

Huntington Apartments

Transportation Impact Analysis
Kelso, Washington

Date:

March 20, 2020

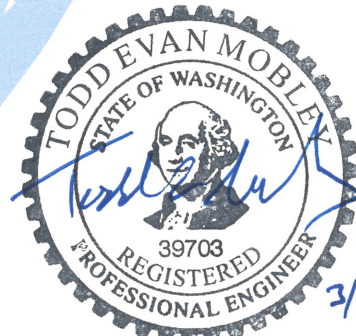
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3/20/20

6/10/2020



LANCASTER
ENGINEERING



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Executive Summary

1. A 96-unit multi-family housing development is proposed at 906 Croy Street in Kelso, Washington.
2. The proposed development is estimated to generate 44 trips during the morning peak hour, with 10 trips entering and 34 trips exiting the site, and 54 trips during the evening peak hour, with 34 trips entering and 20 trips exiting the site.
3. Results of the capacity analysis show that all study intersections are projected to operate within the City of Kelso's performance standards under all analysis scenarios.
4. The intersection of N Kelso Avenue at Cowlitz Way has a crash rate of 1.09 CMEV. The intersection had a high number of rear-end and angle-type collisions. More than half of the collisions that occurred at this intersection resulted in "*No Apparent Injury*". Most of crashes occurred due to driver inattention or distraction and drivers disregarding the traffic signal indication. A possible safety enhancement for this intersection is the addition of yellow backplates to the signal heads.
5. The intersection of N Kelso Avenue at Interstate 5 southbound ramps had no apparent safety issues or trends in crash data.
6. Sight distance was examined at the proposed site access along N Kelso Avenue and measured to be more than 390 feet in either direction. Intersection sight distance is met at the proposed site access.



Introduction

An apartment complex is proposed at the location of 906 Croy Street in Kelso, Washington. The complex will have a total of 96 units, consisting of 24 one-bedroom units, 60 two-bedroom units, and 12 three-bedroom units. The main site access will intersect N Kelso Avenue. The development is anticipated to be completed and occupied by the year 2022. A vicinity map depicting the proposed development (shown in purple) and highlighting the study intersections is shown in Figure 1.

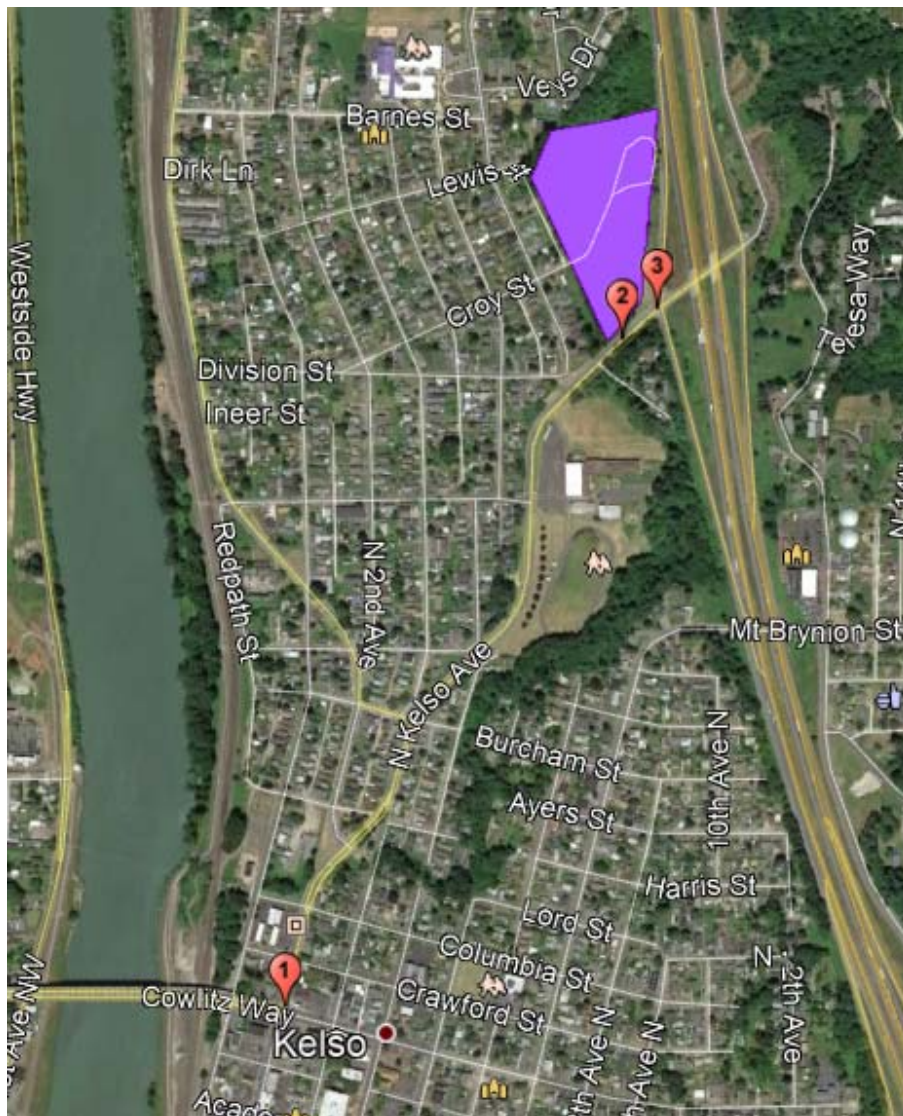


Figure 1 - Vicinity Map



Vicinity Streets

N Kelso Avenue is classified as a Principal Arterial north of Cowlitz Way and a Minor Arterial south of Cowlitz Way by the Washington State Department of Transportation (WSDOT). It generally has a two-lane cross-section with one travel lane in each direction and a posted speed limit of 35 mph. There is a 20-mph school speed limit applicable when lights are flashing. Sidewalks and on-street parking are intermittently provided along either side of the roadway.

Cowlitz Way is classified as a Principal Arterial by WSDOT. Within the study area, the roadway has a five-lane cross-section with two travel lanes in each direction and a center left-turn lane. It has a posted speed limit of 35 mph. Curbs and sidewalks are provided on both sides of the roadway. Bicycle lanes are not provided on either side of the roadway.

Interstate 5 Southbound ramps are classified as an Interstate by WSDOT. Each ramp has one travel lane. Curbs, sidewalks, and bicycle lanes are not provided on either side of the roadway. There is no posted speed limit as these ramps are used to accelerate and decelerate to and from the interstate.

Study Intersections









The intersection of N Kelso Avenue at Cowlitz Way is a four-legged intersection that is controlled by a traffic signal. The westbound and eastbound approaches each have one left-turn lane, one through lane, and one shared through/right-turn lane. The northbound approach has one left-turn lane and one shared through/right-turn lane. The southbound approach has one left-turn lane, one through lane, and one right-turn lane. Crosswalks are marked across the northern, southern, and eastern legs of the intersection.

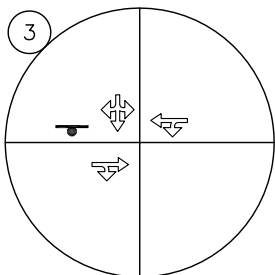
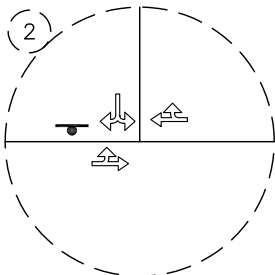
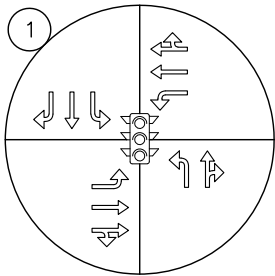
The proposed intersection of N Kelso Avenue at the site access will be a three-legged stop-controlled intersection for the southbound approach of the site access. Each approach will have one shared lane for all turning movements.

The intersection of N Kelso Avenue at Interstate 5 southbound ramps is a four-legged intersection that is stop-controlled for the southbound approach. Each approach has one shared lane for all turning movements. Crosswalks are unmarked across all intersection legs.

A map showing the study intersection configurations is shown in Figure 2 on page 4.

LEGEND

-  STUDY INTERSECTION (EXISTING)
-  STUDY INTERSECTION (PROPOSED)
-  STOP SIGN
-  TRAFFIC SIGNAL
-  PROJECT SITE
-  ARTERIAL ROADWAY
-  COLLECTOR ROADWAY
-  LOCAL ROADWAY



STUDY INTERSECTION CONFIGURATIONS



FIGURE 2

PAGE 4



Trip Generation

To estimate the trip generation, trip rates from the manual *TRIP GENERATION, Tenth Edition*, published by the Institute of Transportation Engineers (ITE), were used. The trip rates used were those given for land-use code 220, *Multifamily Housing (Low-Rise)*, based on the number of dwelling units.

The proposed development is estimated to generate 44 trips during the morning peak hour, with 10 trips entering and 34 trips exiting the site, and 54 trips during the evening peak hour, with 34 trips entering and 20 trips exiting the site.

Table 1 - Trip Generation Summary

Land Use Code - Type	Size	Morning Peak Hour			Evening Peak Hour		
		In	Out	Total	In	Out	Total
#220, Multifamily Housing (Low-Rise)	96 units	10	34	44	34	20	54

Trip Distribution

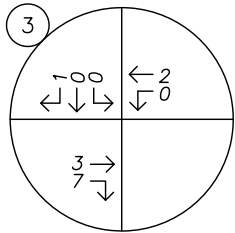
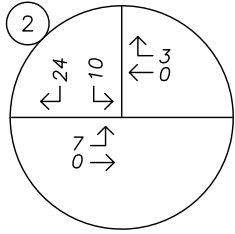
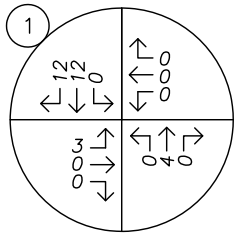
The directional distribution of site trips to and from the proposed development was estimated based on locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections.

The following trip distribution was estimated and used for analysis:

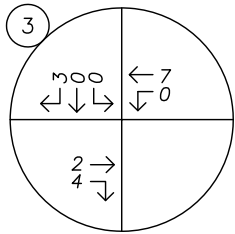
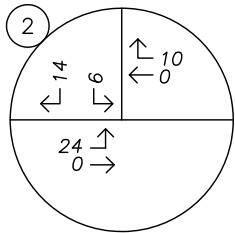
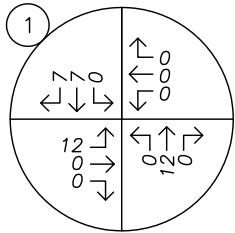
- 35 percent of site trips are expected to travel to and from the south along N Kelso Avenue.
- 35 percent of site trips are expected to travel to and from the west along Cowlitz Way.
- 10 percent of site trips are expected to travel to and from the north along Interstate 5.
- 20 percent of site trips are expected to travel to and from the south along Interstate 5.

The site trip assignment is shown in Figure 3 on page 6.

AM PEAK HOUR



PM PEAK HOUR



SITE TRIP DISTRIBUTION & ASSIGNMENT
 Proposed Development Plan – Site Trips
 AM & PM Peak Hours





Traffic Volumes

The section below discusses current and future-year traffic volumes and how they were developed.

Existing Conditions

Traffic volumes were recorded at the study intersections on Wednesday, March 21, 2018 between 4:00 PM and 6:00 PM and on Thursday, March 22, 2018 between 7:00 AM and 9:00 AM in order to obtain data for each intersection's morning and evening peak hour. A compounded growth rate of two percent per year was applied over a period of two years to get the year 2020 existing traffic volumes at the study intersections.

The year 2020 existing conditions during the morning and evening peak hours is shown in Figure 4 on page 8.

Background Conditions

Prior to assigning the site trips to the study area intersections, the year 2020 existing volumes were increased in order to account for anticipated growth in the study area. Background traffic volumes were projected for year 2022 conditions, when the proposed development is assumed to be completed and fully occupied.

A compounded growth rate of two percent per year was applied over a period of two years to get the year 2022 background traffic volumes at the study intersections.

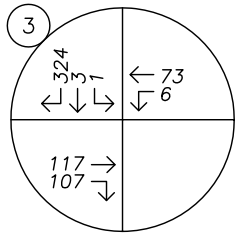
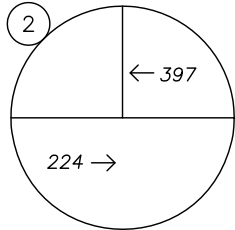
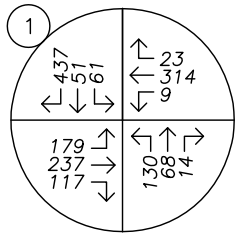
The year 2022 background conditions during the morning and evening peak hours is shown in Figure 5 on page 9.

Buildout Conditions

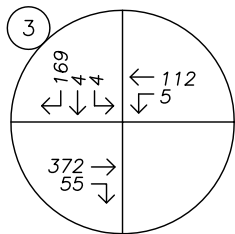
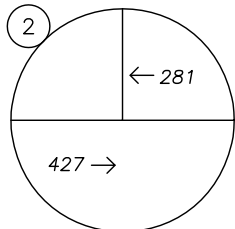
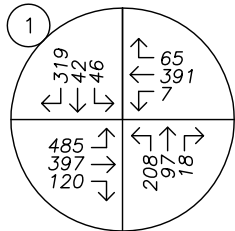
The trips estimated to be generated by the proposed development, as described earlier within the Site Trips section, were added to the year 2022 background traffic volumes in order to estimate traffic volumes under the year 2022 buildout conditions.

The year 2022 buildout conditions during the morning and evening peak hours is shown in Figure 6 on page 10.

AM PEAK HOUR



PM PEAK HOUR



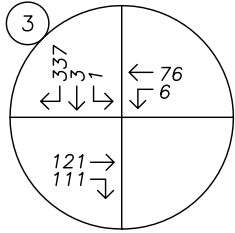
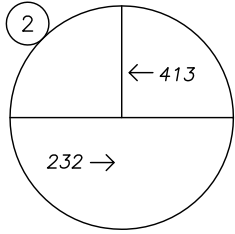
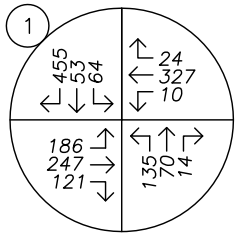
TRAFFIC VOLUMES
Year 2020 Existing Conditions
AM & PM Peak Hours



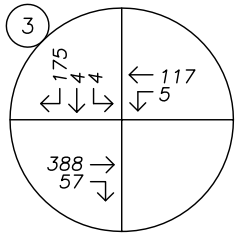
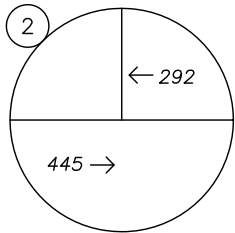
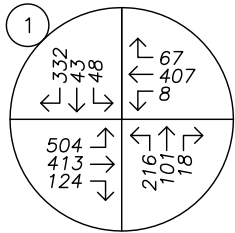
FIGURE
4

PAGE
8

AM PEAK HOUR



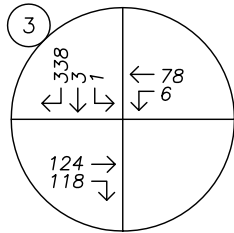
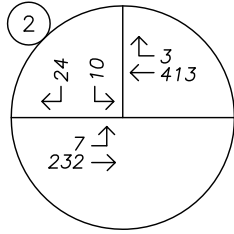
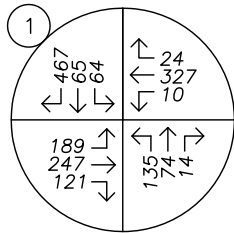
PM PEAK HOUR



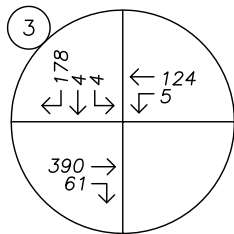
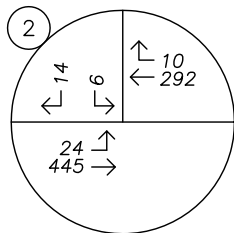
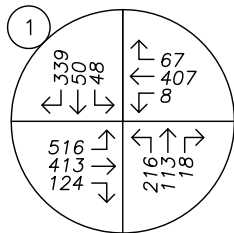
TRAFFIC VOLUMES
 Year 2022 Background Conditions
 AM & PM Peak Hours



AM PEAK HOUR



PM PEAK HOUR



TRAFFIC VOLUMES
Year 2022 Buildout Conditions
AM & PM Peak Hours





Safety Analysis

The section below includes safety-related analyses for the project study area.

