



FOSTER CORRIDOR TRANSPORTATION EXISTING CONDITIONS & OPPORTUNITIES

Preliminary Assessment

DRAFT

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Prepared for:



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1 INNER FOSTER ROAD: CORRIDOR GROWTH AND PLANNING CONTEXT

The *Foster Road Transportation and Streetscape Plan* was developed via a public process and adopted by Portland City Council in 2003. The Plan outlined improvements to Foster Road that would enhance both safety and the appearance of the street from SE 50th to SE 90th Avenues. Subsequently, the City of Portland has adopted two plans that directly affect Foster Road: the *Portland Streetcar System Concept Plan* and the *Portland Bicycle Plan for 2030*. These plans call for adding both streetcar and bicycle infrastructure (e.g. an on-street separated bicycle facility) on Foster Road in the future.

In early 2012 the City of Portland was awarded \$1.25 million, as part of the *Regional Flexible Fund Allocation*, to construct many of the improvements identified in the plan related to safety and streetscape enhancements. The Portland Development Commission also set aside \$2 million for this effort, bringing the total available funding to \$3.25 million. Funding for construction will be available in 2014.

This planning process, led by the Portland Bureau of Transportation (PBOT), will update the *Foster Road Transportation and Streetscape Plan*. The project will study cross section options that accommodate bicycle infrastructure, anticipate future high capacity transit as well as confirm and prioritize with stakeholders the safety improvements (curb extensions, marked crossings, medians, etc.) and streetscape elements (trees, street lights, etc.) identified in the *Regional Flexible Fund* grant from SE 50th to SE 84th Avenues.

This report provides a summary of existing corridor conditions. The report establishes a baseline understanding of right-of-way characteristics, traffic and transit operations, and bicycle and pedestrian infrastructure conditions.

HISTORICAL BACKGROUND

Foster Road is an important east-west thoroughfare, a strategic route that began as a Native American trail. It became an alternative to the Barlow Trail during the pioneer era, bringing the settlers directly into Portland rather than down to Oregon City. Foster then became a well traveled farm-to-market route connecting Powell Valley Road near the present-day SE 52nd Avenue and to the Willamette River and Portland.

In the 1930s, wide streets like Foster became the standard transportation model and served all functions – driving, parking, streetcar operation, and walking. Adhering to traditional Parisian standards, sidewalks along the corridor were 17 feet wide, possibly the widest in the City at the time. To this day, Foster still offers pedestrians and patrons generous sidewalks west of 82nd Avenue. With the demise of the City's streetcar and trolleybus network in the years after WWII, the corridor's function refocused to facilitate the efficient flow of motor vehicles and goods movement. Investments in bicycle and pedestrian infrastructure along and across Foster were not

prioritized. As a result, Foster lacks amenities that are present in thriving or revitalizing eastside commercial and retail corridors like Sandy Boulevard and Woodstock Street, to name just two. The 2003 Foster Rd Transportation and Streetscape Plan recommended a number of improvements to make Foster Rd safer and more pleasant for all modes. As part of redevelopment, sidewalks would be widened where they are narrow today and trees and ornamental lights installed. A series of pedestrian crossings improvements were recommended, several of which have been implemented.

CORRIDOR PLANNING OVERVIEW

The City's Transportation System Plan (TSP) is the primary document guiding the function of the streets in the City of Portland. It is the 20-year plan for transportation improvements in Portland, based on current and projected land uses. The goal of the TSP is to provide transportation choices for residents, employees, visitors, and firms doing business in Portland.

TSP designations

The TSP classifies each street in the City with one or multiple street classification functions; these state the intent (function) and general look and features (design) of streets. Supporting efforts to create a more walkable and human-scaled corridor consistent with the City's Comprehensive Plan and the region's 2040 Growth Concept Plan, the City of Portland's has designated Foster Road as a *Regional Main Street* from SE 63rd to SE 77th Avenue and east of SE 80th Avenue connecting to the Lents Town Center and Green Line MAX station (see the side bar for design features consistent with the *Regional Main Street* designation).

In addition, Foster Road has functional and street design designations for all the transportation modes, making it one of the most important streets and corridors in the City. Foster Road is designated as a: Major City Traffic Street; Major Transit Priority Street; Major Emergency Response Street; Truck Access Street; City Bikeway; and City Walkway. The segment between SE 87th and 101st Avenues assigned as part of the Lents Pedestrian District. Below is a brief explanation of each modal classification. Chapter 2 of the TSP, Policy 6.4 Classification Descriptions, provides more details.

- **Major City Traffic Streets** are intended to serve as the principal routes for traffic that has at least one trip end within a transportation district.
- **Major Transit Priority Streets** are intended to provide for high-quality transit service that connects the Central City and other regional and town centers and main streets.

Design elements of Regional Main Streets

- Low to moderate vehicle speeds
- Use of medians and curb extensions to enhance pedestrian crossings where wide streets make crossing difficult
- Combined driveways
- On-street parking where possible
- Wide sidewalks with pedestrian amenities such as benches, awnings and special lighting; landscape strips, street trees, or other design features that create a pedestrian buffer between curb and sidewalk
- Improved pedestrian crossings at all intersections and mid-block crossings where intersection spacing exceeds 400 feet
- Striped bikeways or wide outside lane
- Vehicle lane widths that consider the above improvements

Source: Policy 6.11 (Street Design Classification Descriptions) of the Portland Transportation System Plan

- **Major Emergency Response Streets** are intended to serve primarily the longer, most direct legs of emergency response trips.
- **Truck Access Streets** are intended to serve as access and circulation routes for delivery of goods and services to neighborhood-serving commercial and employment uses.
- **City Bikeways** are intended to serve the Central City, regional and town centers, station communities, and other employment, commercial, institutional, and recreational destinations.
- **City Walkways** are intended to provide safe, convenient, and attractive pedestrian access to activities along major streets and to recreation and institutions; provide connections between neighborhoods; and provide access to transit.

These overlapping classifications call for a balanced approach to addressing different transportation functions expected for Foster Road and infrastructure that facilitates access and movement for the different modes.

2 CORRIDOR CONDITIONS AND COMMUNITY CHARACTER

Traveling along the inner Foster Road corridor (highlighted in Figure 1) presents motorists, pedestrians, cyclists, and transit passengers with a variety of right-of-way conditions and land use environments. Land uses, sidewalk widths, and the overall right-of-way width can shift from segments to segment. Figure 3 through Figure 7 are a series of data-rich reference maps that detail traffic conditions, PM peak traffic counts and average daily volumes, right-of-way changes, transit productivity, and existing and future network connections along the Foster Road corridor. Subsequent sections throughout this preliminary assessment report refer back to these corridor maps.

Figure 1 Foster Road corridor extent



CHARACTER AND LAND USE

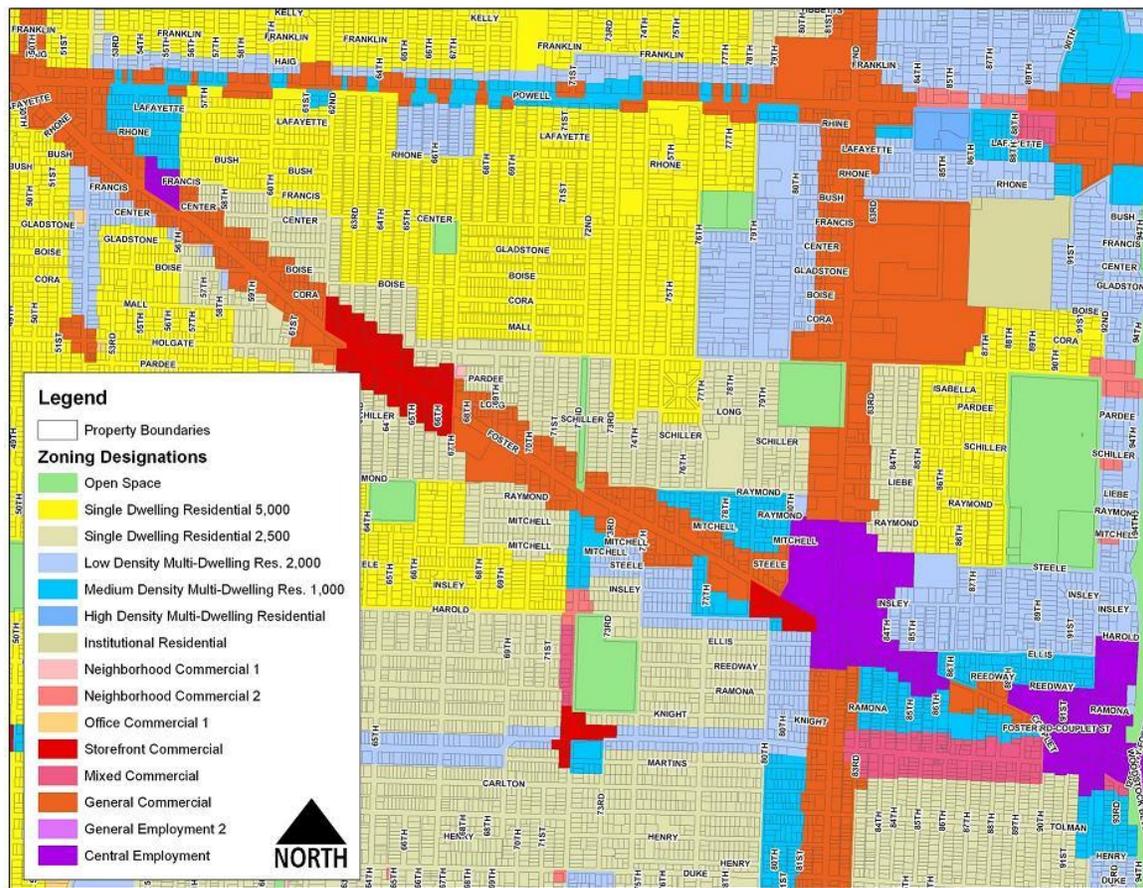
Between SE 50th Avenue and I-205, Foster Road supports a diverse mix of land uses, including residential neighborhoods and a variety of businesses fronting Foster Rd, including a large number of retailers. The Foster Corridor contains five district nodes: Gateway District (see corridor reference map 1), Western Core (see corridor reference map 4), Heart of Foster (see corridor reference map 6), Green Link (see corridor reference map 8), and Crossroads District

(see corridor reference map 11). Each node represents the commercial and transportation hubs that support economic activity, regional mobility, and local access.

