

TRANSPORTATION TECHNICAL REPORT

for the

Sumner High School Modernization

PREPARED FOR:
Sumner School District

PREPARED BY:



February 22, 2018

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1. INTRODUCTION

This report presents the transportation impact analysis for the Sumner School District's proposal to modernize its existing Sumner High School. The scope of analysis and approach were based on extensive past experience performing transportation impact analyses for numerous school projects throughout the Pacific Northwest, including for Sumner School District projects, and experience with traffic and parking analysis within and for the City of Sumner (City). This report was prepared to support the SEPA Checklist for the project. It documents the existing conditions in the site vicinity, presents estimates of project-related increases in traffic, changes to parking supply and demand, and evaluates the anticipated impacts to the surrounding transportation system. It also recommends measures to mitigate the potential transportation-related impacts.

1.1. Project Description

The following sections describe the existing Sumner High School site and the proposed project that would result in a small increase in student enrollment capacity compared to current enrolment levels.

1.1.1. Existing School

Sumner High School is located at 1707 Main Street in Sumner. The existing school site is bounded by Main Street to the south, Wood Avenue to the west; Mason and Washington Streets to the north, and Valley Avenue to the east. The project site location and vicinity are shown on Figure 1.

According to enrollment data published by the Washington State Superintendent of Public Instruction, enrollment at the school has ranged from about 1,765 to over 1,930 students since October 2014. At the time traffic and parking data were collected for this analysis—June 2017—enrollment was reported at 1,797 students. The school currently has about 150 faculty and staff members.

1.1.2. Proposed Site Changes

The modernized school is being designed for an enrollment capacity of 1,830 students, reflecting a net increase of 33 students compared to enrollment at the time of data collection for this analysis. The project is not expected to change the number of faculty or staff. The project would primarily replace the temporary capacity of the portables with new permanent building capacity and demolish and remove the existing swimming pool building. In addition to new permanent building capacity, the project would reconfigure the buildings, facilities, and parking, which would result in different traffic flow patterns in the immediate site vicinity of the school. School-bus load/unload is proposed to be relocated away from its existing location (in the loop on the north side of Main Street) to new areas on-site and on-street to the north of the school building (south side of Mason Street). On-site parking that is currently unusable due to the portables would be restored and parking in other areas would be expanded. The proposal would increase parking capacity on the existing school site from 464 spaces to 644 spaces; these totals include six spaces (existing and with the project) in the Wood Avenue lot that are used by the Heritage Bank.

Another component of the project would renovate the interior of the medical office building (1518 Main Street, located at the southwest corner of the Main Street / Meeker Avenue intersection) for use as the Elhi Hill Alternative program. Enrollment for this program is included in the overall proposed capacity. The phased renovation would include removal of two single-family residences south of the medical office building and expansion of the adjacent parking lot. The Elhi Hill component of the project would provide 44 additional on-site parking spaces for high school-related demand. In total, the project would provide 688 on-site parking spaces (excluding the six spaces used by Heritage Bank) for the high school programs—an increase of 224 spaces compared to the existing site. The proposed site plan is shown on Figure 2. Project construction is scheduled to begin in summer 2018 with the project expected to be complete for occupancy in fall 2020.

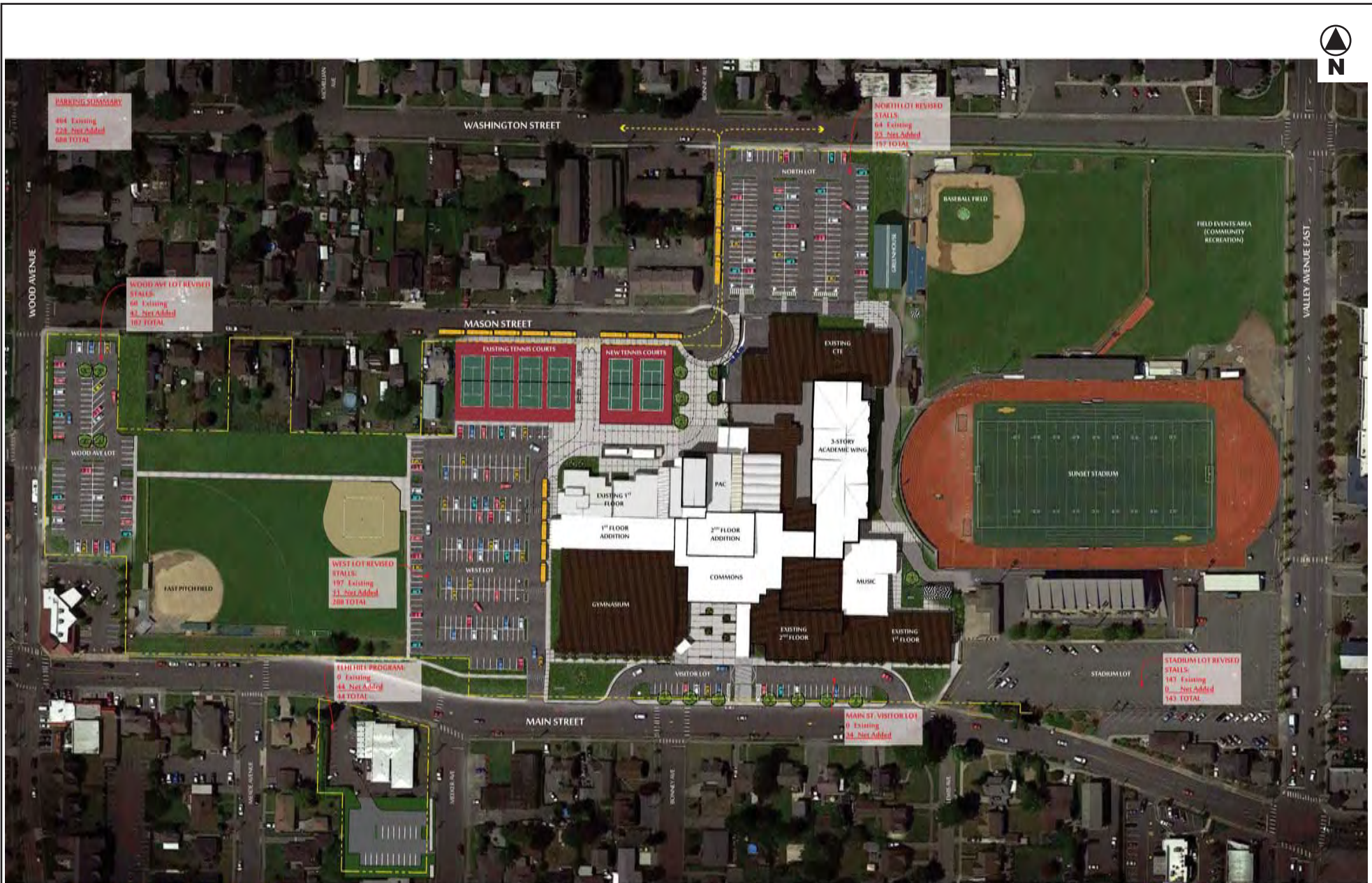




SUMNER HIGH SCHOOL Addition and Modernization

Figure 1
Site Location and Vicinity





SUMNER HIGH SCHOOL

PROPOSED PARKING DIAGRAM

02.22.2018



0' 40' 80' 120'

BLRB architects

SUMNER HIGH SCHOOL Addition and Modernization

Figure 2
Site Plan



2. BACKGROUND CONDITIONS

This section presents the existing and future conditions without the proposed project. The impacts of the proposed project were evaluated against these base conditions. Year 2020 was selected as the future horizon year for the analyses, because this is the year the modernization project is expected to be completed. For comparison, and to provide an analysis of potential new traffic and parking impacts, year 2020 without-project conditions assume that school would continue to operate at the existing enrollment levels with current access and parking conditions. The following sections describe the existing roadway network, traffic volumes, traffic operations, traffic safety, transit facilities, non-motorized facilities, and parking.

As will be described later in this report, the proposal would result in relatively small changes to the total traffic generation by the school, due to the small change in enrollment capacity compared to existing conditions. Therefore, the study area selected for this analysis includes the site access driveways and intersections immediately surrounding the school site that would be affected by changes in access, parking supply, revisions to school-bus routing, and changes to passenger-vehicle load/unload areas. The following intersections were identified for analysis during morning arrival, afternoon dismissal, and commuter PM peak hour conditions.

1. Washington Street / Wood Avenue
2. Washington Street / McMillan Avenue
3. Washington Street / Bonney Avenue
4. Washington Street / SHS East Access
5. Washington Street / Valley Avenue
6. SHS Stadium Access / Valley Avenue
7. Main Street / Valley Avenue
8. Main Street / SHS East Lot Access
9. Main Street / Loop East Entry
10. Main Street / Bonney Avenue
11. Main Street / Loop West Exit
12. Main Street / West Lot Access
13. Main Street / Meeker Avenue
14. Main Street / Meade Avenue
15. Main Street / Wood Avenue
16. North Street / Wood Avenue
17. Mason Street / Wood Avenue
18. Mason Street / SHS Access
19. Main Street / Elhi Hill Access
20. Elhi Hill Access / Meeker Avenue

2.1. Roadway Network

The following describes key roadways in the site vicinity. Roadway classifications are based on the City's Functional Classification map.¹

Main Street is an east-west Minor Arterial that provides access between 160th Avenue E to the east and Fryar and Traffic Avenues to the west. Near the site, the roadway has one travel lane in each direction with segments of two-way-center-left-turn lane or turn pockets at some intersections. There are curbs, gutters, sidewalks, and parking on both sides. Its intersections with Valley Avenue and Wood Avenue are signalized. The posted speed limit is 25 miles per hour (mph); near the site, there is a 20-mph school-zone speed limit in effect when indicated by flashing beacons.

Valley Avenue is a north-south Minor Arterial that provides access between Elm Street to the north and the State Route (SR) 410 westbound ramps intersection to the south. Near the site, the roadway has one travel lane in each direction with segments of two-way-center-left-turn lane or turn pockets at intersections. There are curbs, gutters, sidewalks, and bike lanes on both sides; intermittent segments that have pullouts designated for buses only or for parallel parking. Its intersection with Main Street is signalized. The posted speed limit is 25 mph; near the site, there is a 20-mph school-zone speed limit in effect when indicated by flashing beacons.

¹ City of Sumner, 2015 Sumner Transportation Plan, June 2015.



Wood Avenue is a north-south Collector that provides access between Elm Street to the north and Gary Street to the south. The roadway has one travel lane in each direction and turn pockets at its Main Street intersection. Near the school, there are curbs, gutters, sidewalks, and on-street parking on both sides. Its intersection with Main Street is signalized. The posted speed limit is 25 mph.

Washington Street is an east-west Collector that provides access between Parker Road E to the east and Wood Avenue to the west. Near the site, the roadway has one travel lane in each direction. Near the school, there are curbs, gutters, sidewalks, and parking on both sides. Its approaches to Valley Avenue and Wood Avenue are stop-controlled. The posted speed limit is 25 mph.

Mason Street is an east-west local street that provides access between Wood Avenue to the west and to the east, ends at a cul-de-sac adjacent to the school at about Bonney Avenue. Near the site, the roadway has one travel lane in each direction. Near the school, there are curbs, gutters, sidewalks, and parking on both sides. Its approach to Wood Avenue is stop-controlled. The posted speed limit is 25 mph.

McMillan and **Bonney Avenues** are north-south local streets that extend north of the school site from Washington Street. **Meade, Meeker, Bonney, and Lewis Avenues** are north-south local streets that extend south of the site from Main Street. These streets provide access between residences and/or businesses and the surrounding arterials; they generally have one travel lane in each direction, curbs, gutters, and sidewalks on both sides, and 25 mph speed limits. Parking is allowed both sides of all except Lewis Avenue, where it is allowed only on the east side. Some local streets in the vicinity of the school are signed for time limits during school hours, though some allow vehicles with a Restricted Parking Zone (RPZ) permit to exceed the limits; this is described in more detail later in this report.

The City of Sumner's *Adopted 2018-2023 Transportation Improvement Program (TIP)*² was reviewed to determine if any transportation improvements are planned near the site. No specific improvements within the study area were identified; therefore, existing intersection channelization and operations were assumed for analysis of 2020 conditions.

2.2. Traffic Volumes

2.2.1. Existing Traffic Volumes

To evaluate the potential traffic conditions surrounding Sumner High School during the morning arrival, afternoon dismissal, and commuter PM peak hours, new peak period turning movement traffic counts were performed at the study-area intersections. The new counts were conducted on June 6, 2017, from 6:30 to 8:30 A.M. and from 1:30 to 6:00 P.M. to capture the three peak periods. School hours are 7:25 A.M. to 2:20 P.M. on Mondays, Tuesdays, Thursdays, and Fridays; Wednesdays have late start and operate from 9:35 A.M. to 2:20 P.M. The traffic count data sheets are included in Appendix A.

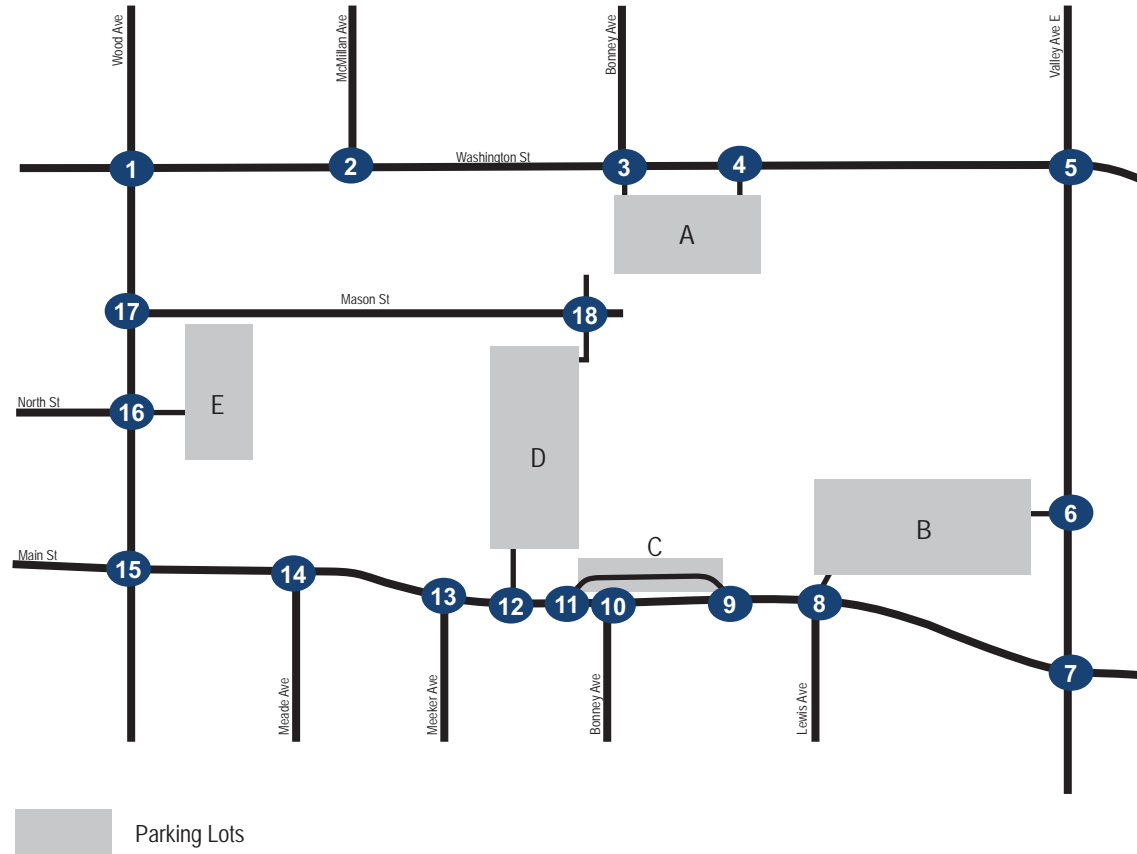
The selected day was coordinated with the Sumner School District to ensure normal school operations prior to the last day of school for seniors. A second round of counts at the same locations was performed during the same periods on July 26, 2017, to reflect conditions without school. The counts were then compared to isolate the school-related traffic at each location (this is further described in *Section 3.2.1. Sumner High School Trip Generation*). Based on these comparisons, the school's morning peak hour was determined to occur from 6:30 to 7:30 A.M. and the afternoon dismissal peak hour occurred from 2:15 to 3:15 P.M. The PM peak hour of the adjacent street system was determined to occur from 4:00 to 5:00 P.M.; consequently, these times were selected as the primary analysis periods. Existing traffic volumes with school in session for the morning, afternoon, and commuter PM peak hours are shown on Figure 3, Figure 4, and Figure 5, respectively.

² City of Sumner, Adopted by City Council June 19, 2017.





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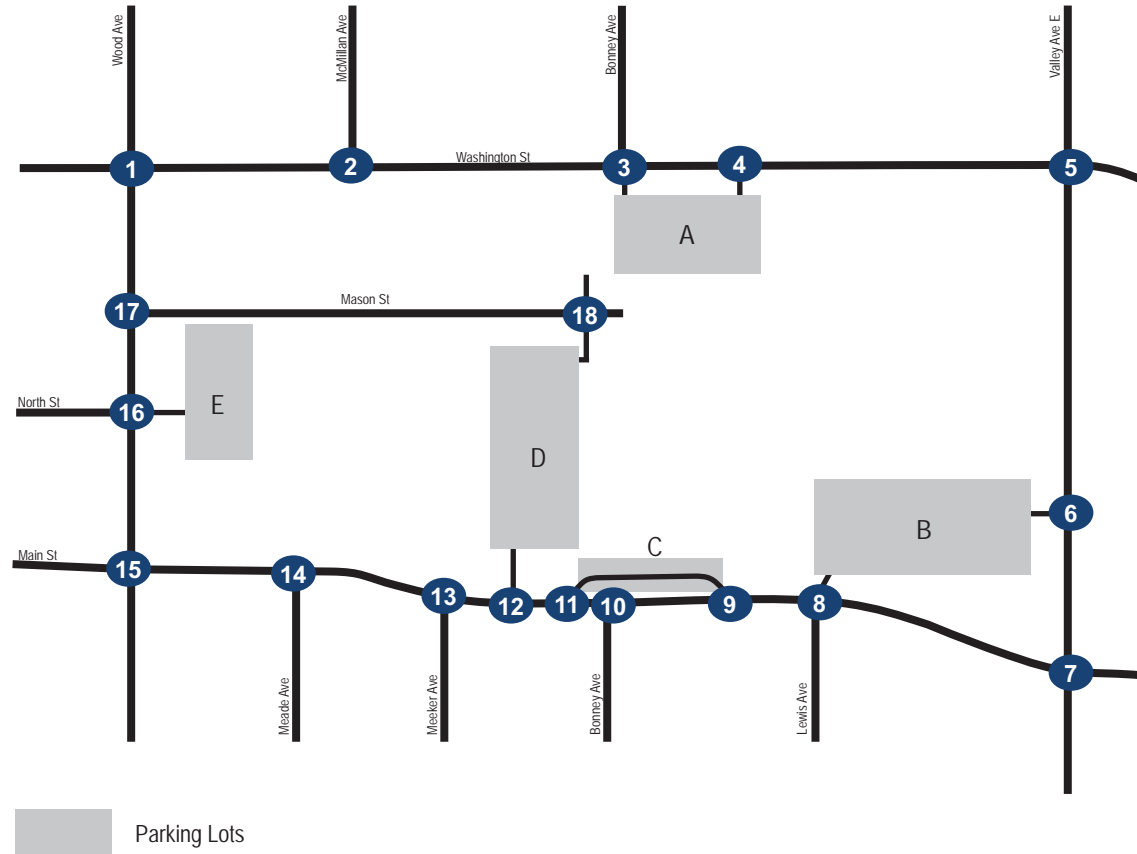
SUMNER HIGH SCHOOL Addition and Modernization

Figure 3
Existing (2017) Traffic Volumes
Morning Peak Hour





1 Washington St Wood Ave	2 Washington St McMillan Ave	3 Washington St Bonney Ave	4 Washington St Lot A east access	5 Washington St Valley Ave		
6 Lot B access Valley Ave	7 Main St Valley Ave	8 Main St Lot B access	9 Main St Loop east access	10 Main St Bonney Ave	11 Main St Loop west access	
12 Main St Lot D south access	13 Main St Meeker Ave	14 Main St Meade Ave	15 Main St Wood Ave	16 North St Wood Ave	17 Mason St Wood Ave	18 Mason St Lot D access



