

Fauntleroy Way SW Boulevard Project

Traffic Analysis Report - Update

FINAL

May 12, 2017

Prepared for:
City of Seattle Department of Transportation

Prepared by:
DKS Associates
As a Subconsultant to Pertect



TABLE OF CONTENTS

PROJECT BACKGROUND	1
EXISTING CONDITION	2
ROADWAY DESCRIPTION.....	3
EXISTING TRAFFIC VOLUME.....	4
EXISTING SIGNAL TIMINGS	4
ANALYSIS APPROACH AND METHODOLOGY	7
TRANSIT ROUTES AND SERVICE	10
COLLISION ANALYSIS.....	11
YEAR OF OPENING CONDITION	13
CONSTRUCTION CONDITION	22
2044 DESIGN YEAR CONDITION	23
SUMMARY	28
APPENDIX	29



TABLE OF FIGURES

FIGURE 1: VICINITY MAP 2

FIGURE 2: EXISTING FAUNTLEROY WAY SW CHANNELIZATION 3

FIGURE 3: EXISTING AM PEAK HOUR TRAFFIC VOLUMES 5

FIGURE 4: EXISTING PM PEAK HOUR TRAFFIC VOLUMES 6

FIGURE 5: AM PEAK HOUR INTERSECTION OPERATIONS - EXISTING CONDITION 8

FIGURE 6: PM PEAK HOUR INTERSECTION OPERATIONS - EXISTING CONDITION 9

FIGURE 7: TRANSIT STOPS ON FAUNTLEROY WAY SW AT SW OREGON ST 10

FIGURE 8: PROPOSED IMPROVEMENTS ALONG FAUNTLEROY WAY SW 13

FIGURE 9: AM PEAK HOUR TRAFFIC VOLUMES - YEAR OF OPENING CONDITION 18

FIGURE 10: PM PEAK HOUR TRAFFIC VOLUMES - YEAR OF OPENING CONDITION 19

FIGURE 11: AM PEAK HOUR INTERSECTION OPERATIONS - YEAR OF OPENING CONDITION 20

FIGURE 12: PM PEAK HOUR INTERSECTION OPERATIONS - YEAR OF OPENING CONDITION 21

FIGURE 13: AM PEAK HOUR TRAFFIC VOLUMES - 2044 DESIGN YEAR CONDITION 24

FIGURE 14: PM PEAK HOUR TRAFFIC VOLUMES - 2044 DESIGN YEAR CONDITION 25

FIGURE 15: AM PEAK HOUR INTERSECTION OPERATIONS - 2044 DESIGN YEAR CONDITION 26

FIGURE 16: PM PEAK HOUR INTERSECTION OPERATIONS - 2044 DESIGN YEAR CONDITION 27

APPENDIX A-1: EXISTING AM PEAK HOUR PEDESTRIAN VOLUMES 30

APPENDIX A-2: EXISTING PM PEAK HOUR PEDESTRIAN VOLUMES 31

TABLE OF TABLES

TABLE 1: EXISTING WEEKDAY TRANSIT SERVICE FREQUENCY ON FAUNTLEROY WAY SW 10

TABLE 2: COLLISION ANALYSIS AT INTERSECTIONS ON FAUNTLEROY WAY SW 11

TABLE 3: COLLISION ANALYSIS FOR ROADWAY SEGMENTS ON FAUNTLEROY WAY SW 12

TABLE 4: DETAILED CHANNELIZATION IMPROVEMENTS AND SIGNAL PHASING MODIFICATIONS 14

TABLE 5: DETAILED SIGNAL TIMING MODIFICATIONS 16

PROJECT BACKGROUND

Fauntleroy Way SW is the main corridor to the “Alaska Junction” business area, the Fauntleroy Ferry Terminal, and one of the larger West Seattle residential areas. The roadway section is currently a four-lane principal arterial with two lanes in each direction, with additional turn lanes at a few intersections, concrete curb, a few trees, and poorly defined sidewalks. Fauntleroy Way SW from 35th Avenue SW to SW Alaska Street is a combination of commercial and multifamily residential zones. Between SW Avalon Street and SW Alaska Street, Fauntleroy Way SW is a major truck route.

The proposed project will construct landscaped center medians, realigned intersections, improved street lighting, protected bike facilities and improved pedestrian facilities with defined sidewalks and new crossings of Fauntleroy Way SW.

DKS has completed a traffic analysis of the following project conditions, with the existing conditions and year of opening updated from the original 2014 traffic analysis:

- Existing (2017)
- Year of Opening (2019)
- Future (2044)

EXISTING CONDITIONS

The study area for this project includes eight intersections along Fauntleroy Way SW, two intersections along 35th Avenue SW and one intersection along SW Alaska Street as shown in Figure 1.



Figure 1: Vicinity Map

The study intersections include:

- Fauntleroy Way SW and 35th Avenue SW (Signalized)
- Fauntleroy Way SW and 36th Avenue SW (Unsignalized – two-way stop control)
- Fauntleroy Way SW and SW Avalon Way (Signalized)
- Fauntleroy Way SW and 37th Avenue SW (Unsignalized – two-way stop control)
- Fauntleroy Way SW and SW Oregon Street (Signalized)
- Fauntleroy Way SW and 38th Avenue SW (Unsignalized – two-way stop control/fire signal)

- Fautleroy Way SW and 39th Avenue SW (Unsignalized – two-way stop control)
- Fautleroy Way SW and SW Alaska Street (Signalized)
- 35th Avenue SW and SW Avalon Way (Signalized)
- 35th Avenue SW and SW Alaska Street (Signalized)
- SW Alaska Street and 38th Avenue SW (Unsignalized – two-way stop control/fire signal)

Roadway Description

Within the study area, Fautleroy Way SW is an arterial roadway with a four-lane cross-section, limited parking, and no on-street bicycle facilities. The speed limit in the study area is 30 MPH. Portions of the study area contain a two-way left-turn center lane (TWLTL). Figure 2 illustrates existing Fautleroy Way SW channelization.

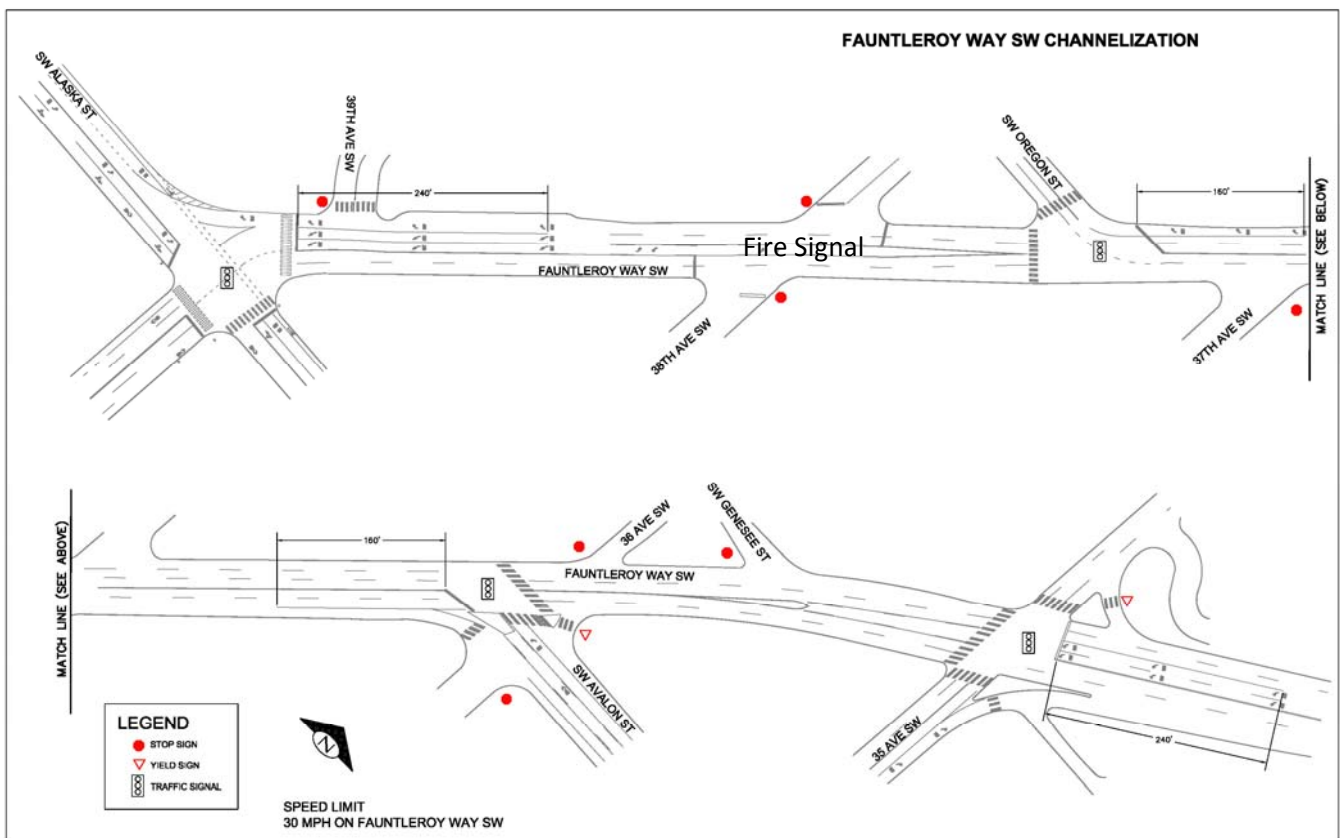


Figure 2: Existing Fautleroy Way SW Channelization

Existing Traffic Volume

Existing weekday AM/PM peak hour turning movement counts were collected at the study intersections to capture peak commuter activity. Counts were conducted on:

- AM Turning Movement Counts (7:00 AM to 9:00 AM):
 - Tuesday thru Thursday, February 14-16, 2017
 - Tuesday, February 28, 2017
- PM Turning Movement Counts (4:00 PM to 6:00 PM):
 - Tuesday thru Thursday, February 14-16, 2017

The peak hour turning movement counts were compared to hourly counts to validate the accuracy of the data. Peak hour traffic volumes were balanced to provide the basis for analyzing traffic conditions during peak hours. The 2017 AM peak hour traffic volumes are shown in Figure 3 and 2017 PM peak hour traffic volumes are shown in Figure 4. The turning movement counts and 24-hour counts include pedestrian and bicycle volumes, respectively.

Existing Signal Timings

Existing traffic signal timing plans were obtained for the six existing signalized intersections within the project limits. The four traffic signals on Fauntleroy Way SW are currently coordinated and have a cycle length of 120 seconds for both the AM and PM peak periods, with some signals running half-cycles of 60 seconds. The following summarizes the signal timing plans for each intersection:

- Fauntleroy Way SW & 35th Avenue SW: the cycle length is 120 seconds. Pedestrian phases are provided for southbound, eastbound, and westbound approaches.
- Fauntleroy Way SW & SW Avalon Way: the cycle length is 60 seconds. Pedestrian phases are provided for northbound and westbound approaches.
- Fauntleroy Way SW & SW Oregon Street: the cycle length is 60 seconds. Pedestrian phases are provided for southbound and eastbound approaches.
- Fauntleroy Way SW & SW Alaska Street: the cycle length is 120 seconds. Pedestrian phases are provided for northbound, eastbound, and westbound approaches.