Outside of the recent pedestrian improvements installed along Foster Road, land uses and transportation infrastructure are strongly oriented toward automobile use, with many businesses providing off street parking, for example, leading to buildings set back from the sidewalk and a large number of driveways. That being said, various pockets of medium density mixed use land uses occur around the district nodes oriented toward the street.

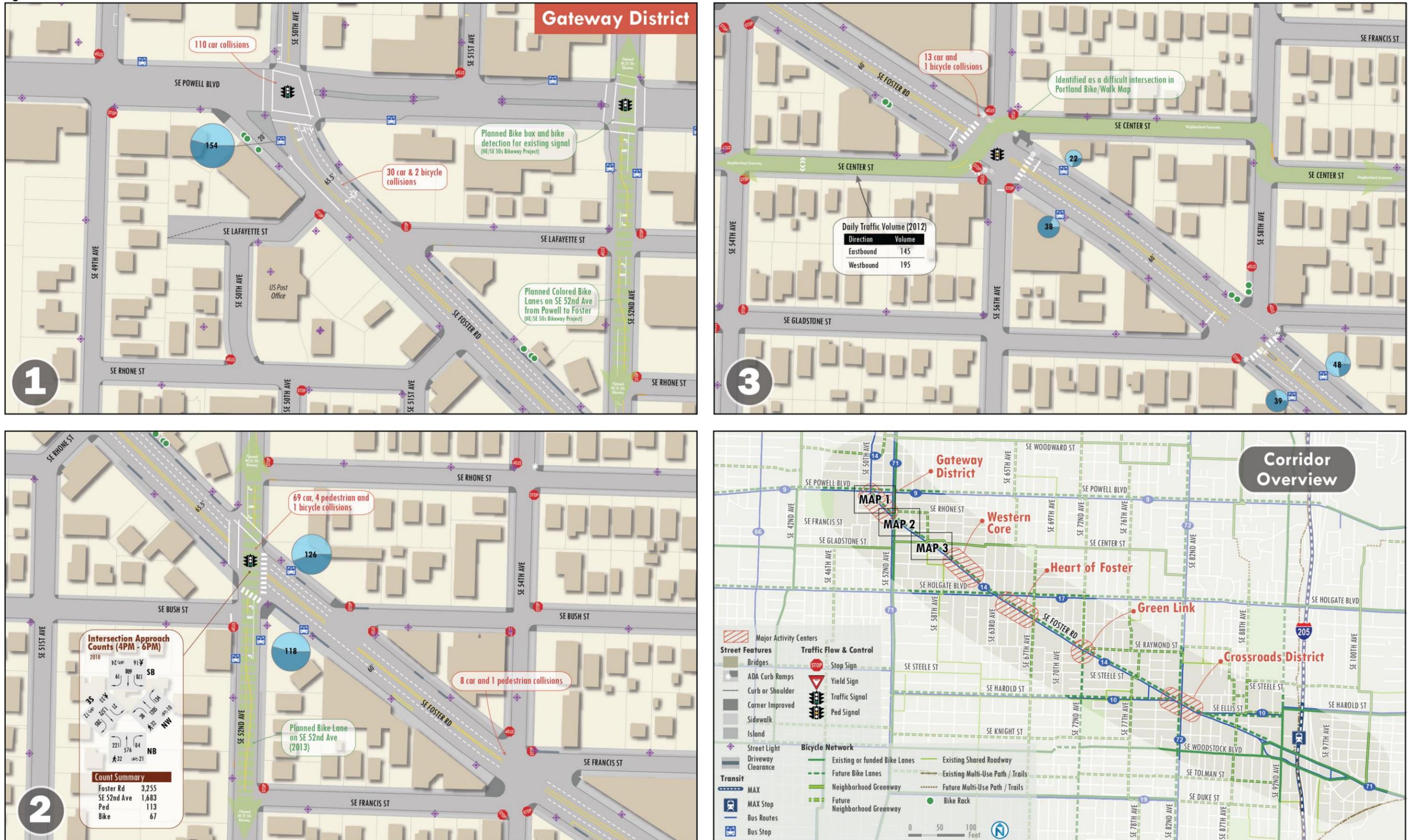
As depicted in Figure 2, zoning along the majority of Foster Road is General Commercial (CG), allowing a wide range of commercial activities. The “Heart of Foster” district has a segment zoned as Storefront Commercial (CS), from SE 63rd to 67th Avenues, which is typically designated for Main Streets. The “Crossroads District” at the intersection Foster Road and SE 82nd Avenue is designated as Central Employment (EX), which allows mixed-uses and is intended to collocate industrial, business, service, and limited residential uses. Although development standards in this zone are intended to allow new development that is similar in character to existing development—primarily big box style retail developments—businesses like the Fred Meyer at SE 80th Avenue have the ability to redevelop to establish a more storefront appeal that is typically seen in the CS and CG zones. The TSP orients land uses to the sidewalk along transit corridors such as SE 82nd and Foster Road.

Figure 2 Foster Corridor zoning



Source: City of Portland

Figure 3 Foster Road corridor conditions—SE 50th Avenue to SE 58th Avenue



TriMet Daily Total Activity Counts
(Total On and Offs, Weekday, Fall 2011)

Total Activity Counts	XXX
Ons	XXX
Offs	XXX

(Proportionally Sized)

Intersection Approach Counts
(4PM - 6PM)

Motor Vehicles	Left-Turning	Right-Turning	Through
XXX	XXX	XXX	XXX
Non-Motorized	Pedestrians	Bikes	
XXX	XXX	XXX	