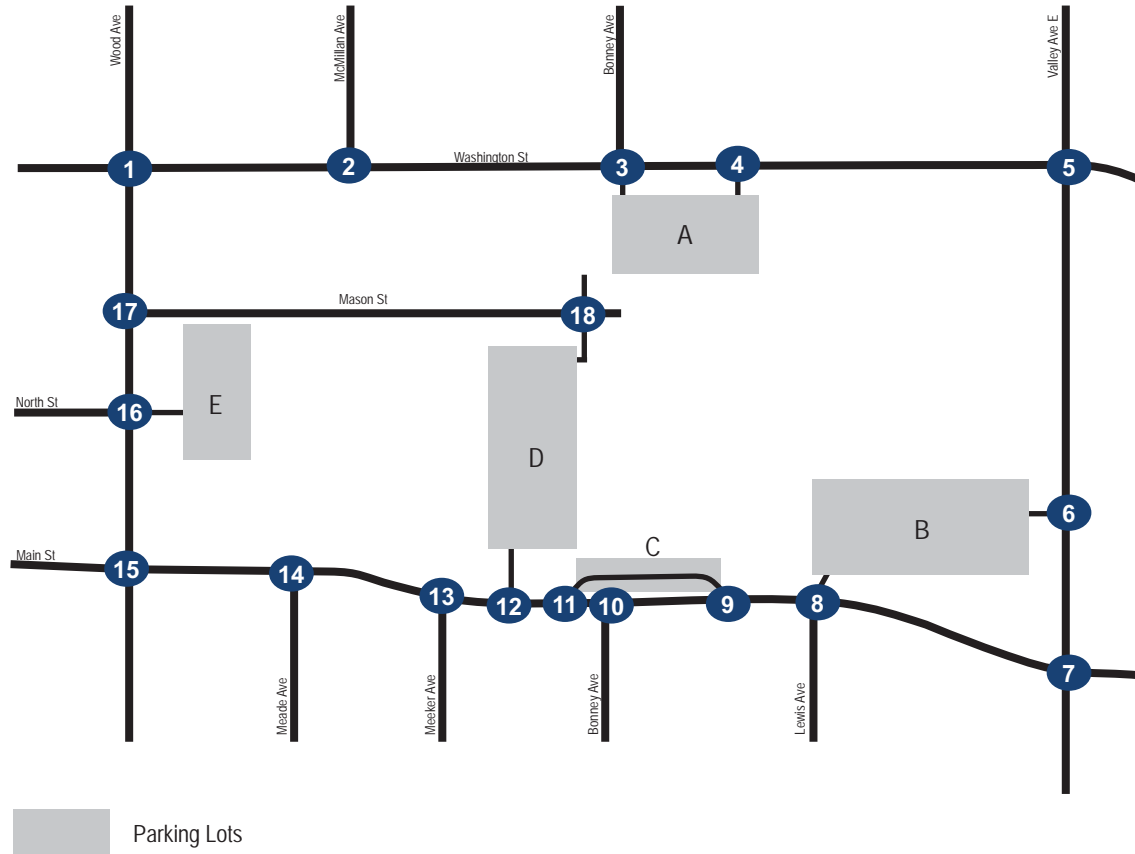
SUMNER HIGH SCHOOL Addition and Modernization

Figure 4
Existing (2017) Traffic Volumes
Afternoon Peak Hour





1 Washington St Wood Ave	2 Washington St McMillan Ave	3 Washington St Bonney Ave	4 Washington St Lot A east access	5 Washington St Valley Ave		
6 Lot B access Valley Ave	7 Main St Valley Ave	8 Main St Lot B access	9 Main St Loop east access	10 Main St Bonney Ave	11 Main St Loop west access	
12 Main St Lot D south access	13 Main St Meeker Ave	14 Main St Meade Ave	15 Main St Wood Ave	16 North St Wood Ave	17 Mason St Wood Ave	18 Mason St Lot D access



SUMNER HIGH SCHOOL Addition and Modernization

Figure 5
Existing (2017) Traffic Volumes
PM Peak Hour



2.2.2. Future Without-Project Traffic Volumes

Traffic forecasts developed for the future analysis year of 2020 were developed based on a combination of data sources.

The *Sumner 2015 Transportation Plan* included PM peak hour volumes³ at selected locations reflecting years 2001 and 2013/2014. The plan notes that “*The PM peak hour traffic volumes in the established residential areas in Sumner west of Valley Avenue and south of Main Street has not increased substantially during the past 13 years....PM peak hour traffic volumes on Main Street east of Valley Avenue have stayed constant. PM peak hour traffic on Main Street east of Parker Road has decreased by 10 percent or 100 vph.*” New counts taken for this analysis in June 2017 at the Main Street / Valley intersection indicate that total entering PM peak hour volumes have remained relatively stable in comparison to the 2013/2014 volumes published in the City’s *Transportation Plan*.

Although historical volumes have been relatively stable or declining, the analysis presented in this report conservatively assumed that new development in the area could result in increased study-area traffic volumes. To estimate year 2020 background traffic for the study area intersections, a compound annual growth rate was applied to existing traffic volumes. Recent analyses prepared for the District’s Early Learning Center project⁴ indicated that the Sumner travel demand model predicts traffic increases at a rate of 1% annually within the study area between 2000 and 2035. Therefore, forecasts for the 2020 morning, afternoon, and PM peak hours were determined by applying a 1% compound annual growth rate to the existing 2017 traffic volumes. In addition, planned and proposed development projects in the larger surrounding area were also reviewed. Based on permit application data available from the *City of Sumner Current Development 2018*⁵ map and the City’s Public Notices, three land use and development permit applications were identified as possibly adding traffic to the study area by or around year 2020. Those projects and the sources for pipeline traffic estimates are listed below.

- Sumner School District’s Early Learning Center (*Revised Transportation Impact Analysis – Sumner Early Learning Center and Athletic Field Upgrades*, Transpo Group, June 2017)
- Sound Transit’s Sumner Station Improvements and Parking Garage (*Sumner Station Access Improvements – Transportation Technical Report*, Sound Transit, March 2016)
- 905 Main Street office/retail project (*SEPA Checklist*, J. Peterson, July 2017)

Trip estimates and assignments were developed for the above projects based on information available from the transportation report or SEPA checklist for each. The trips were added to the background 2020 without-project forecast volumes in the study area. Another five residential projects planned to the east of the site vicinity (Audrey Estates, DiNapoli, Filbert Acres, Memory Haven, and a Townhouse Development) are expected to add a combined 65 single-family homes, 14 townhouse units, and care facilities for 15 memory care residents. Based on traffic estimates derived from published ITE rates for these uses and the likely travel routes expected to be used during peak hours, the assumed 1% compound annual growth rate is expected to account for traffic from these projects. The 2020-without-project morning, afternoon, and PM peak hour traffic volumes are shown on Figure 6, Figure 7, and Figure 8, respectively.

³ City of Sumner, Figure 3.3b.

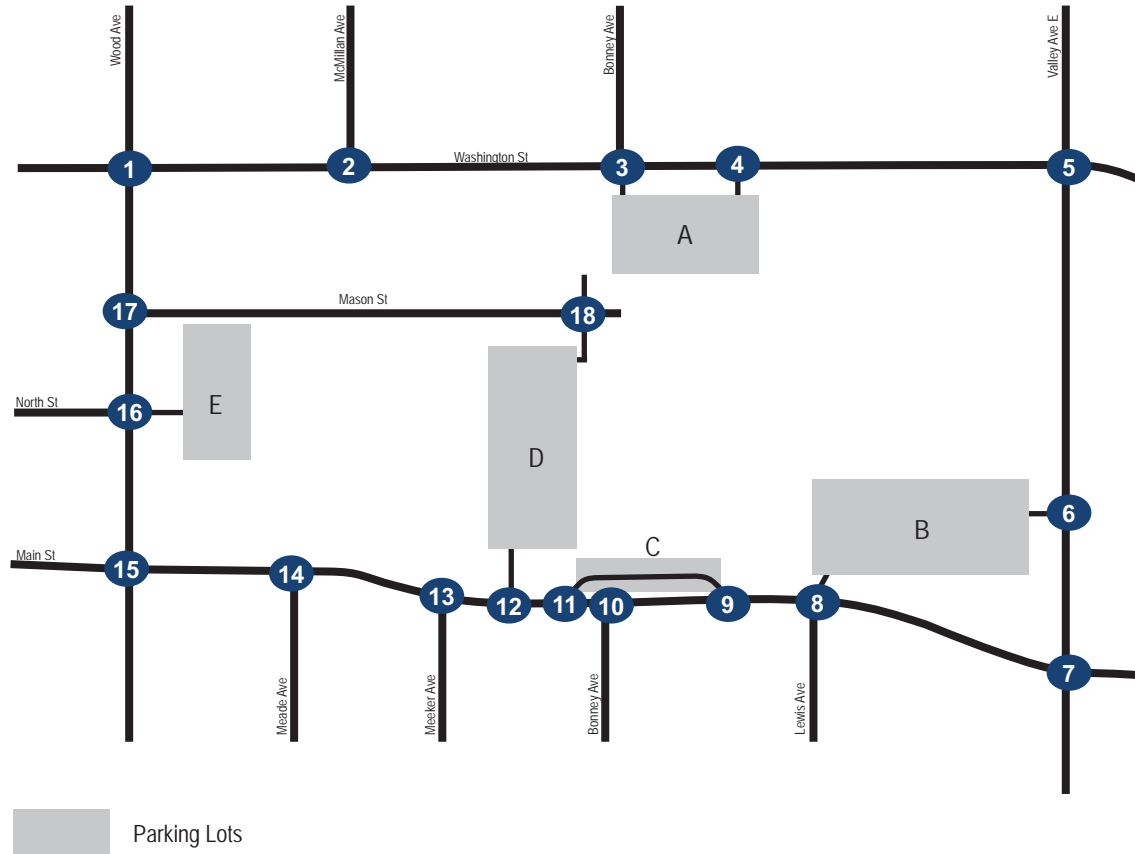
⁴ Transpo Group, *Revised Transportation Impact Analysis – Sumner Early Learning Center and Athletic Field Upgrades*, June 2017.

⁵ Provided to Sumner School District, January 2018.





1 Washington St Wood Ave	2 Washington St McMillan Ave		
3 Washington St Bonney Ave	4 Washington St Lot A east access	5 Washington St Valley Ave	
6 Lot B access Valley Ave	7 Main St Valley Ave	8 Main St Lot B access	
9 Main St Loop east access	10 Main St Bonney Ave	11 Main St Loop west access	
12 Main St Lot D access	13 Main St Meeker Ave	14 Main St Meade Ave	15 Main St Wood Ave
			16 North St Wood Ave
			17 Mason St Wood Ave
			18 Mason St Lot D access



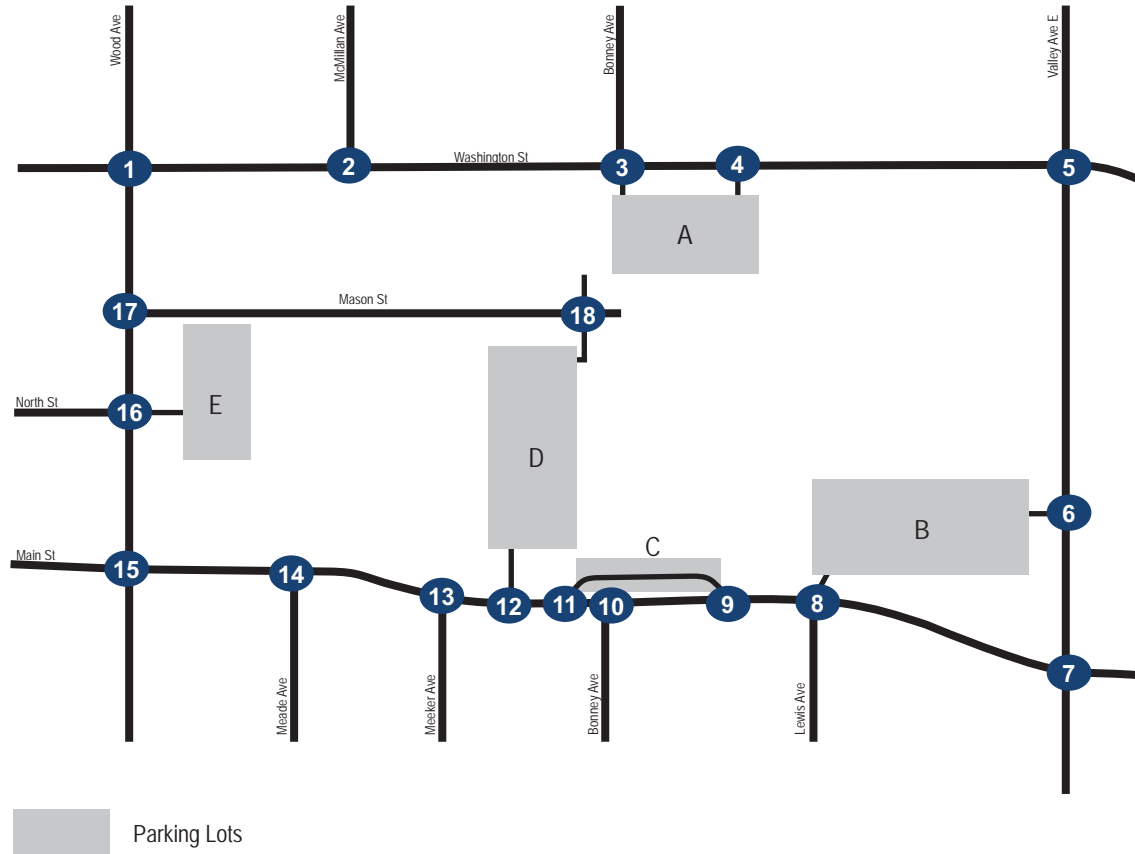
SUMNER HIGH SCHOOL Addition and Modernization

Figure 6
Forecast 2020 Without-Project Traffic Volumes
Morning Peak Hour





1 Washington St Wood Ave	2 Washington St McMillan Ave	3 Washington St Bonney Ave	4 Washington St Lot A east access	5 Washington St Valley Ave		
6 Lot B access Valley Ave	7 Main St Valley Ave	8 Main St Lot B access	9 Main St Loop east access	10 Main St Bonney Ave	11 Main St Loop west access	
12 Main St Lot D access	13 Main St Meeker Ave	14 Main St Meade Ave	15 Main St Wood Ave	16 North St Wood Ave	17 Mason St Wood Ave	18 Mason St Lot D access



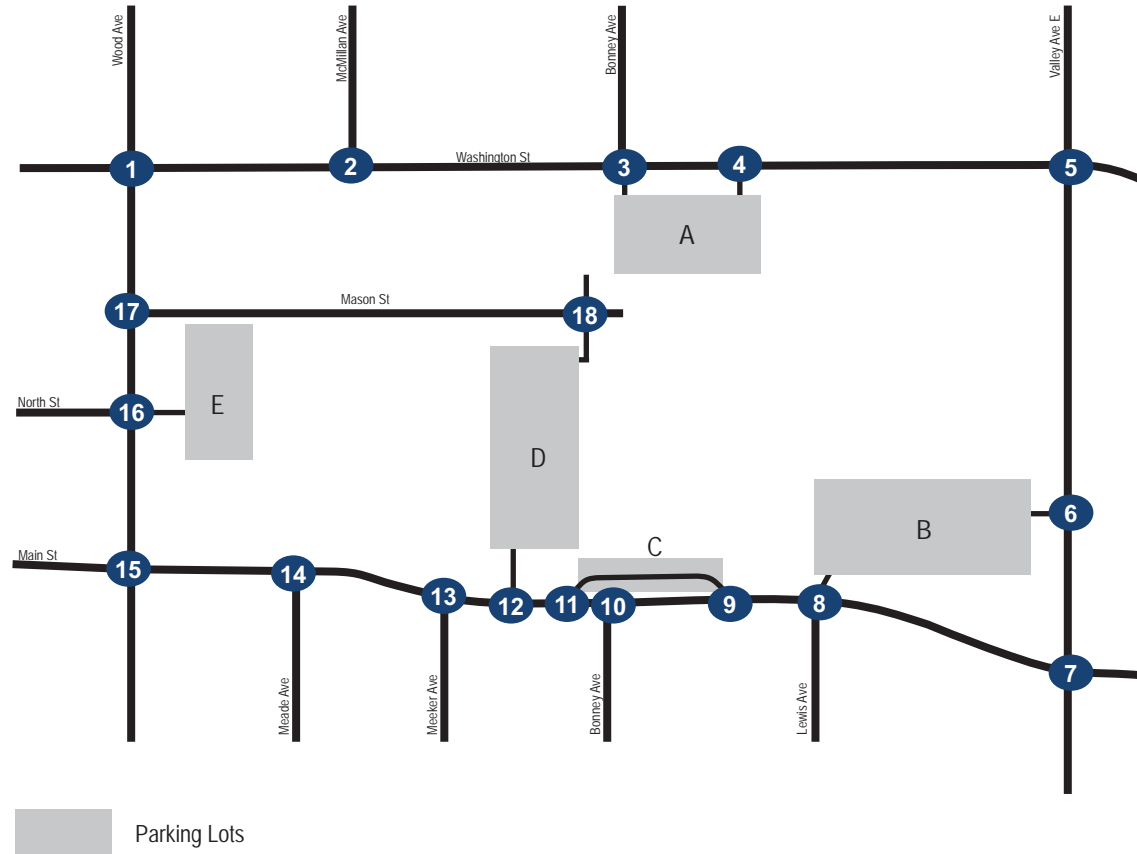
SUMNER HIGH SCHOOL Addition and Modernization

Figure 7
Forecast 2020 Without-Project Traffic Volumes
Afternoon Peak Hour





1 Washington St Wood Ave	2 Washington St McMillan Ave	3 Washington St Bonney Ave	4 Washington St Lot A east access	5 Washington St Valley Ave		
6 Lot B access Valley Ave	7 Main St Valley Ave	8 Main St Lot B access	9 Main St Loop east access	10 Main St Bonney Ave	11 Main St Loop west access	
12 Main St Lot D access	13 Main St Meeker Ave	14 Main St Meade Ave	15 Main St Wood Ave	16 North St Wood Ave	17 Mason St Wood Ave	18 Mason St Lot D access



SUMNER HIGH SCHOOL Addition and Modernization

Figure 8
Forecast 2020 Without-Project Traffic Volumes
PM Peak Hour



2.3. Traffic Operations

Traffic operations analyses were performed for the study-area intersections. Traffic operations are evaluated using levels of service (LOS) with six letter designations, “A” through “F.” LOS A is the best and represents good traffic operations with little or no delay to motorists. LOS F is the worst and indicates poor traffic operations with long delays. The level of service definitions and thresholds are provided in Appendix B. Level of service standards within the study area are established by the City and the Puget Sound Regional Council (PSRC). The *City of Sumner Comprehensive Plan 2015* defines the LOS standard for arterials and collectors as LOS D, except for the Valley Avenue / Main Street intersection, where LOS F operation is allowed. There is no specific LOS standard for non-arterial collector roads, local streets, or driveways intersecting with arterials; these locations are evaluated by the City at the time of development review.

Levels of service for the study area intersections were determined using the methodology in the *Highway Capacity Manual, 6th Edition*.⁶ Delay calculations rely on complex equations that consider a number of variables. For example, delay at signalized intersections is determined based on a complex combination of variables including: traffic volume by intersection movement, lane configuration, signal phasing and timing, and number of pedestrian crossings. Delay at unsignalized intersections is determined for vehicles that must stop or yield for oncoming traffic. That delay is related to the availability of gaps in the main street's traffic flow and the ability of a driver to enter or pass through those gaps. All level-of-service calculations were performed using the *Synchro 10.1* traffic operations analysis software. The software models reflect current intersection geometries and levels of service were reported using the *HCM 6* module for all intersections. Signal timing information was field verified.

Table 1 summarizes existing (2017) and forecast 2020 levels of service without the proposed project for morning, afternoon, and PM peak hour conditions. As shown, both signalized study area intersections currently operate at LOS C or better during all three peak hours. All of the unsignalized study area intersections operate at LOS A overall with all movements operating at LOS D or better during all three periods. The assumed growth in background traffic is projected to add small amounts of delay to a number of movements; however, the increases are all forecast to be less than four seconds for all movements. It is noted that some negligible reductions in average delay are projected, which can result when traffic increases occur on non-critical, higher-volume movements (e.g. when right-turn or through movements have greater volume increases than left-turn movements). The level of service calculations sheets are included in Appendix C.

⁶ Transportation Research Board 2016.