Crash Data

Using data obtained from the Washington Department of Transportation's (WSDOT) Crash Data and Reporting Branch, a review of the most recent available five years of crash history (January 2013 to December 2017) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collision, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents ten percent of the average daily traffic (ADT) at the intersection. Crash rates in excess of one to two crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

The intersection of N Kelso Avenue at Cowlitz Avenue had 42 reported collisions during the analysis period. The crashes consisted of 12 rear-end collisions, 15 turning movement collisions, four angle-type collisions, five sideswipe collisions, two fixed object collisions, three collisions with bicyclists, and one collision with a pedestrian. Of the reported collisions, eight resulted in "*Possible Injury*", nine resulted in "*Suspected Minor Injury*", and 25 resulted in "*No Apparent Injury*". Two of the collisions with bicyclists resulted in "*Suspected Minor Injury*", and all of these crashes were caused by the cyclists. The collision with the pedestrian occurred due to the inattention of the pedestrian, as the driver was not distracted. The crash resulted in "*Suspected Minor Injury*". The crash rate for this intersection was calculated to be 1.09 CMEV.

The intersection of N Kelso Avenue at Cowlitz Way has a crash rate above one crash per million entering vehicles. It should be noted that more than half of the collisions that occurred at this intersection resulted in "*No Apparent Injury*" and most of the crashes occurred due to driver inattention or distraction and drivers disregarding the traffic signal indication. A possible safety mitigation for these issues is installing yellow backplates on the signal heads. Backplates enhance signal head visibility by increasing the contrast between the signal head and its surroundings.

The intersection of N Kelson Avenue at Interstate 5 southbound ramps had three reported collisions during the analysis period. The crashes consisted of two angle-type collisions and one rear-end collisions. The crashes resulted in two possible injuries. The crash rate for this intersection was calculated to be 0.24 CMEV.

No specific safety mitigation is recommended at the intersection of N Kelso Avenue at Interstate 5 southbound ramps.



Sight Distance

Intersection sight distance was measured and evaluated in accordance with the standards established in *A Policy on Geometric Design of Highways and Streets*, published in 2011 by the American Association of State Highways and Transportation Officials (AASHTO). According to AASHTO the driver's eye is assumed to be 15 feet from the near edge of the nearest lane of the intersecting street and at a height of 3.5 feet above the approach street pavement, which is representative of driver's eye operating a wide range of vehicles from passenger cars to heavy vehicles. Vehicle/object height is assumed to be 3.5 feet above the cross-street pavement.

Based on the posted speed limit of 35 mph, there is a required intersection sight distance of 390 feet in either direction. Sight distance was measured to be in excess of 450 feet to the east, which extends to the end of the roadway that is the highway off-ramp. Sight distance was measured to be in excess of 500 feet to the west. Intersection sight distance is met in both directions.



Operational Analysis

To determine the level-of-service at the study intersections, a capacity analysis was conducted. The analysis was conducted using the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)* published by the Transportation Research Board. Level-of-service (LOS) can range from A, which indicates little or no delay, to F, which indicates a significant amount of congestion and delay. The volume to capacity (v/c) ratio is a measure that compares the traffic volume (demand) against the available capacity of an intersection, with v/c ratios above 1.0 indicating that an intersection is operating above capacity.

Performance Standards

According to the City of Kelso Comprehensive Plan, the level of service standard for all streets and highways shall be D.

Delay & Capacity Analysis

The results of the capacity and delay analysis are shown in Table 2. Detailed LOS descriptions are included in the appendix to this report.

Table 2 - Capacity Analysis Summary

	Morning Peak Hour			Evening Peak Hour		
	Delay	LOS	V/C	Delay	LOS	V/C
Kelso Avenue at Cowlitz Way						
Year 2020 Existing Conditions	22	C	-	32	C	-
Year 2022 Background Conditions	22	C	-	36	D	-
Year 2022 Background + Site	22	C	-	38	D	-
Kelso Avenue at Site Access						
Year 2022 Background + Site	12	B	0.07	12	B	0.04
Kelso Avenue at I-5 Southbound ramps						
Year 2020 Existing Conditions	12	B	0.43	10	B	0.25
Year 2022 Background Conditions	12	B	0.45	11	B	0.26
Year 2022 Background + Site	12	B	0.45	11	B	0.27

Results of the capacity analysis show that all study intersections are projected to operate within the City of Kelso’s performance standards under all analysis scenarios.



Conclusions

Results of the capacity analysis show that all study intersections are projected to operate within the City of Kelso's performance standards under all analysis scenarios.

The intersection of N Kelso Avenue at Cowlitz Way has a crash rate of 1.09 CMEV. The intersection had a high number of rear-end and angle-type collisions. More than half of the collisions that occurred at this intersection resulted in "*No Apparent Injury*". Most of crashes occurred due to driver inattention or distraction and drivers disregarding the traffic signal indication. A possible safety enhancement for this intersection is the addition of yellow backplates to the signal heads. The intersection of N Kelso Avenue at Interstate 5 southbound ramps had no apparent safety issues or trends in crash data.

Sight distance was examined at the proposed site access along N Kelso Avenue and measured to be more than 390 feet in either direction. Intersection sight distance is met at the proposed site access.



Appendix



TRIP GENERATION CALCULATIONS

Land Use: Multifamily Housing (Low-Rise)
Land Use Code: 220
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Variable Value: 96

AM PEAK HOUR

Trip Rate: 0.46

	Enter	Exit	Total
Directional Distribution	23%	77%	
Trip Ends	10	34	44

PM PEAK HOUR

Trip Rate: 0.56

	Enter	Exit	Total
Directional Distribution	63%	37%	
Trip Ends	34	20	54

WEEKDAY

Trip Rate: 7.32

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	351	351	702

SATURDAY

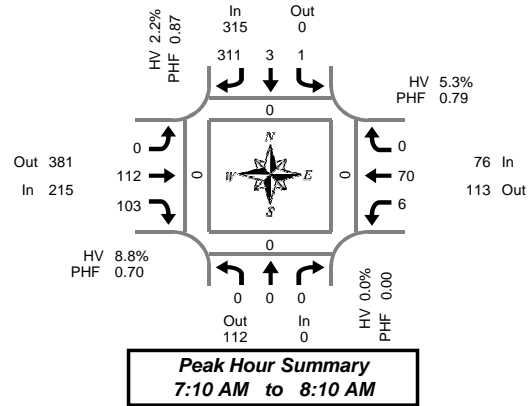
Trip Rate: 8.14

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	391	391	782

Total Vehicle Summary



Clay Carney
(503) 833-2740



I-5 SB Ramp & Kelso Ave

Thursday, March 22, 2018

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	0	0	8	0	0	7	3	0	2	1	0	0	0	0	0	0	
7:05 AM	0	0	0	0	0	0	19	0	0	8	6	0	0	3	0	0	0	0	0	0	
7:10 AM	0	0	0	0	0	0	16	0	0	8	3	0	2	5	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	28	0	0	8	11	0	0	6	0	0	0	0	0	0	
7:20 AM	0	0	0	0	0	1	22	0	0	12	18	0	1	5	0	0	0	0	0	0	
7:25 AM	0	0	0	0	0	0	23	0	0	10	9	0	0	4	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	27	0	0	11	17	0	0	8	0	0	0	0	0	0	
7:35 AM	0	0	0	0	0	1	31	0	0	9	14	0	1	8	0	0	0	0	0	0	
7:40 AM	0	0	0	0	0	0	32	0	0	12	13	0	0	7	0	0	0	0	0	0	
7:45 AM	0	0	0	0	1	0	25	0	0	16	6	0	0	6	0	0	0	0	0	0	
7:50 AM	0	0	0	0	0	0	31	0	0	4	2	0	0	5	0	0	0	0	0	0	
7:55 AM	0	0	0	0	0	0	32	0	0	13	2	0	0	7	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	1	25	0	0	4	4	0	0	0	0	0	0	0	0	0	
8:05 AM	0	0	0	0	0	0	19	0	0	5	4	0	2	9	0	0	0	0	0	0	
8:10 AM	0	0	0	0	0	1	16	0	0	5	5	0	2	5	0	0	0	0	0	0	
8:15 AM	0	0	0	0	1	0	30	0	0	5	5	0	2	2	0	0	0	0	0	0	
8:20 AM	0	0	0	0	0	0	21	0	0	4	2	0	1	12	0	0	0	0	0	0	
8:25 AM	0	0	0	0	0	0	19	0	0	2	2	0	1	6	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	15	0	0	6	7	0	0	5	0	0	0	0	0	0	
8:35 AM	0	0	0	0	0	0	17	0	0	12	8	0	0	4	0	0	0	0	0	0	
8:40 AM	0	0	0	0	0	0	12	0	0	9	5	0	0	6	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	23	0	0	5	4	0	0	4	0	0	0	0	0	0	
8:50 AM	0	0	0	0	0	0	10	0	0	10	6	0	2	3	0	0	0	0	0	0	
8:55 AM	0	0	0	0	0	1	10	0	0	8	6	0	1	2	0	0	0	0	0	0	
Total Survey	0	0	0	0	2	5	511	0	0	193	162	0	17	123	0	0	1,013	0	0	0	

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	0	0	43	0	0	23	12	0	4	9	0	0	91	0	0	0	
7:15 AM	0	0	0	0	0	1	73	0	0	30	38	0	1	15	0	0	158	0	0	0	
7:30 AM	0	0	0	0	0	1	90	0	0	32	44	0	1	23	0	0	191	0	0	0	
7:45 AM	0	0	0	0	1	0	88	0	0	33	10	0	0	18	0	0	150	0	0	0	
8:00 AM	0	0	0	0	0	2	60	0	0	14	13	0	4	14	0	0	107	0	0	0	
8:15 AM	0	0	0	0	1	0	70	0	0	11	9	0	4	20	0	0	115	0	0	0	
8:30 AM	0	0	0	0	0	0	44	0	0	27	20	0	0	15	0	0	106	0	0	0	
8:45 AM	0	0	0	0	0	1	43	0	0	23	16	0	3	9	0	0	95	0	0	0	
Total Survey	0	0	0	0	2	5	511	0	0	193	162	0	17	123	0	0	1,013	0	0	0	

Peak Hour Summary

7:10 AM to 8:10 AM

By Approach	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	112	112	0	315	0	315	0	215	381	596	0	76	113	189	0	606	0	0	0	
%HV	0.0%				2.2%				8.8%				5.3%				5.0%	0			
PHF	0.00				0.87				0.70				0.79				0.79	0			

By Movement	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Total		
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total			
Volume	0	0	0	0	1	3	311	315	0	118	104	0	6	65	0	76	606	0	0
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.3%	2.2%	0.0%	7.1%	10.7%	8.8%	0.0%	5.7%	0.0%	5.3%	5.0%	0	0
PHF	0.00	0.00	0.00	0.00	0.25	0.75	0.86	0.87	0.00	0.76	0.59	0.70	0.50	0.76	0.00	0.79	0.79	0	0

Rolling Hour Summary

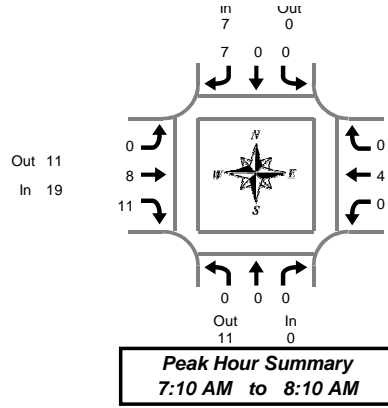
7:00 AM to 9:00 AM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	0	0	0	0	1	2	294	0	0	118	104	0	6	65	0	0	590	0	0	0	
7:15 AM	0	0	0	0	1	4	311	0	0	109	105	0	6	70	0	0	606	0	0	0	
7:30 AM	0	0	0	0	2	3	308	0	0	90	76	0	9	75	0	0	563	0	0	0	
7:45 AM	0	0	0	0	2	2	262	0	0	85	52	0	8	67	0	0	478	0	0	0	
8:00 AM	0	0	0	0	1	3	217	0	0	75	58	0	11	58	0	0	423	0	0	0	

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



I-5 SB Ramp & Kelso Ave

Thursday, March 22, 2018

7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:05 AM	0	0	0	0	0	0	3	3	0	0	1	1	0	0	0	0	4
7:10 AM	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	4	4	0	1	2	3	0	0	0	0	7
7:20 AM	0	0	0	0	0	0	1	1	0	0	6	6	0	0	0	0	7
7:25 AM	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
7:35 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3	3
7:40 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:50 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
7:55 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:05 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
8:10 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:20 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
8:25 AM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
8:35 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
8:40 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	2
8:50 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
8:55 AM	0	0	0	0	0	0	0	0	0	1	1	2	1	0	0	1	3
Total Survey	0	0	0	0	0	0	14	14	0	12	16	28	1	4	0	5	47

Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	4	4	0	0	2	2	0	0	0	0	6
7:15 AM	0	0	0	0	0	0	5	5	0	2	10	12	0	0	0	0	17
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	4	0	0	5
7:45 AM	0	0	0	0	0	0	1	1	0	3	0	3	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	3
8:30 AM	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	1	1	0	2	2	4	1	0	0	1	6
Total Survey	0	0	0	0	0	0	14	14	0	12	16	28	1	4	0	5	47

Heavy Vehicle Peak Hour Summary

7:10 AM to 8:10 AM

By Approach	Northbound I-5 SB Ramp			Southbound I-5 SB Ramp			Eastbound Kelso Ave			Westbound Kelso Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	11	11	7	0	7	19	11	30	4	8	12	30
PHF	0.00			0.29			0.40			0.25			0.44

By Movement	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	0	0	7	7	0	8	11	19	0	4	0	4	30
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.29	0.00	0.40	0.28	0.40	0.00	0.25	0.00	0.25	0.44

Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	10	10	0	6	12	18	0	4	0	4	32
7:15 AM	0	0	0	0	0	0	6	6	0	8	10	18	0	4	0	4	28
7:30 AM	0	0	0	0	0	0	4	4	0	6	0	6	0	4	0	4	14
7:45 AM	0	0	0	0	0	0	4	4	0	7	2	9	0	0	0	0	13
8:00 AM	0	0	0	0	0	0	4	4	0	6	4	10	1	0	0	1	15

