS 1/2" PG 58H-22.
3. 0.50' CRUSHED SURFACING BASE COURSE (CSBC).
4. CEMENT CONC. SIDEWALK (PER WSDOT STANDARD PLAN F-30.10).
5. 0.17' CRUSHED SURFACING TOP COURSE (CSTC).
6. CEMENT CONC. TRAFFIC CURB AND GUTTER (PER WSDOT STANDARD PLAN F-10.16).
7. PLANING BITUMINOUS PAVEMENT AND PLACE 0.15' HMA CLASS 1/2 IN. PG 58H-22 AS PART OF FINAL WEARING COURSE.
8. 1.0' WIDE PRECAST DUAL FACED SLOPED MOUNTABLE CURB. PLACE ON EXISTING DOUBLE YELLOW CENTERLINE. (PER WSDOT STANDARD PLAN F-10.64)
9. SEEDING, FERTILIZING, AND MULCHING.
10. COMMON BORROW OR CSBC, DEPTH AS NECESSARY.



TYPICAL SECTION A-A
NTS

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 PV-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 13784 — REGISTERED PROFESSIONAL ENGINEER
8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

PAVING PLAN

DRAWING No.: PV-01
SHEET No.: 5 OF 29

Aug 16, 2021 1:37:03pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CAD\3469.01 PV-01.DWG

T. 26 N., R. 1 E., W.M.

0 5 10
SCALE IN FEET

K 903+56.01, 40.50 LT
PT ELEV: 165.48

1.5% (TYP)

A

A

165.16
3/4 Δ

K 903+38.13, 36.58 LT
SAWCUT AP

L=59.00
R=70.00
Δ=48° 17' 20"

164.90
1/2 Δ

K 903+12.15, 56.59 LT
ELEV: 165.53

K 903+15.30, 60.47 LT
ELEV: 165.58

K 903+06.85, 60.66 LT
ELEV: 165.23

K 903+10.83, 64.47 LT
ELEV: 165.31

5.5

164.96
1/4 Δ

4.6%

1.6%

1.5%

K 903+08.06, 67.36 LT
ELEV: 165.37

K 903+04.09, 63.55 LT
ELEV: 165.29

K 903+00.15, 67.32 LT
ELEV: 165.54

A 29+55.18, 46.46 LT
SAWCUT AP

K 903+01.27, 55.33 LT
SAWCUT AP

A 29+55.10, 45.17 LT
PLANING AP

K 902+94.00, 24.50 LT
PLANING AP

K 903+04.90, 18.00 RT
ELEV: 165.18

K 903+04.90, 16.50 RT
SAWCUT AP

K 903+04.90, 13.50 RT
SAWCUT AP

K 903+04.90, 17.50 RT
PT ELEV: 164.68

K 902+92.55, 19.31 RT
ELEV: 164.44

K 903+04.90, 23.00 RT
ELEV: 165.25

1.5% (TYP)

7.0%

K 902+94.38, 24.51 RT
ELEV: 164.51

K 902+90.61, 25.83 RT
ELEV: 164.45

K 902+85.26, 28.56 RT
ELEV: 164.77

1.5%

1.5%

5.3%

K 902+80.42, 32.10 RT
ELEV: 164.62

K 902+73.78, 39.58 RT
ELEV: 163.87

K 902+71.73, 43.01 RT
ELEV: 163.80

K 902+69.14, 49.18 RT
ELEV: 163.63

K 902+67.50, 53.90 RT
ELEV: 163.57

K 902+65.87, 58.63 RT
ELEV: 163.50

0.15' OVER
0.5' CSBC

A 30+85.05, 39.39 LT
SAWCUT AP

A 30+75.72, 40.65 LT
SAWCUT AP

K 902+62.78, 52.27 RT
ELEV: 163.51

A 30+74.99, 34.65 LT
SAWCUT AP

K 902+64.41, 47.54 RT
ELEV: 163.57

K 902+64.27, 46.43 RT
PC ELEV: 163.59

164.42
1/4 Δ

K 902+88.78, 20.64 RT
ELEV: 164.35

B

B

5.5

7.5%

1.5%

1.0%

2.6%

1.2%

1.2%

164.13
1/2 Δ

163.84
3/4 Δ

K 902+77.15, 28.31 RT
ELEV: 164.54

K 902+69.05, 36.76 RT
ELEV: 163.79

K 902+67.00, 40.19 RT
ELEV: 163.75

SAWCUT 4 FEET FROM
FACE OF CURB FOR
ENTIRE RADIUS (TYP)

K-LINE
(VIKING WAY)

0.5 FT WIDE PLANING
BITUMINOUS PAVEMENT FOR
JOINT OVERLAP AND HMA INFILL

K 902+82.70, 24.25 RT
ELEV: 164.69

ELEVATIONS SHOWN RELATE TO TOP FACE OF CURB AND BACK TOP OF SIDEWALK.
CURB AND GUTTER FLOWLINE ELEVATIONS ARE BASED ON EXISTING SURVEY INFORMATION.

PAVING LEGEND

	SAWCUT	
	HMA CLASS 1/2 IN. PG 58H-22	SEE XS-1
	PLANING BITUMINOUS PAVEMENT	
	CEMENT CONC. SIDEWALK	WSDOT STD PLAN F-30.10
	CEMENT CONC. TRAFFIC CURB AND GUTTER	WSDOT STD PLAN F-10.12 AND F-10.16
	SIDEWALK RAMP TYPE PARALLEL A	WSDOT STD PLAN F-40.12
	DETECTABLE WARNING SURFACE	WSDOT STD PLAN F-45.10

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 RD-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 22894 — REGISTERED PROFESSIONAL ENGINEER
8/16/2021

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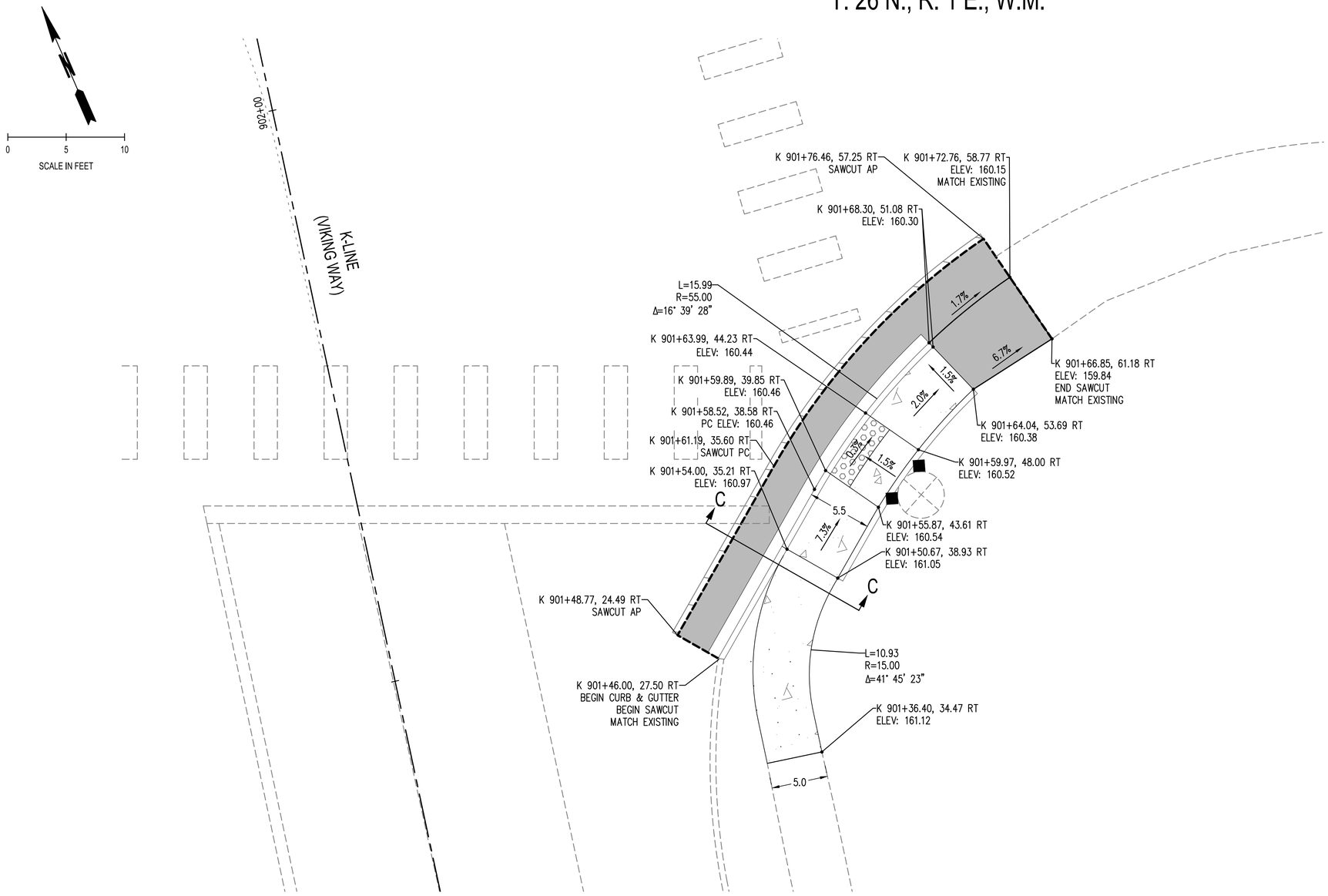
SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

RAMP DETAILS

DRAWING No.: RD-01
SHEET No.: 6 OF 29

Aug 16, 2021 1:37:16pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 RD-01.DWG

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PAVING LEGEND

	SAWCUT	
	HMA CLASS 1/2 IN. PG 58H-22	SEE XS-1
	PLANING BITUMINOUS PAVEMENT	
	CEMENT CONC. SIDEWALK	WSDOT STD PLAN F-30.10
	CEMENT CONC. TRAFFIC CURB AND GUTTER	WSDOT STD PLAN F-10.12 AND F-10.16
	SIDEWALK RAMP TYPE PARALLEL A	WSDOT STD PLAN F-40.12
	DETECTABLE WARNING SURFACE	WSDOT STD PLAN F-45.10

ELEVATIONS SHOWN RELATE TO TOP FACE OF CURB AND BACK TOP OF SIDEWALK. CURB AND GUTTER FLOWLINE ELEVATIONS ARE BASED ON EXISTING SURVEY INFORMATION.

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: DESIGNER NAME
DRAWN BY: DRAFTER NAME
CHECKED BY: ENGINEER NAME
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 RD-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JENNELL — STATE OF WASHINGTON — 33794 — REGISTERED PROFESSIONAL ENGINEER
8/16/2021

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OSLO BAY APARTMENTS
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SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

RAMP DETAILS

DRAWING No.: RD-02
SHEET No.: 7 OF 29

Aug 16, 2021 1:37:23pm - User: matt.wenrich
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 RD-01.DWG

T. 26 N., R. 1 E., W.M.

PAVEMENT MARKING LEGEND

- TYPE 2SL PLASTIC ARROW (PER STANDARD PLAN M–24.40)
- PLASTIC BIKE LANE SYMBOL (PER STANDARD PLAN M–9.50)
- PLASTIC STOP LINE (PER STANDARD PLAN M–24.60)
- PLASTIC WIDE LANE LINE (PER STANDARD PLAN M–20.10)
- PAINTED WHITE EDGE LINE (PER STANDARD PLAN M–20.10)
- PLASTIC WIDE DOTTED LANE LINE (PER STANDARD PLAN M–20.10)
- PLASTIC CROSSWALK (PER STANDARD PLAN M–15.10)

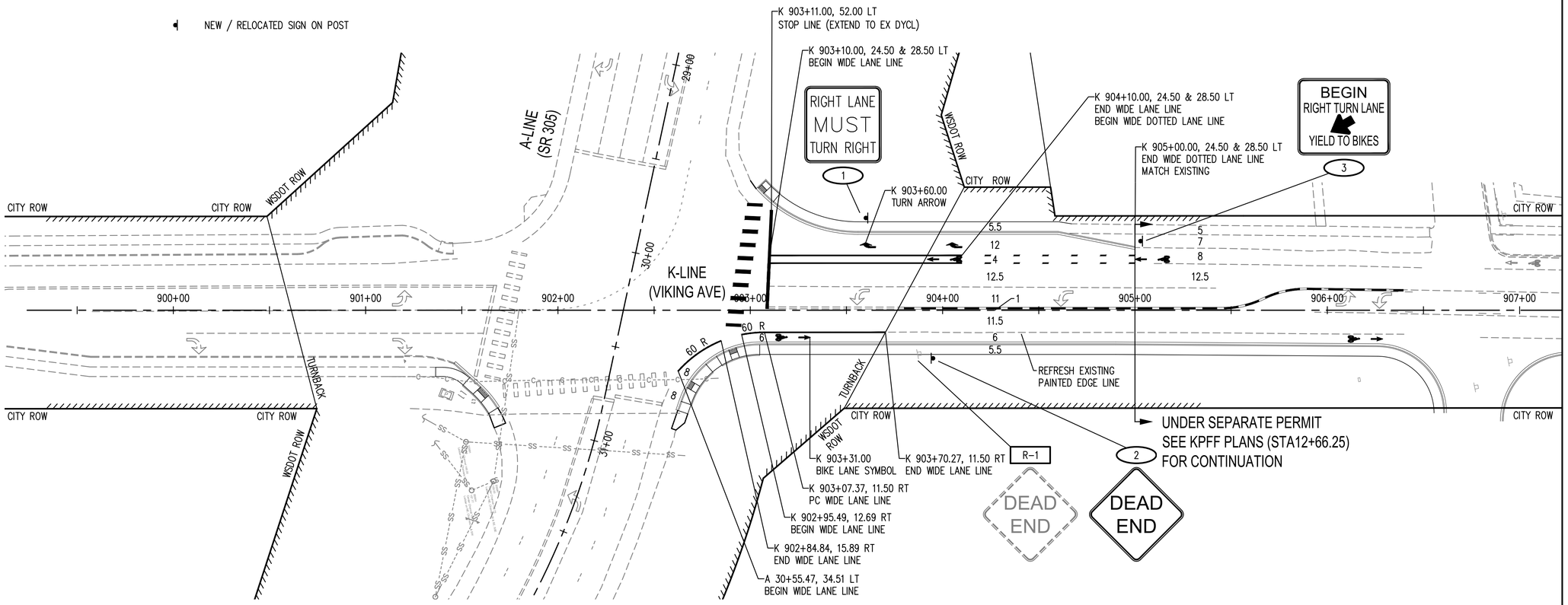
SIGN LEGEND

- (X) SIGN NOTE
- [R–X] SIGN REMOVAL NOTE
- [REL X] SIGN RELOCATION NOTE (PROPOSED LOCATION / EXISTING LOCATION)
- EXISTING SIGN & POST
- NEW / RELOCATED SIGN ON POST

0 30 60
SCALE IN FEET

PAVEMENT MARKING NOTES

1. SEE SPECIAL PROVISIONS FOR PLASTIC.
2. ALL EDGE LINES ARE WHITE UNLESS OTHERWISE NOTED.
3. CENTER TRAFFIC ARROWS AND BIKE LANE SYMBOLS IN MIDDLE OF DESIGNATED LANE.



SIGN REMOVAL SPECIFICATIONS

SIGN NO.	SIGN CODE NUMBER	LOCATION	SIGN SIZE X (INCH)	SIGN SIZE Y (INCH)	POST MATERIAL	POST SIZE (INCH x INCH)	REMARKS
R–1	W14–1 (DEAD END)	K 903+92, RT	36	36	WOOD	4 x 4	REMOVE SIGN AND POST

SIGN SPECIFICATIONS
ROADSIDE SIGN STRUCTURES

SIGN NO.	SIGN CODE NUMBER	SIGN DESCRIPTION	LOCATION (STATION NO.)	SIGN SIZE X (INCH)	SIGN SIZE Y (INCH)	SHEETING TYPE	LETTER SIZE OR CODE	POST MATERIAL	POST SIZE (INCH x INCH)	POST LENGTH H 1	POST LENGTH H 2	CLEARANCE V	CLEARANCE W	REMARKS
1	R3–7R	RIGHT LANE MUST TURN RIGHT	K 903+60, LT	30	30	III OR IV	STANDARD	STEEL	2.5 x 2.5	11	---	7	9	MOUNT SIGN ON NEW POST
2	W14–1	DEAD END	K 903+95, RT	36	36	III OR IV	STANDARD	STEEL	2.5 x 2.5	12	---	7	14	MOUNT SIGN ON NEW POST
3	R4–4	BEGIN RIGHT TURN LANE YIELD TO BIKES	K 905+03, LT	36	30	III OR IV	STANDARD	STEEL	2.5 x 2.5	12	---	7	12	MOUNT SIGN ON NEW POST

NOTES: POST DIMENSIONS SHOWN ARE APPROXIMATE. FINAL VALUES SHALL BE DETERMINED IN THE FIELD PRIOR TO FABRICATION.
FOR MOUNTING DETAILS SEE STANDARD PLAN SHEET SERIES G–20.10.
FOR CODE REFERENCES SEE WASHINGTON STATE FABRICATION MANUAL.
FOR INSTALLATION DETAILS SEE WSDOT STANDARD PLAN G–24.50 (ST4).

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 CH-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

CHANNELIZATION PLAN

DRAWING No.: CH-01
SHEET No.: 8 OF 29

Aug 16, 2021 1:37:36pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 CH-01.DWG

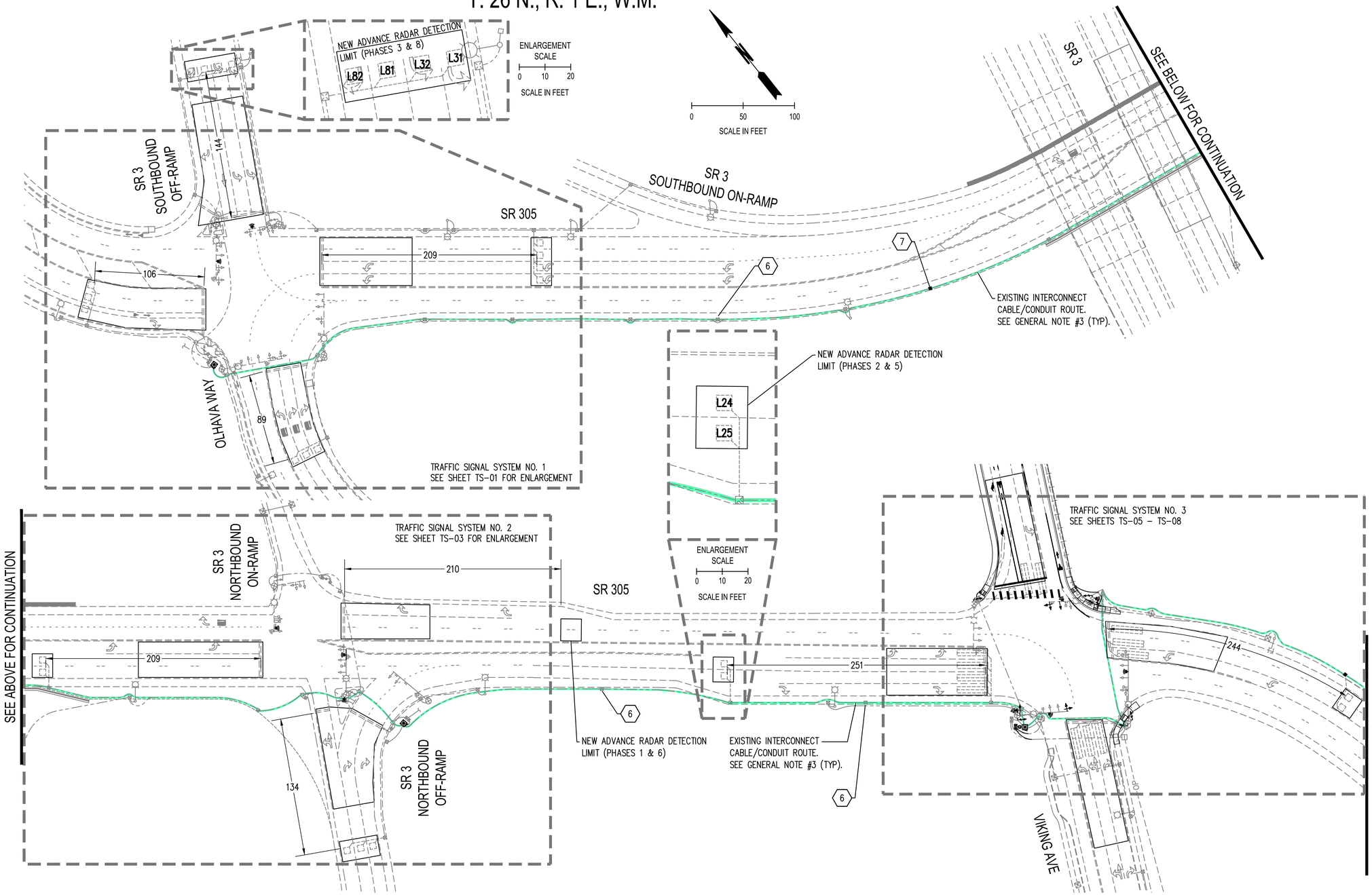
T. 26 N., R. 1 E., W.M.

LEGEND

EXISTING	NEW	
⊠		TYPE 1 JUNCTION BOX, J-40.10
⊠		TYPE 2 JUNCTION BOX, J-40.10
⊠		TYPE 3 JUNCTION BOX
⊠		TYPE 8 JUNCTION BOX, J-40.30
	■	PULL BOX, J-90.10
		CONDUIT
▨	▨	CONTROLLER CABINET
▬	▬	ELECTRICAL SERVICE CABINET
→	→	VEHICLE SIGNAL DISPLAY
		VEHICLE SIGNAL DISPLAY (PROTECTED TURN)
		PEDESTRIAN SIGNAL DISPLAY (SIDE MOUNT)
		PEDESTRIAN SIGNAL DISPLAY (TOP MOUNT)
		EMERGENCY VEHICLE PRE-EMPT DETECTOR
		VIDEO DETECTION CAMERA
		RADAR DETECTION
·	·	APS PPB
		STREET NAME/ REGULATORY SIGN
		PEDESTRIAN PUSH BUTTON STANDARD
		PEDESTRIAN SIGNAL STANDARD
		TYPE II SIGNAL STANDARD
		TYPE III SIGNAL STANDARD
		LIGHT STANDARD
		TYPE 1 DETECTION LOOP
		TYPE 2 DETECTION LOOP

GENERAL NOTES

1. A CONTINUOUS UNDERGROUND TRAFFIC SIGNAL INTERCONNECT SYSTEM (6 PAIR COPPER WIRE) CURRENTLY EXTENDS FROM THE SR305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION SOUTH TO THE SR 305/HOSTMARK STREET INTERSECTION.
2. THESE PLANS SCHEMATICALLY SHOW THE EXISTING TRAFFIC SIGNAL AND CONDUIT SYSTEMS FROM SR 305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION TO THE SR 305/FOREST ROCK LANE INTERSECTION. AT EACH INTERSECTION THE EXISTING CONTROLLER CABINET AND CONTROLLER WILL BE REMOVED AND REPLACED ON THE EXISTING FOUNDATION TO CURRENT OLYMPIC REGION STANDARDS. SEE SPECIAL PROVISIONS.
3. THE EXISTING 6 PAIR COMMUNICATION CABLE FROM THE SR 305/SR 3 SOUTHBOUND RAMP INTERSECTION TO THE SR 305/FOREST ROCK INTERSECTION EXISTING CONDUIT SYSTEMS SHALL BE REMOVED AND REPLACED WITH 1 – 12 CT SMFO FIBER OPTIC CABLE AND TERMINATED IN THE NEW CONTROLLER CABINETS. SEE SPECIAL PROVISIONS.
4. AT THE SR 305/SR 3 SOUTHBOUND AND NORTHBOUND RAMP INTERSECTIONS, STOP LINE INDUCTION LOOP DETECTION HAS BEEN RECENTLY CONVERTED TO RADAR DETECTION. THESE PLANS SHOW EXISTING STOP LINE INDUCTION DETECTION AT VIKING WAY, SR 307/BOND ROAD AND FOREST ROCK LANE INTERSECTIONS THAT WILL BE CONVERTED TO RADAR DETECTION.
5. EXISTING ADVANCE INDUCTION LOOP DETECTION SHALL BE REPLACED WITH RADAR DETECTION. REMOVE EXISTING LOOP STOP LINE AND ADVANCE CABLES ENTIRELY AND EXISTING LOOP WIRES.
6. RADAR DETECTION SHALL BE WAVETRONIX. SEE SPECIAL PROVISIONS.
7. RADAR DETECTION ZONES ARE SHOWN FOR ILLUSTRATIVE PURPOSES. EXISTING AND NEW STOP LINE ZONES SHOWN ARE BASED ON MAXIMUM 140 FOOT DISTANCE FROM DETECTOR (TYPICAL ALL). A WAVETRONIX REPRESENTATIVE SHALL BE PRESENT FOR INSTALLATION.
8. THERE SHALL BE 50 FEET OF SLACK NEATLY COILED IN EACH PULL BOX, AND EXISTING TYPE 3 OR 8 JUNCTION BOX NEXT TO THE CONTROLLER CABINET, WITH FIBER OPTIC MARKERS EVERY 500 FEET AND EVERY BEND IN CONDUIT.



SEE SHEET TS-01 FOR CONSTRUCTION NOTES

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 C-01

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 22894 — REGISTERED PROFESSIONAL ENGINEER — 8/16/2021

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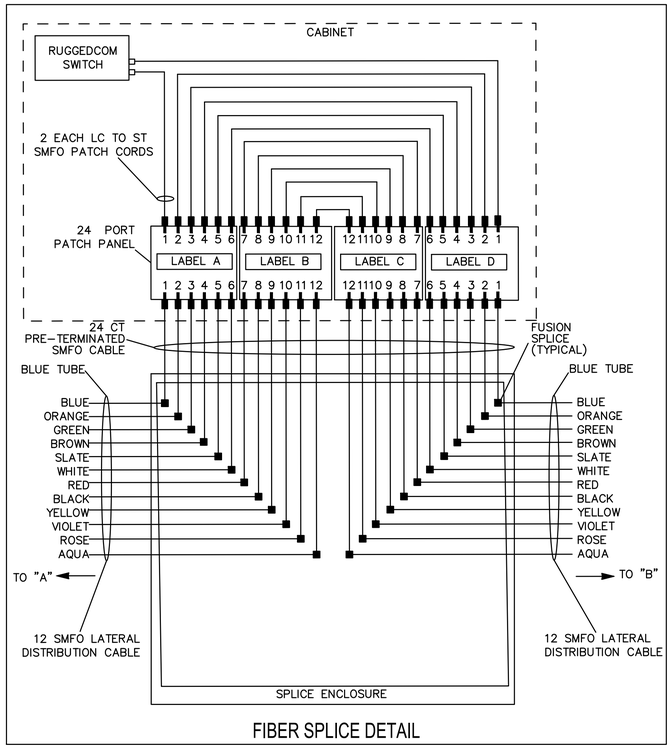
PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES
CONTROLLER, DETECTION, AND FIBER UPGRADES

DRAWING No.: C-01
SHEET No.: 9 OF 29

Aug 16, 2021 1:38:01pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 C-01.DWG

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FIBER SPLICE DETAIL

SEE SHEET C-01

APPROXIMATE LIMITS OF EXISTING INTERCONNECT CONDUIT INSIDE CONCRETE MOMENT BARRIER WITH TYPE 4X NEMA JUNCTION BOXES

EXISTING INTERCONNECT CABLE/CONDUIT ROUTE. SEE GENERAL NOTE #3 (TYP).

0 50 100
SCALE IN FEET

VETTER ROAD

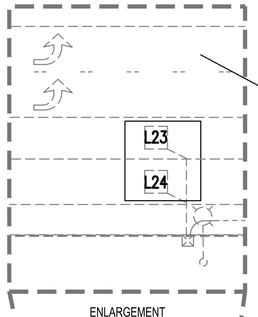
SR 305/VETTER ROAD IMPROVEMENTS UNDER SEPARATE DEVELOPER AGREEMENT

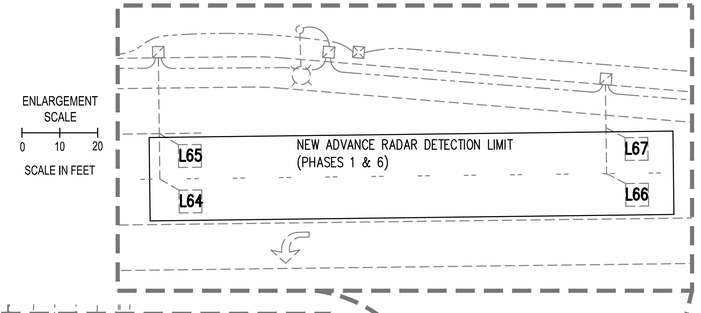
7
SR 305

6

INTERCEPT EXISTING CONDUIT AND INSTALL 2" SCHEDULE 80 CONDUIT

SEE BELOW FOR CONTINUATION





TRAFFIC SIGNAL SYSTEM NO. 4
SEE SHEET TS-09 FOR ENLARGEMENT

SR 307

END INSTALLATION OF 2" SCHEDULE 80 CONDUIT

6 6 6 SR 305 7

APPROXIMATE LIMITS OF EXISTING INTERCONNECT CONDUIT INSIDE CONCRETE MOMENT BARRIER WITH TYPE 4X NEMA JUNCTION BOXES

207 118

223

BOND ROAD

7

EXISTING INTERCONNECT CABLE/CONDUIT ROUTE. SEE GENERAL NOTE #3 (TYP).

SEE ABOVE FOR CONTINUATION

SEE SHEET C-03 FOR CONTINUATION

SEE SHEET C-01 FOR LEGEND AND GENERAL NOTES
SEE SHEET TS-01 FOR CONSTRUCTION NOTES

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
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DRAWING FILE No.: 3469.01 C-01

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PROJECT NAME:
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WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

CONTROLLER, DETECTION, AND FIBER UPGRADES

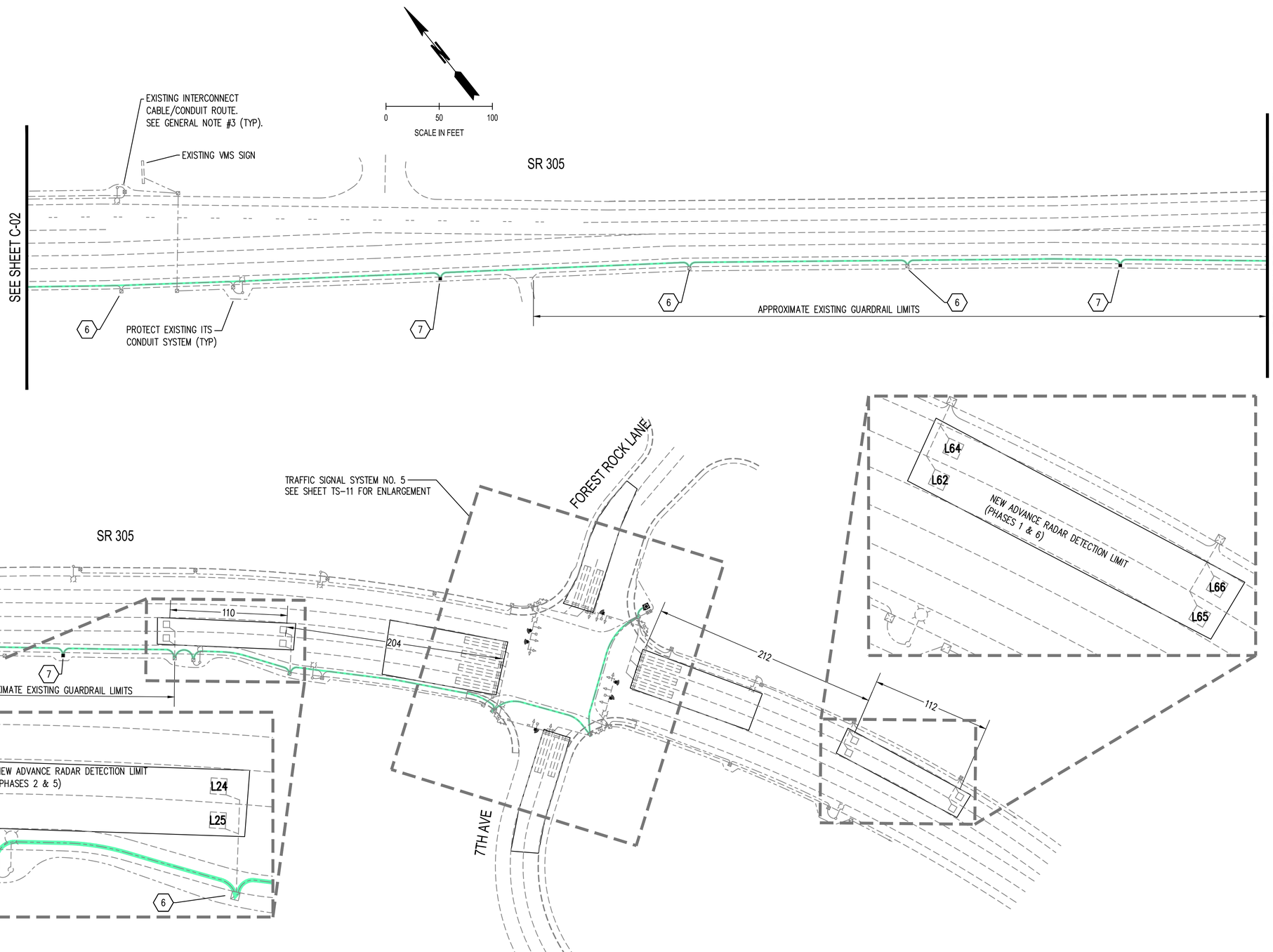
DRAWING No.: C-02
SHEET No.: 10 OF 29

Aug 16, 2021 1:38:11pm - User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 C-01.DWG

T. 26 N., R. 1 E., W.M.

LEGEND

EXISTING	NEW	
⊠		TYPE 1 JUNCTION BOX, J-40.10
⊠		TYPE 2 JUNCTION BOX, J-40.10
⊠		TYPE 3 JUNCTION BOX
⊠		TYPE 8 JUNCTION BOX, J-40.30
	■	PULL BOX, J-90.10
———	- - -	CONDUIT
▩	▩	CONTROLLER CABINET
▬	▬	ELECTRICAL SERVICE CABINET
⊸	→	VEHICLE SIGNAL DISPLAY
⊹		VEHICLE SIGNAL DISPLAY (PROTECTED TURN)
⊸	⊸	PEDESTRIAN SIGNAL DISPLAY (SIDE MOUNT)
⊸		PEDESTRIAN SIGNAL DISPLAY (TOP MOUNT)
⊸		EMERGENCY VEHICLE PRE-EMPT DETECTOR
⊠		VIDEO DETECTION CAMERA
◂	◂	RADAR DETECTION
·	·	APS PPB
⊹		STREET NAME/ REGULATORY SIGN
○	○	PEDESTRIAN PUSH BUTTON STANDARD
⊗	⊗	PEDESTRIAN SIGNAL STANDARD
⊗—	—	TYPE II SIGNAL STANDARD
⊗—	—	TYPE III SIGNAL STANDARD
⊸		LIGHT STANDARD
⊟	⊟	TYPE 1 DETECTION LOOP
⊡		TYPE 2 DETECTION LOOP



SEE SHEET C-01 FOR GENERAL NOTES

SEE SHEET TS-01 FOR CONSTRUCTION NOTES

△	REVISIONS	DATE	BY
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DRAWN BY: M WEYRAUCH
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ISSUE DATE: 08/16/2021
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DRAWING FILE No.: 3469.01 C-01

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PROJECT NAME:
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OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

CONTROLLER, DETECTION, AND FIBER UPGRADES

DRAWING No.: C-03

SHEET No.: 11 OF 29

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N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 C-01.DWG

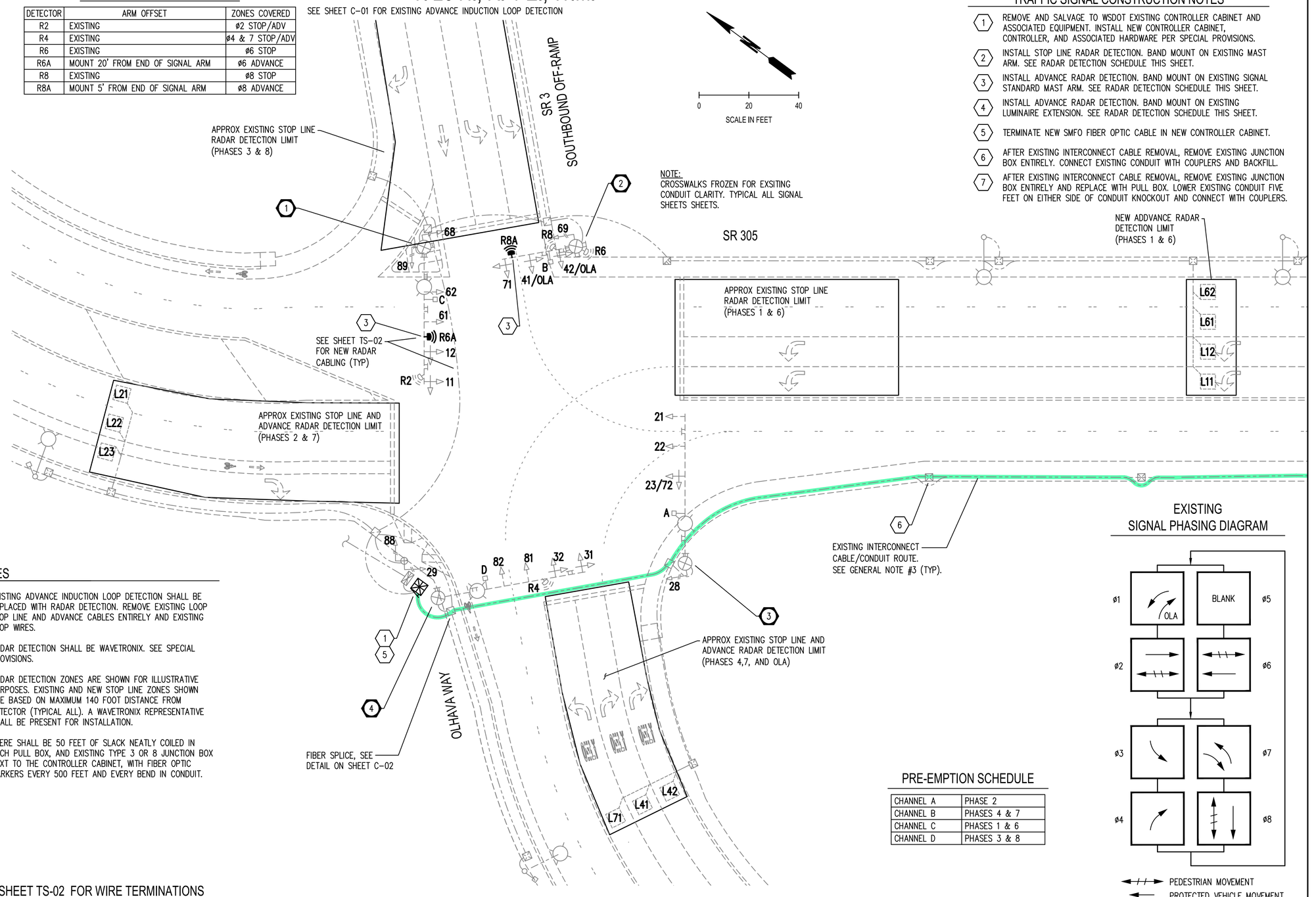
T. 26 N., R. 1 E., W.M.