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Table 1. Level of Service Summary – Existing and Future-Without-Project Conditions

Intersection / Control Type	Morning Peak Hour (6:30 – 7:30 A.M.)				Afternoon Peak Hour (2:15 – 3:15 P.M.)				Commuter PM Peak Hour (4:00 – 5:00 P.M.)			
	Existing (2017)		2020 w/o project		Existing (2017)		2020 w/o project		Existing (2017)		2020 w/o project	
	LOS ^a	Delay ^b	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Signalized												
Main Street / Valley Avenue	C	25.4	C	28.4	C	26.6	C	28.5	C	22.8	C	23.8
Main Street Wood Avenue	B	12.2	B	12.6	B	13.7	B	14.1	B	14.8	B	15.2
Two-Way Stop Controlled												
Washington Street / Wood Avenue (overall)	A	2.9	A	2.9	A	4.0	A	4.0	A	2.8	A	2.8
Northbound left turns	A	7.6	A	7.6	A	7.9	A	7.9	A	8.4	A	8.4
Southbound left turns	A	7.9	A	7.9	A	7.8	A	7.8	A	7.6	A	7.6
Eastbound movements	B	10.1	B	10.3	B	11.9	B	12.1	B	14.4	B	14.8
Westbound movements	B	13.3	B	13.7	C	17.3	C	18.0	C	17.1	C	17.9
Washington St / McMillan Ave (overall)	A	1.1	A	1.1	A	0.5	A	0.5	A	0.8	A	0.8
Southbound movements	A	9.6	A	9.6	B	10.0	B	10.0	A	9.4	A	9.4
Eastbound left turns	A	7.5	A	7.5	A	7.6	A	7.6	A	7.4	A	7.4
Washington St / Bonney Avenue (overall)	A	2.1	A	2.0	A	1.1	A	1.1	A	1.2	A	1.2
Northbound movements	N/A ^c		N/A ^c		N/A ^c		N/A ^c		N/A ^c		N/A ^c	
Southbound movements	B	10.1	B	10.1	B	10.6	B	10.6	A	9.6	A	9.6
Eastbound left turns	A	7.5	A	7.5	A	7.7	A	7.7	A	7.4	A	7.4
Westbound left turns	N/A ^c		N/A ^c		N/A ^c		N/A ^c		N/A ^c		N/A ^c	
Washington St / Valley Ave (overall)	A	3.5	A	3.6	A	5.6	A	5.9	A	3.1	A	3.1
Northbound left turns	A	8.2	A	8.3	A	8.6	A	8.7	A	8.9	A	9.0
Southbound left turns	A	8.7	A	8.8	A	8.1	A	8.1	A	8.0	A	8.1
Eastbound movements	C	16.5	C	18.0	C	24.4	D	27.4	C	16.7	C	17.3
Westbound movements	D	27.8	D	31.4	C	18.8	C	20.3	C	19.7	C	20.6
Main St / Lewis Ave / SHS access (overall)	A	2.2	A	2.1	A	1.9	A	1.9	A	0.8	A	0.8
Northbound movements	B	14.6	C	15.7	B	16.0	B	16.8	C	16.3	C	17.2
Southbound movements	C	16.8	C	18.2	C	19.4	C	20.9	C	15.5	C	16.1
Eastbound left turns	A	8.9	A	9.0	A	8.5	A	8.6	A	8.9	A	9.0
Westbound left turns	A	7.9	A	8.0	A	8.7	A	8.8	A	9.0	A	9.2



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Table 1. Level of Service Summary – Existing and Future-Without-Project Conditions

Intersection / Control Type	Morning Peak Hour (6:30 – 7:30 A.M.)				Afternoon Peak Hour (2:15 – 3:15 P.M.)				Commuter PM Peak Hour (4:00 – 5:00 P.M.)			
	Existing (2017)		2020 w/o project		Existing (2017)		2020 w/o project		Existing (2017)		2020 w/o project	
	LOS ^a	Delay ^b	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Two-Way Stop Controlled (cont.)												
Main St / Bonney Ave (overall)	A	1.6	A	1.5	A	0.9	A	0.9	A	0.6	A	0.6
Northbound movements	B	11.3	B	11.8	B	13.6	B	14.1	B	13.4	B	14.0
Westbound left turns	A	7.7	A	7.8	A	8.7	A	8.8	A	9.2	A	9.3
Main St / Meeker Ave (overall)	A	2.0	A	1.9	A	2.0	A	2.0	A	2.0	A	2.0
Northbound movements	B	10.6	B	10.9	B	14.2	B	14.9	B	14.5	C	15.3
Westbound left turns	A	7.9	A	8.0	A	8.6	A	8.7	A	8.9	A	9.0
Main St / Meade Ave (overall)	A	0.3	A	0.3	A	0.3	A	0.3	A	0.3	A	0.3
Northbound movements	B	10.3	B	10.6	B	13.3	B	13.9	B	12.5	B	12.9
Westbound left turns	A	7.7	A	7.8	A	8.4	A	8.5	A	8.6	A	8.7
North St / Wood Ave / SHS access (overall)	A	1.3	A	1.3	A	2.3	A	2.4	A	1.7	A	1.7
Northbound left turns	A	7.6	A	7.6	A	8.1	A	8.1	A	8.5	A	8.6
Southbound left turns	A	8.1	A	8.1	A	7.6	A	7.6	A	0.0	A	0.0
Eastbound movements	B	11.0	B	11.2	B	12.6	B	12.8	B	14.0	B	14.3
Westbound movements	A	12.0	A	12.3	B	13.1	B	13.5	B	15.8	B	16.3
Mason St / Wood Ave (overall)	A	2.0	A	1.9	A	2.3	A	2.3	A	0.9	A	0.8
Southbound left turns	A	7.9	A	7.9	A	7.7	A	7.8	B	11.7	B	11.8
Westbound movements	B	11.6	B	11.8	B	12.6	B	12.8	A	7.6	A	7.6

Source: Heffron Transportation, Inc., February 2018.

- a. Level of service.
- b. Average seconds of delay per vehicle.
- c. N/A – Driveway is gated and closed for existing conditions and was assumed to remain closed for future without-project conditions.



2.4. Site Access

The existing site has 11 vehicular access driveways (plus two additional gated curb cuts that generally remain closed on the east edge of the Mason Street cul-de-sac). There are four access driveways along Main Street—the easternmost serves the stadium parking lot, two one-way driveways serve the school-bus loop (entry on the east and exit on the west), and the westernmost access serves the main parking lot west of the school building. School buses load and unload within the bus loop; some special education (SPED) buses load/unload along the west side of the building within the west parking lot. There is one access driveway on Wood Avenue that serves the remote lot west of the athletic fields. There are three access driveways on Mason Street—one located just east of the tennis courts and two within the cul-de-sac. There are two driveways on Washington Street—the western access is currently gated and remains closed due to portable classrooms in the lot. The eastern access serves the north parking lot. Finally, there is one driveway on Valley Avenue, which also provides access to and from the stadium lot.

Analysis of the site access driveways that are currently open indicates all operate at LOS A overall with all movements operating at LOS C or better, during all analysis periods for existing conditions; all are expected to remain at those levels for forecast 2020-without-project conditions.

2.5. Parking

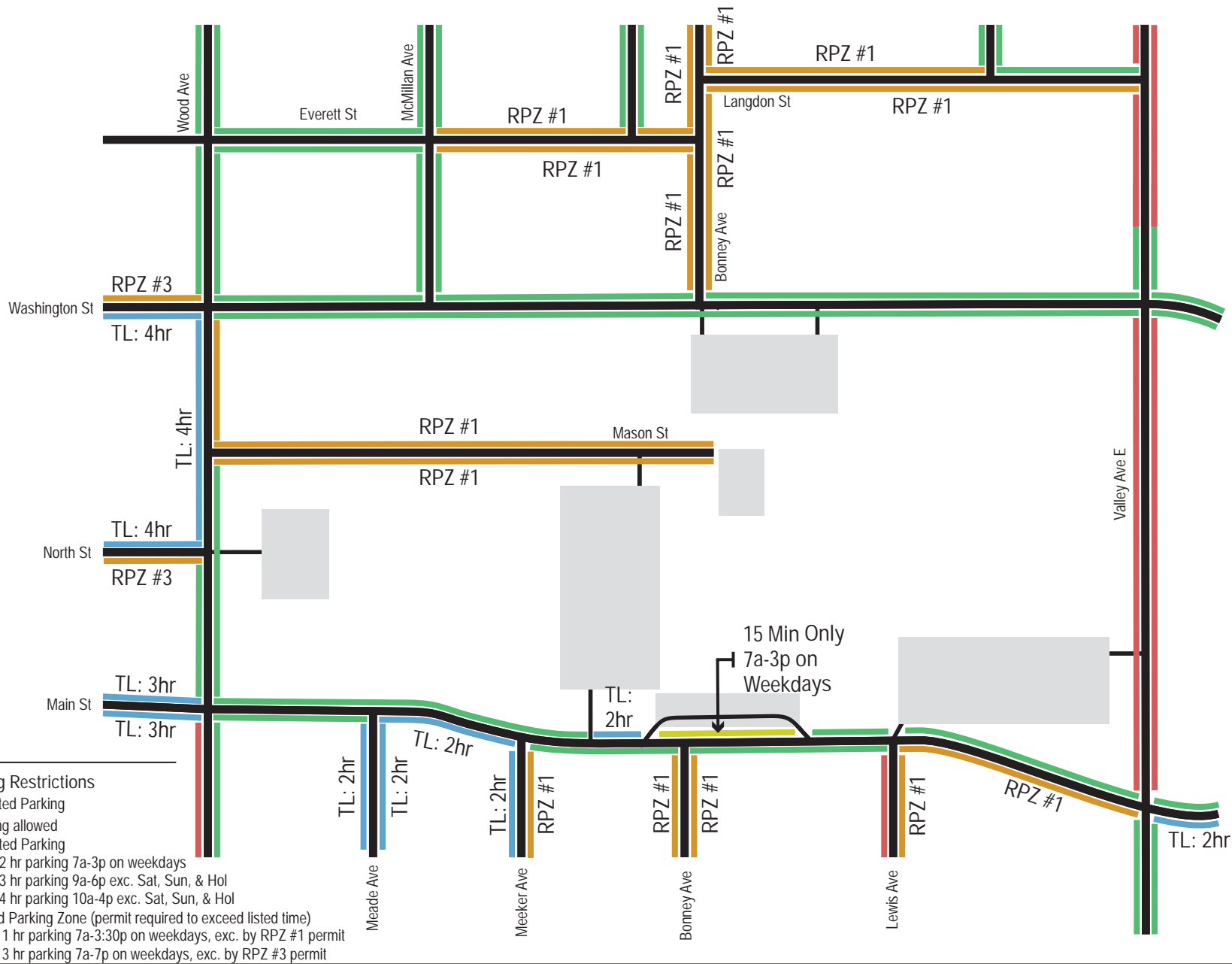
2.5.1. Existing On-Street Parking

As described previously in the *Roadway Network* section (2.1), on-street parking occurs along many of the roadways surrounding the school site. Parking along several of the roadways is managed by the City through restrictions in the form of time limits and/or RPZs (which require a permit to exceed time limits). The existing on-street parking restrictions, including locations where time limits, RPZs, and unrestricted parking occurs are shown on Figure 9.

2.5.2. Existing On-Site Parking Supply

There are 464 striped spaces in the five main school parking lots (this number includes six spaces located in the western lot along Wood Avenue that are currently used by Heritage Bank). This supply value also excludes a large portion of the northern parking lot that is not available due to the placement of portable classrooms. The area that is accessed via the east end of Mason Street (southeast of the cul-de-sac) is unstriped and is used primarily for load/unload activities and service vehicles. A capacity of seven potential parking spaces were estimated in this area based on existing counts and historical aerial views of vehicles parked in the lot; however, they are not included in the total supply count of 464 spaces. Although some parking demand was observed within the school-bus loop accessed from Main Street, this area is also not included in the existing parking supply count.





KEY

On-Street Parking Restrictions

- Unrestricted Parking
- No parking allowed
- Time-limited Parking
- TL: 2hr - 2 hr parking 7a-3p on weekdays
- TL: 3hr - 3 hr parking 9a-6p exc. Sat, Sun, & Hol
- TL: 4hr - 4 hr parking 10a-4p exc. Sat, Sun, & Hol
- Restricted Parking Zone (permit required to exceed listed time)
- RPZ #1 - 1 hr parking 7a-3:30p on weekdays, exc. by RPZ #1 permit
- RPZ #3 - 3 hr parking 7a-7p on weekdays, exc. by RPZ #3 permit

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Figure 9
On-Street Parking Restrictions



2.5.3. School Parking Demand and Derived Rates

Existing parking demand counts were conducted on-site and on-street surrounding the school on the same days as the traffic counts described previously (June 6 and July 26, 2017). The counts were performed twice on each day—mid-morning between 8:30 and 10:00 A.M. and early afternoon between 12:30 and 2:00 P.M. to document school-related parking demand. School-related parking demand on nearby streets was determined as the difference between the school day and non-school day counts. Based on these counts, the existing school-generated parking demand of 557 vehicles in mid-morning (392 on-site and 165 on-street) and 585 vehicles in the early afternoon (405 on-site and 180 on-street). Within the on-site lots, mid-morning parking utilization was 84% (392 vehicles parked divided by 464 striped spaces); during early afternoon, utilization was 87% (405 vehicles parked divided by 464 striped spaces). The on-site and on-street parking demand counts (along with vicinity parking restrictions) are summarized on Figure 10.

Based on the reported enrollment at the time of the counts (1,797 students), the following parking demand rates were derived for typical school-day conditions:

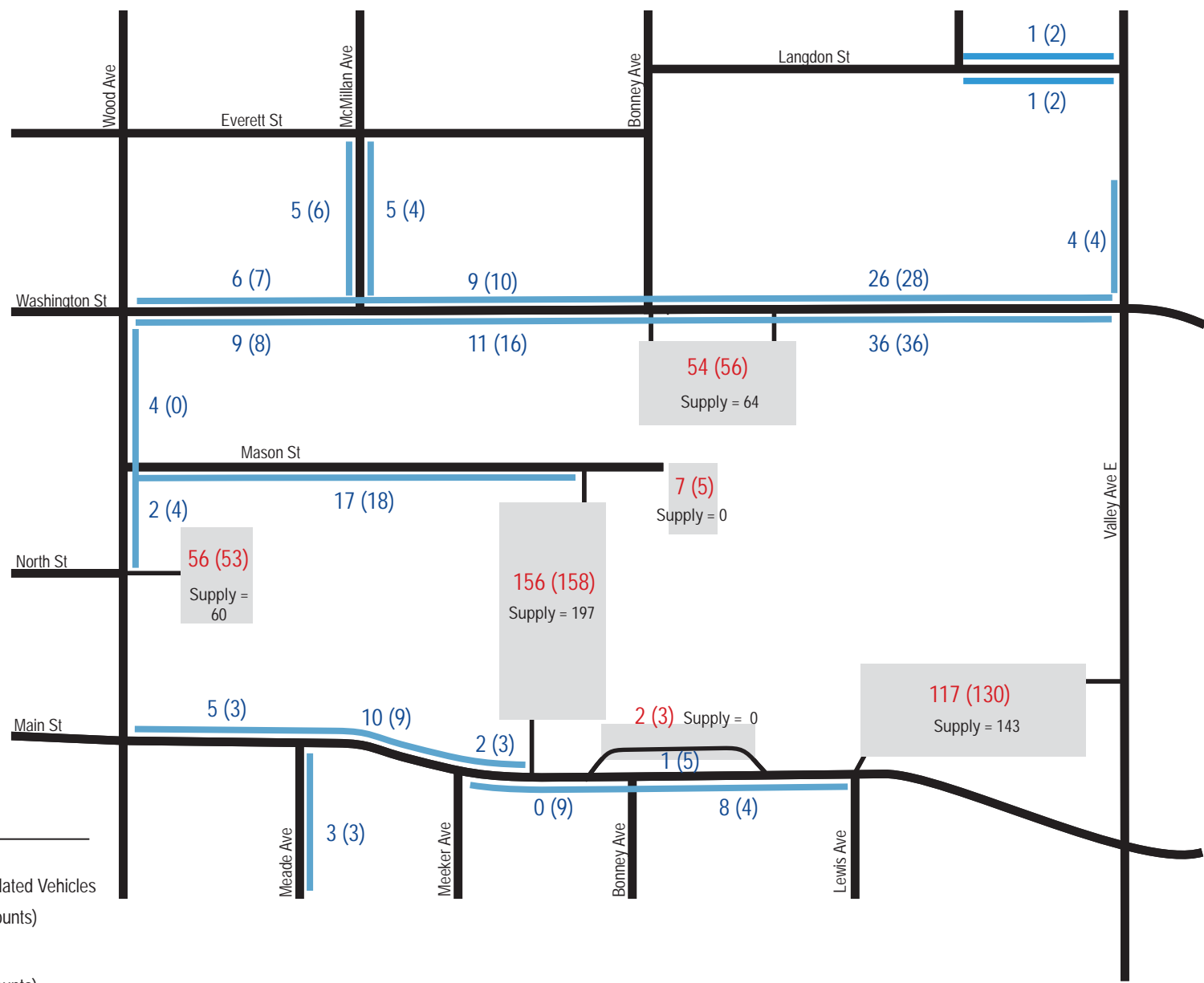
Morning Demand Rate = **0.310 vehicles per student**; and

Afternoon Demand Rate = **0.326 vehicles per student**.

The derived peak parking demand rates are higher than the average rate (0.23 vehicles per student) published by ITE for High Schools (Land Use 530) in its *Parking Generation*;⁷ however, they are similar to the upper end of the published range of rates (up to 0.31 vehicles per student) and are reasonable for application for this project.

⁷ ITE, 4th Edition, 2010.





* Existing parking lot supply values provided by BLRB Architects, October 2017

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Figure 10
On-Street and Off-Street
School Parking Demand



2.6. Traffic Safety

Collision data for the off-site study area intersections and roadway segments adjacent to the site were obtained from the Washington State Department of Transportation (WSDOT). These data, reflecting the period between January 1, 2014, to December 31, 2017 (4.0 years), were examined to determine if there are any unusual traffic safety conditions that could impact or be impacted by the proposed project. The collision data are summarized in Table 2.

The highest numbers of collisions were reported at the Valley Avenue intersections with Main Street (14) and Washington Street (12). At the Main Street intersection, half involved left turns; at the Washington Street intersection, eight were right-angle collisions. The other intersections experienced average collision rates of less than one per year; all of the City-street intersections had collision rates of less than 0.8 per million entering vehicles (MEV). Typically, collision rates higher than 1.0 per MEV are considered to indicate potential safety issues.

Table 2. Historical Collision Summary – January 1, 2014 through December 31, 2017

Intersections	Number of Collisions by Type						Total (4 Yrs)	Avg / Year	Col. / MEV ^b
	Rear- End	Side Swipe	Left Turn	Right Angle	Ped / Cycle	Other ^a			
Signalized									
Main St / Valley Ave	4	2	7	0	0	1	14	3.5	0.5
Main St / Wood Ave	1	0	0	2	0	0	3	0.8	0.1
Two-Way-Stop Controlled									
Washington St / Valley Ave	1	0	1	8	2	0	12	3.0	0.8
Washington St / Wood Ave	0	0	0	2	0	0	2	0.5	0.2
Main St / Lewis Ave	1	0	0	0	1	0	2	0.5	0.1
Main St / Bonney Ave	1	0	0	0	0	0	1	0.3	0.1
Main St / Meeker Ave	0	0	0	0	0	1	1	0.3	0.1
Main St / Meade Ave	1	0	0	0	0	0	1	0.3	0.1
Washington St / McMillan Ave	0	0	0	0	0	0	0	0.0	0.1
Washington St / Bonney Ave	0	0	0	0	0	0	0	0.0	0.0
North St / Wood Ave	0	0	0	0	0	0	0	0.0	0.0
Mason St / Wood Ave	0	0	0	0	0	0	0	0.0	0.0
Roadway Segments	Rear- End	Side Swipe	Left Turn	Right Angle	Ped / Cycle	Other ^a	Total (4 Yrs)	Avg/ Year	Col. / MVM ^b
Valley Ave between Washington St and Main St	3	0	0	4	0	2	9	2.3	0.7
Main St between Wood Ave and Valley Ave	3	0	0	0	0	1	4	1.0	0.3
Washington St between Wood Ave and Valley Ave	0	0	0	1	0	2	3	0.8	1.3
Wood Ave between Washington St and Main St	0	0	0	0	0	1	1	0.3	0.1

Source: WSDOT, January 2018. Reflect collision data for the four-year period between January 1, 2014 and December 31, 2017.

a. Other collision types include vehicle hit parked vehicle or object, or improper movement.

b. Collisions per Million Entering Vehicles.

c. Collisions per Million Vehicle Miles.



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The highest number of collisions on roadway segments occurred along Valley Avenue between Washington Street and Main Street. The data indicate that 8 of the 9 reported occurred within 500 feet north of Main Street; of these, 6 occurred at the driveways serving the retail establishments located along Valley Avenue. The collision rates per million vehicle miles (MVM) traveled show that the highest rate occurred on the Washington Street segment (1.3 per MVM). However, the segment is less than a mile in length; two collisions involved parked vehicles and the third occurred at a driveway. According to the WSDOT’s 2015 *Washington State Collision Data Summary*, average collision rates on roadways in Pierce County are 2.07 per MVM. All segments were below the countywide average rate.