Data Source: City of Portland, 2010

Number of reported collisions, 2001 - 2010
Data source: City of Portland

Average Daily Traffic (ADT) volume, 2012
Data Source: City of Portland



Figure 4 Foster Road corridor conditions—SE 58th Avenue to SE 68th Avenue

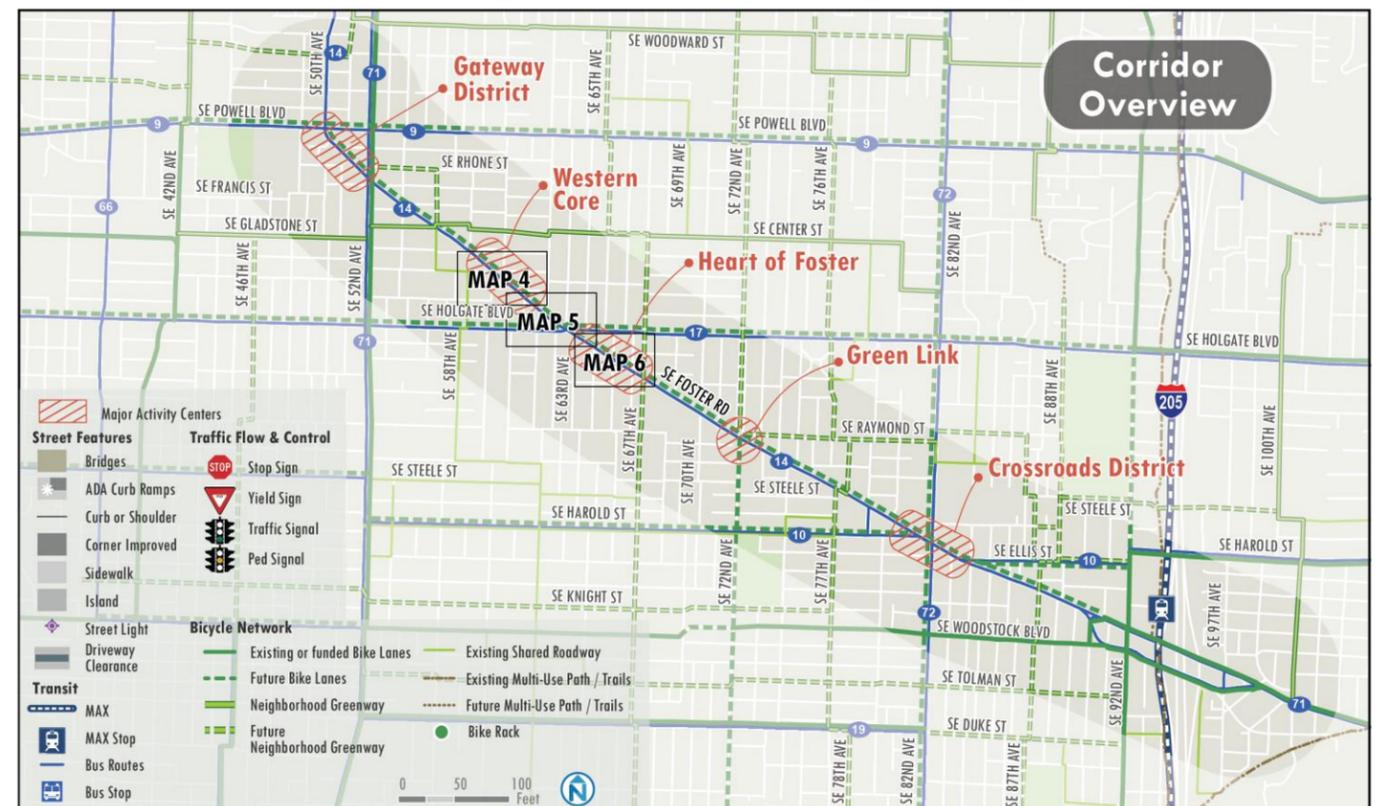
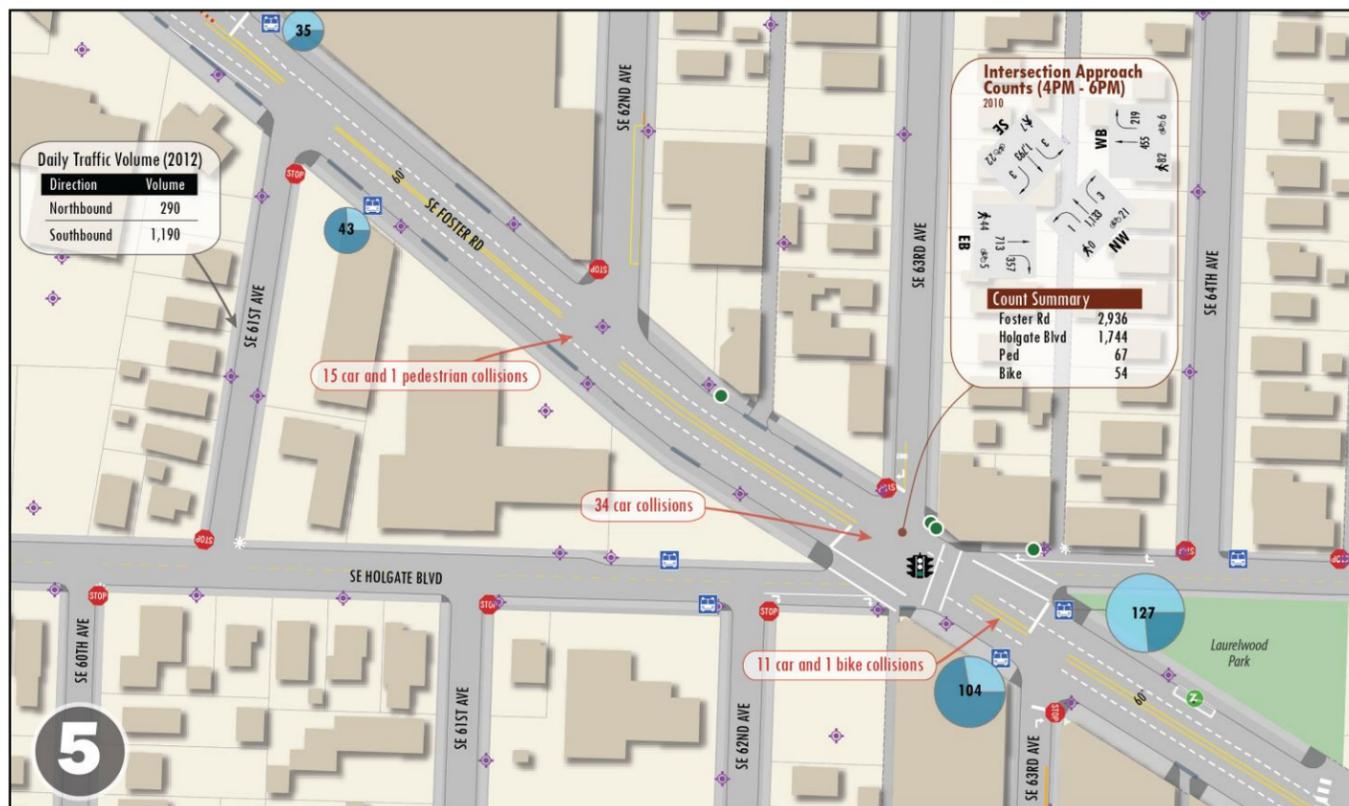
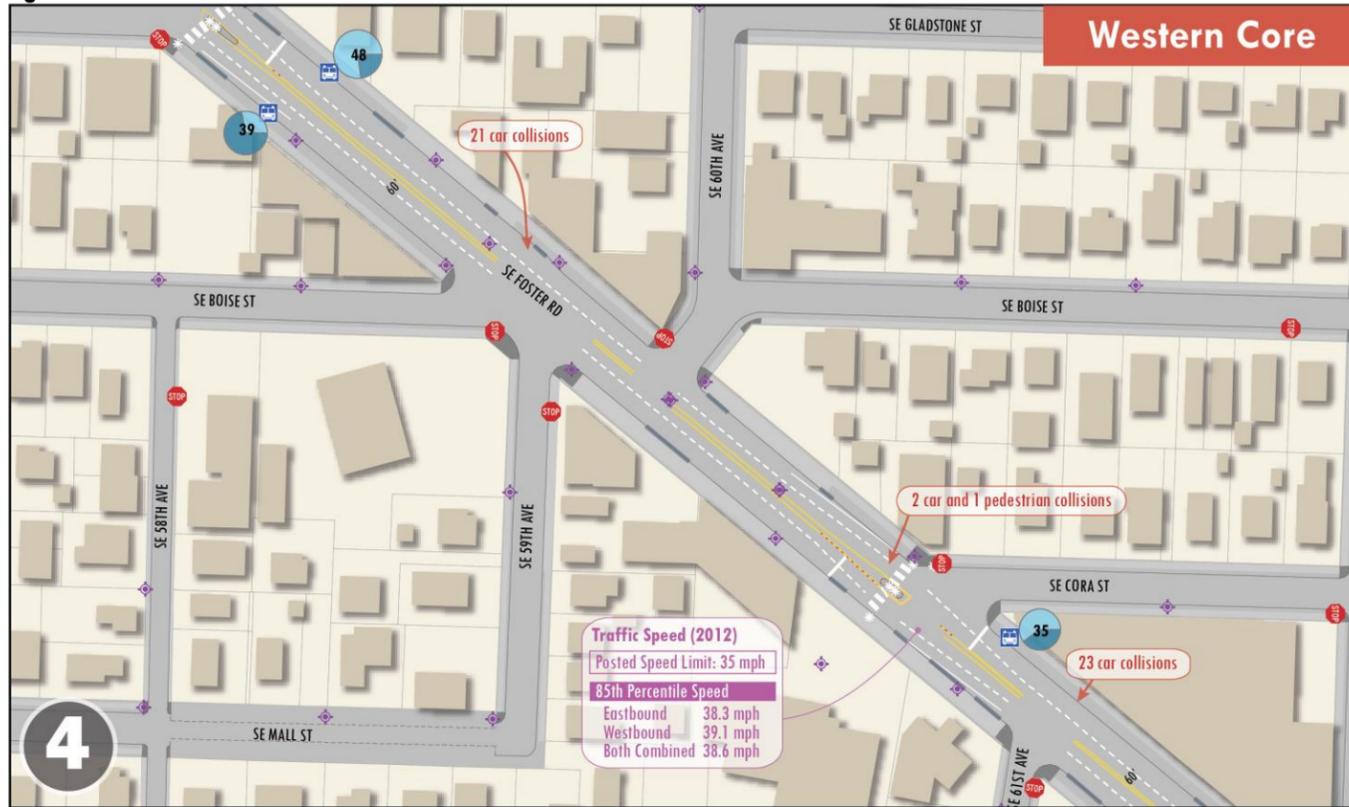