LEGEND

EXISTING	NEW	
⊠		TYPE 1 JUNCTION BOX, J-40.10
◪		TYPE 2 JUNCTION BOX, J-40.10
⊡		TYPE 3 JUNCTION BOX
◫		TYPE 8 JUNCTION BOX, J-40.30
	■	PULL BOX, J-90.10
———	———	CONDUIT
▨	▨	CONTROLLER CABINET
▩	▩	ELECTRICAL SERVICE CABINET
	▣	UNINTERRUPTIBLE POWER SUPPLY CABINET(UPS)
→	→	VEHICLE SIGNAL DISPLAY
⊢→		VEHICLE SIGNAL DISPLAY (PROTECTED TURN)
⊢→	⊢→	PEDESTRIAN SIGNAL DISPLAY (SIDE MOUNT)
⊢→		PEDESTRIAN SIGNAL DISPLAY (TOP MOUNT)
⊣□		EMERGENCY VEHICLE PRE-EMPT DETECTOR
⊣))	⊣))	RADAR DETECTION
▪	▪	APS PPB
⊣		STREET NAME/ REGULATORY SIGN
⊙	⊙	PEDESTRIAN PUSH BUTTON STANDARD
⊗	⊗	PEDESTRIAN SIGNAL STANDARD
⊙		TYPE II SIGNAL STANDARD
⊙		TYPE III SIGNAL STANDARD
⊙		LIGHT STANDARD
▭		TYPE 1 DETECTION LOOP
▭		TYPE 2 DETECTION LOOP
△X		WIRE NOTE
⬡X		CONSTRUCTION NOTE
⬢X		SIGNAL STANDARD NO.

RADAR DETECTION SCHEDULE

DETECTOR	ARM OFFSET	ZONES COVERED
R2	EXISTING	ø2 STOP/ADV
R4	EXISTING	ø4 & 7 STOP/ADV
R6	EXISTING	ø6 STOP
R6A	MOUNT 20' FROM END OF SIGNAL ARM	ø6 ADVANCE
R8	EXISTING	ø8 STOP
R8A	MOUNT 5' FROM END OF SIGNAL ARM	ø8 ADVANCE



NOTE:
CROSSWALKS FROZEN FOR EXSITING CONDUIT CLARITY. TYPICAL ALL SIGNAL SHEETS SHEETS.

TRAFFIC SIGNAL CONSTRUCTION NOTES

1. REMOVE AND SALVAGE TO WSDOT EXISTING CONTROLLER CABINET AND ASSOCIATED EQUIPMENT. INSTALL NEW CONTROLLER CABINET, CONTROLLER, AND ASSOCIATED HARDWARE PER SPECIAL PROVISIONS.
2. INSTALL STOP LINE RADAR DETECTION. BAND MOUNT ON EXISTING MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
3. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING SIGNAL STANDARD MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
4. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING LUMINAIRE EXTENSION. SEE RADAR DETECTION SCHEDULE THIS SHEET.
5. TERMINATE NEW SMFO FIBER OPTIC CABLE IN NEW CONTROLLER CABINET.
6. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY. CONNECT EXISTING CONDUIT WITH COUPLERS AND BACKFILL.
7. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY AND REPLACE WITH PULL BOX. LOWER EXISTING CONDUIT FIVE FEET ON EITHER SIDE OF CONDUIT KNOCKOUT AND CONNECT WITH COUPLERS.

GENERAL NOTES

1. A CONTINUOUS UNDERGROUND TRAFFIC SIGNAL INTERCONNECT SYSTEM (6 PAIR COPPER WIRE) CURRENTLY EXTENDS FROM THE SR305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION SOUTH TO THE SR 305/HOSTMARK STREET INTERSECTION.
2. THESE PLANS SCHEMATICALLY SHOW THE EXISTING TRAFFIC SIGNAL AND CONDUIT SYSTEMS FROM SR 305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION TO THE SR 305/FOREST ROCK LANE INTERSECTION. AT EACH INTERSECTION THE EXISTING CONTROLLER CABINET AND CONTROLLER WILL BE REMOVED AND REPLACED ON THE EXISTING FOUNDATION TO CURRENT OLYMPIC REGION STANDARDS. SEE SPECIAL PROVISIONS.
3. THE EXISTING 6 PAIR COMMUNICATION CABLE FROM THE SR 305/SR 3 SOUTHBOUND RAMP INTERSECTION TO THE SR 305/FOREST ROCK INTERSECTION EXISTING CONDUIT SYSTEMS SHALL BE REMOVED AND REPLACED WITH 1 – 12 CT SMFO FIBER OPTIC CABLE AND TERMINATED IN THE NEW CONTROLLER CABINETS. SEE SPECIAL PROVISIONS.
4. AT THE SR 305/SR 3 SOUTHBOUND AND NORTHBOUND RAMP INTERSECTIONS, STOP LINE INDUCTION LOOP DETECTION HAS BEEN RECENTLY CONVERTED TO RADAR DETECTION. THESE PLANS SHOW EXISTING STOP LINE INDUCTION DETECTION AT VIKING WAY, SR 307/BOND ROAD AND FOREST ROCK LANE INTERSECTIONS THAT WILL BE CONVERTED TO RADAR DETECTION.
5. EXISTING ADVANCE INDUCTION LOOP DETECTION SHALL BE REPLACED WITH RADAR DETECTION. REMOVE EXISTING LOOP STOP LINE AND ADVANCE CABLES ENTIRELY AND EXISTING LOOP WIRES.
6. RADAR DETECTION SHALL BE WAVETRONIX. SEE SPECIAL PROVISIONS.
7. RADAR DETECTION ZONES ARE SHOWN FOR ILLUSTRATIVE PURPOSES. EXISTING AND NEW STOP LINE ZONES SHOWN ARE BASED ON MAXIMUM 140 FOOT DISTANCE FROM DETECTOR (TYPICAL ALL). A WAVETRONIX REPRESENTATIVE SHALL BE PRESENT FOR INSTALLATION.
8. THERE SHALL BE 50 FEET OF SLACK NEATLY COILED IN EACH PULL BOX, AND EXISTING TYPE 3 OR 8 JUNCTION BOX NEXT TO THE CONTROLLER CABINET, WITH FIBER OPTIC MARKERS EVERY 500 FEET AND EVERY BEND IN CONDUIT.

SEE SHEET TS-02 FOR WIRE TERMINATIONS

PRE-EMPTION SCHEDULE

CHANNEL A	PHASE 2
CHANNEL B	PHASES 4 & 7
CHANNEL C	PHASES 1 & 6
CHANNEL D	PHASES 3 & 8

EXISTING SIGNAL PHASING DIAGRAM

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
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3	FPS #3	7/26/2021	SCJ
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DESIGNED BY: M WEYRAUCH
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ROBERT E. JEWELL — STATE OF WASHINGTON — 13784 — REGISTERED PROFESSIONAL ENGINEER
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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC SIGNAL PLAN - SYSTEM NO. 1

DRAWING No.: TS-01
SHEET No.: 12 OF 29

Aug 16, 2021 1:38:43pm – User matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TS-01.DWG

CONTROLLER TERMINALS

POWER

B	501	
W	502	

PED. DISPLAY

R	721	28,29	ø2
G	722		
W	723		
R	761	68,69	ø6
G	762		
W	763		
R	781	88,89	ø8
G	782		
W	783		

PED. BUTTON

O	724	28,29	ø2
B	725		
O	764	68,69	ø6
B	765		
O	784	88,89	ø8
B	785		

E.V.P. DETECTOR

O	5A1	A, A1	ø2
Y	5A2		
BL	5A3		
O	5B1	B,B1	ø4,ø7
Y	5B2		
BL	5B3		
O	5C1	C	ø6,ø1
Y	5C2		
BL	5C3		
O	5D1	D,D1	ø5,ø3
Y	5D2		
BL	5D3		

VEHICLE DISPLAYS

R	611	11,12	ø1
O	612		
G	613		
B	614		
W	616		
R	621	21,22,23	ø2
O	622		
G	623		
B	624		
W	626		
R	631	31,32,33	ø3
O	632		
G	633		
B	634		
W	636		
R	641	41,42	ø4
O	642		
G	643		
B	644		
W	646		
R	661	61,62	ø6
O	662		
G	663		
B	664		
W	666		
R	671	71, 72	ø7
O	672		
G	673		
B	674		
W	676		
R	681	81,82	ø8
O	682		
G	683		
B	684		
W	686		

RADAR DETECTION

8C	R2	ø2,ø5
8C	R4	ø4,ø7
8C	R6	ø1,ø6
8C	R6A	ø6
8C	R8	ø3,ø8
8C	R8A	ø8

COORDINATION

FIBER	RUGGED COM RSL910

TERMINAL CABINETS

TC-1

R	611	R
O	612	O
G	613	G
B	614	B
W	616	W
R	661	R
O	662	O
G	663	G
B	664	B
W	666	W

TO CONTROLLER

TC-2

R	671	R
O	672	O
G	673	G
B	674	B
W	676	W
R	641	R
O	642	O
G	643	G
B	644	B
W	646	W

TO CONTROLLER

TC-3

R	621	R
O	622	O
G	623	G
B	624	B
W	626	W
BL	671	R
WB	672	O
	673	G
	674	B
	676	W

TO CONTROLLER

TC-4

R	631	R
O	632	O
G	633	G
B	634	B
W	636	W
R	681	R
O	682	O
G	683	G
B	684	B
W	686	W

TO CONTROLLER

TERMINAL CODING

- ☒ CONNECT TO NEUTRAL BUSS
- ◯ CONTROL SIDE TERMINAL CONNECTION
- ☒ CONNECT TO DETECTOR COMMON BUSS
- ☐ SPARE

EMERGENCY VEHICLE PRE-EMPT WIRING CODE

ORANGE	24 VOLT
YELLOW	CALL
BLUE	GROUND

ALL EXISTING DETECTION LOOP CABLES SHALL BE REMOVED ENTIRELY FROM EXISTING CONDUIT SYSTEM (EXISTING DETECTION LOOPS NOT SHOWN ON THIS SHEET)

LEGEND

- EXISTING
- NEW
- WAVETRONIX SMARTSENSOR 6C TO 8C CABLE JUNCTION
- 1 - 12 CT SMFO CABLE

PEDESTRIAN HEAD 68 (761 R, 762 G, 763 W) — PPB 68 (764 O, 765 B)

PEDESTRIAN HEAD 89 (781 R, 782 G, 783 W) — PPB 89 (784 O, 785 B)

SEE LEGEND FOR RADAR CABLE SPLICE (TYP)

TC-1 — J-BOX — ILLUM. SPLICE

VEHICLE HEAD 62 (661 R, 662 Y, 663 G, 664 B, 666 W)

VEHICLE HEAD 61 (661 R, 662 Y, 663 G, 664 B, 666 W)

VEHICLE HEAD 12 (611 R, 612 Y, 613 G, 614 B, 616 W)

VEHICLE HEAD 11 (611 R, 612 Y, 613 G, 614 B, 616 W)

1-NEW 6C RADAR CABLE

ADVANCE RADAR DETECTION R6A

PREEMPTION DETECTOR C (5C1 O, 5C2 Y, 5C3 BL)

STOP LINE RADAR DETECTION R2

1-NEW 8C HOME RUN CABLE TO CONTROLLER CABINET

ADVANCE RADAR DETECTION R8A

PREEMPTION DETECTOR B (5B1 O, 5B2 Y, 5B3 BL)

STOP LINE RADAR DETECTION R8

ILLUM. SPLICE — J-BOX

PREEMPTION DETECTOR D1 (5D1 O, 5D2 Y, 5D3 BL)

VEHICLE HEAD 71 (671 R, 672 Y, 673 G, 674 B, 676 W)

VEHICLE HEAD 41/OLA (641 R, 642 Y, 643 G, 644 B, 646 W)

VEHICLE HEAD 42/OLA (641 R, 642 Y, 643 G, 644 B, 646 W)

1-NEW 6C RADAR CABLE

STOP LINE RADAR DETECTION R6

PEDESTRIAN HEAD 69 (761 R, 762 G, 763 W) — PPB 69 (764 O, 765 B)

J-BOX — J-BOX — J-BOX

7

SR 3 S.B. OFF-RAMP — SR 305

ø8 ø8 ø3 ø3 — ø6 — ø6 — ø1 — ø1 — ø2 — ø2 — ø2/ø7 — ø7 — ø4 OLA — ø4 OLA

VEHICLE HEAD 21 (621 R, 622 Y, 623 G, 624 B, 626 W)

VEHICLE HEAD 22 (621 R, 622 Y, 623 G, 624 B, 626 W)

VEHICLE HEAD 23/72 (621 R, 622 Y, 623 G, 624 B, 626 W, 672 BL, 673 WB)

PREEMPTION DETECTOR A (5A1 O, 5A2 Y, 5A3 BL)

PREEMPTION DETECTOR A1 (5A1 O, 5A2 Y, 5A3 BL)

J-BOX — J-BOX — ILLUM. SPLICE — J-BOX

PEDESTRIAN HEAD 88 (781 R, 782 G, 783 W) — PPB 88 (784 O, 785 B)

PEDESTRIAN HEAD 29 (721 R, 722 G, 723 W) — PPB 29 (724 O, 725 B)

ILLUM. SPLICE — J-BOX

VEHICLE HEAD 82 (681 R, 682 Y, 683 G, 684 B, 686 W)

VEHICLE HEAD 81 (681 R, 682 Y, 683 G, 684 B, 686 W)

VEHICLE HEAD 32 (631 R, 632 Y, 633 G, 634 B, 636 W)

VEHICLE HEAD 31 (631 R, 632 Y, 633 G, 634 B, 636 W)

TC-4

PREEMPTION DETECTOR D (5D1 O, 5D2 Y, 5D3 BL)

STOP LINE RADAR DETECTION R4

PREEMPTION DETECTOR B1 (5B1 O, 5B2 Y, 5B3 BL)

J-BOX — J-BOX

SERVICE CABINET — CONTROLLER CABINET — TO SERVICE POWER

3

TC-3 — J-BOX — ILLUM. SPLICE

PEDESTRIAN HEAD28 (721 R, 722 G, 723 W) — PPB 28 (724 O, 725 B)

J-BOX — J-BOX — J-BOX

INTERCONNECT TO SIGNAL SYSTEM #2

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DRAWN BY: M WEYRAUCH | JOB No.: 3469.01

CHECKED BY: R JEWELL | DRAWING FILE No.: 3469.01 TS-02

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 13784 — REGISTERED PROFESSIONAL ENGINEER — 8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

WIRING DIAGRAM - SYSTEM NO. 1

DRAWING No.: TS-02

SHEET No.: 13 OF 29

Aug 16, 2021 1:38:50pm – User matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TS-02.DWG

T. 26 N., R. 1 E., W.M.

LEGEND

EXISTING	NEW	
⊠		TYPE 1 JUNCTION BOX, J-40.10
◪		TYPE 2 JUNCTION BOX, J-40.10
◰		TYPE 3 JUNCTION BOX
◫		TYPE 8 JUNCTION BOX, J-40.30
	■	PULL BOX, J-90.10
———	———	CONDUIT
▨	▣	CONTROLLER CABINET
▩	▣	ELECTRICAL SERVICE CABINET
	U	UNINTERRUPTIBLE POWER SUPPLY CABINET(UPS)
--▷	→	VEHICLE SIGNAL DISPLAY
┼		VEHICLE SIGNAL DISPLAY (PROTECTED TURN)
⊢▷	⊢→	PEDESTRIAN SIGNAL DISPLAY (SIDE MOUNT)
⊢▷		PEDESTRIAN SIGNAL DISPLAY (TOP MOUNT)
⊣		EMERGENCY VEHICLE PRE-EMPT DETECTOR
⊏⊐		VIDEO DETECTION CAMERA
◔	◔	RADAR DETECTION
▪	▪	APS PPB
⫣		STREET NAME/ REGULATORY SIGN
○	○	PEDESTRIAN PUSH BUTTON STANDARD
⊗	⊗	PEDESTRIAN SIGNAL STANDARD
		TYPE II SIGNAL STANDARD
		TYPE III SIGNAL STANDARD
		LIGHT STANDARD
		TYPE 1 DETECTION LOOP
		TYPE 2 DETECTION LOOP
	X	WIRE NOTE
	X	CONSTRUCTION NOTE
	X	SIGNAL STANDARD NO.

TRAFFIC SIGNAL CONSTRUCTION NOTES

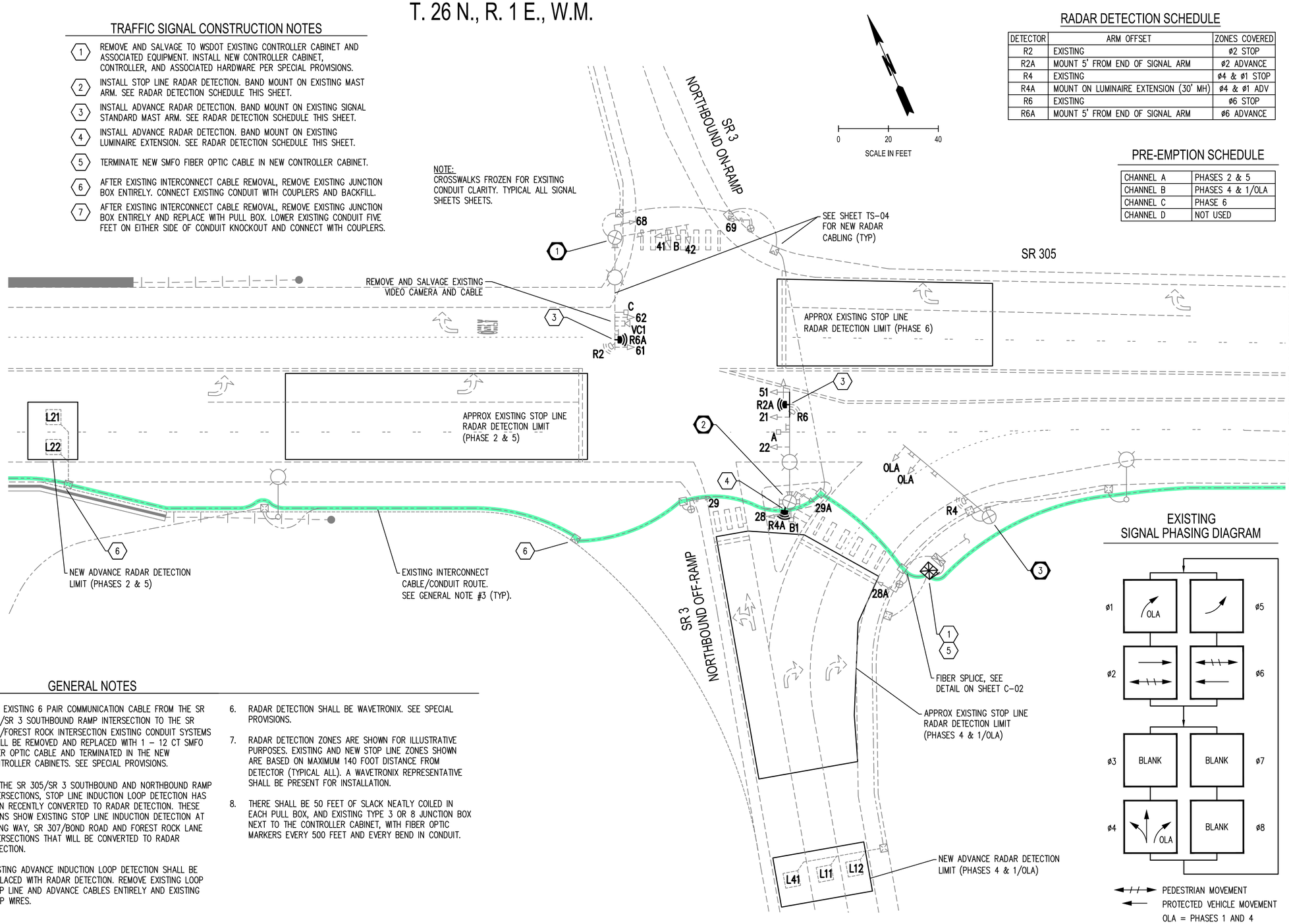
1. REMOVE AND SALVAGE TO WSDOT EXISTING CONTROLLER CABINET AND ASSOCIATED EQUIPMENT. INSTALL NEW CONTROLLER CABINET, CONTROLLER, AND ASSOCIATED HARDWARE PER SPECIAL PROVISIONS.
2. INSTALL STOP LINE RADAR DETECTION. BAND MOUNT ON EXISTING MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
3. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING SIGNAL STANDARD MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
4. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING LUMINAIRE EXTENSION. SEE RADAR DETECTION SCHEDULE THIS SHEET.
5. TERMINATE NEW SMFO FIBER OPTIC CABLE IN NEW CONTROLLER CABINET.
6. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY. CONNECT EXISTING CONDUIT WITH COUPLERS AND BACKFILL.
7. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY AND REPLACE WITH PULL BOX. LOWER EXISTING CONDUIT FIVE FEET ON EITHER SIDE OF CONDUIT KNOCKOUT AND CONNECT WITH COUPLERS.

RADAR DETECTION SCHEDULE

DETECTOR	ARM OFFSET	ZONES COVERED
R2	EXISTING	ø2 STOP
R2A	MOUNT 5' FROM END OF SIGNAL ARM	ø2 ADVANCE
R4	EXISTING	ø4 & ø1 STOP
R4A	MOUNT ON LUMINAIRE EXTENSION (30' MH)	ø4 & ø1 ADV
R6	EXISTING	ø6 STOP
R6A	MOUNT 5' FROM END OF SIGNAL ARM	ø6 ADVANCE

PRE-EMPTION SCHEDULE

CHANNEL A	PHASES 2 & 5
CHANNEL B	PHASES 4 & 1/OLA
CHANNEL C	PHASE 6
CHANNEL D	NOT USED



EXISTING SIGNAL PHASING DIAGRAM

GENERAL NOTES

1. A CONTINUOUS UNDERGROUND TRAFFIC SIGNAL INTERCONNECT SYSTEM (6 PAIR COPPER WIRE) CURRENTLY EXTENDS FROM THE SR305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION SOUTH TO THE SR 305/HOSTMARK STREET INTERSECTION.
2. THESE PLANS SCHEMATICALLY SHOW THE EXISTING TRAFFIC SIGNAL AND CONDUIT SYSTEMS FROM SR 305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION TO THE SR 305/FOREST ROCK LANE INTERSECTION. AT EACH INTERSECTION THE EXISTING CONTROLLER CABINET AND CONTROLLER WILL BE REMOVED AND REPLACED ON THE EXISTING FOUNDATION TO CURRENT OLYMPIC REGION STANDARDS. SEE SPECIAL PROVISIONS.
3. THE EXISTING 6 PAIR COMMUNICATION CABLE FROM THE SR 305/SR 3 SOUTHBOUND RAMP INTERSECTION TO THE SR 305/FOREST ROCK INTERSECTION EXISTING CONDUIT SYSTEMS SHALL BE REMOVED AND REPLACED WITH 1 – 12 CT SMFO FIBER OPTIC CABLE AND TERMINATED IN THE NEW CONTROLLER CABINETS. SEE SPECIAL PROVISIONS.
4. AT THE SR 305/SR 3 SOUTHBOUND AND NORTHBOUND RAMP INTERSECTIONS, STOP LINE INDUCTION LOOP DETECTION HAS BEEN RECENTLY CONVERTED TO RADAR DETECTION. THESE PLANS SHOW EXISTING STOP LINE INDUCTION DETECTION AT VIKING WAY, SR 307/BOND ROAD AND FOREST ROCK LANE INTERSECTIONS THAT WILL BE CONVERTED TO RADAR DETECTION.
5. EXISTING ADVANCE INDUCTION LOOP DETECTION SHALL BE REPLACED WITH RADAR DETECTION. REMOVE EXISTING LOOP STOP LINE AND ADVANCE CABLES ENTIRELY AND EXISTING LOOP WIRES.
6. RADAR DETECTION SHALL BE WAVETRONIX. SEE SPECIAL PROVISIONS.
7. RADAR DETECTION ZONES ARE SHOWN FOR ILLUSTRATIVE PURPOSES. EXISTING AND NEW STOP LINE ZONES SHOWN ARE BASED ON MAXIMUM 140 FOOT DISTANCE FROM DETECTOR (TYPICAL ALL). A WAVETRONIX REPRESENTATIVE SHALL BE PRESENT FOR INSTALLATION.
8. THERE SHALL BE 50 FEET OF SLACK NEATLY COILED IN EACH PULL BOX, AND EXISTING TYPE 3 OR 8 JUNCTION BOX NEXT TO THE CONTROLLER CABINET, WITH FIBER OPTIC MARKERS EVERY 500 FEET AND EVERY BEND IN CONDUIT.

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

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8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC SIGNAL PLAN - SYSTEM NO. 2

DRAWING No.: TS-03
SHEET No.: 14 OF 29

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N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TS-03.DWG

CONTROLLER TERMINALS

POWER

B	501	
W	502	

PED. DISPLAY

R	721		
G	722		
W	723		
R	721		
G	722		
W	723		
R	761		
G	762		
W	763		

PED. BUTTON

O	724		
B	725		
O	764		
B	765		

E.V.P. DETECTOR

O	5A1		
Y	5A2	A	ø2
BL	5A3		
O	5B1		
Y	5B2	B,B1	ø4
BL	5B3		
O	5C1		
Y	5C2	C	ø6
BL	5C3		

VEHICLE DISPLAYS

R	621		
O	622		
G	623	21,22	ø2
B	624		
W	626		
R	641		
O	642		
G	643	41,42,43,44	ø4
B	644		
W	646		
R	651		
O	652	51	ø5
G	653		
B	654		
W	656		
R	661		
O	662		
G	663	61,62	ø6
B	664		
W	666		

RADAR DETECTION

8C	R2	ø2,ø5
8C	R2A	ø2
8C	R4	ø4
8C	R4A	ø4
8C	R6	ø6
8C	R6A	ø6

DETECTION LOOPS

B	826		21
W	827		
B	828	22	ø2
W	829		
B	921		23
W	922	24	ø2
B	923		
W	924		
B	846		41
W	847		
B	846	42	ø4
W	847		
B	941		43
W	942		
B	943	44	ø4
W	944		
B	945		45
W	946	51	ø5
B	956		
W	957		
B	866		61
W	867		
B	868	62	ø6
W	869		
B	961		63
W	962	64	ø6
B	963		
W	964		

COORDINATION

FIBER	RUGGED COM RSL910

HART CABLE	HART SYSTEM

EXISTING TERMINAL CABINETS

TC-1

R	641	R
O	642	O
G	643	G
B	644	B
W	646	W
R	661	R
O	662	O
G	663	G
B	664	B
W	666	W

TO CONTROLLER

TC-2

R	651	R
O	652	O
G	653	G
B	654	B
W	656	W
R	621	R
O	622	O
G	623	G
B	624	B
W	626	W

TO CONTROLLER

TC-3

R	641	R
O	642	O
G	643	G
B	644	B
W	646	W

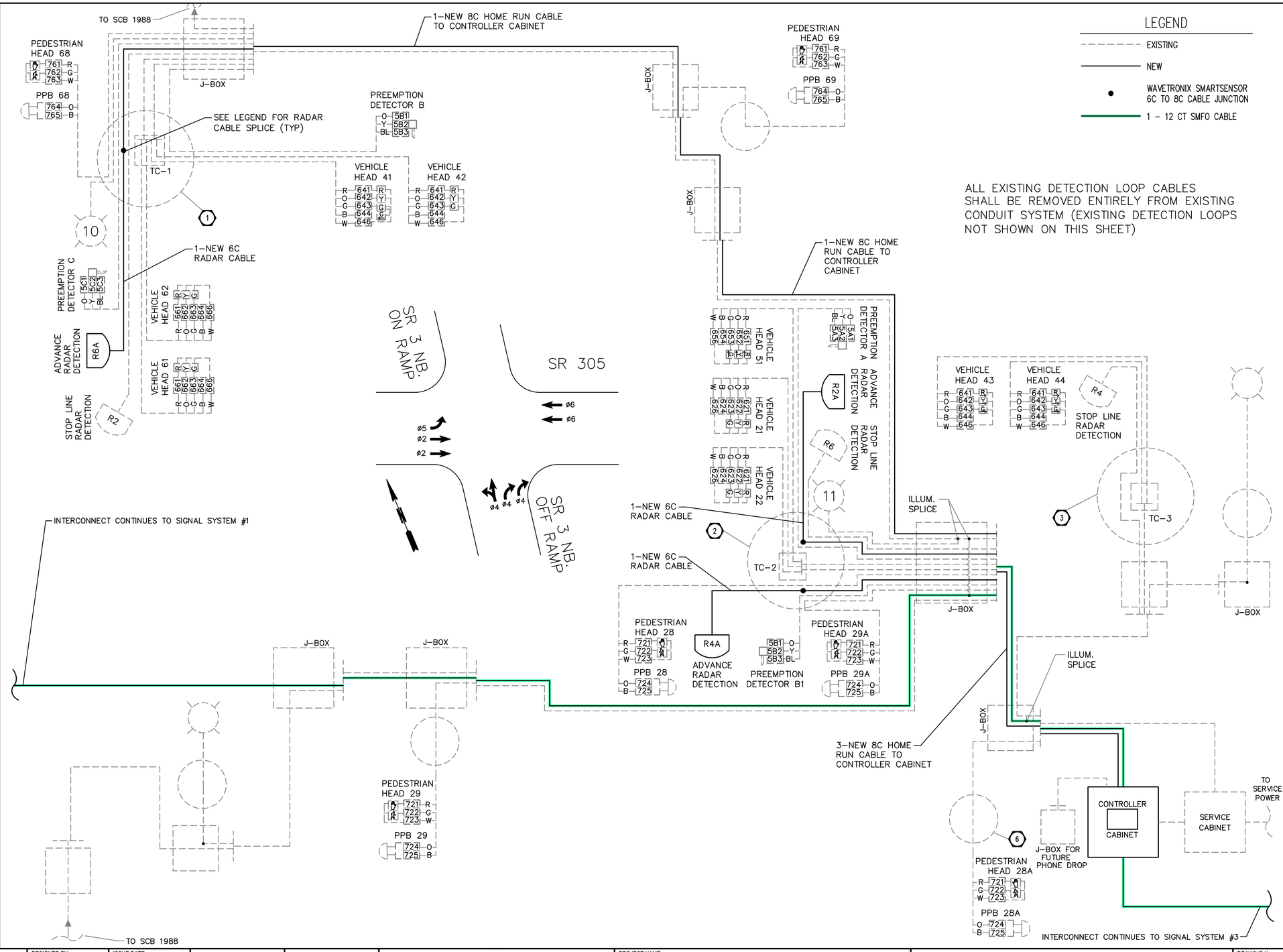
TO CONTROLLER

TERMINAL CODING

- ☒ CONNECT TO NEUTRAL BUSS
- ◯ CONTROL SIDE TERMINAL CONNECTION
- ☒ CONNECT TO DETECTOR COMMON BUSS
- ☐ SPARE

EMERGENCY VEHICLE PRE-EMPT WIRING CODE

ORANGE	24 VOLT
YELLOW	CALL
BLUE	GROUND



LEGEND

- EXISTING
- NEW
- WAVETRONIX SMARTSENSOR 6C TO 8C CABLE JUNCTION
- 1 - 12 CT SMFO CABLE

ALL EXISTING DETECTION LOOP CABLES SHALL BE REMOVED ENTIRELY FROM EXISTING CONDUIT SYSTEM (EXISTING DETECTION LOOPS NOT SHOWN ON THIS SHEET)

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

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OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

WIRING DIAGRAM - SYSTEM NO. 2

DRAWING No.: TS-04

SHEET No.: 15 OF 29

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N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CAD\3469.01 TS-04.DWG

T. 26 N., R. 1 E., W.M.

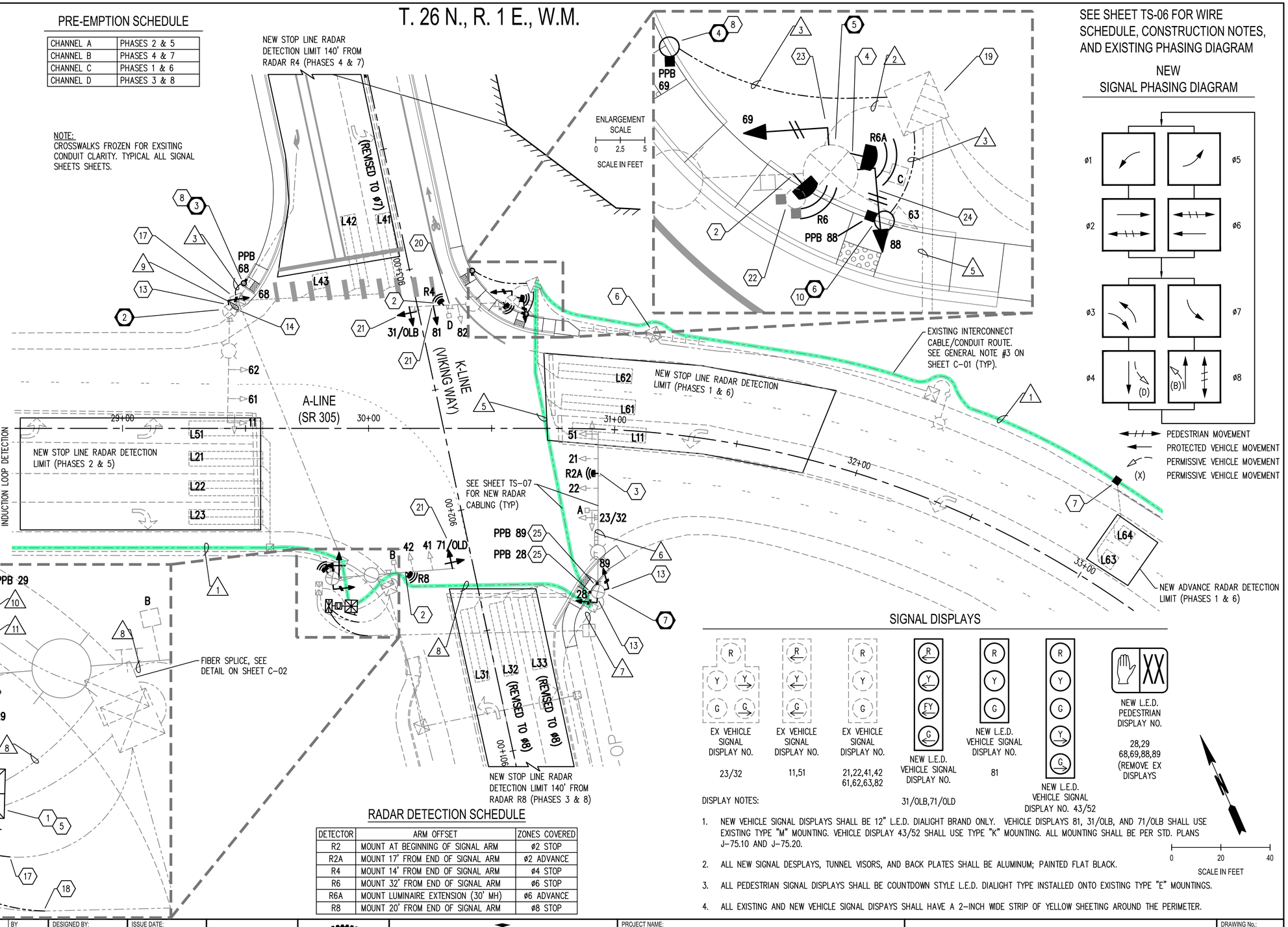
LEGEND

EXISTING	NEW	
⊠		TYPE 1 JUNCTION BOX, J-40.10
◪		TYPE 2 JUNCTION BOX, J-40.10
◪		TYPE 3 JUNCTION BOX
◫		TYPE 8 JUNCTION BOX, J-40.30
	■	PULL BOX, J-90.10
———	- - -	CONDUIT
▨	▩	CONTROLLER CABINET
▩	▩	ELECTRICAL SERVICE CABINET
	U	UNINTERRUPTIBLE POWER SUPPLY CABINET(UPS)
-→	→	VEHICLE SIGNAL DISPLAY
┼→		VEHICLE SIGNAL DISPLAY (PROTECTED TURN)
⊢→	⊢→	PEDESTRIAN SIGNAL DISPLAY (SIDE MOUNT)
⊢□		EMERGENCY VEHICLE PRE-EMPT DETECTOR
-D))	)))	RADAR DETECTION
▪	▪	APS PPB
⊣		STREET NAME/ REGULATORY SIGN
⊶	⊶	PEDESTRIAN PUSH BUTTON STANDARD
⊗	⊗	PEDESTRIAN SIGNAL STANDARD
		TYPE II SIGNAL STANDARD
		TYPE III SIGNAL STANDARD
		LIGHT STANDARD
		TYPE 1 DETECTION LOOP
		TYPE 2 DETECTION LOOP
	△X	WIRE NOTE
	⬡X	CONSTRUCTION NOTE
	⬡X	SIGNAL STANDARD NO.

PRE-EMPTION SCHEDULE

CHANNEL A	PHASES 2 & 5
CHANNEL B	PHASES 4 & 7
CHANNEL C	PHASES 1 & 6
CHANNEL D	PHASES 3 & 8

NOTE:
CROSSWALKS FROZEN FOR EXSITING CONDUIT CLARITY. TYPICAL ALL SIGNAL SHEETS SHEETS.