There were three recorded pedestrian collisions at the study area intersections during the four-year study period. The two collisions at the Washington Street/Valley Avenue intersection occurred during summer of 2014 and school winter break in 2016. The pedestrian collision at Main Street/Lewis Avenue/School Access occurred during the mid-morning of Wednesday, March 15, 2017, and the contributing cause was cited as the driver’s “failure to yield right-of-way to pedestrian.” None of the intersection or segment collisions resulted in fatalities. Collision data were reviewed separately for the 10 active site access driveways and indicated a total of three collisions over the four-year analysis period—two angle collisions at the access on Valley Avenue (one in 2014 and one in 2017) and one backing-related collision at a driveway on Mason Street (in 2014).

Additional analysis of the collision data was completed according to methods presented in Chapter 4 of the *Highway Safety Manual (HSM)*.⁸ This method, using Equation 4-11, allows for the determination of collision rates by intersection considering the type of intersection (e.g. signalized or unsignalized), the volume of traffic served, and rates of similar intersections in the vicinity. This review is consistent with the *City of Sumner Comprehensive Plan* analysis of traffic safety. A critical crash rate analysis was performed for each study intersection based on the HSM method and a 95% confidence interval with study area intersections grouped into two categories: signalized and unsignalized (side-street stop-control). The observed crash rates at the intersections were compared to the calculated critical crash rate for each. Details of the critical crash rate analysis are included in Appendix D; Table 3 summarizes information about the one location that was identified for further review.

Table 3. Intersection Identified for Further Review

Intersection	TEV (PM) ^a	Control	Observed Rate	Critical Rate	Further Review
Washington St / Valley Ave	969	Two-Way-Stop	0.76	0.36	Yes

Source: Heffron Transportation, Inc., February 2018
TEV (PM) = Total entering volume during PM peak hour.

A review of the collision data at the Washington Street / Valley Avenue intersection shows that of the 12 collisions reported during the analysis period, eight involved “enter at angle” collisions, for which seven listed contributing a cause of “*did not grant right of way to vehicle.*” The total number of collisions declined over the study period with six in 2014, two in 2015, three in 2016, and one in 2017. Review of the collision and traffic volume data for the intersection indicates it would not meet any of the warrants for signalization outlined in the *Manual on Uniform Traffic Control Devices for Streets and Highways 2009 Edition*⁹ (MUTCD). As noted previously, the intersection currently operates at LOS A overall with all movements operating at LOS D or better.

⁸ AASHTO, 2010.

⁹ Federal Highway Administration (FHWA), *Manual on Uniform Traffic Control Devices for Streets and Highways 2009 Edition*, May 2012.



2.7. Transit Facilities and Service

Sound Transit provides Regional Express bus service and Sounder commuter rail service to and from Sumner. The nearest stops are located at Sumner Station (810 Maple Street) about ½-mile southwest of Sumner High School. The routes and service provided from this station include:

Regional Express Route 578 provides all-day two-way service, seven days per week, between Puyallup, Sumner, Auburn, Federal Way, and Downtown Seattle. On weekdays, the route operates from about 6:00 A.M. to 12:00 A.M. with headways (time between consecutive arrivals) of 20 to 30 minutes. It also operates on all day Saturdays and Sundays with 60-minute headways.

Regional Express Route 596 provides peak period service on weekdays between Sumner and Bonney Lake. The route operates 10 trips into Sumner in the morning from about 5:00 to 10:40 A.M. (most headways of 20 to 30 minutes) and 10 trips to Bonney Lake in the afternoon from about 3:15 to 7:30 P.M. (headways of 25 to 40 minutes).

Sounder commuter rail service connects Lakewood and Seattle with stops in Tacoma, Puyallup, Sumner, Auburn, Kent, and Tukwila. It operates on weekdays with 13 trips in each direction. During the morning commute period (about 4:30 to 9:10 A.M.), there are ten northbound trips and three southbound trips; during the afternoon commute period (about 2:30 to 7:45 P.M.), there are ten southbound trips and three northbound trips. There is no regular weekend service, although there is occasional special event service (e.g. large Seattle stadium events).

Sound Transit has plans for access improvements at and around Sumner Station. Improvements will include a new parking garage with about 623 stalls at the current station parking site with sidewalk and lighting improvements. An estimated 234 surface-lot spaces located south of Maple Street, north of Maple Street, and at the Red Apple building will remain. The garage will bring the new parking total to 857 stalls, or a net increase of 505 stalls. Garage construction is scheduled to begin in 2019 and will open for public use in 2021. All access improvements will be completed by 2023.¹⁰

The Sumner School District provides yellow bus service to eligible students. Eligibility for District-provided transportation depends on several factors, but is generally provided to students whose legal place of residence is greater than two miles from their regular school of attendance.¹¹ Note that exceptions are defined for individuals based on health requirements, educational program needs, or certain geographical considerations.

2.8. Non-Motorized Transportation Facilities

As described in the *Roadway Network* section, most roadways surrounding the site have sidewalks on both sides. There are a few segments that have incomplete sidewalk infrastructure (such as on both sides of Wood Avenue just south of Main Street and the east side of Bonney Avenue just south of Main Street). Sidewalks exist along the school frontages of Main Street, Wood Avenue, Valley Avenue, Mason Street, and Washington Street. There are bike lanes on both sides of Valley Avenue in the site vicinity.

No specific planned non-motorized facility improvements are listed for the study area roadways or intersections in the City's adopted TIP.

¹⁰ Sound Transit, <https://www.soundtransit.org/sumnerimprovements>, Accessed, January 2018.

¹¹ Sumner School District, *Regulations and Procedures No. 6600P*, revised August 2011.



3. PROJECT IMPACTS

This section of the report describes the conditions that would exist with the modernized Sumner High School operating at the proposed enrollment capacity of 1,830 students.

3.1. Roadway Network

No changes to the surrounding roadway network or site frontages are proposed and the project would retain the existing access driveways on the high school site.

Site improvements associated with renovation and re-use of the former MultiCare Clinic medical office building for the Elhi Hill program would reconfigure access to eliminate the existing northern site driveway on Meeker Avenue. As part of that reconfiguration, a driveway serving the expanded parking lot onto Meeker Avenue would be provided at the approximate location of an existing curb cut that serves one of the existing single-family residences to be demolished.

The project also proposes to establish a new on-street, curb-side school-bus load/unload zone along the south side of Mason Street west of the existing cul-de-sac. This load/unload zone is expected to be signed for school-bus-use only on school days during arrival and dismissal periods. The District would coordinate with the City on signage for the new school-bus load/unload zone. It is expected that the curb-side load/unload zone would be available for general parking when not restricted to school-bus-use only (e.g. evenings and overnight).

3.2. Traffic Volumes

3.2.1. Sumner High School Trip Generation

Peak hour trip generation for the school was determined using rates developed from counts performed at 19 locations¹² including all site access driveways. The counts were conducted to capture peak periods of the school, including morning arrival (assumed to overlap the AM peak hour of adjacent roadways), afternoon dismissal, and commuter PM peak period of the adjacent roadway network. As described previously, peak period counts were performed on a typical and representative school day in June 2017 and on a representative summer day with no school in session. The school-day and summer counts were compared to estimate school-related traffic. The comparison accounted for trips made to and from the site driveways as well as trips generated by the school that do not use site driveways (e.g. students, staff, or visitors that park on-street or students that are dropped off or picked up using on-street spaces near the school). The counts reflect trips generated by all school-related activities as well as extracurricular use of the school facilities and athletic fields.

3.2.2. Trip Generation Rates

Table 4 summarizes the results of the trip generation analysis for the existing Sumner High School. It lists the number of trips generated for the morning arrival peak (highest one-hour volume between 6:30 and 8:30 A.M.), afternoon dismissal peak, and PM peak hour of the adjacent street (highest one-hour volume between 4:00 and 6:00 P.M.). The time when each peak hour occurred is also listed. Note that the regular school hours are 7:25 A.M. to 2:20 P.M. on Mondays, Tuesdays, Thursdays, and Fridays; Wednesdays have late start and operate from 9:35 A.M. to 2:20 P.M.

¹² City intersections counted were: Washington Street at Wood, McMillan, Bonney, and Valley Avenues; Main Street at Wood, Meade, Meeker, Bonney, Lewis and Valley Avenues; and Wood Avenue at Mason and North Streets.



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Trip generation rates were calculated based on the existing reported enrollment at the time of the counts—1,797 students. The average rates published in the Institute of Transportation Engineers’ [ITE] *Trip Generation Manual*¹³ for High Schools (Land Use Code 520) are shown for comparison. As shown, the rates derived from counts at Sumner High School are higher than the average published ITE rates for all three periods; however, they are well within the range of ITE rates published for each period and are reasonable for application in the analysis of this project. A daily trip generation rate for Sumner High School was estimated by inflating the published ITE daily rate using the ratio of observed and published ITE peak hour trip rates. The resulting rate is also within the range of daily rates observed by ITE. These derived rates reflect all trips generated by the school including student pick-up/drop-off activity, school-bus trips, teacher/staff trips, visitors, volunteers, and after-hours use of fields or facilities (school-related or public).

Table 4. Existing Trip Generation Summary – Sumner High School

School / Reporting Period	Enrollment & Time Period	Number of Trips			Trip Rate (trips/student)			ITE Rates ² For Comparison
		In	Out	Total	In	Out	Total	
Sumner High School	1,797 Students¹							
Average Weekday	24-hour	2,590	2,590	5,180	50%	50%	2.88	2.03 trips/student
Morning Peak Hour	6:30 – 7:30 A.M.	854	440	1,294	66%	34%	0.72	0.52 trips/student
Afternoon Peak Hour	2:15 – 3:15 P.M.	302	561	863	35%	65%	0.48	0.33 trips/student
Street PM Peak Hour	4:00 – 5:00 P.M.	194	201	395	49%	51%	0.22	0.14 trips/student

Source: Heffron Transportation, Inc., January 2018.

1. Washington State Report Card, OSPI website, Sumner High School enrollment reported for May 2017.
2. ITE, *Trip Generation Manual*, 10th Edition, September 2017.

3.2.3. Trip Generation Estimates for Modernization & Expansion

As described previously, the existing school had enrollment of 1,797 students at the time of the data collection for the trip generation analysis. Based on the existing and proposed capacity described previously, the transportation analysis evaluates the impacts associated with a potential increase in enrollment to 1,830 students—a net increase of 33 students. The trip generation rates derived specifically for Sumner High School and presented above were applied to the existing and proposed school capacity values to determine the net change in traffic associated with the project. Table 5 presents the trip generation estimates and the net change in traffic evaluated for this analysis.

Table 5. Trip Generation Summary – Sumner High School Modernization & Addition

Condition (capacity)	Daily	Morning Peak Hour (6:30 to 7:30 A.M.)			Afternoon Peak Hour (2:15 to 3:15 P.M.)			PM Peak Hour (4:00 to 5:00 P.M.)		
		In	Out	Total	In	Out	Total	In	Out	Total
Proposed (1,830 students)	5,270	870	450	1,320	310	570	880	200	205	405
Existing (1,797 students) ^a	-5,180	-854	-440	-1,294	-302	-561	-863	-194	-201	-395
Net Change (33 students)	90	16	10	26	8	9	17	6	4	10

Source: Heffron Transportation, Inc., January 2018.

- a. Washington State Report Card, OSPI website, Sumner High School enrollment reported for May 2017.

¹³ ITE, 10th Edition, September 2017.



As previously described, the proposed project would remove the existing swimming pool (located on the site southeast of the Mason Street cul-de-sac) that was historically a public facility well-used by the community. The project would also occupy and change the use of the medical office building (located at the southwest corner of the Main Street / Meeker Avenue intersection and formerly occupied by the MultiCare Sumner Clinic). Both of these actions would result in net decreases in traffic generation compared to the historical prior uses; however, credits for the removal of those uses and their associated traffic has not been assumed in these traffic estimates. Therefore, the values presented above represent conservatively high estimates of project-related traffic increases.

3.2.4. Trip Distribution & Assignment

Trip distribution patterns for the project-related traffic were developed from a combination of resources including: 1) enrollment boundary for Sumner High School; 2) student spotting map data for all students currently attending Sumner High School; 3) existing and planned future school bus routes provided by District Transportation staff; 4) historical traffic count data for key locations in Sumner; 5) local access patterns derived from the driveway and local intersection counts described previously; and 6) the proposed new site access, parking, and bus load/unload configuration.

School trip patterns in the wider Sumner area are expected to be similar to existing conditions. However, the revised site access configuration, parking supply increase and re-allocation, and revised school-bus routes and load/unload areas would change access and circulation patterns immediately around the school site. Therefore, the net trip assignments were determined in steps. First, trips generated by the existing school (1,797 students) were assigned based on the existing observed access patterns. Then, all trips generated by the proposed modernized school at its full enrollment capacity of 1,830 students were assigned considering the new access and parking configuration. Finally, the two assignments were subtracted in order to determine the net changes to traffic at intersections in the immediate vicinity.

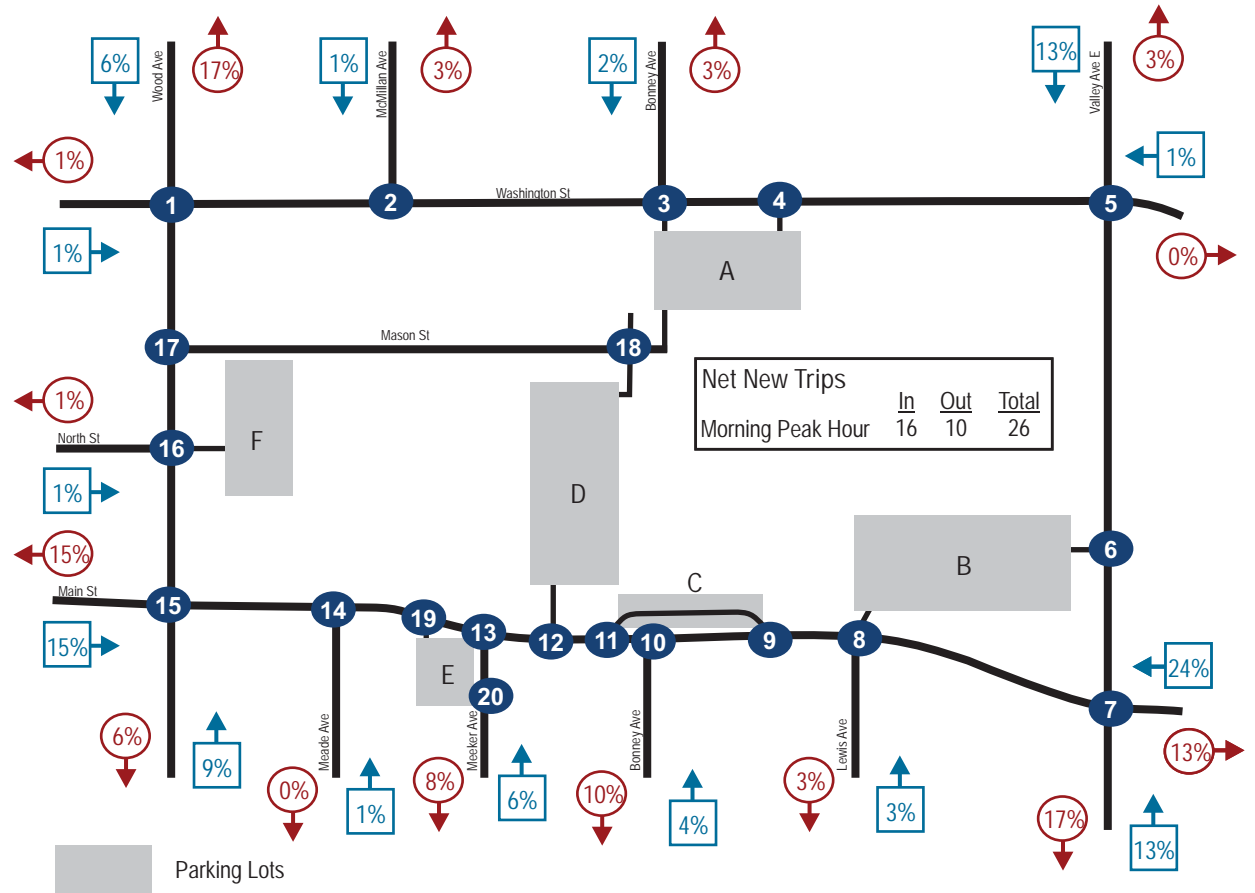
The assignments during each hour include trips through all site access driveways and near-site intersections that would be affected by the project. They also account for some shift in trips from use of on-street parking to new on-site parking. The trip distribution patterns and the resulting net project trip assignments are shown on Figure 11 for the morning peak hour, Figure 12 for the afternoon peak hour, and Figure 13 for the PM peak hour.

The estimated net increases in trips generated by the school modernization project during each peak hour were added to the forecast without-project traffic volumes to represent future conditions with the project. The forecast 2020 with-project morning, afternoon, and PM peak hour traffic volumes are shown on Figure 14, Figure 15, and Figure 16, respectively.





1 Washington St Wood Ave	2 Washington St McMillan Ave							
3 Washington St Bonney Ave	4 Washington St Lot A east access	5 Washington St Valley Ave						
6 Lot B access Valley Ave	7 Main St Valley Ave	8 Main St Lot B access						
9 Main St Loop east access	10 Main St Bonney Ave	11 Main St Loop west access						
12 Main St Lot D access	13 Main St Meeker Ave	14 Main St Meade Ave	15 Main St Wood Ave	16 North St Wood Ave	17 Mason St Wood Ave	18 Mason St Lot D access	19 Main St Lot E access	20 Lot E access Meeker Ave