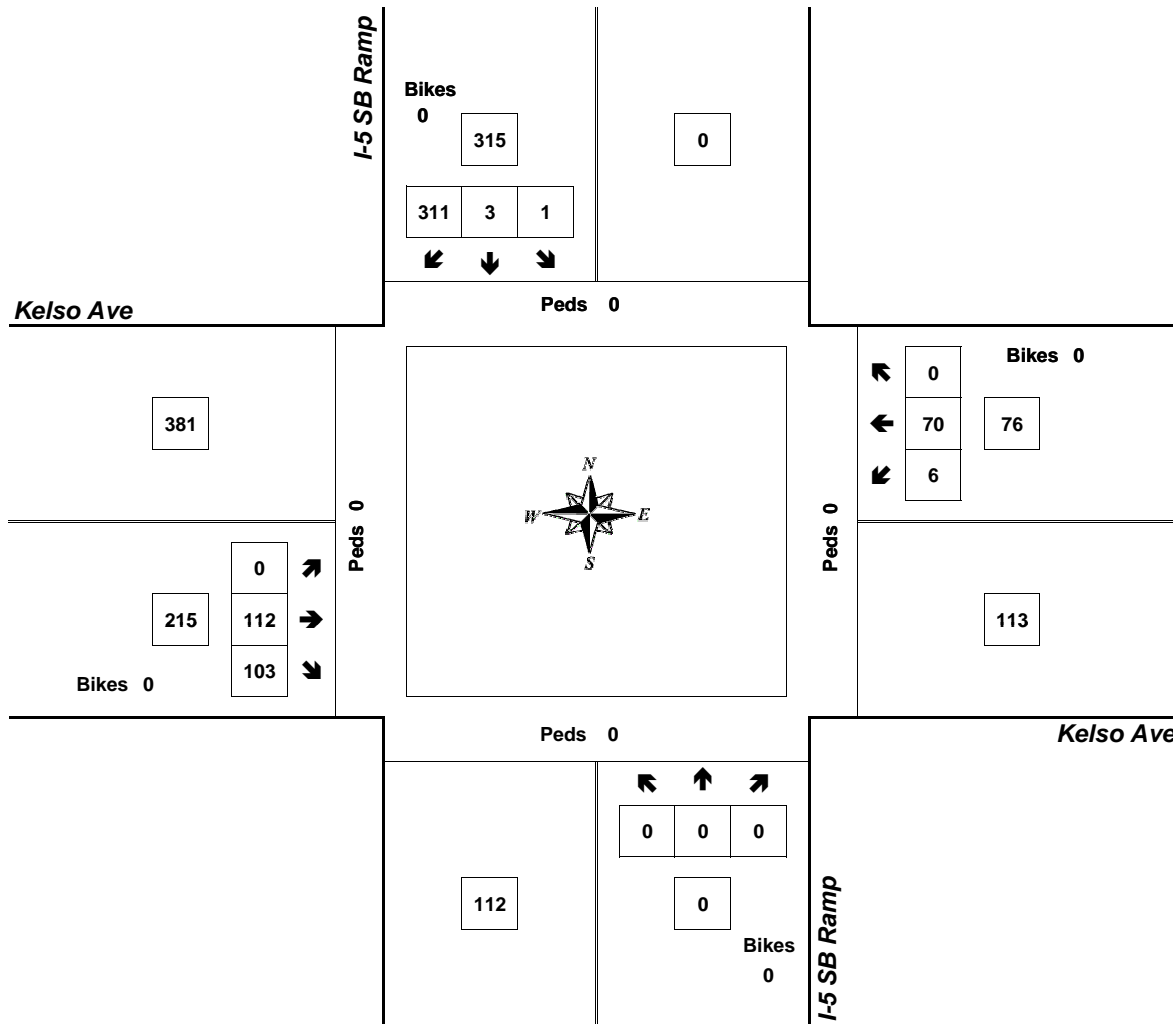
Peak Hour Summary



Clay Carney
(503) 833-2740

I-5 SB Ramp & Kelso Ave

7:10 AM to 8:10 AM
Thursday, March 22, 2018



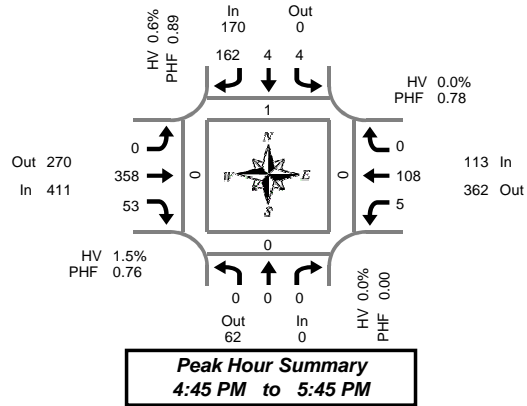
Approach	PHF	HV%	Volume
EB	0.70	8.8%	215
WB	0.79	5.3%	76
NB	0.00	0.0%	0
SB	0.87	2.2%	315
Intersection	0.79	5.0%	606

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

Total Vehicle Summary



Clay Carney
(503) 833-2740



I-5 SB Ramp & Kelso Ave

Wednesday, March 21, 2018

4:00 PM to 6:00 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	0	0	0	0	0	17	0	0	21	7	0	1	8	0	0	54	0	0	0	0
4:05 PM	0	0	0	0	0	0	19	0	0	21	5	0	0	8	0	0	53	0	0	0	0
4:10 PM	0	0	0	0	1	0	15	0	0	16	9	0	1	12	0	0	54	0	0	0	0
4:15 PM	0	0	0	0	0	0	15	0	0	23	4	0	3	12	0	0	57	0	0	0	0
4:20 PM	0	0	0	0	0	0	17	0	0	27	1	0	0	6	0	0	51	0	0	0	0
4:25 PM	0	0	0	0	0	0	15	0	0	30	2	0	1	6	0	0	54	0	0	0	0
4:30 PM	0	0	0	0	0	0	11	0	0	27	2	0	2	8	0	0	50	0	0	0	0
4:35 PM	0	0	0	0	0	0	11	0	0	28	4	0	0	8	0	0	51	0	0	0	0
4:40 PM	0	0	0	0	0	0	17	0	0	34	1	0	0	5	0	0	57	0	0	0	0
4:45 PM	0	0	0	0	0	0	16	0	0	24	7	0	1	6	0	0	54	0	0	0	0
4:50 PM	0	0	0	0	0	0	11	0	0	25	2	0	2	4	0	0	44	0	0	0	0
4:55 PM	0	0	0	0	1	0	17	0	0	19	5	0	0	7	0	0	49	0	0	0	0
5:00 PM	0	0	0	0	0	0	12	0	0	16	1	0	0	8	0	0	37	0	0	0	0
5:05 PM	0	0	0	0	0	0	7	0	0	36	4	0	0	11	0	0	58	0	0	0	0
5:10 PM	0	0	0	0	0	0	12	0	0	39	3	0	0	14	0	0	68	0	0	0	0
5:15 PM	0	0	0	0	0	1	14	0	0	45	3	0	1	10	0	0	74	0	0	0	0
5:20 PM	0	0	0	0	2	0	19	0	0	41	4	0	0	10	0	0	76	0	0	0	0
5:25 PM	0	0	0	0	0	1	11	0	0	19	5	0	1	4	0	0	41	0	0	0	0
5:30 PM	0	0	0	0	0	1	12	0	0	29	3	0	0	8	0	0	53	1	0	0	0
5:35 PM	0	0	0	0	1	1	21	0	0	33	11	0	0	8	0	0	75	0	0	0	0
5:40 PM	0	0	0	0	0	0	10	0	0	32	5	0	0	18	0	0	65	0	0	0	0
5:45 PM	0	0	0	0	0	0	9	0	0	20	5	0	1	10	0	0	45	0	0	0	0
5:50 PM	0	0	0	0	1	0	11	0	0	25	1	0	1	6	0	0	45	0	0	0	0
5:55 PM	0	0	0	0	0	1	13	0	0	17	6	0	1	6	0	0	44	0	0	0	0
Total Survey	0	0	0	0	6	5	332	0	0	647	100	0	16	203	0	0	1,309	1	0	0	0

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	0	0	0	1	0	51	0	0	58	21	0	2	28	0	0	161	0	0	0	0
4:15 PM	0	0	0	0	0	0	47	0	0	80	7	0	4	24	0	0	162	0	0	0	0
4:30 PM	0	0	0	0	0	0	39	0	0	89	7	0	2	21	0	0	158	0	0	0	0
4:45 PM	0	0	0	0	1	0	44	0	0	68	14	0	3	17	0	0	147	0	0	0	0
5:00 PM	0	0	0	0	0	0	31	0	0	91	8	0	0	33	0	0	163	0	0	0	0
5:15 PM	0	0	0	0	2	2	44	0	0	105	12	0	2	24	0	0	191	0	0	0	0
5:30 PM	0	0	0	0	1	2	43	0	0	94	19	0	0	34	0	0	193	1	0	0	0
5:45 PM	0	0	0	0	1	1	33	0	0	62	12	0	3	22	0	0	134	0	0	0	0
Total Survey	0	0	0	0	6	5	332	0	0	647	100	0	16	203	0	0	1,309	1	0	0	0

Peak Hour Summary

4:45 PM to 5:45 PM

By Approach	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	0	62	62	0	170	0	170	0	411	270	681	0	113	362	475	0	694	1	0	0	0
%HV	0.0%				0.6%				1.5%				0.0%				1.0%				
PHF	0.00				0.89				0.76				0.78				0.80				

By Movement	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Total				
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total					
Volume	0	0	0	0	4	4	162	170	0	358	53	411	5	108	0	113	694				
%HV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.6%	0.0%	1.4%	1.9%	1.5%	0.0%	0.0%	0.0%	0.0%	1.0%				
PHF	0.00	0.00	0.00	0.00	0.50	0.33	0.90	0.89	0.00	0.72	0.70	0.76	0.42	0.77	0.00	0.78	0.80				

Rolling Hour Summary

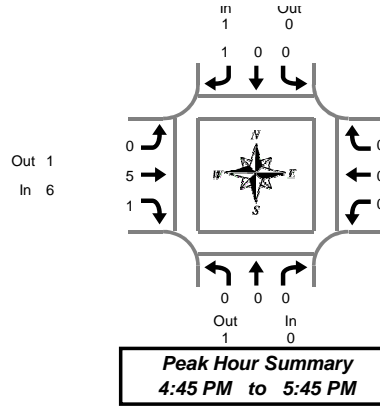
4:00 PM to 6:00 PM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	0	0	0	0	2	0	181	0	0	295	49	0	11	90	0	0	628	0	0	0	0
4:15 PM	0	0	0	0	1	0	161	0	0	328	36	0	9	95	0	0	630	0	0	0	0
4:30 PM	0	0	0	0	3	2	158	0	0	353	41	0	7	95	0	0	659	0	0	0	0
4:45 PM	0	0	0	0	4	4	162	0	0	358	53	0	5	108	0	0	694	1	0	0	0
5:00 PM	0	0	0	0	4	5	151	0	0	352	51	0	5	113	0	0	681	1	0	0	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



I-5 SB Ramp & Kelso Ave

Wednesday, March 21, 2018

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
4:05 PM	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	2
4:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
4:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:50 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
5:25 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	0	0	4	4	0	7	1	8	0	1	0	1	13

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	3	3	0	2	0	2	0	0	0	0	5
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Survey	0	0	0	0	0	0	4	4	0	7	1	8	0	1	0	1	13

Heavy Vehicle Peak Hour Summary

4:45 PM to 5:45 PM

By Approach	Northbound I-5 SB Ramp			Southbound I-5 SB Ramp			Eastbound Kelso Ave			Westbound Kelso Ave			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	0	1	1	1	0	1	6	1	7	0	5	5	7
PHF	0.00			0.25			0.75			0.00			0.88

By Movement	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	0	0	0	0	0	0	1	1	0	5	1	6	0	0	0	0	7
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.00	0.63	0.25	0.75	0.00	0.00	0.00	0.00	0.88

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound I-5 SB Ramp				Southbound I-5 SB Ramp				Eastbound Kelso Ave				Westbound Kelso Ave				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	0	3	3	0	4	0	4	0	1	0	1	8
4:15 PM	0	0	0	0	0	0	0	0	0	4	0	4	0	1	0	1	5
4:30 PM	0	0	0	0	0	0	0	0	0	5	1	6	0	1	0	1	7
4:45 PM	0	0	0	0	0	0	1	1	0	5	1	6	0	0	0	0	7
5:00 PM	0	0	0	0	0	0	1	1	0	3	1	4	0	0	0	0	5

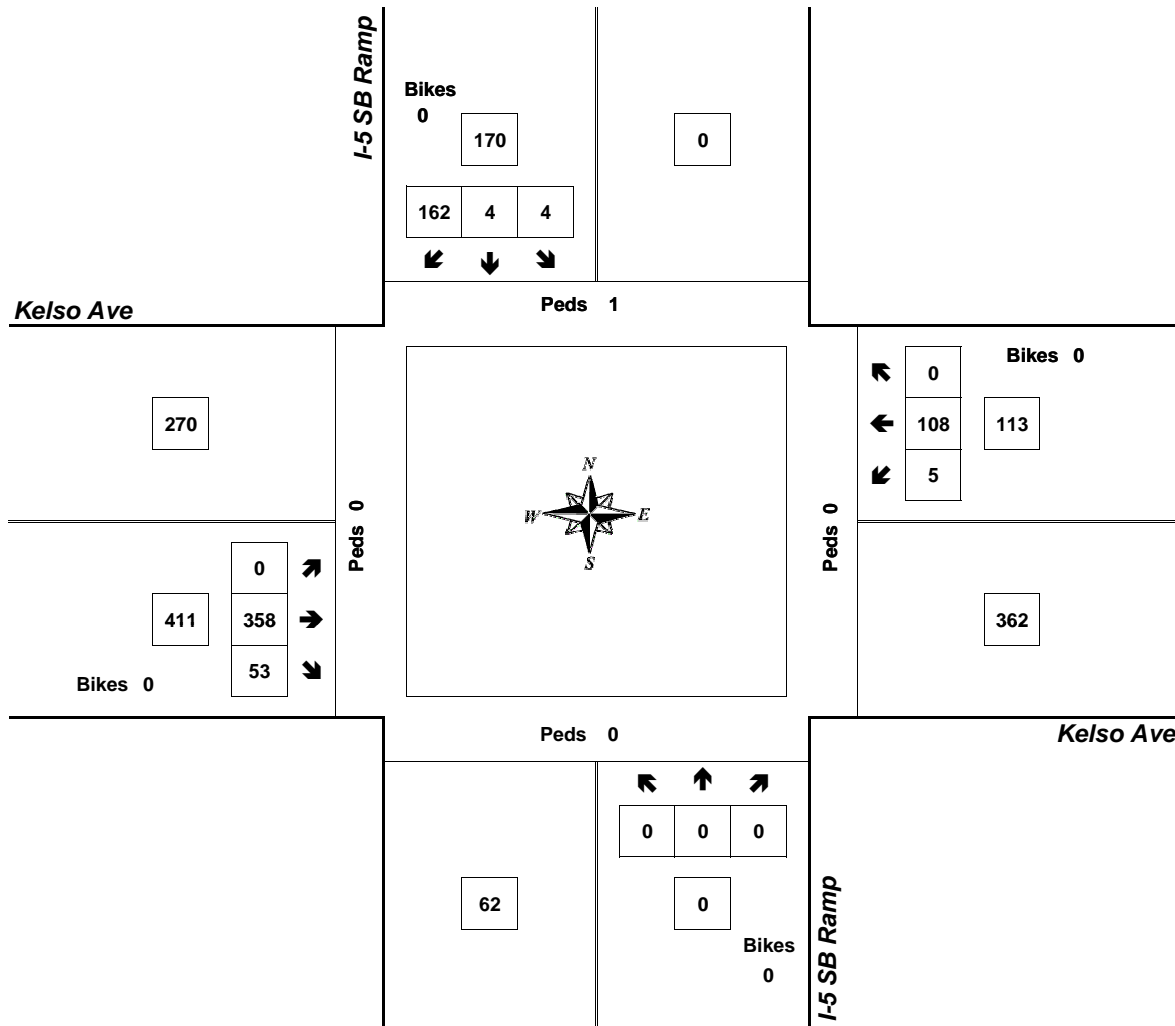
Peak Hour Summary



Clay Carney
(503) 833-2740

I-5 SB Ramp & Kelso Ave

4:45 PM to 5:45 PM
Wednesday, March 21, 2018



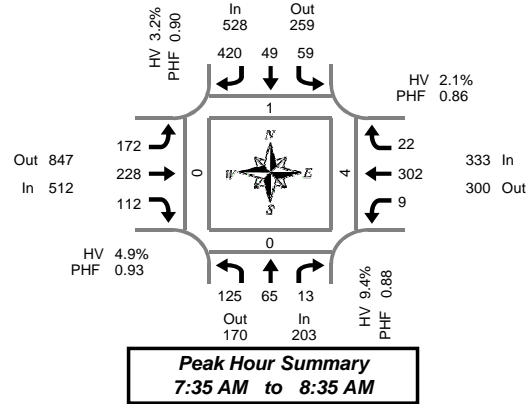
Approach	PHF	HV%	Volume
EB	0.76	1.5%	411
WB	0.78	0.0%	113
NB	0.00	0.0%	0
SB	0.89	0.6%	170
Intersection	0.80	1.0%	694