SEE SHEET TS-06 FOR WIRE SCHEDULE, CONSTRUCTION NOTES, AND EXISTING PHASING DIAGRAM

NEW SIGNAL PHASING DIAGRAM

SIGNAL DISPLAYS

DISPLAY NOTES:

1. NEW VEHICLE SIGNAL DISPLAYS SHALL BE 12" L.E.D. DIALIGHT BRAND ONLY. VEHICLE DISPLAYS 81, 31/OLB, AND 71/OLB SHALL USE EXISTING TYPE "M" MOUNTING. VEHICLE DISPLAY 43/52 SHALL USE TYPE "K" MOUNTING. ALL MOUNTING SHALL BE PER STD. PLANS J-75.10 AND J-75.20.
2. ALL NEW SIGNAL DESPLAYS, TUNNEL VISORS, AND BACK PLATES SHALL BE ALUMINUM; PAINTED FLAT BLACK.
3. ALL PEDESTRIAN SIGNAL DISPLAYS SHALL BE COUNTDOWN STYLE L.E.D. DIALIGHT TYPE INSTALLED ONTO EXISTING TYPE "E" MOUNTINGS.
4. ALL EXISTING AND NEW VEHICLE SIGNAL DISPAYS SHALL HAVE A 2-INCH WIDE STRIP OF YELLOW SHEETING AROUND THE PERIMETER.

0 20 40
SCALE IN FEET

RADAR DETECTION SCHEDULE

DETECTOR	ARM OFFSET	ZONES COVERED
R2	MOUNT AT BEGINNING OF SIGNAL ARM	ø2 STOP
R2A	MOUNT 17' FROM END OF SIGNAL ARM	ø2 ADVANCE
R4	MOUNT 14' FROM END OF SIGNAL ARM	ø4 STOP
R6	MOUNT 32' FROM END OF SIGNAL ARM	ø6 STOP
R6A	MOUNT LUMINAIRE EXTENSION (30' MH)	ø6 ADVANCE
R8	MOUNT 20' FROM END OF SIGNAL ARM	ø8 STOP

△	REVISIONS	DATE	BY
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2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

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WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC SIGNAL PLAN - SYSTEM NO. 3

DRAWING No.: TS-05
SHEET No.: 16 OF 29

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N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CAD\3469.01 TS-05.DWG

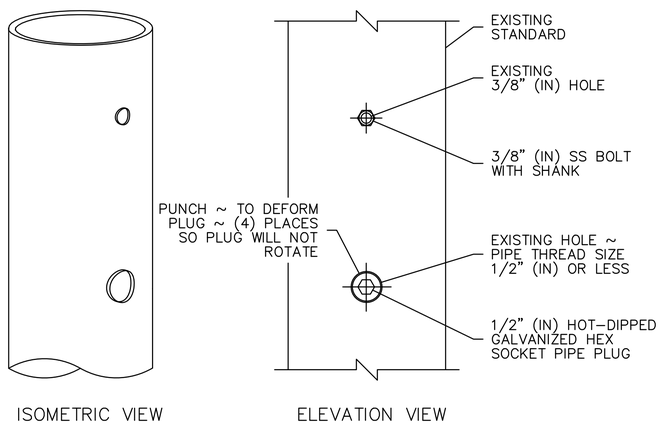
WIRING SCHEDULE

RUN NO. X	RACEWAY CONDUIT SIZE	SERVICE #2 AWG	POWER #6	RADAR CABLE 8C	PEDESTRIAN BUTTON 4C	VEHICLE HEAD 5C	12 CT SMFO	COMMENTS
1	EX 2"						1	
2	EX 2"			2	2	1		WITH EXISTING CONDUCTORS
3	1 1/2"				1			
4	NOT USED							
5	EX 2 1/2"			3		1	1	WITH EXISTING CONDUCTORS
6	2"		2					SEE NOTE #4 BELOW
7	EX 2"			1				WITH EXISTING CONDUCTORS
8	EX 2 1/2"			4		1	1	WITH EXISTING CONDUCTORS
9	EX 2"				1			
10	EX 2"			2		2		WITH EXISTING CONDUCTORS
11	EX 2"			2		2	1	WITH EXISTING CONDUCTORS

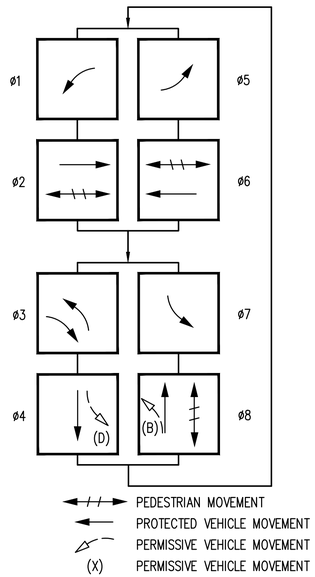
NOTES:
1. EXISTING CONDUCTORS (NOT SHOWN) TO REMAIN UNLESS OTHERWISE NOTED.
2. ALL NEW CONDUITS SHALL BE RIGID PVC SCHEDULE 80 EXCEPT WHERE ALLOWED PER WSDOT SPECIFICATIONS.
3. PER 2021 STANDARD SPECIFICATION 8-20.3(9), ALL CONDUIT RACEWAYS SHALL INCLUDE A GROUND WIRE WITH THE EXCEPTION OF EMPTY SPARE CONDUITS (GROUND WIRE NOT SHOWN IN WIRE SCHEDULE. SEE ALSO WSDOT STANDARD PLAN J-60.05.
4. ALL CONDUIT RUNS TO AND FROM STRUT MOUNTED SERVICE CABINET SHALL BE RIGID GALVANIZED CONDUIT.

HOLE REPAIR DETAIL

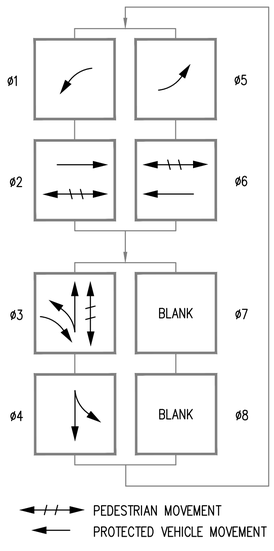
- APPLY SILICONE CAULK TO THREADS OF SS BOLT WITH SHANK.
- TIGHTEN SS BOLT UNTIL SHANK IS TIGHT AGAINST STANDARD.
- CUT OFF SS BOLT EVEN WITH STANDARD.
- FILE SS BOLT TO MATCH CONTOUR OF STANDARD.
- TREAT SS BOLT AND SURROUNDING POLE WITH GALVANIZING REPAIR PAINT MEETING THE REQUIREMENT OF STANDARD SPECIFICATION 9-08.1(2).
- APPLY TWO COATS. PAINT SHALL BE DRY BEFORE APPLYING SECOND COAT.



NEW SIGNAL PHASING DIAGRAM



EXISTING SIGNAL PHASING DIAGRAM



MODIFIED TYPE B SERVICE CABINET BREAKER SCHEDULE (120V/240V) EX. SCB 45

DESCRIPTION	BREAKER RATING
1. MAIN	- 100 AMP-2 POLE
2. SIGNAL	- 50 AMP-1 POLE
3. ILLUM CIRCUIT A	- 20 AMP-2 POLE
4. ILLUM CIRCUIT B	- 20 AMP-2 POLE
5. CONTACTOR CIRCUIT A	- 30 AMP-2 POLE
6. CONTACTOR CIRCUIT B	- 30 AMP-2 POLE

SEE WSDOT STD PLAN J-10.20 FOR OTHER BREAKER REQUIREMENTS.

VIKING WAY TRAFFIC SIGNAL GENERAL NOTES

1. ABANDON ALL EXISTING VEHICLE DETECTION LOOPS. REMOVE ALL EXISTING 2CS CABLES ASSOCIATED WITH EXISTING LOOP DETECTORS BACK TO THE CONTROLLER CABINET.
2. CONDUIT RUNS AND JUNCTION BOX LOCATIONS ARE SHOWN SCHEMATICALLY IN APPROXIMATE LOCATIONS. FINAL LOCATIONS MAY BE ADJUSTED TO AVOID CONFLICTS AND FOR EASE OF CONSTRUCTION. FINAL LOCATIONS FOR CONDUITS AND JUNCTION BOXES SHALL BE APPROVED BY THE WSDOT INSPECTOR PRIOR TO INSTALLATION.
3. THE CONTRACTOR SHALL REPLACE, AS NECESSARY, ALL EXISTING PAVEMENT, CURB, GUTTER, SIDEWALK, FENCING, AND LANDSCAPING TO INSTALL CONDUIT, JUNCTION BOXES AND SIGNAL EQUIPMENT.
4. SIGNAL TIMING AND PHASING SHALL BE PROGRAMMED BY WSDOT.
5. PEDESTRIAN PUSH BUTTONS SHALL HAVE VIBRO-TACTILE AND AUDIBLE PUSH BUTTON ASSEMBLIES PER OLYMPIC REGION STANDARD (SEE SPECIAL PROVISIONS). APS SYSTEM SHALL ACCOMMODATE FOUR WIRES.
6. INSTALL A ONE FOOT WIDE AND ONE FOOT DEEP RECTANGULAR CONCRETE COLLAR AROUND THE PERIMETER OF ALL JUNCTION BOXES OUTSIDE OF THE SIDEWALK. THE EXPOSED PORTIONS SHALL BE FORMED TO HAVE A NEAT APPEARANCE. THE TOP EDGE SHALL HAVE 3/4 INCH CHAMFER ON THE TOP EDGE OF THE FOUNDATION. USE COMMERCIAL CONCRETE PER STANDARD SPECIFICATION 6-02 3(2)B.
7. ALL EXISTING CONDUITS NOT USED IN THE SIGNALIZATION AND ILLUMINATION SYSTEMS SHALL BE ABANDONED, WITH CONDUIT ELBOWS AND CONDUCTORS REMOVED BACK TO THE CONTROLLER OR SERICE CABINET, AS NECESSARY.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING DETAILED AS BUILT RECORDS FOR THE TRAFFIC SIGNAL AND ILLUMINATION SYSTEM.
9. ALL WORK SHALL BE CONSISTENT WITH THE UTILITY AGENCY REQUIREMENTS. THE CONTRACTOR SHALL CONTACT ALL PERTINENT UTILITY AGENCIES 48 HOURS BEFORE COMMENCING WORK, AND SHALL COORDINATE WITH AFFECTED UTILITY AGENCIES THROUGHOUT THE PROJECT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANY IMMEDIATELY UPON DAMAGE.
11. SIGNAL DISPLAYS FOR PHASE 7 AND PHASE 8 ARE RENUMBERED FROM PHASE 4 AND PHASE 3, AND ALSO PEDESTRIAN PHASE 8 FROM PEDESTRIAN PHASE 3. REVISE TERMINAL CABINETS ACCORDINGLY. EVP PHASING ALSO REVISED.

SEE ALSO SHEET C-01 FOR OTHER GENERAL NOTES.

VIKING WAY TRAFFIC SIGNAL CONSTRUCTION NOTES

1. REMOVE AND SALVAGE TO WSDOT EXISTING CONTROLLER CABINET AND ASSOCIATED EQUIPMENT. INSTALL NEW CONTROLLER CABINET, CONTROLLER, AND ASSOCIATED HARDWARE PER SPECIAL PROVISIONS.
2. INSTALL STOP LINE RADAR DETECTION. BAND MOUNT ON EXISTING MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
3. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING SIGNAL STANDARD MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
4. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING LUMINAIRE EXTENSION. SEE RADAR DETECTION SCHEDULE THIS SHEET.
5. TERMINATE NEW SMFO FIBER OPTIC CABLE IN NEW CONTROLLER CABINET.
6. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY. CONNECT EXISTING CONDUIT WITH COUPLERS AND BACKFILL.
7. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY AND REPLACE WITH PULL BOX. LOWER EXISTING CONDUIT FIVE FEET ON EITHER SIDE OF CONDUIT KNOCKOUT AND CONNECT WITH COUPLERS.
8. INSTALL FOUNDATION WITH CURB AND TYPE PPB SIGNAL STANDARD PER WSDOT STANDARD PLAN J-21.11. INSTALL ONE APS PEDESTRIAN PUSH-BUTTON ASSEMBLY PER WSDOT STANDARD PLAN J-20.26. 3 4 6
9. REMOVE AND SALVAGE EXISTING SERVICE CABINET (SCB 45) TO WSDOT.
10. INTERCEPT THE EXISTING POWER CONDUIT FROM THE EXISTING SERVICE CABINET TO THE EXISTING CONTROLLER CABINET AND CONNECT TO NEW CONDUIT FROM THE UPS CABINET.
11. INSTALL UPS CABINET ON SAME FOUNDATION AS SERVICE CABINET.
12. INSTALL TYPE B MODIFIED SERVICE CABINET WITH STRUT MOUNT, PHOTO CELL, AND METER SOCKET PER WSDOT STANDARD PLAN J-10.20. SEE BREAKER SCHEDULE THIS SHEET THE PHOTO CELL SHALL BE ORIENTED TO THE NORTH. INSTALL CABINET ON SEPARATE FOUNDATION AS THE CONTROLLER CABINET PER WSDOT STANDARD PLAN J-10.10.
13. REMOVE EXISTING PEDESTRIAN SIGNAL DISPLAY AND SALVAGE TO WSDOT. INSTALL LED COUNTDOWN STYLE PEDESTRIAN VEHICLE DISPLAY ONTO EXISTING SIGNAL STANDARD MOUNTING.
14. REMOVE EXISTING PEDESTRIAN PUSH BUTTON ASSEMBLY AND REPAIR HOLE PER DETAIL ON THIS SHEET.
15. INSTALL APS PEDESTRIAN PUSH-BUTTON ASSEMBLY, PER WSDOT STANDARD PLAN J-20.26, ONTO EXISTING SIGNAL STANDARD.
16. INSTALL VEHICLE SIGNAL DISPLAY ONTO EXISTING SIGNAL STANDARD SHAFT. SEE SIGNAL DISPLAY NOTE#1 ON TS-05 FOR "K" MOUNTING.
17. DE-ENERGIZE AND PULL EXISTING ILLUMINATION CONDUCTORS BACK TO EXISTING JUNCTION BOX. INTERCEPT EXISTING CONDUIT AND EXTEND NEW CONDUIT IN KIND TO NEW SERVICE CABINET. RE-PULL CONDUCTORS THROUGH CONDUIT AND TERMINATE IN SERVICE CABINET.
18. DE-ENERGIZE POWER AND PULL EXISTING SERVICE POWER CONDUCTORS BACK TO EXISTING TRANSFORMER ON EAST SIDE OF VIKING WAY. INTERCEPT EXISTING CONDUIT AND EXTEND NEW CONDUIT IN KIND TO NEW SERVICE CABINET. RE-PULL CONDUCTORS THROUGH CONDUIT AND TERMINATE IN SERVICE CABINET.
19. INSTALL CONDUIT INTO EXISTING JUNCTION BOX.
20. REMOVE EXISTING THROUGH-LEFT LANE USE SIGN SIGN (R3-6) AND SALVAGE TO WSDOT.
21. REMOVE EXISTING VEHICLE SIGNAL DISPLAY AND SALVAGE TO WSDOT. INSTALL VEHICLE SIGNAL DISPLAY AS SHOWN PER DISPLAY ON SHEET TS-05.
22. REMOVE EXISTING PPB STANDARD AND FOUNDATION. SALVAGE TO WSDOT. BACKFILL VOID.
23. REMOVE EXISTING PEDESTRIAN SIGNAL DISPLAY AND SALVAGE TO WSDOT. REPAIR HOLE PER DETAIL ON THIS SHEET.
24. INSTALL LED COUNTDOWN PEDESTRIAN SIGNAL DISPLAY AS SHOWN PER DISPLAY NOTES ON THIS SHEET.
25. REMOVE EXISTING PEDESTRIAN PUSH BUTTON ASSEMBLY. INSTALL APS PEDESTRIAN PUSH-BUTTON ASSEMBLY, PER WSDOT STANDARD PLAN J-20.26, ONTO EXISTING SIGNAL STANDARD.

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

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DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TS-06

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

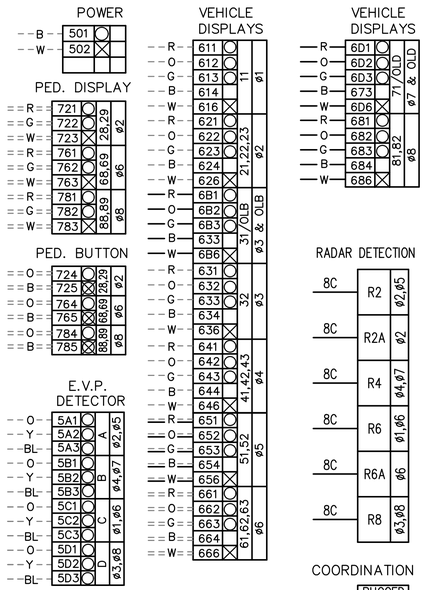
SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

WIRING SCHEDULE AND NOTES - SYSTEM NO. 3

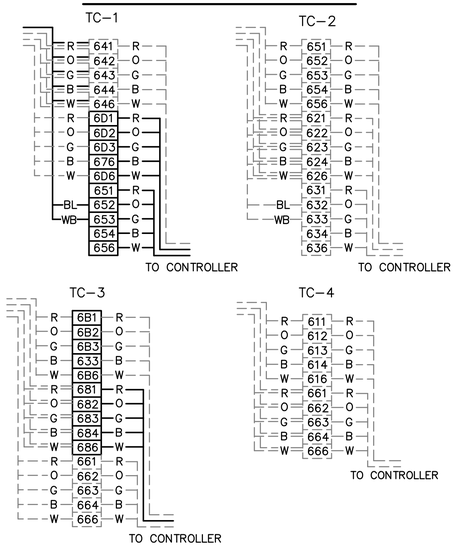
DRAWING No.: TS-06
SHEET No.: 17 OF 29

Aug 16, 2021 1:39:58pm - User mattweyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TS-06.DWG

CONTROLLER TERMINALS



EXISTING TERMINAL CABINETS

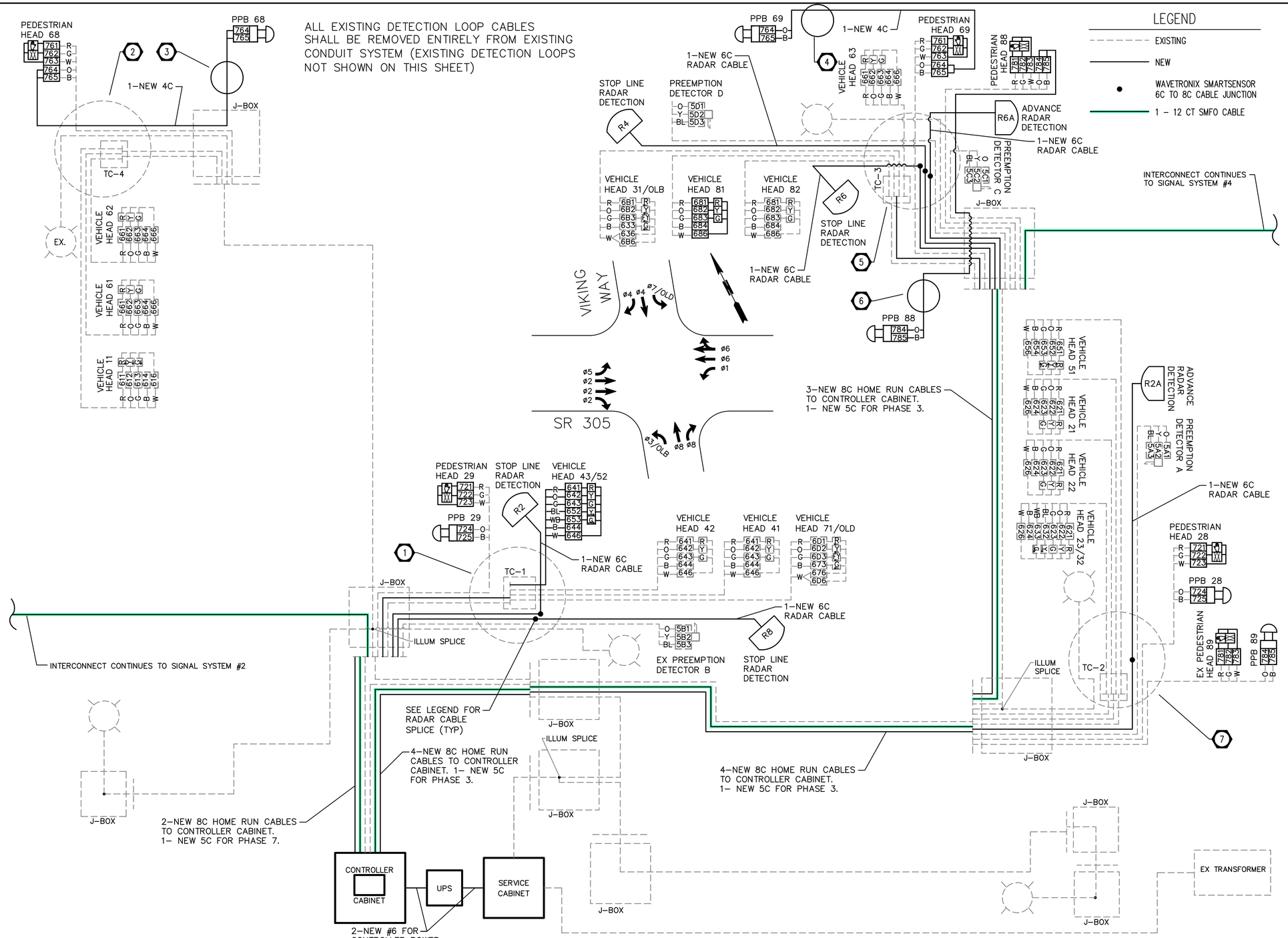


TERMINAL CODING

- ☒ CONNECT TO NEUTRAL BUSS
- ◯ CONTROL SIDE TERMINAL CONNECTION
- ⊠ CONNECT TO DETECTOR COMMON BUSS
- ☐ SPARE

EMERGENCY VEHICLE PRE-EMPT WIRING CODE

ORANGE	24 VOLT
YELLOW	CALL
BLUE	GROUND



△	REVISIONS	DATE	BY
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JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TS-07

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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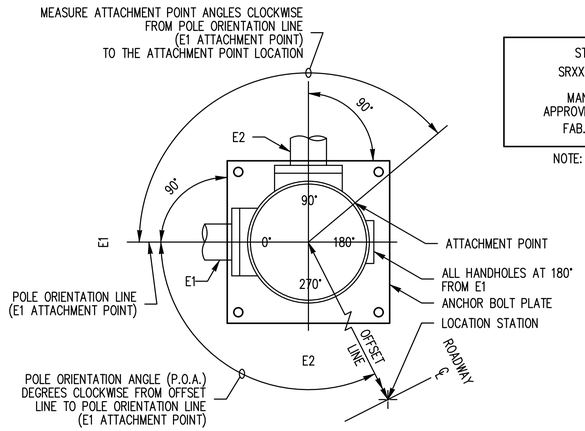
PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

WIRING DIAGRAM - SYSTEM NO. 3

DRAWING No.: TS-07
SHEET No.: 18 OF 29

Aug 16, 2021 1:40:05pm - User matt.weyrauch
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POLE ORIENTATION AND ATTACHMENT POINT DETAIL

NOTE:
TYPE E MOUNTS SHALL BE USED FOR PEDESTRIAN DISPLAYS ON TYPE II OR III SIGNAL STANDARDS, WITH THE FOLLOWING EXCEPTION. PEDESTRIAN DISPLAYS MOUNTED ON OCTAGONAL (8 SIDED) SIGNAL STANDARDS AT AN ANGLE OTHER THAN A 45 DEGREE INCREMENT SHALL USE A TYPE A MOUNT FOR TWO PEDESTRIAN DISPLAYS, OR A TYPE B MOUNT FOR A SINGLE PEDESTRIAN DISPLAY.

LEGEND

a. VEHICLE DISPLAY
b. SIGN
c. STREET NAME SIGN
d. PRE-EMPT DETECTOR
e. VIDEO CAMERA
f. LUMINAIRE
g. PEDESTRIAN DISPLAY
h. CABINET
i. PPB-M
j. HANDHOLE
k. RADAR

LUMINAIRE MAST ARM X Y Z (FT^3)	
MAST ARM LENGTH	X Y Z (FT^3)
6'	19.8
8'	26.4
10'	33.0
12'	39.6
14'	46.2
16'	52.8

SIGNAL STANDARD IDENTIFICATION TAG DETAIL

STD. NO. XX — SIGNAL STANDARD NO.
SRXXX, MP XXX.XX — STATE ROUTE AND MILE POST NO.
MANUFACTURER APPROVED DWG. XXXXXX — APPROVED DRAWING NO.
FAB. X/XX/XXXX — FABRICATION DATE

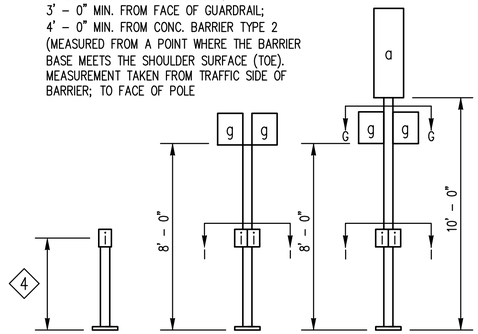
EXAMPLE

STD. NO. 02
SR97, MP 069.09
MANUFACTURER
APPROVED DWG. AB12345
FAB. 6/14/2002

NOTE:
CORROSION RESISTANT METAL TAG SECURED WITH (2) 0.125" RIVETS AS FOLLOWS: POLE SHAFT – LOCATED WITHIN 6" ABOVE HAND HOLE (TYPE II & III). SIGNAL AND LUMINAIRE MAST ARM (TYPE II & III) – LOCATED WITHIN 6" OF THE LUMINAIRE ARM AND THE POLE SHAFT CONNECTION POINT (TYPE III). TEXT SHALL BE A MINIMUM OF 3/16" HIGH, STAMPED OR EMBOSSED.

④ HEIGHT OF PEDESTRIAN PUSH BUTTON MEASURED FROM SIDEWALK SURFACE TO CENTER OF PEDESTRIAN PUSH BUTTON.
42" IS RECOMMENDED (TYPICAL)
32" MINIMUM
48" MAXIMUM

⑤ PLACEMENT SHALL BE 2' – 0" MIN. FROM FACE OF CURB OR EDGE OF SHOULDER;
3' – 0" MIN. FROM FACE OF GUARDRAIL;
4' – 0" MIN. FROM CONC. BARRIER TYPE 2
(MEASURED FROM A POINT WHERE THE BARRIER BASE MEETS THE SHOULDER SURFACE (TOE).
MEASUREMENT TAKEN FROM TRAFFIC SIDE OF BARRIER; TO FACE OF POLE



TYPE PPB PPB POST | TYPE PS PED. HEAD STANDARD | TYPE I VEHICLE HEAD STANDARD

NOTES

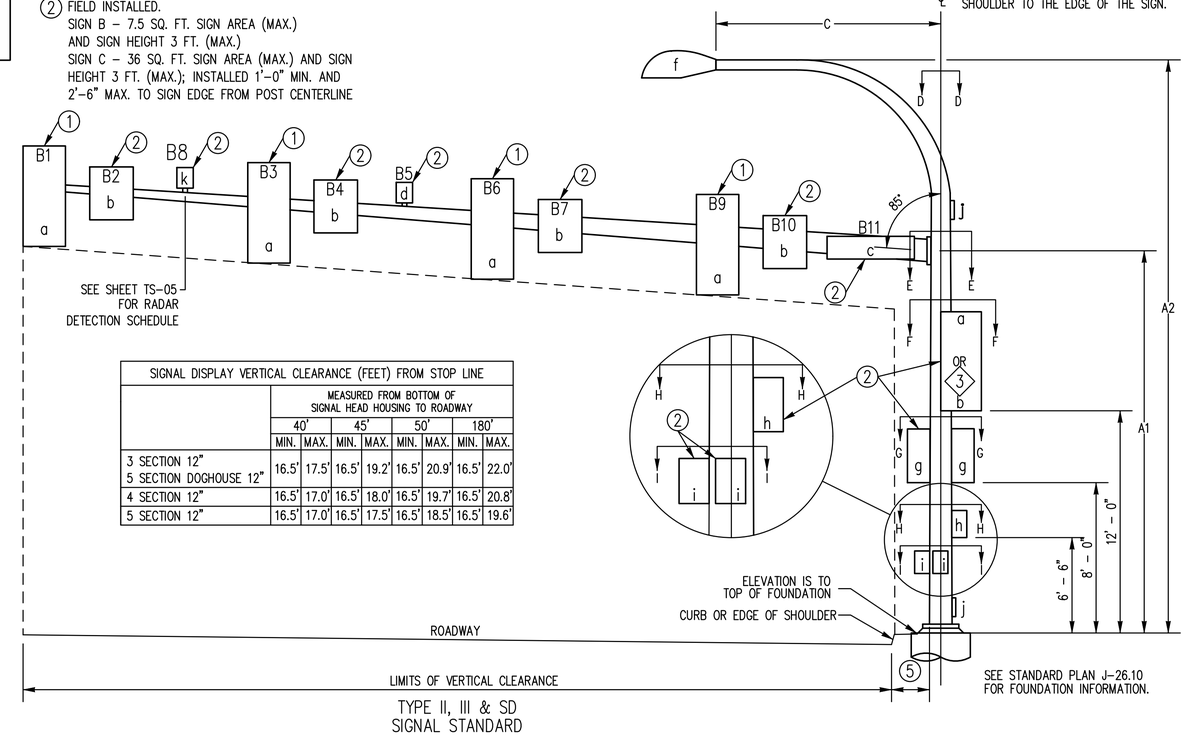
① MOUNTING COUPLING INSTALLED AT OFFSET DISTANCE INDICATED IN CHART.

② FIELD INSTALLED.
SIGN B – 7.5 SQ. FT. SIGN AREA (MAX.) AND SIGN HEIGHT 3 FT. (MAX.)
SIGN C – 36 SQ. FT. SIGN AREA (MAX.) AND SIGN HEIGHT 3 FT. (MAX.); INSTALLED 1'–0" MIN. AND 2'–6" MAX. TO SIGN EDGE FROM POST CENTERLINE

ALTERNATE NOTE 1 FOR TYPE N MOUNT ONLY.

① DRILL 1" DIAM. HOLE IN MAST ARM AND INSTALL PLASTIC SPLIT BUSHING FOR CABLE ENTRANCE.

③ FOR POST MOUNTED SIGNS THERE SHAL BE 2'–0" MIN. FROM THE FACE OF THE CURB OR THE EDGE OF THE SHOULDER TO THE EDGE OF THE SIGN.



TYPE II, III & SD SIGNAL STANDARD

SIGNAL DISPLAY VERTICAL CLEARANCE (FEET) FROM STOP LINE								
	MEASURED FROM BOTTOM OF SIGNAL HEAD HOUSING TO ROADWAY							
	40'		45'		50'		180'	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
3 SECTION 12" 5 SECTION DOGHOUSE 12"	16.5'	17.5'	16.5'	19.2'	16.5'	20.9'	16.5'	22.0'
4 SECTION 12"	16.5'	17.0'	16.5'	18.0'	16.5'	19.7'	16.5'	20.8'
5 SECTION 12"	16.5'	17.0'	16.5'	17.5'	16.5'	18.5'	16.5'	19.6'

SIGNAL STANDARD DETAIL CHART

+TENON FOR POTENTIAL FUTURE ATTACHMENT (SPARE TENONS SHALL BE CAPPED)
SPARE TENONS SHALL BE INSTALLED ON SAME SIDE AS OTHER TENONS

STD. NO.	ROADWAY	FIELD LOCATION: STATION	OFFSET	LT.	RT.	ELEV.	P.O.A.	TYPE	MOUNTING HEIGHT(FT): A1	A2	SIGNAL MAST ARM DATA: OFFSET DISTANCE (FT) (Z) (POLE ℄ TO ATTACHMENT POINT): B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	WINDLOAD AREAS (FT^2) (X)(Y): B1	B2	B3	B4	B6	B7	B9	B10	B11	LUM ARM(FT): C	CALCULATED POLE XYZ (FT^3)**	POLE ATTACHMENT POINT ANGLES (DEGREES): D	E1	E2	F	G1	G2	H	I1	I2	FOUNDATION DESIGN XYZ (FT^3)	FOUNDATION DEPTHS(FT): ALTERNATE 1: 3' RD.	3' SQ.	ALTERNATE 2: 4' RD.	3' RD.	4' RD.	SOIL BEARING PRESSURE(PSF)	REMARKS
1	SR 305	EXISTING	EX	X		EX	EX	III	EX	EX																							EX	EX		0	EX90			270						
2	SR 305	EXISTING	EX	X		EX	EX	III	EX	EX																							EX	EX		EX	EX180									
3	VIKING WAY	K 903+08.75	66.97	X		165.85*		PPB																																315						
4	VIKING WAY	K 902+94.18	24.83		X	165.01*		PPB																																90						
5	SR 305	EXISTING	EX		X	EX	EX	III	EX	EX																							EX	EX			90	EX180								
6	VIKING WAY	K 902+72.30	42.48		X	164.32*		PPB																																30						
7	SR 305	EXISTING	EX		X	EX	EX	III	EX	EX																							EX	EX			EX60	EX180		EX0	EX270				

NOT APPLICABLE

NOT APPLICABLE

*FOUNDATION TOP ELEVATION SHALL BE LEVEL WITH FINISHED GRADE OF TOP OF PEDESTRIAN CURB.

NOTE: PEDESTRIAN EQUIPMENT ORIENTATION ANGLES ARE APPROXIMATE. CONTRACTOR SHALL ORIENT IN THE FIELD FOR ALIGNMENT RELATIVE TO PEDESTRIAN CROSSING.