A fire signal at 38th Avenue SW is operated only when an emergency call from a fire truck is received. As this is a special event that is infrequent during the AM and PM peak hours, the fire signal is not analyzed as a part of this traffic analysis.

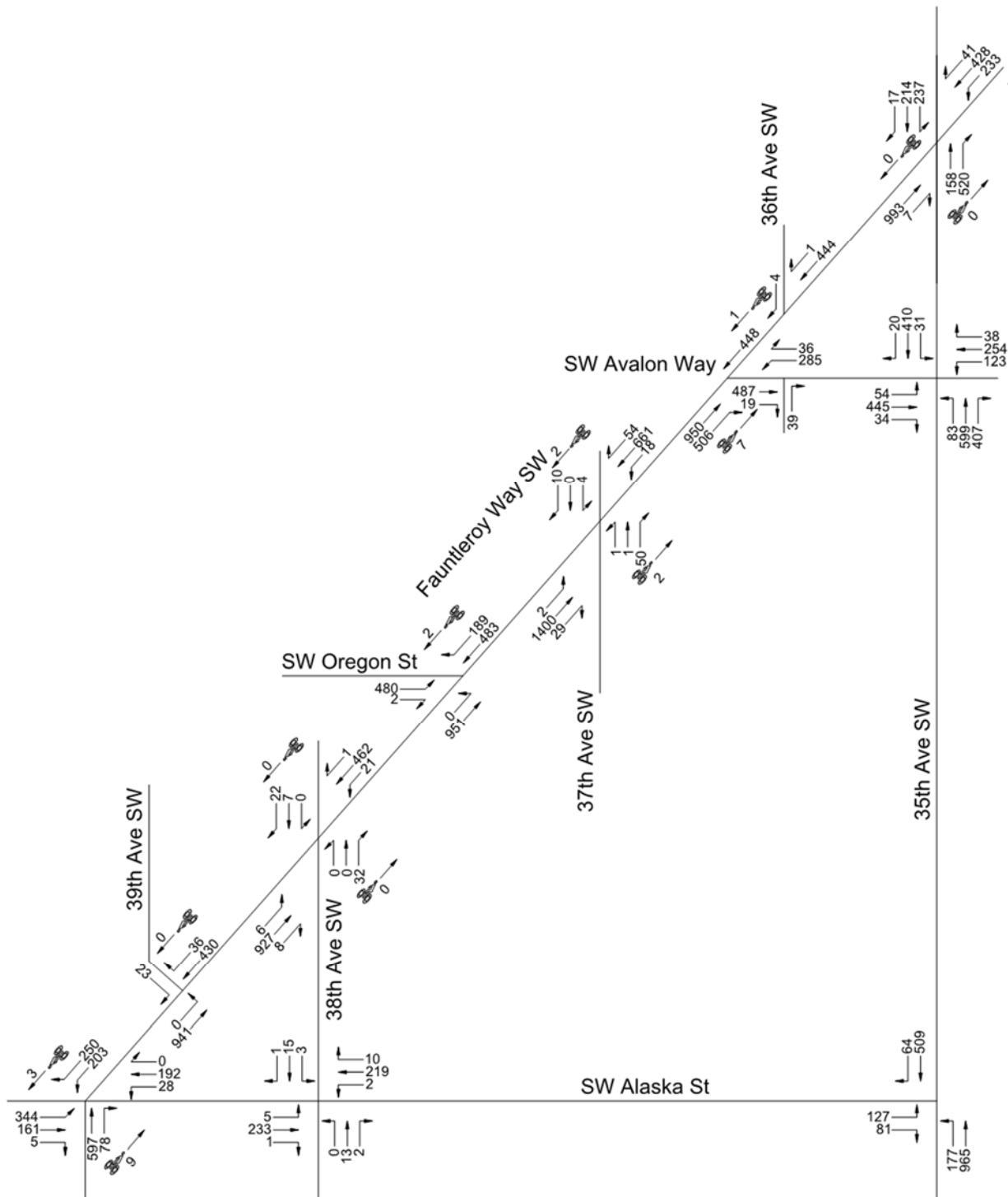


Figure 3: Existing AM Peak Hour Traffic Volumes

* For pedestrian volumes, see Figure A-1 in the Appendix

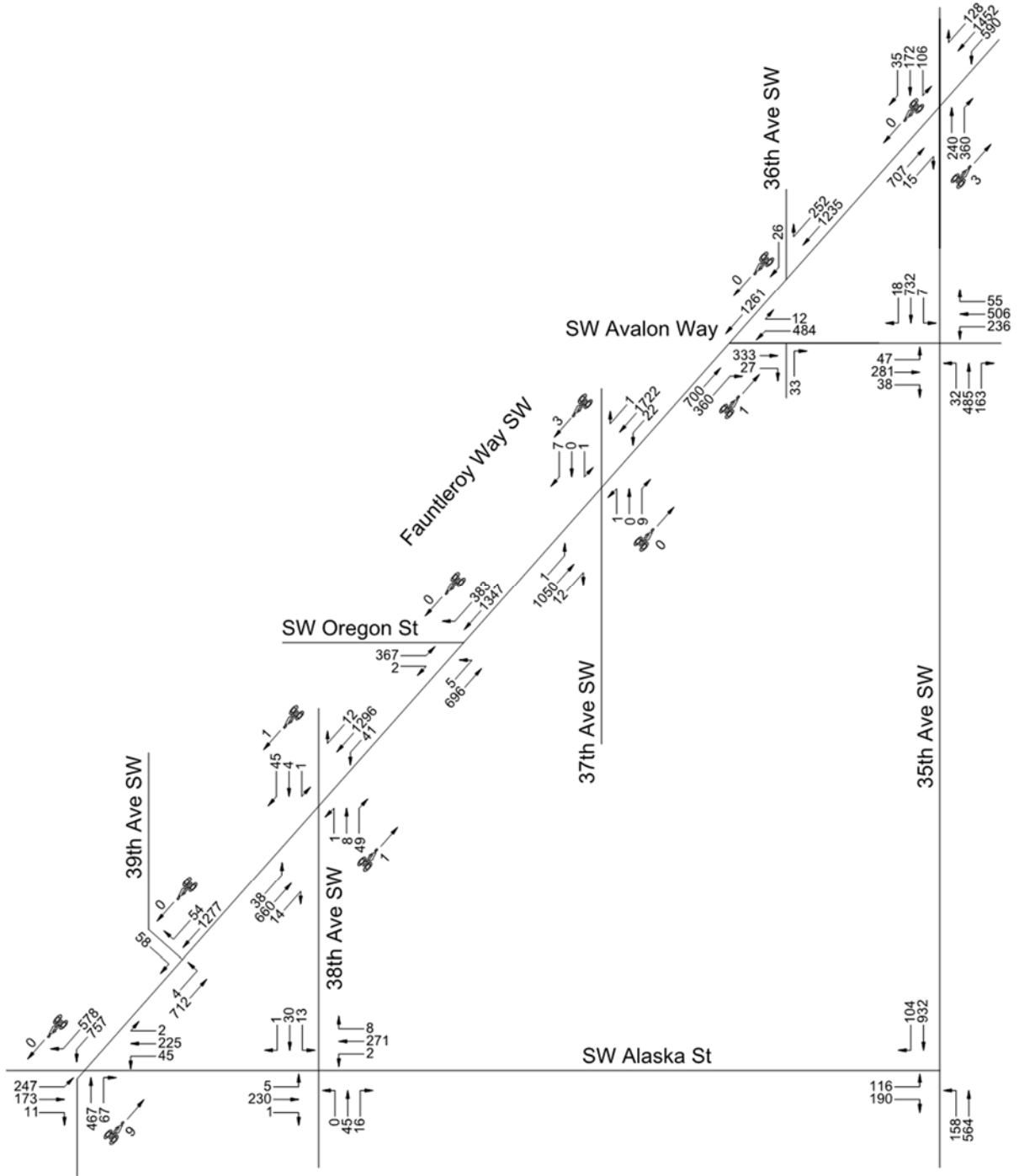


Figure 4: Existing PM Peak Hour Traffic Volumes

* For pedestrian volumes, see Figure A-2 in the Appendix

Analysis Approach and Methodology

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads and operating conditions. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometrics, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections.

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS were determined utilizing the methodology found in Chapter 18 of the *2010 Highway Capacity Manual (HCM)*, with the assistance of the *Synchro* (version 9.1) traffic simulation software

Unsignalized intersections were also analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS were determined based upon the procedures found in Chapter 19 of the *2010 HCM*, with the assistance of the *Synchro* (version 9.1) traffic simulation software. The LOS for an unsignalized intersection is reported for the approach that has the highest average delay per vehicle.

Intersection capacity analyses were conducted at the intersections in the study area based on existing traffic volumes and existing intersection lane configurations. The existing cycle lengths were utilized for the analysis of the signalized intersections. Figure 5 and Figure 6 show the results of the existing intersection operation analysis during the AM peak and PM peak respectively. Currently, all study intersections in both peak periods operate at LOS D or better.

For queueing analysis, the microsimulation software, *Vissim*, will be used for the study intersections. Refer to the project's *Vissim Memorandum* also prepared by DKS for more information.