SUMNER HIGH SCHOOL Addition and Modernization

Figure 11
Project Trip Distribution and Assignment
Morning Peak Hour



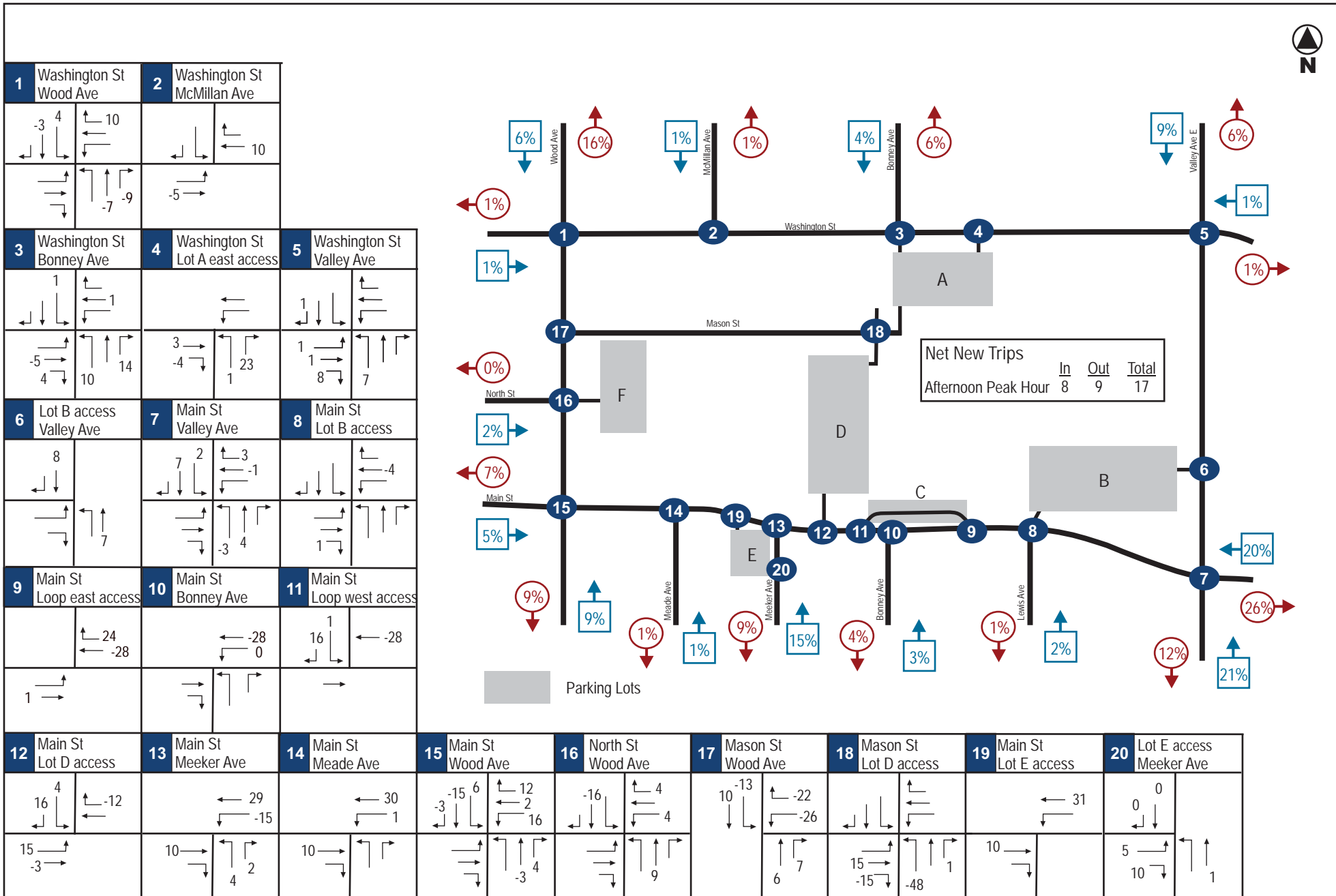
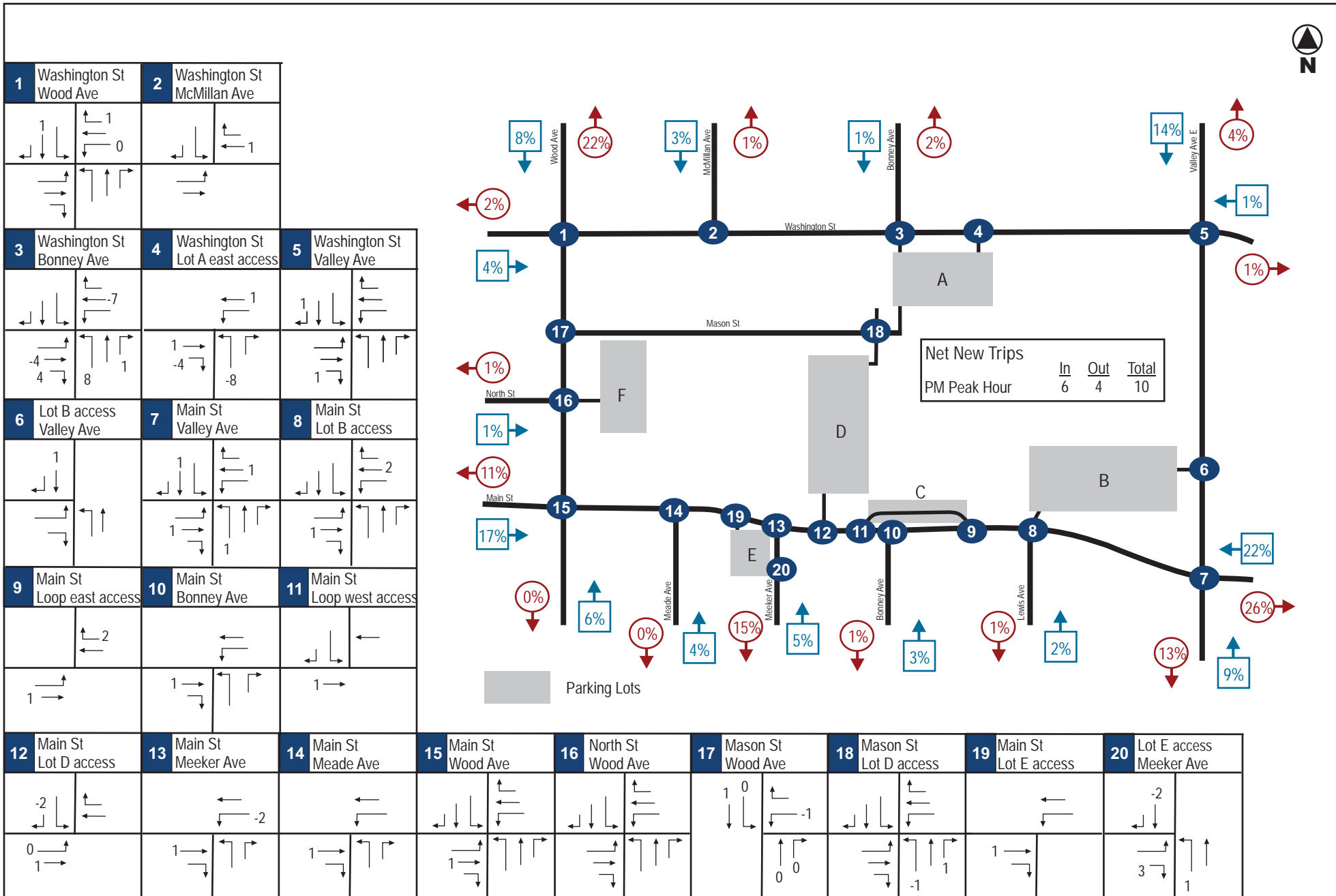


Figure 12
Project Trip Distribution and Assignment
Afternoon Peak Hour

SUMNER HIGH SCHOOL Addition and Modernization





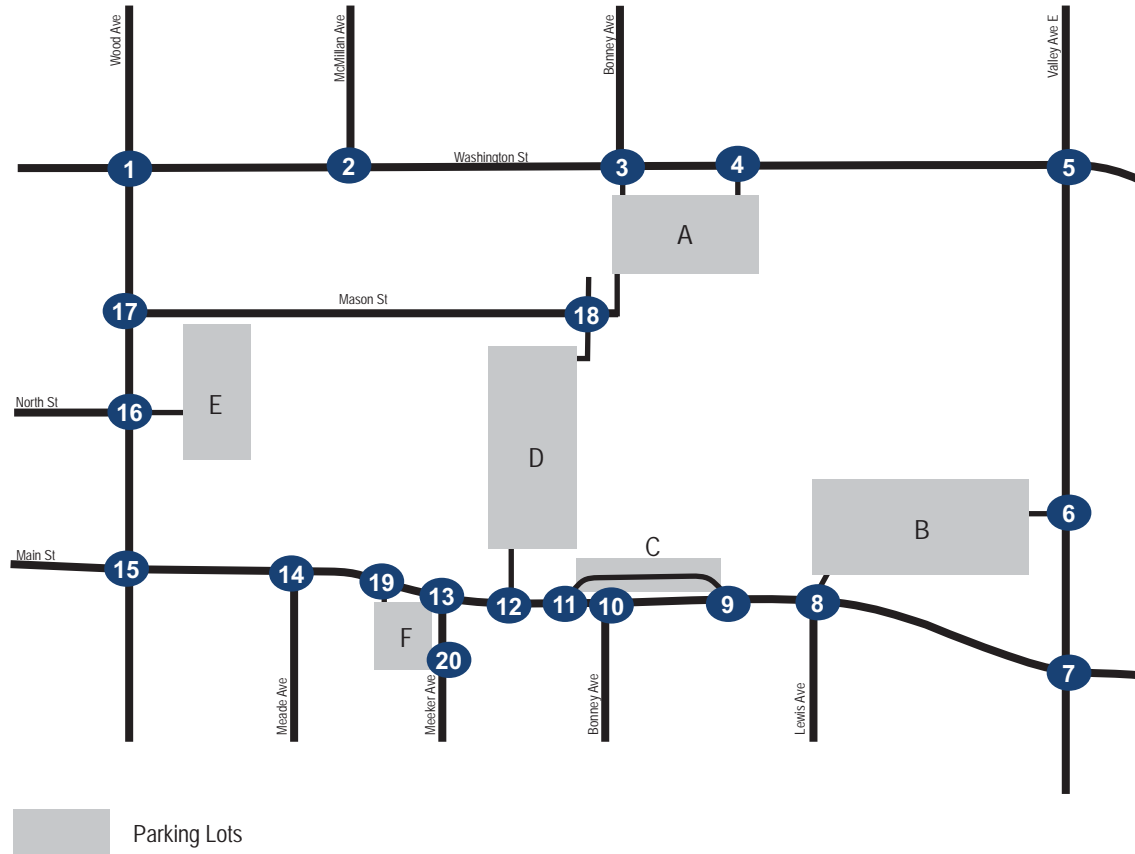
SUMNER HIGH SCHOOL Addition and Modernization

Figure 13
Project Trip Distribution and Assignment
PM Peak Hour





1 Washington St Wood Ave	2 Washington St McMillan Ave												
113 1 ↓ 22 ↓ ← 23 ← 7 ← 44	7 12 ↓ ← 20 ← 69												
1 → 1 → 7 ↘	9 ↑ 170 ↑ 49 ↑	3 → 67 →											
3 Washington St Bonney Ave	4 Washington St Lot A east access	5 Washington St Valley Ave											
15 12 ↓ 0 ↓	10 ← 77 ← 0	92 ← 60	13 187 6 50 ↓ 14 11										
15 → 43 → 10 ↘	2 ↑ 0 ↑ 14 ↑	41 → 35 ↘	6 → 3 → 36 ↘										
6 Lot B access Valley Ave	7 Main St Valley Ave	8 Main St Lot B access											
191 33 ↓	28 130 57 ↓	8 0 22 ↓	42 431 6										
8 → 33 ↘	107 → 96 → 42 ↘	22 → 204 → 10 ↘	4 ↑ 22 ↑										
9 Main St Loop east access	10 Main St Bonney Ave	11 Main St Loop west access											
41 ← 419	366 ← 42	12 44 ↓ ← 3366											
14 → 228 →	199 → 10 ↘	194 →											
12 Main St Lot D access	13 Main St Meeker Ave	14 Main St Meade Ave	15 Main St Wood Ave	16 North St Wood Ave	17 Mason St Wood Ave	18 Mason St Lot D access	19 Main St Lot E access	20 Lot E access Meeker Ave					
3 30 ↓ ← 366	363 ← 35	361 ← 1	39 44 ↓ 49 ↓	100 ← 224 29	26 12 ↓ 125 ↓	3 ← 0 3	9 156 ↓	7 ← 7 7	0 2 ↓ 0 ↓	0 ← 0 0	360 ← 8	33 5 ↓	
114 → 190 →	244 → 3 ↘	256 → 2 ↘	58 → 194 → 8 ↘	3 → 0 → 6 ↘	3 → 0 → 6 ↘	29 ↑ 231 ↑ 60 ↑	19 222 ↑	0 → 15 → 5 ↘	0 ↑ 1 ↑ 6 ↑	1 ↑ 0 ↑	256 → 15 ↘	2 → 2 ↘	3 ↑ 57 ↑



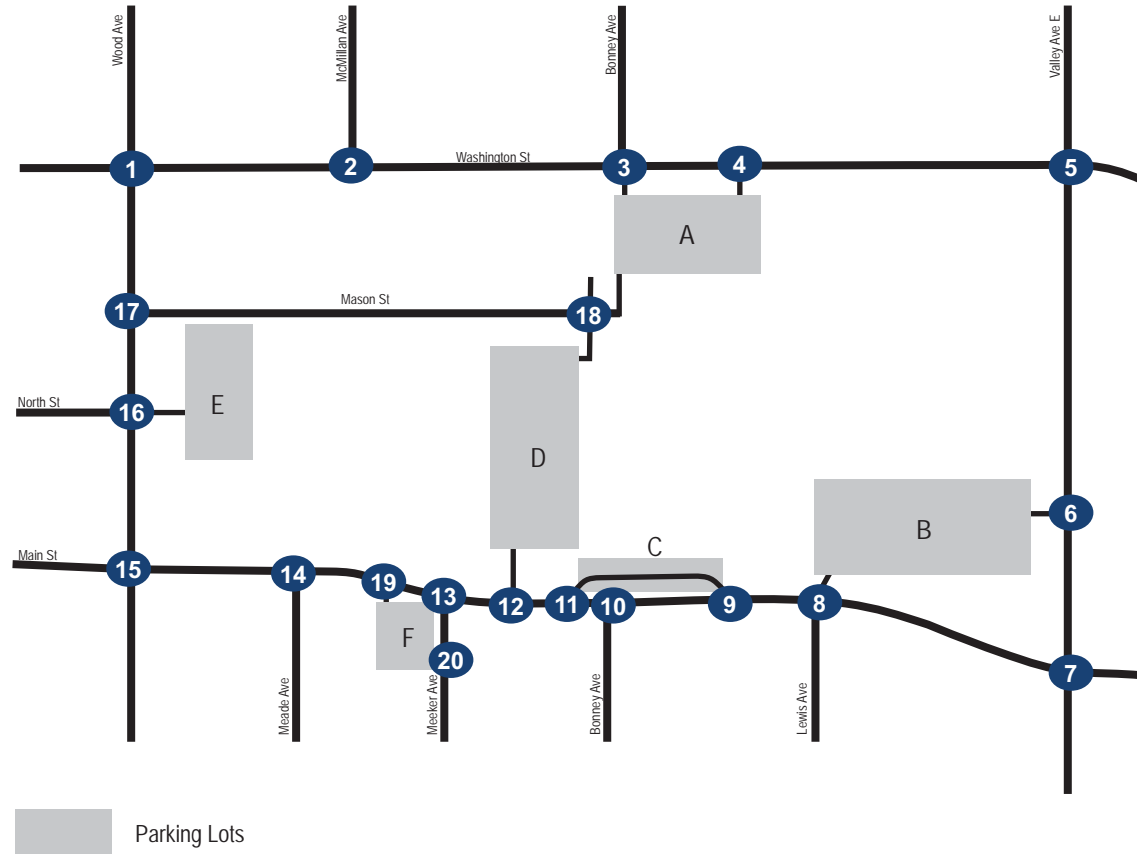
SUMNER HIGH SCHOOL Addition and Modernization

Figure 14
Forecast 2020 With-Project Traffic Volumes
Morning Peak Hour





1 Washington St Wood Ave	2 Washington St McMillan Ave	3 Washington St Bonney Ave	4 Washington St Lot A east access	5 Washington St Valley Ave				
6 Lot B access Valley Ave	7 Main St Valley Ave	8 Main St Lot B access	9 Main St Loop east access	10 Main St Bonney Ave	11 Main St Loop west access			
12 Main St Lot D access	13 Main St Meeker Ave	14 Main St Meade Ave	15 Main St Wood Ave	16 North St Wood Ave	17 Mason St Wood Ave	18 Mason St Lot D access	19 Main St Lot E access	20 Lot E access Meeker Ave



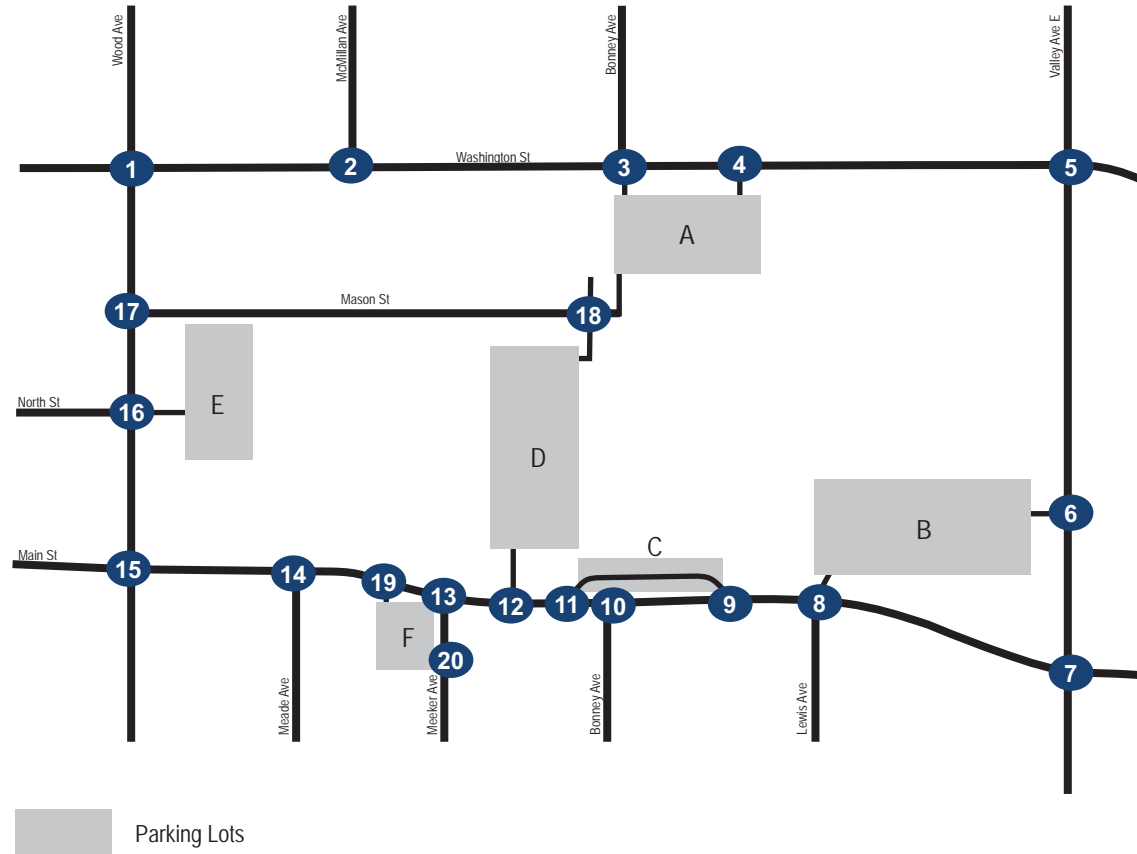
SUMNER HIGH SCHOOL Addition and Modernization

Figure 15
Forecast 2020 With-Project Traffic Volumes
Afternoon Peak Hour





1 Washington St Wood Ave	2 Washington St McMillan Ave	3 Washington St Bonney Ave	4 Washington St Lot A east access	5 Washington St Valley Ave				
6 Lot B access Valley Ave	7 Main St Valley Ave	8 Main St Lot B access	9 Main St Loop east access	10 Main St Bonney Ave	11 Main St Loop west access			
12 Main St Lot D access	13 Main St Meeker Ave	14 Main St Meade Ave	15 Main St Wood Ave	16 North St Wood Ave	17 Mason St Wood Ave	18 Mason St Lot D access	19 Main St Lot E access	20 Lot E access Meeker Ave



SUMNER HIGH SCHOOL Addition and Modernization

Figure 16
Forecast 2020 With-Project Traffic Volumes
PM Peak Hour



3.3. Traffic Operations

Intersection levels of service for future with-project conditions were determined using the same methodology described previously for existing and future without-project conditions. The operations analyses of the study area intersections accounted for the peaking characteristics of school traffic (school drop-off and pick-up primarily occurs during about 20 minutes in the peak hours) and the effect of school-bus traffic (heavy vehicles).

Levels of service for the off-site study area intersections were calculated using the 2020-with-project traffic volumes. Table 6 shows the results of the analysis; levels of service for the 2020-without-project conditions are shown for comparison. As shown, the shift in traffic associated with the changes to on-site parking, access, and circulation combined with the small increase in enrollment capacity is forecast to add some delay to several of the study area intersections during the peak hours. Both signalized study area intersections are forecast to continue operating at LOS C or better during all three peak hours with the project. All of the unsignalized study area intersections are forecast to continue operating at LOS A overall, with all movements continuing to operate at LOS D or better during all three periods. The changes to traffic resulting from the project are forecast to add small amounts of delay to a number of movements; however, the increases are all forecast to be less than three seconds for all movements. Some negligible reductions in average delay are projected. As noted previously, reductions are expected due to shifts in school traffic (e.g. school-related vehicles that currently use and park along Mason Street are expected to be relocated to on-site parking). In addition and as noted previously, reductions can occur when traffic increases on non-critical, higher-volume movements.

With the project and as currently occurs, busy conditions are expected to continue during morning arrival and afternoon dismissal, especially along Main Street. However, these conditions would be limited to about 15 or 20 minutes before and after school, and are not expected to be materially different than without-project conditions. The relocation of school buses to the proposed load / unload zone along the south side of Mason Street and to the western portion of the north parking lot would reduce mingling of bus trips with family and student drivers along Main Street. This is expected to improve operations at and around the school.

3.4. Site Access

Analysis of the site access driveways, including the driveways serving the Elhi Hill program component of the proposal, indicates all would continue to operate at LOS A overall, with all movements operating at LOS C or better, during all analysis periods with the project.