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
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4	FINAL	8/16/2021	SCJ

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ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

SIGNAL SCHEDULE DETAIL CHART - SYSTEM NO. 3

DRAWING No.: TS-08
SHEET No.: 19 OF 29

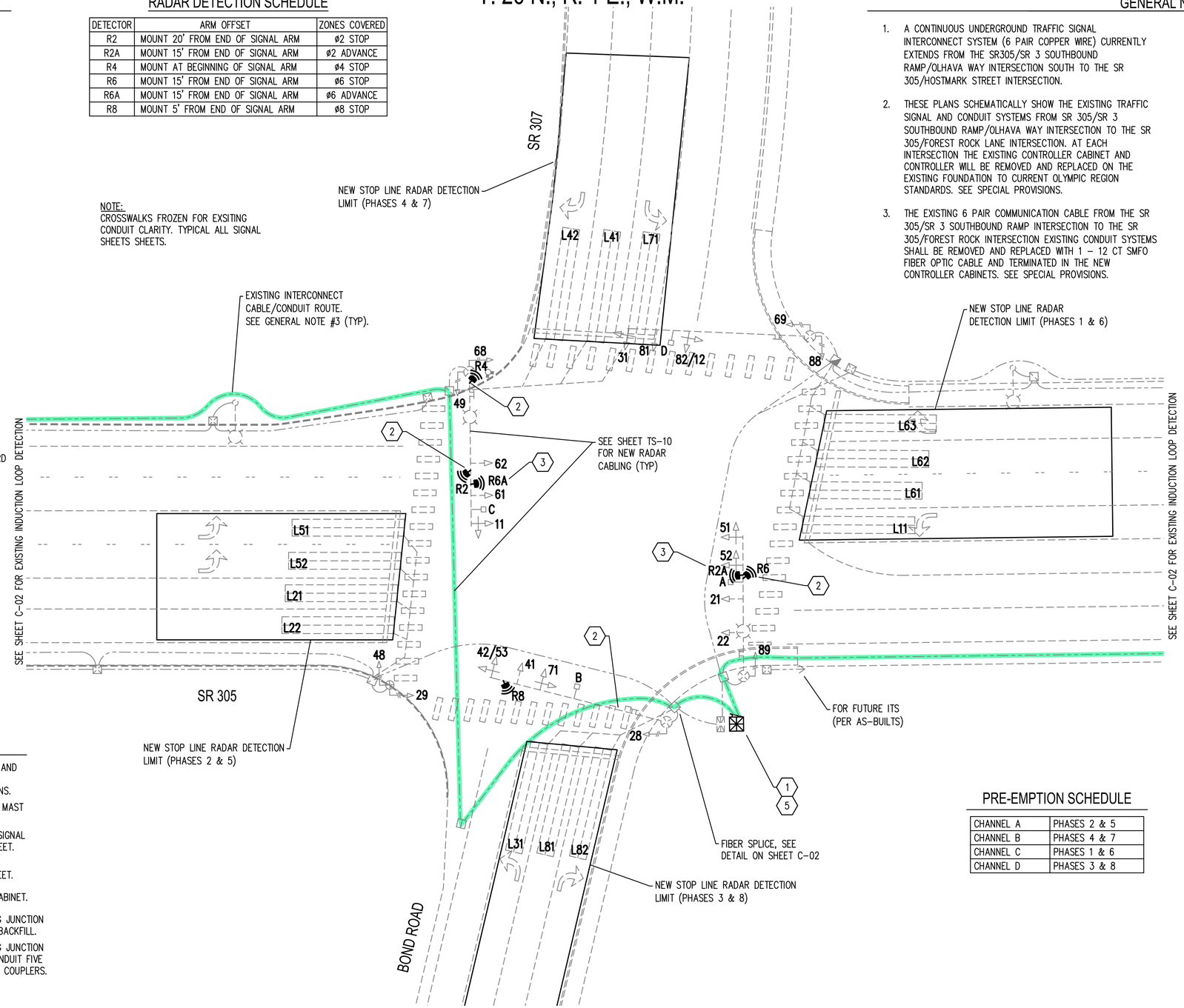
Aug 16, 2021 1:40:15pm – User: matt.weyrauch
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LEGEND

EXISTING	NEW	
☒		TYPE 1 JUNCTION BOX, J-40.10
◪		TYPE 2 JUNCTION BOX, J-40.10
◪		TYPE 3 JUNCTION BOX
◫		TYPE 8 JUNCTION BOX, J-40.30
	■	PULL BOX, J-90.10
———	———	CONDUIT
▩	▩	CONTROLLER CABINET
▩	▩	ELECTRICAL SERVICE CABINET
	U	UNINTERRUPTIBLE POWER SUPPLY CABINET(UPS)
-▷	→	VEHICLE SIGNAL DISPLAY
┼▽		VEHICLE SIGNAL DISPLAY (PROTECTED TURN)
⌐▷	⌐→	PEDESTRIAN SIGNAL DISPLAY (SIDE MOUNT)
═▷		PEDESTRIAN SIGNAL DISPLAY (TOP MOUNT)
⊣□		EMERGENCY VEHICLE PRE-EMPT DETECTOR
◻◁		VIDEO DETECTION CAMERA
◻))	)))	RADAR DETECTION
▪	▪	APS PPB
⊣		STREET NAME/ REGULATORY SIGN
○	○	PEDESTRIAN PUSH BUTTON STANDARD
⊗	⊗	PEDESTRIAN SIGNAL STANDARD
⊙		TYPE II SIGNAL STANDARD
⊙		TYPE III SIGNAL STANDARD
⊙		LIGHT STANDARD
▭		TYPE 1 DETECTION LOOP
□		TYPE 2 DETECTION LOOP
△X		WIRE NOTE
⬡X		CONSTRUCTION NOTE

RADAR DETECTION SCHEDULE

DETECTOR	ARM OFFSET	ZONES COVERED
R2	MOUNT 20' FROM END OF SIGNAL ARM	ø2 STOP
R2A	MOUNT 15' FROM END OF SIGNAL ARM	ø2 ADVANCE
R4	MOUNT AT BEGINNING OF SIGNAL ARM	ø4 STOP
R6	MOUNT 15' FROM END OF SIGNAL ARM	ø6 STOP
R6A	MOUNT 15' FROM END OF SIGNAL ARM	ø6 ADVANCE
R8	MOUNT 5' FROM END OF SIGNAL ARM	ø8 STOP



GENERAL NOTES

1. A CONTINUOUS UNDERGROUND TRAFFIC SIGNAL INTERCONNECT SYSTEM (6 PAIR COPPER WIRE) CURRENTLY EXTENDS FROM THE SR305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION SOUTH TO THE SR 305/HOSTMARK STREET INTERSECTION.
2. THESE PLANS SCHEMATICALLY SHOW THE EXISTING TRAFFIC SIGNAL AND CONDUIT SYSTEMS FROM SR 305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION TO THE SR 305/FOREST ROCK LANE INTERSECTION. AT EACH INTERSECTION THE EXISTING CONTROLLER CABINET AND CONTROLLER WILL BE REMOVED AND REPLACED ON THE EXISTING FOUNDATION TO CURRENT OLYMPIC REGION STANDARDS. SEE SPECIAL PROVISIONS.
3. THE EXISTING 6 PAIR COMMUNICATION CABLE FROM THE SR 305/SR 3 SOUTHBOUND RAMP INTERSECTION TO THE SR 305/FOREST ROCK INTERSECTION EXISTING CONDUIT SYSTEMS SHALL BE REMOVED AND REPLACED WITH 1 – 12 CT SMFO FIBER OPTIC CABLE AND TERMINATED IN THE NEW CONTROLLER CABINETS. SEE SPECIAL PROVISIONS.
4. AT THE SR 305/SR 3 SOUTHBOUND AND NORTHBOUND RAMP INTERSECTIONS, STOP LINE INDUCTION LOOP DETECTION HAS BEEN RECENTLY CONVERTED TO RADAR DETECTION. THESE PLANS SHOW EXISTING STOP LINE INDUCTION DETECTION AT VIKING WAY, SR 307/BOND ROAD AND FOREST ROCK LANE INTERSECTIONS THAT WILL BE CONVERTED TO RADAR DETECTION.
5. EXISTING ADVANCE INDUCTION LOOP DETECTION SHALL BE REPLACED WITH RADAR DETECTION. REMOVE EXISTING LOOP STOP LINE AND ADVANCE CABLES ENTIRELY AND EXISTING LOOP WIRES.
6. RADAR DETECTION SHALL BE WAVETRONIX. SEE SPECIAL PROVISIONS.
7. RADAR DETECTION ZONES ARE SHOWN FOR ILLUSTRATIVE PURPOSES. EXISTING AND NEW STOP LINE ZONES SHOWN ARE BASED ON MAXIMUM 140 FOOT DISTANCE FROM DETECTOR (TYPICAL ALL). A WAVETRONIX REPRESENTATIVE SHALL BE PRESENT FOR INSTALLATION.
8. THERE SHALL BE 50 FEET OF SLACK NEATLY COILED IN EACH PULL BOX, AND EXISTING TYPE 3 OR 8 JUNCTION BOX NEXT TO THE CONTROLLER CABINET, WITH FIBER OPTIC MARKERS EVERY 500 FEET AND EVERY BEND IN CONDUIT.

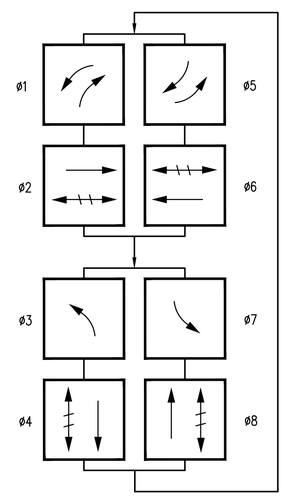
TRAFFIC SIGNAL CONSTRUCTION NOTES

1. REMOVE AND SALVAGE TO WSDOT EXISTING CONTROLLER CABINET AND ASSOCIATED EQUIPMENT. INSTALL NEW CONTROLLER CABINET, CONTROLLER, AND ASSOCIATED HARDWARE PER SPECIAL PROVISIONS.
2. INSTALL STOP LINE RADAR DETECTION. BAND MOUNT ON EXISTING MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
3. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING SIGNAL STANDARD MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
4. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING LUMINAIRE EXTENSION. SEE RADAR DETECTION SCHEDULE THIS SHEET.
5. TERMINATE NEW SMFO FIBER OPTIC CABLE IN NEW CONTROLLER CABINET.
6. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY. CONNECT EXISTING CONDUIT WITH COUPLERS AND BACKFILL.
7. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY AND REPLACE WITH PULL BOX. LOWER EXISTING CONDUIT FIVE FEET ON EITHER SIDE OF CONDUIT KNOCKOUT AND CONNECT WITH COUPLERS.

PRE-EMPTION SCHEDULE

CHANNEL A	PHASES 2 & 5
CHANNEL B	PHASES 4 & 7
CHANNEL C	PHASES 1 & 6
CHANNEL D	PHASES 3 & 8

EXISTING SIGNAL PHASING DIAGRAM



△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TS-09

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8/16/2021

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WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC SIGNAL PLAN - SYSTEM NO. 4

DRAWING No.: TS-09
SHEET No.: 20 OF 29

Aug 16, 2021 1:40:32pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TS-09.DWG

CONTROLLER TERMINALS

POWER

B	501
W	502

PED. DISPLAY

R	721	28,29	ø2
G	722		
W	723		
R	741	48,49	ø4
G	742		
W	743		
R	761	68,69	ø6
G	762		
W	763		
R	781	88,89	ø8
G	782		
W	783		

E.V.P. DETECTOR

O	5A1	A	ø2,ø5
Y	5A2		
BL	5A3		
O	5B1	B	ø4
Y	5B2		
BL	5B3		
O	5C1	C	ø1,ø6
Y	5C2		
BL	5C3		
O	5D1	D	ø8
Y	5D2		
BL	5D3		

PED. BUTTON

O	724	28,29	ø2
B	725		
O	744	48,49	ø4
B	745		
O	764	68,69	ø6
B	765		
O	784	88,89	ø8
B	785		

VEHICLE DISPLAYS

R	611	11	ø1
O	612		
G	613		
B	614		
W	616	21,22	ø2
R	621		
O	622		
G	623		
B	624		
W	626		
R	631	31	ø3
O	632		
G	633		
B	634		
W	636		
R	641	41,42	ø4
O	642		
G	643		
B	644		
W	646		
R	651	51,52	ø5
O	652		
G	653		
B	654		
W	656		
R	661	61,62	ø6
O	662		
G	663		
B	664		
W	666		
R	671	71	ø5
O	672		
G	673		
B	674		
W	676		
R	681	81,82	ø8
O	682		
G	683		
B	684		
W	686		

RADAR DETECTION

8C	R2	ø2,ø5
8C	R2A	ø2
8C	R4	ø4,ø7
8C	R6	ø1,ø6
8C	R6A	ø6
8C	R8	ø3,ø8

COORDINATION

FIBER	RUGGED COM RSL910
ITS CABLE	ITS

EXSITING TERMINAL CABINETS

TC-1

R	621	R
O	622	O
G	623	G
B	624	B
W	626	W
R	651	R
O	652	O
G	653	G
B	654	B
W	656	W

TO CONTROLLER

TC-2

R	631	R
O	632	O
G	633	G
B	634	B
W	636	W
R	681	R
O	682	O
G	683	G
B	684	B
W	686	W
R	611	R
O	612	O
G	613	G
B	614	B
W	616	W

TO CONTROLLER

TC-3

R	611	R
O	612	O
G	613	G
B	614	B
W	616	W
R	661	R
O	662	O
G	663	G
B	664	B
W	666	W

TO CONTROLLER

TC-4

R	641	R
O	642	O
G	643	G
B	644	B
W	646	W
R	671	R
O	672	O
G	673	G
B	674	B
W	676	W

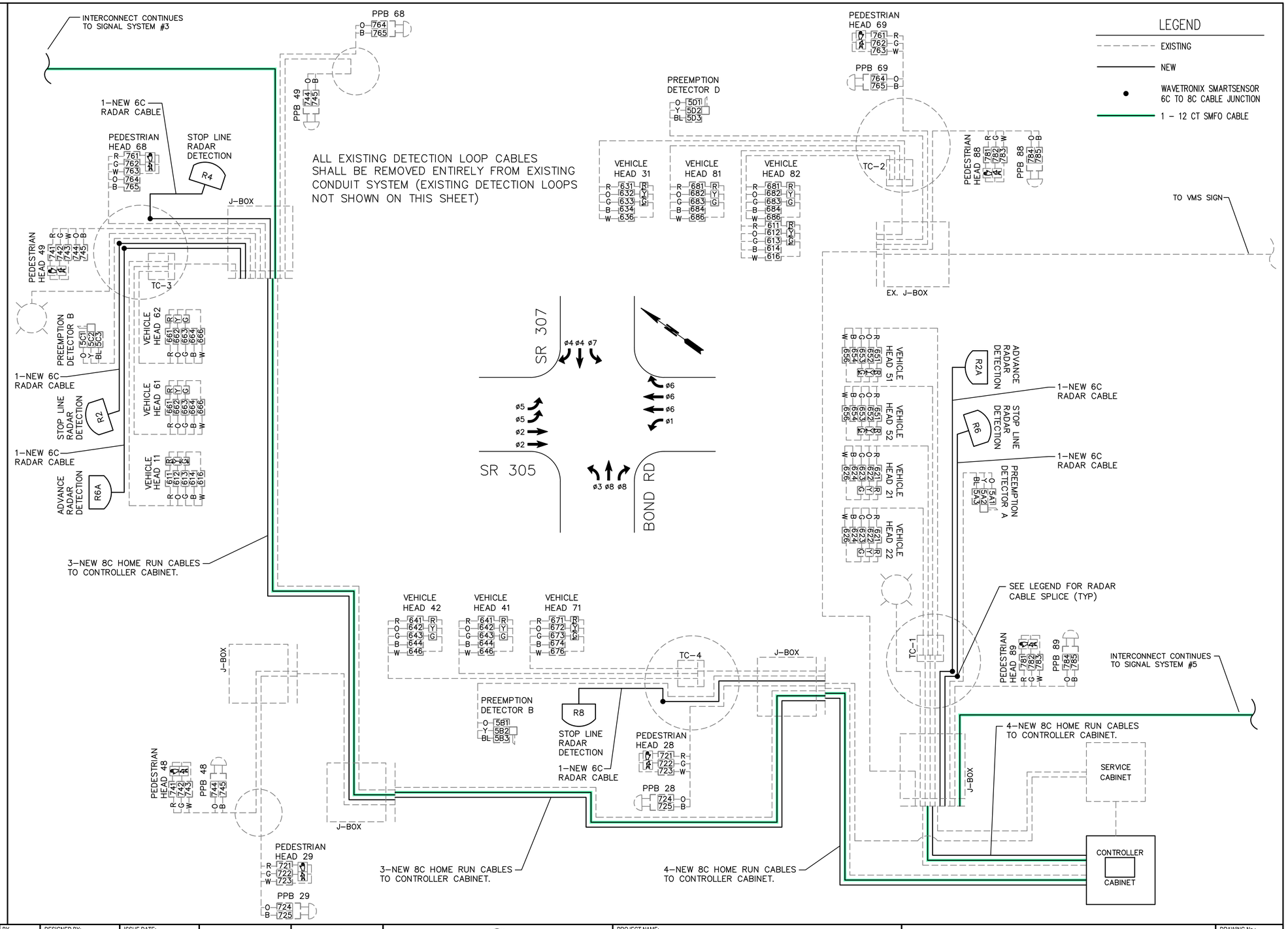
TO CONTROLLER

TERMINAL CODING

- ☒ CONNECT TO NEUTRAL BUSS
- ◯ CONTROL SIDE TERMINAL CONNECTION
- ☒ CONNECT TO DETECTOR COMMON BUSS
- ☐ SPARE

EMERGENCY VEHICLE PRE-EMPT WIRING CODE

ORANGE	24 VOLT
YELLOW	CALL
BLUE	GROUND



△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TS-10

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 13794 — REGISTERED PROFESSIONAL ENGINEER — 8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

WIRING DIAGRAM - SYSTEM NO. 4

DRAWING No.: TS-10

SHEET No.: 21 OF 29

Aug 16, 2021 - 1:40:41pm - User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CAD\3469.01 TS-10.DWG

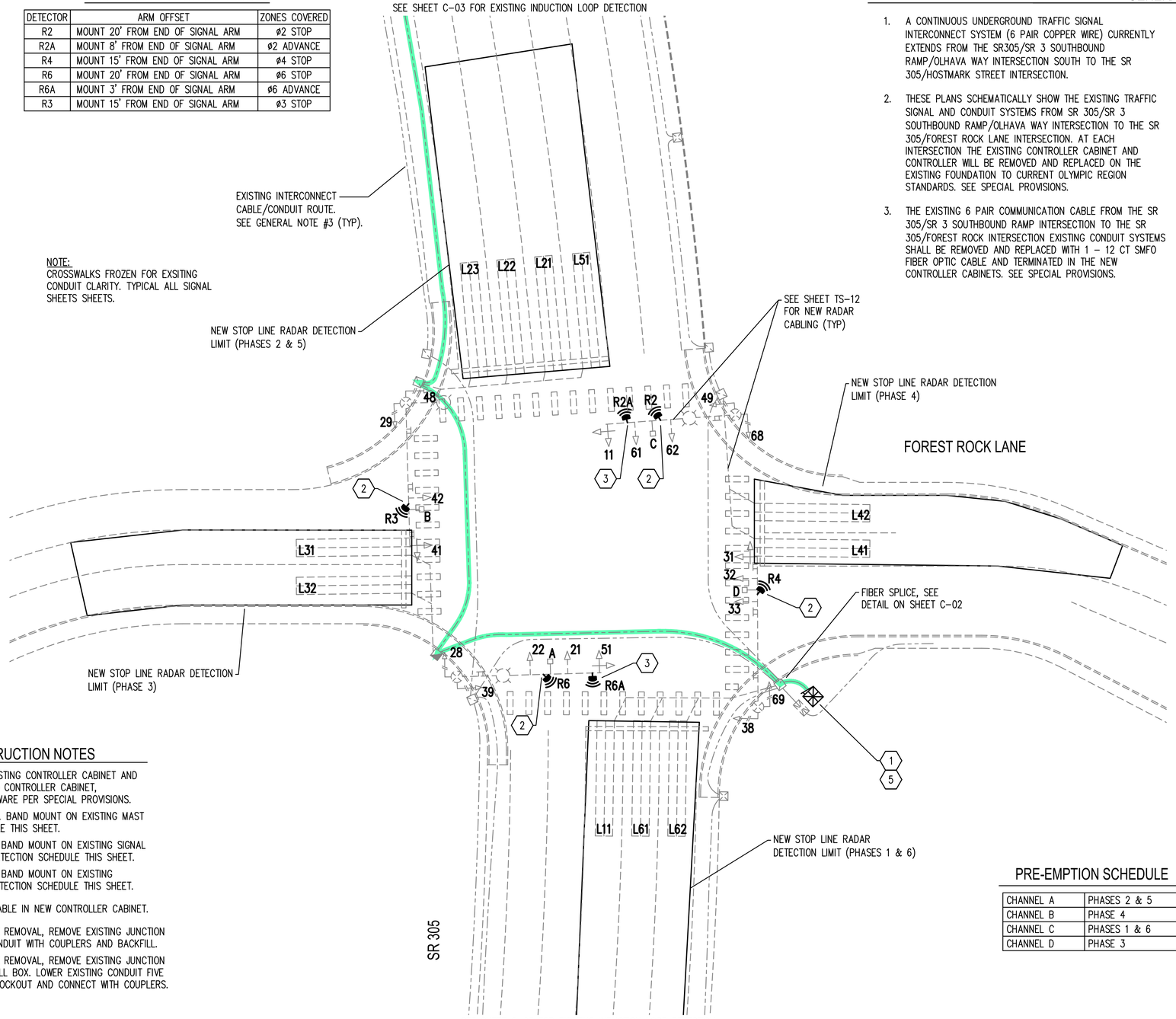
T. 26 N., R. 1 E., W.M.

LEGEND

EXISTING	NEW	
		TYPE 1 JUNCTION BOX, J-40.10
		TYPE 2 JUNCTION BOX, J-40.10
		TYPE 3 JUNCTION BOX
		TYPE 8 JUNCTION BOX, J-40.30
		PULL BOX, J-90.10
		CONDUIT
		CONTROLLER CABINET
		ELECTRICAL SERVICE CABINET
		UNINTERRUPTIBLE POWER SUPPLY CABINET(UPS)
		VEHICLE SIGNAL DISPLAY
		VEHICLE SIGNAL DISPLAY (PROTECTED TURN)
		PEDESTRIAN SIGNAL DISPLAY (SIDE MOUNT)
		PEDESTRIAN SIGNAL DISPLAY (TOP MOUNT)
		EMERGENCY VEHICLE PRE-EMPT DETECTOR
		VIDEO DETECTION CAMERA
		RADAR DETECTION
		APS PPB
		STREET NAME/ REGULATORY SIGN
		PEDESTRIAN PUSH BUTTON STANDARD
		PEDESTRIAN SIGNAL STANDARD
		TYPE II SIGNAL STANDARD
		TYPE III SIGNAL STANDARD
		LIGHT STANDARD
		TYPE 1 DETECTION LOOP
		TYPE 2 DETECTION LOOP
		WIRE NOTE
		CONSTRUCTION NOTE
		SIGNAL STANDARD NO.

RADAR DETECTION SCHEDULE

DETECTOR	ARM OFFSET	ZONES COVERED
R2	MOUNT 20' FROM END OF SIGNAL ARM	ø2 STOP
R2A	MOUNT 8' FROM END OF SIGNAL ARM	ø2 ADVANCE
R4	MOUNT 15' FROM END OF SIGNAL ARM	ø4 STOP
R6	MOUNT 20' FROM END OF SIGNAL ARM	ø6 STOP
R6A	MOUNT 3' FROM END OF SIGNAL ARM	ø6 ADVANCE
R3	MOUNT 15' FROM END OF SIGNAL ARM	ø3 STOP



TRAFFIC SIGNAL CONSTRUCTION NOTES

1. REMOVE AND SALVAGE TO WSDOT EXISTING CONTROLLER CABINET AND ASSOCIATED EQUIPMENT. INSTALL NEW CONTROLLER CABINET, CONTROLLER, AND ASSOCIATED HARDWARE PER SPECIAL PROVISIONS.
2. INSTALL STOP LINE RADAR DETECTION. BAND MOUNT ON EXISTING MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
3. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING SIGNAL STANDARD MAST ARM. SEE RADAR DETECTION SCHEDULE THIS SHEET.
4. INSTALL ADVANCE RADAR DETECTION. BAND MOUNT ON EXISTING LUMINAIRE EXTENSION. SEE RADAR DETECTION SCHEDULE THIS SHEET.
5. TERMINATE NEW SMFO FIBER OPTIC CABLE IN NEW CONTROLLER CABINET.
6. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY. CONNECT EXISTING CONDUIT WITH COUPLERS AND BACKFILL.
7. AFTER EXISTING INTERCONNECT CABLE REMOVAL, REMOVE EXISTING JUNCTION BOX ENTIRELY AND REPLACE WITH PULL BOX. LOWER EXISTING CONDUIT FIVE FEET ON EITHER SIDE OF CONDUIT KNOCKOUT AND CONNECT WITH COUPLERS.

GENERAL NOTES

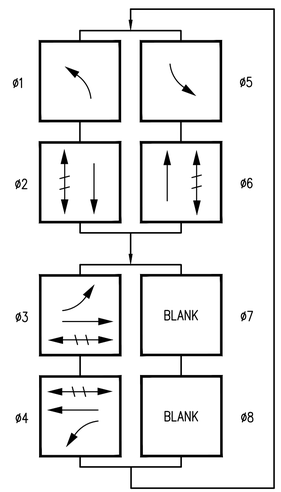
1. A CONTINUOUS UNDERGROUND TRAFFIC SIGNAL INTERCONNECT SYSTEM (6 PAIR COPPER WIRE) CURRENTLY EXTENDS FROM THE SR305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION SOUTH TO THE SR 305/HOSTMARK STREET INTERSECTION.
2. THESE PLANS SCHEMATICALLY SHOW THE EXISTING TRAFFIC SIGNAL AND CONDUIT SYSTEMS FROM SR 305/SR 3 SOUTHBOUND RAMP/OLHAVA WAY INTERSECTION TO THE SR 305/FOREST ROCK LANE INTERSECTION. AT EACH INTERSECTION THE EXISTING CONTROLLER CABINET AND CONTROLLER WILL BE REMOVED AND REPLACED ON THE EXISTING FOUNDATION TO CURRENT OLYMPIC REGION STANDARDS. SEE SPECIAL PROVISIONS.
3. THE EXISTING 6 PAIR COMMUNICATION CABLE FROM THE SR 305/SR 3 SOUTHBOUND RAMP INTERSECTION TO THE SR 305/FOREST ROCK INTERSECTION EXISTING CONDUIT SYSTEMS SHALL BE REMOVED AND REPLACED WITH 1 – 12 CT SMFO FIBER OPTIC CABLE AND TERMINATED IN THE NEW CONTROLLER CABINETS. SEE SPECIAL PROVISIONS.
4. AT THE SR 305/SR 3 SOUTHBOUND AND NORTHBOUND RAMP INTERSECTIONS, STOP LINE INDUCTION LOOP DETECTION HAS BEEN RECENTLY CONVERTED TO RADAR DETECTION. THESE PLANS SHOW EXISTING STOP LINE INDUCTION DETECTION AT VIKING WAY, SR 307/BOND ROAD AND FOREST ROCK LANE INTERSECTIONS THAT WILL BE CONVERTED TO RADAR DETECTION.
5. EXISTING ADVANCE INDUCTION LOOP DETECTION SHALL BE REPLACED WITH RADAR DETECTION. REMOVE EXISTING LOOP STOP LINE AND ADVANCE CABLES ENTIRELY AND EXISTING LOOP WIRES.
6. RADAR DETECTION SHALL BE WAVETRONIX. SEE SPECIAL PROVISIONS.
7. RADAR DETECTION ZONES ARE SHOWN FOR ILLUSTRATIVE PURPOSES. EXISTING AND NEW STOP LINE ZONES SHOWN ARE BASED ON MAXIMUM 140 FOOT DISTANCE FROM DETECTOR (TYPICAL ALL). A WAVETRONIX REPRESENTATIVE SHALL BE PRESENT FOR INSTALLATION.
8. THERE SHALL BE 50 FEET OF SLACK NEATLY COILED IN EACH PULL BOX, AND EXISTING TYPE 3 OR 8 JUNCTION BOX NEXT TO THE CONTROLLER CABINET, WITH FIBER OPTIC MARKERS EVERY 500 FEET AND EVERY BEND IN CONDUIT.

0 20 40
SCALE IN FEET

PRE-EMPTION SCHEDULE

CHANNEL A	PHASES 2 & 5
CHANNEL B	PHASE 4
CHANNEL C	PHASES 1 & 6
CHANNEL D	PHASE 3

EXISTING SIGNAL PHASING DIAGRAM



△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TS-11

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 22894 — REGISTERED PROFESSIONAL ENGINEER
8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC SIGNAL PLAN - SYSTEM NO. 5

DRAWING No.: TS-11
SHEET No.: 22 OF 29

Aug 16, 2021 1:41:02pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CAD\3469.01 TS-11.DWG

CONTROLLER TERMINALS

POWER

B	501
W	502

PED. DISPLAY

R	721		
G	722		
W	723	28,29	ø2
R	741		
G	742	48,49	ø4
W	743		
R	761		
G	782	68,69	ø6
W	783		
R	781		
G	782	88,89	ø8
W	783		

E.V.P. DETECTOR

O	5A1	A	ø2,ø5
Y	5A2		
BL	5A3		
O	5B1	B	ø4
Y	5B2		
BL	5B3		
O	5C1	C	ø1,ø6
Y	5C2		
BL	5C3		
O	5D1	D	ø8
Y	5D2		
BL	5D3		

PED. BUTTON

O	724		
B	725	28,29	ø2
O	744		
B	745	48,49	ø4
O	764		
B	765	68,69	ø6
O	734		
B	735	38,39	ø3

VEHICLE DISPLAYS

R	611	11	ø1
O	612		
G	613		
B	614		
W	616		
R	621	21,22	ø2
O	622		
G	623		
B	624		
W	626		
R	631	31	ø3
O	632		
G	633		
B	634		
W	636		
R	641	41,42	ø4
O	642		
G	643		
B	644		
W	646		
R	651	51	ø5
O	652		
G	653		
B	654		
W	656		
R	661	61,62	ø6
O	662		
G	663		
B	664		
W	666		
R	671	71	ø5
O	672		
G	673		
B	674		
W	676		
R	631	31,32,33	ø3
O	632		
G	633		
B	634		
W	636		

RADAR DETECTION

8C	R2	ø2,ø5
8C	R2A	ø2
8C	R4	ø4,ø7
8C	R6	ø1,ø6
8C	R6A	ø6
8C	R8	ø3,ø8

COORDINATION

FIBER	RUGGED COM RSL910

EXISTING TERMINAL CABINETS

TC-1

R	621	R
O	622	O
G	623	G
B	624	B
W	626	W
R	651	R
O	652	O
G	653	G
B	654	B
W	656	W

TO CONTROLLER

TC-2

R	631	R
O	632	O
G	633	G
B	634	B
W	636	W

TO CONTROLLER

TC-3

R	611	R
O	612	O
G	613	G
B	614	B
W	616	W
R	661	R
O	662	O
G	663	G
B	664	B
W	666	W

TO CONTROLLER

TC-4

R	641	R
O	642	O
G	643	G
B	644	B
W	646	W

TO CONTROLLER

TERMINAL CODING

- ☒ CONNECT TO NEUTRAL BUSS
- ◯ CONTROL SIDE TERMINAL CONNECTION
- ⊠ CONNECT TO DETECTOR COMMON BUSS
- ☐ SPARE

EMERGENCY VEHICLE PRE-EMPT WIRING CODE

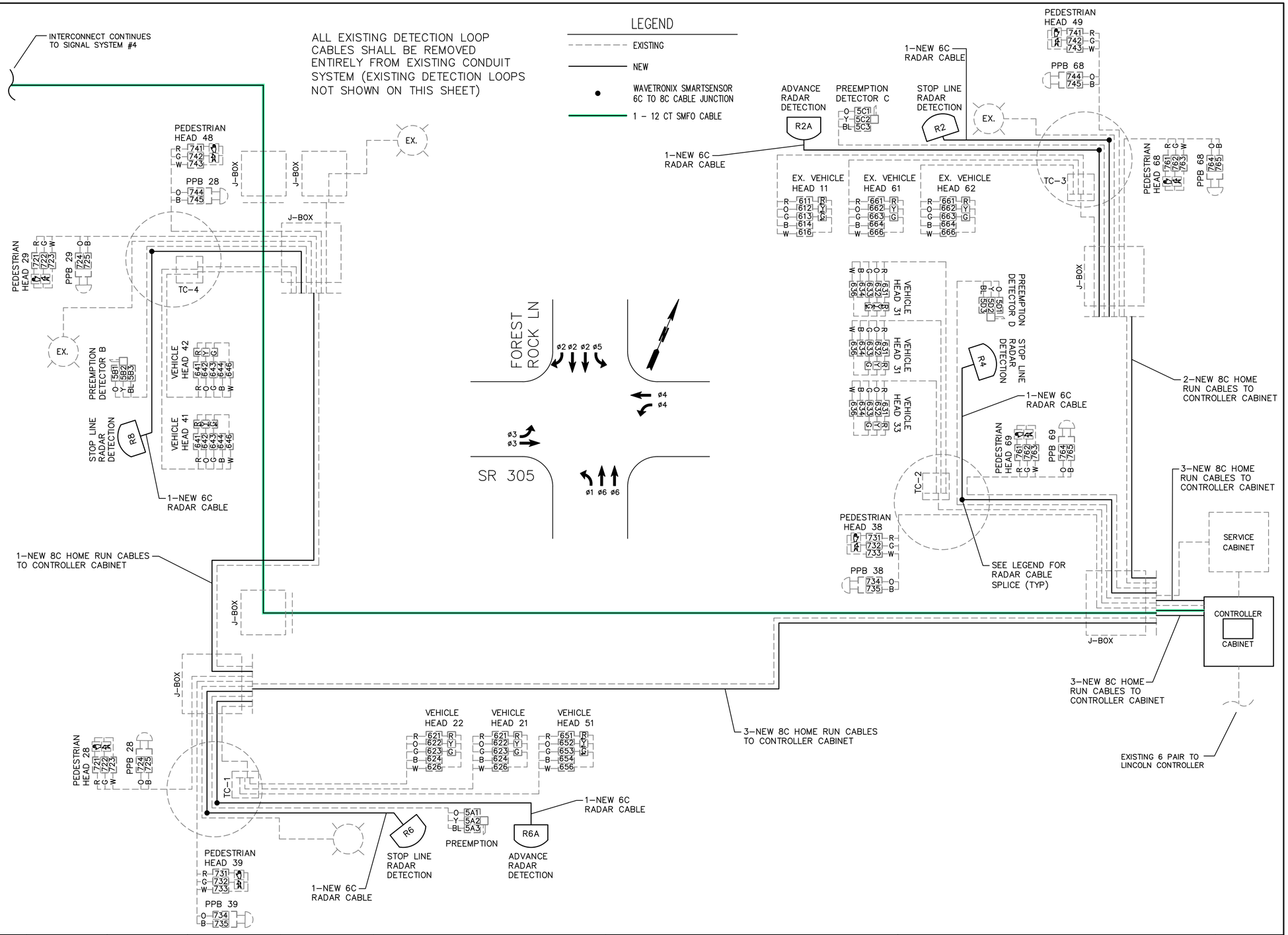
ORANGE	24 VOLT
YELLOW	CALL
BLUE	GROUND

INTERCONNECT CONTINUES TO SIGNAL SYSTEM #4

ALL EXISTING DETECTION LOOP CABLES SHALL BE REMOVED ENTIRELY FROM EXISTING CONDUIT SYSTEM (EXISTING DETECTION LOOPS NOT SHOWN ON THIS SHEET)

LEGEND

- EXISTING
- NEW
- WAVETRONIX SMARTSENSOR 6C TO 8C CABLE JUNCTION
- 1 – 12 CT SMFO CABLE



△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TS-12

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

ROBERT E. JEWELL — STATE OF WASHINGTON — 33784 — REGISTERED PROFESSIONAL ENGINEER — 8/16/2021

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PROJECT NAME:
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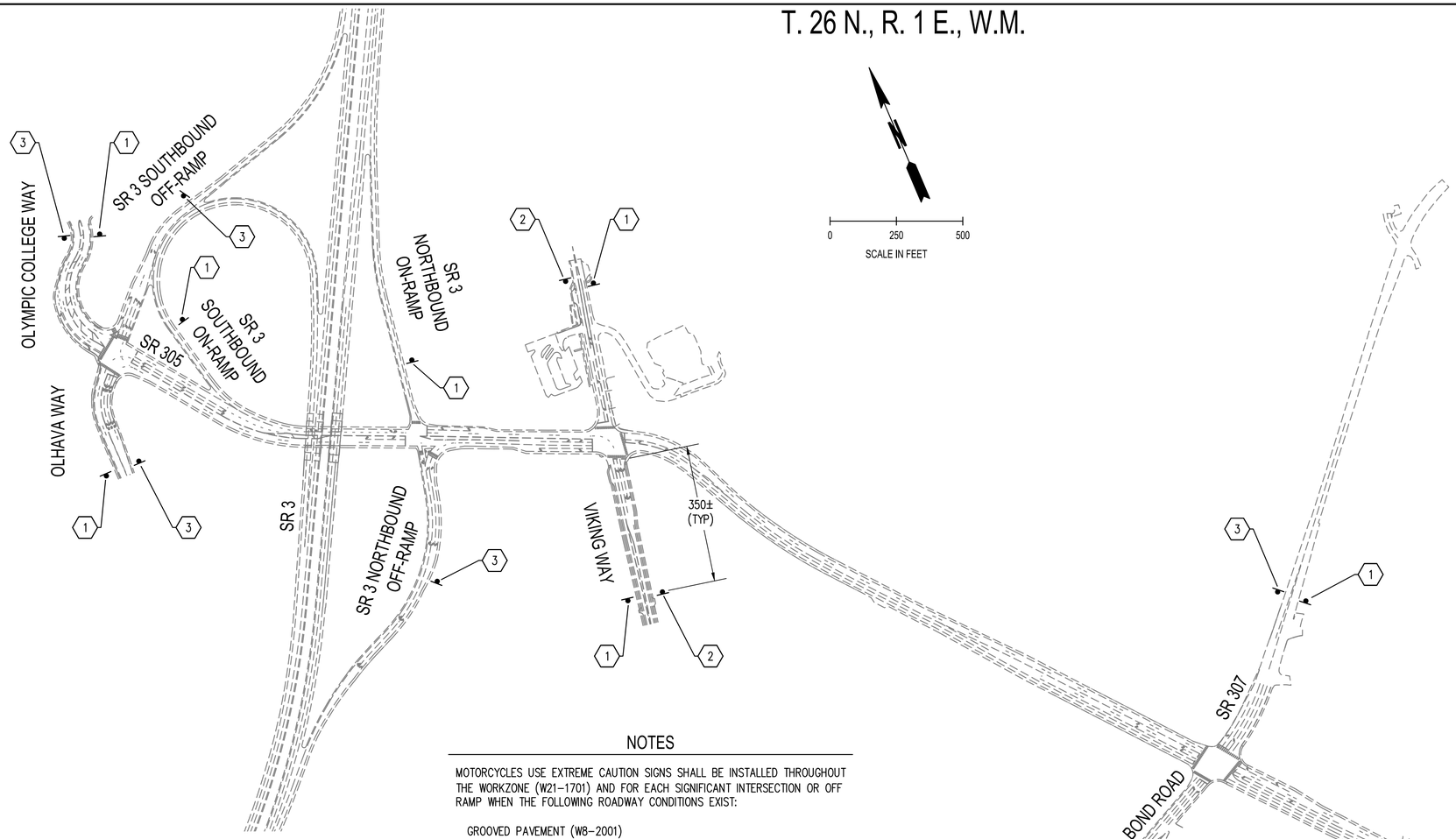
SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

WIRING DIAGRAM - SYSTEM NO. 5

DRAWING No.: TS-12
SHEET No.: 23 OF 29

Aug 16, 2021 1:41:10pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TS-12.DWG

T. 26 N., R. 1 E., W.M.



CLASS A SIGN LEGEND

END ROAD WORK	SIGNAL REVISION AHEAD	ROAD WORK AHEAD
G20-2A (48" X 24") B/O	W20-903 (48" X 48") B/O	W20-1 (48" X 48") B/O
1	2	3

GENERAL NOTES

1. ALL SIGNS TO BE FIELD LOCATED.
2. INSTALL CLASS A SIGNS PER WSDOT STANDARD PLAN K-10.10.

NOTES

MOTORCYCLES USE EXTREME CAUTION SIGNS SHALL BE INSTALLED THROUGHOUT THE WORKZONE (W21-1701) AND FOR EACH SIGNIFICANT INTERSECTION OR OFF RAMP WHEN THE FOLLOWING ROADWAY CONDITIONS EXIST:

GROOVED PAVEMENT (W8-2001)
ABRUPT LANE EDGE (W21-801)
NO SHOULDER (W8-1801)

SPECIFIC SIGNS FOR EACH OF THE CONDITIONS NOTED SHALL ALSO BE INSTALLED AS REQUIRED AND SHALL BE CLASS B TEMPORARY MOUNTED SIGNS.

WSDOT PROJECT INSPECTOR IS RESPONSIBLE FOR NOTIFYING THE TRAFFIC MANAGEMENT CENTER OF TRAFFIC CONTROL AND ANY COORDINATION WITH MAINTENANCE IF NEEDED.

MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES OR PROVIDE ALTERNATE ROUTE.

FLAGGERS SHALL STOP ALL TRAFFIC FOR PEDESTRIANS TO CROSS HIGHWAY.

MOTORCYCLES USE EXTREME CAUTION	GROOVED PAVEMENT	ABRUPT LANE EDGE	NO SHOULDER
W21-1701	W8-2001	W21-801	W8-1801

DURING WORKING AND NON-WORKING HOURS THESE SIGNS AND THE SHOULDER CLOSURE TAPERING ARE REQUIRED TO PROTECT THE DROP-OFF. COORDINATE/CONFIRM WITH WSDOT INSPECTOR WHICH SIGNS ARE NEEDED.