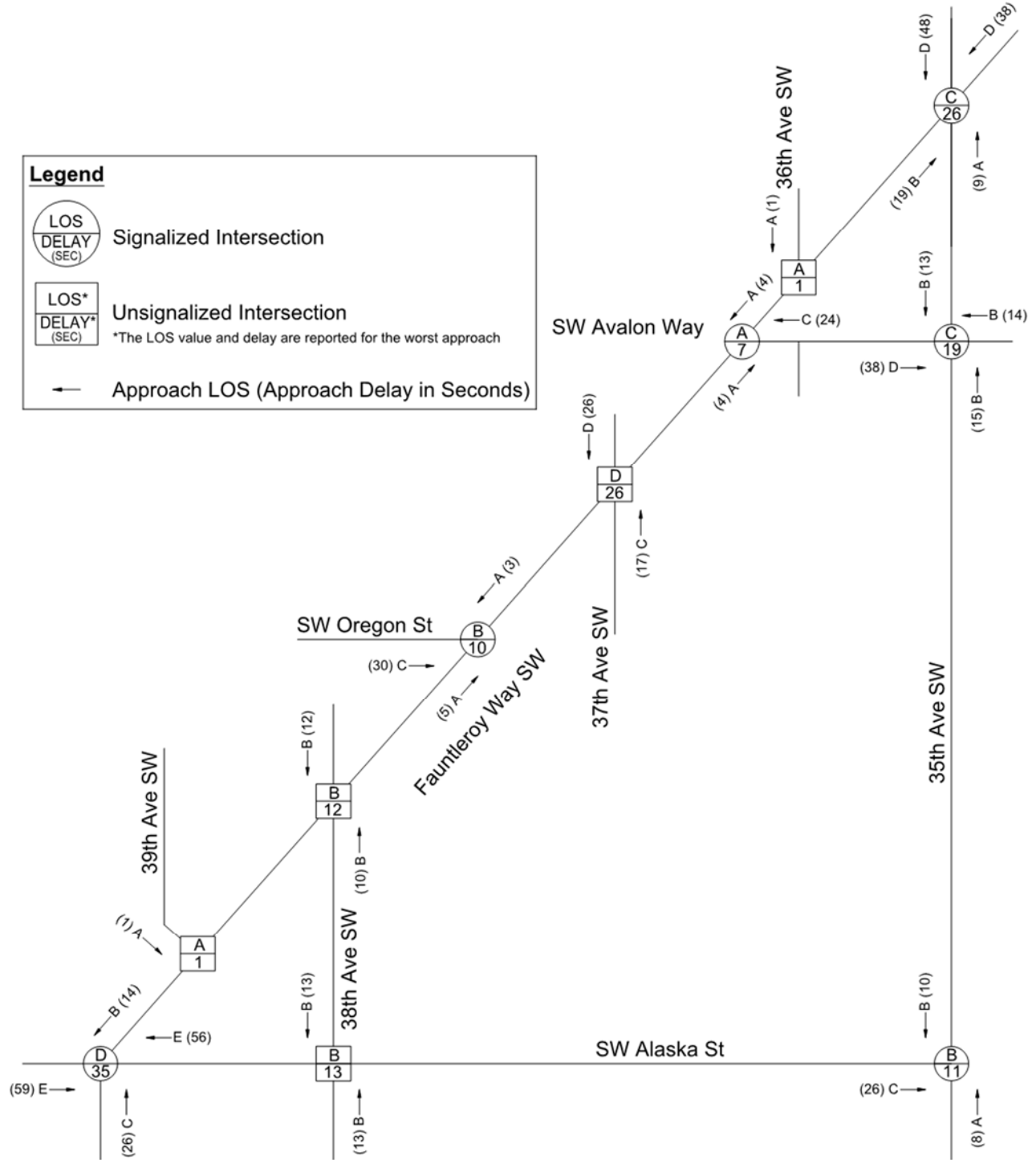


Figure 5: AM Peak Hour Intersection Operations - Existing Condition

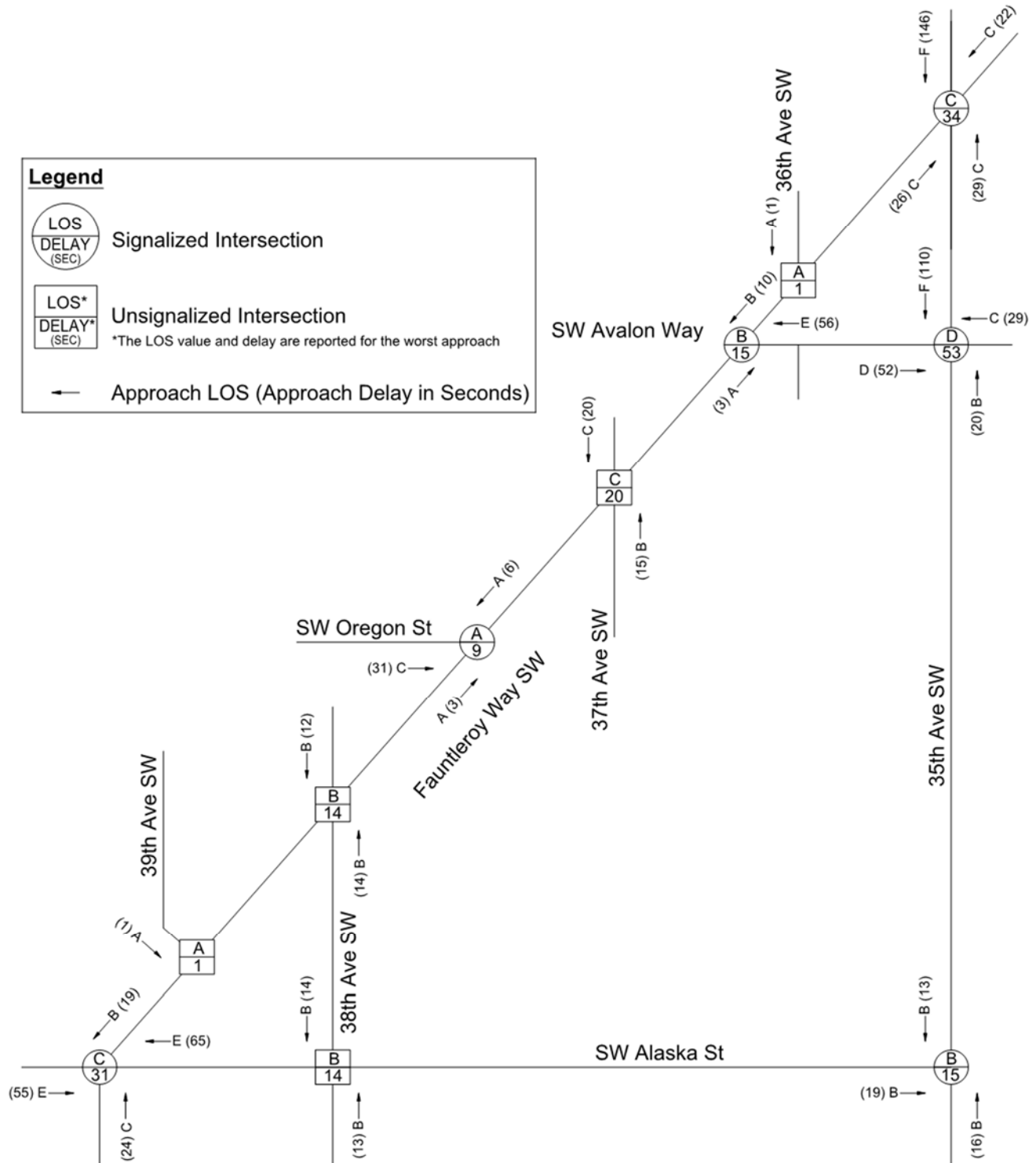


Figure 6: PM Peak Hour Intersection Operations - Existing Condition

Transit Routes and Service

The impacts to transit vehicles and riders were identified by documenting the location and frequency of service at existing transit stops in the project corridor. There are two transit stops on Fauntleroy Way SW located at SW Oregon Street in both directions as presented in Figure 7 below. Both transit stops serve King County Metro Routes 116, 118 and 119.

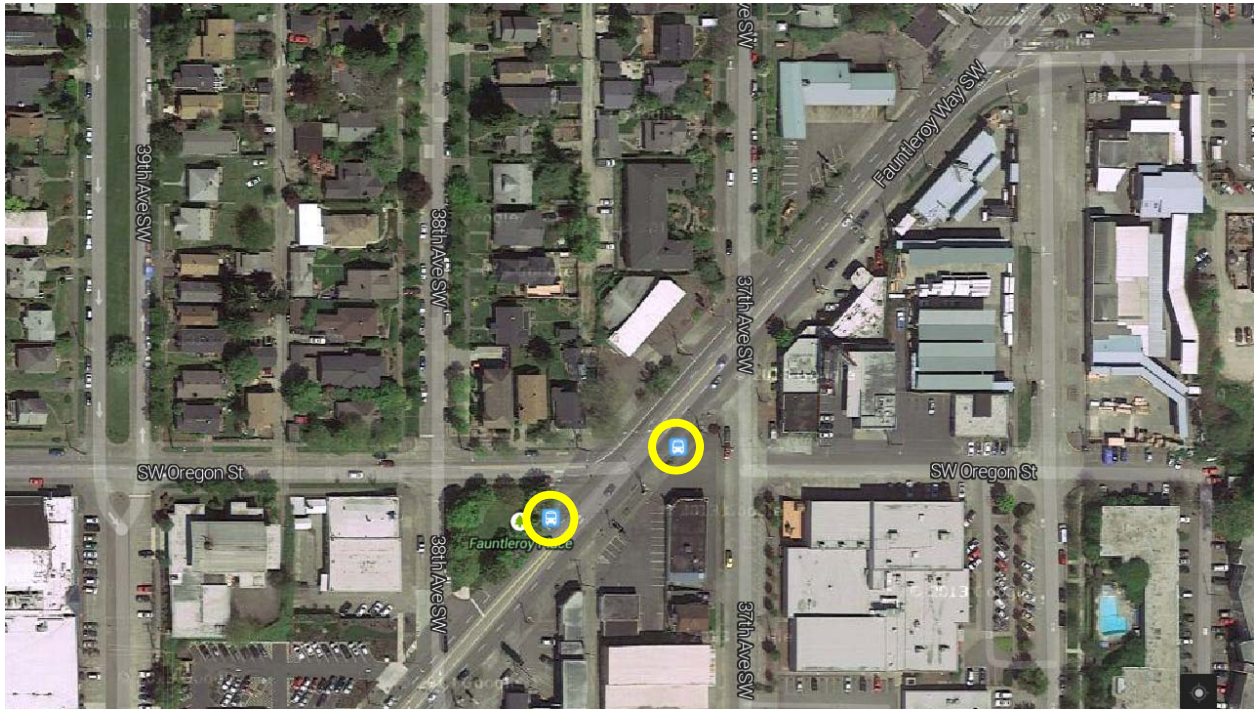


Figure 7: Transit Stops on Fauntleroy Way SW at SW Oregon St

A summary of the frequency of weekday transit activity during peak hours by route is also provided in Table 1. These routes only run during peak AM and PM commute hours. The area is served throughout the day by RapidRide C Line service, which does not run directly on this section, but does run on the proposed detour route.

Table 1: Existing Weekday Transit Service Frequency on Fauntleroy Way SW

Route	Destination	Frequency per Hour	
		AM Peak	PM Peak
116	Downtown Seattle	4	-
116	Fauntleroy Ferry Terminal	-	4
118	Downtown Seattle	1	-
118	Fauntleroy Ferry Terminal	-	1
119	Downtown Seattle	1	-



119	Fauntleroy Ferry Terminal	-	1
-----	---------------------------	---	---

Collision Analysis

An analysis of collisions consists of a summary of the frequency, type and location of collisions on Fauntleroy Way SW. The collision analysis was done previously in 2014 using three-year data available from the City of Seattle. This includes collisions along the study corridor from June 17, 2010 through June 17, 2013.

The number of collisions at each study intersection on Fauntleroy Way SW is listed in Table 2. Collisions are classified as either property damage only (PDO) or injury (INJ). There were no reported fatal collisions in the corridor. The last ten columns indicate the type of collision (the abbreviations are defined below the table).

Table 2: Collision Analysis at Intersections on Fauntleroy Way SW

Intersection Location	Collision Count			Collision Type									
	TOT	PDO	INJ	HDO	ANG	RE	SS	PCY	PED	RT	LT	PK	OTH
35 th Ave SW	3	1	2		1	1					1		
SW Genesee St	1	1			1								
36 th Ave SW	1	1											1
SW Avalon Way	3	1	2		1						2		
37 th Ave SW	1		1								1		
SW Oregon St	5	3	2		2					1	2		
38 th Ave SW	1	1			1								
SW Alaska St	6	4	2			1	3				1		1

TOT: Total # of Collisions PDO: Total # of Property Damage Only Collisions INJ: Total # of Injury Collisions
HDO: Head-on Collision ANG: Right Angle RE: Rear End
SS: Sideswipe PCY: Pedalcyclist PED: Pedestrian
RT: Right Turn LT: Left Turn PK: Parked Car
OTH: Other

Source: SDOT Collision Records - 6/17/2010 – 06/17/2013

The intersection with the highest number of collisions in the study area is Fauntleroy Way SW and SW Alaska Street with six collisions during the study period. Four of those collisions were property damage only and two resulted in injuries. The most common type of collision at SW Alaska Street is a sideswipe collision.