**Sumner High School Modernization
Transportation Technical Report**

Table 6. Level of Service Summary – Future-Without and With-Project Conditions

Intersection / Control Type	Morning Peak Hour (6:30 – 7:30 A.M.)				Afternoon Peak Hour (2:15 – 3:15 P.M.)				Commuter PM Peak Hour (4:00 – 5:00 P.M.)			
	2020 w/o project		2020 w/ project		2020 w/o project		2020 w/ project		2020 w/o project		2020 w/ project	
	LOS ^a	Delay ^b	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Signalized												
Main Street / Valley Avenue	C	28.4	C	29.0	C	28.5	C	28.7	C	23.8	C	23.8
Main Street Wood Avenue	B	12.6	B	13.0	B	14.1	B	14.2	B	15.2	B	15.2
Two-Way Stop Controlled												
Washington Street / Wood Avenue (overall)	A	2.9	A	4.1	A	4.0	A	4.4	A	2.8	A	2.9
Northbound left turns	A	7.6	A	7.6	A	7.9	A	7.9	A	8.4	A	8.4
Southbound left turns	A	7.9	A	7.9	A	7.8	A	7.7	A	7.6	A	7.6
Eastbound movements	B	10.3	B	10.3	B	12.1	B	12.0	B	14.8	B	14.9
Westbound movements	B	13.7	B	14.8	C	18.0	C	17.4	C	17.9	C	17.9
Washington St / McMillan Ave (overall)	A	1.1	A	1.3	A	0.5	A	0.5	A	0.8	A	0.8
Southbound movements	A	9.6	A	9.7	B	10.0	B	10.1	A	9.4	A	9.4
Eastbound left turns	A	7.5	A	7.5	A	7.6	A	7.6	A	7.4	A	7.4
Washington St / Bonney Avenue (overall)	A	2.0	A	2.4	A	1.1	A	1.8	A	1.2	A	1.6
Northbound movements	N/A ^c		A	9.8	N/A ^c		B	10.7	N/A ^c		A	9.7
Southbound movements	B	10.1	B	10.3	B	10.6	B	10.8	A	9.6	A	9.5
Eastbound left turns	A	7.5	A	7.5	A	7.7	A	7.7	A	7.4	A	7.4
Westbound left turns	N/A ^c		A	0.0	N/A ^c		A	0.0	N/A ^c		A	0.0
Washington St / Valley Ave (overall)	A	3.6	A	3.8	A	5.9	A	6.7	A	3.1	A	3.2
Northbound left turns	A	8.3	A	8.3	A	8.7	A	8.8	A	9.0	A	9.0
Southbound left turns	A	8.8	A	8.8	A	8.1	A	8.1	A	8.1	A	8.1
Eastbound movements	C	18.0	C	16.7	D	27.4	D	30.2	C	17.3	C	17.3
Westbound movements	D	31.4	D	32.6	C	20.3	C	21.2	C	20.6	C	20.6
Main St / Lewis Ave / SHS access (overall)	A	2.1	A	2.2	A	1.9	A	1.9	A	0.8	A	0.8
Northbound movements	C	15.7	C	16.3	B	16.8	B	16.8	C	17.2	C	17.3
Southbound movements	C	18.2	C	18.3	C	20.9	C	20.7	C	16.1	C	16.2
Eastbound left turns	A	9.0	A	9.0	A	8.6	A	8.6	A	9.0	A	9.0
Westbound left turns	A	8.0	A	8.0	A	8.8	A	8.8	A	9.2	A	9.2



**Sumner High School Modernization
Transportation Technical Report**

Table 6. Level of Service Summary – Future-Without and With-Project Conditions

Intersection / Control Type	Morning Peak Hour (6:30 – 7:30 A.M.)				Afternoon Peak Hour (2:15 – 3:15 P.M.)				Commuter PM Peak Hour (4:00 – 5:00 P.M.)			
	2020 w/o project		2020 w/ project		2020 w/o project		2020 w/ project		2020 w/o project		2020 w/ project	
	LOS ^a	Delay ^b	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Two-Way Stop Controlled (cont.)												
Main St / Bonney Ave (overall)	A	1.5	A	1.5	A	0.9	A	0.9	A	0.6	A	0.6
Northbound movements	B	11.8	B	11.8	B	14.1	B	14.1	B	14.0	B	14.0
Westbound left turns	A	7.8	A	7.8	A	8.8	A	8.8	A	9.3	A	9.3
Main St / Meeker Ave (overall)	A	1.9	A	1.7	A	2.0	A	2.0	A	2.0	A	2.0
Northbound movements	B	10.9	B	11.2	B	14.9	B	15.9	C	15.3	C	15.3
Westbound left turns	A	8.0	A	8.0	A	8.7	A	8.7	A	9.0	A	9.0
Main St / Meade Ave (overall)	A	0.3	A	0.3	A	0.3	A	0.3	A	0.3	A	0.3
Northbound movements	B	10.6	B	11.1	B	13.9	B	14.2	B	12.9	B	12.9
Westbound left turns	A	7.8	A	7.9	A	8.5	A	8.5	A	8.7	A	8.7
North St / Wood Ave / SHS access (overall)	A	1.3	A	1.5	A	2.4	A	2.5	A	1.7	A	1.7
Northbound left turns	A	7.6	A	7.7	A	8.1	A	8.1	A	8.6	A	8.6
Southbound left turns	A	8.1	A	8.2	A	7.6	A	7.6	A	0.0	A	0.0
Eastbound movements	B	11.2	C	11.7	B	12.8	B	12.7	B	14.3	B	14.3
Westbound movements	A	12.3	A	13.6	B	13.5	B	13.4	B	16.3	B	16.3
Mason St / Wood Ave (overall)	A	1.9	A	0.6	A	2.3	A	0.7	A	0.8	A	0.8
Southbound left turns	A	7.9	A	7.9	A	7.8	A	7.8	B	11.8	B	11.7
Westbound movements	B	11.8	B	11.4	B	12.8	B	11.3	A	7.6	A	7.6

Source: Heffron Transportation, Inc., February 2018.

a. Level of service.

b. Average seconds of delay per vehicle.

c. N/A – Driveway was assumed to remain closed for future without-project conditions, but re-opened with the project.



3.5. Parking Demand and Supply

3.5.1. Changes to On-Street Parking Supply

As described previously, the project proposes to establish a new on-street, curb-side school-bus load/unload zone along the south side of Mason Street west of the existing cul-de-sac. This load/unload zone is expected to be signed for school-bus-use only on school days during times of arrival and dismissal. Current planning indicates room for about eight full-size (40-foot) school buses would be required. There is about 340 feet west of the cul-de-sac adjacent to the school site that may be designated for bus load/unload. The District would coordinate with the City on signage for the new load/unload zone. It is expected that the curb-side load/unload zone would be available for general parking, when not restricted to school-bus-use only (e.g. evenings and overnight). No other changes to on-street parking supply are proposed with the project.

3.5.2. School-Day Parking Demand

Parking demand estimates for the modernized Sumner High School were developed using the rates developed specifically for this site and presented previously in *Section 2.5.3*. The higher of the two rates derived specifically for Sumner High School was applied to the proposed enrollment capacity of 1,830 students. This results in a typical school-day peak parking demand estimate of 597 vehicles (12 more vehicles than observed in June 2017).

The proposed project would increase the on-site (off-street) parking supply available to accommodate school-related parking demand. The proposed modernization would result in a total of 688 parking spaces, a net increase of 224 spaces for school use over existing conditions. This added parking represents a nearly 50% increase in off-street parking supply provided for school-related demand and is expected to substantially reduce or eliminate the school-related demand on surrounding streets and reduce or eliminate overall school-related on-street parking impacts on school days. The proposed increase in supply would provide excess supply of nearly 15% compared to the estimated peak school-day demand, which would better accommodate daily or seasonal fluctuations in demand.

3.5.3. Evening Event Parking

Sumner High School currently hosts activities and evening events regularly throughout the school year. The modernization project and relatively small increase in student enrollment to 1,830 is not expected to change the type, frequency, or attendance of the existing events. The increase in off-street parking capacity (224 additional spaces or nearly 50% more spaces) at the school would accommodate more of the event-related demand and is expected to reduce parking demand impacts from events on the surrounding on-street parking supply.

3.6. Traffic Safety

The collision data provided for the study area did not indicate any unusual collision patterns that would impact or be impacted by the proposed project. The project is not expected to result in any significant adverse traffic safety impacts.



3.7. Transit

The project is not expected to noticeably change the number of students or employees that use transit for access to and from the school site. As a result, no impacts to transit facilities or service are expected as a result of the modernization project.

3.8. Non-Motorized Transportation Facilities

The Sumner High School modernization is not expected to result in noticeable increases to overall pedestrian or non-motorized trips to and from the site. However, the site reconfiguration is likely to change some pedestrian access patterns. For example, students being transported by school bus and boarding or alighting those buses would use the sidewalk along Mason Street to access the site. The increase in on-site parking is expected to draw more student-related parking demand within the site and may reduce the number of pedestrian trips between the site and nearby on-street parking on school days. Overall, no adverse impacts to non-motorized transportation facilities are anticipated.

4. FINDINGS AND RECOMMENDATIONS

4.1. Findings

The following sections summarize the findings and recommendations of the analysis.

- The modernized Sumner High School is expected to accommodate a student capacity of 1,830 students (up from its current enrollment of 1,797).
- At the proposed capacity and compared to the site's current enrollment, the expanded school is projected to generate a net increase of 90 trips per day, with 26 trips during the morning peak hour (from 6:30 to 7:30 A.M.), 17 trips during the afternoon peak hour (from 2:15 to 3:15 P.M.), and 10 trips during the commuter PM peak hour (4:00 to 5:00 P.M.).
- As currently occurs, busy conditions are expected to continue during morning arrival and afternoon dismissal periods along the roadways that surround the site, especially along Main Street. However, these conditions would exist without or with the modernization.
- The project would result in some changes to student-driver and family-vehicle load/unload trip patterns along roadways surrounding the site and concentrated along Main Street, Wood Avenue, Mason Street, and Washington Street.
- Changes to traffic access patterns and the small increase in trips are expected to add minimal delay to several of the study area intersections and turning movements during morning and afternoon peak hours; however, the study area intersections would operate at the same levels overall as they would without the project. All would operate at LOS C or better overall and all movements at unsignalized intersections would operate at LOS D or better during all analysis periods (morning, afternoon, and PM peak).
- At the proposed enrollment capacity of 1,830 students and using the rate derived from counts at and around the school, the school could generate school-day parking demand of 597 vehicles (about 12 more than the existing school).
- The increase in on-site (off-street) parking supply is expected to accommodate more of the school-related demand and reduce on-street demand and impacts during both school days and during evening events. The added parking would represent a nearly 50% increase in off-street parking supply provided for school-related demand and is expected to substantially reduce or eliminate the school-related demand on surrounding streets and reduce or eliminate overall school-related on-street parking impacts on school days. The proposed increase in supply would provide excess supply of nearly 15% compared to the estimated peak school-day demand, which would better accommodate daily or seasonal fluctuations in demand.
- The increase in off-street parking capacity would accommodate more of the event-related demand and is expected to reduce parking demand impacts from events on the surrounding on-street parking supply.

Based the above findings, the modernization project would not result in significant adverse impacts to traffic operations or parking.



4.2. Recommendations and Mitigation

As described above, the proposed modernization project, when complete, is not expected to result in adverse impacts and no long-term transportation mitigation would be required. The District would coordinate with the City on signage for the new school-bus load/unload zone planned on the south side of Mason Street.

The City collects traffic impact fees for new development. A preliminary estimate of the traffic impact was prepared by the City in December 2017 and indicated the total due could be about \$112,000. The final fee amount is subject to confirmation by the City and is typically determined based on the fee rate in place at the time of building permit issuance.



APPENDIX A

Traffic Count Data Sheets

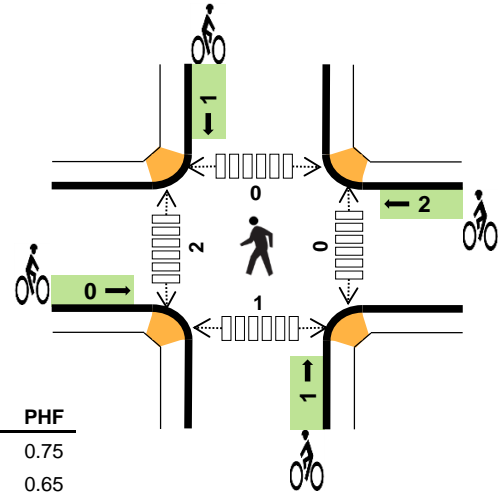
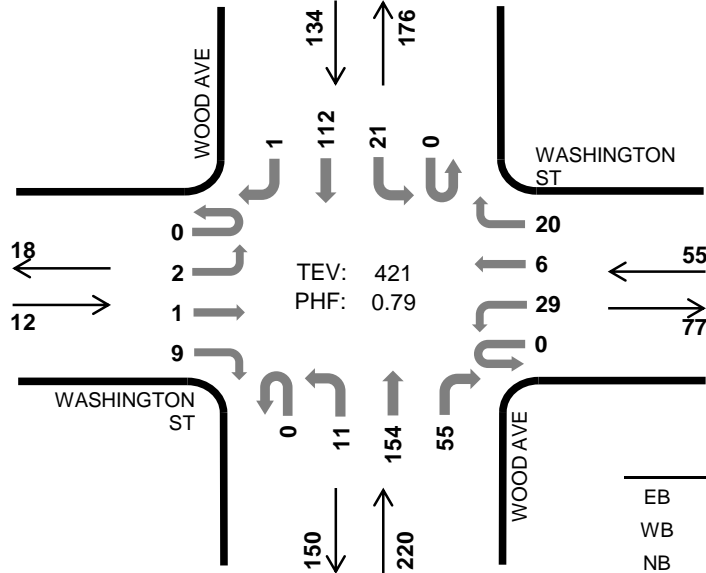


WOOD AVE WASHINGTON ST



Peak Hour

Date: Tue, Jun 06, 2017
 Count Period: 6:30 AM to 8:30 AM
 Peak Hour: 6:45 AM to 7:45 AM



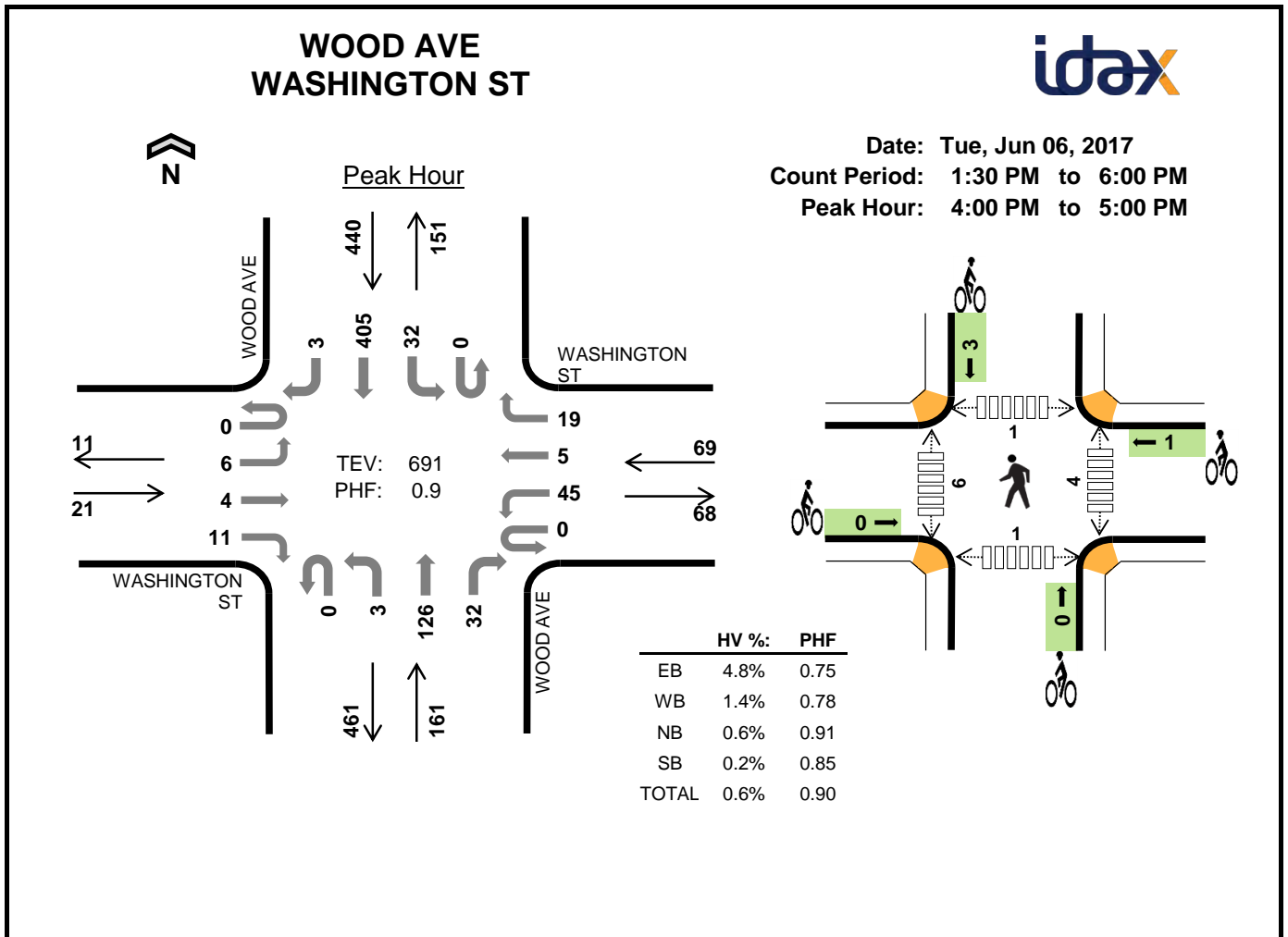
	HV %:	PHF
EB	0.0%	0.75
WB	0.0%	0.65
NB	0.9%	0.76
SB	2.2%	0.67
TOTAL	1.2%	0.79

Two-Hour Count Summaries

Interval Start	WASHINGTON ST Eastbound				WASHINGTON ST Westbound				WOOD AVE Northbound				WOOD AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM	0	0	0	0	0	1	0	1	0	0	31	0	0	2	13	0	48	0
6:45 AM	0	1	0	2	0	4	2	2	0	3	36	15	0	5	29	1	100	0
7:00 AM	0	0	0	2	0	8	1	2	0	2	44	24	0	13	37	0	133	0
7:15 AM	0	0	1	3	0	11	2	8	0	4	55	13	0	2	23	0	122	403
7:30 AM	0	1	0	2	0	6	1	8	0	2	19	3	0	1	23	0	66	421
7:45 AM	0	2	1	1	0	4	1	7	0	3	18	5	0	2	17	1	62	383
8:00 AM	0	0	1	2	0	4	1	5	0	2	26	5	0	4	20	0	70	320
8:15 AM	0	2	0	1	0	10	0	4	0	0	19	6	0	3	9	1	55	253
Count Total	0	6	3	13	0	48	8	37	0	16	248	71	0	32	171	3	656	0
Peak Hour	0	2	1	9	0	29	6	20	0	11	154	55	0	21	112	1	421	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:30 AM	0	0	1	0	1	0	0	0	0	0	1	0	1	0	2
6:45 AM	0	0	0	2	2	0	2	1	0	3	0	1	0	0	1
7:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	2	0	2	0	0	0	1	1	0	0	0	1	1
7:45 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	2	3	0	0	0	0	0	0	3	1	0	4
8:15 AM	1	0	0	1	2	0	0	0	0	0	0	1	1	0	2
Count Total	2	0	4	6	12	0	2	1	1	4	1	6	3	1	11
Peak Hour	0	0	2	3	5	0	2	1	1	4	0	2	0	1	3



Four-and-a-Half-Hour Count Summaries

Interval Start	WASHINGTON ST Eastbound				WASHINGTON ST Westbound				WOOD AVE Northbound				WOOD AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	3	0	4	0	12	1	4	0	1	36	5	0	6	99	1	172	0
4:15 PM	0	2	1	1	0	14	2	6	0	1	33	10	0	8	79	0	157	0
4:30 PM	0	0	2	2	0	6	1	6	0	1	27	8	0	5	111	2	171	0
4:45 PM	0	1	1	4	0	13	1	3	0	0	30	9	0	13	116	0	191	691
Peak Hour	0	6	4	11	0	45	5	19	0	3	126	32	0	32	405	3	691	0

Note: For all three-hour count summary, see next page.