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TC-01

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8/16/2021

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

ADVANCE SIGNING PLAN

DRAWING No.: TC-01
SHEET No.: 24 OF 29

Aug 16, 2021 1:41:21pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CAD\3469.01 TC-01.DWG

LEGEND

- CHANNELIZING DEVICES (TRAFFIC SAFETY CONES)
- CHANNELIZING DEVICES (TRAFFIC SAFETY DRUMS)
- CLASS B SIGN LOCATION – TEMPORARY MOUNT
- DIRECTIONAL ARROW
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- PROTECTIVE VEHICLE WITH TRANSPORTABLE ATTENUATOR – REQUIRED (MAY BE A WORK VEHICLE)

SIGN SPACING = X (FEET) (1)		
FREEWAYS & EXPRESSWAYS	55/70 MPH	1500'± (OR AS PER MUTCD)
RURAL HIGHWAYS	60/65 MPH	800'±
RURAL ROADS	45/55 MPH	500'±
RURAL ROADS, URBAN ARTERIAL	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIAL RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)
ALL SIGNS ARE 48"x48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.		

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS, AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

T. 26 N., R. 1 E., W.M.

NTS

MINIMUM TAPER LENGTH IN FEET (L)										
SHOULDER WIDTH (FEET)	POSTED SPEED (MPH)									
	25	30	35	40	45	50	55	60	65	70
6	–	–	–	–	270	300	330	360	390	420
8	84	120	162	210	360	405	450	480	525	570
10	105	150	205	270	450	500	550	600	660	705
11	115	165	225	295	495	550	605	660	–	–
12	125	180	245	320	540	600	660	720	780	840
3 DEVICES MINIMUM SPACED 10' O.C. IN TAPERS FOR SHOULDER WIDTHS LESS THAN 6 FEET										

BUFFER DATA

LONGITUDINAL BUFFER SPACE = B

SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730

TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R

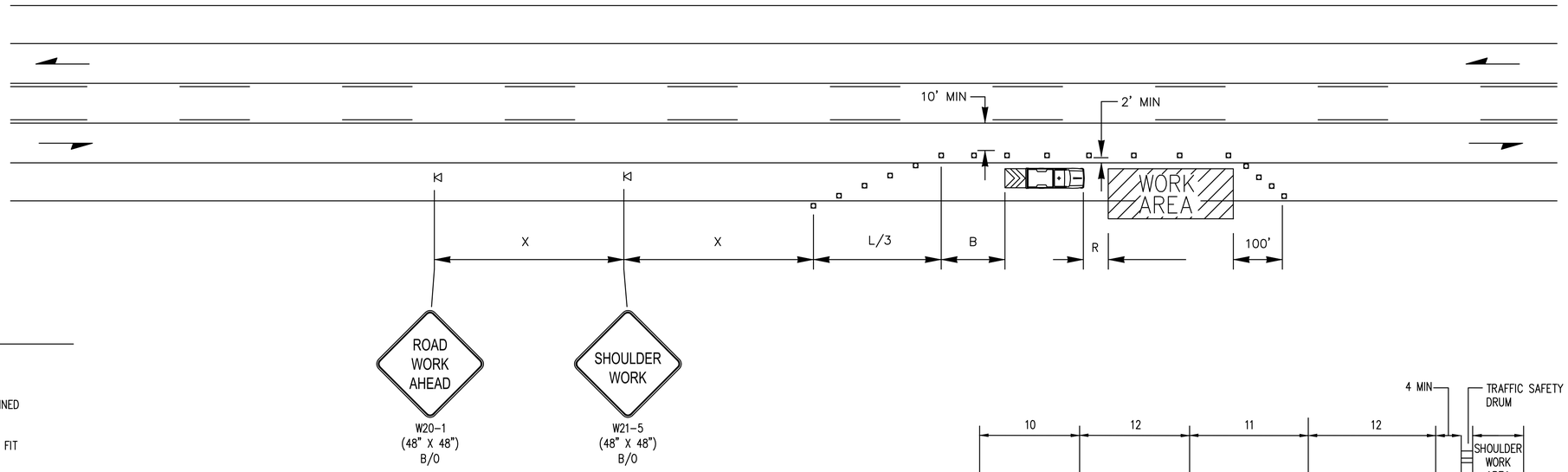
MOST VEHICLE WEIGHT 9,900 TO 22,000 LBS.			MOST VEHICLE WEIGHT > 22,000 LBS.		
< 45 MPH	45–55 MPH	> 55 MPH	< 45 MPH	45–55 MPH	> 55 MPH
100'	123'	172'	74'	100'	150'

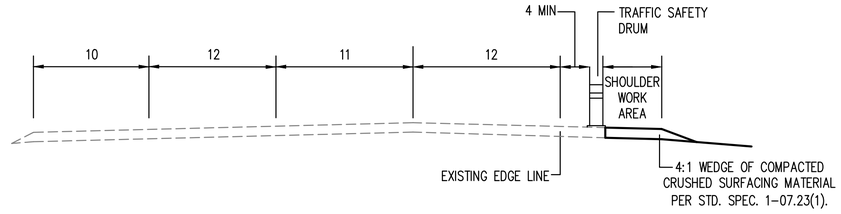
PROTECTIVE VEHICLE (WORK VEHICLE) = R

NO SPECIFIED DISTANCE REQUIRED

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/70	40	80
45/50	30	60
35/40	30	60
25/30	20	40

VIKING WAY





K-LINE TYPICAL ROADWAY SECTION (NON-WORKING HOURS) NTS

DURING NON-WORKING HOURS THESE SIGNS AND THE SHOULDER CLOSURE TAPERING ARE REQUIRED TO PROTECT THE DROP-OFF.

GENERAL NOTES

1. WHEN USED, THE DEVICE SPACING FOR THE DOWNSTREAM TAPER SHOULD BE 20' O.C.
2. ALL CONFLICTING EXISTING SIGNS SHALL BE COVERED, AS DETERMINED BY THE ENGINEER OR WSDOT INSPECTOR.
3. TYPICAL APPLICATION SHOWN. ADJUST SIGNS AND LOCATIONS TO FIT SITE CONDITIONS.
4. EXTEND CHANNELIZING DEVICE TAPERS ACROSS SHOULDER.
5. SEE SPECIAL PROVISIONS: "PUBLIC CONVENIENCE AND SAFETY-CONSTRUCTION UNDER TRAFFIC: FOR WORK HOUR RESTRICTIONS.
6. EXTEND AND/OR REDUCE SHOULDER CLOSURES AND WORK AREAS AS NECESSARY.
7. NO ENCROACHMENT ON TRAVELED LANE. IF ENCROACHMENT IS NECESSARY, LANE SHALL BE CLOSED.
8. PROTECTIVE VEHICLE REQUIRED.
9. FOR SOUTHBOUND SHOULDER CLOSURE USE SAME SIGNING SEQUENCE EXCEPT IN REVERSE ORDER.

LOW-SPEED SHOULDER CLOSURE

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

DESIGNED BY: M WEYRAUCH
DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TC-02

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC CONTROL PLAN

DRAWING No.: TC-02
SHEET No.: 25 OF 29

Aug 16, 2021 1:41:31pm - User: mattweyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TC-02.DWG

LEGEND

- CHANNELIZING DEVICES (TRAFFIC SAFETY CONES)
- CHANNELIZING DEVICES (TRAFFIC SAFETY DRUMS)
- CLASS B SIGN LOCATION – TEMPORARY MOUNT
- DIRECTIONAL ARROW
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- PROTECTIVE VEHICLE WITH TRANSPORTABLE ATTENUATOR – REQUIRED (MAY BE A WORK VEHICLE)

SIGN SPACING = X (FEET) (1)		
FREEWAYS & EXPRESSWAYS	55/70 MPH	1500'± (OR AS PER MUTCD)
RURAL HIGHWAYS	60/65 MPH	800'±
RURAL ROADS	45/55 MPH	500'±
RURAL ROADS, URBAN ARTERIAL	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIAL RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)
ALL SIGNS ARE 48"x48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.		

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS, AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

T. 26 N., R. 1 E., W.M.

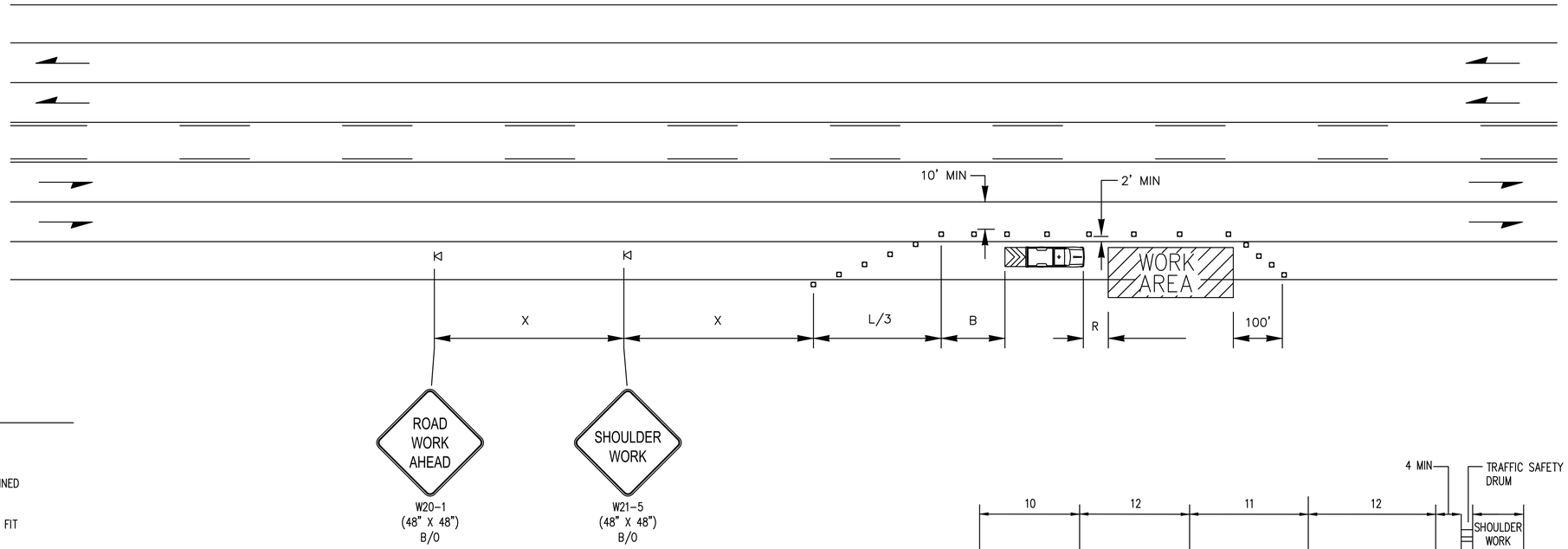
NTS

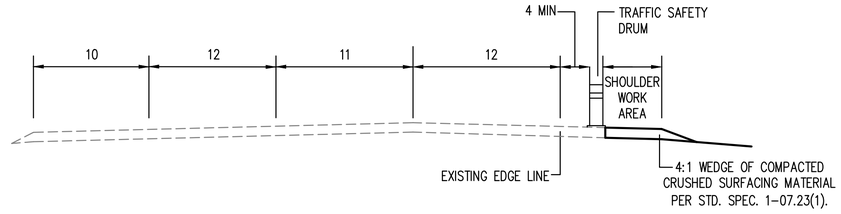
MINIMUM TAPER LENGTH IN FEET (L)										
SHOULDER WIDTH (FEET)	POSTED SPEED (MPH)									
	25	30	35	40	45	50	55	60	65	70
6	–	–	–	–	270	300	330	360	390	420
8	84	120	162	210	360	405	450	480	525	570
10	105	150	205	270	450	500	550	600	660	705
11	115	165	225	295	495	550	605	660	–	–
12	125	180	245	320	540	600	660	720	780	840
3 DEVICES MINIMUM SPACED 10' O.C. IN TAPERS FOR SHOULDER WIDTHS LESS THAN 6 FEET										

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R										
MOST VEHICLE WEIGHT 9,900 TO 22,000 LBS.				MOST VEHICLE WEIGHT > 22,000 LBS.						
< 45 MPH	45–55 MPH	> 55 MPH		< 45 MPH	45–55 MPH	> 55 MPH				
100'	123'	172'		74'	100'	150'				
PROTECTIVE VEHICLE (WORK VEHICLE) = R										
NO SPECIFIED DISTANCE REQUIRED										

SR 305

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/70	40	80
45/50	30	60
35/40	30	60
25/30	20	40





K-LINE TYPICAL ROADWAY SECTION (NON-WORKING HOURS) NTS
DURING NON-WORKING HOURS THESE SIGNS AND THE SHOULDER CLOSURE TAPERING ARE REQUIRED TO PROTECT THE DROP-OFF.

GENERAL NOTES

1. WHEN USED, THE DEVICE SPACING FOR THE DOWNSTREAM TAPER SHOULD BE 20' O.C.
2. ALL CONFLICTING EXISTING SIGNS SHALL BE COVERED, AS DETERMINED BY THE ENGINEER OR WSDOT INSPECTOR.
3. TYPICAL APPLICATION SHOWN. ADJUST SIGNS AND LOCATIONS TO FIT SITE CONDITIONS.
4. EXTEND CHANNELIZING DEVICE TAPERS ACROSS SHOULDER.
5. SEE SPECIAL PROVISIONS: "PUBLIC CONVENIENCE AND SAFETY-CONSTRUCTION UNDER TRAFFIC: FOR WORK HOUR RESTRICTIONS.
6. EXTEND AND/OR REDUCE SHOULDER CLOSURES AND WORK AREAS AS NECESSARY.
7. NO ENCROACHMENT ON TRAVELED LANE. IF ENCROACHMENT IS NECESSARY, LANE SHALL BE CLOSED.
8. PROTECTIVE VEHICLE REQUIRED.
9. FOR SOUTHBOUND SHOULDER CLOSURE USE SAME SIGNING SEQUENCE EXCEPT IN REVERSE ORDER.

LOW-SPEED SHOULDER CLOSURE

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

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DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
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DRAWING FILE No.: 3469.01 TC-03

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC CONTROL PLAN

DRAWING No.: TC-03
SHEET No.: 26 OF 29

Aug 16, 2021 1:41:41pm - User: mattweyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TC-03.DWG

T. 26 N., R. 1 E., W.M.

LEGEND

- CHANNELIZING DEVICES (TRAFFIC SAFETY CONES)
- CHANNELIZING DEVICES (TRAFFIC SAFETY DRUMS)
- CLASS B SIGN LOCATION – TEMPORARY MOUNT
- DIRECTIONAL ARROW
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- ARROW PANEL
- PROTECTIVE VEHICLE WITH TRANSPORTABLE ATTENUATOR – REQUIRED (MAY BE A WORK VEHICLE)
- FLAGGER WITHIN 50'–100'. MINIMUM 6 DEVICES IN FRONT OF FLAGGER

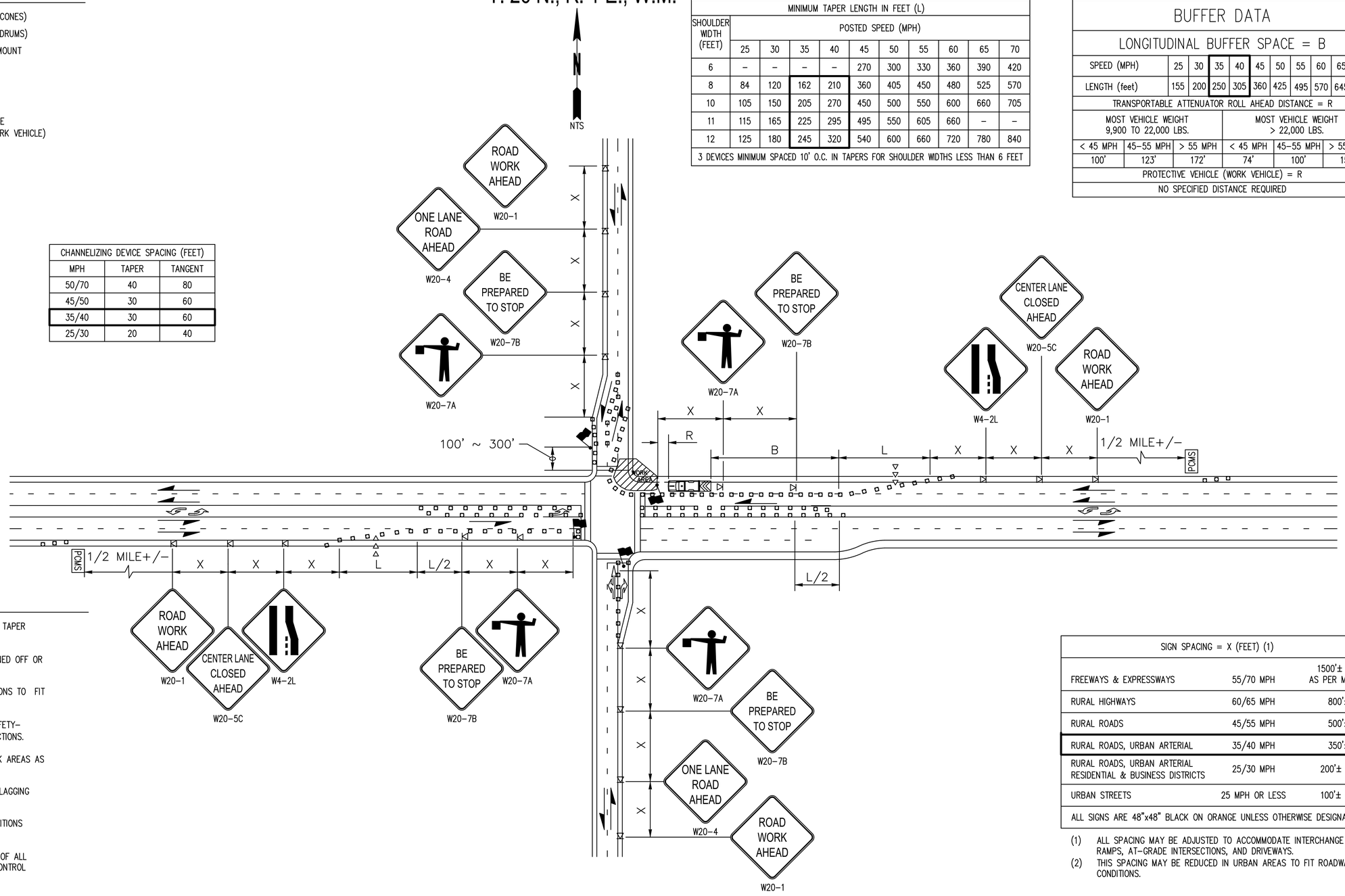
MINIMUM TAPER LENGTH IN FEET (L)										
SHOULDER WIDTH (FEET)	POSTED SPEED (MPH)									
	25	30	35	40	45	50	55	60	65	70
6	–	–	–	–	270	300	330	360	390	420
8	84	120	162	210	360	405	450	480	525	570
10	105	150	205	270	450	500	550	600	660	705
11	115	165	225	295	495	550	605	660	–	–
12	125	180	245	320	540	600	660	720	780	840
3 DEVICES MINIMUM SPACED 10' O.C. IN TAPERS FOR SHOULDER WIDTHS LESS THAN 6 FEET										

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R										
MOST VEHICLE WEIGHT 9,900 TO 22,000 LBS.					MOST VEHICLE WEIGHT > 22,000 LBS.					
< 45 MPH		45–55 MPH		> 55 MPH	< 45 MPH		45–55 MPH		> 55 MPH	
100'		123'		172'	74'		100'		150'	
PROTECTIVE VEHICLE (WORK VEHICLE) = R										
NO SPECIFIED DISTANCE REQUIRED										

PCMS	
1	2
SIGNAL REVISION AHEAD	BE PREPARED TO STOP
2.0 SECONDS	2.0 SECONDS

FIELD LOCATE PRIOR TO W20–1 SIGN (CONCEPTUAL LOCATION SHOWN, COORDINATE W/ WSDOT FOR ACTUAL LOCATION)

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/70	40	80
45/50	30	60
35/40	30	60
25/30	20	40



GENERAL NOTES

1. WHEN USED, THE DEVICE SPACING FOR THE DOWNSTREAM TAPER SHOULD BE 20' O.C.
2. SIGNALIZED INTERSECTION SHALL HAVE THE SIGNALS TURNED OFF OR SET TO FLASHING RED.
3. TYPICAL APPLICATION SHOWN. ADJUST SIGNS AND LOCATIONS TO FIT SITE CONDITIONS.
4. SEE SPECIAL PROVISIONS: "PUBLIC CONVENIENCE AND SAFETY–CONSTRUCTION UNDER TRAFFIC" FOR WORK HOUR RESTRICTIONS.
5. EXTEND AND/OR REDUCE SHOULDER CLOSURES AND WORK AREAS AS NECESSARY.
6. NIGHTTIME FLAGGING REQUIRES ADDITIONAL LIGHTING AT FLAGGING STATION.
7. MOTORCYCLE WARNING SIGNS SHALL BE PLACED AS CONDITIONS WARRANT. SEE NOTES ON SHEET TC–01.
8. PLACE A W20–1 "ROAD WORK AHEAD" SIGN IN ADVANCE OF ALL INTERSECTION APPROACHES THAT FALL WITHIN TRAFFIC CONTROL SIGNING LIMITS.

SIGN SPACING = X (FEET) (1)		
FREEWAYS & EXPRESSWAYS	55/70 MPH	1500'± (OR AS PER MUTCD)
RURAL HIGHWAYS	60/65 MPH	800'±
RURAL ROADS	45/55 MPH	500'±
RURAL ROADS, URBAN ARTERIAL	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIAL RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)
ALL SIGNS ARE 48"x48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.		

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT–GRADE INTERSECTIONS, AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

INTERSECTION LANE CLOSURE - FIVE LANE ROADWAY (NIGHT TIME HOURS ONLY)

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

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DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
ISSUE DATE: 08/16/2021
JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TC-04

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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PROJECT NAME:
EDWARD ROSE AND SONS
OSLO BAY APARTMENTS
WSDOT JC 1581 GROUP 1

SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC CONTROL PLAN

DRAWING No.: TC-04
SHEET No.: 27 OF 29

Aug 16, 2021 1:41:51pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TC-04.DWG

T. 26 N., R. 1 E., W.M.

LEGEND

- CHANNELIZING DEVICES (TRAFFIC SAFETY DRUMS)
- WORK AREA
- CLASS B SIGN LOCATION – TEMPORARY MOUNT
- DIRECTIONAL ARROW
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- ARROW PANEL
- PROTECTIVE VEHICLE WITH TRANSPORTABLE ATTENUATOR – REQUIRED

0 50 100
SCALE IN FEET

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/70	40	80
45/50	30	60
35/40	30	60
25/30	20	40

PCMS	
1	2
RIGHT LANE CLOSED AHEAD	1 MILE AHEAD
2.0 SECONDS	2.0 SECONDS

FIELD LOCATE 1/2 MILE PRIOR TO W20-1 SIGN (CONCEPTUAL LOCATION SHOWN, COORDINATE W/ WSDOT FOR ACTUAL LOCATION)

GENERAL NOTES

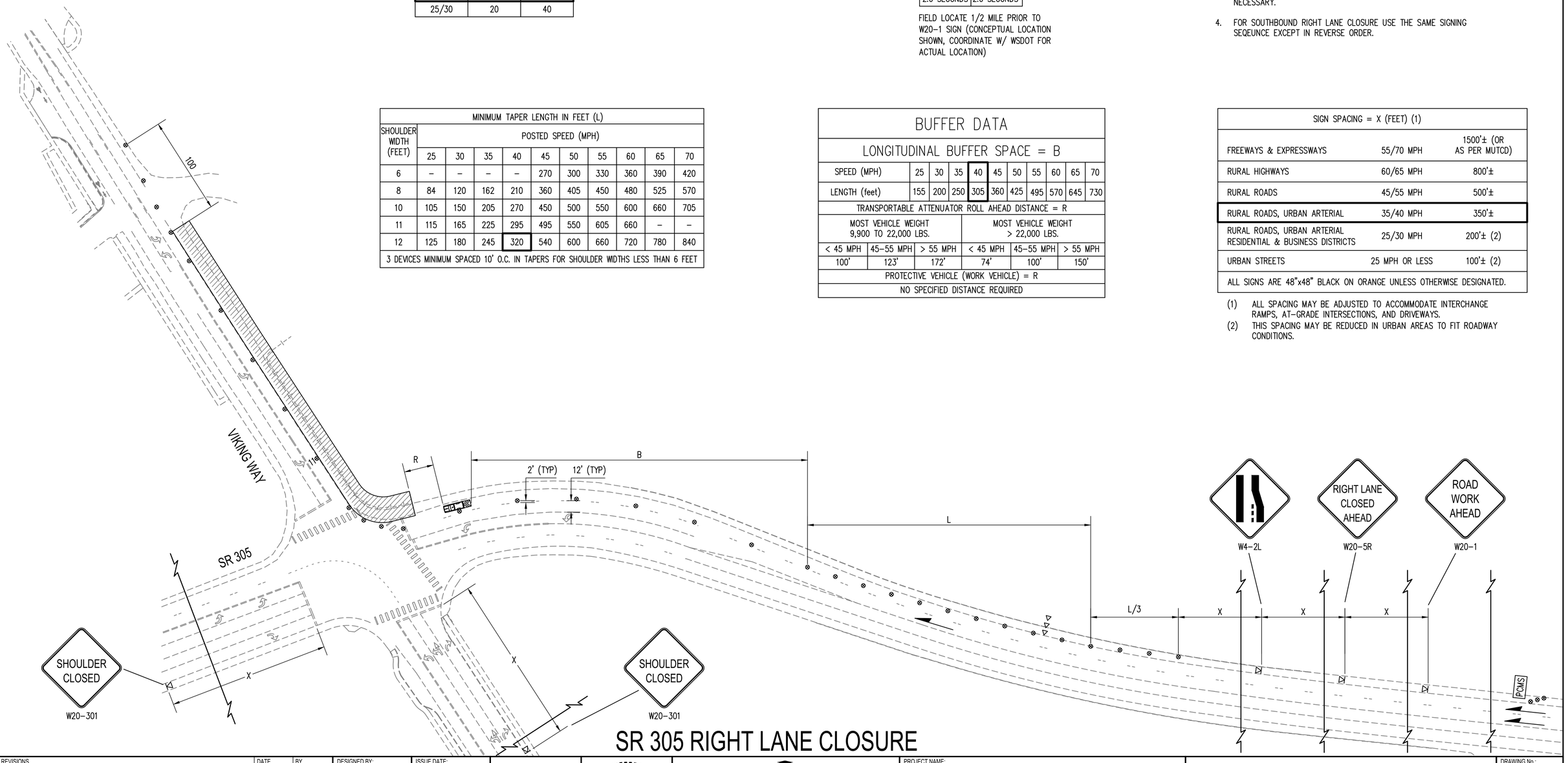
1. EXTEND CHANNELIZING DEVICE TAPERS ACROSS SHOULDER.
2. SEE SPECIAL PROVISIONS: "PUBLIC CONVENIENCE AND SAFETY-CONSTRUCTION UNDER TRAFFIC" FOR WORK HOUR RESTRICTIONS.
3. EXTEND AND/OR REDUCE SHOULDER CLOSURES AND WORK AREAS AS NECESSARY.
4. FOR SOUTHBOUND RIGHT LANE CLOSURE USE THE SAME SIGNING SEQEUNCE EXCEPT IN REVERSE ORDER.

MINIMUM TAPER LENGTH IN FEET (L)										
SHOULDER WIDTH (FEET)	POSTED SPEED (MPH)									
	25	30	35	40	45	50	55	60	65	70
6	–	–	–	–	270	300	330	360	390	420
8	84	120	162	210	360	405	450	480	525	570
10	105	150	205	270	450	500	550	600	660	705
11	115	165	225	295	495	550	605	660	–	–
12	125	180	245	320	540	600	660	720	780	840
3 DEVICES MINIMUM SPACED 10' O.C. IN TAPERS FOR SHOULDER WIDTHS LESS THAN 6 FEET										

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R										
MOST VEHICLE WEIGHT 9,900 TO 22,000 LBS.					MOST VEHICLE WEIGHT > 22,000 LBS.					
< 45 MPH		45–55 MPH		> 55 MPH	< 45 MPH		45–55 MPH		> 55 MPH	
100'		123'		172'	74'		100'		150'	
PROTECTIVE VEHICLE (WORK VEHICLE) = R										
NO SPECIFIED DISTANCE REQUIRED										

SIGN SPACING = X (FEET) (1)		
FREEWAYS & EXPRESSWAYS	55/70 MPH	1500'± (OR AS PER MUTCD)
RURAL HIGHWAYS	60/65 MPH	800'±
RURAL ROADS	45/55 MPH	500'±
RURAL ROADS, URBAN ARTERIAL	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIAL RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)
ALL SIGNS ARE 48"x48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.		

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT-GRADE INTERSECTIONS, AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.



SR 305 RIGHT LANE CLOSURE

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

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DRAWN BY: M WEYRAUCH
CHECKED BY: R JEWELL
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JOB No.: 3469.01
DRAWING FILE No.: 3469.01 TC-05

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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OSLO BAY APARTMENTS
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SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC CONTROL PLAN

DRAWING No.: TC-05
SHEET No.: 28 OF 29

Aug 16, 2021 1:42:02pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CAD\3469.01 TC-05.DWG

T. 26 N., R. 1 E., W.M.

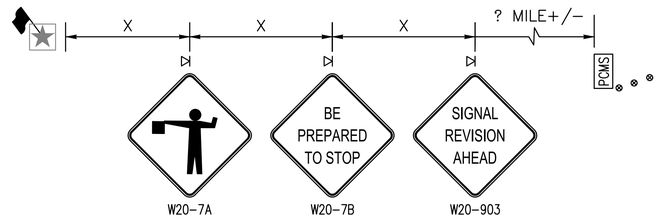
LEGEND

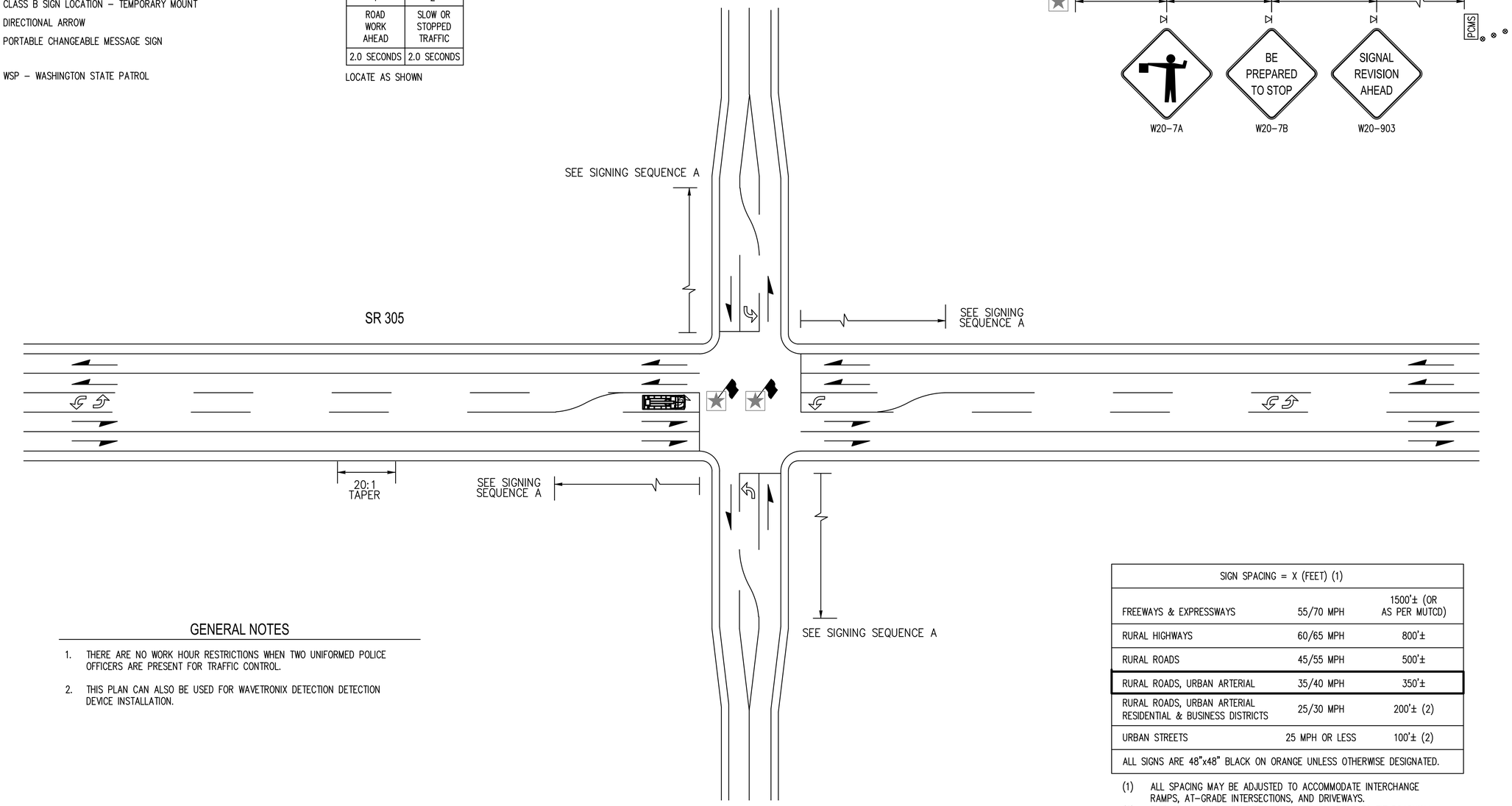
- CLASS B SIGN LOCATION – TEMPORARY MOUNT
- DIRECTIONAL ARROW
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN
- WSP – WASHINGTON STATE PATROL

PCMS	
1	2
ROAD WORK AHEAD	SLOW OR STOPPED TRAFFIC
2.0 SECONDS	2.0 SECONDS

LOCATE AS SHOWN

SIGNING SEQUENCE A





GENERAL NOTES

1. THERE ARE NO WORK HOUR RESTRICTIONS WHEN TWO UNIFORMED POLICE OFFICERS ARE PRESENT FOR TRAFFIC CONTROL.
2. THIS PLAN CAN ALSO BE USED FOR WAVETRONIX DETECTION DETECTION DEVICE INSTALLATION.

SIGN SPACING = X (FEET) (1)		
FREEWAYS & EXPRESSWAYS	55/70 MPH	1500'± (OR AS PER MUTCD)
RURAL HIGHWAYS	60/65 MPH	800'±
RURAL ROADS	45/55 MPH	500'±
RURAL ROADS, URBAN ARTERIAL	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIAL RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)
ALL SIGNS ARE 48"x48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.		

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERCHANGE RAMPS, AT–GRADE INTERSECTIONS, AND DRIVEWAYS.
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

CONTROLLER CABINET REPLACEMENT AND TURN-ON (TYPICAL)

△	REVISIONS	DATE	BY
1	FPS #1	4/19/2021	SCJ
2	FPS #2	6/15/2021	SCJ
3	FPS #3	7/26/2021	SCJ
4	FINAL	8/16/2021	SCJ

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ISSUE DATE: 08/16/2021
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DRAWING FILE No.: 3469.01 TC-06

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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8/16/2021

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SR 305
CONTROLLER, DETECTION, AND COMMUNICATION UPGRADES

TRAFFIC CONTROL PLAN

DRAWING No.: TC-06
SHEET No.: 29 OF 29

Aug 16, 2021 1:42:11pm – User: matt.weyrauch
N:\PROJECTS\3469 EDWARD ROSE AND SONS\3469.01 OLSO BAY SR 305 WSDOT PERMITTING\CADD\3469.01 TC-06.DWG

Appendix M. Evaluation of Protected-Permitted Left-Turn Signal Treatment

A GUIDELINE FOR LEFT TURN MOVEMENT PHASING CONSIDERATIONS

The purpose of this white paper is to develop a unified standard of practice, following the philosophy of Practical Design (Division 11 of the WSDOT Design Manual and specifically the spirit of the Quantitative Analysis Method laid out in chapter 1106), and until a more flexible and practical solution for the treatment of Left Turn signals becomes available.

DESIGN - LEFT TURN LANE PHASING REQUIREMENTS

At a signalized intersection, Protected Permissive Left Turn(PPLT) phasing should be the default consideration for left turn lane phasing, unless engineering studies dictate otherwise, in which case the decision to variate from default should be documented in the signal file, with the reasons noted for future reference. This standard applies to all new traffic signal installations and whenever physical improvements and/or changes in channelization requires modification to signal heads in an existing traffic signal system.

- **When a permissive left turn movement is allowed**, install a Flashing Yellow Arrow (FYA) signal head display.
    1. The 4-section Flashing Yellow Arrow (FYA) signal head display configuration is the current WSDOT NW Region **STANDARD** for Permissive and Protected-Permissive left turn lane phasing.
    2. 3-section bi-modal (Solid Green/ Flashing Yellow) is an alternative to the 4-section signal head that can be used, with Region Traffic Engineer or her/his designee's approval, at locations where engineering studies verifies that the wind load or vertical clearance is a concern.
- **When a permissive left turn movement is NOT allowed**, a protected-only left turn phase shall be utilized when conditions, as indicated in the **WSDOT Design Manual** or engineering studies, prohibit the use of a permissive left turn phase. If engineering studies per Attachment "A" justifies variance from the Design Manual, the documentations shall be approved by Region Traffic Engineer or her/his designee and filed in the signal file.

OPERATIONS - LEFT TURN LANE PHASING UPGRADES

Following criteria are presented as guidance only, therefore no upgrades shall violate the current WSDOT Design Manual, unless engineering studies completed and variance documented as exception to the Manual. Some prioritization criteria will be developed in near future as an attachment to this document.

UPGRADE FROM PERMISSIVE PHASING TO PROTECTED-PERMISSIVE PHASING (FLASHING YELLOW ARROW)

WSDOT NW Region at this time does not have a systemic upgrade plan for existing Permissive only locations. However, upgrades can be done as needed and if the following conditions exist an upgrade from Permissive Left Turn to Protected Permissive Flashing Yellow Arrow (FYA) is recommended.

- If because of insufficient gaps in the opposing through traffic the peak hour turning queue exceeds the storage capacity of the left turn lane.
- Anywhere the average peak hour control delay for a permissive left turn phase exceeds 45 seconds,

CONVERTING PPLT OF 5-SECTIONS DOG-HOUSE TO FYA

As budget allows all 5 section Dog-house indications are recommended to be converted to a Flashing Yellow Arrow (FYA).