Figure 5 Foster Road corridor conditions—SE 68th Avenue to SE 78th Avenue

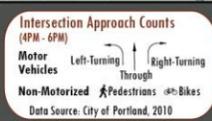
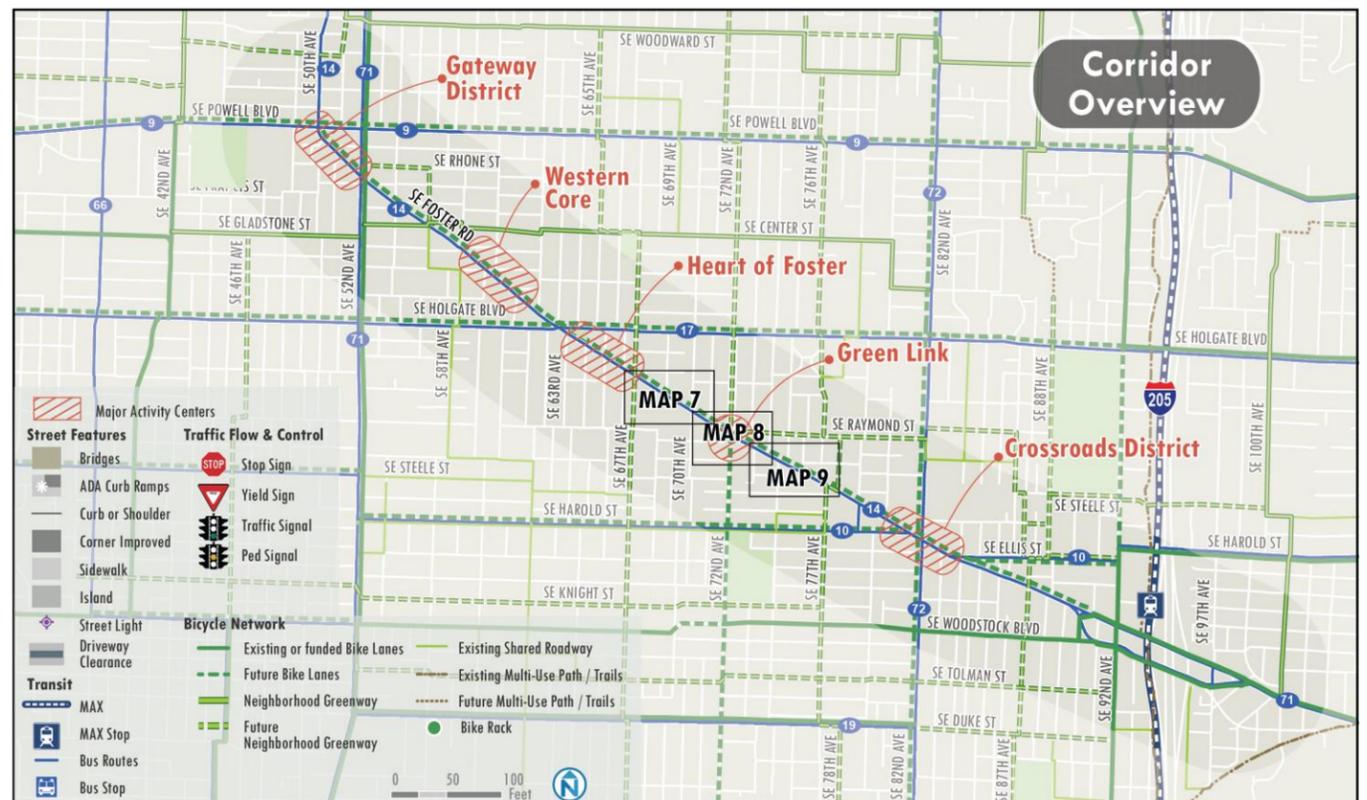
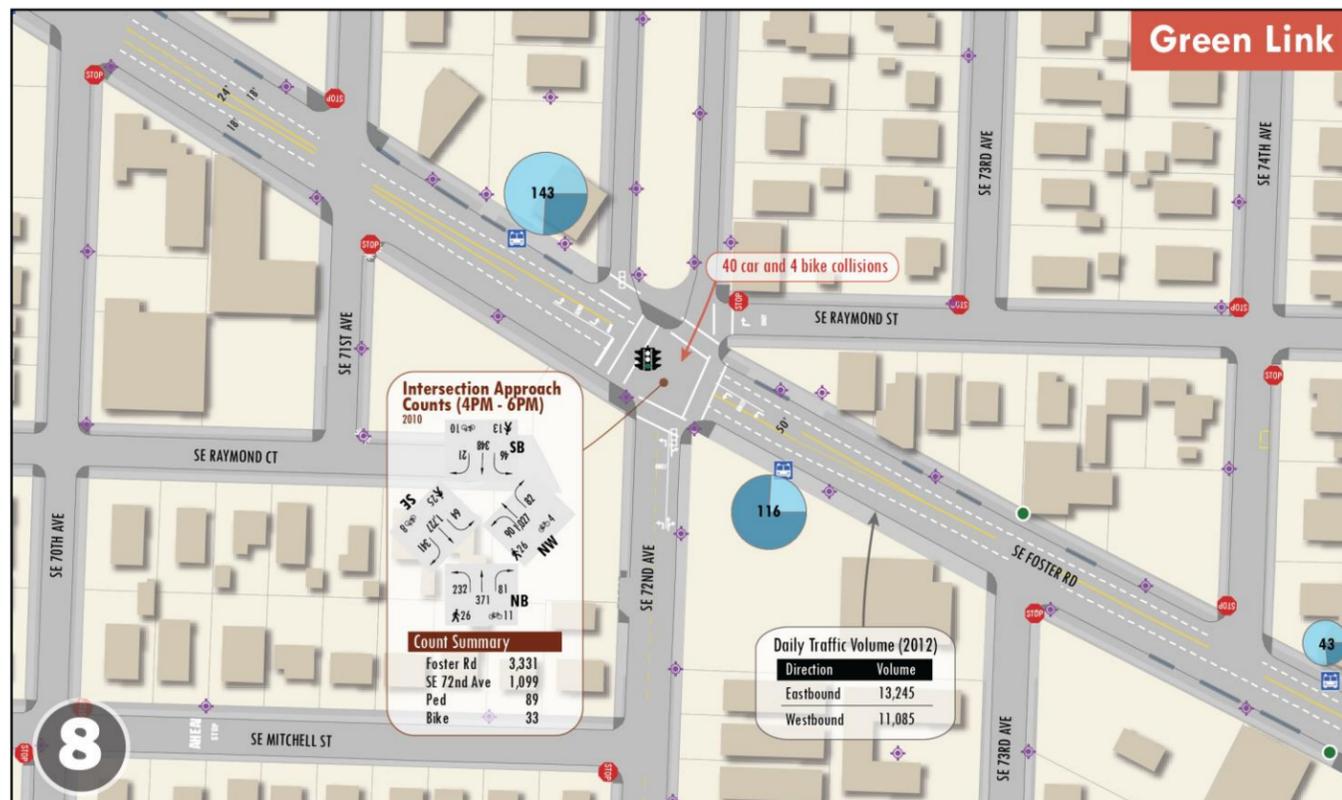
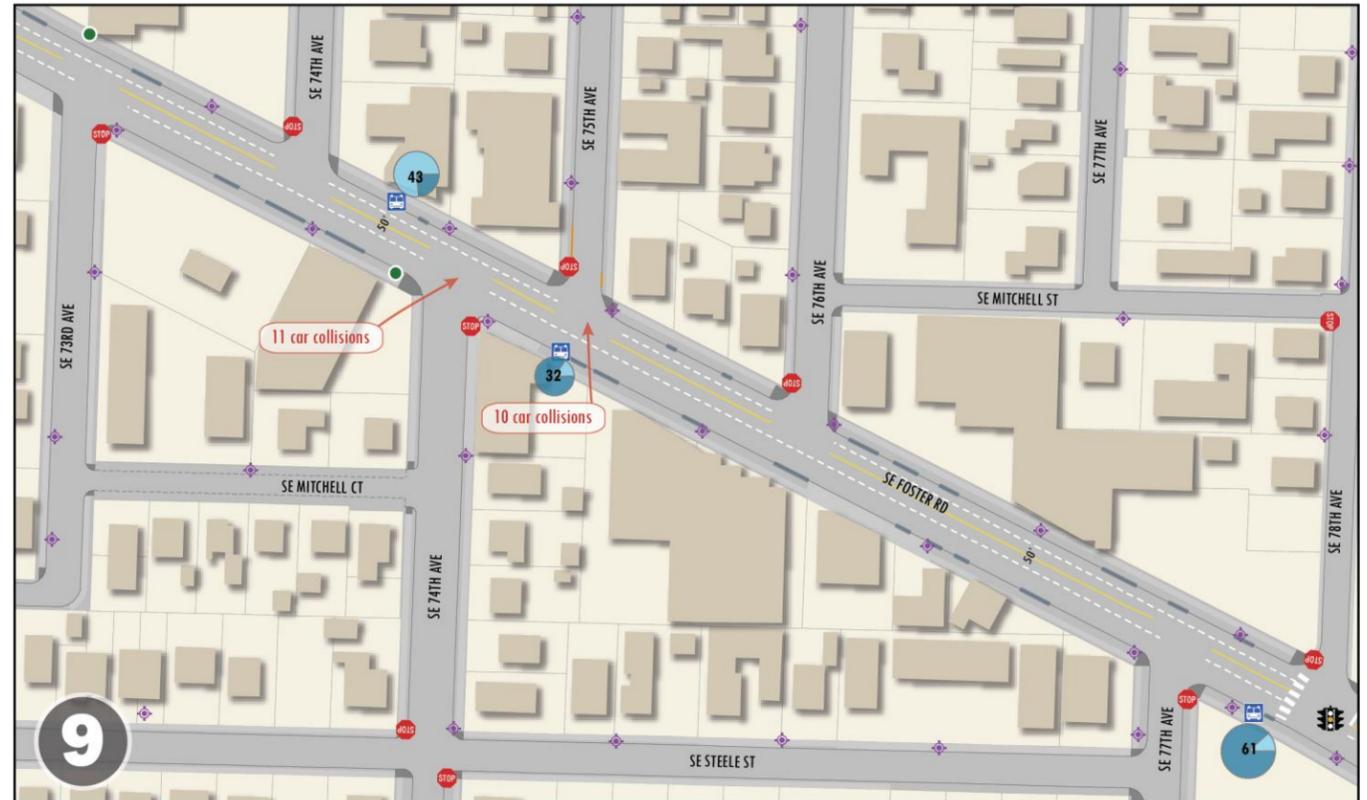
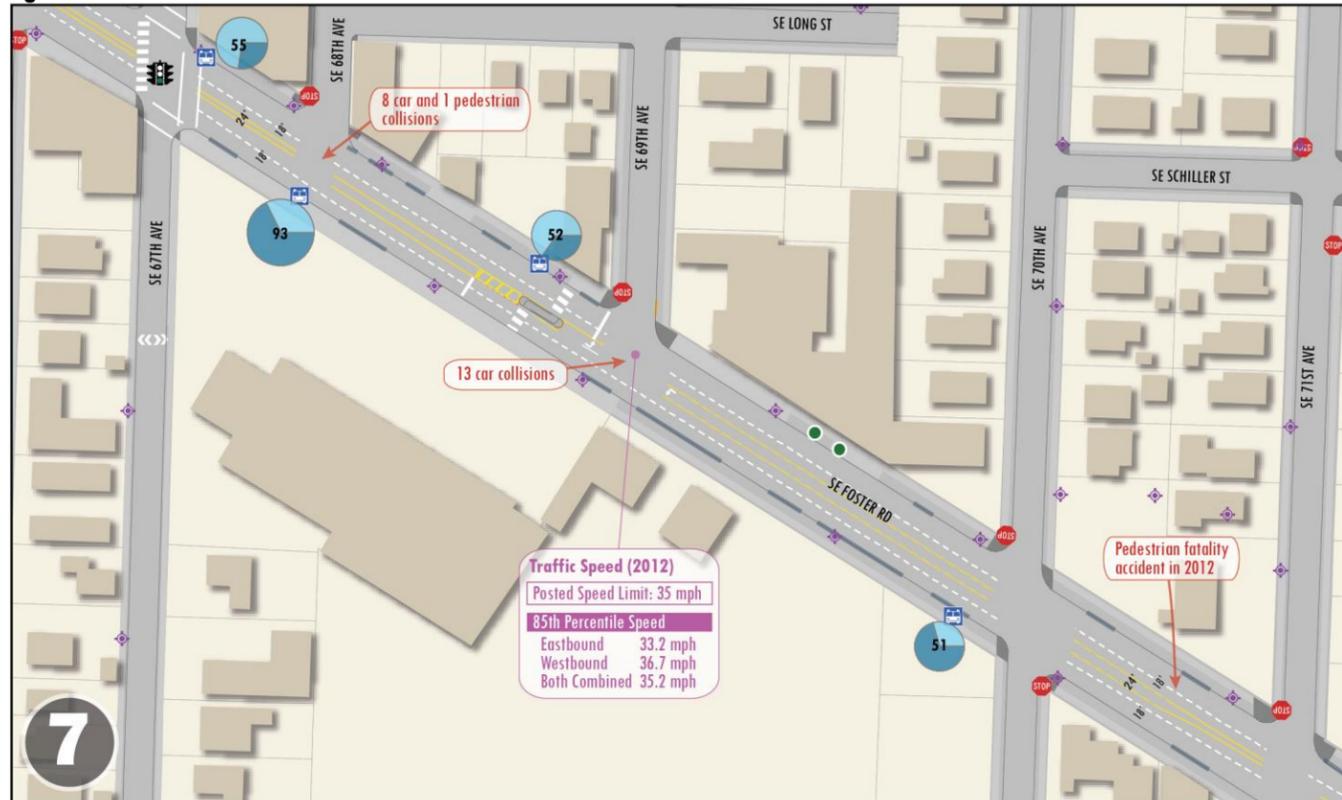