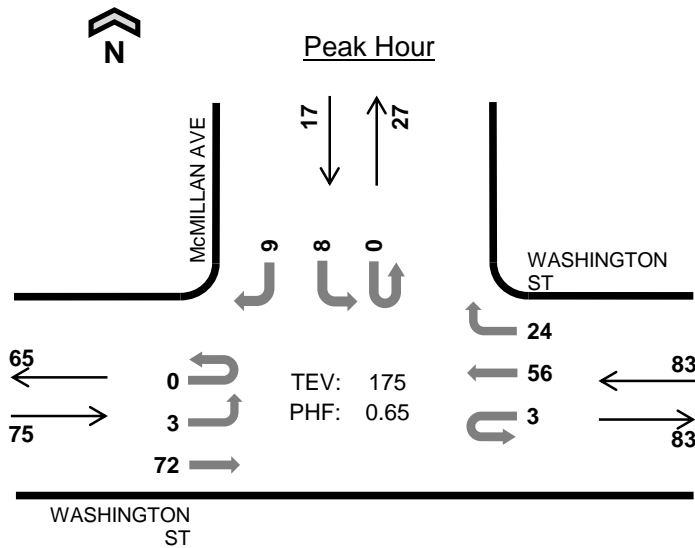
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	0	1	0	1	0	1	2	0	2	0	0	2
4:15 PM	0	0	1	0	1	0	0	0	2	2	0	0	0	0	0
4:30 PM	0	0	0	1	1	0	0	0	0	0	4	2	1	0	7
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	1	3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

Four-and-a-Half-Hour Count Summaries																		
Interval Start	WASHINGTON ST				WASHINGTON ST				WOOD AVE				WOOD AVE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:30 PM	0	1	0	1	0	8	2	6	0	2	20	4	0	7	35	0	86	0
1:45 PM	0	0	0	2	0	4	1	4	0	0	14	2	0	8	23	1	59	0
2:00 PM	0	0	0	1	0	3	1	4	0	0	21	1	0	7	29	0	67	0
2:15 PM	0	1	0	1	0	24	1	9	1	4	41	4	0	4	43	0	133	345
2:30 PM	0	1	2	1	0	28	0	11	0	0	46	16	0	9	49	0	163	422
2:45 PM	0	0	1	1	0	15	1	5	0	2	24	9	0	7	59	0	124	487
3:00 PM	0	0	0	3	0	14	2	6	0	7	27	7	0	10	62	1	139	559
3:15 PM	0	1	1	2	0	7	0	5	0	0	33	10	0	10	49	2	120	546
3:30 PM	0	1	1	2	0	12	0	5	0	4	28	10	0	8	111	0	182	565
3:45 PM	0	1	1	2	0	13	2	2	0	2	33	3	0	10	96	0	165	606
4:00 PM	0	3	0	4	0	12	1	4	0	1	36	5	0	6	99	1	172	639
4:15 PM	0	2	1	1	0	14	2	6	0	1	33	10	0	8	79	0	157	676
4:30 PM	0	0	2	2	0	6	1	6	0	1	27	8	0	5	111	2	171	665
4:45 PM	0	1	1	4	0	13	1	3	0	0	30	9	0	13	116	0	191	691
5:00 PM	0	2	2	2	0	8	0	0	0	0	23	12	0	9	85	0	143	662
5:15 PM	0	1	1	0	0	6	0	3	0	1	30	11	0	9	77	2	141	646
5:30 PM	0	2	2	1	0	5	1	3	0	2	22	6	0	3	60	0	107	582
5:45 PM	0	1	3	1	0	8	1	8	0	1	37	8	0	5	47	1	121	512
Count Total	0	18	18	31	0	200	17	90	1	28	525	135	0	138	1,230	10	2,441	0
Peak Hour	0	6	4	11	0	45	5	19	0	3	126	32	0	32	405	3	691	0

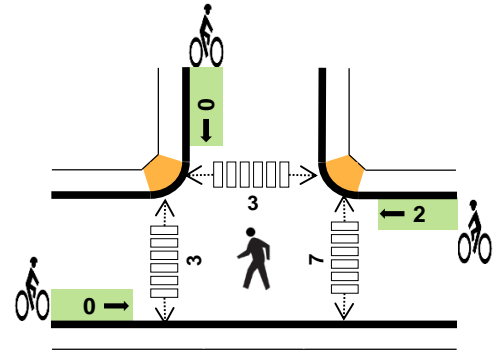
Note: Four-and-a-half-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	2	2	0	0	0	0	0	1	0	0	0	1
2:15 PM	0	0	3	0	3	0	0	0	0	0	0	5	0	0	5
2:30 PM	0	0	3	0	3	0	0	0	1	1	2	1	0	0	3
2:45 PM	0	0	2	1	3	0	0	0	1	1	2	0	1	1	4
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	2	6
3:15 PM	0	0	0	0	0	0	0	0	0	0	4	4	0	1	9
3:30 PM	0	0	1	0	1	0	0	0	1	1	1	0	0	2	3
3:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	1	1	4
4:00 PM	1	0	0	0	1	0	1	0	1	2	0	2	0	0	2
4:15 PM	0	0	1	0	1	0	0	0	2	2	0	0	0	0	0
4:30 PM	0	0	0	1	1	0	0	0	0	0	4	2	1	0	7
4:45 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	1	3
5:00 PM	0	0	1	0	1	0	0	0	0	0	1	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
5:30 PM	0	0	0	1	1	0	0	0	1	1	1	2	0	0	3
5:45 PM	0	0	0	0	0	0	2	0	1	3	1	0	0	0	1
Count Total	1	3	11	5	20	0	3	0	8	11	19	22	5	10	56
Peak Hour	1	1	1	1	4	0	1	0	3	4	4	6	1	1	12

McMILLAN AVE WASHINGTON ST



Date: Tue, Jun 06, 2017
 Count Period: 6:30 AM to 8:30 AM
 Peak Hour: 6:45 AM to 7:45 AM



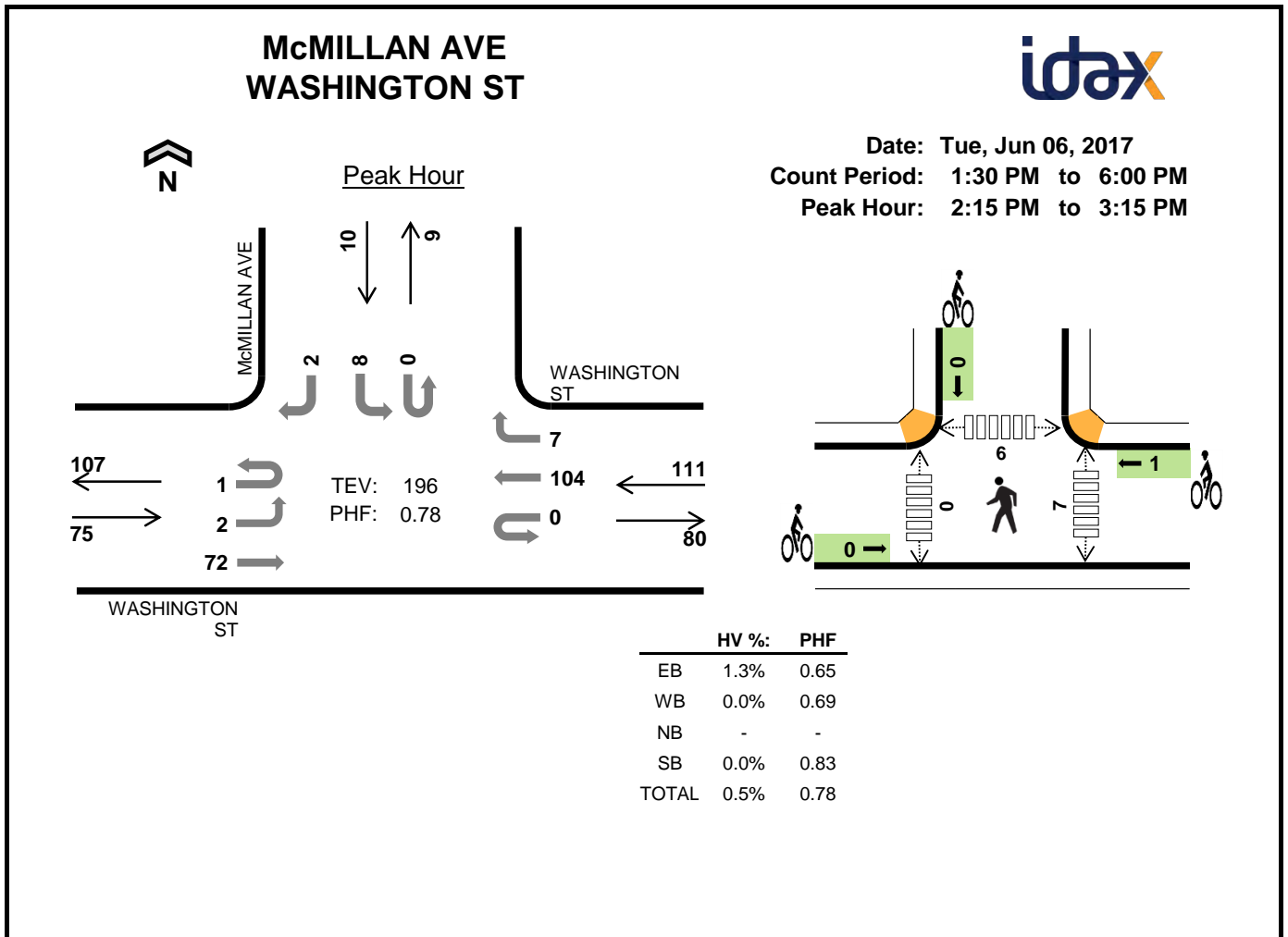
	HV %:	PHF
EB	1.3%	0.52
WB	1.2%	0.65
NB	-	-
SB	0.0%	0.53
TOTAL	1.1%	0.65

Two-Hour Count Summaries

Interval Start	WASHINGTON ST Eastbound				WASHINGTON ST Westbound				0 Northbound				McMILLAN AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0
6:45 AM	0	1	19	0	2	0	8	3	0	0	0	0	0	0	0	0	33	0
7:00 AM	0	2	34	0	1	0	12	10	0	0	0	0	0	6	0	2	67	0
7:15 AM	0	0	15	0	0	0	21	11	0	0	0	0	0	1	0	6	54	158
7:30 AM	0	0	4	0	0	0	15	0	0	0	0	0	0	1	0	1	21	175
7:45 AM	0	0	7	0	0	0	9	0	0	0	0	0	0	1	0	2	19	161
8:00 AM	0	0	11	0	0	0	9	1	0	0	0	0	0	2	0	2	25	119
8:15 AM	0	1	7	0	0	0	12	1	0	0	0	0	0	2	0	2	25	90
Count Total	0	4	99	0	3	0	88	26	0	0	0	0	0	13	0	15	248	0
Peak Hour	0	3	72	0	3	0	56	24	0	0	0	0	0	8	0	9	175	0

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

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



Four-and-a-Half-Hour Count Summaries

Interval Start	WASHINGTON ST Eastbound				WASHINGTON ST Westbound				0 Northbound				McMILLAN AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:15 PM	0	1	8	0	0	0	37	3	0	0	0	0	0	2	0	0	51	0
2:30 PM	0	0	29	0	0	0	30	1	0	0	0	0	0	2	0	1	63	0
2:45 PM	1	0	17	0	0	0	20	2	0	0	0	0	0	2	0	0	42	0
3:00 PM	0	1	18	0	0	0	17	1	0	0	0	0	0	2	0	1	40	196
Peak Hour	1	2	72	0	0	0	104	7	0	0	0	0	0	8	0	2	196	0

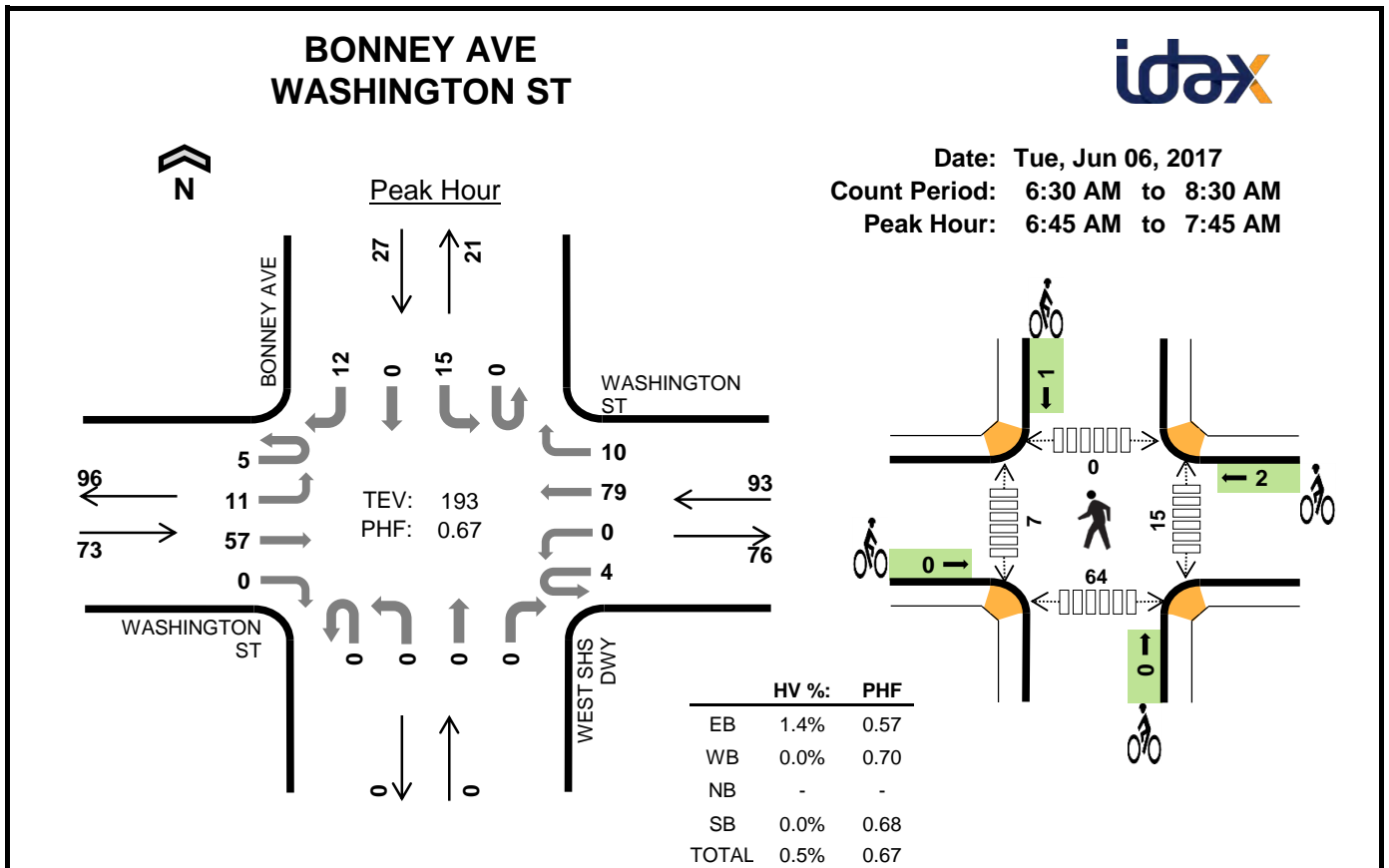
Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	2	0	6
2:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2:45 PM	1	0	0	0	1	0	1	0	0	1	2	0	4	0	6
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	1	0	0	0	1	0	1	0	0	1	7	0	6	0	13

Four-and-a-Half-Hour Count Summaries																			
Interval Start	WASHINGTON ST				WASHINGTON ST				0				McMILLAN AVE				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
1:30 PM	0	0	11	0	0	0	16	0	0	0	0	0	0	0	0	0	27	0	
1:45 PM	0	1	7	0	0	0	8	0	0	0	0	0	0	0	0	0	16	0	
2:00 PM	0	0	10	0	0	0	9	3	0	0	0	0	0	0	2	0	24	0	
2:15 PM	0	1	8	0	0	0	37	3	0	0	0	0	0	2	0	0	51	118	
2:30 PM	0	0	29	0	0	0	30	1	0	0	0	0	0	2	0	1	63	154	
2:45 PM	1	0	17	0	0	0	20	2	0	0	0	0	0	2	0	0	42	180	
3:00 PM	0	1	18	0	0	0	17	1	0	0	0	0	0	2	0	1	40	196	
3:15 PM	0	2	20	0	2	0	12	1	0	0	0	0	0	0	1	0	0	38	183
3:30 PM	0	0	16	0	0	0	14	2	0	0	0	0	0	0	0	1	33	153	
3:45 PM	0	1	12	0	0	0	20	0	0	0	0	0	0	0	1	0	1	35	146
4:00 PM	0	0	10	0	0	0	13	1	0	0	0	0	0	0	4	0	0	28	134
4:15 PM	0	0	20	0	0	0	22	0	0	0	0	0	0	0	1	0	1	44	140
4:30 PM	0	0	15	0	0	0	12	0	0	0	0	0	0	0	0	0	0	27	134
4:45 PM	0	1	22	0	0	0	14	2	0	0	0	0	0	0	1	0	3	43	142
5:00 PM	0	1	20	0	0	0	9	2	0	0	0	0	0	0	1	0	1	34	148
5:15 PM	0	0	18	0	0	0	8	3	0	0	0	0	0	0	1	0	0	30	134
5:30 PM	0	0	11	0	0	0	10	1	0	0	0	0	0	0	1	0	1	24	131
5:45 PM	0	1	16	0	0	0	12	1	0	0	0	0	0	0	1	0	2	33	121
Count Total	1	9	280	0	2	0	283	23	0	0	0	0	0	0	22	0	12	632	0
Peak Hour	1	2	72	0	0	0	104	7	0	0	0	0	0	0	8	0	2	196	0

Note: Four-and-a-half-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	4	0	2	0	6
2:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2:45 PM	1	0	0	0	1	0	1	0	0	1	2	0	4	0	6
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
3:45 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	1	0	0	1	0	0	0	0	0	1	0	2	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
4:45 PM	0	0	0	1	1	0	0	0	0	0	0	1	1	0	2
5:00 PM	1	0	0	0	1	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
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
5:45 PM	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0
Count Total	2	3	0	1	6	0	5	0	1	6	8	1	24	0	33
Peak Hr	1	0	0	0	1	0	1	0	0	1	7	0	6	0	13

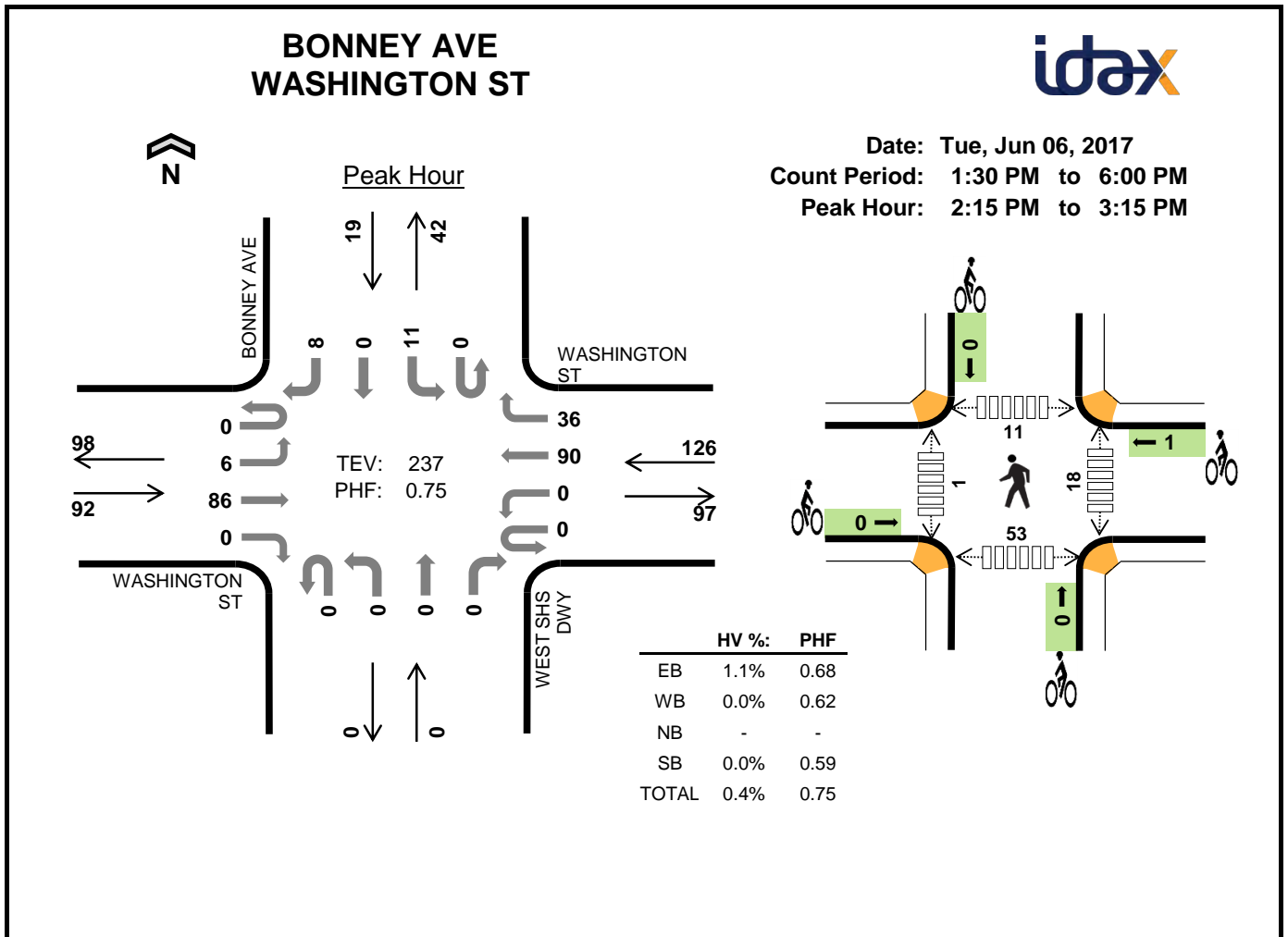


Two-Hour Count Summaries

Interval Start	WASHINGTON ST Eastbound				WASHINGTON ST Westbound				WEST SHS DWY Northbound				BONNEY AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM	0	0	2	0	1	0	2	1	0	0	0	0	0	1	0	0	7	0
6:45 AM	0	2	16	0	2	0	15	0	0	0	0	0	0	6	0	4	45	0
7:00 AM	4	5	23	0	2	0	27	4	0	0	0	0	0	4	0	3	72	0
7:15 AM	1	3	12	0	0	0	22	5	0	0	0	0	0	4	0	5	52	176
7:30 AM	0	1	6	0	0	0	15	1	0	0	0	0	0	1	0	0	24	193
7:45 AM	0	2	4	0	0	0	7	2	0	0	0	0	0	1	0	2	18	166
8:00 AM	0	1	13	0	1	0	9	0	0	0	0	0	0	0	0	1	25	119
8:15 AM	0	2	8	0	0	0	10	0	0	0	0	0	0	1	0	2	23	90
Count Total	5	16	84	0	6	0	107	13	0	0	0	0	0	18	0	17	266	0
Peak Hour	5	11	57	0	4	0	79	10	0	0	0	0	0	15	0	12	193	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
6:45 AM	0	0	0	0	0	0	2	0	1	3	1	0	0	1	2
7:00 AM	0	0	0	0	0	0	0	0	0	0	3	3	0	16	22
7:15 AM	0	0	0	0	0	0	0	0	0	0	9	4	0	46	59
7:30 AM	1	0	0	0	1	0	0	0	0	0	2	0	0	1	3
7:45 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	2	3
Count Total	2	0	0	0	2	0	2	0	1	3	18	7	0	69	94
Peak Hour	1	0	0	0	1	0	2	0	1	3	15	7	0	64	86