CONVERTING PROTECTED LEFT TURN PHASING TO FYA

- If a traffic signal is warranted to display protected only Left Turn due to lack of adequate gap and extensive delay during peak hours, it can be converted to FYA during the off-peak hours of the day. (See 1.4 - Attachment “A”).
    a) Another alternative to TOD change of phasing is a dynamic assessment of gap existence by the Degree of Saturation (DS) on the opposing main line in order to serve a protected phase at any time during the day. Most of newer traffic control systems provide this parameter of performance measure that can be used to trigger the protected phase.
- The converted intersections shall be monitored for 3 years after the conversion, for safety and crash history, in order to determine if the correctable left-turn collisions remain under the threshold for protected-only phasing.

ATTACHMENT "A"

Introduction:

NW Region receives quite a lot of requests to convert Permissive, Protected, and Protected-Permissive left turn signals to the Flashing Yellow Arrow indications. The purpose of this white paper is to develop a unified standard of practice until a more flexible and practical solution for the treatment of Left Turn signals becomes available.

In determination of the Left Turn phasing the following criteria are nationally recommended and are therefore presented here as the knowledge base:

1.1 Sight Distance and related characteristics

Sight distance criteria is dependent on the posted speed of the facility and should be calculated based on AASHTO's Green Book recommendations. Specifically, attention shall be given to the sight distance while there is opposing left turn pocket and queue obstruct sight distance for the turning vehicle (See Attachment B). A facility in which adequate sight distance is not available for a permissive Left Turn shall utilize protected-only phasing.

- **Available Sight Distance**

Figure 3.1 portrays a typical intersection layout and positions of left-turning vehicles. These features define the sight distance triangle which is the basis for available sight distance (ASD) calculations.

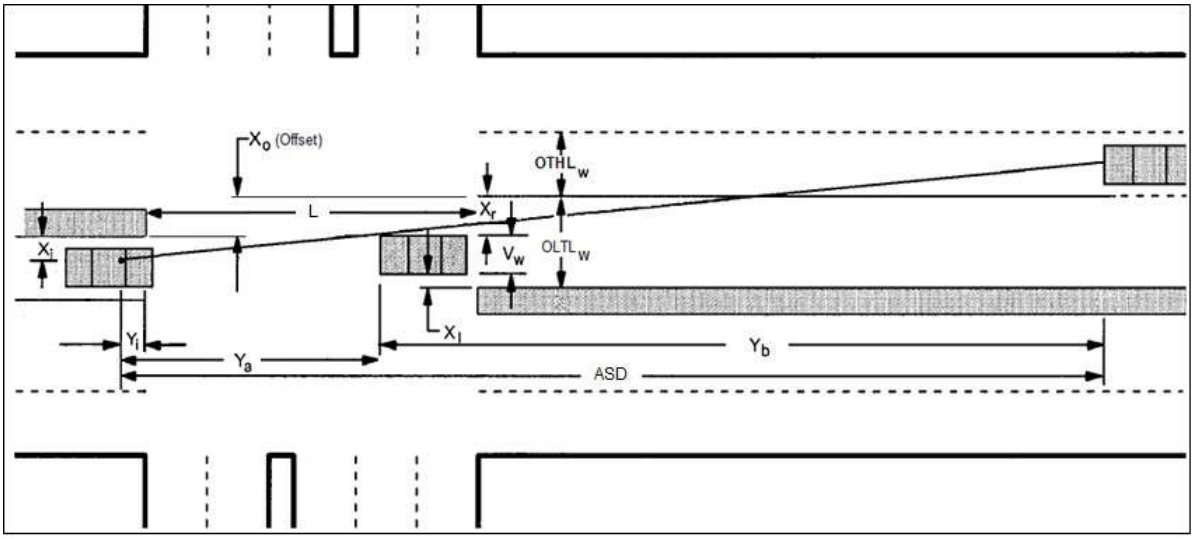


Figure 3.1 Sight distance triangle for LT maneuver at a typical intersection (McCoy et al 2001).

The sight distance available to a left turning driver has two components ASD=Y_a+Y_b with Y_a being the distance to an opposing left-turning vehicle blocking the line of sight and Y_b being the

distance beyond the obstructing edge of the opposing left-turning vehicle. Y_a is determined by intersection width, L, and the positions of the left-turning vehicles.

$Y_a=L-Y_{opp}-Y_i$ (3.1)

where

Y_{opp} = longitudinal distance from the end of the opposing median to the opposing LT vehicle's front bumper,

Y_i = longitudinal distance from the end of the median to the LT driver's eye; positive if inside the intersection and negative if behind the intersection.

Assuming that both vehicles have similar locations and that 8 feet is the distance from driver's eye to front bumper gives, with distances in feet:

$Y_a=L-2(Y_i)-8$ (3.2)

At most regular intersections Y_i was assumed to be zero, meaning that the driver's eye was in line with the median or stop bar. At larger intersections drivers might advance into the intersection while waiting for an adequate gap, and at these situations a reasonable positive value was used.

From the geometry shown in Figure 3.1, Y_b can be calculated

$$Y_b = \frac{Y_a\left(X_r + {OTHL_W}/{2}\right)}{V_o} \quad (3.3)$$

where

X_r = lateral distance of the right edge of the opposing left-turning vehicle from the right edge its lane,

$OTHL_W$ = opposing through lane width,

V_o = the lateral distance between the driver's eye and the right front corner of the opposing left turning vehicle.

$$X_r = OLTL_W - V_W - X_l \quad (3.4)$$

$OLTL_W$ = opposing left-turn lane width,

V_W = width of design vehicle (assumed to be 7 feet), and

X_l = lateral distance of the left edge of the opposing left-turn vehicle from the left line of its lane.

$$V_o = X_i - X_r - X_o \quad (3.5)$$

X_i = lateral position of driver's eye from the left line of the left-turn lane, and

X_o = left-turn offset as determined in the Chapter 2.

- **Required Sight Distance**

The required sight distance is given by

$$RSD = 1.467(OSL)(G) \quad (3.6)$$

where

OSL = opposing approach's speed limit in mph, and

G = critical gap size for left turn; assumed 5.5 seconds plus .5 seconds for each additional opposing through lane.

1.2 Intersection Geometry and Location Specifics

If the intersection has five or more approaches and the intersection geometry adds confusion or uncertainty to left turning vehicles, the location should be considered for protected only phasing.

The receiving characteristics such as number and width of the receiving lanes, the elevation differential and extreme grades, presence of medians and guardrail, and existence of driveways and access points in proximity of the receiving point play roles in the speed of turning which impacts parameters concerned with left turn move.

Furthermore, there should be a volume count for the actual left turns compared to U-turns in order to assess the frequency and, hence, hazard to U-turns during permissive mode. Mitigation could be signage that eliminates U-Turn or prohibits U-Turn on FYA.

1.3 Crossing Distance / Number of Opposing Lanes

Number of opposing lanes (including the Right Turn lane) become a factor only when calculating the distance, a vehicle has to traverse in order to clear the intersection during the left turn (This path is also used to calculate the clearance interval in traffic signal timing). Similarly, the location of STOP bar could also be a factor as it dictates the beginning of the turn. A rule of thumb, thus, can be 150 feet length of traverse or more than 3 lanes of opposing traffic as thresholds to consider installing protected-only phasing.

1.4 Critical Crossing Gap

Left-turning vehicles require adequate gaps in opposing traffic in order to safely clear an intersection. A gap analysis measures the availability of gaps of a sufficient size (time) for left-turning vehicles to clear the intersection with a prescribed level of comfort. The ITE Manual of Traffic Studies provides additional detail on the procedures for a gap analysis.

As a cost effective volume-based measurement the volume cross-product serves as a proxy for a formal gap analysis using more readily available data. The volume cross-product equals the left-turn hourly volume multiplied by the opposing through movement volume at the same hour. The higher the cross-product, the fewer the available gaps, and the greater the need for left-turn protection. A rule of thumb for this threshold used by many states is 50,000 for one lane of opposing traffic or 65,000 and more for two lanes of opposing traffic, meaning if the

cross-product is more than 50,000 or 65,000 for any hour of the day a protected left turn phase should be considered for that hour.

1.5 Correctable Left-Turn Crashes

The crash history should be examined to determine the extent of correctable left-turn crashes occurring at the subject intersection. While there is not a specific threshold for correctable left-turn crashes that would trigger consideration of Protected Only mode, analysis has shown generally that an approach with 3 to 5 correctable left- turn crashes per year may prompt a re-evaluation of existing permissive left-turns. Approaches with crash experience that falls within or above this range may be considered for Protected Only mode. The ideal metric for establishing a threshold for Protected-Only left-turn phasing should be derived through the development of a statistical model to identify features that are statistically significant to causation (perhaps on a regional basis).

1.6 Pedestrian Considerations

The engineer should consider the presence of nearby pedestrian generators such as schools or bus stops when assessing the interaction between pedestrians and left-turning vehicles. Where pedestrian volumes are high across the receiving lanes, the engineer may consider reducing conflicts by using Protected Only mode or time-of-day restrictions on the left-turn movement or providing leading pedestrian intervals. These strategies would allow pedestrians to get a head start when crossing and reduce conflicts between left-turning vehicles and pedestrians.

Another mitigation measure that can be used is the use of dynamic signal phasing accommodated by flashing yellow arrow signal heads such as “Ped. minus Left”, which means when a pedestrian phase is activated via the pushbutton, the conflicting left-turn movement is operated under Protected-Only phasing, otherwise, the approach operates under Protected/Permissive mode.

1.7 Corridor Consistency and Other Network Considerations

In some cases, it may be necessary to consider the needs of the overall corridor rather than considering an intersection in isolation. If one intersection’s left-turn phasing may cause a detrimental effect to an entire corridor, engineering judgment may determine that the phasing should be examined from a corridor perspective. The objective of the engineer is to balance safety with operational efficiency. Some circumstances may necessitate concessions to one at the expense of the other. While it is important to maintain some consistency in order to avoid violating driver’s expectations, consistency should not typically override the appropriate use of engineering judgment and evaluation of the unique characteristics at each site.

Preliminary Analysis of Protected-Permissive Left-Turn Phasing

Project: Oslo Bay Apartments TIA

Date: 12/1/2021

Source: WSDOT NWR whitepaper: "A Guideline for Left Turn Movement Phasing Considerations"

1.1 Sight Distance and Related Characteristics

Node	Name	Dir.	OLTL_w	V_w	X_l	X_i	X_o	X_r	OTHL_w	V_o	L	Y_i	Y_a	Y_b	ASD	OSL	G	RSD	ASD>RSD?
1	Viking Ave @ SR 305	NB	12	7	2.5	4	0	2.5	12	1.5	88	10	60	340	400	35	5.5	283	TRUE
1	Viking Ave @ SR 305	SB	12	7	2.5	4	0	2.5	12	1.5	88	10	60	340	400	35	5.5	283	TRUE

1.2 Intersection Geometry and Location Specifics

Node	Name	Dir.	Location- Specific Considerations	Pt-Pm OK?
1	Viking Ave @ SR 305	NB	-	YES
1	Viking Ave @ SR 305	SB	-	YES

1.3 Crossing Distance/Number of Opposing Lanes

Node	Name	Dir.	Feet of traverse	# Opposing Lns	Pt-Pm OK?
1	Viking Ave @ SR 305	NB	125	3	YES
1	Viking Ave @ SR 305	SB	125	3	YES

1.4 Critical Crossing Gap

Node	Name	Dir.	LT Vol (veh/hr)	Opposing Thru Vol (veh/hr)	Cross-Product	# of Opposing Thru Lanes	Rule of Thumb	Pt-Pm OK?
1	Viking Ave @ SR 305	NB	127	52	6,604	1	50,000	YES
1	Viking Ave @ SR 305	SB	116	77	8,932	1	50,000	YES

1.5 Correctable Left-Turn Crashes

Node	Name	Dir.	LT Crashes
1	Viking Ave @ SR 305	NB	n/a (none are currently permissive LT)
1	Viking Ave @ SR 305	SB	

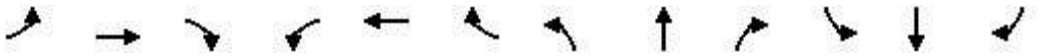
1.6 Pedestrian Considerations

Node	Name	Dir.	PM Peak Hr Ped Vol
1	Viking Ave @ SR 305	NB	0
1	Viking Ave @ SR 305	SB	3

1.7 Corridor Consistency and Other Network Considerations

Node	Name	Dir.	Comment
1	Viking Ave @ SR 305	NB	-
1	Viking Ave @ SR 305	SB	-

Appendix N. 2028 With-Project Mitigated Intersection Capacity Reports



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	1466	53	72	1296	58	54	37	88	138	65	81
Future Volume (veh/h)	79	1466	53	72	1296	58	54	37	88	138	65	81
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		0.99	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	1744	1744	1744	1744	1744	1744	1688	1688	1688	1603	1603	1688
Adj Flow Rate, veh/h	86	1593	58	78	1409	63	59	40	96	150	71	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	8	8	8	14	14	8
Cap, veh/h	412	2253	1005	96	1576	70	175	143	119	195	144	128
Arrive On Green	0.50	1.00	1.00	0.06	0.49	0.49	0.04	0.08	0.08	0.05	0.09	0.09
Sat Flow, veh/h	1661	3313	1478	1661	3230	144	1607	1688	1409	1527	1603	1430
Grp Volume(v), veh/h	86	1593	58	78	721	751	59	40	96	150	71	88
Grp Sat Flow(s),veh/h/ln	1661	1657	1478	1661	1657	1718	1607	1688	1409	1527	1603	1430
Q Serve(g_s), s	4.1	0.0	0.0	6.6	56.1	56.4	4.7	3.2	9.5	6.8	6.0	5.5
Cycle Q Clear(g_c), s	4.1	0.0	0.0	6.6	56.1	56.4	4.7	3.2	9.5	6.8	6.0	5.5
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	412	2253	1005	96	808	838	175	143	119	195	144	128
V/C Ratio(X)	0.21	0.71	0.06	0.81	0.89	0.90	0.34	0.28	0.81	0.77	0.49	0.69
Avail Cap(c_a), veh/h	412	2253	1005	117	890	923	181	346	289	195	331	295
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	0.0	66.1	33.0	33.1	56.2	60.9	63.8	61.4	61.6	26.6
Incr Delay (d2), s/veh	0.1	1.1	0.1	27.1	14.2	14.2	1.1	1.3	14.0	17.1	3.7	8.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	0.6	0.0	6.3	32.9	34.1	3.5	2.5	7.0	6.2	4.6	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	1.1	0.1	93.2	47.2	47.2	57.4	62.2	77.9	78.5	65.2	35.5
LnGrp LOS	C	A	A	F	D	D	E	E	E	E	E	D
Approach Vol, veh/h		1737			1550			195			309	
Approach Delay, s/veh		2.4			49.5			68.5			63.2	
Approach LOS		A			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	101.5	10.1	17.6	40.1	74.2	10.8	16.9
Change Period (Y+Rc), s	4.6	4.9	4.0	4.9	4.9	* 4.9	4.0	4.9
Max Green Setting (Gmax), s	10.0	77.7	6.6	29.3	11.4	* 76	6.8	29.1
Max Q Clear Time (g_c+I1), s	8.6	2.0	6.7	8.0	6.1	58.4	8.8	11.5
Green Ext Time (p_c), s	0.0	32.5	0.0	0.8	0.1	10.9	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	549	0	0	1320	150	76	0	1118	0	0	0
Future Volume (veh/h)	44	549	0	0	1320	150	76	0	1118	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1688	1688	0	0	1744	1744	1744	1744	1744			
Adj Flow Rate, veh/h	48	597	0	0	1435	163	83	0	1215			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	8	8	0	0	4	4	4	4	4			
Cap, veh/h	171	1696	0	0	1526	681	671	0	1051			
Arrive On Green	0.07	1.00	0.00	0.00	0.92	0.92	0.40	0.00	0.40			
Sat Flow, veh/h	1607	3291	0	0	3400	1478	1661	0	2601			
Grp Volume(v), veh/h	48	597	0	0	1435	163	83	0	1215			
Grp Sat Flow(s),veh/h/ln	1607	1603	0	0	1657	1478	1661	0	1300			
Q Serve(g_s), s	2.1	0.0	0.0	0.0	36.2	1.6	4.5	0.0	57.4			
Cycle Q Clear(g_c), s	2.1	0.0	0.0	0.0	36.2	1.6	4.5	0.0	57.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	171	1696	0	0	1526	681	671	0	1051			
V/C Ratio(X)	0.28	0.35	0.00	0.00	0.94	0.24	0.12	0.00	1.16			
Avail Cap(c_a), veh/h	185	1696	0	0	1526	681	671	0	1051			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.63	0.63	1.00	0.00	1.00			
Uniform Delay (d), s/veh	22.7	0.0	0.0	0.0	4.4	3.1	26.5	0.0	42.3			
Incr Delay (d2), s/veh	0.9	0.6	0.0	0.0	8.8	0.5	0.1	0.0	81.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	1.4	0.2	0.0	0.0	6.4	1.0	3.2	0.0	61.9			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	0.6	0.0	0.0	13.3	3.6	26.6	0.0	123.3			
LnGrp LOS	C	A	A	A	B	A	C	A	F			
Approach Vol, veh/h		645			1598			1298				
Approach Delay, s/veh		2.3			12.3			117.1				
Approach LOS		A			B			F				

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	80.0		62.0	9.7	70.3
Change Period (Y+Rc), s	4.9		4.6	4.6	4.9
Max Green Setting (Gmax), s	75.1		57.4	6.4	64.1
Max Q Clear Time (g_c+I1), s	2.0		59.4	4.1	38.2
Green Ext Time (p_c), s	4.4		0.0	0.0	12.7

Intersection Summary	
HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	365	73	300	228	26	47	88	521	44	113	31
Future Volume (veh/h)	31	365	73	300	228	26	47	88	521	44	113	31
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		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	1744	1744	1744	1772	1772	1772	1758	1758	1758	1702	1702	1702
Adj Flow Rate, veh/h	36	429	86	310	327	31	55	104	613	52	133	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	7	7	7
Cap, veh/h	466	490	415	369	388	321	74	528	447	88	1003	
Arrive On Green	0.28	0.28	0.28	0.22	0.22	0.22	0.04	0.30	0.30	0.05	0.31	0.00
Sat Flow, veh/h	1661	1744	1478	1688	1772	1467	1674	1758	1490	1621	3318	0
Grp Volume(v), veh/h	36	429	86	310	327	31	55	104	613	52	133	0
Grp Sat Flow(s),veh/h/ln	1661	1744	1478	1688	1772	1467	1674	1758	1490	1621	1617	0
Q Serve(g_s), s	1.8	25.8	4.9	19.3	19.4	1.9	3.6	4.8	33.0	3.4	3.3	0.0
Cycle Q Clear(g_c), s	1.8	25.8	4.9	19.3	19.4	1.9	3.6	4.8	33.0	3.4	3.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	466	490	415	369	388	321	74	528	447	88	1003	
V/C Ratio(X)	0.08	0.88	0.21	0.84	0.84	0.10	0.74	0.20	1.37	0.59	0.13	
Avail Cap(c_a), veh/h	695	730	618	522	548	454	152	528	447	236	1147	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.1	37.7	30.2	41.1	41.1	34.3	51.9	28.6	38.5	50.8	27.3	0.0
Incr Delay (d2), s/veh	0.1	8.0	0.2	8.3	8.2	0.1	13.4	0.2	180.6	6.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	17.8	3.1	13.8	14.4	1.2	3.2	3.7	51.8	2.8	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	45.7	30.4	49.4	49.3	34.4	65.3	28.8	219.1	56.8	27.3	0.0
LnGrp LOS	C	D	C	D	D	C	E	C	F	E	C	
Approach Vol, veh/h		551			668			772			185	A
Approach Delay, s/veh		42.3			48.7			182.5			35.6	
Approach LOS		D			D			F			D	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	34.9	8.9	38.1	28.1	10.0	37.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	46.0	10.0	39.0	34.0	16.0	33.0
Max Q Clear Time (g_c+I1), s	27.8	5.6	5.3	21.4	5.4	35.0
Green Ext Time (p_c), s	3.1	0.0	0.8	2.6	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	93.4
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	158	279	108	178	565	138	818	63	402	1178	52
Future Volume (veh/h)	15	158	279	108	178	565	138	818	63	402	1178	52
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	1730	1730	1730	1744	1744	1744	1730	1730	1730	1730	1730	1730
Adj Flow Rate, veh/h	16	172	303	117	193	614	150	889	68	437	1280	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	4	4	4	5	5	5	5	5	5
Cap, veh/h	27	347	440	132	460	805	164	957	554	898	1482	66
Arrive On Green	0.02	0.20	0.20	0.08	0.26	0.26	0.20	0.58	0.59	0.37	0.63	0.63
Sat Flow, veh/h	1647	1730	1466	1661	1744	1478	1647	3287	1466	3196	3123	139
Grp Volume(v), veh/h	16	172	303	117	193	614	150	889	68	437	637	700
Grp Sat Flow(s),veh/h/ln	1647	1730	1466	1661	1744	1478	1647	1643	1466	1598	1557	1705
Q Serve(g_s), s	1.4	12.5	25.9	9.9	13.0	5.6	12.7	35.0	1.0	14.9	47.1	47.3
Cycle Q Clear(g_c), s	1.4	12.5	25.9	9.9	13.0	5.6	12.7	35.0	1.0	14.9	47.1	47.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	27	347	440	132	460	805	164	957	554	898	739	809
V/C Ratio(X)	0.60	0.50	0.69	0.89	0.42	0.76	0.91	0.93	0.12	0.49	0.86	0.86
Avail Cap(c_a), veh/h	68	432	513	132	502	841	173	1102	618	898	739	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.4	50.4	43.8	64.7	43.3	13.8	56.3	28.3	6.7	36.6	22.4	22.5
Incr Delay (d2), s/veh	14.8	0.8	2.8	45.9	0.5	3.8	38.6	14.5	0.4	0.3	12.7	11.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	9.4	14.8	9.8	9.6	16.9	10.3	16.5	0.8	9.3	23.5	25.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	51.2	46.6	110.6	43.7	17.6	94.9	42.8	7.1	36.9	35.1	34.3
LnGrp LOS	F	D	D	F	D	B	F	D	A	D	D	C
Approach Vol, veh/h		491			924			1107			1774	
Approach Delay, s/veh		49.5			34.8			47.7			35.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	72.8	7.4	42.5	45.3	46.7	16.4	33.6
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	4.6	60.1	6.4	41.4	27.4	* 48	11.8	36.0
Max Q Clear Time (g_c+I1), s	14.7	49.3	3.4	15.0	16.9	37.0	11.9	27.9
Green Ext Time (p_c), s	0.0	6.4	0.0	3.2	1.2	4.9	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	409	509	301	38	48	257
Future Volume (veh/h)	409	509	301	38	48	257
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			0.98	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1758	1758	1758	1758	1772	1772
Adj Flow Rate, veh/h	487	606	358	45	57	306
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	3	2	2
Cap, veh/h	753	1050	662	82	345	721
Arrive On Green	0.28	0.60	0.22	0.22	0.20	0.20
Sat Flow, veh/h	1674	1758	3067	371	1688	1502
Grp Volume(v), veh/h	487	606	199	204	57	306
Grp Sat Flow(s),veh/h/ln	1674	1758	1670	1681	1688	1502
Q Serve(g_s), s	7.5	8.5	4.3	4.3	1.1	5.4
Cycle Q Clear(g_c), s	7.5	8.5	4.3	4.3	1.1	5.4
Prop In Lane	1.00			0.22	1.00	1.00
Lane Grp Cap(c), veh/h	753	1050	371	373	345	721
V/C Ratio(X)	0.65	0.58	0.54	0.55	0.17	0.42
Avail Cap(c_a), veh/h	2366	4445	1987	2000	837	1159
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	5.0	13.9	13.9	13.2	6.8
Incr Delay (d2), s/veh	0.9	0.5	1.2	1.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.3	3.4	2.6	2.7	0.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.7	5.5	15.1	15.1	13.4	7.2
LnGrp LOS	A	A	B	B	B	A
Approach Vol, veh/h		1093	403		363	
Approach Delay, s/veh		6.5	15.1		8.2	
Approach LOS		A	B		A	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		28.1		12.2	15.1	13.0
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		102.0		20.0	50.0	48.0
Max Q Clear Time (g_c+I1), s		10.5		7.4	9.5	6.3
Green Ext Time (p_c), s		5.2		1.0	1.7	2.6

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	4	1	29	7	175	1	769	8	193	1185	139
Future Volume (veh/h)	35	4	1	29	7	175	1	769	8	193	1185	139
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	1758	1758	1758	1772	1772	1772	1730	1730	1730	1744	1744	1744
Adj Flow Rate, veh/h	38	4	1	32	8	190	1	836	9	210	1288	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	5	5	5	4	4	4
Cap, veh/h	58	47	12	195	49	210	3	884	10	701	2151	1016
Arrive On Green	0.03	0.03	0.03	0.14	0.14	0.14	0.00	0.53	0.53	0.84	1.00	1.00
Sat Flow, veh/h	1674	1357	339	1363	341	1502	1647	3331	36	1661	3139	1476
Grp Volume(v), veh/h	38	0	5	40	0	190	1	412	433	210	1288	151
Grp Sat Flow(s),veh/h/ln	1674	0	1697	1704	0	1502	1647	1643	1723	1661	1569	1476
Q Serve(g_s), s	3.2	0.0	0.4	2.9	0.0	17.7	0.1	33.6	33.6	3.7	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.4	2.9	0.0	17.7	0.1	33.6	33.6	3.7	0.0	0.0
Prop In Lane	1.00		0.20	0.80		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	58	0	59	244	0	210	3	436	457	701	2151	1016
V/C Ratio(X)	0.66	0.00	0.09	0.16	0.00	0.90	0.37	0.95	0.95	0.30	0.60	0.15
Avail Cap(c_a), veh/h	389	0	394	348	0	301	70	476	499	701	2151	1016
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	0.48	0.48	0.48
Uniform Delay (d), s/veh	67.7	0.0	66.4	53.5	0.0	60.1	70.7	32.3	32.3	6.7	0.0	0.0
Incr Delay (d2), s/veh	12.0	0.0	0.6	0.3	0.0	22.5	62.3	29.1	28.3	0.1	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	0.0	0.3	2.3	0.0	12.7	0.1	19.0	19.6	2.1	0.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.7	0.0	67.0	53.8	0.0	82.6	133.0	61.5	60.6	6.8	0.6	0.1
LnGrp LOS	E	A	E	D	A	F	F	E	E	A	A	A
Approach Vol, veh/h		43			230			846			1649	
Approach Delay, s/veh		78.2			77.6			61.1			1.3	
Approach LOS		E			E			E			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.8	102.7		9.5	65.3	42.2		25.0
Change Period (Y+Rc), s	4.6	4.9		4.6	4.9	4.0		4.6
Max Green Setting (Gmax), s	6.6	55.3		33.0	20.3	41.6		29.0
Max Q Clear Time (g_c+I1), s	2.1	2.0		5.2	5.7	35.6		19.7
Green Ext Time (p_c), s	0.0	8.9		0.1	0.6	2.6		0.7

Intersection Summary		
HCM 6th Ctrl Delay	27.1	
HCM 6th LOS	C	

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	95	77	9	143	7	35	5	4	17	28	28
Future Vol, veh/h	31	95	77	9	143	7	35	5	4	17	28	28
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	3	3	3
Mvmt Flow	38	117	95	11	177	9	43	6	5	21	35	35
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

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	9.4	9.6	9.5	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	80%	100%	0%	100%	0%	100%	0%
Vol Thru, %	11%	0%	55%	0%	95%	0%	50%
Vol Right, %	9%	0%	45%	0%	5%	0%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	44	31	172	9	150	17	56
LT Vol	35	31	0	9	0	17	0
Through Vol	5	0	95	0	143	0	28
RT Vol	4	0	77	0	7	0	28
Lane Flow Rate	54	38	212	11	185	21	69
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.088	0.06	0.284	0.017	0.264	0.036	0.103
Departure Headway (Hd)	5.849	5.64	4.823	5.669	5.133	6.203	5.347
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	610	634	743	630	698	575	668
Service Time	3.909	3.383	2.564	3.413	2.877	3.958	3.101
HCM Lane V/C Ratio	0.089	0.06	0.285	0.017	0.265	0.037	0.103
HCM Control Delay	9.5	8.7	9.5	8.5	9.7	9.2	8.7
HCM Lane LOS	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.2	1.2	0.1	1.1	0.1	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	12	14	13	9	11	22	774	19	71	1073	73
Future Volume (veh/h)	21	12	14	13	9	11	22	774	19	71	1073	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1702	1702	1702	1730	1730	1730	1716	1716	1716
Adj Flow Rate, veh/h	23	13	15	14	10	12	24	841	21	77	1166	79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	7	7	7	5	5	5	6	6	6
Cap, veh/h	59	34	39	44	31	38	37	905	23	817	2350	1106
Arrive On Green	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.38	0.38	1.00	1.00	1.00
Sat Flow, veh/h	1481	855	995	1215	871	1050	1647	3193	80	1634	3088	1454
Grp Volume(v), veh/h	27	0	24	19	0	17	24	410	452	77	1166	79
Grp Sat Flow(s),veh/h/ln	1726	0	1604	1641	0	1495	1647	1557	1715	1634	1544	1454
Q Serve(g_s), s	2.2	0.0	2.1	1.6	0.0	1.6	2.0	35.9	35.9	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	2.1	1.6	0.0	1.6	2.0	35.9	35.9	0.0	0.0	0.0
Prop In Lane	0.86		0.62	0.74		0.70	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	69	0	64	59	0	54	37	441	486	817	2350	1106
V/C Ratio(X)	0.39	0.00	0.38	0.32	0.00	0.32	0.65	0.93	0.93	0.09	0.50	0.07
Avail Cap(c_a), veh/h	346	0	322	480	0	437	64	482	532	817	2350	1106
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.89	0.89	0.89	0.83	0.83	0.83
Uniform Delay (d), s/veh	66.5	0.0	66.3	66.7	0.0	66.6	68.3	42.9	42.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	3.7	3.0	0.0	3.3	16.0	26.2	24.5	0.0	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.0	1.6	1.3	0.0	1.2	1.8	22.1	23.8	0.0	0.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	0.0	70.0	69.8	0.0	69.8	84.3	69.1	67.4	0.0	0.6	0.1
LnGrp LOS	E	A	E	E	A	E	F	E	E	A	A	A
Approach Vol, veh/h		51			36			886			1322	
Approach Delay, s/veh		70.1			69.8			68.6			0.6	
Approach LOS		E			E			E			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	113.1		10.6	76.0	45.2		10.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.3	47.0		29.0	8.5	44.5		42.0
Max Q Clear Time (g_c+I1), s	4.0	2.0		4.2	2.0	37.9		3.6
Green Ext Time (p_c), s	0.0	12.2		0.1	0.1	2.9		0.1

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	87	62	73	141	204	41	623	70	139	907	49
Future Volume (veh/h)	16	87	62	73	141	204	41	623	70	139	907	49
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		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1786	1786	1786	1716	1716	1716	1716	1716	1716
Adj Flow Rate, veh/h	17	95	67	79	153	222	45	677	76	151	986	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	1	1	1	6	6	6	6	6	6
Cap, veh/h	29	233	196	93	301	260	497	1622	182	170	1111	60
Arrive On Green	0.02	0.13	0.13	0.05	0.17	0.17	0.61	1.00	1.00	0.10	0.36	0.36
Sat Flow, veh/h	1688	1772	1495	1701	1786	1508	1634	2872	322	1634	3066	165
Grp Volume(v), veh/h	17	95	67	79	153	222	45	364	389	151	497	542
Grp Sat Flow(s),veh/h/ln	1688	1772	1495	1701	1786	1508	1634	1544	1650	1634	1544	1686
Q Serve(g_s), s	1.4	7.0	3.3	6.5	11.1	20.3	1.6	0.0	0.0	13.0	42.9	42.9
Cycle Q Clear(g_c), s	1.4	7.0	3.3	6.5	11.1	20.3	1.6	0.0	0.0	13.0	42.9	42.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		0.10
Lane Grp Cap(c), veh/h	29	233	196	93	301	260	497	872	932	170	559	611
V/C Ratio(X)	0.59	0.41	0.34	0.85	0.51	0.85	0.09	0.42	0.42	0.89	0.89	0.89
Avail Cap(c_a), veh/h	72	386	325	168	488	417	497	872	932	275	717	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	0.87	0.87	0.87
Uniform Delay (d), s/veh	69.3	56.6	18.4	66.6	53.7	57.1	19.7	0.0	0.0	62.8	42.6	42.6
Incr Delay (d2), s/veh	13.3	1.2	1.0	18.7	1.3	9.5	0.1	1.4	1.3	16.5	16.6	15.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	5.8	4.0	6.0	8.8	13.2	1.1	0.6	0.6	9.9	25.1	26.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.6	57.8	19.4	85.3	55.0	66.5	19.7	1.4	1.3	79.3	59.2	58.1
LnGrp LOS	F	E	B	F	D	E	B	A	A	E	E	E
Approach Vol, veh/h		179			454			798			1190	
Approach Delay, s/veh		45.8			65.9			2.4			61.2	
Approach LOS		D			E			A			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	48.6	56.8	7.5	29.1	19.8	85.6	12.8	23.7
Change Period (Y+Rc), s	4.9	* 4.9	4.6	4.6	4.6	4.9	4.6	4.6
Max Green Setting (Gmax), s	43.7	* 66	6.6	39.3	24.4	53.0	14.5	31.4
Max Q Clear Time (g_c+I1), s	13.6	44.9	3.4	22.3	15.0	2.0	8.5	9.0
Green Ext Time (p_c), s	0.0	7.0	0.0	1.4	0.3	5.4	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	118	119	102	74	176	59	475	30	171	814	16
Future Volume (veh/h)	39	118	119	102	74	176	59	475	30	171	814	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.98	1.00		0.99	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	1758	1758	1758	1744	1744	1744	1730	1730	1730	1716	1716	1716
Adj Flow Rate, veh/h	42	128	129	111	80	191	64	516	33	186	885	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	4	4	4	5	5	5	6	6	6
Cap, veh/h	217	199	164	212	271	226	75	581	37	796	2015	39
Arrive On Green	0.03	0.11	0.11	0.07	0.16	0.16	0.05	0.19	0.19	0.97	1.00	1.00
Sat Flow, veh/h	1674	1758	1454	1661	1744	1452	1647	3054	195	1634	3187	61
Grp Volume(v), veh/h	42	128	129	111	80	191	64	262	287	186	429	473
Grp Sat Flow(s),veh/h/ln	1674	1758	1454	1661	1744	1452	1647	1557	1692	1634	1544	1705
Q Serve(g_s), s	3.1	9.9	12.3	8.2	5.8	6.3	5.5	23.3	23.4	0.5	0.0	0.0
Cycle Q Clear(g_c), s	3.1	9.9	12.3	8.2	5.8	6.3	5.5	23.3	23.4	0.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.04
Lane Grp Cap(c), veh/h	217	199	164	212	271	226	75	296	322	796	976	1078
V/C Ratio(X)	0.19	0.64	0.79	0.52	0.30	0.85	0.86	0.89	0.89	0.23	0.44	0.44
Avail Cap(c_a), veh/h	361	309	256	309	332	276	162	537	584	796	976	1078
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	54.0	60.3	61.3	49.8	53.1	7.1	67.3	56.0	56.0	0.9	0.0	0.0
Incr Delay (d2), s/veh	0.4	3.5	8.2	2.0	0.6	18.0	22.9	29.9	28.7	0.1	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	8.1	8.6	6.4	4.7	11.6	5.0	17.0	18.2	0.3	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	63.7	69.5	51.8	53.7	25.0	90.2	85.9	84.7	1.1	1.2	1.1
LnGrp LOS	D	E	E	D	D	C	F	F	F	A	A	A
Approach Vol, veh/h		299			382			613			1088	
Approach Delay, s/veh		64.9			38.8			85.8			1.1	
Approach LOS		E			D			F			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	34.2	32.0	14.7	21.0	11.4	94.8	8.7	27.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.5	49.5	18.5	25.5	14.5	65.5	16.5	27.5
Max Q Clear Time (g_c+I1), s	12.5	25.4	10.2	14.3	7.5	2.0	5.1	8.3
Green Ext Time (p_c), s	0.7	2.1	0.2	0.8	0.1	4.0	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	1	3	2	0	10	1	605	3	3	372	7
Future Vol, veh/h	12	1	3	2	0	10	1	605	3	3	372	7
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	13	13	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	4	4	4	0	0	0	3	3	3	4	4	4
Mvmt Flow	14	1	4	2	0	12	1	720	4	4	443	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	820	1197	229	967	1199	375	454	0	0	737	0	0
Stage 1	458	458	-	737	737	-	-	-	-	-	-	-
Stage 2	362	739	-	230	462	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.58	6.98	7.5	6.5	6.9	4.16	-	-	4.18	-	-
Critical Hdwy Stg 1	6.58	5.58	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.58	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4.04	3.34	3.5	4	3.3	2.23	-	-	2.24	-	-
Pot Cap-1 Maneuver	264	182	767	212	187	628	1096	-	-	852	-	-
Stage 1	547	560	-	381	428	-	-	-	-	-	-	-
Stage 2	624	417	-	758	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	257	179	765	207	183	621	1093	-	-	843	-	-
Mov Cap-2 Maneuver	257	179	-	207	183	-	-	-	-	-	-	-
Stage 1	545	556	-	376	423	-	-	-	-	-	-	-
Stage 2	611	412	-	749	564	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.5	13	0	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1093	-	-	285	466	843	-	-
HCM Lane V/C Ratio	0.001	-	-	0.067	0.031	0.004	-	-
HCM Control Delay (s)	8.3	-	-	18.5	13	9.3	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