Figure 6 Foster Road corridor conditions—SE 77th Avenue to SE 87th Avenue

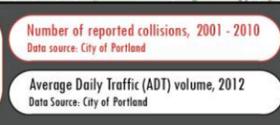
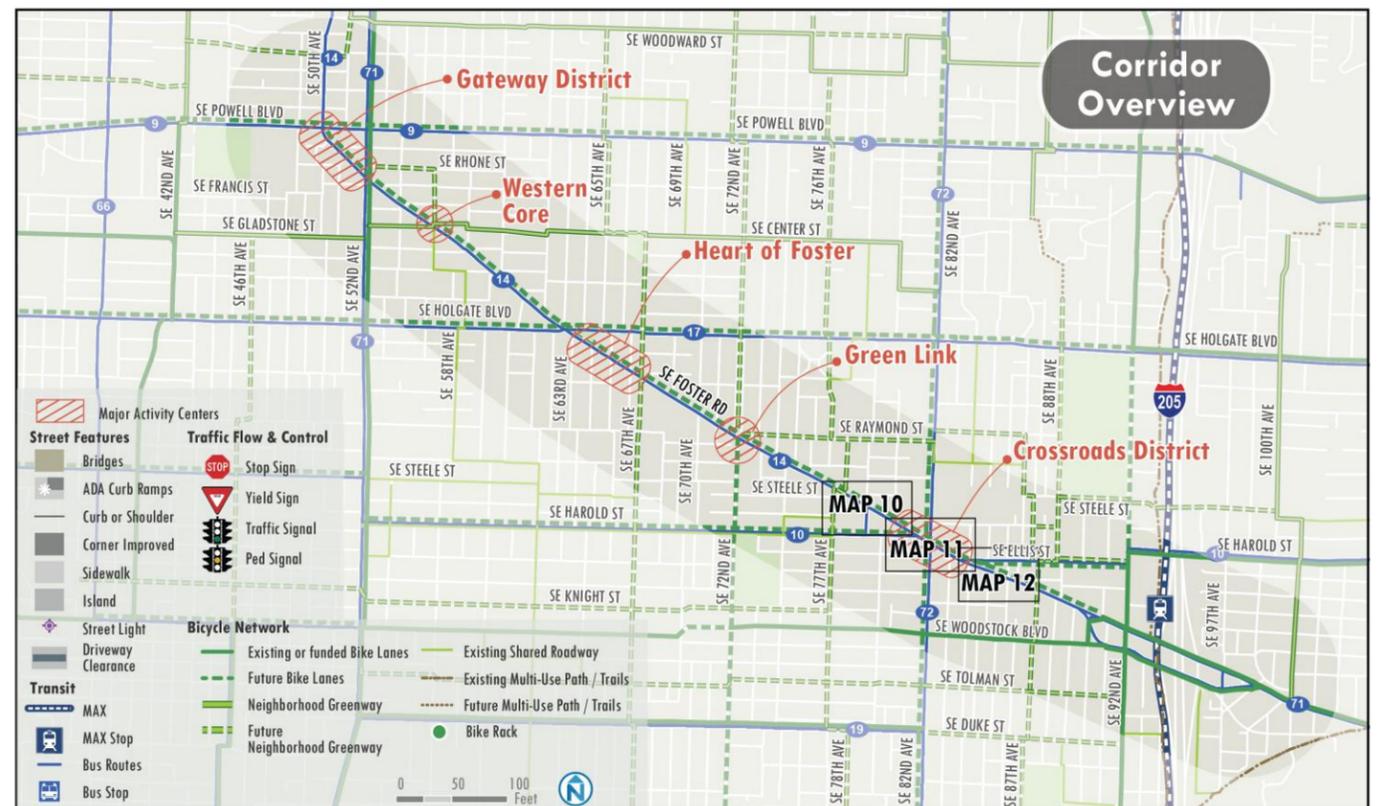
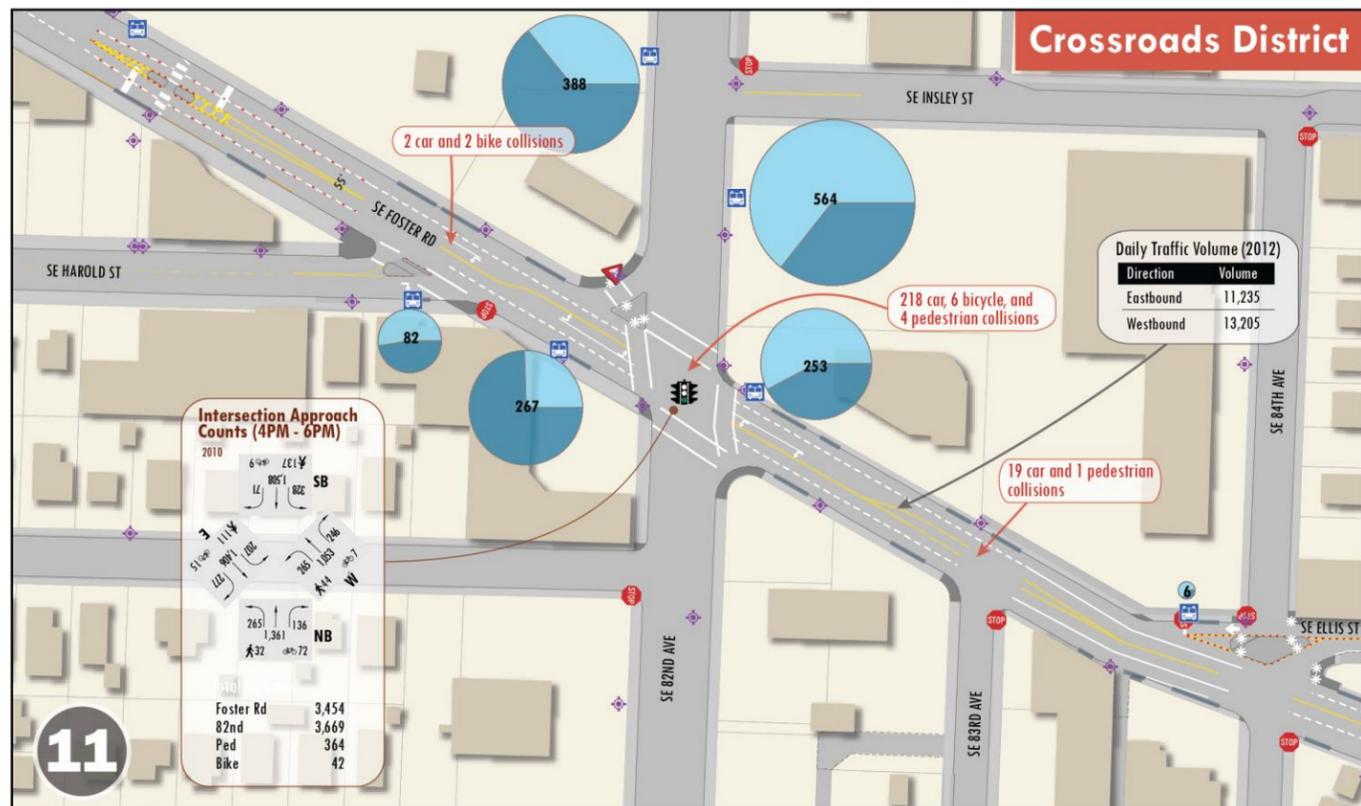