	HV %:	PHF
EB	1.1%	0.68
WB	0.0%	0.62
NB	-	-
SB	0.0%	0.59
TOTAL	0.4%	0.75

Four-and-a-Half-Hour Count Summaries

Interval Start	WASHINGTON ST Eastbound				WASHINGTON ST Westbound				WEST SHS DWY Northbound				BONNEY AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:15 PM	0	1	18	0	0	0	30	21	0	0	0	0	0	2	0	0	72	0
2:30 PM	0	3	31	0	0	0	28	9	0	0	0	0	0	5	0	3	79	0
2:45 PM	0	1	18	0	0	0	20	1	0	0	0	0	0	2	0	2	44	0
3:00 PM	0	1	19	0	0	0	12	5	0	0	0	0	0	2	0	3	42	237
Peak Hour	0	6	86	0	0	0	90	36	0	0	0	0	0	11	0	8	237	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:15 PM	0	0	0	0	0	0	0	0	0	0	7	0	6	40	53
2:30 PM	0	0	0	0	0	0	0	0	0	0	7	1	3	5	16
2:45 PM	1	0	0	0	1	0	1	0	0	1	4	0	2	6	12
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Peak Hour	1	0	0	0	1	0	1	0	0	1	18	1	11	53	83

Four-and-a-Half-Hour Count Summaries														15-min Total	Rolling One Hour			
Interval Start	WASHINGTON ST				WASHINGTON ST				WEST SHS DWY				BONNEY AVE					
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:30 PM	0	3	7	0	0	0	15	3	0	0	0	0	0	3	0	0	31	0
1:45 PM	0	1	6	0	0	0	7	3	0	0	0	0	0	2	0	1	20	0
2:00 PM	1	0	11	0	0	0	9	3	0	0	0	0	0	1	0	3	28	0
2:15 PM	0	1	18	0	0	0	30	21	0	0	0	0	0	2	0	0	72	151
2:30 PM	0	3	31	0	0	0	28	9	0	0	0	0	0	5	0	3	79	199
2:45 PM	0	1	18	0	0	0	20	1	0	0	0	0	0	2	0	2	44	223
3:00 PM	0	1	19	0	0	0	12	5	0	0	0	0	0	2	0	3	42	237
3:15 PM	0	3	20	0	0	0	13	4	0	0	0	0	0	0	0	1	41	206
3:30 PM	0	1	15	0	0	0	14	4	0	0	0	0	0	0	0	1	35	162
3:45 PM	0	2	11	0	0	0	20	2	0	0	0	0	0	5	0	0	40	158
4:00 PM	0	0	12	0	0	0	12	4	0	0	0	0	0	3	0	2	33	149
4:15 PM	0	2	18	0	0	0	21	3	0	0	0	0	0	3	0	1	48	156
4:30 PM	0	2	12	0	1	0	8	2	0	0	0	0	0	2	0	2	29	150
4:45 PM	0	2	21	0	0	0	17	4	0	0	0	0	0	1	0	0	45	155
5:00 PM	0	3	18	0	1	0	9	4	0	0	0	0	0	2	0	2	39	161
5:15 PM	0	0	15	0	1	0	11	0	0	0	0	0	0	3	0	0	30	143
5:30 PM	0	0	13	0	1	0	12	3	0	0	0	0	0	1	0	1	31	145
5:45 PM	0	1	16	0	1	0	14	1	0	0	0	0	0	1	0	1	35	135
Count Total	1	26	281	0	5	0	272	76	0	0	0	0	0	38	0	23	722	0
Peak Hour	0	6	86	0	0	0	90	36	0	0	0	0	0	11	0	8	237	0

Note: Four-and-a-half-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

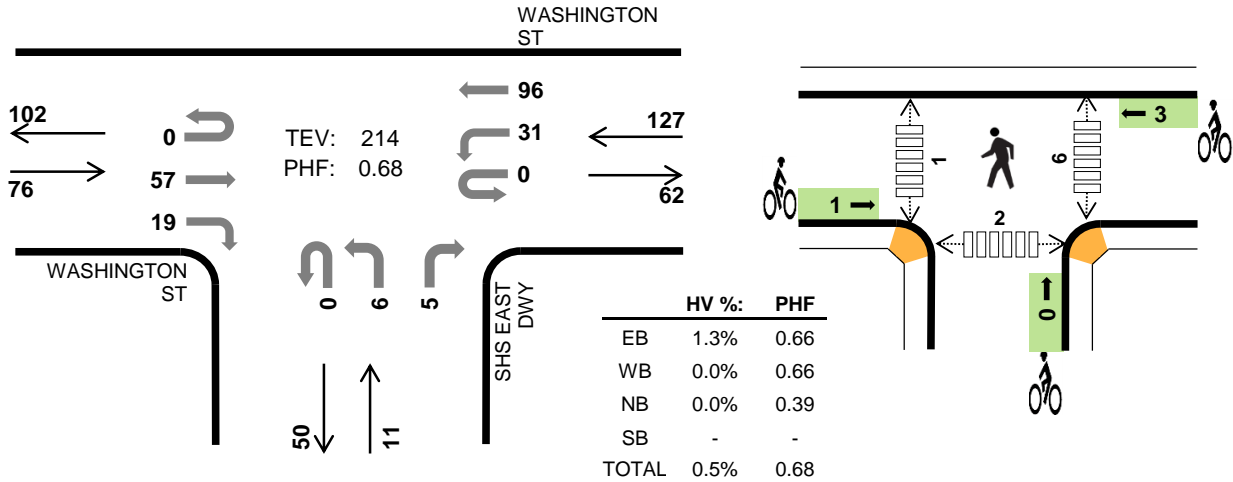
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:30 PM	0	1	0	0	1	0	1	0	0	1	0	0	2	1	3
1:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1
2:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3
2:15 PM	0	0	0	0	0	0	0	0	0	0	7	0	6	40	53
2:30 PM	0	0	0	0	0	0	0	0	0	0	7	1	3	5	16
2:45 PM	1	0	0	0	1	0	1	0	0	1	4	0	2	6	12
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	5	8
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
3:45 PM	0	2	0	0	2	0	0	0	0	0	1	0	0	3	4
4:00 PM	0	0	0	1	1	0	0	0	0	0	0	1	2	2	5
4:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	1	1	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
4:45 PM	0	0	0	0	0	0	2	0	0	2	1	1	0	0	2
5:00 PM	1	1	0	0	2	0	0	0	1	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3
5:45 PM	0	0	0	0	0	1	1	0	0	2	1	2	0	4	7
Count Total	2	4	0	1	7	2	8	0	1	11	23	5	24	73	125
Peak Hour	1	0	0	0	1	0	1	0	0	1	18	1	11	53	83

SHS EAST DWY WASHINGTON ST



Peak Hour

Date: Tue, Jun 06, 2017
 Count Period: 6:30 AM to 8:30 AM
 Peak Hour: 6:45 AM to 7:45 AM



Two-Hour Count Summaries

Interval Start	WASHINGTON ST Eastbound				WASHINGTON ST Westbound				SHS EAST DWY Northbound				0 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM	0	0	3	1	0	2	6	0	0	0	0	0	0	0	0	0	12	0
6:45 AM	0	0	21	2	0	3	21	0	0	0	0	1	0	0	0	0	48	0
7:00 AM	0	0	19	10	0	14	34	0	0	1	0	1	0	0	0	0	79	0
7:15 AM	0	0	10	6	0	14	24	0	0	4	0	3	0	0	0	0	61	200
7:30 AM	0	0	7	1	0	0	17	0	0	1	0	0	0	0	0	0	26	214
7:45 AM	0	0	4	1	0	1	7	0	0	0	0	0	0	0	0	0	13	179
8:00 AM	0	0	14	1	1	0	10	0	0	0	0	0	0	0	0	0	26	126
8:15 AM	0	0	9	1	0	0	9	0	0	0	0	0	0	0	0	0	19	84
Count Total	0	0	87	23	1	34	128	0	0	6	0	5	0	0	0	0	284	0
Peak Hour	0	0	57	19	0	31	96	0	0	6	0	5	0	0	0	0	214	0

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

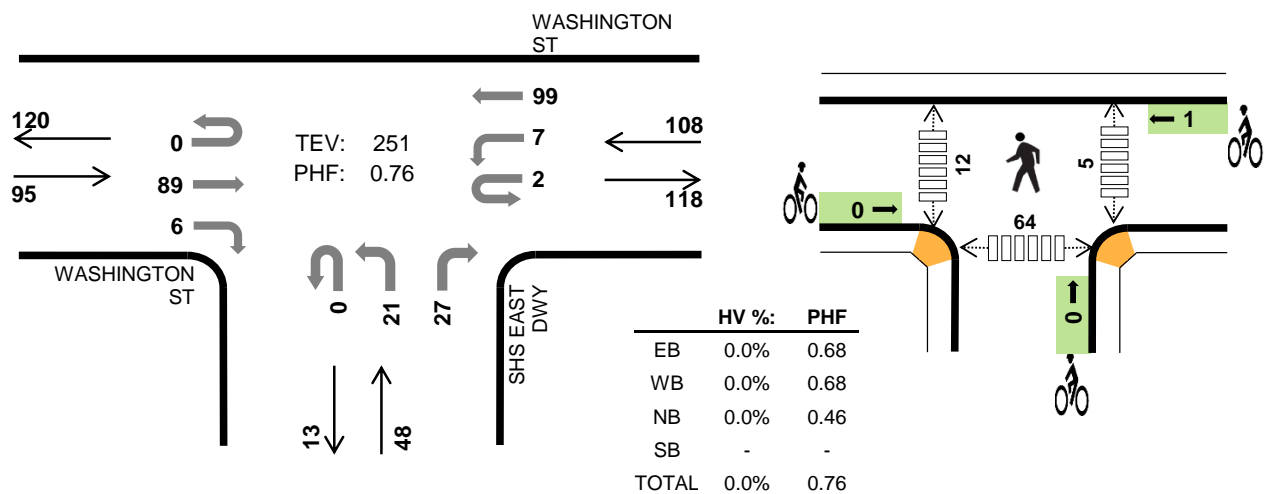
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	1	0	0	1	1	0	0	2	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	5	1	0	0	6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

SHS EAST DWY WASHINGTON ST



Peak Hour

Date: Tue, Jun 06, 2017
 Count Period: 1:30 PM to 6:00 PM
 Peak Hour: 2:15 PM to 3:15 PM



Four-and-a-Half-Hour Count Summaries

Interval Start	WASHINGTON ST				WASHINGTON ST				SHS EAST DWY				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:15 PM	0	0	16	3	0	3	35	0	0	10	0	16	0	0	0	0	83	0
2:30 PM	0	0	35	0	2	4	34	0	0	3	0	3	0	0	0	0	81	0
2:45 PM	0	0	18	2	0	0	16	0	0	6	0	3	0	0	0	0	45	0
3:00 PM	0	0	20	1	0	0	14	0	0	2	0	5	0	0	0	0	42	251
Peak Hour	0	0	89	6	2	7	99	0	0	21	0	27	0	0	0	0	251	0

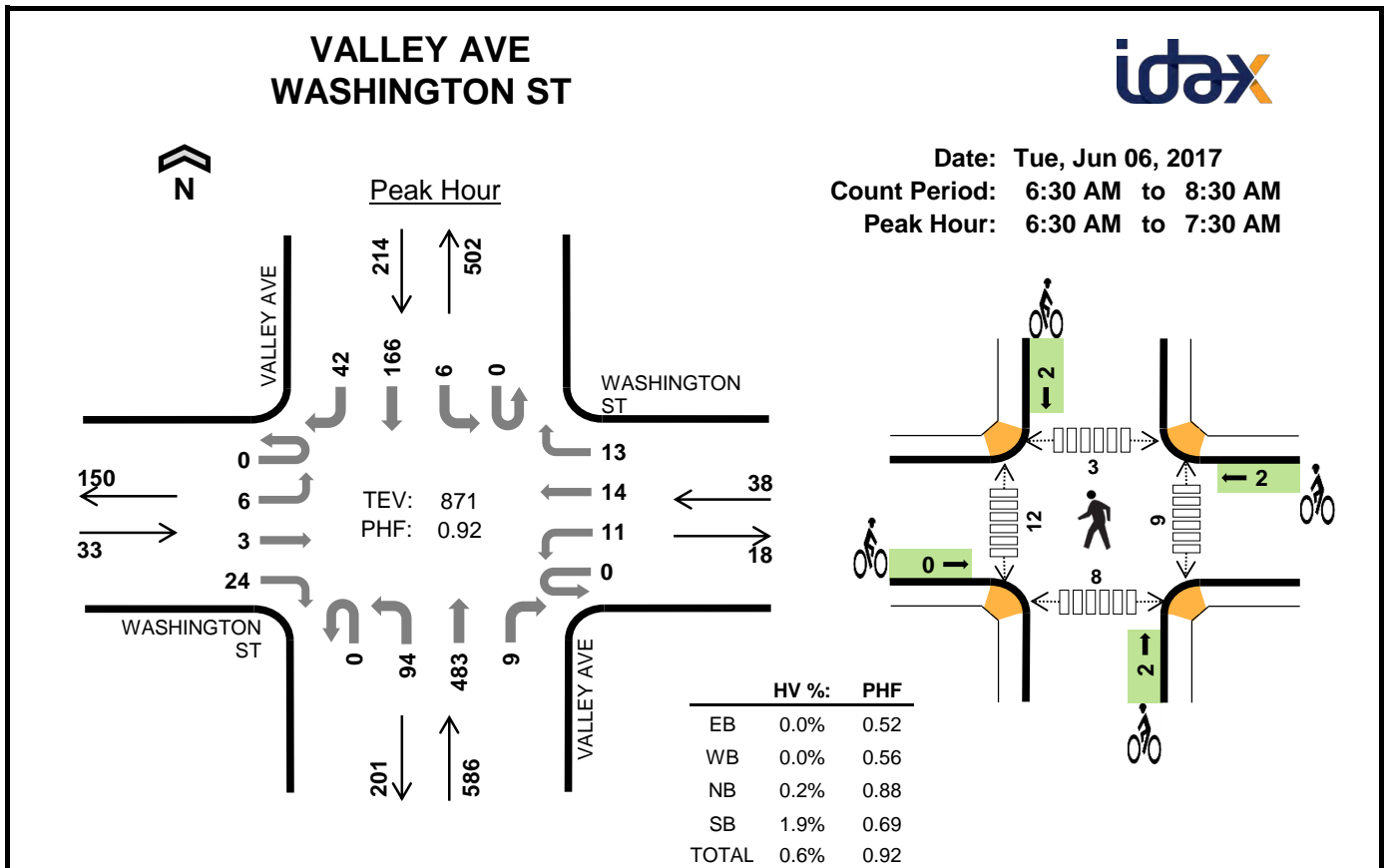
Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:15 PM	0	0	0	0	0	0	0	0	0	0	5	4	0	39	48
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	16	23
2:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	6	6
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	3	4
Peak Hour	0	0	0	0	0	0	1	0	0	1	5	12	0	64	81

Four-and-a-Half-Hour Count Summaries																		
Interval Start	WASHINGTON ST				WASHINGTON ST				SHS EAST DWY				0				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
1:30 PM	0	0	10	0	0	1	18	0	0	0	0	0	0	0	0	29	0	
1:45 PM	0	0	8	0	0	2	10	0	0	0	0	1	0	0	0	21	0	
2:00 PM	0	0	10	2	0	0	12	0	0	0	0	0	0	0	0	24	0	
2:15 PM	0	0	16	3	0	3	35	0	0	10	0	16	0	0	0	83	157	
2:30 PM	0	0	35	0	2	4	34	0	0	3	0	3	0	0	0	81	209	
2:45 PM	0	0	18	2	0	0	16	0	0	6	0	3	0	0	0	45	233	
3:00 PM	0	0	20	1	0	0	14	0	0	2	0	5	0	0	0	42	251	
3:15 PM	0	0	20	0	0	1	16	0	0	2	0	4	0	0	0	43	211	
3:30 PM	0	0	15	1	0	0	17	0	0	1	0	4	0	0	0	38	168	
3:45 PM	0	0	16	0	0	1	20	0	0	2	0	1	0	0	0	40	163	
4:00 PM	0	0	15	0	0	2	10	0	0	6	0	1	0	0	0	34	155	
4:15 PM	0	0	20	1	1	1	22	0	0	3	0	2	0	0	0	50	162	
4:30 PM	0	0	15	0	0	1	12	0	0	0	0	0	0	0	0	28	152	
4:45 PM	0	0	21	0	0	1	19	0	0	1	0	1	0	0	0	43	155	
5:00 PM	0	0	20	0	0	0	14	0	0	0	0	0	0	0	0	34	155	
5:15 PM	0	0	19	0	0	0	14	0	0	0	0	0	0	0	0	33	138	
5:30 PM	0	0	14	0	0	1	16	0	0	0	0	0	0	0	0	31	141	
5:45 PM	0	0	17	1	0	1	14	0	0	2	0	0	0	0	0	35	133	
Count Total	0	0	309	11	3	19	313	0	0	38	0	41	0	0	0	734	0	
Peak Hour	0	0	89	6	2	7	99	0	0	21	0	27	0	0	0	251	0	

Note: Four-and-a-half-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1:45 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0
2:00 PM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1
2:15 PM	0	0	0	0	0	0	0	0	0	0	5	4	0	39	48
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	7	0	16	23
2:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	6	6
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	3	4
3:15 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	6	6
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
3:45 PM	0	2	0	0	2	0	0	0	0	0	0	3	0	4	7
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
5:00 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	0	1	2	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:45 PM	0	0	0	0	0	1	0	0	0	1	0	2	0	8	10
Count Total	2	3	0	0	5	1	3	4	0	8	7	18	0	91	116
Peak Hr	0	0	0	0	0	0	1	0	0	1	5	12	0	64	81



Two-Hour Count Summaries

Interval Start	WASHINGTON ST Eastbound				WASHINGTON ST Westbound				VALLEY AVE Northbound				VALLEY AVE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM	0	0	0	2	0	4	2	1	0	9	155	2	0	2	28	2	207	0
6:45 AM	0	0	1	6	0	1	2	1	0	22	124	0	0	0	33	11	201	0
7:00 AM	0	1	0	7	0	5	6	6	0	43	89	2	0	4	59	15	237	0
7:15 AM	0	5	2	9	0	1	4	5	0	20	115	5	0	0	46	14	226	871
7:30 AM	0	0	1	5	0	0	2	4	0	14	122	5	0	1	35	3	192	856
7:45 AM	0	1	1	3	0	2	0	2	0	9	132	1	0	1	30	1	183	838
8:00 AM	0	2	1	8	0	3	2	1	0	4	102	4	0	2	32	1	162	763
8:15 AM	0	3	1	5	0	0	2	2	0	6	118	4	0	1	26	2	170	707
Count Total	0	12	7	45	0	16	20	22	0	127	957	23	0	11	289	49	1,578	0
Peak Hour	0	6	3	24	0	11	14	13	0	94	483	9	0	6	166	42	871	0

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

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:30 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
6:45 AM	0	0	0	2	2	0	1	1	0	2	3	2	1	1	7
7:00 AM	0	0	1	2	3	0	1	1	1	3	3	4	1	3	11
7:15 AM	0	0	0	0	0	0	0	0	0	0	3	6	1	4	14
7:30 AM	1	0	1	0	2	0	0	1	0	1	3	1	2	0	6
7:45 AM	1	1	2	1	5	0	0	0	0	0	1	0	1	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
8:15 AM	0	0	1	1	2	0	1	1	0	2	1	0	1	0	2
Count Total	2	1	5	6	14	0	3	4	2	9	15	14	7	8	44
Peak Hour	0	0	1	4	5	0	2	2	2	6	9	12	3	8	32