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

Total Vehicle Summary



Clay Carney
(503) 833-2740



Kelso Ave & Cowlitz Way

Thursday, March 22, 2018

7:00 AM to 9:00 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	1	6	0	0	3	0	14	0	11	17	5	0	12	1	0	0	70	0	0	0	0
7:05 AM	5	3	0	0	4	0	14	0	12	12	4	0	0	6	1	0	61	0	0	0	0
7:10 AM	8	4	1	0	5	4	17	0	13	15	2	0	2	11	1	0	83	0	0	0	0
7:15 AM	7	9	0	0	3	4	26	0	14	17	1	0	0	11	0	0	92	0	0	1	0
7:20 AM	4	4	0	0	2	5	28	0	23	18	4	0	0	20	2	0	110	0	0	0	0
7:25 AM	6	9	0	0	2	7	28	0	22	22	7	0	1	22	5	0	131	0	0	0	0
7:30 AM	5	7	0	0	5	5	31	0	13	29	10	0	2	13	1	0	121	0	0	0	0
7:35 AM	8	5	0	0	4	2	33	0	16	27	7	0	1	21	2	0	126	0	0	0	0
7:40 AM	10	3	0	0	10	2	33	0	16	18	7	0	2	38	2	0	141	0	0	0	0
7:45 AM	14	5	1	0	5	3	35	0	14	11	11	0	1	24	0	0	124	0	0	2	0
7:50 AM	15	3	0	0	5	5	38	0	15	19	13	0	0	28	2	0	143	0	0	0	0
7:55 AM	11	8	1	0	6	6	43	0	14	25	16	0	2	28	2	0	162	0	0	0	0
8:00 AM	8	8	1	0	4	3	26	0	7	19	9	0	0	21	2	0	108	0	0	0	0
8:05 AM	13	5	0	0	4	5	39	0	13	17	4	0	0	20	3	0	123	0	0	2	0
8:10 AM	9	7	3	0	3	4	29	0	14	17	10	0	1	23	2	0	122	1	0	0	0
8:15 AM	6	5	2	0	3	6	30	0	18	24	10	0	0	24	3	0	131	0	0	0	0
8:20 AM	8	6	1	0	8	4	41	0	13	14	7	0	1	30	2	0	135	0	0	0	0
8:25 AM	14	3	2	0	3	3	36	0	16	22	9	0	1	23	1	0	133	0	0	0	0
8:30 AM	9	7	2	0	4	6	37	0	16	15	9	0	0	22	1	0	128	0	0	0	0
8:35 AM	14	5	0	0	6	5	26	0	12	21	3	0	1	24	2	0	119	0	0	1	0
8:40 AM	14	7	1	0	1	6	34	0	10	22	11	0	2	21	2	0	131	0	0	0	0
8:45 AM	15	8	1	0	2	6	33	0	4	18	6	0	0	28	5	0	126	0	0	0	0
8:50 AM	16	3	1	0	5	3	26	0	11	17	7	0	0	21	2	0	112	0	0	0	0
8:55 AM	9	1	3	0	1	5	16	0	17	23	10	0	1	20	3	0	109	0	0	0	0
Total Survey	229	131	20	0	98	99	713	0	334	459	182	0	18	511	47	0	2,841	1	0	6	0

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	14	13	1	0	12	4	45	0	36	44	11	0	2	29	3	0	214	0	0	0	0
7:15 AM	17	22	0	0	7	16	82	0	59	57	12	0	1	53	7	0	333	0	0	1	0
7:30 AM	23	15	0	0	19	9	97	0	45	74	24	0	5	72	5	0	388	0	0	0	0
7:45 AM	40	16	2	0	16	14	116	0	43	55	40	0	3	80	4	0	429	0	0	2	0
8:00 AM	30	20	4	0	11	12	94	0	34	53	23	0	1	64	7	0	353	1	0	2	0
8:15 AM	28	14	5	0	14	13	107	0	47	60	26	0	2	77	6	0	399	0	0	0	0
8:30 AM	37	19	3	0	11	17	97	0	38	58	23	0	3	67	5	0	378	0	0	1	0
8:45 AM	40	12	5	0	8	14	75	0	32	58	23	0	1	69	10	0	347	0	0	0	0
Total Survey	229	131	20	0	98	99	713	0	334	459	182	0	18	511	47	0	2,841	1	0	6	0

Peak Hour Summary

7:35 AM to 8:35 AM

By Approach	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	203	170	373	0	528	259	787	0	512	847	1,359	0	333	300	633	0	1,576	1	0	4	0
%HV	9.4%				3.2%				4.9%				2.1%				4.3%				
PHF	0.88				0.90				0.93				0.86				0.92				

By Movement	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	125	65	13	203	59	49	420	528	172	228	112	512	9	302	22	333	1,576
%HV	7.2%	15.4%	0.0%	9.4%	5.1%	2.0%	3.1%	3.2%	5.2%	5.3%	3.6%	4.9%	0.0%	2.3%	0.0%	2.1%	4.3%
PHF	0.78	0.77	0.54	0.88	0.74	0.82	0.91	0.90	0.91	0.90	0.70	0.93	0.56	0.84	0.69	0.86	0.92

Rolling Hour Summary

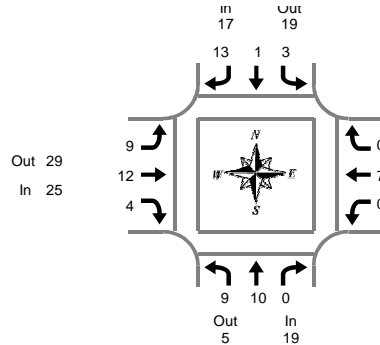
7:00 AM to 9:00 AM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
7:00 AM	94	66	3	0	54	43	340	0	183	230	87	0	11	234	19	0	1,364	0	0	3	0
7:15 AM	110	73	6	0	53	51	389	0	181	239	99	0	10	269	23	0	1,503	1	0	5	0
7:30 AM	121	65	11	0	60	48	414	0	169	242	113	0	11	293	22	0	1,569	1	0	4	0
7:45 AM	135	69	14	0	52	56	414	0	162	226	112	0	9	288	22	0	1,559	1	0	5	0
8:00 AM	135	65	17	0	44	56	373	0	151	229	95	0	7	277	28	0	1,477	1	0	3	0

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
7:35 AM to 8:35 AM

Kelso Ave & Cowlitz Way

Thursday, March 22, 2018

7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
7:05 AM	0	1	0	1	0	0	0	0	0	1	3	4	0	0	0	0	5
7:10 AM	0	1	1	2	0	0	1	1	1	1	0	2	0	1	0	1	6
7:15 AM	1	0	0	1	1	1	1	3	2	1	1	4	0	1	0	1	9
7:20 AM	0	0	0	0	0	2	1	3	4	0	0	4	0	0	0	0	7
7:25 AM	0	1	0	1	0	0	0	0	2	0	0	2	0	2	0	2	5
7:30 AM	1	0	0	1	0	1	0	1	1	0	0	1	0	0	0	0	3
7:35 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
7:40 AM	1	0	0	1	0	0	1	1	1	1	0	2	0	3	0	3	7
7:45 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	1	0	1	3
7:50 AM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
7:55 AM	0	2	0	2	0	1	2	3	2	2	1	5	0	0	0	0	10
8:00 AM	0	1	0	1	0	0	1	1	0	0	1	1	0	0	0	0	3
8:05 AM	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
8:10 AM	0	1	0	1	0	0	1	1	1	0	1	2	0	0	0	0	4
8:15 AM	2	0	0	2	0	0	2	2	1	1	0	2	0	0	0	0	6
8:20 AM	0	1	0	1	2	0	1	3	1	1	0	2	0	1	0	1	7
8:25 AM	1	2	0	3	1	0	4	5	1	1	0	2	0	1	0	1	11
8:30 AM	0	1	0	1	0	0	1	1	1	3	1	5	0	1	0	1	8
8:35 AM	0	2	0	2	0	1	1	2	2	1	0	3	0	0	0	0	7
8:40 AM	0	1	0	1	0	0	1	1	0	2	0	2	0	0	0	0	4
8:45 AM	1	1	0	2	0	0	2	2	3	1	0	4	0	0	0	0	8
8:50 AM	0	0	0	0	0	0	1	1	2	1	0	3	0	0	1	1	5
8:55 AM	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	2
Total Survey	12	17	1	30	4	6	24	34	27	20	8	55	0	11	1	12	131

Heavy Vehicle 15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	0	2	1	3	0	0	3	3	1	2	3	6	0	1	0	1	13
7:15 AM	1	1	0	2	1	3	2	6	8	1	1	10	0	3	0	3	21
7:30 AM	2	0	0	2	0	1	1	2	2	4	0	6	0	3	0	3	13
7:45 AM	1	4	0	5	0	1	2	3	3	2	1	6	0	1	0	1	15
8:00 AM	4	2	0	6	0	0	2	2	1	0	2	3	0	0	0	0	11
8:15 AM	3	3	0	6	3	0	7	10	3	3	0	6	0	2	0	2	24
8:30 AM	0	4	0	4	0	1	3	4	3	6	1	10	0	1	0	1	19
8:45 AM	1	1	0	2	0	0	4	4	6	2	0	8	0	0	1	1	15
Total Survey	12	17	1	30	4	6	24	34	27	20	8	55	0	11	1	12	131

Heavy Vehicle Peak Hour Summary

7:35 AM to 8:35 AM

By Approach	Northbound Kelso Ave			Southbound Kelso Ave			Eastbound Cowlitz Way			Westbound Cowlitz Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	19	5	24	17	19	36	25	29	54	7	15	22	68
PHF	0.68			0.43			0.69			0.44			0.65

By Movement	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	9	10	0	19	3	1	13	17	9	12	4	25	0	7	0	7	68
PHF	0.38	0.63	0.00	0.68	0.25	0.25	0.46	0.43	0.75	0.60	0.50	0.69	0.00	0.44	0.00	0.44	0.65

Heavy Vehicle Rolling Hour Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
7:00 AM	4	7	1	12	1	5	8	14	14	9	5	28	0	8	0	8	62
7:15 AM	8	7	0	15	1	5	7	13	14	7	4	25	0	7	0	7	60
7:30 AM	10	9	0	19	3	2	12	17	9	9	3	21	0	6	0	6	63
7:45 AM	8	13	0	21	3	2	14	19	10	11	4	25	0	4	0	4	69
8:00 AM	8	10	0	18	3	1	16	20	13	11	3	27	0	3	1	4	69

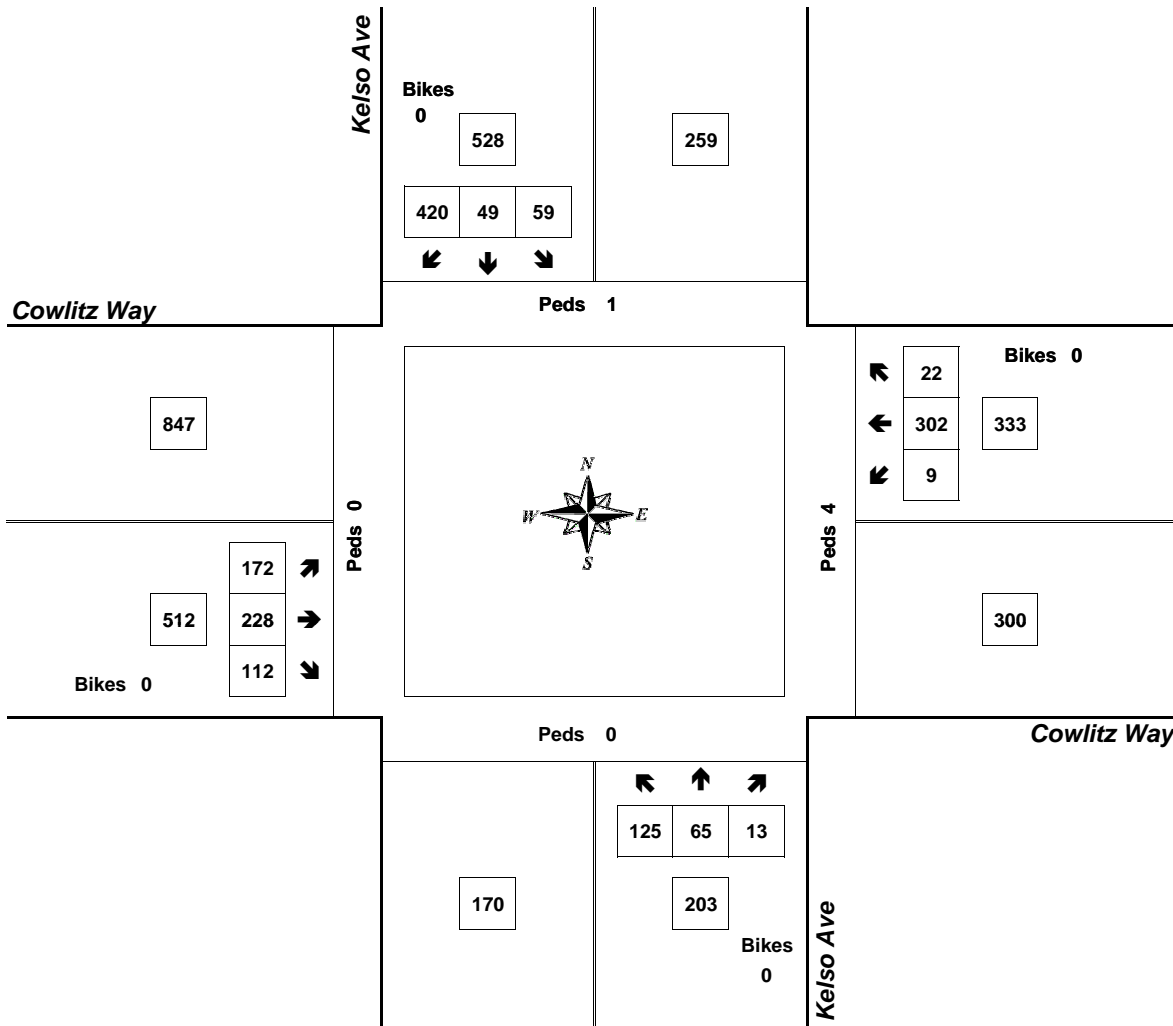
Peak Hour Summary



Clay Carney
(503) 833-2740

Kelso Ave & Cowlitz Way

7:35 AM to 8:35 AM
Thursday, March 22, 2018



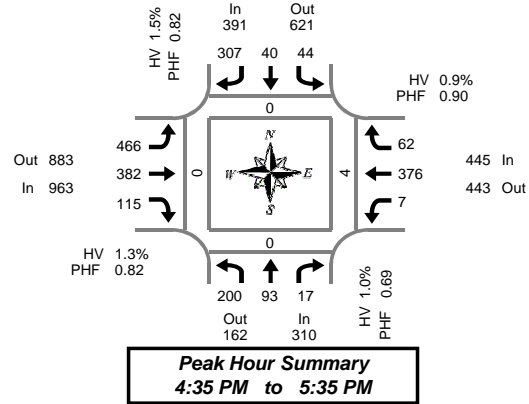
Approach	PHF	HV%	Volume
EB	0.93	4.9%	512
WB	0.86	2.1%	333
NB	0.88	9.4%	203
SB	0.90	3.2%	528
Intersection	0.92	4.3%	1,576