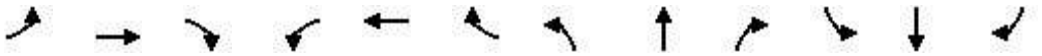
Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	426	4	1	270	17	24
Future Vol, veh/h	426	4	1	270	17	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	4	4	3	3	0	0
Mvmt Flow	513	5	1	325	20	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	518	0	843	516
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	327	-
Critical Hdwy	-	-	4.13	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.227	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1043	-	337	563
Stage 1	-	-	-	-	603	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1043	-	337	563
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	603	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	441	-	-	1043	-
HCM Lane V/C Ratio	0.112	-	-	0.001	-
HCM Control Delay (s)	14.2	-	-	8.5	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	56	27	204	138	0	29	0	158	340	59	12
Future Volume (veh/h)	0	56	27	204	138	0	29	0	158	340	59	12
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	0	1730	1730	1702	1702	0	1744	0	1744	1730	1799	1730
Adj Flow Rate, veh/h	0	61	29	222	150	0	32	0	172	370	64	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	5	5	7	7	0	4	0	4	5	5	5
Cap, veh/h	0	671	299	2351	2627	0	42	0	0	521	140	
Arrive On Green	0.00	0.20	0.20	0.97	1.00	0.00	0.03	0.00	0.00	0.13	0.08	0.00
Sat Flow, veh/h	0	3373	1466	3144	3318	0	1661	32		3196	1799	1466
Grp Volume(v), veh/h	0	61	29	222	150	0	32	93.1		370	64	0
Grp Sat Flow(s),veh/h/ln	0	1643	1466	1572	1617	0	1661	F		1598	1799	1466
Q Serve(g_s), s	0.0	2.1	2.0	0.0	0.0	0.0	2.7			16.1	4.8	0.0
Cycle Q Clear(g_c), s	0.0	2.1	2.0	0.0	0.0	0.0	2.7			16.1	4.8	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	671	299	2351	2627	0	42			521	140	
V/C Ratio(X)	0.00	0.09	0.10	0.09	0.06	0.00	0.76			0.71	0.46	
Avail Cap(c_a), veh/h	0	671	299	2351	2627	0	187			597	671	
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	45.8	36.9	0.3	0.0	0.0	68.8			60.5	62.6	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.6	0.0	0.0	0.0	24.3			3.3	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	1.6	1.6	0.1	0.0	0.0	2.6			10.9	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.1	37.6	0.3	0.0	0.0	93.1			63.9	64.9	0.0
LnGrp LOS	A	D	D	A	A	A	F			E	E	
Approach Vol, veh/h		90			372						434	A
Approach Delay, s/veh		43.3			0.2						64.0	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2	3	4		6	7
Phs Duration (G+Y+Rc), s	86.4	33.0	7.6	15.0		119.4	22.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0
Max Green Setting (Gmax), s	28.0	29.0	16.0	53.0		61.0	22.0
Max Q Clear Time (g_c+I1), s	2.0	4.1	4.7	6.8		2.0	18.1
Green Ext Time (p_c), s	0.7	0.4	0.0	0.3		1.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	0	233	20	0	56
Future Vol, veh/h	61	0	233	20	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	8	8	5	5	8	8
Mvmt Flow	68	0	259	22	0	62

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	301	141	0	0	281	0
Stage 1	270	-	-	-	-	-
Stage 2	31	-	-	-	-	-
Critical Hdwy	6.96	7.06	-	-	4.26	-
Critical Hdwy Stg 1	5.96	-	-	-	-	-
Critical Hdwy Stg 2	5.96	-	-	-	-	-
Follow-up Hdwy	3.58	3.38	-	-	2.28	-
Pot Cap-1 Maneuver	650	862	-	-	1236	-
Stage 1	733	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	650	862	-	-	1236	-
Mov Cap-2 Maneuver	650	-	-	-	-	-
Stage 1	733	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	650	-	1236	-
HCM Lane V/C Ratio	-	-	0.104	-	-	-
HCM Control Delay (s)	-	-	11.2	0	0	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	-	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	39	58	184	19	3
Future Vol, veh/h	11	39	58	184	19	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	69	69	69	69
Heavy Vehicles, %	10	10	5	5	7	7
Mvmt Flow	16	57	84	267	28	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	465	30	32	0	-	0
Stage 1	30	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Critical Hdwy	6.5	6.3	4.15	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.39	2.245	-	-	-
Pot Cap-1 Maneuver	541	1022	1561	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	512	1022	1561	-	-	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1561	-	554	1022	-	-
HCM Lane V/C Ratio	0.054	-	0.029	0.055	-	-
HCM Control Delay (s)	7.4	-	11.7	8.7	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	0.2	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	589	23	47	846	15	16
Future Vol, veh/h	589	23	47	846	15	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	640	25	51	920	16	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	665	0	1215	333
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	562	-
Critical Hdwy	-	-	4.14	-	6.88	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	5.88	-
Follow-up Hdwy	-	-	2.22	-	3.54	3.34
Pot Cap-1 Maneuver	-	-	920	-	171	657
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	920	-	152	657
Mov Cap-2 Maneuver	-	-	-	-	152	-
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	469	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	21.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	252	-	-	920	-
HCM Lane V/C Ratio	0.134	-	-	0.056	-
HCM Control Delay (s)	21.5	-	-	9.1	0.5
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	583	814	8	10	89
Future Vol, veh/h	17	583	814	8	10	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	18	634	885	9	11	97

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	894	0	-	0	1560	890
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	670	-
Critical Hdwy	4.15	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.245	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	746	-	-	-	123	342
Stage 1	-	-	-	-	401	-
Stage 2	-	-	-	-	509	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	746	-	-	-	120	342
Mov Cap-2 Maneuver	-	-	-	-	120	-
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	509	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	24.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	746	-	-	-	288
HCM Lane V/C Ratio	0.025	-	-	-	0.374
HCM Control Delay (s)	9.9	-	-	-	24.8
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.7

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	6	0	70	5	12	0	35	33	6	54	4
Future Vol, veh/h	3	6	0	70	5	12	0	35	33	6	54	4
Peak Hour Factor	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Heavy Vehicles, %	0	0	0	3	3	3	2	2	2	0	0	0
Mvmt Flow	5	10	0	111	8	19	0	56	52	10	86	6
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	8.2	9.2	8.2	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	33%	0%	93%	0%	100%	0%
Vol Thru, %	100%	51%	67%	100%	7%	0%	0%	93%
Vol Right, %	0%	49%	0%	0%	0%	100%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	68	9	0	75	12	6	58
LT Vol	0	0	3	0	70	0	6	0
Through Vol	0	35	6	0	5	0	0	54
RT Vol	0	33	0	0	0	12	0	4
Lane Flow Rate	0	108	14	0	119	19	10	92
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0	0.141	0.021	0	0.183	0.023	0.015	0.127
Departure Headway (Hd)	5.051	4.71	5.331	5.163	5.547	4.376	5.517	4.966
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	0	763	672	0	648	819	651	724
Service Time	2.769	2.428	3.06	2.892	3.27	2.099	3.235	2.684
HCM Lane V/C Ratio	0	0.142	0.021	0	0.184	0.023	0.015	0.127
HCM Control Delay	7.8	8.2	8.2	7.9	9.5	7.2	8.3	8.4
HCM Lane LOS	N	A	A	N	A	A	A	A
HCM 95th-tile Q	0	0.5	0.1	0	0.7	0.1	0	0.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1038	596	6	5	2
Future Vol, veh/h	3	1038	596	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	6	6	5	5	6	6
Mvmt Flow	3	1116	641	6	5	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	647	0	-	0	1763	641
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	1122	-
Critical Hdwy	4.16	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.254	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	920	-	-	-	90	468
Stage 1	-	-	-	-	517	-
Stage 2	-	-	-	-	306	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	920	-	-	-	89	468
Mov Cap-2 Maneuver	-	-	-	-	89	-
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	306	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	38.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	920	-	-	-	116
HCM Lane V/C Ratio	0.004	-	-	-	0.065
HCM Control Delay (s)	8.9	0	-	-	38.2
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	96	140	4	188	278
Future Vol, veh/h	6	96	140	4	188	278
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	4	4	2	2
Mvmt Flow	7	110	161	5	216	320
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.3	9.9	11.4
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	97%	0%	0%	0%	100%
Vol Right, %	3%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	6	96	188	278
LT Vol	0	6	0	188	0
Through Vol	140	0	0	0	278
RT Vol	4	0	96	0	0
Lane Flow Rate	166	7	110	216	320
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.24	0.013	0.168	0.33	0.444
Departure Headway (Hd)	5.219	6.68	5.467	5.504	5.002
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	685	534	653	653	719
Service Time	3.272	4.437	3.223	3.249	2.747
HCM Lane V/C Ratio	0.242	0.013	0.168	0.331	0.445
HCM Control Delay	9.9	9.5	9.3	11	11.7
HCM Lane LOS	A	A	A	B	B
HCM 95th-tile Q	0.9	0	0.6	1.4	2.3

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	41	243	1	24	475
Future Vol, veh/h	3	41	243	1	24	475
Conflicting Peds, #/hr	0	4	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	8	8	1	1	1	1
Mvmt Flow	4	49	289	1	29	565

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	917	298	0	0	294	0
Stage 1	294	-	-	-	-	-
Stage 2	623	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.11	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.209	-
Pot Cap-1 Maneuver	295	728	-	-	1273	-
Stage 1	743	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	287	723	-	-	1269	-
Mov Cap-2 Maneuver	399	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	685	1269	-
HCM Lane V/C Ratio	-	-	0.076	0.023	-
HCM Control Delay (s)	-	-	10.7	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

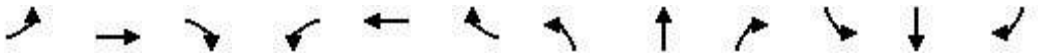
Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	68	287	0	28	506
Future Vol, veh/h	0	68	287	0	28	506
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	0	82	346	0	34	610

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1025	347	0	0	347	0
Stage 1	347	-	-	-	-	-
Stage 2	678	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	260	696	-	-	1212	-
Stage 1	716	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	252	695	-	-	1211	-
Mov Cap-2 Maneuver	252	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	490	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	695	1211	-
HCM Lane V/C Ratio	-	-	0.118	0.028	-
HCM Control Delay (s)	-	-	10.9	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1	11	2	1	23	5	626	5	33	423	13
Future Volume (veh/h)	19	1	11	2	1	23	5	626	5	33	423	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.97
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	1800	1800	1800	1772	1772	1772	1772	1772	1772	1786	1786	1786
Adj Flow Rate, veh/h	23	1	13	2	1	28	6	763	6	40	516	16
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	1	1	1
Cap, veh/h	387	12	161	140	8	143	589	1444	11	526	1575	49
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.01	0.42	0.42	0.06	0.47	0.47
Sat Flow, veh/h	1345	109	1514	68	76	1348	1688	3423	27	1701	3357	104
Grp Volume(v), veh/h	24	0	13	31	0	0	6	375	394	40	260	272
Grp Sat Flow(s),veh/h/ln	1454	0	1514	1492	0	0	1688	1683	1767	1701	1697	1764
Q Serve(g_s), s	0.0	0.0	0.2	0.0	0.0	0.0	0.1	4.8	4.8	0.4	2.8	2.8
Cycle Q Clear(g_c), s	0.4	0.0	0.2	0.5	0.0	0.0	0.1	4.8	4.8	0.4	2.8	2.8
Prop In Lane	0.96		1.00	0.06		0.90	1.00		0.02	1.00		0.06
Lane Grp Cap(c), veh/h	398	0	161	291	0	0	589	710	745	526	796	827
V/C Ratio(X)	0.06	0.00	0.08	0.11	0.00	0.00	0.01	0.53	0.53	0.08	0.33	0.33
Avail Cap(c_a), veh/h	1605	0	1467	1573	0	0	1157	5357	5623	1194	5576	5797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	0.0	11.7	11.8	0.0	0.0	4.7	6.2	6.2	4.4	4.8	4.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.6	0.6	0.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	0.1	0.3	0.0	0.0	0.0	1.6	1.6	0.1	0.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.8	0.0	11.9	12.0	0.0	0.0	4.7	6.8	6.8	4.5	5.1	5.0
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		37			31			775			572	
Approach Delay, s/veh		11.8			12.0			6.8			5.0	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	16.2		7.1	4.3	17.6		7.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	92.0		28.0	10.0	95.0		28.0				
Max Q Clear Time (g_c+I1), s	2.4	6.8		2.4	2.1	4.8		2.5				
Green Ext Time (p_c), s	0.0	5.4		0.1	0.0	3.4		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		6.3	
HCM 6th LOS		A	

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	13	3	113	151	12
Future Vol, veh/h	17	13	3	113	151	12
Conflicting Peds, #/hr	0	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	9	9	10	10	7	7
Mvmt Flow	20	15	3	131	176	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	320	184	190	0	-	0
Stage 1	183	-	-	-	-	-
Stage 2	137	-	-	-	-	-
Critical Hdwy	6.49	6.29	4.2	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.381	2.29	-	-	-
Pot Cap-1 Maneuver	659	841	1337	-	-	-
Stage 1	832	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	658	840	1337	-	-	-
Mov Cap-2 Maneuver	688	-	-	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	873	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1337	-	747	-	-
HCM Lane V/C Ratio	0.003	-	0.047	-	-
HCM Control Delay (s)	7.7	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	60	1366	31	0	1692
Future Vol, veh/h	0	60	1366	31	0	1692
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	65	1485	34	0	1839

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	760	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	349	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	349	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	349	-
HCM Lane V/C Ratio	-	-	0.187	-
HCM Control Delay (s)	-	-	17.7	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.7	-

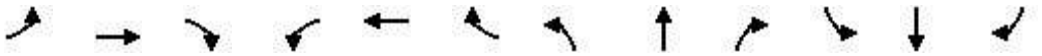
Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	20	44	98	20	0	33	100	28	20	127	0
Future Vol, veh/h	0	20	44	98	20	0	33	100	28	20	127	0
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	-	-	-	-	-	-	50	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	14	14	12	12	2
Mvmt Flow	0	22	48	107	22	0	36	109	30	22	138	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	389	393	138	413	378	124	138	0	0	139	0	0
Stage 1	182	182	-	196	196	-	-	-	-	-	-	-
Stage 2	207	211	-	217	182	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.22	-	-
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	2.218	-	-	2.308	-	-
Pot Cap-1 Maneuver	570	543	910	549	554	927	1446	-	-	1385	-	-
Stage 1	820	749	-	806	739	-	-	-	-	-	-	-
Stage 2	795	728	-	785	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	538	521	910	488	531	927	1446	-	-	1385	-	-
Mov Cap-2 Maneuver	538	521	-	606	617	-	-	-	-	-	-	-
Stage 1	800	737	-	786	721	-	-	-	-	-	-	-
Stage 2	752	710	-	710	737	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	12.5	1.5	1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1446	-	-	738	608	1385	-	-
HCM Lane V/C Ratio	0.025	-	-	0.094	0.211	0.016	-	-
HCM Control Delay (s)	7.6	-	-	10.4	12.5	7.6	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.8	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	1902	82	119	1602	93	127	81	77	118	53	140
Future Volume (veh/h)	171	1902	82	119	1602	93	127	81	77	118	53	140
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		0.99	0.99		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	1772	1772	1772	1758	1758	1758	1758	1758	1758	1688	1688	1688
Adj Flow Rate, veh/h	171	1902	82	119	1602	93	127	81	77	118	53	140
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	8	8	8
Cap, veh/h	345	1733	772	364	1694	98	211	162	136	180	119	393
Arrive On Green	0.41	1.00	1.00	0.22	0.53	0.53	0.07	0.09	0.09	0.05	0.07	0.07
Sat Flow, veh/h	1688	3367	1500	1674	3209	185	1674	1758	1475	1607	1688	1424
Grp Volume(v), veh/h	171	1902	82	119	829	866	127	81	77	118	53	140
Grp Sat Flow(s),veh/h/ln	1688	1683	1500	1674	1670	1725	1674	1758	1475	1607	1688	1424
Q Serve(g_s), s	10.7	73.1	0.0	8.5	66.1	67.6	9.6	6.2	4.9	6.5	4.3	1.5
Cycle Q Clear(g_c), s	10.7	73.1	0.0	8.5	66.1	67.6	9.6	6.2	4.9	6.5	4.3	1.5
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	345	1733	772	364	882	910	211	162	136	180	119	393
V/C Ratio(X)	0.50	1.10	0.11	0.33	0.94	0.95	0.60	0.50	0.57	0.65	0.45	0.36
Avail Cap(c_a), veh/h	345	1733	772	364	895	924	211	359	301	180	308	552
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	0.0	0.0	46.8	31.4	31.8	56.4	61.3	29.1	61.2	63.3	25.6
Incr Delay (d2), s/veh	0.3	47.4	0.1	0.4	19.0	20.0	4.7	2.9	4.4	8.2	3.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.7	15.7	0.0	6.4	38.8	40.9	7.9	5.2	5.0	3.0	3.5	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	47.4	0.1	47.2	50.4	51.8	61.0	64.2	33.5	69.4	67.0	26.4
LnGrp LOS	D	F	A	D	D	D	E	E	C	E	E	C
Approach Vol, veh/h		2155			1814			285			311	
Approach Delay, s/veh		44.8			50.9			54.5			49.6	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	35.5	78.0	13.6	14.9	33.6	79.9	10.5	18.0
Change Period (Y+Rc), s	4.6	4.9	4.0	4.9	4.6	4.9	4.0	4.9
Max Green Setting (Gmax), s	15.0	73.1	9.6	25.9	12.0	76.1	6.5	29.0
Max Q Clear Time (g_c+I1), s	10.5	75.1	11.6	6.3	12.7	69.6	8.5	8.2
Green Ext Time (p_c), s	0.1	0.0	0.0	0.1	0.0	5.4	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	48.1
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	753	0	0	1544	329	49	0	1410	0	0	0
Future Volume (veh/h)	103	753	0	0	1544	329	49	0	1410	0	0	0
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1772	1772	0	0	1758	1758	1772	1772	1772			
Adj Flow Rate, veh/h	103	753	0	0	1544	329	49	0	1410			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Percent Heavy Veh, %	2	2	0	0	3	3	2	2	2			
Cap, veh/h	147	1804	0	0	1484	662	670	0	1050			
Arrive On Green	0.11	1.00	0.00	0.00	0.89	0.89	0.40	0.00	0.40			
Sat Flow, veh/h	1688	3455	0	0	3428	1490	1688	0	2643			
Grp Volume(v), veh/h	103	753	0	0	1544	329	49	0	1410			
Grp Sat Flow(s),veh/h/ln	1688	1683	0	0	1670	1490	1688	0	1321			
Q Serve(g_s), s	3.9	0.0	0.0	0.0	63.1	6.2	2.6	0.0	56.4			
Cycle Q Clear(g_c), s	3.9	0.0	0.0	0.0	63.1	6.2	2.6	0.0	56.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	147	1804	0	0	1484	662	670	0	1050			
V/C Ratio(X)	0.70	0.42	0.00	0.00	1.04	0.50	0.07	0.00	1.34			
Avail Cap(c_a), veh/h	151	1804	0	0	1484	662	670	0	1050			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	0.51	0.51	1.00	0.00	1.00			
Uniform Delay (d), s/veh	60.1	0.0	0.0	0.0	7.9	4.7	26.6	0.0	42.8			
Incr Delay (d2), s/veh	13.2	0.7	0.0	0.0	28.4	1.4	0.0	0.0	160.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(95%),veh/ln	7.0	0.3	0.0	0.0	12.7	2.8	1.9	0.0	83.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	0.7	0.0	0.0	36.3	6.1	26.6	0.0	203.7			
LnGrp LOS	E	A	A	A	F	A	C	A	F			
Approach Vol, veh/h		856			1873			1459				
Approach Delay, s/veh		9.4			31.0			197.8				
Approach LOS		A			C			F				

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	81.0		61.0	13.0	68.0
Change Period (Y+Rc), s	4.9		4.6	4.9	* 4.9
Max Green Setting (Gmax), s	76.1		56.4	8.4	* 63
Max Q Clear Time (g_c+I1), s	2.0		58.4	5.9	65.1
Green Ext Time (p_c), s	5.8		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	84.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	500	146	596	437	116	136	151	674	75	140	70
Future Volume (veh/h)	56	500	146	596	437	116	136	151	674	75	140	70
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		0.99	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	1772	1772	1772	1786	1786	1786	1772	1772	1772	1800	1800	1800
Adj Flow Rate, veh/h	57	505	147	522	554	117	137	153	681	76	141	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	0	0	0
Cap, veh/h	518	544	460	565	593	501	160	345	291	87	515	
Arrive On Green	0.31	0.31	0.31	0.33	0.33	0.33	0.09	0.19	0.19	0.05	0.15	0.00
Sat Flow, veh/h	1688	1772	1499	1701	1786	1509	1688	1772	1492	1714	3510	0
Grp Volume(v), veh/h	57	505	147	522	554	117	137	153	681	76	141	0
Grp Sat Flow(s),veh/h/ln	1688	1772	1499	1701	1786	1509	1688	1772	1492	1714	1710	0
Q Serve(g_s), s	3.4	38.3	10.4	41.0	41.6	7.8	11.1	10.5	27.0	6.1	5.1	0.0
Cycle Q Clear(g_c), s	3.4	38.3	10.4	41.0	41.6	7.8	11.1	10.5	27.0	6.1	5.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	518	544	460	565	593	501	160	345	291	87	515	
V/C Ratio(X)	0.11	0.93	0.32	0.92	0.93	0.23	0.86	0.44	2.34	0.88	0.27	
Avail Cap(c_a), veh/h	572	601	508	589	618	523	195	345	291	87	515	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.4	46.5	36.9	44.6	44.8	33.5	61.8	49.2	55.8	65.4	52.1	0.0
Incr Delay (d2), s/veh	0.1	19.8	0.4	20.1	21.0	0.2	26.0	0.9	614.9	58.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	27.3	7.0	27.9	29.7	5.2	9.9	8.3	94.3	7.3	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	66.3	37.3	64.7	65.8	33.8	87.9	50.1	670.7	123.9	52.4	0.0
LnGrp LOS	C	E	D	E	E	C	F	D	F	F	D	
Approach Vol, veh/h		709			1193			971			217	A
Approach Delay, s/veh		57.8			62.2			490.7			77.5	
Approach LOS		E			E			F			E	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	46.6	17.1	24.9	50.0	11.0	31.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	47.0	16.0	18.0	48.0	7.0	27.0
Max Q Clear Time (g_c+I1), s	40.3	13.1	7.1	43.6	8.1	29.0
Green Ext Time (p_c), s	2.3	0.1	0.5	2.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	196.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	304	301	108	176	508	285	1295	156	774	1221	53
Future Volume (veh/h)	60	304	301	108	176	508	285	1295	156	774	1221	53
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		0.99	1.00		0.99	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	1772	1772	1772	1758	1758	1758	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	60	304	301	108	176	508	285	1295	156	774	1221	53
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	4	4	4	2	2	2
Cap, veh/h	70	339	559	65	331	631	300	1274	566	778	1420	62
Arrive On Green	0.04	0.19	0.19	0.04	0.19	0.19	0.36	0.77	0.78	0.32	0.59	0.59
Sat Flow, veh/h	1688	1772	1502	1674	1758	1470	1661	3313	1458	3274	3203	139
Grp Volume(v), veh/h	60	304	301	108	176	508	285	1295	156	774	608	666
Grp Sat Flow(s),veh/h/ln	1688	1772	1502	1674	1758	1470	1661	1657	1458	1637	1595	1747
Q Serve(g_s), s	5.0	23.8	22.4	5.5	12.8	6.1	23.7	54.6	3.6	33.5	45.0	45.1
Cycle Q Clear(g_c), s	5.0	23.8	22.4	5.5	12.8	6.1	23.7	54.6	3.6	33.5	45.0	45.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	70	339	559	65	331	631	300	1274	566	778	707	774
V/C Ratio(X)	0.85	0.90	0.54	1.67	0.53	0.81	0.95	1.02	0.28	0.99	0.86	0.86
Avail Cap(c_a), veh/h	163	540	730	65	435	717	385	1274	566	778	707	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.58	0.58	0.58	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	56.1	35.0	68.3	52.0	20.3	44.7	16.4	6.9	48.5	25.5	25.5
Incr Delay (d2), s/veh	18.8	10.1	0.6	357.7	1.0	5.6	19.6	23.4	0.7	30.9	12.9	12.0
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(95%),veh/ln	4.5	17.1	12.9	15.1	9.7	17.1	13.5	15.2	2.4	22.6	23.8	25.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.4	66.1	35.6	425.9	53.0	25.9	64.3	39.8	7.6	79.4	38.4	37.5
LnGrp LOS	F	E	D	F	D	C	E	F	A	E	D	D
Approach Vol, veh/h		665			792			1736			2048	
Approach Delay, s/veh		54.2			86.5			40.9			53.6	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	68.4	11.0	31.9	39.1	60.0	10.6	32.3
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	23.4	40.1	14.2	35.6	18.4	* 55	6.0	43.8
Max Q Clear Time (g_c+I1), s	25.7	47.1	7.0	14.8	35.5	56.6	7.5	25.8
Green Ext Time (p_c), s	0.5	0.0	0.1	2.5	0.0	0.0	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	488	758	742	87	79	431
Future Volume (veh/h)	488	758	742	87	79	431
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1786	1786	1772	1772	1772	1772
Adj Flow Rate, veh/h	498	773	757	89	81	440
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	2	2	2	2
Cap, veh/h	568	1115	1036	122	432	720
Arrive On Green	0.22	0.62	0.34	0.34	0.26	0.26
Sat Flow, veh/h	1701	1786	3122	357	1688	1502
Grp Volume(v), veh/h	498	773	420	426	81	440
Grp Sat Flow(s),veh/h/ln	1701	1786	1683	1707	1688	1502
Q Serve(g_s), s	11.3	19.2	14.7	14.7	2.5	14.5
Cycle Q Clear(g_c), s	11.3	19.2	14.7	14.7	2.5	14.5
Prop In Lane	1.00			0.21	1.00	1.00
Lane Grp Cap(c), veh/h	568	1115	575	583	432	720
V/C Ratio(X)	0.88	0.69	0.73	0.73	0.19	0.61
Avail Cap(c_a), veh/h	1455	2715	1204	1221	503	783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.8	8.3	19.4	19.4	19.5	12.8
Incr Delay (d2), s/veh	4.5	0.8	1.8	1.8	0.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.4	10.2	9.4	9.5	1.7	18.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.3	9.1	21.2	21.2	19.7	14.1
LnGrp LOS	B	A	C	C	B	B
Approach Vol, veh/h		1271	846		521	
Approach Delay, s/veh		11.9	21.2		14.9	
Approach LOS		B	C		B	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	45.9	21.2	19.0	26.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	102.0	20.0	50.0	48.0
Max Q Clear Time (g_c+I1), s	21.2	16.5	13.3	16.7
Green Ext Time (p_c), s	7.6	0.7	1.7	6.2

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	51	3	28	15	375	3	1165	48	322	1260	146
Future Volume (veh/h)	187	51	3	28	15	375	3	1165	48	322	1260	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1772	1772	1772	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	187	51	3	28	15	375	3	1165	48	322	1260	146
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	4	4	4	2	2	2
Cap, veh/h	216	212	12	235	126	310	8	1038	43	352	1669	790
Arrive On Green	0.13	0.13	0.13	0.21	0.21	0.21	0.00	0.11	0.11	0.42	1.00	1.00
Sat Flow, veh/h	1701	1669	98	1117	599	1502	1661	3239	133	1688	3189	1499
Grp Volume(v), veh/h	187	0	54	43	0	375	3	596	617	322	1260	146
Grp Sat Flow(s),veh/h/ln	1701	0	1767	1716	0	1502	1661	1657	1716	1688	1595	1499
Q Serve(g_s), s	15.3	0.0	3.9	2.9	0.0	29.3	0.3	45.5	45.5	25.6	0.0	0.0
Cycle Q Clear(g_c), s	15.3	0.0	3.9	2.9	0.0	29.3	0.3	45.5	45.5	25.6	0.0	0.0
Prop In Lane	1.00		0.06	0.65		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	216	0	224	360	0	310	8	531	550	352	1669	790
V/C Ratio(X)	0.87	0.00	0.24	0.12	0.00	1.21	0.38	1.12	1.12	0.92	0.75	0.18
Avail Cap(c_a), veh/h	388	0	403	360	0	310	122	531	550	352	1669	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.76	0.76	0.76	0.24	0.24	0.24
Uniform Delay (d), s/veh	60.8	0.0	55.8	45.6	0.0	56.4	70.7	63.5	63.5	40.2	0.0	0.0
Incr Delay (d2), s/veh	10.1	0.0	0.6	0.1	0.0	120.8	21.7	72.7	72.7	9.3	0.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.6	0.0	3.2	2.3	0.0	32.0	0.3	42.1	43.4	11.9	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.9	0.0	56.4	45.7	0.0	177.2	92.4	136.2	136.2	49.5	0.8	0.1
LnGrp LOS	E	A	E	D	A	F	F	F	F	D	A	A
Approach Vol, veh/h		241			418			1216			1728	
Approach Delay, s/veh		67.6			163.6			136.1			9.8	
Approach LOS		E			F			F			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.3	79.7		22.6	35.0	50.0		34.4
Change Period (Y+Rc), s	4.6	4.9		4.6	4.9	4.0		4.6
Max Green Setting (Gmax), s	10.4	50.7		32.4	15.7	46.0		29.8
Max Q Clear Time (g_c+I1), s	2.3	2.0		17.3	27.6	47.5		31.3
Green Ext Time (p_c), s	0.0	8.5		0.7	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	74.1
HCM 6th LOS	E

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	194	136	11	202	22	183	38	12	25	51	52
Future Vol, veh/h	69	194	136	11	202	22	183	38	12	25	51	52
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	1	1	1	2	2	2	0	0	0	5	5	5
Mvmt Flow	74	209	146	12	217	24	197	41	13	27	55	56
Number of Lanes	1	1	0	1	1	0	0	1	0	1	1	0

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	16.1	14.2	16.2	11.3
HCM LOS	C	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	79%	100%	0%	100%	0%	100%	0%
Vol Thru, %	16%	0%	59%	0%	90%	0%	50%
Vol Right, %	5%	0%	41%	0%	10%	0%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	233	69	330	11	224	25	103
LT Vol	183	69	0	11	0	25	0
Through Vol	38	0	194	0	202	0	51
RT Vol	12	0	136	0	22	0	52
Lane Flow Rate	251	74	355	12	241	27	111
Geometry Grp	6	7	7	7	7	7	7
Degree of Util (X)	0.479	0.14	0.591	0.024	0.441	0.058	0.211
Departure Headway (Hd)	6.986	6.799	5.997	7.173	6.592	7.733	6.86
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	519	523	596	502	549	465	525
Service Time	4.986	4.599	3.796	4.873	4.292	5.447	4.575
HCM Lane V/C Ratio	0.484	0.141	0.596	0.024	0.439	0.058	0.211
HCM Control Delay	16.2	10.7	17.2	10	14.4	10.9	11.4
HCM Lane LOS	C	B	C	A	B	B	B
HCM 95th-tile Q	2.6	0.5	3.8	0.1	2.2	0.2	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	104	46	33	67	77	66	1057	58	76	1090	34
Future Volume (veh/h)	69	104	46	33	67	77	66	1057	58	76	1090	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1744	1744	1744	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	69	104	46	33	67	77	66	1057	58	76	1090	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	4	4	4	4	4	4	2	2	2
Cap, veh/h	84	131	60	47	95	108	612	2068	113	65	1056	497
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.74	1.00	1.00	0.03	0.22	0.22
Sat Flow, veh/h	1033	1613	733	596	1209	1386	1661	3112	171	1688	3189	1500
Grp Volume(v), veh/h	116	0	103	95	0	82	66	533	582	76	1090	34
Grp Sat Flow(s),veh/h/ln	1734	0	1645	1714	0	1476	1661	1569	1713	1688	1595	1500
Q Serve(g_s), s	9.3	0.0	8.7	7.7	0.0	7.7	1.6	0.0	0.0	5.5	47.0	2.5
Cycle Q Clear(g_c), s	9.3	0.0	8.7	7.7	0.0	7.7	1.6	0.0	0.0	5.5	47.0	2.5
Prop In Lane	0.60		0.45	0.35		0.94	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	141	0	134	134	0	116	612	1043	1138	65	1056	497
V/C Ratio(X)	0.82	0.00	0.77	0.71	0.00	0.71	0.11	0.51	0.51	1.16	1.03	0.07
Avail Cap(c_a), veh/h	348	0	330	501	0	431	612	1043	1138	65	1056	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.57	0.57	0.57	0.74	0.74	0.74
Uniform Delay (d), s/veh	64.2	0.0	63.8	63.9	0.0	63.6	12.0	0.0	0.0	69.2	55.3	38.0
Incr Delay (d2), s/veh	11.2	0.0	9.1	6.7	0.0	7.8	0.0	1.0	0.9	146.2	32.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	0.0	7.1	6.4	0.0	5.6	1.1	0.5	0.5	8.5	31.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.5	0.0	72.9	70.5	0.0	71.4	12.0	1.0	0.9	215.3	87.9	38.2
LnGrp LOS	E	A	E	E	A	E	B	A	A	F	F	D
Approach Vol, veh/h		219			177			1181			1200	
Approach Delay, s/veh		74.3			70.9			1.6			94.5	
Approach LOS		E			E			A			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	57.4	52.0		16.5	10.0	99.4		16.1
Change Period (Y+Rc), s	4.5	* 4.5		4.5	4.0	4.5		4.5
Max Green Setting (Gmax), s	6.9	* 48		29.0	6.0	47.5		42.0
Max Q Clear Time (g_c+I1), s	13.6	49.0		11.3	7.5	2.0		9.7
Green Ext Time (p_c), s	0.0	0.0		0.7	0.0	9.4		0.7

Intersection Summary	
HCM 6th Ctrl Delay	51.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	319	97	118	215	164	81	974	147	160	936	57
Future Volume (veh/h)	58	319	97	118	215	164	81	974	147	160	936	57
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		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1786	1786	1772	1772	1772	1744	1744	1744	1772	1772	1772
Adj Flow Rate, veh/h	58	319	97	118	215	164	81	974	147	160	936	57
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	1	1	2	2	2	4	4	4	2	2	2
Cap, veh/h	68	349	289	135	417	351	95	1057	159	340	1637	100
Arrive On Green	0.04	0.20	0.20	0.08	0.24	0.24	0.02	0.12	0.12	0.40	1.00	1.00
Sat Flow, veh/h	1701	1786	1482	1688	1772	1473	1661	2811	424	1688	3136	191
Grp Volume(v), veh/h	58	319	97	118	215	164	81	544	577	160	476	517
Grp Sat Flow(s),veh/h/ln	1701	1786	1482	1688	1772	1473	1661	1569	1666	1688	1595	1732
Q Serve(g_s), s	4.8	24.9	8.0	9.8	15.0	8.7	6.9	48.6	48.7	9.9	0.0	0.0
Cycle Q Clear(g_c), s	4.8	24.9	8.0	9.8	15.0	8.7	6.9	48.6	48.7	9.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		0.11
Lane Grp Cap(c), veh/h	68	349	289	135	417	351	95	590	626	340	833	904
V/C Ratio(X)	0.86	0.92	0.34	0.88	0.52	0.47	0.85	0.92	0.92	0.47	0.57	0.57
Avail Cap(c_a), veh/h	131	389	323	177	435	367	200	615	652	340	833	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79	0.84	0.84	0.84
Uniform Delay (d), s/veh	67.8	56.0	49.2	64.7	47.3	19.2	69.1	60.1	60.1	36.8	0.0	0.0
Incr Delay (d2), s/veh	19.5	24.4	0.7	29.7	1.0	1.0	11.7	18.5	17.9	0.9	2.4	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.4	19.6	5.5	9.1	11.1	5.6	6.0	30.7	32.2	6.6	1.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.3	80.4	49.9	94.3	48.3	20.1	80.8	78.7	78.0	37.7	2.4	2.2
LnGrp LOS	F	F	D	F	D	C	F	E	E	D	A	A
Approach Vol, veh/h		474			497			1202			1153	
Approach Delay, s/veh		75.0			49.9			78.5			7.2	
Approach LOS		E			D			E			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	79.5	10.8	38.5	34.0	58.8	16.4	32.8
Change Period (Y+Rc), s	4.6	4.9	4.6	4.6	4.9	* 4.9	4.6	4.6
Max Green Setting (Gmax), s	17.6	58.9	11.4	35.4	20.4	* 56	15.4	31.4
Max Q Clear Time (g_c+I1), s	8.9	2.0	6.8	17.0	11.9	50.7	11.8	26.9
Green Ext Time (p_c), s	0.1	8.0	0.0	1.5	0.3	3.2	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	49.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	187	130	70	120	197	153	887	49	221	876	20
Future Volume (veh/h)	62	187	130	70	120	197	153	887	49	221	876	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1772	1772	1772	1758	1758	1758	1730	1730	1730	1772	1772	1772
Adj Flow Rate, veh/h	62	187	130	70	120	197	153	887	49	221	876	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	5	5	5	2	2	2
Cap, veh/h	187	224	186	148	232	192	172	969	54	631	1914	44
Arrive On Green	0.04	0.13	0.13	0.04	0.13	0.13	0.10	0.31	0.31	0.25	0.39	0.39
Sat Flow, veh/h	1688	1772	1470	1674	1758	1459	1647	3080	170	1688	3276	75
Grp Volume(v), veh/h	62	187	130	70	120	197	153	448	488	221	426	470
Grp Sat Flow(s),veh/h/ln	1688	1772	1470	1674	1758	1459	1647	1557	1694	1688	1595	1756
Q Serve(g_s), s	4.5	14.6	12.0	5.1	9.0	9.3	13.0	39.4	39.4	15.3	28.1	28.1
Cycle Q Clear(g_c), s	4.5	14.6	12.0	5.1	9.0	9.3	13.0	39.4	39.4	15.3	28.1	28.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		0.04
Lane Grp Cap(c), veh/h	187	224	186	148	232	192	172	490	533	631	932	1026
V/C Ratio(X)	0.33	0.83	0.70	0.47	0.52	1.02	0.89	0.91	0.92	0.35	0.46	0.46
Avail Cap(c_a), veh/h	206	424	352	158	421	349	313	669	727	631	932	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73
Uniform Delay (d), s/veh	51.6	60.5	59.4	51.8	57.4	15.2	62.7	46.8	46.8	39.0	26.5	26.5
Incr Delay (d2), s/veh	1.0	7.9	4.7	2.3	1.8	43.0	14.0	24.2	22.8	0.2	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	11.5	8.3	4.1	7.5	9.3	10.1	25.2	26.9	10.3	16.4	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	68.4	64.1	54.1	59.2	58.1	76.7	71.0	69.6	39.3	27.7	27.6
LnGrp LOS	D	E	E	D	E	F	E	E	E	D	C	C
Approach Vol, veh/h		379			387			1089			1117	
Approach Delay, s/veh		64.4			57.7			71.2			29.9	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	58.1	49.7	11.2	23.0	19.9	88.0	10.5	23.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	61.5	7.5	34.5	27.5	54.5	7.5	34.5
Max Q Clear Time (g_c+I1), s	17.3	41.4	7.1	16.6	15.0	30.1	6.5	11.3
Green Ext Time (p_c), s	0.2	3.8	0.0	1.2	0.4	3.7	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	53.1
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	1	4	0	7	2	812	11	11	842	9
Future Vol, veh/h	4	0	1	4	0	7	2	812	11	11	842	9
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	-	-	-	-	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	4	0	1	4	0	8	2	873	12	12	905	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1375	1823	458	1360	1822	443	915	0	0	885	0	0
Stage 1	934	934	-	883	883	-	-	-	-	-	-	-
Stage 2	441	889	-	477	939	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.22	-	-	2.21	-	-
Pot Cap-1 Maneuver	106	78	555	109	78	568	741	-	-	767	-	-
Stage 1	290	347	-	311	367	-	-	-	-	-	-	-
Stage 2	570	364	-	543	345	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	103	77	555	107	77	568	741	-	-	767	-	-
Mov Cap-2 Maneuver	103	77	-	107	77	-	-	-	-	-	-	-
Stage 1	289	341	-	310	366	-	-	-	-	-	-	-
Stage 2	561	363	-	533	339	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.6	22.2	0	0.1
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	741	-	-	123	221	767	-	-
HCM Lane V/C Ratio	0.003	-	-	0.044	0.054	0.015	-	-
HCM Control Delay (s)	9.9	-	-	35.6	22.2	9.8	-	-
HCM Lane LOS	A	-	-	E	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