At SW Oregon Street, there were five collisions, three of which resulted in property damage only and two resulted in injuries. Right angle and left turn collisions were the most common collision type, representing four of the five collisions.



Collision analysis was also completed for the six roadway segments on Fauntleroy Way SW. The number and type of collisions along Fauntleroy Way SW are listed in Table 3.

Table 3: Collision Analysis for Roadway Segments on Fauntleroy Way SW

Segment	Collision Count			Collision Type									
	TOT	PDO	INJ	HDO	ANG	RE	SS	PCY	PED	RT	LT	PK	OTH
Btw 35 th Ave SW and SW Genesee St	4	4					1				1		2
Btw SW Genesee St and 36 th Ave SW	2	2				1							1
Btw SW Avalon Way and 37 th Ave SW	4	4				2	2						
Btw 37 th Ave SW and SW Oregon St	7	3	4			2	1	1					1
Btw SW Oregon St and 38 th Ave SW	3	3				1							2
Btw 38 th Ave SW and SW Alaska St	12	8	4		1	4	2			1			1

TOT: Total # of Collisions PDO: Total # of Property Damage Only Collisions INJ: Total # of Injury Collisions
HDO: Head-on Collision ANG: Right Angle RE: Rear End
SS: Sideswipe PCY: Pedalcyclist PED: Pedestrian
RT: Right Turn LT: Left Turn PK: Parked Car
OTH: Other

Source: SDOT Collision Records - 6/17/2010 – 06/17/2013

The roadway segment with the highest number of collisions on Fauntleroy Way SW is between 38th Avenue SW and SW Alaska Street with a total of twelve collisions. Eight of those collisions resulted in property damage only and four resulted in injuries. The most common type of collision in this segment was rear-end collisions which accounted for four of the twelve collisions.

On Fauntleroy Way SW between 37th Avenue SW and SW Oregon St, there were seven recorded collisions, three of which resulted in property damage only and four of which resulted in an injury. On this roadway segment, the most common type of collision was a rear-end collision.

There was one bicycle-related collision during the three-year study period. This took place along Fauntleroy Way SW between 37th Avenue SW and SW Oregon Street. There were no reported pedestrian-involved collisions during the study period.

2019 YEAR OF OPENING CONDITION

The analysis of 2019 opening year traffic operations requires inputs of the existing and proposed street geometries, specific traffic control details such as signal timing and phasing, and forecasts of traffic flow. The proposed improvements along Fautleroy Way SW, as presented in Figure 8, include the construction of landscaped center medians, protected bike lanes, improved pedestrian facilities which include new crosswalks at signalized intersections as well as a greenway crossing. The operation of the proposed protected bike lane will have impacts similar to that of pedestrian movement along the corridor on the traffic operations because the protected bike lanes are not located on the roadway. Detailed channelization improvements and signal phasing modifications are presented in Table 4.

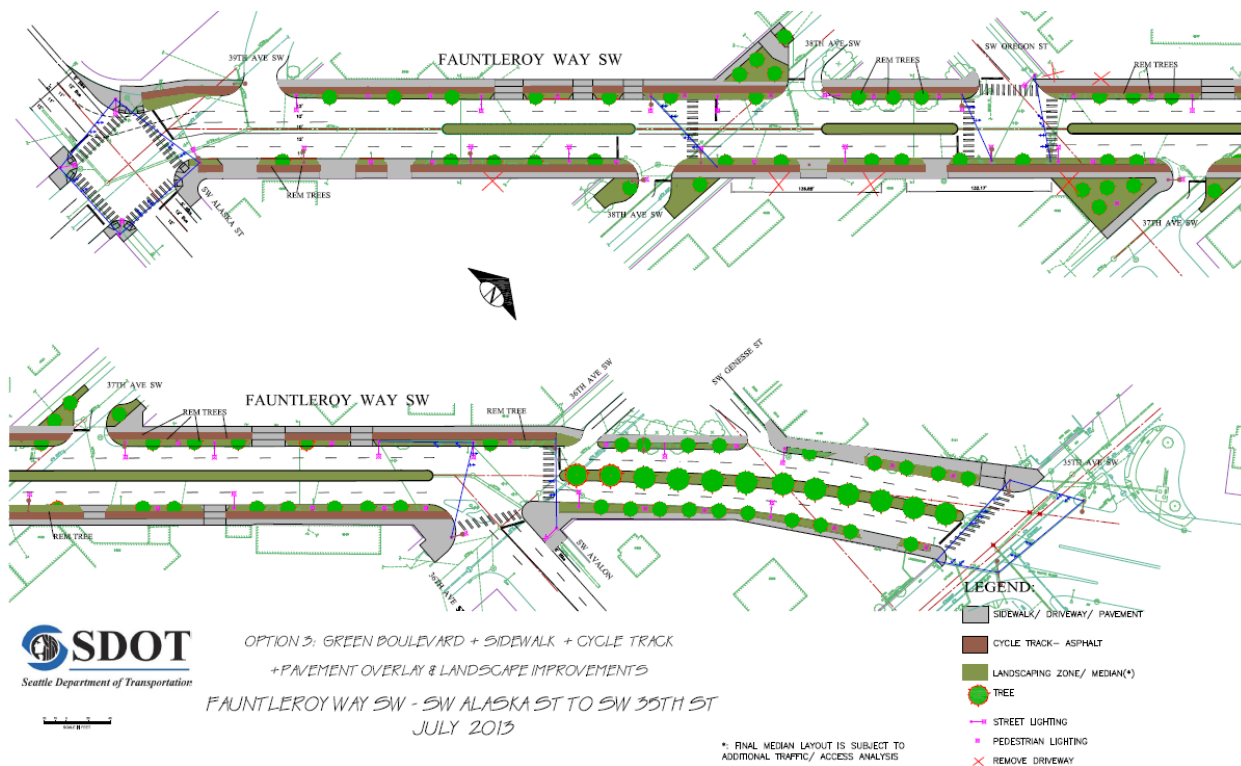


Figure 8: Proposed Improvements Along Fautleroy Way SW

Table 4: Detailed Channelization Improvements and Signal Phasing Modifications

	Existing Condition	Proposed Modification
Avalon Way	<ul style="list-style-type: none"> • Pedestrian crossing on north and east legs • Channelized right turns for westbound and northbound movements 	<ul style="list-style-type: none"> • Removal of northbound right turn pocket and rechannelization to one through lane and one shared through/right lane for northbound movement • No channelized right turn for westbound movement
Oregon St	<ul style="list-style-type: none"> • Pedestrian crossing on south and west legs • Two through lanes and one separate right-turn lane for southbound movements 	<ul style="list-style-type: none"> • Removal of southbound right turn pocket and rechannelization to one through lane and one shared through/right lane for southbound movement • No channelized right turn for eastbound movement
38 th Ave SW	<ul style="list-style-type: none"> • Two-way stop control with through, left- and right-turn movements allowed from side streets • No pedestrian crossing across Fauntleroy Way SW 	<ul style="list-style-type: none"> • Signalized pedestrian crossing across Fauntleroy Way SW • Two-way stop control with right-turn only movement allowed from side streets • Operates as fire signal during pre-emption call
Alaska St	<ul style="list-style-type: none"> • Pedestrian crossing on east and south legs 	<ul style="list-style-type: none"> • Pedestrian crossing on all legs • Permitted and overlap for westbound right-turn

Note: Although additional crosswalks were previously proposed, this study recommends only the additional crossings mentioned in this table for improved traffic and pedestrian efficiency along the corridor.

The forecasted 2019 AM and PM peak hour turning movement volumes were estimated with an assumed average annual growth rate of 1.0 percent plus the new traffic volume generated from nine pipeline projects, including:

- Trinsic Apartment Development
- Broadstone West Seattle
- Whittaker Development at 4755 Fauntleroy Way (formerly Fauntleroy Mixed Use)
- Fauntleroy Place
- 4724 California Avenue SW (California Mixed Use, formerly Petco)
- 4706 California Avenue SW (Conner/Equity)
- 3062/3078 SW Avalon Way
- 4502 42nd Avenue SW (Oregon 42 LLC)

- 3261 SW Avalon Way (Meissner Avalon)

All pipeline volumes were obtained from the associated traffic impact analyses (TIAs) completed for those developments.

The expected traffic volumes from these projects, combined with the assumed background traffic volume growth for 2019 AM and PM peak hour, equate to an estimated 8.0 percent increase over existing turning movement volumes. The opening year AM peak hour traffic volumes are shown in Figure 9 and the opening year PM peak hour traffic volumes are shown in Figure 10. Pedestrian volumes were assumed to double at Fautleroy and Alaska, while bicycle volumes were assumed to double at the intersection with the highest volume and the increase in the volume was applied to all other intersections along the corridor.

Figure 11 and Figure 12 show the results of the year of opening intersection operation analysis during the AM peak and PM peak, respectively. Signal timing was optimized along the corridor. Cycle lengths along Fautleroy Way SW were adjusted to operate at 120-second cycles during the AM and PM peaks. Table 5 summarizes the signal timing modifications that were made for each signalized intersection.

Table 5: Detailed Signal Timing Modifications

Intersection	Existing Condition	Proposed Modification
35 th Ave SW and Fauntleroy Way SW	<ul style="list-style-type: none"> • 60 second cycle length 	<ul style="list-style-type: none"> • Cycle length increased to 120 seconds • Southbound left turn phase modified to lead left with northbound through phase as lagging for AM peak period • Signal timing optimized • Network offset modified
SW Avalon Way and Fauntleroy Way SW	<ul style="list-style-type: none"> • 60 second cycle length 	<ul style="list-style-type: none"> • Cycle length increased to 120 seconds • Signal timing optimized • Network offset modified
SW Oregon St and Fauntleroy Way SW	<ul style="list-style-type: none"> • 60 second cycle length 	<ul style="list-style-type: none"> • Cycle length increased to 120 seconds • Signal timing optimized • Network offset modified
38 th Ave SW and Fauntleroy Way SW	<ul style="list-style-type: none"> • Unsignalized intersection 	<ul style="list-style-type: none"> • Converted intersection to signalized • Cycle length set to 120 seconds • Signal timing optimized • Network offset coordinated along Fauntleroy
SW Alaska St and Fauntleroy Way SW	<ul style="list-style-type: none"> • 60 second cycle length 	<ul style="list-style-type: none"> • Cycle length increased to 120 seconds • Signal timing optimized • Network offset modified
35 th Avenue SW and SW Avalon Way	<ul style="list-style-type: none"> • 60 second cycle length 	<ul style="list-style-type: none"> • Cycle length increased to 120 seconds • Signal timing optimized • Network offset modified • Westbound left turn phase modified from leading phase to lagging phase for both AM and PM peak periods
35 th Avenue SW and SW Alaska St	<ul style="list-style-type: none"> • 60 second cycle length 	<ul style="list-style-type: none"> • Cycle length increased to 120 seconds • Signal timing optimized • Network offset modified • Northbound left turn phase modified from lagging phase to leading phase for PM Peak period

A review of Figure 11 and Figure 12 shows that all the signalized intersections are projected to operate at LOS C or better, except at the Fauntleroy Way SW and SW Alaska Street intersection.