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

Total Vehicle Summary



Clay Carney
(503) 833-2740



Kelso Ave & Cowlitz Way

Wednesday, March 21, 2018

4:00 PM to 6:00 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	8	1	3	0	1	4	29	0	35	23	13	0	0	25	2	0	144	0	0	0	0
4:05 PM	19	10	2	0	6	1	32	0	31	31	14	0	1	17	5	0	169	1	4	2	0
4:10 PM	12	8	1	0	3	9	23	0	26	27	14	0	1	34	7	0	165	0	0	2	0
4:15 PM	30	11	0	0	2	3	32	0	27	19	10	0	1	28	4	0	167	1	0	0	0
4:20 PM	14	6	0	0	1	5	41	0	33	32	12	0	0	27	5	0	176	0	1	0	0
4:25 PM	13	7	1	0	2	4	23	0	45	25	7	0	1	22	5	0	155	0	0	0	0
4:30 PM	13	6	1	0	3	5	21	0	38	34	10	0	0	20	5	0	156	0	0	0	0
4:35 PM	23	10	1	0	3	4	18	0	37	29	7	0	1	38	6	0	177	0	0	0	0
4:40 PM	9	3	1	0	3	4	32	0	40	27	8	0	1	38	5	0	171	0	0	0	0
4:45 PM	16	6	1	0	3	3	35	0	30	31	9	0	0	31	4	0	169	0	0	0	0
4:50 PM	13	7	2	0	6	2	31	0	36	23	16	0	1	36	7	0	180	0	0	0	0
4:55 PM	9	7	1	0	4	3	19	0	37	38	7	0	1	39	5	0	170	0	0	0	0
5:00 PM	18	5	1	0	4	3	21	0	35	20	8	0	0	26	6	0	147	0	0	0	0
5:05 PM	31	18	3	0	1	3	25	0	35	32	12	0	1	33	6	0	200	0	0	0	0
5:10 PM	25	7	1	0	1	3	30	0	54	43	11	0	1	25	3	0	204	0	0	0	0
5:15 PM	13	10	4	0	4	2	17	0	50	44	13	0	1	26	4	0	188	0	0	0	0
5:20 PM	15	8	0	0	7	6	35	0	38	33	8	0	0	24	5	0	179	0	0	1	0
5:25 PM	12	6	0	0	5	3	22	1	33	30	8	0	0	37	4	0	160	0	0	0	0
5:30 PM	16	6	2	0	3	4	22	0	41	32	8	0	0	23	7	0	164	0	0	3	0
5:35 PM	17	8	1	0	6	4	20	0	42	33	14	0	0	21	3	0	169	0	1	2	0
5:40 PM	9	6	1	0	3	8	24	0	36	23	16	0	0	20	9	0	155	0	0	0	0
5:45 PM	8	3	2	0	5	1	23	0	33	26	11	0	0	31	2	0	145	0	0	0	0
5:50 PM	12	4	2	0	6	3	24	0	32	22	9	0	0	28	2	0	144	0	0	0	0
5:55 PM	13	6	0	0	3	2	25	0	31	34	8	0	1	11	2	0	136	0	0	0	1
Total Survey	368	169	31	0	85	89	624	1	875	711	253	0	12	660	113	0	3,990	2	6	10	1

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	39	19	6	0	10	14	84	0	92	81	41	0	2	76	14	0	478	1	4	4	0
4:15 PM	57	24	1	0	5	12	96	0	105	76	29	0	2	77	14	0	498	1	1	0	0
4:30 PM	45	19	3	0	9	13	71	0	115	90	25	0	2	96	16	0	504	0	0	0	0
4:45 PM	38	20	4	0	13	8	85	0	103	92	32	0	2	106	16	0	519	0	0	0	0
5:00 PM	74	30	5	0	6	9	76	0	124	95	31	0	2	84	15	0	551	0	0	0	0
5:15 PM	40	24	4	0	16	11	74	1	121	107	29	0	1	87	13	0	527	0	0	1	0
5:30 PM	42	20	4	0	12	16	66	0	119	88	38	0	0	64	19	0	488	0	1	5	0
5:45 PM	33	13	4	0	14	6	72	0	96	82	28	0	1	70	6	0	425	0	0	0	1
Total Survey	368	169	31	0	85	89	624	1	875	711	253	0	12	660	113	0	3,990	2	6	10	1

Peak Hour Summary

4:35 PM to 5:35 PM

By Approach	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	310	162	472	0	391	621	1,012	1	963	883	1,846	0	445	443	888	0	2,109	0	0	4	0
%HV	1.0%				1.5%				1.3%				0.9%				1.2%				
PHF	0.69				0.82				0.82				0.90				0.89				

By Movement	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	200	93	17	310	44	40	307	391	466	382	115	963	7	376	62	445	2,109
%HV	1.0%	1.1%	0.0%	1.0%	0.0%	2.5%	1.6%	1.5%	0.9%	1.3%	3.5%	1.3%	0.0%	1.1%	0.0%	0.9%	1.2%
PHF	0.68	0.66	0.53	0.69	0.69	0.77	0.78	0.82	0.82	0.80	0.80	0.82	0.58	0.88	0.86	0.90	0.89

Rolling Hour Summary

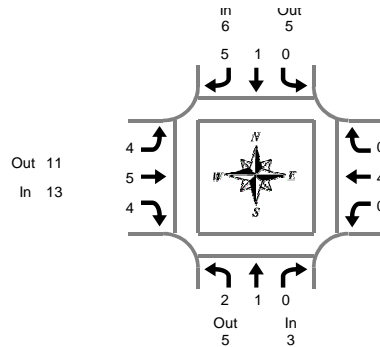
4:00 PM to 6:00 PM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
4:00 PM	179	82	14	0	37	47	336	0	415	339	127	0	8	355	60	0	1,999	2	5	4	0
4:15 PM	214	93	13	0	33	42	328	0	447	353	117	0	8	363	61	0	2,072	1	1	0	0
4:30 PM	197	93	16	0	44	41	306	1	463	384	117	0	7	373	60	0	2,101	0	0	1	0
4:45 PM	194	94	17	0	47	44	301	1	467	382	130	0	5	341	63	0	2,085	0	1	6	0
5:00 PM	189	87	17	0	48	42	288	1	460	372	126	0	4	305	53	0	1,991	0	1	6	1

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



Peak Hour Summary
4:35 PM to 5:35 PM

Kelso Ave & Cowlitz Way

Wednesday, March 21, 2018

4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total	
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total		
4:00 PM	0	0	0	0	0	0	1	1	2	0	0	1	1	0	0	0	0	3
4:05 PM	0	0	0	0	0	0	0	0	0	2	0	2	4	0	2	0	2	6
4:10 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:20 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:35 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
4:40 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
4:50 PM	1	0	0	1	0	0	0	0	0	1	0	0	1	0	2	0	2	4
4:55 PM	1	0	0	1	0	0	1	1	2	0	2	0	2	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	1	0	1	0	0	1	1	1	0	1	1	2	0	0	0	0	4
5:10 PM	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1
5:20 PM	0	0	0	0	0	0	1	1	1	1	0	1	2	0	0	0	0	3
5:25 PM	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	1	0	0	1	0	0	1	1	1	0	1	1	2	0	0	0	0	4
5:40 PM	0	0	0	0	0	0	1	1	1	0	1	0	1	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
5:55 PM	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	2
Total Survey	4	1	0	5	0	3	10	13	7	8	8	23	0	7	0	7	48	

Heavy Vehicle 15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	0	0	0	0	0	2	1	3	2	0	3	5	0	2	0	2	10
4:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	1	1	2	0	1	0	1	3
4:45 PM	2	0	0	2	0	1	1	2	2	3	0	5	0	2	0	2	11
5:00 PM	0	1	0	1	0	0	1	1	1	1	2	4	0	0	0	0	6
5:15 PM	0	0	0	0	0	0	3	3	1	0	1	2	0	1	0	1	6
5:30 PM	1	0	0	1	0	0	2	2	0	2	1	3	0	0	0	0	6
5:45 PM	0	0	0	0	0	0	2	2	1	1	0	2	0	0	0	0	4
Total Survey	4	1	0	5	0	3	10	13	7	8	8	23	0	7	0	7	48

Heavy Vehicle Peak Hour Summary

4:35 PM to 5:35 PM

By Approach	Northbound Kelso Ave			Southbound Kelso Ave			Eastbound Cowlitz Way			Westbound Cowlitz Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	3	5	8	6	5	11	13	11	24	4	5	9	26
PHF	0.38			0.50			0.65			0.50			0.59

By Movement	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	1	0	3	0	1	5	6	4	5	4	13	0	4	0	4	26
PHF	0.25	0.25	0.00	0.38	0.00	0.25	0.42	0.50	0.50	0.42	0.50	0.65	0.00	0.50	0.00	0.50	0.59

Heavy Vehicle Rolling Hour Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound Kelso Ave				Southbound Kelso Ave				Eastbound Cowlitz Way				Westbound Cowlitz Way				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
4:00 PM	3	0	0	3	0	3	2	5	4	4	4	12	0	6	0	6	26
4:15 PM	3	1	0	4	0	1	2	3	3	5	3	11	0	4	0	4	22
4:30 PM	2	1	0	3	0	1	5	6	4	5	4	13	0	4	0	4	26
4:45 PM	3	1	0	4	0	1	7	8	4	6	4	14	0	3	0	3	29
5:00 PM	1	1	0	2	0	0	8	8	3	4	4	11	0	1	0	1	22

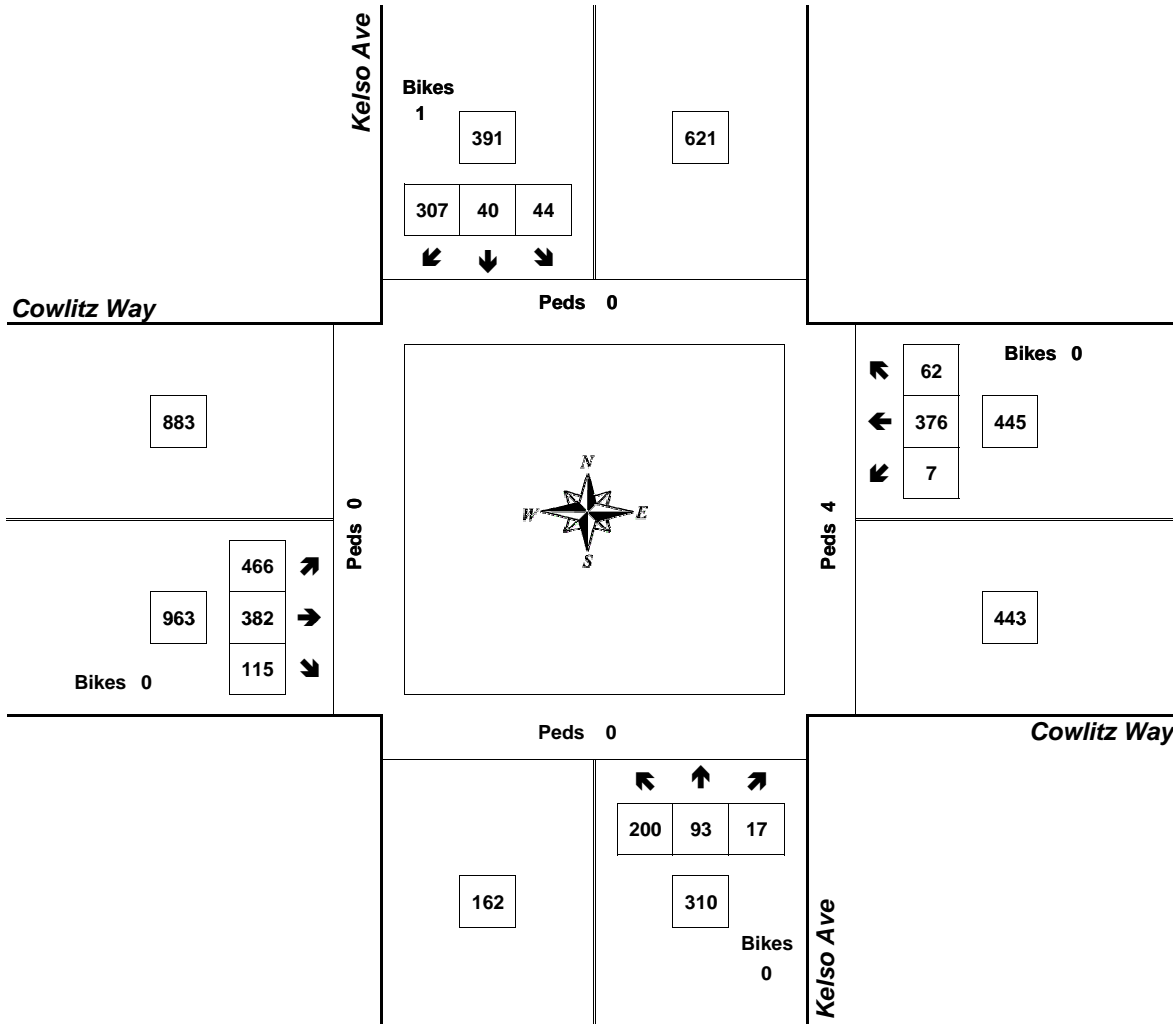
Peak Hour Summary



Clay Carney
(503) 833-2740

Kelso Ave & Cowlitz Way

4:35 PM to 5:35 PM
Wednesday, March 21, 2018



Approach	PHF	HV%	Volume
EB	0.82	1.3%	963
WB	0.90	0.9%	445
NB	0.69	1.0%	310
SB	0.82	1.5%	391
Intersection	0.89	1.2%	2,109