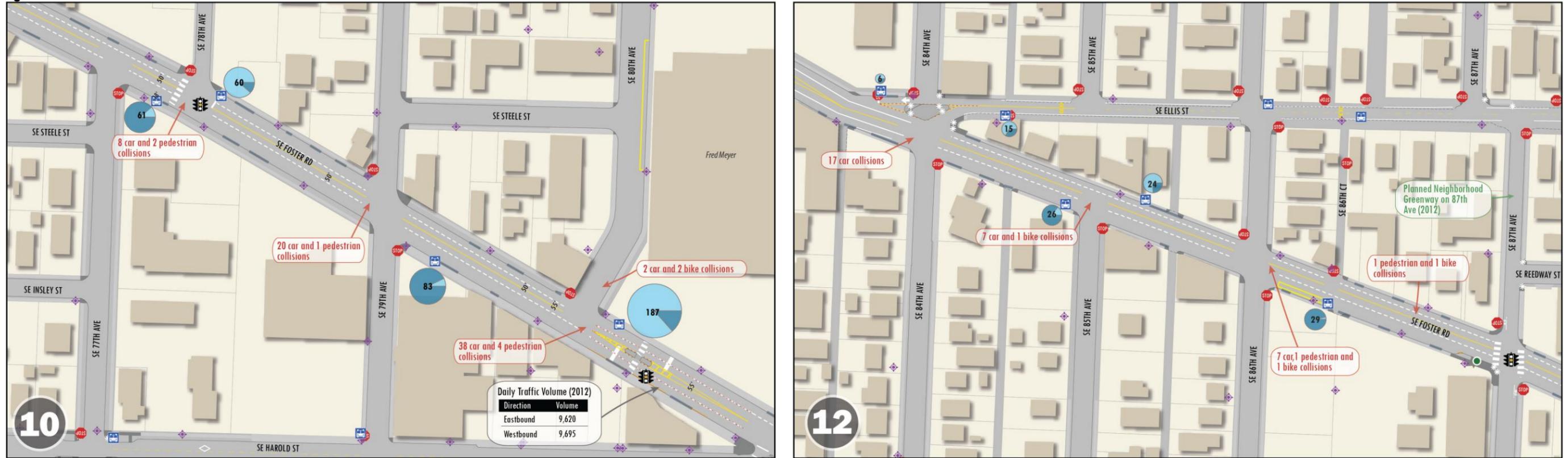
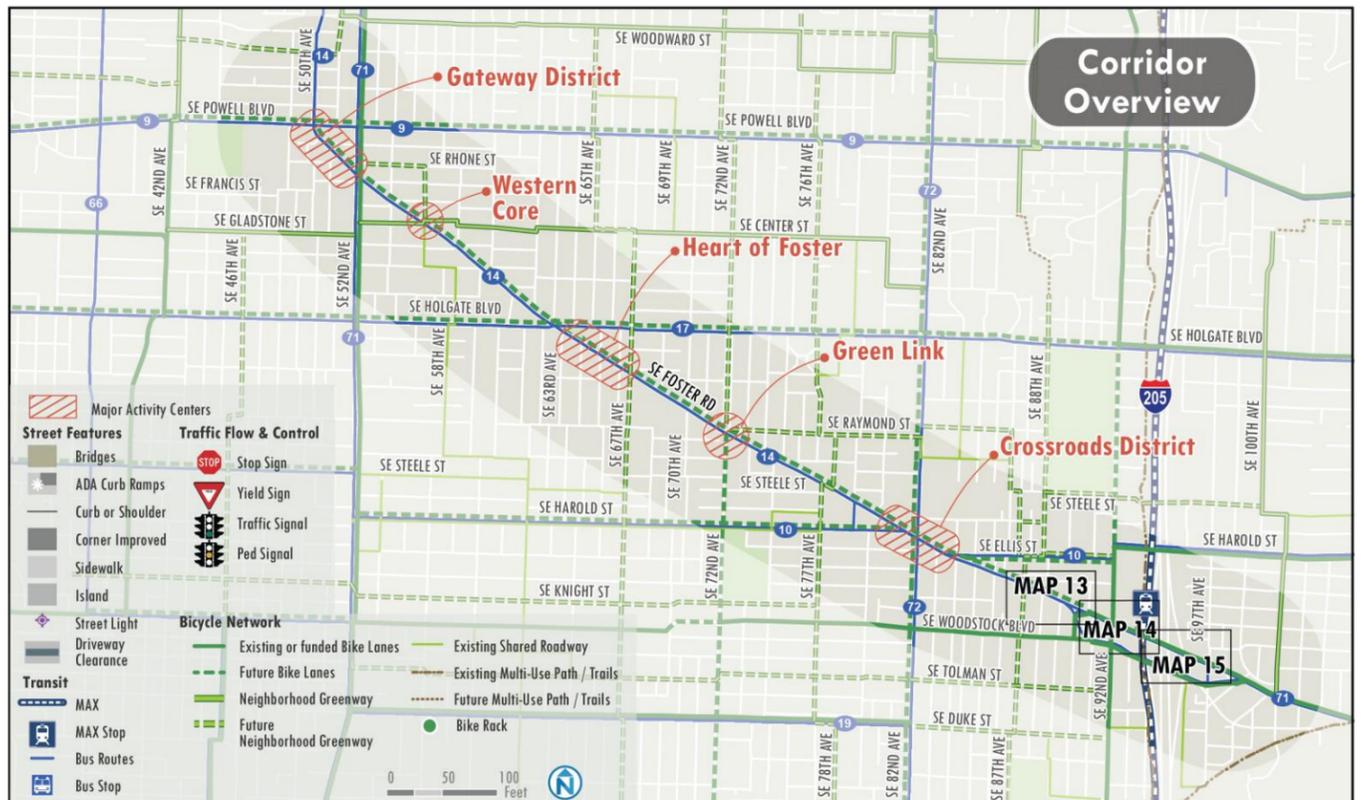
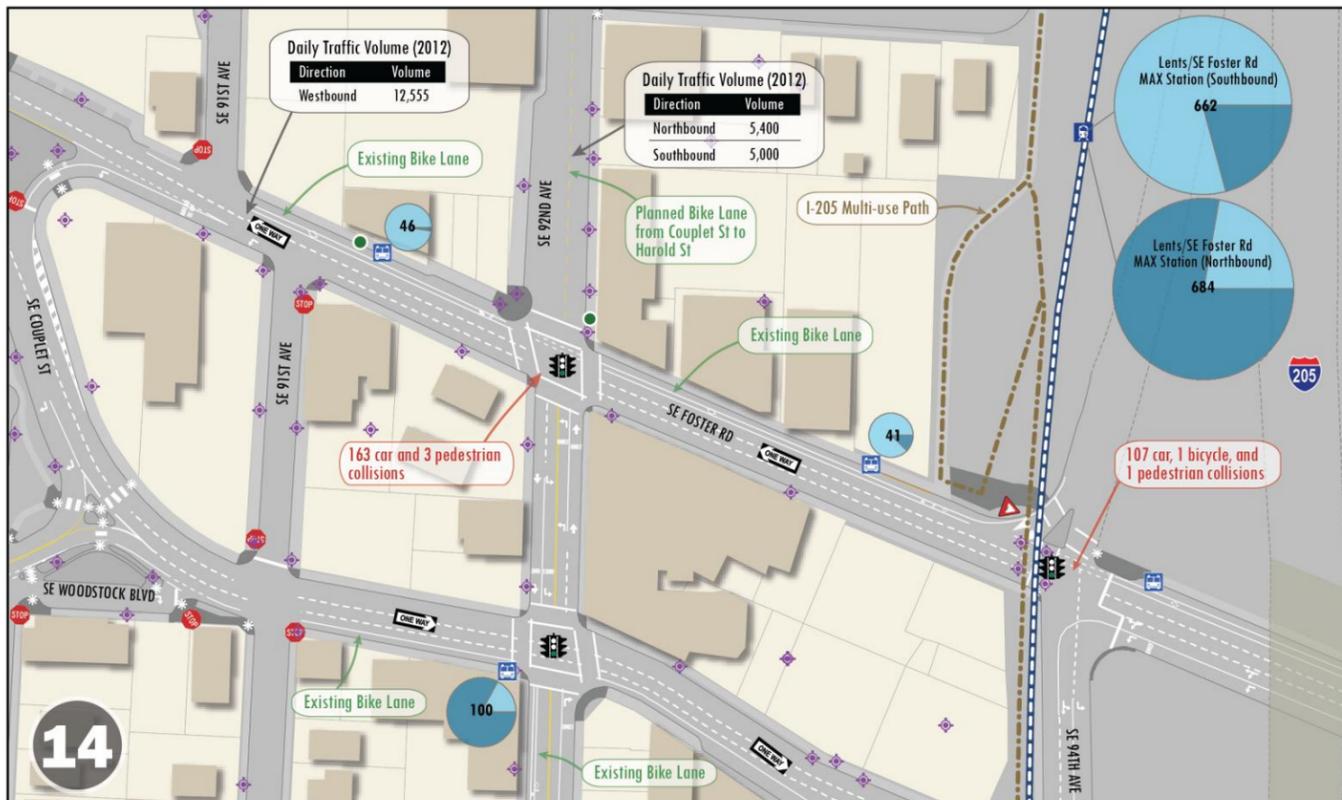
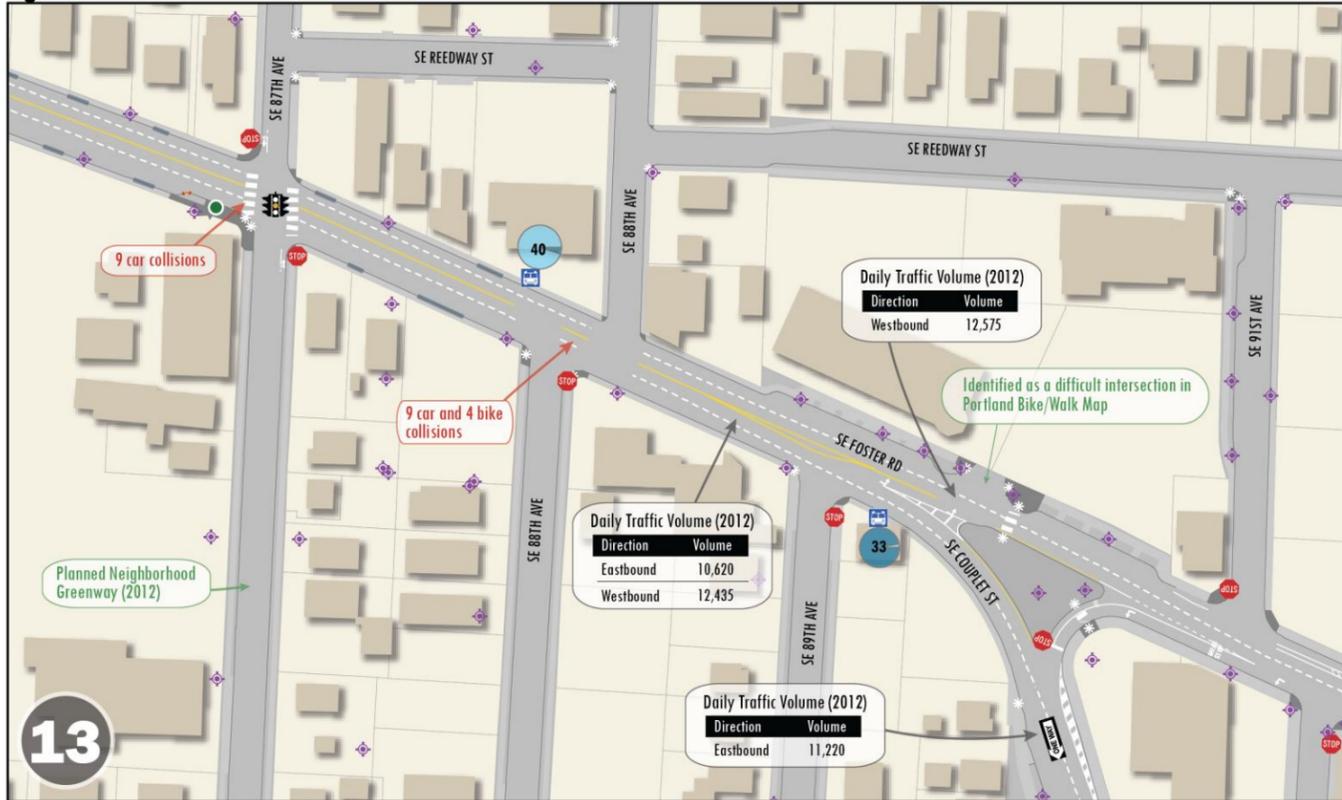
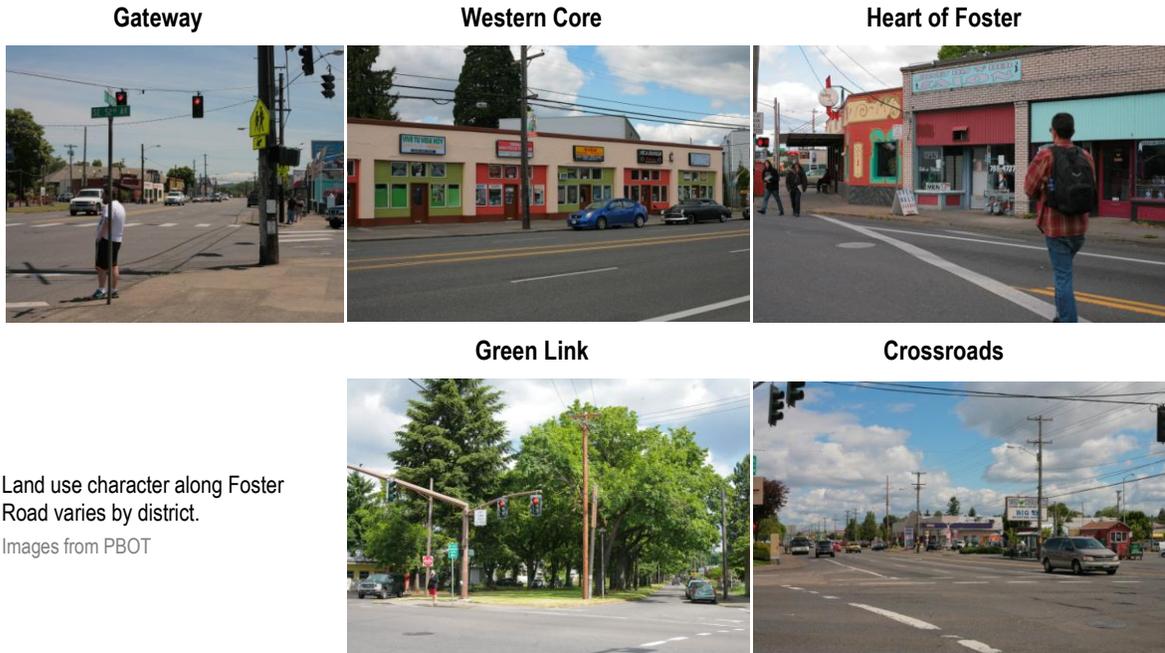