In addition to the proposed changes shown in Table 4 and Table 5, the installation of the median along Fauntleroy Way SW prohibits left turns from Fauntleroy Way SW to unsignalized side streets. Vehicles traveling

on side streets to unsignalized intersections on Fauntleroy Way SW are only permitted to turn right onto Fauntleroy Way. The corridor experiences improvements in operations by removing interruptions and conflicts to flow along Fauntleroy Way and from Fauntleroy Way onto side streets.

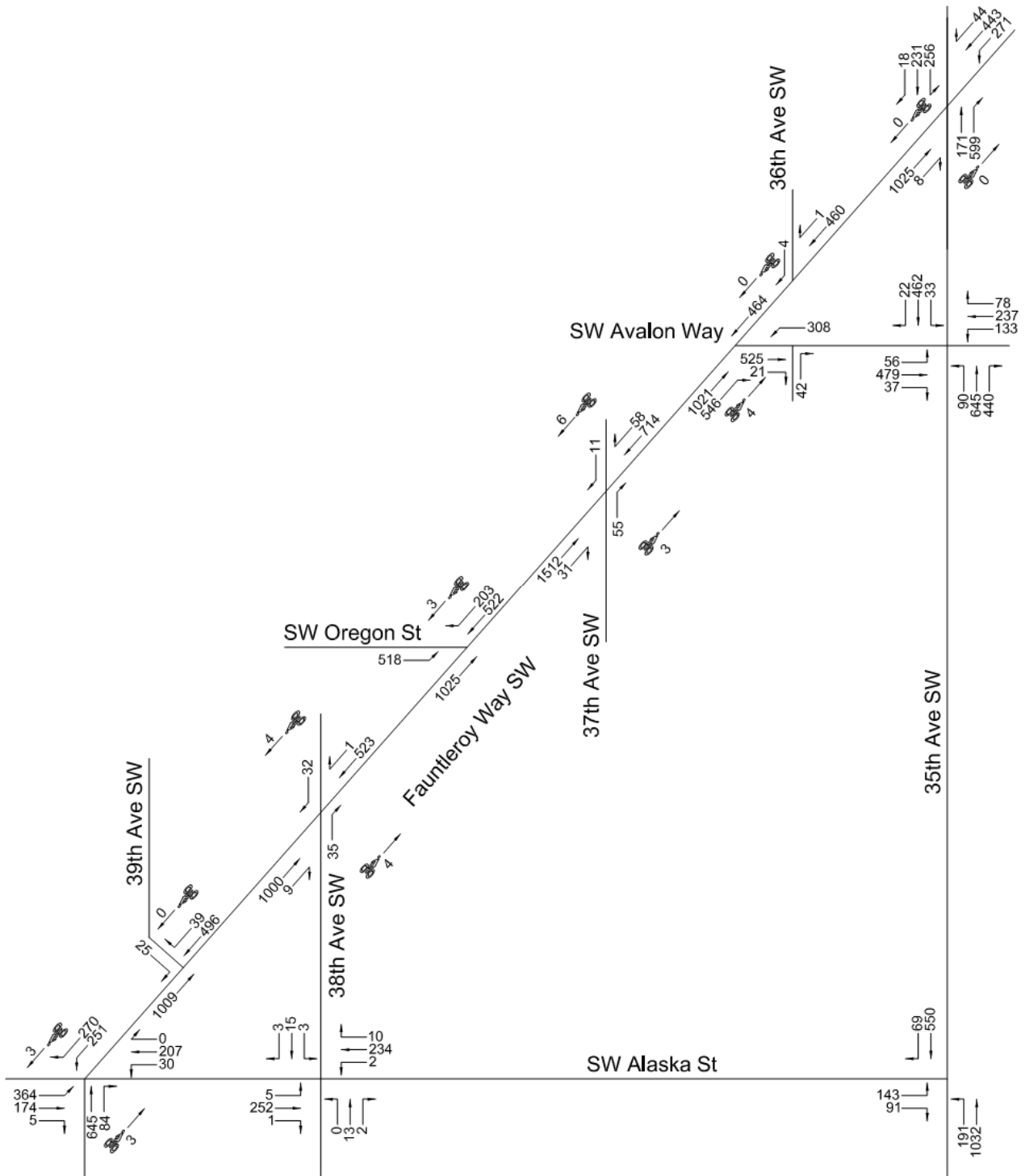


Figure 9: AM Peak Hour Traffic Volumes - Year of Opening Condition

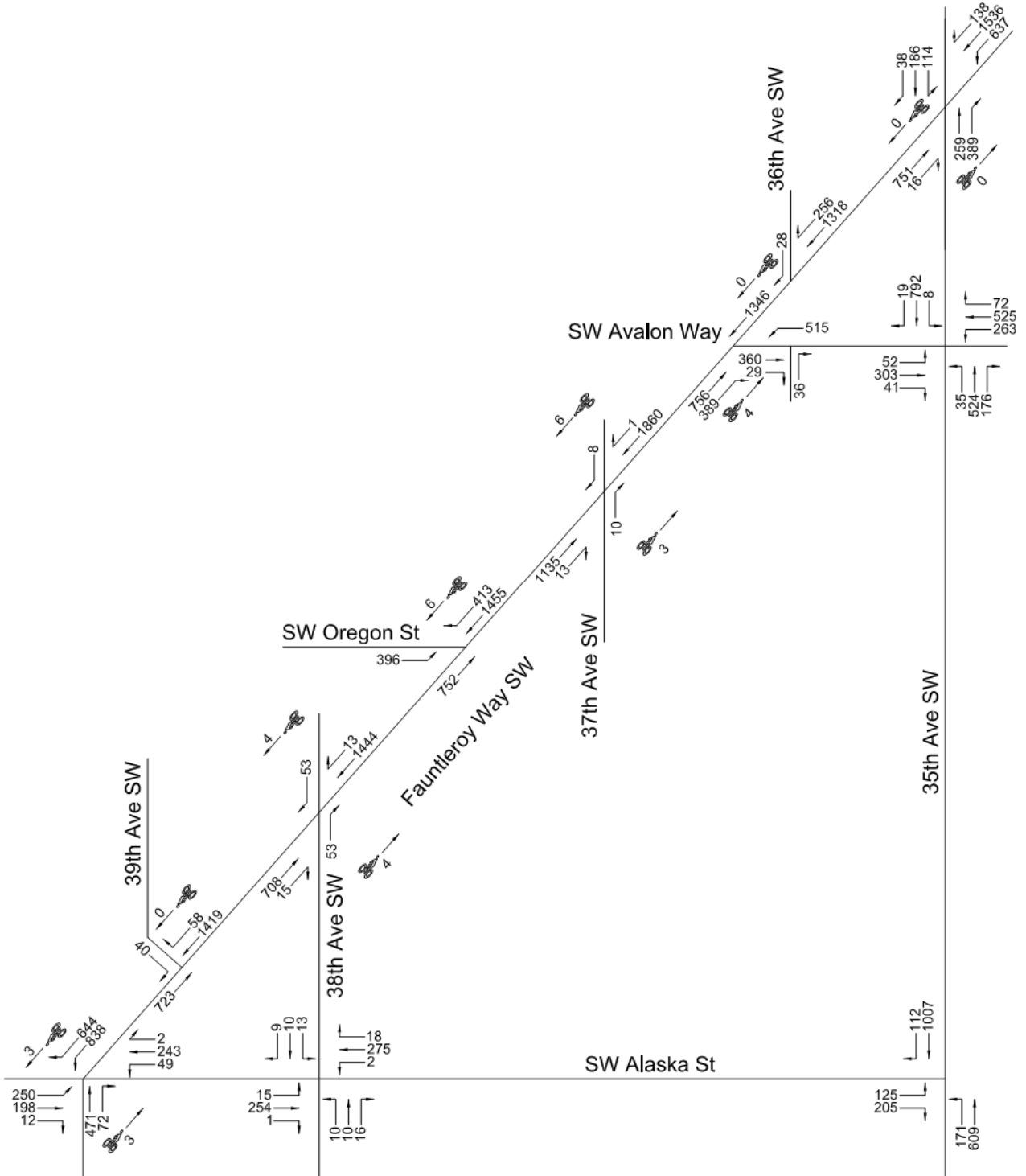


Figure 10: PM Peak Hour Traffic Volumes - Year of Opening Condition

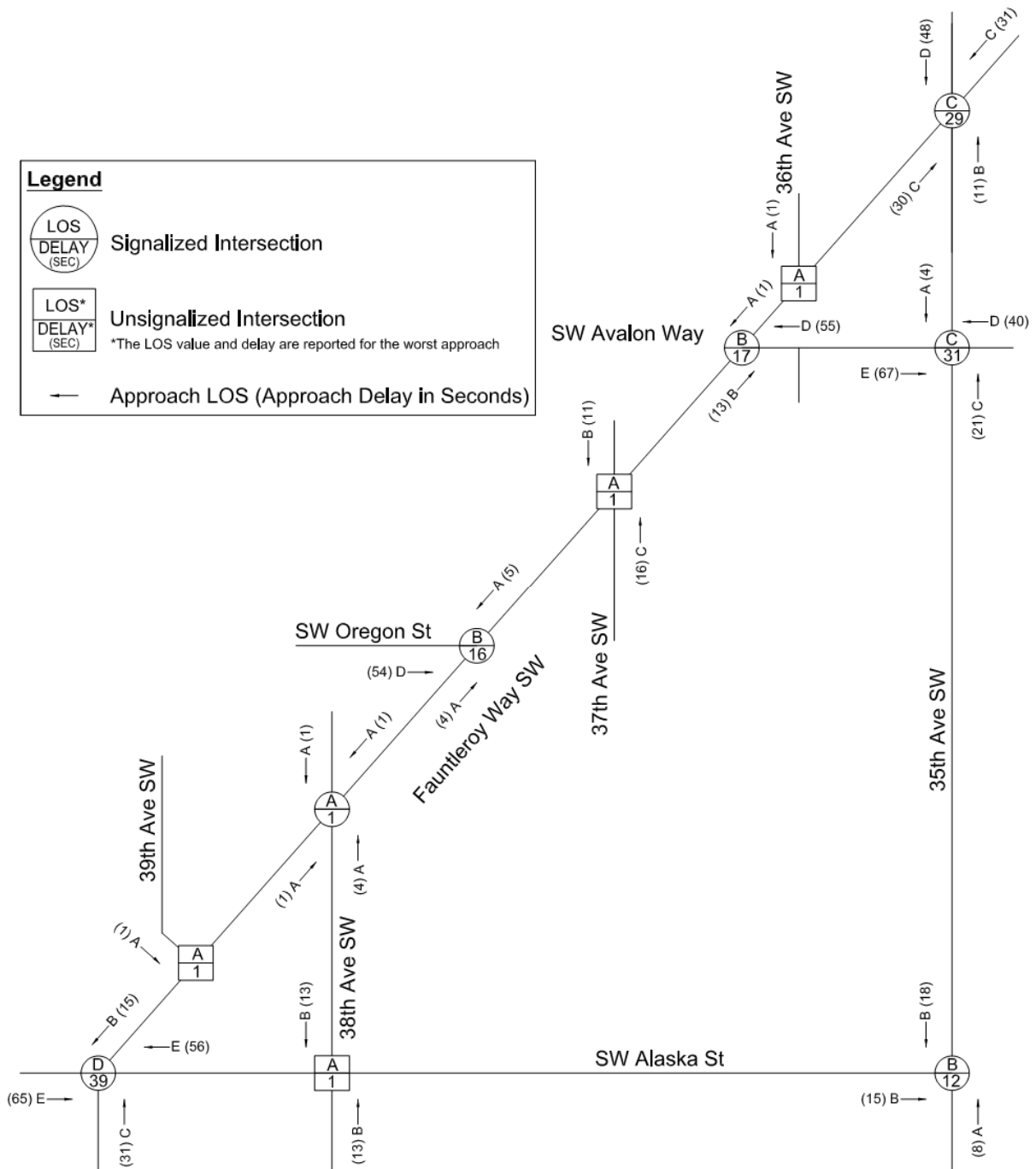


Figure 11: AM Peak Hour Intersection Operations - Year of Opening Condition

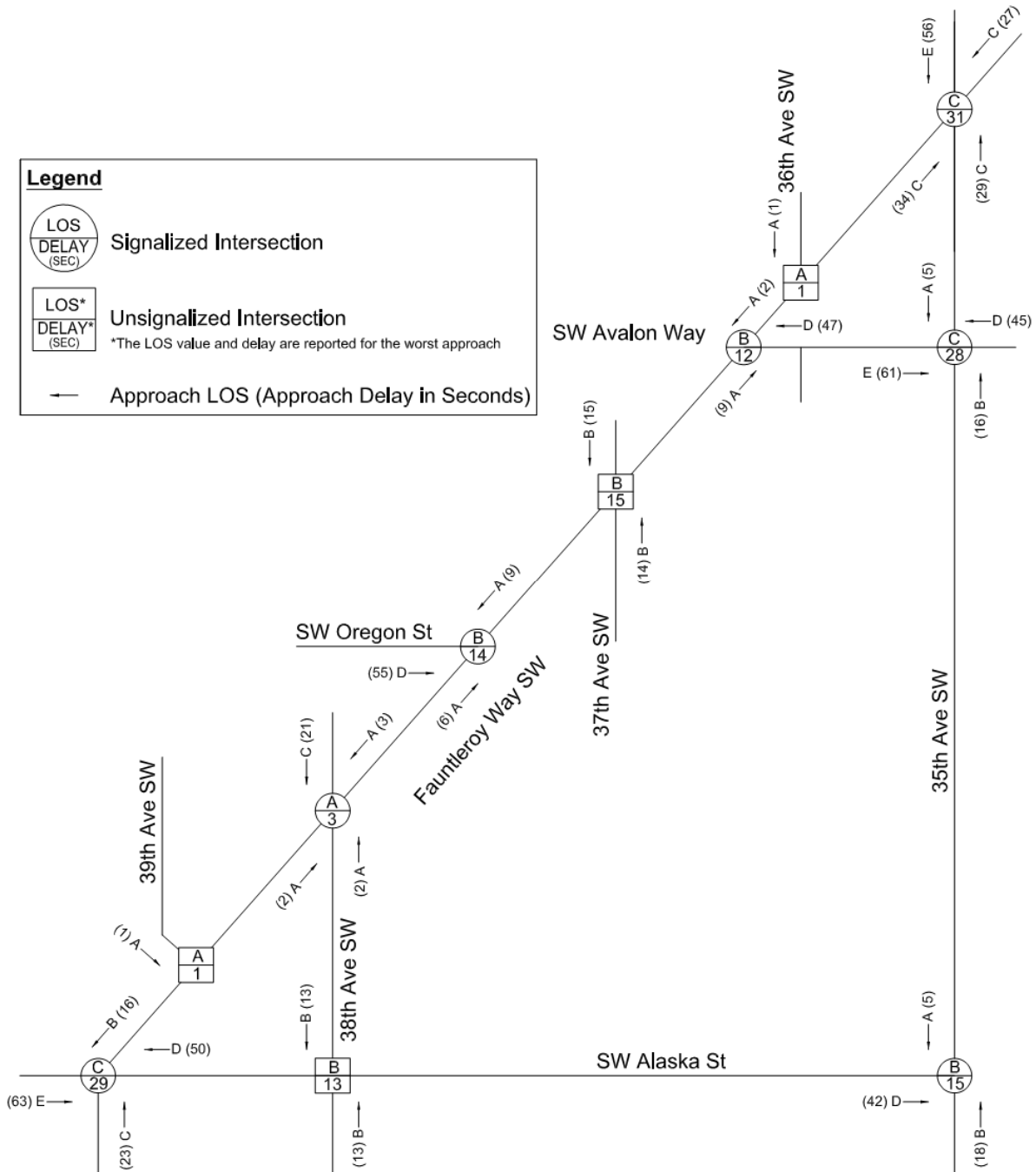


Figure 12: PM Peak Hour Intersection Operations - Year of Opening Condition

CONSTRUCTION CONDITION

During construction of the roadway, motorists and pedestrians on side streets adjacent to the project area of Fautleroy Way SW would experience some delays and detouring. In addition to the designated, signed detour route along SW Alaska Street and 35th Avenue SW, other side streets such as SW Genessee Street, SW Oregon Street and 40th Avenue SW can be expected to experience higher than normal volumes as traffic diverts through the local street network. This is common as motorists seek to find the routes with the least amount of delay around the roadway construction. Further delays would occur as construction trucks and equipment use local streets. Designated construction vehicle routes should be part of the construction phasing and detour routing plans.

In order for the proposed designated detour route to be a viable alternative for the oversized freight that must use this route, the detour plan must ensure a vehicle with a 20' by 20' by 100' footprint will be able to navigate the route. This includes measures to remove or relocate any identified overhead conflicts as well as ensuring the oversized vehicles can make the turning movements at the intersections of Fautleroy Way SW at SW Alaska Street, SW Alaska Street at 35th Avenue SW and Fautleroy Way SW at 35th Avenue SW. These turning movements should be shown to be viable using AutoTURN swept path analysis software before the detour route is put in place.

Local access to businesses which have access directly from Fautleroy Way SW will need to be maintained throughout construction. A plan to ensure emergency response access is maintained throughout construction will also need to be in place. When feasible, wayfinding for side street access to businesses along Fautleroy within the construction zone should be incorporated into the detour signage plan and public outreach.