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

OFFICER REPORTED CRASHES THAT OCCURRED at OR in the vicinity of THE FOLLOWING STATE ROUTE INTERSECTIONS IN THE CITY OF KELSO

State Route 005 LX04070 (aka Kelso Ave/Old State Route 431, milepost 0.00 - 0.02) @ State Route 005 S104040B (milepsot 0.00 - 0.02)

State Route 005 LX04070 (aka Kelso Ave/Old State Route 431, milepost 0.00 - 0.02) @ State Route 005 R104096 (milepsot 0.25 - 0.27)

State Route 004 (aka Cowlitz Way/Old State Route 431, milepost 61.36 - 61.47) @ Kelso Ave/Pacific Ave

01/01/2013 - 12/31/2017

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.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# I N J	# F A T	# V E H	# P E S	# B I K E S
State Route	Cowlitz	Kelso	005R104096	0.27		No	E696367	07/21/2017	22:40	Possible Injury	1	0	2	0	0
State Route	Cowlitz	Kelso	005LX04070	0.00		No	E467324	10/02/2015	18:12	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	005LX04070	0.00		No	E632488	01/03/2017	09:40	Possible Injury	1	0	2	0	0
State Route	Cowlitz	Kelso	004	61.38		No	E311534	02/28/2014	12:50	No Apparent Injury	0	0	3	0	0
State Route	Cowlitz	Kelso	004	61.38		No	E638557	01/27/2017	16:15	No Apparent Injury	0	0	3	0	0
State Route	Cowlitz	Kelso	004	61.41		No	E677450	06/01/2017	11:47	No Apparent Injury	0	0	1	0	0
State Route	Cowlitz	Kelso	004	61.41		No	E718614	10/03/2017	17:34	No Apparent Injury	0	0	3	0	0
State Route	Cowlitz	Kelso	004	61.43		No	2746885	09/02/2015	18:48	No Apparent Injury	0	0	3	0	0
State Route	Cowlitz	Kelso	004	61.43		No	2746930	06/20/2015	11:35	Possible Injury	1	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	2746933	12/18/2015	13:20	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	3463292	01/30/2015	07:32	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	3463403	02/06/2016	01:33	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E343286	07/01/2014	13:40	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E348323	08/10/2014	15:40	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E374850	11/14/2014	09:29	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E382413	12/10/2014	19:59	No Apparent Injury	0	0	2	0	0

VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Passenger Car	Passenger Car	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Not at Intersection and Not Related
Passenger Car	Passenger Car	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb		Intersection Related but Not at Intersection
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	Intersection Related but Not at Intersection
Passenger Car	Passenger Car	At Intersection and Related
Passenger Car	Truck Tractor & Semi-Trailer	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Driveway within Major Intersection
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Passenger Car	Passenger Car	At Intersection and Related
Passenger Car	Passenger Car	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related

WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK
Clear or Partly Cloudy	Dry	Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end
Raining	Wet	Dusk	Entering at angle
Clear or Partly Cloudy	Dry	Daylight	Entering at angle
Clear or Partly Cloudy	Dry	Daylight	From same direction - both going straight - one stopped - rear-end
Clear or Partly Cloudy	Dry	Daylight	From same direction - both going straight - one stopped - rear-end
Overcast	Wet	Daylight	Bridge Rail - Face
Clear or Partly Cloudy	Dry	Daylight	From same direction - both going straight - one stopped - rear-end
Overcast	Dry	Daylight	From same direction - both going straight - one stopped - rear-end
Clear or Partly Cloudy	Dry	Daylight	Same direction -- both turning right -- both moving -- sideswipe
Overcast	Wet	Daylight	From opposite direction - one left turn - one straight
Clear or Partly Cloudy	Dry	Daylight	From opposite direction - one left turn - one straight
Clear or Partly Cloudy	Dry	Dark-Street Lights On	From same direction - one right turn - one straight
Clear or Partly Cloudy	Dry	Daylight	From same direction - both going straight - one stopped - rear-end
Clear or Partly Cloudy	Dry	Daylight	Entering at angle
Clear or Partly Cloudy	Dry	Daylight	Same direction -- both turning right -- both moving -- rear end
Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end

VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO
Going Straight Ahead	Stopped at Signal or Stop Sign	North	South	Vehicle Stopped	Vehicle Stopped
Going Straight Ahead	Going Straight Ahead	North	South	West	East
Going Straight Ahead	Going Straight Ahead	South	North	North	South
Going Straight Ahead	Stopped for Traffic	West	East	Vehicle Stopped	Vehicle Stopped
Going Straight Ahead	Stopped for Traffic	West	East	Vehicle Stopped	Vehicle Stopped
Going Straight Ahead		South	West		
Going Straight Ahead	Stopped at Signal or Stop Sign	West	East	West	Vehicle Stopped
Going Straight Ahead	Stopped for Traffic	West	East		Vehicle Stopped
Making Right Turn	Making Right Turn	North	West	North	West
Making Left Turn	Stopped for Traffic		East		West
Going Straight Ahead	Making Left Turn	East	West	West	North
Going Straight Ahead	Making Right Turn	North	South	North	West
Going Straight Ahead	Stopped at Signal or Stop Sign	East	West	East	Vehicle Stopped
Going Straight Ahead	Going Straight Ahead	North	South	West	East
Making Right Turn	Making Right Turn	North	West	North	West
Going Straight Ahead	Stopped at Signal or Stop Sign	South	North	Vehicle Stopped	Vehicle Stopped

MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)
Under Influence of Alcohol		
Disregard Stop Sign - Flashing Red	Inattention	Driver Distractions Outside Vehicle
None		
Unknown Driver Distraction	Follow Too Closely	
Inattention	Follow Too Closely	
Improper Turn	Exceeding Reas. Safe Speed	
Follow Too Closely		
	Follow Too Closely	Inattention
Other	Inattention	Unknown Driver Distraction
Inattention	Driver Not Distracted	Improper Turn
None		
Follow Too Closely		
Inattention		
Disregard Stop and Go Light	Inattention	Driver Not Distracted
Inattention	Follow Too Closely	
Inattention	Follow Too Closely	

MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)
None				
None				
Disregard Stop Sign - Flashing Red				
None				
None				
None				
None				
	None			
Driver Not Distracted	None			
Did Not Grant RW to Vehicle	Disregard Yield Sign - Flashing Yellow			
None				
None				
None				
None				
None				

PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
	Lane 1 Off Ramp Decreasing Milepost Side of Mainline	1031556.34	309513.51
	Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1031559.08	309510.11
	Lane 1 LX Increasing Milepost (Prior to 2002 Impact Location Code was not lane specific)	1031554.2	309511.87
	Lane 1 Increasing Milepost	1029266.09	306147.9
	Lane 2 Increasing Milepost	1029284.36	306129.01
	Right Shoulder Decreasing Milepost	1029449.03	306098.58
	Lane 2 Increasing Milepost	1029428.94	306097
	Left Turn Lane Increasing Milepost	1029550.25	306068.4
	Lane 1 Increasing Milepost	1029550.25	306068.4
	Lane 1 Decreasing Milepost	1029534.17	306068.37
	Lane 1 Decreasing Milepost	1029550.27	306068.38
	Intersecting Road Decreasing Milepost	1029545.33	306057.51
	Lane 1 Decreasing Milepost	1029551.76	306069.55
	Lane 1 Increasing Milepost	1029550.69	306069.86
	Intersecting Road Decreasing Milepost	1029550.69	306069.86
	Intersecting Road Increasing Milepost	1029550.69	306069.86

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State Route 005 LX04070 (aka Kelso Ave/Old State Route 431, milepost 0.00 - 0.02) @ State Route 005 R104096 (milepsot 0.25 - 0.27)

State Route 004 (aka Cowlitz Way/Old State Route 431, milepost 61.36 - 61.47) @ Kelso Ave/Pacific Ave

01/01/2013 - 12/31/2017

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JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# I N J	# F A T	# V E H	# P E D S	# B I K E S
State Route	Cowlitz	Kelso	004	61.43		No	E396821	01/31/2015	23:19	Suspected Minor Injury	2	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E398110	02/05/2015	10:27	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E398838	02/07/2015	21:45	Possible Injury	2	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E420288	04/29/2015	18:17	Suspected Minor Injury	1	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E423053	05/08/2015	22:46	Suspected Minor Injury	3	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E428192	05/28/2015	13:20	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E468257	10/03/2015	20:21	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E498468	12/26/2015	19:26	Possible Injury	2	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E500351	12/31/2015	13:17	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E515499	02/13/2016	14:42	No Apparent Injury	0	0	3	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E521165	03/01/2016	12:57	Possible Injury	1	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E533112	04/11/2016	14:08	Possible Injury	1	0	3	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E545000	05/19/2016	08:20	Possible Injury	2	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E547059	05/25/2016	14:30	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E557955	06/27/2016	18:42	Possible Injury	1	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E561955	07/08/2016	15:18	No Apparent Injury	0	0	2	0	0

VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Passenger Car	Passenger Car	At Intersection and Related
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Driveway within Major Intersection
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Driveway within Major Intersection
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related

WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK
Clear or Partly Cloudy	Dry	Dark-Street Lights On	From opposite direction - one left turn - one straight
Raining	Wet	Daylight	Entering at angle
Raining	Wet	Dark-Street Lights On	From opposite direction - one left turn - one straight
Clear or Partly Cloudy	Dry	Daylight	From opposite direction - one left turn - one straight
Clear or Partly Cloudy	Dry	Dark-Street Lights On	From opposite direction - one left turn - one straight
Clear or Partly Cloudy	Dry	Daylight	From same direction - both going straight - one stopped - sideswipe
Clear or Partly Cloudy	Dry	Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end
Clear or Partly Cloudy	Dry	Dark-Street Lights On	From opposite direction - one left turn - one straight
Clear or Partly Cloudy	Dry	Daylight	From same direction - both going straight - both moving - sideswipe
Raining	Wet	Daylight	From same direction - both going straight - both moving - sideswipe
Raining	Wet	Daylight	Entering at angle
Clear or Partly Cloudy	Dry	Daylight	From same direction - both going straight - one stopped - sideswipe
Overcast	Dry	Daylight	From opposite direction - one left turn - one straight
Clear or Partly Cloudy	Dry	Daylight	From opposite direction - one left turn - one straight
Clear or Partly Cloudy	Dry	Daylight	From opposite direction - one left turn - one straight
Overcast	Dry	Daylight	From opposite direction - one left turn - one straight

VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO
Making Left Turn	Going Straight Ahead	West	North	East	West
Making Left Turn	Going Straight Ahead	West	North	South	North
Making Left Turn	Going Straight Ahead	West	North	East	West
Making Left Turn	Going Straight Ahead	West	North	East	West
Making Left Turn	Going Straight Ahead	West	North	East	West
Changing Lanes	Stopped at Signal or Stop Sign	West	East	Vehicle Stopped	Vehicle Stopped
Going Straight Ahead	Stopped at Signal or Stop Sign	West	North	Vehicle Stopped	Vehicle Stopped
Making Left Turn	Going Straight Ahead	West	North	East	West
Changing Lanes	Going Straight Ahead	North	East	North	East
Going Straight Ahead	Going Straight Ahead	East	West	East	West
Making Left Turn	Going Straight Ahead	North	East	East	West
Going Straight Ahead	Stopped at Signal or Stop Sign	West	East	Vehicle Stopped	Vehicle Stopped
Making Left Turn	Going Straight Ahead	West	North	East	West
Making Left Turn	Going Straight Ahead	West	North	East	West
Making Left Turn	Going Straight Ahead	North	East	South	North
Making Left Turn	Going Straight Ahead	West	North	East	West

MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)
Did Not Grant RW to Vehicle		
Disregard Stop and Go Light	Inattention	Driver Not Distracted
Disregard Yield Sign - Flashing Yellow	Inattention	Driver Not Distracted
Disregard Yield Sign - Flashing Yellow	Did Not Grant RW to Vehicle	Unknown Driver Distraction
Disregard Yield Sign - Flashing Yellow		
Exceeding Reas. Safe Speed		
Driver Interacting with Passengers, Anim	Did Not Grant RW to Vehicle	
Disregard Yield Sign - Flashing Yellow	Did Not Grant RW to Vehicle	Unknown Driver Distraction
Did Not Grant RW to Vehicle	Unknown Driver Distraction	
Other		
Inattention	Did Not Grant RW to Vehicle	Driver Distractions Outside Vehicle
Unknown Driver Distraction	Follow Too Closely	
Improper Turn	Inattention	
Disregard Yield Sign - Flashing Yellow	Did Not Grant RW to Vehicle	
Did Not Grant RW to Vehicle		
Disregard Stop and Go Light	Inattention	Driver Not Distracted

MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)
None				
None				
None				
None				
None				
None				
None				
None				
Inattention	Unknown Driver Distraction			
Other	Driver Not Distracted			
None				
None				
None				
None				
None				
None				

PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
	Lane 2 Decreasing Milepost	1029550.27	306068.38
	Left Turn Lane Increasing Milepost	1029550.27	306068.38
	Lane 2 Decreasing Milepost	1029541.58	306074.44
	Lane 2 Decreasing Milepost	1029550.25	306068.4
	Lane 1 Decreasing Milepost	1029551.88	306072.82
	Left Turn Lane Increasing Milepost	1029546.53	306070.4
	Left Turn Lane Increasing Milepost	1029550.25	306068.4
	Lane 2 Decreasing Milepost	1029545.33	306057.51
	Intersecting Road Decreasing Milepost	1029545.33	306057.51
	Lane 2 Decreasing Milepost	1029545.33	306057.51
	Lane 1 Decreasing Milepost	1029549.53	306067.89
	Left Turn Lane Increasing Milepost	1029545.33	306057.51
	Lane 1 Decreasing Milepost	1029545.33	306057.51
	Lane 2 Decreasing Milepost	1029551	306063.62
	Intersecting Road Decreasing Milepost	1029538.44	306071.64
	Lane 1 Decreasing Milepost	1029545.33	306057.51

OFFICER REPORTED CRASHES THAT OCCURRED at OR in the vicinity of THE FOLLOWING STATE ROUTE INTERSECTIONS IN THE CITY OF KELSO

State Route 005 LX04070 (aka Kelso Ave/Old State Route 431, milepost 0.00 - 0.02) @ State Route 005 S104040B (milepsot 0.00 - 0.02)

State Route 005 LX04070 (aka Kelso Ave/Old State Route 431, milepost 0.00 - 0.02) @ State Route 005 R104096 (milepsot 0.25 - 0.27)

State Route 004 (aka Cowlitz Way/Old State Route 431, milepost 61.36 - 61.47) @ Kelso Ave/Pacific Ave

01/01/2013 - 12/31/2017

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.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# I N J	# F A T	# V E H	# P E D S	# B I K E S
State Route	Cowlitz	Kelso	004	61.43		No	E578343	08/28/2016	11:57	Suspected Minor Injury	1	0	1	0	1
State Route	Cowlitz	Kelso	004	61.43		No	E615223	12/03/2016	13:12	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E631383	01/12/2017	19:09	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E647212	03/01/2017	18:50	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E671768	05/16/2017	11:41	No Apparent Injury	0	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E689521	07/06/2017	16:48	Suspected Minor Injury	1	0	1	0	1
State Route	Cowlitz	Kelso	004	61.43		No	E708334	09/02/2017	22:13	Suspected Minor Injury	2	0	2	0	0
State Route	Cowlitz	Kelso	004	61.43		No	E739857	11/25/2017	15:10	Suspected Minor Injury	2	0	2	0	0
State Route	Cowlitz	Kelso	004	61.44		No	E231459	03/11/2013	17:08	Suspected Minor Injury	1	0	2	0	0
State Route	Cowlitz	Kelso	004	61.44		No	E252044	06/20/2013	15:12	Possible Injury	1	0	2	0	0
State Route	Cowlitz	Kelso	004	61.44		No	E304216	02/02/2014	15:41	No Apparent Injury	0	0	1	0	1
State Route	Cowlitz	Kelso	004	61.44		No	E311605	03/03/2014	19:22	Suspected Minor Injury	1	0	1	1	0
State Route	Cowlitz	Kelso	004	61.44		No	E380623	12/02/2014	06:50	No Apparent Injury	0	0	1	0	0

VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP
Pickup,Panel Truck or Vanette under 10,000 lb		At Intersection and Related
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Passenger Car	Truck (Flatbad, Van, etc)	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related
Passenger Car		At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Passenger Car	At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Intersection and Related
Passenger Car	Pickup,Panel Truck or Vanette under 10,000 lb	At Driveway within Major Intersection
Passenger Car		At Intersection and Related
Passenger Car		At Intersection and Related
Pickup,Panel Truck or Vanette under 10,000 lb		At Intersection and Not Related

WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK
Clear or Partly Cloudy	Dry	Daylight	Vehicle - Pedalcyclist
Overcast	Wet	Daylight	From same direction - both going straight - one stopped - rear-end
Clear or Partly Cloudy	Ice	Dark-Street Lights On	From opposite direction - one left turn - one straight
Raining	Wet	Dark-Street Lights On	From same direction - both going straight - one stopped - rear-end
Raining	Wet	Daylight	Entering at angle
Clear or Partly Cloudy	Dry	Daylight	Vehicle - Pedalcyclist
Clear or Partly Cloudy	Dry	Dark-Street Lights On	From opposite direction - one left turn - one straight
Overcast	Dry	Daylight	From same direction - both going straight - one stopped - rear-end
Clear or Partly Cloudy	Dry	Daylight	From same direction - both going straight - one stopped - rear-end
Clear or Partly Cloudy	Dry	Daylight	From opposite direction - one left turn - one straight
Clear or Partly Cloudy	Dry	Daylight	Vehicle - Pedalcyclist
Clear or Partly Cloudy	Dry	Dark-Street Lights On	Vehicle going straight hits pedestrian
Clear or Partly Cloudy	Ice	Dark-Street Lights On	Bridge Rail - Face

VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO
Making Right Turn		North	West		
Going Straight Ahead	Stopped for Traffic	West	East	Vehicle Stopped	Vehicle Stopped
Other*	Going Straight Ahead	West	North	East	West
Going Straight Ahead	Stopped at Signal or Stop Sign	West	East	West	Vehicle Stopped
Going Straight Ahead	Making Left Turn	West	East	North	East
Making Left Turn		North	East		
Making Left Turn	Going Straight Ahead	West	North	East	West
Going Straight Ahead	Stopped at Signal or Stop Sign	North	South	Vehicle Stopped	Vehicle Stopped
Starting in Traffic Lane	Stopped for Traffic	South	North	South	Vehicle Stopped
Making Left Turn	Going Straight Ahead	North	East	West	North
Going Straight Ahead		East	West		
Going Straight Ahead		South	North		
Changing Lanes		West	Southeast		

MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)
None		
Inattention	Follow Too Closely	
Other	Did Not Grant RW to Vehicle	
Under Influence of Alcohol	Follow Too Closely	
Disregard Stop and Go Light		
None		
Inattention		
Other		
Driver Distractions Outside Vehicle		
Inattention		
None		
Driver Not Distracted		
Other		

MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)
None				
None				
None				
Other				
None				
None				
None				
None				

BICYCLIST CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	BICYCLIST CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)
	Disregard Stop and Go Light	Inattention			
	Did Not Grant RW to Vehicle				
	Disregard Stop and Go Light				
				Inattention	

PEDESTRIAN CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)	FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
	Intersecting Road Decreasing Milepost	1029550.94	306067.13
	Lane 2 Increasing Milepost	1029540.68	306072.49
	Lane 2 Decreasing Milepost	1029545.32	306057.51
	Lane 1 Increasing Milepost	1029547.33	306075.25
	Lane 1 Increasing Milepost	1029548.72	306069.55
	Intersecting Road Decreasing Milepost	1029549.09	306074.36
	Lane 2 Decreasing Milepost	1029552.69	306083.18
	Intersecting Road Decreasing Milepost	1029548.3	306071.55
	Intersecting Road Increasing Milepost	1029548.55	306072.45
	Intersecting Road Decreasing Milepost	1029564.04	306066.03
	Lane 1 Decreasing Milepost	1029548.03	306070.62
	Intersecting Road Decreasing Milepost	1029548.03	306070.62
	Right Shoulder Increasing Milepost	1029585.58	306059.84

HCM 6th Signalized Intersection Summary

1: Kelso Avenue & Cowlitz Way

03/27/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	179	237	117	9	314	23	130	68	14	61	51	437
Future Volume (veh/h)	179	237	117	9	314	23	130	68	14	61	51	437
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	1826	1826	1826	1870	1870	1870	1767	1767	1767	1856	1856	1856
Adj Flow Rate, veh/h	195	258	127	10	341	25	141	74	15	66	55	475
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	2	2	2	9	9	9	3	3	3
Cap, veh/h	360	550	263	297	545	40	176	505	102	103	572	628
Arrive On Green	0.09	0.24	0.24	0.01	0.16	0.16	0.10	0.35	0.35	0.06	0.31	0.31
Sat Flow, veh/h	1739	2276	1086	1781	3357	245	1682	1425	289	1767	1856	1566
Grp Volume(v), veh/h	195	195	190	10	180	186	141	0	89	66	55	475
Grp Sat Flow(s),veh/h/ln	1739	1735	1628	1781	1777	1825	1682	0	1713	1767	1856	1566
Q Serve(g_s), s	4.9	5.2	5.4	0.3	5.1	5.2	4.4	0.0	1.9	2.0	1.1	14.1
Cycle Q Clear(g_c), s	4.9	5.2	5.4	0.3	5.1	5.2	4.4	0.0	1.9	2.0	1.1	14.1
Prop In Lane	1.00		0.67	1.00		0.13	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	360	419	393	297	288	296	176	0	608	103	572	628
V/C Ratio(X)	0.54	0.46	0.48	0.03	0.62	0.63	0.80	0.00	0.15	0.64	0.10	0.76
Avail Cap(c_a), veh/h	360	577	541	439	591	607	183	0	608	163	621	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	17.5	17.6	18.5	21.1	21.2	23.7	0.0	11.9	24.9	13.3	14.0
Incr Delay (d2), s/veh	1.6	0.8	0.9	0.0	2.2	2.2	21.2	0.0	0.1	6.5	0.1	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.9	1.9	0.1	2.1	2.1	2.6	0.0	0.6	0.9	0.4	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	18.3	18.5	18.6	23.3	23.4	44.9	0.0	12.0	31.5	13.4	18.6
LnGrp LOS	B	B	B	B	C	C	D	A	B	C	B	B
Approach Vol, veh/h		580			376			230			596	
Approach Delay, s/veh		18.2			23.2			32.2			19.6	
Approach LOS		B			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	23.7	5.2	17.6	10.2	21.2	9.5	13.3				
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	5.0	19.0	5.0	18.0	5.9	18.1	5.0	18.0				
Max Q Clear Time (g_c+I1), s	4.0	3.9	2.3	7.4	6.4	16.1	6.9	7.2				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.6	0.0	0.5	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			21.5									
HCM 6th LOS			C									

HCM 6th TWSC
3: I-5 Southbound & Kelso Avenue

03/27/2020

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	117	107	6	73	0	0	0	0	1	3	324
Future Vol, veh/h	0	117	107	6	73	0	0	0	0	1	3	324
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	9	9	9	5	5	5	0	0	0	2	2	2
Mvmt Flow	0	148	135	8	92	0	0	0	0	1	4	410

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	283	0	0		324	391	92
Stage 1	-	-	-	-	-	-		108	108	-
Stage 2	-	-	-	-	-	-		216	283	-
Critical Hdwy	-	-	-	4.15	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	-	-	-	2.245	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1262	-	0		670	545	965
Stage 1	0	-	-	-	-	0		916	806	-
Stage 2	0	-	-	-	-	0		820	677	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1262	-	-		665	0	965
Mov Cap-2 Maneuver	-	-	-	-	-	-		665	0	-
Stage 1	-	-	-	-	-	-		910	0	-
Stage 2	-	-	-	-	-	-		820	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1262	-	964
HCM Lane V/C Ratio	-	-	0.006	-	0.431
HCM Control Delay (s)	-	-	7.9	0	11.5
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	2.2

HCM 6th Signalized Intersection Summary

1: Kelso Avenue & Cowlitz Way

03/27/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	485	397	120	7	391	65	208	97	18	46	42	319
Future Volume (veh/h)	485	397	120	7	391	65	208	97	18	46	42	319
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		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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	545	446	135	8	439	73	234	109	20	52	47	358
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, %	1	1	1	1	1	1	1	1	1	2	2	2
Cap, veh/h	590	1162	349	253	544	90	270	470	86	75	365	718
Arrive On Green	0.26	0.43	0.43	0.01	0.18	0.18	0.15	0.30	0.30	0.04	0.20	0.20
Sat Flow, veh/h	1795	2715	815	1795	3076	508	1795	1549	284	1781	1870	1555
Grp Volume(v), veh/h	545	293	288	8	254	258	234	0	129	52	47	358
Grp Sat Flow(s),veh/h/ln	1795	1791	1739	1795	1791	1794	1795	0	1833	1781	1870	1555
Q Serve(g_s), s	19.5	9.3	9.5	0.3	11.3	11.5	10.6	0.0	4.4	2.4	1.7	13.5
Cycle Q Clear(g_c), s	19.5	9.3	9.5	0.3	11.3	11.5	10.6	0.0	4.4	2.4	1.7	13.5
Prop In Lane	1.00		0.47	1.00		0.28	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	590	766	744	253	317	317	270	0	556	75	365	718
V/C Ratio(X)	0.92	0.38	0.39	0.03	0.80	0.81	0.87	0.00	0.23	0.69	0.13	0.50
Avail Cap(c_a), veh/h	607	766	744	343	388	388	270	0	556	148	427	769
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	16.3	16.3	27.6	32.9	32.9	34.5	0.0	21.7	39.3	27.6	16.0
Incr Delay (d2), s/veh	19.6	0.3	0.3	0.1	9.7	10.4	24.5	0.0	0.2	10.9	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	3.6	3.6	0.1	5.6	5.7	6.3	0.0	1.8	1.2	0.8	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	16.6	16.6	27.7	42.5	43.3	59.0	0.0	21.9	50.3	27.8	16.5
LnGrp LOS	D	B	B	C	D	D	E	A	C	D	C	B
Approach Vol, veh/h		1126			520			363				457
Approach Delay, s/veh		27.2			42.7			45.8				21.5
Approach LOS		C			D			D				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	29.7	5.3	40.1	17.0	20.7	26.2	19.2				
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	6.9	24.6	5.0	35.5	12.5	19.0	22.5	18.0				
Max Q Clear Time (g_c+I1), s	4.4	6.4	2.3	11.5	12.6	15.5	21.5	13.5				
Green Ext Time (p_c), s	0.0	0.5	0.0	3.6	0.0	0.5	0.2	1.2				
Intersection Summary												
HCM 6th Ctrl Delay				32.2								
HCM 6th LOS				C								

HCM 6th TWSC
3: I-5 Southbound & Kelso Avenue

03/27/2020

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	372	55	5	112	0	0	0	0	4	4	169
Future Vol, veh/h	0	372	55	5	112	0	0	0	0	4	4	169
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	465	69	6	140	0	0	0	0	5	5	211

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	534	0	0		652	686	140
Stage 1	-	-	-	-	-	-		152	152	-
Stage 2	-	-	-	-	-	-		500	534	-
Critical Hdwy	-	-	-	4.1	-	-		6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-		5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.41	5.51	-
Follow-up Hdwy	-	-	-	2.2	-	-		3.509	4.009	3.309
Pot Cap-1 Maneuver	0	-	-	1044	-	0		434	371	911
Stage 1	0	-	-	-	-	0		878	774	-
Stage 2	0	-	-	-	-	0		611	526	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1044	-	-		431	0	911
Mov Cap-2 Maneuver	-	-	-	-	-	-		431	0	-
Stage 1	-	-	-	-	-	-		873	0	-
Stage 2	-	-	-	-	-	-		611	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.4	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1044	-	888
HCM Lane V/C Ratio	-	-	0.006	-	0.249
HCM Control Delay (s)	-	-	8.5	0	10.4
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1

HCM 6th Signalized Intersection Summary

1: Kelso Avenue & Cowlitz Way

03/27/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	186	247	121	10	327	24	135	70	14	64	53	455
Future Volume (veh/h)	186	247	121	10	327	24	135	70	14	64	53	455
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	1826	1826	1826	1870	1870	1870	1767	1767	1767	1856	1856	1856
Adj Flow Rate, veh/h	202	268	132	11	355	26	147	76	15	70	58	495
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	2	2	2	9	9	9	3	3	3
Cap, veh/h	377	589	282	302	543	40	183	518	102	103	577	662
Arrive On Green	0.11	0.26	0.26	0.01	0.16	0.16	0.11	0.36	0.36	0.06	0.31	0.31
Sat Flow, veh/h	1739	2274	1088	1781	3358	245	1682	1432	283	1767	1856	1566
Grp Volume(v), veh/h	202	203	197	11	187	194	147	0	91	70	58	495
Grp Sat Flow(s),veh/h/ln	1739	1735	1628	1781	1777	1825	1682	0	1715	1767	1856	1566
Q Serve(g_s), s	5.3	5.7	6.0	0.3	5.8	5.8	5.0	0.0	2.1	2.3	1.3	15.6
Cycle Q Clear(g_c), s	5.3	5.7	6.0	0.3	5.8	5.8	5.0	0.0	2.1	2.3	1.3	15.6
Prop In Lane	1.00		0.67	1.00		0.13	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	377	449	421	302	288	295	183	0	621	103	577	662
V/C Ratio(X)	0.54	0.45	0.47	0.04	0.65	0.66	0.80	0.00	0.15	0.68	0.10	0.75
Avail Cap(c_a), veh/h	377	577	542	429	546	561	215	0	621	211	634	709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	18.2	18.3	20.0	23.0	23.0	25.5	0.0	12.6	27.1	14.3	14.3
Incr Delay (d2), s/veh	1.5	0.7	0.8	0.0	2.5	2.5	16.9	0.0	0.1	7.7	0.1	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	2.1	2.1	0.1	2.4	2.5	2.7	0.0	0.7	1.1	0.5	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	18.9	19.1	20.1	25.5	25.5	42.4	0.0	12.7	34.8	14.4	18.4
LnGrp LOS	B	B	B	C	C	C	D	A	B	C	B	B
Approach Vol, veh/h		602			392			238			623	
Approach Delay, s/veh		18.7			25.3			31.0			19.9	
Approach LOS		B			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	25.7	5.3	19.7	10.9	22.7	11.0	14.0				
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	7.0	20.5	5.0	19.5	7.5	20.0	6.5	18.0				
Max Q Clear Time (g_c+I1), s	4.3	4.1	2.3	8.0	7.0	17.6	7.3	7.8				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.8	0.0	0.6	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay				22.1								
HCM 6th LOS				C								