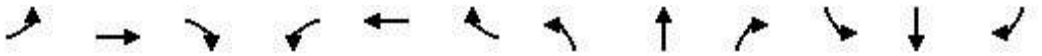
Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	610	14	21	481	4	7
Future Vol, veh/h	610	14	21	481	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	10	10
Mvmt Flow	635	15	22	501	4	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	650	0	1188	643
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	545	-
Critical Hdwy	-	-	4.12	-	6.5	6.3
Critical Hdwy Stg 1	-	-	-	-	5.5	-
Critical Hdwy Stg 2	-	-	-	-	5.5	-
Follow-up Hdwy	-	-	2.218	-	3.59	3.39
Pot Cap-1 Maneuver	-	-	936	-	200	459
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	565	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	936	-	195	459
Mov Cap-2 Maneuver	-	-	-	-	195	-
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	551	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	308	-	-	936	-
HCM Lane V/C Ratio	0.037	-	-	0.023	-
HCM Control Delay (s)	17.1	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	193	69	336	273	0	30	0	403	255	73	17
Future Volume (veh/h)	0	193	69	336	273	0	30	0	403	255	73	17
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	0	1772	1772	1758	1758	0	1758	0	1758	1716	1784	1716
Adj Flow Rate, veh/h	0	193	69	336	273	0	30	0	403	255	73	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	3	3	0	3	0	3	6	6	6
Cap, veh/h	0	688	306	2357	2783	0	41	0	0	451	103	
Arrive On Green	0.00	0.20	0.20	1.00	1.00	0.00	0.02	0.00	0.00	0.11	0.06	0.00
Sat Flow, veh/h	0	3455	1499	3248	3428	0	1674	30		3170	1784	1454
Grp Volume(v), veh/h	0	193	69	336	273	0	30	90.9		255	73	0
Grp Sat Flow(s),veh/h/ln	0	1683	1499	1624	1670	0	1674	F		1585	1784	1454
Q Serve(g_s), s	0.0	6.9	4.9	0.0	0.0	0.0	2.5			11.0	5.7	0.0
Cycle Q Clear(g_c), s	0.0	6.9	4.9	0.0	0.0	0.0	2.5			11.0	5.7	0.0
Prop In Lane	0.00		1.00	1.00		0.00	1.00			1.00		1.00
Lane Grp Cap(c), veh/h	0	688	306	2357	2783	0	41			451	103	
V/C Ratio(X)	0.00	0.28	0.23	0.14	0.10	0.00	0.73			0.56	0.71	
Avail Cap(c_a), veh/h	0	688	306	2357	2783	0	189			593	666	
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00	1.00			1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00	1.00			1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	47.7	38.0	0.0	0.0	0.0	68.8			61.0	65.7	0.0
Incr Delay (d2), s/veh	0.0	1.0	1.7	0.0	0.0	0.0	22.1			1.1	8.6	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
%ile BackOfQ(95%),veh/ln	0.0	5.3	3.9	0.0	0.0	0.0	2.4			7.9	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	48.7	39.8	0.0	0.0	0.0	90.9			62.1	74.3	0.0
LnGrp LOS	A	D	D	A	A	A	F			E	E	
Approach Vol, veh/h		262			609						328	A
Approach Delay, s/veh		46.4			0.0						64.8	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2	3	4		6	7					
Phs Duration (G+Y+Rc), s	89.3	33.0	7.5	12.2		122.3	19.7					
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0	4.0					
Max Green Setting (Gmax), s	28.0	29.0	16.0	53.0		61.0	22.0					
Max Q Clear Time (g_c+I1), s	2.0	8.9	4.5	7.7		2.0	13.0					
Green Ext Time (p_c), s	1.1	1.2	0.0	0.3		1.8	0.5					

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

Notes

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

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	4	286	41	6	238
Future Vol, veh/h	28	4	286	41	6	238
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	6	7	7	6	6
Mvmt Flow	31	4	318	46	7	264

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	487	182	0	0	364	0
Stage 1	341	-	-	-	-	-
Stage 2	146	-	-	-	-	-
Critical Hdwy	6.92	7.02	-	-	4.22	-
Critical Hdwy Stg 1	5.92	-	-	-	-	-
Critical Hdwy Stg 2	5.92	-	-	-	-	-
Follow-up Hdwy	3.56	3.36	-	-	2.26	-
Pot Cap-1 Maneuver	500	817	-	-	1163	-
Stage 1	680	-	-	-	-	-
Stage 2	854	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	497	817	-	-	1163	-
Mov Cap-2 Maneuver	497	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	848	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	497	817	1163	-
HCM Lane V/C Ratio	-	-	0.063	0.005	0.006	-
HCM Control Delay (s)	-	-	12.7	9.4	8.1	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	141	176	109	105	28
Future Vol, veh/h	30	141	176	109	105	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	3	3	7	7	6	6
Mvmt Flow	34	160	200	124	119	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	659	135	151	0	-	0
Stage 1	135	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.17	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.263	-	-	-
Pot Cap-1 Maneuver	427	911	1400	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	366	911	1400	-	-	-
Mov Cap-2 Maneuver	465	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	592	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	4.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1400	-	465	911	-	-
HCM Lane V/C Ratio	0.143	-	0.073	0.176	-	-
HCM Control Delay (s)	8	-	13.4	9.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	0.2	0.6	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1197	48	32	778	7	61
Future Vol, veh/h	1197	48	32	778	7	61
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1197	48	32	778	7	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1245	0	1674	623
Stage 1	-	-	-	-	1221	-
Stage 2	-	-	-	-	453	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	549	-	85	426
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	604	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	549	-	76	426
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	542	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	21.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	289	-	-	549	-
HCM Lane V/C Ratio	0.235	-	-	0.058	-
HCM Control Delay (s)	21.2	-	-	12	0.6
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	103	1139	744	39	10	60
Future Vol, veh/h	103	1139	744	39	10	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	50	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	3	3	6	6
Mvmt Flow	103	1139	744	39	10	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	783	0	-	0	2109	764
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	1345	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	835	-	-	-	55	397
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	238	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	835	-	-	-	48	397
Mov Cap-2 Maneuver	-	-	-	-	48	-
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	238	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	33.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	835	-	-	-	195
HCM Lane V/C Ratio	0.123	-	-	-	0.359
HCM Control Delay (s)	9.9	-	-	-	33.5
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.4	-	-	-	1.5

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	46	17	120	35	16	9	130	154	22	103	49
Future Vol, veh/h	31	46	17	120	35	16	9	130	154	22	103	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	50	18	130	38	17	10	141	167	24	112	53
Number of Lanes	0	1	1	0	1	1	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	2	2
HCM Control Delay	10	11.6	12.4	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	100%	0%	40%	0%	77%	0%	100%	0%
Vol Thru, %	0%	46%	60%	0%	23%	0%	0%	68%
Vol Right, %	0%	54%	0%	100%	0%	100%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	284	77	17	155	16	22	152
LT Vol	9	0	31	0	120	0	22	0
Through Vol	0	130	46	0	35	0	0	103
RT Vol	0	154	0	17	0	16	0	49
Lane Flow Rate	10	309	84	18	168	17	24	165
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.017	0.456	0.15	0.028	0.303	0.026	0.042	0.258
Departure Headway (Hd)	6.208	5.32	6.445	5.531	6.471	5.371	6.362	5.628
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	577	679	557	647	556	667	563	638
Service Time	3.937	3.048	4.182	3.267	4.203	3.102	4.095	3.361
HCM Lane V/C Ratio	0.017	0.455	0.151	0.028	0.302	0.025	0.043	0.259
HCM Control Delay	9	12.5	10.3	8.4	12	8.2	9.4	10.3
HCM Lane LOS	A	B	B	A	B	A	A	B
HCM 95th-tile Q	0.1	2.4	0.5	0.1	1.3	0.1	0.1	1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	1014	1112	44	6	5
Future Vol, veh/h	4	1014	1112	44	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	150	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	4	4	0	0
Mvmt Flow	4	1014	1112	44	6	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1156	0	-	0	2134	1112
Stage 1	-	-	-	-	1112	-
Stage 2	-	-	-	-	1022	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	604	-	-	-	55	256
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	350	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	604	-	-	-	54	256
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	312	-
Stage 2	-	-	-	-	350	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	54.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	604	-	-	-	84
HCM Lane V/C Ratio	0.007	-	-	-	0.131
HCM Control Delay (s)	11	0	-	-	54.2
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	20.7
Intersection LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	329	351	14	299	368
Future Vol, veh/h	7	329	351	14	299	368
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	7	343	366	15	311	383
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	19.2	22.1	20.6
HCM LOS	C	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	96%	0%	0%	0%	100%
Vol Right, %	4%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	365	7	329	299	368
LT Vol	0	7	0	299	0
Through Vol	351	0	0	0	368
RT Vol	14	0	329	0	0
Lane Flow Rate	380	7	343	311	383
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.678	0.016	0.62	0.594	0.677
Departure Headway (Hd)	6.422	7.734	6.508	6.863	6.354
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	559	461	552	523	563
Service Time	4.495	5.511	4.284	4.643	4.133
HCM Lane V/C Ratio	0.68	0.015	0.621	0.595	0.68
HCM Control Delay	22.1	10.6	19.4	19.3	21.6
HCM Lane LOS	C	B	C	C	C
HCM 95th-tile Q	5.1	0	4.2	3.8	5.1

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	70	689	8	66	648
Future Vol, veh/h	4	70	689	8	66	648
Conflicting Peds, #/hr	0	2	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	8	8	1	1	1	1
Mvmt Flow	4	74	733	9	70	689

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1568	741	0	0	743	0
Stage 1	739	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Critical Hdwy	6.48	6.28	-	-	4.11	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.372	-	-	2.209	-
Pot Cap-1 Maneuver	118	407	-	-	869	-
Stage 1	462	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	108	406	-	-	868	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	385	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	391	868	-
HCM Lane V/C Ratio	-	-	0.201	0.081	-
HCM Control Delay (s)	-	-	16.5	9.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.3	-

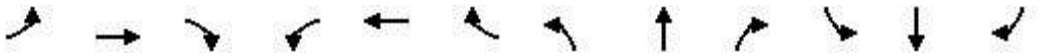
Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	76	749	3	99	716
Future Vol, veh/h	2	76	749	3	99	716
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	2	2	1	1
Mvmt Flow	2	84	823	3	109	787

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1831	826	0	0	827	0
Stage 1	826	-	-	-	-	-
Stage 2	1005	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.11	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.209	-
Pot Cap-1 Maneuver	85	375	-	-	808	-
Stage 1	433	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	73	375	-	-	807	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	433	-	-	-	-	-
Stage 2	309	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.2	0	1.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	807	-
HCM Lane V/C Ratio	-	-	0.253	0.135	-
HCM Control Delay (s)	-	-	19.2	10.2	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1	0.5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	1	12	8	0	50	13	827	5	34	856	24
Future Volume (veh/h)	22	1	12	8	0	50	13	827	5	34	856	24
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	1800	1800	1800	1772	1772	1772	1772	1772	1772	1786	1786	1786
Adj Flow Rate, veh/h	23	1	12	8	0	52	14	861	5	35	892	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	1	1	1
Cap, veh/h	382	12	171	147	6	146	447	1551	9	490	1619	45
Arrive On Green	0.11	0.11	0.11	0.11	0.00	0.11	0.02	0.45	0.45	0.05	0.48	0.48
Sat Flow, veh/h	1389	105	1523	143	57	1297	1688	3432	20	1701	3371	94
Grp Volume(v), veh/h	24	0	12	60	0	0	14	422	444	35	449	468
Grp Sat Flow(s),veh/h/ln	1494	0	1523	1497	0	0	1688	1683	1768	1701	1697	1769
Q Serve(g_s), s	0.0	0.0	0.2	0.2	0.0	0.0	0.1	5.7	5.7	0.3	5.8	5.8
Cycle Q Clear(g_c), s	0.4	0.0	0.2	1.1	0.0	0.0	0.1	5.7	5.7	0.3	5.8	5.8
Prop In Lane	0.96		1.00	0.13		0.87	1.00		0.01	1.00		0.05
Lane Grp Cap(c), veh/h	394	0	171	299	0	0	447	761	799	490	815	850
V/C Ratio(X)	0.06	0.00	0.07	0.20	0.00	0.00	0.03	0.56	0.56	0.07	0.55	0.55
Avail Cap(c_a), veh/h	1484	0	1370	1467	0	0	952	4974	5225	1114	5177	5397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	12.4	12.8	0.0	0.0	4.7	6.2	6.2	4.5	5.7	5.7
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.3	0.0	0.0	0.0	0.6	0.6	0.1	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	0.1	0.6	0.0	0.0	0.0	1.9	2.0	0.1	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.5	0.0	12.5	13.1	0.0	0.0	4.8	6.9	6.8	4.6	6.3	6.3
LnGrp LOS	B	A	B	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		36			60			880			952	
Approach Delay, s/veh		12.5			13.1			6.8			6.2	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	18.1		7.5	4.7	19.0		7.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	92.0		28.0	10.0	95.0		28.0				
Max Q Clear Time (g_c+I1), s	2.3	7.7		2.4	2.1	7.8		3.1				
Green Ext Time (p_c), s	0.0	6.4		0.1	0.0	6.9		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		6.8	
HCM 6th LOS		A	

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	18	17	275	213	22
Future Vol, veh/h	17	18	17	275	213	22
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	1	1
Mvmt Flow	17	18	17	281	217	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	544	230	240	0	-	0
Stage 1	229	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.12	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.218	-	-	-
Pot Cap-1 Maneuver	493	799	1327	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	486	798	1326	-	-	-
Mov Cap-2 Maneuver	567	-	-	-	-	-
Stage 1	789	-	-	-	-	-
Stage 2	730	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1326	-	666	-	-
HCM Lane V/C Ratio	0.013	-	0.054	-	-
HCM Control Delay (s)	7.8	-	10.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	41	1772	90	0	2097
Future Vol, veh/h	0	41	1772	90	0	2097
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	41	1772	90	0	2097

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	931	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	268	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	268	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	268	-
HCM Lane V/C Ratio	-	-	0.153	-
HCM Control Delay (s)	-	-	20.8	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.5	-

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	7	20	91	67	20	0	69	193	80	20	144	0
Future Vol, veh/h	7	20	91	67	20	0	69	193	80	20	144	0
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	-	-	-	-	-	-	50	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	9	9	9	13	13	13
Mvmt Flow	7	21	96	71	21	0	73	203	84	21	152	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	596	627	152	644	585	245	152	0	0	287	0	0
Stage 1	194	194	-	391	391	-	-	-	-	-	-	-
Stage 2	402	433	-	253	194	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.19	-	-	4.23	-	-
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	2.281	-	-	2.317	-	-
Pot Cap-1 Maneuver	415	400	894	386	423	794	1387	-	-	1215	-	-
Stage 1	808	740	-	633	607	-	-	-	-	-	-	-
Stage 2	625	582	-	751	740	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	381	372	894	313	394	794	1387	-	-	1215	-	-
Mov Cap-2 Maneuver	381	372	-	467	508	-	-	-	-	-	-	-
Stage 1	765	727	-	599	575	-	-	-	-	-	-	-
Stage 2	570	551	-	640	727	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	14.4	1.6	1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1387	-	-	678	476	1215	-	-
HCM Lane V/C Ratio	0.052	-	-	0.183	0.192	0.017	-	-
HCM Control Delay (s)	7.7	-	-	11.5	14.4	8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0.7	0.1	-	-

HCM 6th Signalized Intersection Summary
1: Viking Ave NW & SR305

12/07/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	1466	53	72	1296	58	54	37	88	138	65	81
Future Volume (veh/h)	79	1466	53	72	1296	58	54	37	88	138	65	81
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		0.99	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	1744	1744	1744	1744	1744	1744	1688	1688	1688	1603	1603	1688
Adj Flow Rate, veh/h	86	1593	58	78	1409	63	59	40	96	150	84	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4	8	8	8	14	14	8
Cap, veh/h	412	2253	1005	96	1576	70	165	143	119	195	144	128
Arrive On Green	0.50	1.00	1.00	0.06	0.49	0.49	0.04	0.08	0.08	0.05	0.09	0.09
Sat Flow, veh/h	1661	3313	1478	1661	3230	144	1607	1688	1409	1527	1603	1430
Grp Volume(v), veh/h	86	1593	58	78	721	751	59	40	96	150	84	80
Grp Sat Flow(s),veh/h/ln	1661	1657	1478	1661	1657	1718	1607	1688	1409	1527	1603	1430
Q Serve(g_s), s	4.1	0.0	0.0	6.6	56.1	56.4	4.7	3.2	9.5	6.8	7.1	5.0
Cycle Q Clear(g_c), s	4.1	0.0	0.0	6.6	56.1	56.4	4.7	3.2	9.5	6.8	7.1	5.0
Prop In Lane	1.00		1.00	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	412	2253	1005	96	808	838	165	143	119	195	144	128
V/C Ratio(X)	0.21	0.71	0.06	0.81	0.89	0.90	0.36	0.28	0.81	0.77	0.58	0.62
Avail Cap(c_a), veh/h	412	2253	1005	117	890	923	171	346	289	195	331	295
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	0.0	66.1	33.0	33.1	56.3	60.9	63.8	61.4	62.1	26.5
Incr Delay (d2), s/veh	0.1	1.1	0.1	27.1	14.2	14.2	1.3	1.3	14.0	17.1	5.3	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	0.6	0.0	6.3	32.9	34.1	3.6	2.5	7.0	6.2	5.6	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	1.1	0.1	93.2	47.2	47.2	57.6	62.2	77.9	78.5	67.3	33.3
LnGrp LOS	C	A	A	F	D	D	E	E	E	E	E	C
Approach Vol, veh/h		1737			1550			195			314	
Approach Delay, s/veh		2.4			49.5			68.5			64.0	
Approach LOS		A			D			E			E	

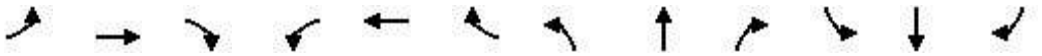
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	101.5	10.1	17.6	40.1	74.2	10.8	16.9
Change Period (Y+Rc), s	4.6	4.9	4.0	4.9	4.9	* 4.9	4.0	4.9
Max Green Setting (Gmax), s	10.0	77.7	6.6	29.3	11.4	* 76	6.8	29.1
Max Q Clear Time (g_c+I1), s	8.6	2.0	6.7	9.1	6.1	58.4	8.8	11.5
Green Ext Time (p_c), s	0.0	32.5	0.0	0.9	0.1	10.9	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	1902	82	119	1602	93	127	81	77	118	53	140
Future Volume (veh/h)	171	1902	82	119	1602	93	127	81	77	118	53	140
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		0.99	0.99		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	1772	1772	1772	1758	1758	1758	1758	1758	1758	1688	1688	1688
Adj Flow Rate, veh/h	171	1902	82	119	1602	93	127	81	77	118	118	96
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	8	8	8
Cap, veh/h	320	1733	772	339	1694	98	183	188	158	199	144	393
Arrive On Green	0.38	1.00	1.00	0.20	0.53	0.53	0.07	0.11	0.11	0.05	0.09	0.09
Sat Flow, veh/h	1688	3367	1500	1674	3209	185	1674	1758	1477	1607	1688	1425
Grp Volume(v), veh/h	171	1902	82	119	829	866	127	81	77	118	118	96
Grp Sat Flow(s),veh/h/ln	1688	1683	1500	1674	1670	1725	1674	1758	1477	1607	1688	1425
Q Serve(g_s), s	11.2	73.1	0.0	8.7	66.1	67.6	9.6	6.1	4.9	6.5	9.8	1.0
Cycle Q Clear(g_c), s	11.2	73.1	0.0	8.7	66.1	67.6	9.6	6.1	4.9	6.5	9.8	1.0
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	320	1733	772	339	882	910	183	188	158	199	144	393
V/C Ratio(X)	0.53	1.10	0.11	0.35	0.94	0.95	0.69	0.43	0.49	0.59	0.82	0.24
Avail Cap(c_a), veh/h	320	1733	772	339	895	924	183	359	302	199	308	531
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	0.0	48.6	31.4	31.8	54.8	59.3	29.1	59.1	63.9	24.8
Incr Delay (d2), s/veh	0.5	47.4	0.1	0.5	19.0	20.0	10.7	1.9	2.8	4.7	14.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	15.7	0.0	6.6	38.8	40.9	8.2	5.1	4.8	2.6	8.3	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	47.4	0.1	49.1	50.4	51.8	65.5	61.2	31.9	63.8	78.6	25.2
LnGrp LOS	D	F	A	D	D	D	E	E	C	E	E	C
Approach Vol, veh/h		2155			1814			285			332	
Approach Delay, s/veh		45.0			51.0			55.2			57.9	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.4	78.0	13.6	17.0	31.5	79.9	10.5	20.1
Change Period (Y+Rc), s	4.6	4.9	4.0	4.9	4.6	4.9	4.0	4.9
Max Green Setting (Gmax), s	15.0	73.1	9.6	25.9	12.0	76.1	6.5	29.0
Max Q Clear Time (g_c+I1), s	10.7	75.1	11.6	11.8	13.2	69.6	8.5	8.1
Green Ext Time (p_c), s	0.1	0.0	0.0	0.4	0.0	5.4	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Appendix O. Construction Traffic Analysis

Oslo Bay - Poulsbo, WA

Construction Traffic Estimate

Months 1-4 truck traffic includes logging, 6 loads/day.

Months 5-9 truck traffic includes misc. debris export, equipment mobilization, and material delivery and reflects a earth balanced site.

Month 9 specifically includes a 2 week period of hauling 8,000 cy of soil offsite at 900 cy/day for 10 days (30 trucks/day. All hauling will be off-peak between 9am – 3pm)

Month 10-60 truck traffic includes primarily building material delveries

	Time Interval	Trip Type	Clearing, Earthwork, Utilities	Community Building	Building 1	Building 2	Building 3	Building 4	Building 5	Building 6	Building 7	Building 8	Building 9	Building 10	Building 11	Building 12	Building 13	**Total - average daily vehicles**		Occupied Apartments	New move-in
Month 1	7am-8am	worker vehicles	8															**8**			
	9am-3pm	trucks	10															**10**	includes 6 log trucks per day	-	-
	3pm-4pm	worker vehicles	8															**8**			
Month 2	7am-8am	worker vehicles	8															**8**			
	9am-3pm	trucks	10															**10**	includes 6 log trucks per day	-	-
	3pm-4pm	worker vehicles	8															**8**			
Month 3	7am-8am	worker vehicles	8															**8**			
	9am-3pm	trucks	10															**10**	includes 6 log trucks per day	-	-
	3pm-4pm	worker vehicles	8															**8**			
Month 4	7am-8am	worker vehicles	6															**6**			
	9am-3pm	trucks	10															**10**	includes 6 log trucks per day	-	-
	3pm-4pm	worker vehicles	6															**6**			
Month 5	7am-8am	worker vehicles	6															**6**			
	9am-3pm	trucks	3															**3**		-	-
	3pm-4pm	worker vehicles	6															**6**			
Month 6	7am-8am	worker vehicles	6															**6**			
	9am-3pm	trucks	1															**1**		-	-
	3pm-4pm	worker vehicles	6															**6**			
Month 7	7am-8am	worker vehicles	6															**6**			
	9am-3pm	trucks	1															**1**		-	-
	3pm-4pm	worker vehicles	6															**6**			
Month 8	7am-8am	worker vehicles	6															**6**			
	9am-3pm	trucks	3															**3**		-	-
	3pm-4pm	worker vehicles	6															**6**			
Month 9	7am-8am	worker vehicles	8															**8**			
	9am-3pm	trucks	33															**33**	includes 30 trucks/day waste haul for 10 days	-	-
	3pm-4pm	worker vehicles	8															**8**			
Month 10	7am-8am	worker vehicles	8															**8**			
	9am-3pm	trucks	3															**3**		-	-
	3pm-4pm	worker vehicles	6															**6**			
Month 11	7am-8am	worker vehicles	8															**8**			
	9am-3pm	trucks	3															**3**		-	-
	3pm-4pm	worker vehicles	8															**8**			
Month 12	7am-8am	worker vehicles	8	6														**14**			
	9am-3pm	trucks	3	1														**4**		-	-
	3pm-4pm	worker vehicles	8	6														**14**			
Month 13	7am-8am	worker vehicles		8									12					**20**			
	9am-3pm	trucks		1									2					**3**		-	-
	3pm-4pm	worker vehicles		8									12					**20**			
Month 14	7am-8am	worker vehicles		8									12					**20**			
	9am-3pm	trucks		1									2					**3**		-	-
	3pm-4pm	worker vehicles		8									12					**20**			

Oslo Bay - Poulsbo, WA

Construction Traffic Estimate

Months 1-4 truck traffic includes logging, 6 loads/day.

Months 5-9 truck traffic includes misc. debris export, equipment mobilization, and material delivery and reflects a earth balanced site.

Month 9 specifically includes a 2 week period of hauling 8,000 cy of soil offsite at 900 cy/day for 10 days (30 trucks/day. All hauling will be off-peak between 9am – 3pm)

Month 10-60 truck traffic includes primarily building material delveries

	Time Interval	Trip Type	Clearing, Earthwork, Utilities	Community Building	Building 1	Building 2	Building 3	Building 4	Building 5	Building 6	Building 7	Building 8	Building 9	Building 10	Building 11	Building 12	Building 13	**Total - average daily vehicles**	Occupied Apartments	New move-in
Month 15	7am-8am	worker vehicles		10									12					**22**		
	9am-3pm	trucks		2									2					**4**	-	-
	3pm-4pm	worker vehicles		10									12					**22**		
Month 16	7am-8am	worker vehicles		10							12		15					**37**		
	9am-3pm	trucks		2							2		2					**6**	-	-
	3pm-4pm	worker vehicles		10							12		15					**37**		
Month 17	7am-8am	worker vehicles		10							12		15					**37**		
	9am-3pm	trucks		4							2		2					**8**	-	-
	3pm-4pm	worker vehicles		10							12		15					**37**		
Month 18	7am-8am	worker vehicles									12		15					**27**		
	9am-3pm	trucks									2		2					**4**	-	-
	3pm-4pm	worker vehicles									12		15					**27**		
Month 19	7am-8am	worker vehicles								12	15		15					**42**		
	9am-3pm	trucks								2	2		2					**6**	-	-
	3pm-4pm	worker vehicles								12	15		15					**42**		
Month 20	7am-8am	worker vehicles								12	15		20					**47**		
	9am-3pm	trucks								2	2		3					**7**	-	-
	3pm-4pm	worker vehicles								12	15		20					**47**		
Month 21	7am-8am	worker vehicles								12	15		20					**47**		
	9am-3pm	trucks								2	2		3					**7**	-	-
	3pm-4pm	worker vehicles								12	15		20					**47**		
Month 22	7am-8am	worker vehicles								15	15		20			12		**62**		
	9am-3pm	trucks								2	2		3			2		**9**	-	-
	3pm-4pm	worker vehicles								15	15		20			12		**62**		
Month 23	7am-8am	worker vehicles								15	20		22			12		**69**		
	9am-3pm	trucks								2	3		4			2		**11**	-	-
	3pm-4pm	worker vehicles								15	20		22			12		**69**		
Month 24	7am-8am	worker vehicles								15	20		22			12		**69**		
	9am-3pm	trucks								2	3		4			2		**11**	-	-
	3pm-4pm	worker vehicles								15	20		22			12		**69**		
Month 25	7am-8am	worker vehicles								15	20			12		15		**62**		
	9am-3pm	trucks								2	3			2		2		**9**	3	3
	3pm-4pm	worker vehicles								15	20			12		15		**62**		
Month 26	7am-8am	worker vehicles								20	22			12		15		**69**		
	9am-3pm	trucks								3	4			2		2		**11**	6	3
	3pm-4pm	worker vehicles								20	22			12		15		**69**		
Month 27	7am-8am	worker vehicles								20	22			12		15		**69**		
	9am-3pm	trucks								3	4			2		2		**11**	9	3
	3pm-4pm	worker vehicles								20	22			12		15		**69**		
Month 28	7am-8am	worker vehicles								20				15	12	15		**62**		
	9am-3pm	trucks								3				2	2	2		**9**	15	6
	3pm-4pm	worker vehicles								20				15	12	15		**62**		

Oslo Bay - Poulsbo, WA

Construction Traffic Estimate

Months 1-4 truck traffic includes logging, 6 loads/day.

Months 5-9 truck traffic includes misc. debris export, equipment mobilization, and material delivery and reflects a earth balanced site.

Month 9 specifically includes a 2 week period of hauling 8,000 cy of soil offsite at 900 cy/day for 10 days (30 trucks/day. All hauling will be off-peak between 9am – 3pm)

Month 10-60 truck traffic includes primarily building material delveries

	Time Interval	Trip Type	Clearing, Earthwork, Utilities	Community Building	Building 1	Building 2	Building 3	Building 4	Building 5	Building 6	Building 7	Building 8	Building 9	Building 10	Building 11	Building 12	Building 13	**Total - average daily vehicles**	Occupied Apartments	New move-in
Month 29	7am-8am	worker vehicles								22				15	12	20		**69**		
	9am-3pm	trucks								4				2	2	3		**11**	21	6
	3pm-4pm	worker vehicles								22				15	12	20		**69**		
Month 30	7am-8am	worker vehicles								22				15	12	20		**69**		
	9am-3pm	trucks								4				2	2	3		**11**	27	6
	3pm-4pm	worker vehicles								22				15	12	20		**69**		
Month 31	7am-8am	worker vehicles										12		15	15	20		**62**		
	9am-3pm	trucks										2		2	2	3		**9**	36	9
	3pm-4pm	worker vehicles										12		15	15	20		**62**		
Month 32	7am-8am	worker vehicles										12		20	15	22		**69**		
	9am-3pm	trucks										2		3	2	4		**11**	45	9
	3pm-4pm	worker vehicles										12		20	15	22		**69**		
Month 33	7am-8am	worker vehicles										12		20	15	22		**69**		
	9am-3pm	trucks										2		3	2	4		**11**	54	9
	3pm-4pm	worker vehicles										12		20	15	22		**69**		
Month 34	7am-8am	worker vehicles							12			15		20	15			**62**		
	9am-3pm	trucks							2			2		3	2			**9**	66	12
	3pm-4pm	worker vehicles							12			15		20	15			**62**		
Month 35	7am-8am	worker vehicles							12			15		22	20			**69**		
	9am-3pm	trucks							2			2		4	3			**11**	78	12
	3pm-4pm	worker vehicles							12			15		22	20			**69**		
Month 36	7am-8am	worker vehicles							12			15		22	20			**69**		
	9am-3pm	trucks							2			2		4	3			**11**	90	12
	3pm-4pm	worker vehicles							12			15		22	20			**69**		
Month 37	7am-8am	worker vehicles						12	15			15			20			**62**		
	9am-3pm	trucks						2	2			2			3			**9**	102	12
	3pm-4pm	worker vehicles						12	15			15			20			**62**		
Month 38	7am-8am	worker vehicles						12	15			20			22			**69**		
	9am-3pm	trucks						2	2			3			4			**11**	114	12
	3pm-4pm	worker vehicles						12	15			20			22			**69**		
Month 39	7am-8am	worker vehicles						12	15			20			22			**69**		
	9am-3pm	trucks						2	2			3			4			**11**	126	12
	3pm-4pm	worker vehicles						12	15			20			22			**69**		
Month 40	7am-8am	worker vehicles					12	15	15			20						**62**		
	9am-3pm	trucks					2	2	2			3						**9**	138	12
	3pm-4pm	worker vehicles					12	15	15			20						**62**		
Month 41	7am-8am	worker vehicles					12	15	20			22						**69**		
	9am-3pm	trucks					2	2	3			4						**11**	150	12
	3pm-4pm	worker vehicles					12	15	20			22						**69**		
Month 42	7am-8am	worker vehicles					12	15	20			22						**69**		
	9am-3pm	trucks					2	2	3			4						**11**	162	12
	3pm-4pm	worker vehicles					12	15	20			22						**69**		

Oslo Bay - Poulsbo, WA

Construction Traffic Estimate

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Months 5-9 truck traffic includes misc. debris export, equipment mobilization, and material delivery and reflects a earth balanced site.

Month 9 specifically includes a 2 week period of hauling 8,000 cy of soil offsite at 900 cy/day for 10 days (30 trucks/day. All hauling will be off-peak between 9am – 3pm)

Month 10-60 truck traffic includes primarily building material delveries

	Time Interval	Trip Type	Clearing, Earthwork, Utilities	Community Building	Building 1	Building 2	Building 3	Building 4	Building 5	Building 6	Building 7	Building 8	Building 9	Building 10	Building 11	Building 12	Building 13	**Total - average daily vehicles**	Occupied Apartments	New move-in
Month 43	7am-8am	worker vehicles				12	15	15	20									**62**	174	12
	9am-3pm	trucks				2	2	2	3									**9**		
	3pm-4pm	worker vehicles				12	15	15	20									**62**		
Month 44	7am-8am	worker vehicles				12	15	20	22									**69**	186	12
	9am-3pm	trucks				2	2	3	4									**11**		
	3pm-4pm	worker vehicles				12	15	20	22									**69**		
Month 45	7am-8am	worker vehicles				12	15	20	22									**69**	198	12
	9am-3pm	trucks				2	2	3	4									**11**		
	3pm-4pm	worker vehicles				12	15	20	22									**69**		
Month 46	7am-8am	worker vehicles			12	15	15	20										**62**	210	12
	9am-3pm	trucks			2	2	2	3										**9**		
	3pm-4pm	worker vehicles			12	15	15	20										**62**		
Month 47	7am-8am	worker vehicles			12	15	20	22										**69**	222	12
	9am-3pm	trucks			2	2	3	4										**11**		
	3pm-4pm	worker vehicles			12	15	20	22										**69**		
Month 48	7am-8am	worker vehicles			12	15	20	22										**69**	234	12
	9am-3pm	trucks			2	2	3	4										**11**		
	3pm-4pm	worker vehicles			12	15	20	22										**69**		
Month 49	7am-8am	worker vehicles		12	15	15	20											**62**	246	12
	9am-3pm	trucks		2	2	2	3											**9**		
	3pm-4pm	worker vehicles		12	15	15	20											**62**		
Month 50	7am-8am	worker vehicles		12	15	20	22											**69**	258	12
	9am-3pm	trucks		2	2	3	4											**11**		
	3pm-4pm	worker vehicles		12	15	20	22											**69**		
Month 51	7am-8am	worker vehicles		12	15	20	22											**69**	270	12
	9am-3pm	trucks		2	2	3	4											**11**		
	3pm-4pm	worker vehicles		12	15	20	22											**69**		
Month 52	7am-8am	worker vehicles		15	15	20												**50**	282	12
	9am-3pm	trucks		2	2	3												**7**		
	3pm-4pm	worker vehicles		15	15	20												**50**		
Month 53	7am-8am	worker vehicles		15	20	22												**57**	294	12
	9am-3pm	trucks		2	3	4												**9**		
	3pm-4pm	worker vehicles		15	20	22												**57**		
Month 54	7am-8am	worker vehicles		15	20	22												**57**	306	12
	9am-3pm	trucks		2	3	4												**9**		
	3pm-4pm	worker vehicles		15	20	22												**57**		
Month 55	7am-8am	worker vehicles		15	20													35	318	12
	9am-3pm	trucks		2	3													5		
	3pm-4pm	worker vehicles		15	20													35		
Month 56	7am-8am	worker vehicles		20	22													**42**	330	12
	9am-3pm	trucks		3	4													**7**		
	3pm-4pm	worker vehicles		20	22													**42**		

Oslo Bay - Poulsbo, WA

Construction Traffic Estimate

Months 1-4 truck traffic includes logging, 6 loads/day.

Months 5-9 truck traffic includes misc. debris export, equipment mobilization, and material delivery and reflects a earth balanced site.

Month 9 specifically includes a 2 week period of hauling 8,000 cy of soil offsite at 900 cy/day for 10 days (30 trucks/day. All hauling will be off-peak between 9am – 3pm)

Month 10-60 truck traffic includes primarily building material delveries

	Time Interval	Trip Type	Clearing, Earthwork, Utilities	Community Building	Building 1	Building 2	Building 3	Building 4	Building 5	Building 6	Building 7	Building 8	Building 9	Building 10	Building 11	Building 12	Building 13	**Total - average daily vehicles**	Occupied Apartments	New move-in
Month 57	7am-8am	worker vehicles			20	22												**42**	342	12
	9am-3pm	trucks			3	4												**7**		
	3pm-4pm	worker vehicles			20	22												**42**		
Month 58	7am-8am	worker vehicles			20													**20**	354	12
	9am-3pm	trucks			3													**3**		
	3pm-4pm	worker vehicles			20													**20**		
Month 59	7am-8am	worker vehicles			22													**22**	366	12
	9am-3pm	trucks			4													**4**		
	3pm-4pm	worker vehicles			22													**22**		
Month 60	7am-8am	worker vehicles			22													**22**	378	12
	9am-3pm	trucks			4													**4**		
	3pm-4pm	worker vehicles			22													**22**		