Clearly marked ADA-compliant pedestrian routes through or around the construction area should be as direct as feasible throughout the different phases of construction. The transit stops within the construction zone should be relocated to the designated detour route. The existing transit stops just east of Fautleroy Way SW along SW Alaska Street as well as the stops just south of SW Avalon Way, along 35th Avenue SW can serve as the temporary stop location for the detoured transit routes.

Emergency access, business access, pedestrian accessibility, transit operations and construction vehicle routing will all need to be accounted for a part of this project's construction phasing and detour routing plans.

Detailed operations and queuing information for the construction alternatives can be found in the project's Vissim memorandum also prepared by DKS Associates.

2044 DESIGN YEAR CONDITION

Traffic volumes for the design year 2044 were forecasted using EMME4 software. The Puget Sound Regional Council (PSRC) recently released an updated regional model with enhanced network detail and refinement. The updated 2010 and 2040 regional travel demand models were used for this analysis. For every household, these models estimate the number of trips taken, their destinations, the time of day the trip is made, the mode that is chosen, and which route they follow. For the 2040 model, estimates of household, population and jobs are applied to an updated roadway network that includes funded projects such as the replacement of the Alaskan Way Viaduct with a tunnel and the extension of light rail. Both models were run to determine traffic volume trends in the study area.

The volume trends showed little vehicle traffic growth along Fauntleroy Way SW, but 25-33% growth in transit trips on the SW Alaska Street/35th Avenue SW transit corridor. Also, by 2040, both pedestrian and bicycle trips in this section of the City are expected to grow at approximately twice the rate of vehicle trips. The travel patterns forecasted for 2040 were then projected out to the design year 2044. Raw model forecasts were post processed against existing traffic volume counts to develop the forecasted 2044 turning movement volumes. The 2044 design year AM peak hour traffic volumes are shown in Figure 13 and the 2044 design year PM peak hour traffic volumes are shown in Figure 14. To ensure a conservative analysis, pedestrian volumes were doubled at each intersection, and bicycle volumes were assumed to triple at the intersection with the highest volume and the increase in the volume was applied to all other intersections along the corridor.

Figure 15 and Figure 16 show the results of the 2044 design year intersection operation analysis during the AM peak and PM peak, respectively.

A review of Figure 15 and Figure 16 shows that all the signalized intersections are projected to operate at LOS C or better except at the Fauntleroy Way SW and SW Alaska Street intersection. This intersection is projected to operate at LOS D during the AM and PM peak hours.