HCM 6th TWSC
3: I-5 Southbound & Kelso Avenue

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Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	121	111	6	76	0	0	0	0	1	3	337
Future Vol, veh/h	0	121	111	6	76	0	0	0	0	1	3	337
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	9	9	9	5	5	5	0	0	0	2	2	2
Mvmt Flow	0	153	141	8	96	0	0	0	0	1	4	427

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	294	0	0		336	406	96
Stage 1	-	-	-	-	-	-		112	112	-
Stage 2	-	-	-	-	-	-		224	294	-
Critical Hdwy	-	-	-	4.15	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	-	-	-	2.245	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1251	-	0		659	534	960
Stage 1	0	-	-	-	-	0		913	803	-
Stage 2	0	-	-	-	-	0		813	670	-
Platoon blocked, %		-	-	-	-	-				
Mov Cap-1 Maneuver	-	-	-	1251	-	-		654	0	960
Mov Cap-2 Maneuver	-	-	-	-	-	-		654	0	-
Stage 1	-	-	-	-	-	-		907	0	-
Stage 2	-	-	-	-	-	-		813	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1251	-	959
HCM Lane V/C Ratio	-	-	0.006	-	0.45
HCM Control Delay (s)	-	-	7.9	0	11.8
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	2.4

HCM 6th Signalized Intersection Summary
 1: Kelso Avenue & Cowlitz Way

03/27/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (veh/h)	504	413	124	8	407	67	216	101	18	48	43	332
Future Volume (veh/h)	504	413	124	8	407	67	216	101	18	48	43	332
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		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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	566	464	139	9	457	75	243	113	20	54	48	373
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, %	1	1	1	1	1	1	1	1	1	2	2	2
Cap, veh/h	589	1176	350	253	555	91	263	473	84	75	373	728
Arrive On Green	0.26	0.43	0.43	0.01	0.18	0.18	0.15	0.30	0.30	0.04	0.20	0.20
Sat Flow, veh/h	1795	2721	809	1795	3083	503	1795	1558	276	1781	1870	1555
Grp Volume(v), veh/h	566	304	299	9	264	268	243	0	133	54	48	373
Grp Sat Flow(s),veh/h/ln	1795	1791	1740	1795	1791	1795	1795	0	1834	1781	1870	1555
Q Serve(g_s), s	21.0	9.9	10.1	0.3	12.1	12.3	11.4	0.0	4.6	2.6	1.8	14.5
Cycle Q Clear(g_c), s	21.0	9.9	10.1	0.3	12.1	12.3	11.4	0.0	4.6	2.6	1.8	14.5
Prop In Lane	1.00		0.47	1.00		0.28	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	589	774	752	253	322	323	263	0	557	75	373	728
V/C Ratio(X)	0.96	0.39	0.40	0.04	0.82	0.83	0.92	0.00	0.24	0.72	0.13	0.51
Avail Cap(c_a), veh/h	589	774	752	338	378	378	263	0	557	146	416	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	16.6	16.6	28.1	33.7	33.7	36.0	0.0	22.3	40.4	28.1	16.2
Incr Delay (d2), s/veh	27.4	0.3	0.3	0.1	11.8	12.5	35.9	0.0	0.2	11.9	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	3.9	3.8	0.1	6.1	6.3	7.4	0.0	2.0	1.3	0.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	16.9	17.0	28.1	45.5	46.3	71.9	0.0	22.6	52.3	28.2	16.8
LnGrp LOS	D	B	B	C	D	D	E	A	C	D	C	B
Approach Vol, veh/h		1169			541			376				475
Approach Delay, s/veh		31.4			45.6			54.4				22.0
Approach LOS		C			D			D				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	30.4	5.5	41.4	17.0	21.5	27.0	19.9				
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	7.0	24.5	5.0	35.5	12.5	19.0	22.5	18.0				
Max Q Clear Time (g_c+I1), s	4.6	6.6	2.3	12.1	13.4	16.5	23.0	14.3				
Green Ext Time (p_c), s	0.0	0.6	0.0	3.7	0.0	0.4	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				36.0								
HCM 6th LOS				D								

HCM 6th TWSC
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Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔	
Traffic Vol, veh/h	0	388	57	5	117	0	0	0	0	4	4	175
Future Vol, veh/h	0	388	57	5	117	0	0	0	0	4	4	175
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	485	71	6	146	0	0	0	0	5	5	219

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	556	0	0		679	714	146
Stage 1	-	-	-	-	-	-		158	158	-
Stage 2	-	-	-	-	-	-		521	556	-
Critical Hdwy	-	-	-	4.1	-	-		6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-		5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.41	5.51	-
Follow-up Hdwy	-	-	-	2.2	-	-		3.509	4.009	3.309
Pot Cap-1 Maneuver	0	-	-	1025	-	0		419	358	904
Stage 1	0	-	-	-	-	0		873	769	-
Stage 2	0	-	-	-	-	0		598	514	-
Platoon blocked, %	-	-	-	-	-	-		-	-	-
Mov Cap-1 Maneuver	-	-	-	1025	-	-		416	0	904
Mov Cap-2 Maneuver	-	-	-	-	-	-		416	0	-
Stage 1	-	-	-	-	-	-		868	0	-
Stage 2	-	-	-	-	-	-		598	0	-

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

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1025	-	881
HCM Lane V/C Ratio	-	-	0.006	-	0.26
HCM Control Delay (s)	-	-	8.5	0	10.5
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1

HCM 6th Signalized Intersection Summary

1: Kelso Avenue & Cowlitz Way

03/27/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (veh/h)	189	247	121	10	327	24	135	74	14	64	65	467
Future Volume (veh/h)	189	247	121	10	327	24	135	74	14	64	65	467
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	1826	1826	1826	1870	1870	1870	1767	1767	1767	1856	1856	1856
Adj Flow Rate, veh/h	205	268	132	11	355	26	147	80	15	70	71	508
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	2	2	2	9	9	9	3	3	3
Cap, veh/h	372	584	279	298	541	39	183	532	100	102	588	669
Arrive On Green	0.11	0.26	0.26	0.01	0.16	0.16	0.11	0.37	0.37	0.06	0.32	0.32
Sat Flow, veh/h	1739	2274	1088	1781	3358	245	1682	1446	271	1767	1856	1567
Grp Volume(v), veh/h	205	203	197	11	187	194	147	0	95	70	71	508
Grp Sat Flow(s),veh/h/ln	1739	1735	1628	1781	1777	1825	1682	0	1717	1767	1856	1567
Q Serve(g_s), s	5.5	5.8	6.1	0.3	5.9	5.9	5.1	0.0	2.2	2.3	1.6	16.3
Cycle Q Clear(g_c), s	5.5	5.8	6.1	0.3	5.9	5.9	5.1	0.0	2.2	2.3	1.6	16.3
Prop In Lane	1.00		0.67	1.00		0.13	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	372	445	418	298	286	294	183	0	631	102	588	669
V/C Ratio(X)	0.55	0.45	0.47	0.04	0.65	0.66	0.80	0.00	0.15	0.69	0.12	0.76
Avail Cap(c_a), veh/h	372	571	536	423	540	554	213	0	631	209	626	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	18.5	18.6	20.3	23.3	23.3	25.8	0.0	12.5	27.4	14.4	14.4
Incr Delay (d2), s/veh	1.7	0.7	0.8	0.1	2.5	2.5	17.3	0.0	0.1	7.9	0.1	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.2	2.1	0.1	2.4	2.5	2.7	0.0	0.8	1.1	0.6	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	19.3	19.5	20.3	25.8	25.9	43.1	0.0	12.6	35.3	14.5	19.1
LnGrp LOS	B	B	B	C	C	C	D	A	B	D	B	B
Approach Vol, veh/h		605			392			242				649
Approach Delay, s/veh		19.1			25.7			31.2				20.3
Approach LOS		B			C			C				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	26.3	5.3	19.7	10.9	23.3	11.0	14.0				
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	7.0	20.5	5.0	19.5	7.5	20.0	6.5	18.0				
Max Q Clear Time (g_c+I1), s	4.3	4.2	2.3	8.1	7.1	18.3	7.5	7.9				
Green Ext Time (p_c), s	0.0	0.3	0.0	1.8	0.0	0.5	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay				22.4								
HCM 6th LOS				C								

HCM 6th TWSC
2: Kelso Avenue & Site Access

03/27/2020

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	7	232	413	3	10	24
Future Vol, veh/h	7	232	413	3	10	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	252	449	3	11	26

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	452	0	-	0	719
Stage 1	-	-	-	-	451
Stage 2	-	-	-	-	268
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1109	-	-	-	395
Stage 1	-	-	-	-	642
Stage 2	-	-	-	-	777
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1109	-	-	-	392
Mov Cap-2 Maneuver	-	-	-	-	392
Stage 1	-	-	-	-	637
Stage 2	-	-	-	-	777

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1109	-	-	-	523
HCM Lane V/C Ratio	0.007	-	-	-	0.071
HCM Control Delay (s)	8.3	0	-	-	12.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

HCM 6th TWSC
3: I-5 Southbound & Kelso Avenue

03/27/2020

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶			↷						↷	
Traffic Vol, veh/h	0	124	118	6	78	0	0	0	0	1	3	338
Future Vol, veh/h	0	124	118	6	78	0	0	0	0	1	3	338
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	9	9	9	5	5	5	0	0	0	2	2	2
Mvmt Flow	0	157	149	8	99	0	0	0	0	1	4	428

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	306	0	0		347	421	99
Stage 1	-	-	-	-	-	-		115	115	-
Stage 2	-	-	-	-	-	-		232	306	-
Critical Hdwy	-	-	-	4.15	-	-		6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-		5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.42	5.52	-
Follow-up Hdwy	-	-	-	2.245	-	-		3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1238	-	0		650	524	957
Stage 1	0	-	-	-	-	0		910	800	-
Stage 2	0	-	-	-	-	0		807	662	-
Platoon blocked, %		-	-	-	-	-				
Mov Cap-1 Maneuver	-	-	-	1238	-	-		645	0	957
Mov Cap-2 Maneuver	-	-	-	-	-	-		645	0	-
Stage 1	-	-	-	-	-	-		904	0	-
Stage 2	-	-	-	-	-	-		807	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.6	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1238	-	956
HCM Lane V/C Ratio	-	-	0.006	-	0.453
HCM Control Delay (s)	-	-	7.9	0	11.8
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	2.4

HCM 6th Signalized Intersection Summary

1: Kelso Avenue & Cowlitz Way

03/27/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	516	413	124	8	407	67	216	113	18	48	50	339
Future Volume (veh/h)	516	413	124	8	407	67	216	113	18	48	50	339
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		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	1885	1885	1885	1885	1885	1885	1885	1885	1885	1870	1870	1870
Adj Flow Rate, veh/h	580	464	139	9	457	75	243	127	20	54	56	381
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, %	1	1	1	1	1	1	1	1	1	2	2	2
Cap, veh/h	589	1176	350	252	553	90	261	484	76	75	377	732
Arrive On Green	0.26	0.43	0.43	0.01	0.18	0.18	0.15	0.30	0.30	0.04	0.20	0.20
Sat Flow, veh/h	1795	2721	809	1795	3083	503	1795	1589	250	1781	1870	1555
Grp Volume(v), veh/h	580	304	299	9	264	268	243	0	147	54	56	381
Grp Sat Flow(s),veh/h/ln	1795	1791	1740	1795	1791	1795	1795	0	1839	1781	1870	1555
Q Serve(g_s), s	22.0	10.0	10.1	0.4	12.2	12.4	11.5	0.0	5.2	2.6	2.1	14.9
Cycle Q Clear(g_c), s	22.0	10.0	10.1	0.4	12.2	12.4	11.5	0.0	5.2	2.6	2.1	14.9
Prop In Lane	1.00		0.47	1.00		0.28	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	589	774	752	252	321	322	261	0	561	75	377	732
V/C Ratio(X)	0.98	0.39	0.40	0.04	0.82	0.83	0.93	0.00	0.26	0.72	0.15	0.52
Avail Cap(c_a), veh/h	589	774	752	336	375	376	261	0	561	145	409	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	16.7	16.7	28.3	33.9	34.0	36.3	0.0	22.6	40.7	28.2	16.3
Incr Delay (d2), s/veh	33.0	0.3	0.3	0.1	12.1	12.9	37.5	0.0	0.2	12.1	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.7	3.9	3.8	0.2	6.2	6.3	7.6	0.0	2.2	1.4	0.9	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	17.0	17.1	28.3	46.1	46.9	73.8	0.0	22.8	52.8	28.4	16.8
LnGrp LOS	D	B	B	C	D	D	E	A	C	D	C	B
Approach Vol, veh/h		1183			541			390				491
Approach Delay, s/veh		34.7			46.2			54.6				22.1
Approach LOS		C			D			D				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	30.7	5.5	41.7	17.0	21.8	27.2	19.9				
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	7.0	24.3	5.0	35.7	12.5	18.8	22.7	18.0				
Max Q Clear Time (g_c+I1), s	4.6	7.2	2.4	12.1	13.5	16.9	24.0	14.4				
Green Ext Time (p_c), s	0.0	0.6	0.0	3.7	0.0	0.4	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay				37.7								
HCM 6th LOS				D								

HCM 6th TWSC
2: Kelso Avenue & Site Access

03/27/2020

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	24	445	292	10	6	14
Future Vol, veh/h	24	445	292	10	6	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	484	317	11	7	15

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	328	0	-	0	859 323
Stage 1	-	-	-	-	323 -
Stage 2	-	-	-	-	536 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1232	-	-	-	327 718
Stage 1	-	-	-	-	734 -
Stage 2	-	-	-	-	587 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1232	-	-	-	318 718
Mov Cap-2 Maneuver	-	-	-	-	318 -
Stage 1	-	-	-	-	713 -
Stage 2	-	-	-	-	587 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1232	-	-	-	521
HCM Lane V/C Ratio	0.021	-	-	-	0.042
HCM Control Delay (s)	8	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM 6th TWSC
3: I-5 Southbound & Kelso Avenue

03/27/2020

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↶			↷						↷	
Traffic Vol, veh/h	0	390	61	5	124	0	0	0	0	4	4	178
Future Vol, veh/h	0	390	61	5	124	0	0	0	0	4	4	178
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	488	76	6	155	0	0	0	0	5	5	223

Major/Minor	Major1			Major2			Minor2			
Conflicting Flow All	-	0	0	564	0	0		693	731	155
Stage 1	-	-	-	-	-	-		167	167	-
Stage 2	-	-	-	-	-	-		526	564	-
Critical Hdwy	-	-	-	4.1	-	-		6.41	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-		5.41	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-		5.41	5.51	-
Follow-up Hdwy	-	-	-	2.2	-	-		3.509	4.009	3.309
Pot Cap-1 Maneuver	0	-	-	1018	-	0		411	350	893
Stage 1	0	-	-	-	-	0		865	762	-
Stage 2	0	-	-	-	-	0		595	510	-
Platoon blocked, %		-	-	-	-	-				
Mov Cap-1 Maneuver	-	-	-	1018	-	-		409	0	893
Mov Cap-2 Maneuver	-	-	-	-	-	-		409	0	-
Stage 1	-	-	-	-	-	-		860	0	-
Stage 2	-	-	-	-	-	-		595	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.3	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1018	-	870
HCM Lane V/C Ratio	-	-	0.006	-	0.267
HCM Control Delay (s)	-	-	8.6	0	10.6
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0	-	1.1