Figure 7 Foster Road corridor conditions—SE 87th Avenue to SE 97th Avenue



Pockets of walkable urban streetscape can be found along Foster Road, most notably the area between SE 65th Avenue and SE 67th Avenue. Figure 8 below represents the character and land use conditions at each of the inner Foster Road’s district nodes.

Figure 8 Foster Road’s Diverse Districts and Character



Land use character along Foster Road varies by district.
 Images from PBOT

RIGHT-OF-WAY CONDITIONS

Right-of-way along the Foster Road corridor changes intermittently. The corridor’s right-of-way (lot line to lot line) ranges from 58 feet—on the east end of the corridor—to 94 feet—on the west end of the corridor. Figure 9 describes the corridor’s right-of-way dimensions, including curb-to-curb widths, lane configurations, and sidewalk widths. Further detail on Foster Road’s right-of-way conditions are examined in greater detail in the sub-sections that follow.

Figure 9 Right-of-way dimensions

Location	ROW (ft)	Curb-to-curb width (ft)	Representative lane configuration (ft)	Sidewalks (ft)
Bush -72 nd Avenue	86-94'	60'	EB 18'w/Ⓣ 10' 4' 10' 18'w/Ⓣ WB	13-17' (mostly 15')
72 nd -80 th Avenue	76'	50'	EB 18'w/Ⓣ 10'-10.5' 10'-10.5' 11'-12' WB	13'
80 th -87 th Avenue	60'	50'	EB 20'w/Ⓣ 10' 10' 10' WB	5'
Couplet area	58'	44'	11' 11' 10' 5'Ⓣ 7'Ⓣ WB only	6-8'

Curb-to-curb conditions

As displayed in the corridor reference maps and the cross sections in Figure 10 through Figure 13, the curb-to-curb roadway width ranges between 40 feet to 60 feet, with a short segment of 5-lane cross section between SE 50th Avenue and SE 52nd Avenue that expands to 65.5 feet. At 50 feet from curb to curb, the narrowest two-way cross section west of SE 82nd Avenue occurs between

SE 72nd Avenue and SE 79th Avenue. Although street widths typically remain unchanged for longer stretches of the corridor, sidewalk widths expand and narrow almost on a block-by-block basis. The corridor includes four typical right-of-way cross sections. These include segments west of SE 72nd Avenue, between SE 72nd Avenue and SE 80th Avenue, east of SE 80th Avenue, and in the couplet area. Right-of-way is widest west of SE 72nd Avenue and narrowest in the couplet area.