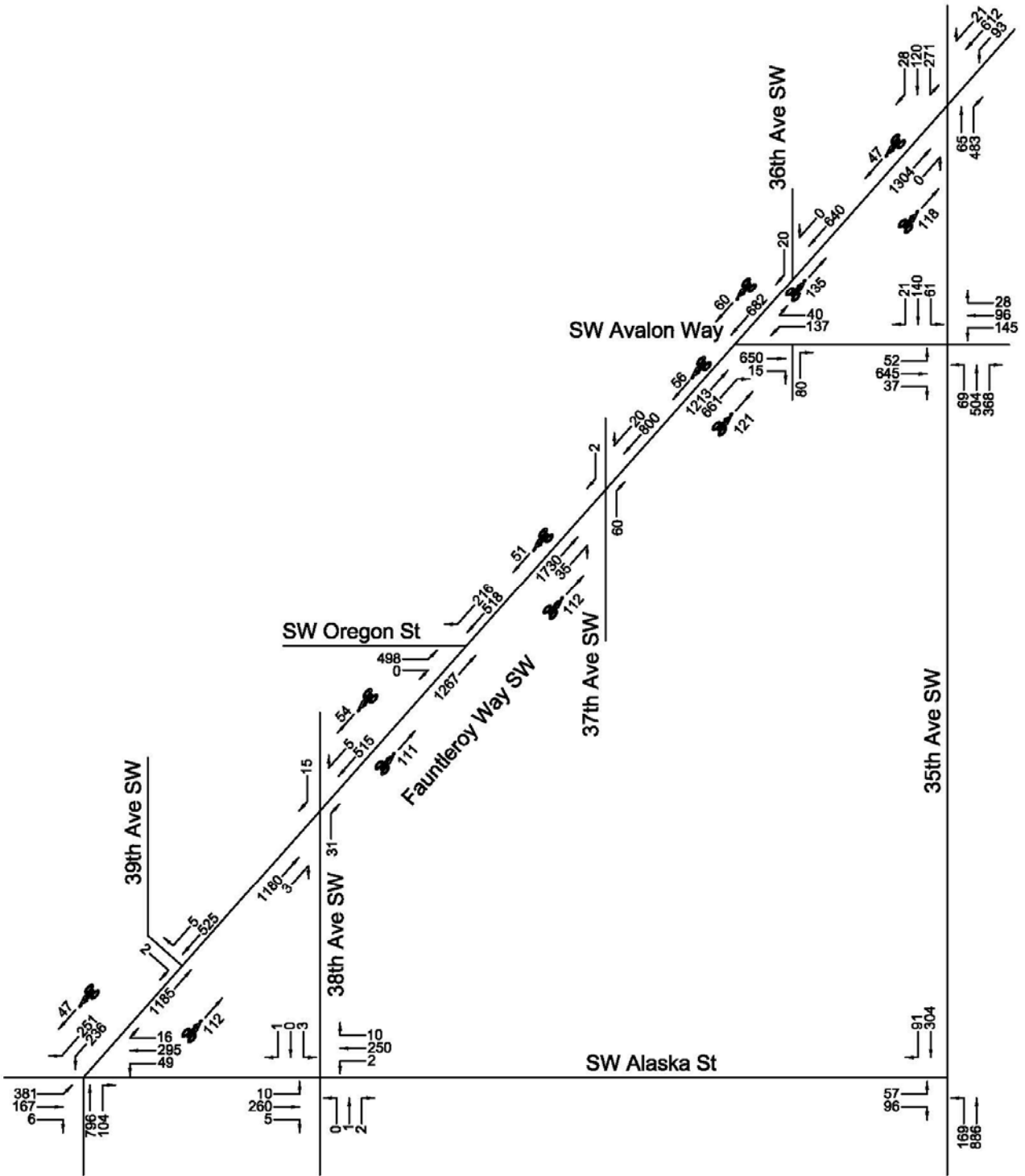


Figure 13: AM Peak Hour Traffic Volumes - 2044 Design Year Condition

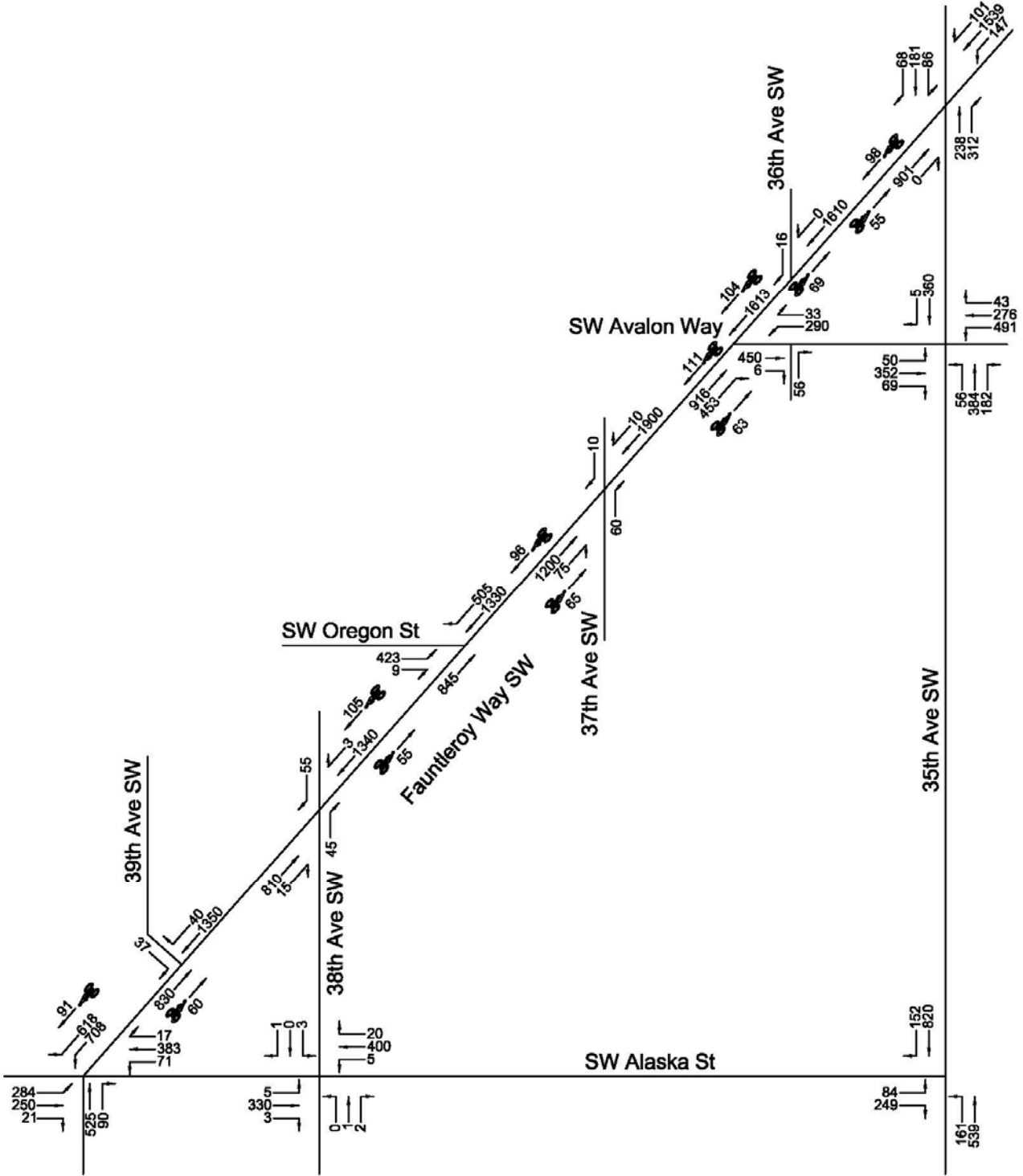


Figure 14: PM Peak Hour Traffic Volumes - 2044 Design Year Condition

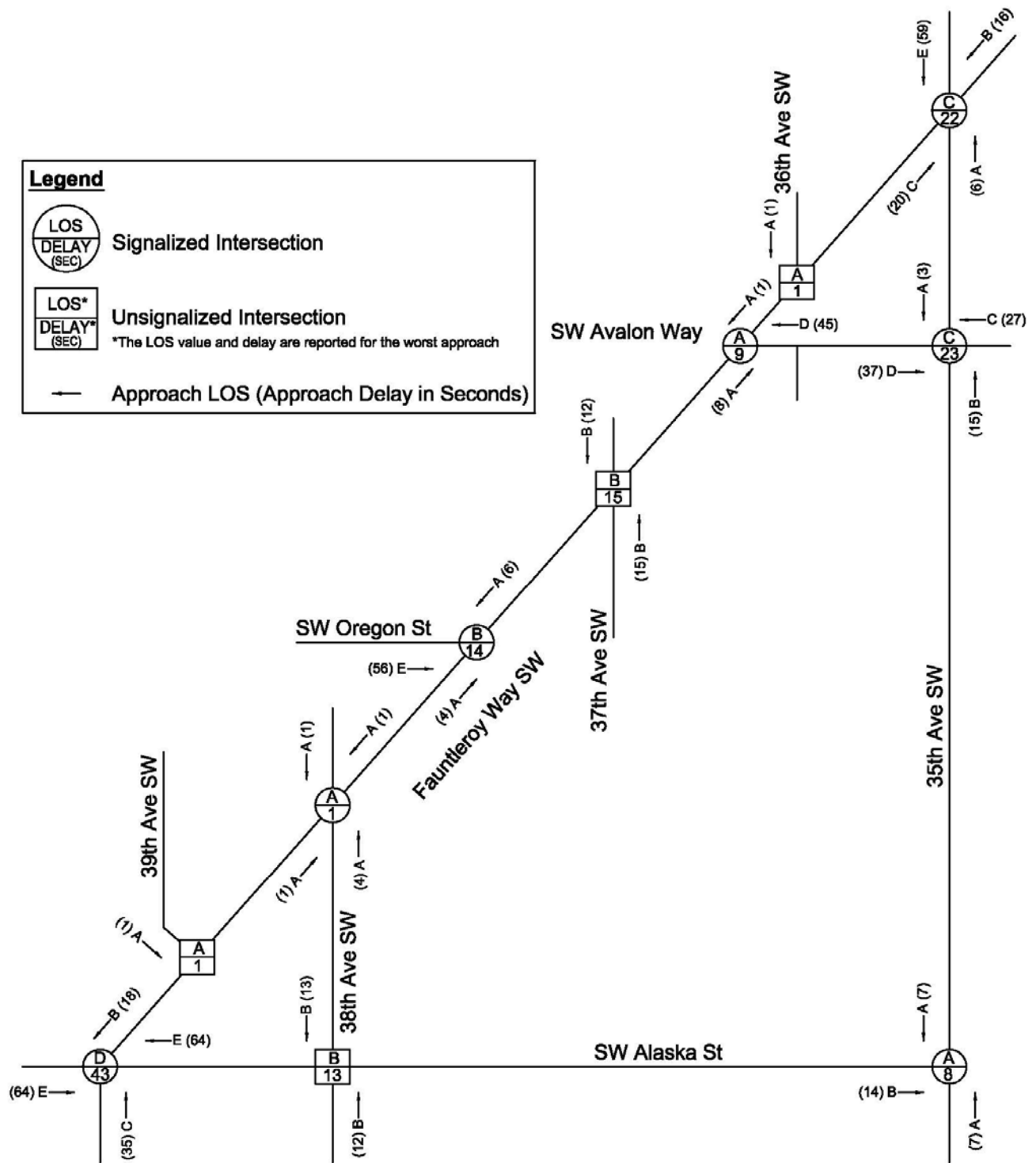


Figure 15: AM Peak Hour Intersection Operations - 2044 Design Year Condition

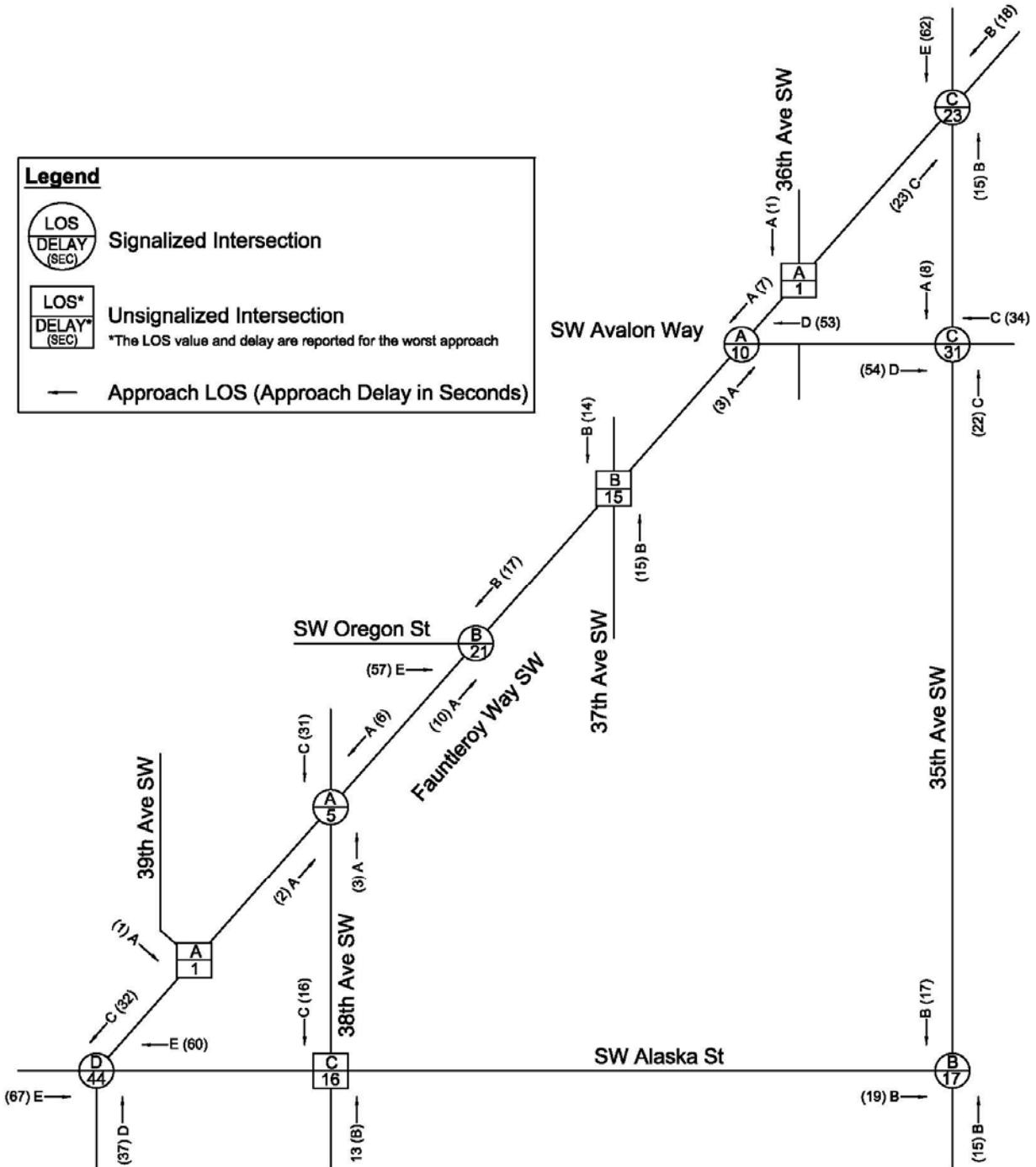


Figure 16: PM Peak Hour Intersection Operations - 2044 Design Year Condition

SUMMARY

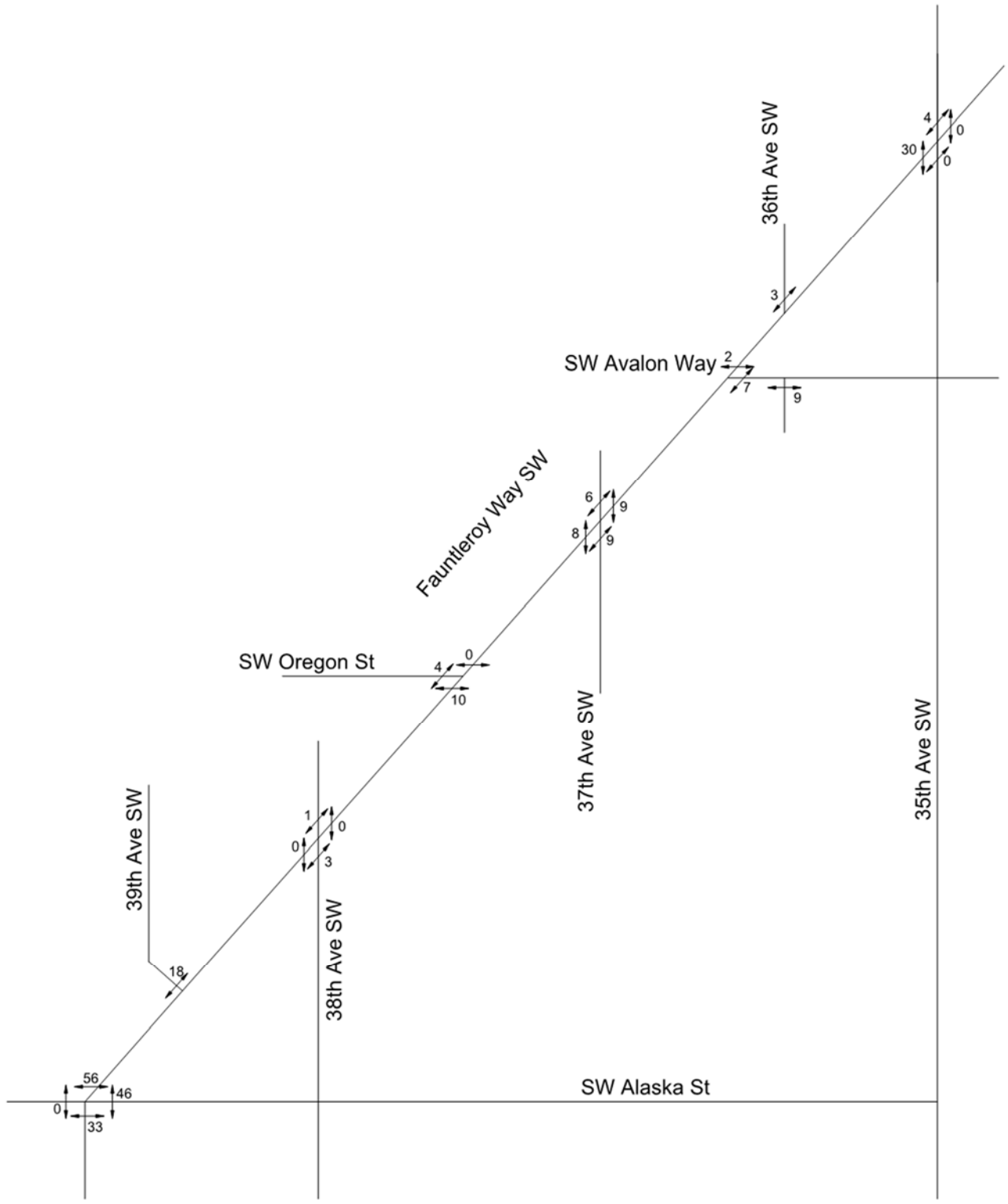
The proposed project will construct landscaped center medians, realigned intersections, improved street lighting, protected bike facilities and improved pedestrian facilities with defined sidewalks and new crossings of Fautleroy Way SW.

DKS has completed a project traffic analysis of the existing, the year of opening, and the future 2044 project condition. The following summarizes the main findings of analysis:

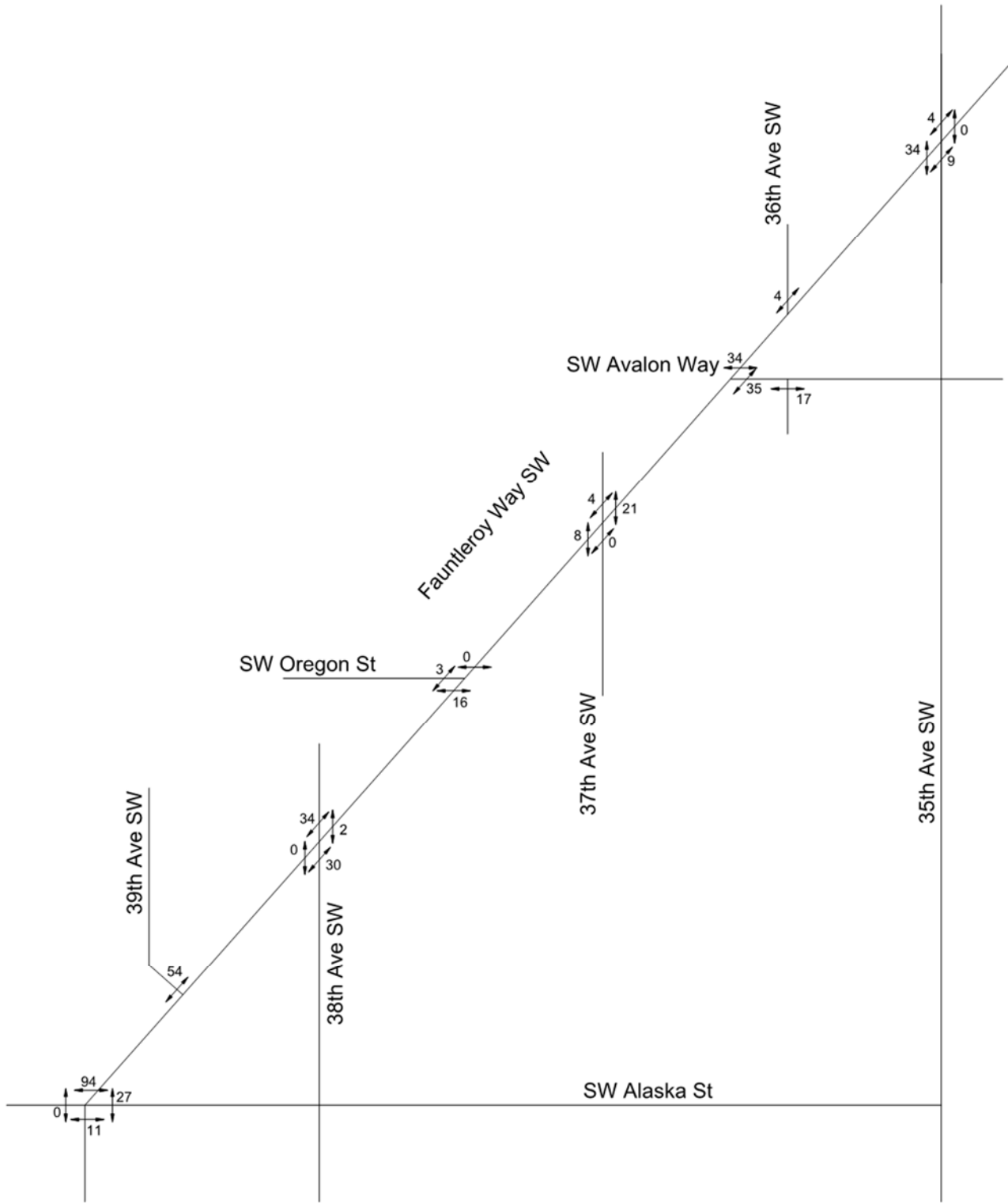
- The protected bike lanes are proposed to be one-way on both sides of the corridor and therefore should have minimal impact on the signal operations as a bike signal phase will not be required.
- The year of opening conditions accounts for an 8% growth which includes planned development within the next two years in the area. Signal timing changes at intersections along Fautleroy Way SW and 35th Avenue SW are required to accommodate this growth. The signal timing adjustments, in conjunction with turn restrictions, provide acceptable LOS D or better operations in the year of opening conditions. Certain intersections experience better operations in future conditions due to optimized signal timing.
- The proposed additional marked crosswalks across Fautleroy Way SW at SW Avalon Way and at SW Oregon Street are not recommended as they would require an additional signal phase for an exclusive pedestrian crossing, reducing the efficiency of the intersection operations by introducing additional pedestrian and vehicle delay at the individual intersections and to the corridor.
- The Fautleroy Way SW Boulevard project is expected to allow for acceptable corridor operations through the year 2044. This is due in large part to PSRC's new 2040 regional travel demand model which projects little vehicle traffic growth along Fautleroy Way SW, but a 25-33% growth in transit trips on the SW Alaska Street/35th Avenue SW transit corridor. Also, by 2040, both pedestrian and bicycle trips in this section of the City are expected to grow at approximately twice the rate of vehicle trips.
- To ensure a conservative analysis, pedestrian volumes were assumed to double at the intersection of SW Alaska Street/Fautleroy Way SW Boulevard, while bicycle volumes were assumed to double along the corridor for the year of 2017. Through 2044, pedestrian volumes were assumed to double at every intersection and bicycle volumes were assumed to triple along the corridor.



APPENDIX



Appendix A-1: Existing AM Peak Hour Pedestrian Volumes



Appendix A-2: Existing PM Peak Hour Pedestrian Volumes