Figure 10 Existing cross section – SE Bush Street to SE 72nd Avenue



Figure 11 Existing cross section – SE 72nd Avenue to SE 80th Avenue

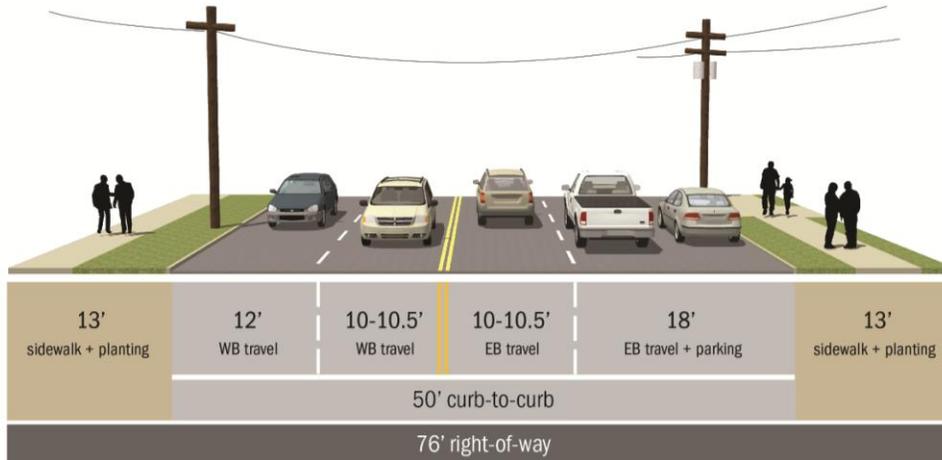


Figure 12 Existing cross section – SE 80th Avenue to SE 87th Avenue

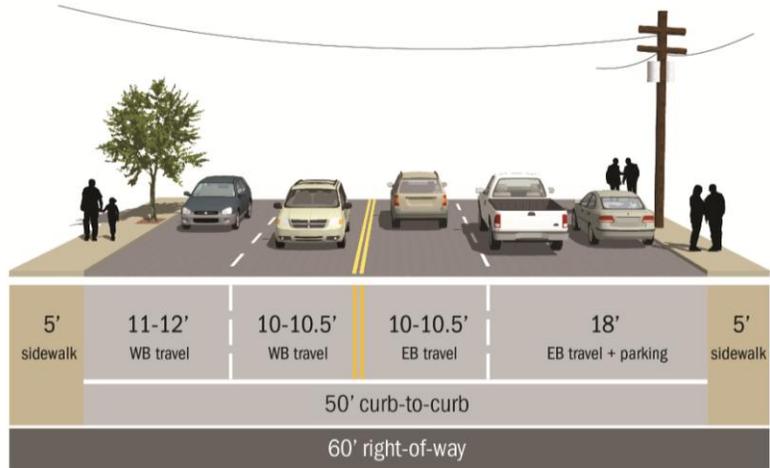
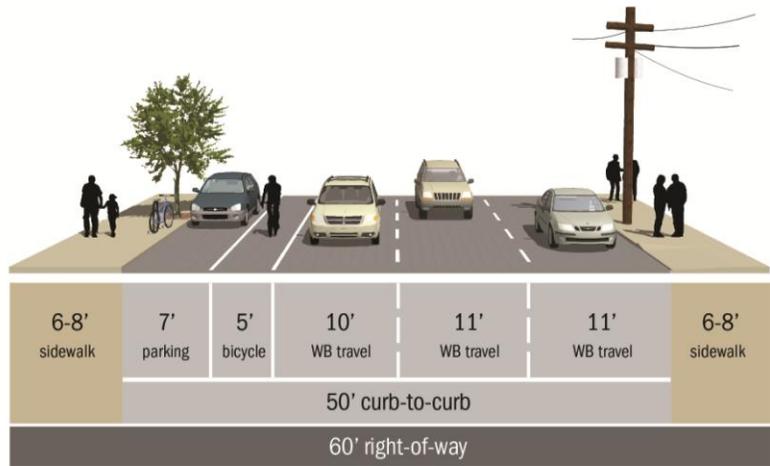


Figure 13 Existing cross section – Foster Road couplet area





Four lane cross section with left turn lane and right turn pocket on eastbound Foster Road at SE 82nd Avenue.

Image from PBOT

Lane configurations

Foster Road is typically a four lane cross section with two travel lanes in each direction and an occasional left-turn lane or pedestrian refuge island. The longest stretch containing a 4-foot striped median is located between Powell Boulevard and SE 72nd Avenue (see reference maps 1-9). Between Powell Boulevard and SE 52nd Avenue (shown in Figure 3), the roadway becomes a 5-lane configuration with two eastbound lanes and three westbound lanes.

On-street parking

Depending on the curb-to-curb street width, parking is available on one or both sides of Foster with either time limited (protime) or one-hour time restricted parking. On-street parking is generally dedicated to the eastbound side of Foster Road, while many segments on the westbound side, especially east of SE 72nd, allow for weekday AM peak period restricted parking (i.e. no parking between 7AM-9AM, Monday through Friday). Because of the limited width between the curb lane and parking spaces and the lack of T-bar parking bay markings and signs, motorists are unclear in some segments whether parking is permissible. In addition, many vehicles park partly on the sidewalk, perhaps because 18 feet is provided for the general purpose



Outside travel lanes and parking measure 18', creating tight parking conditions.

Image from PBOT

curb lane and parking and the relatively fast traffic.

Prevalence of skewed intersections

Because Foster Road bisects the street grid diagonally from northwest to southeast, nearly all 42 intersections within the project area are skewed. Only SE Rhone Street, SE 60th Avenue and SE 80th Street are aligned perpendicular to Foster Road. This presents unique geometric and pedestrian design challenges at each location. In some cases, up to six street segments converge at a one intersection. Skewed intersection along Foster introduce safety concerns including poor sightlines for turning motorists, longer crossings and more conflict areas for pedestrians, and increased delay for all users. On the other hand, these may provide for unique buildings such as the Phoenix and opportunities for green landscaping and public areas.



Intersection of Foster Road and SE 67th Avenue with the historical Phoenix building in the background.

Varying curb radii

Figure 3 through Figure 7 highlights the different curb radii at each intersection corner. Due to the unusual amount of skewed intersections along the corridor, curb radii vary dramatically with a range of implications for turning traffic and crossing pedestrians. A smaller curb radius (between 8 feet and 15 feet) slows down turning vehicles and reduces crossing distances for pedestrians. A larger curb radius (typically over 25 feet) allows for fast, swooping turn movements also increases the distance a pedestrian must walk to cross the street. Although many corners have relatively tight curb radii of 12 to 15 feet, a large proportion have wide curb radii of 25 to 50 feet (for example the southeast corner of SE 82nd Avenue) and Foster and SE Holgate.

One-way couplet

In order to facilitate I-205 on- and off-ramp activity, ODOT and the City of Portland reconfigured the Foster Road corridor between SE 89th Avenue and SE 97th Avenue to operate as a one-way couplet as it approaches the Lents Town Center and the I-205 ramps. Westbound traffic uses a one-way segment on Foster Road and eastbound traffic uses SE Couplet/ Woodstock Street. Each direction has three travel lanes and is furnished with a five-foot bike lane.

Utilities

Foster Road is an important utility corridor. There are telecommunication and electricity poles lining both sides of the street in the sidewalk furnishing zone. In addition, water and sewer mains are located beneath the roadway. Main locations vary, from the north to south side of the street, depending on the segment. Lateral connections stem from the mains at irregular intervals to serve adjacent properties. Existing utility infrastructure will be a key consideration when developing design alternatives, as relocation costs are substantial.

3 CORRIDOR SAFETY

Foster Road is a designated High Crash Safety Corridor—roadways identified as having a higher incidence of fatalities and serious-injury traffic crashes than the citywide average for similar roadways. A 2011 PBOT study, the *SE Foster Rd High Crash Corridor Safety Plan*, examined the entire Foster corridor and established the following key findings:

- The incidence of crashes involving alcohol is higher in this corridor than the Citywide average.
- The incidence of crashes caused by motorists disregarding traffic signals is about 60% higher than the Citywide average. Signal disregard crashes are almost always classified as ‘turning’ or ‘angle’ crashes which typically result in more injuries and deaths.
- Bicycle facilities are lacking on Foster west of 90th Avenue. However, all existing and proposed bicycle crossings on Foster occur at traffic signals.
- The average distance between pedestrian crossing improvements (signals or pedestrian islands) is 1120 feet, or nearly ¼ mile.

Several safety improvements were identified in this report, which along with recommendations from the *Foster Road Transportation and Streetscape Plan*, formed the basis for the projects awarded the *Regional Flexible Funds* grant. Figure 14 summarizes reported crashes on Foster from Powell to SE 94th Ave from 2001 – 2010. (NOTE: data were selected within 50 feet of the Foster centerline)



Portland Bureau of Transportation introduced a variety of pedestrian safety countermeasures to address corridor safety for all roadway users.

Image from PBOT

Figure 14 Foster collision summary data, 2001 - 2010

Injuries and Fatalities	Crashes by top 3 location types
7 Fatalities	759 Intersection crashes (62%)
537 Crashes involving injuries	373 Roadway straight section crashes (30%)
25 Injuries of Type A severity (incapacitating)	95 Alley-related crashes (8%)
131 Injuries of Type B severity (non-incapacitating)	
381 Injuries of Type C severity (pain)	Crashes by top collision types
685 Property damage only crashes	495 Rear-end (40%)
1,229 Total Reported crashes from 2001 - 2010	350 Turning (28%)
	162 Angle (13%)
Collisions involving vulnerable users	125 Sideswipe - Passing (19%)
32 Total crashes involving pedestrians (4 fatalities)*	31 Fixed Object (3%)
22 Total crashes involving bicyclists (0 fatalities)	

* A 2012 pedestrian fatality at 71st and Foster is not included in the above total.

Figure 15 on the following page displays a series of maps showing the locations of different types of collisions from 2001 - 2010 (for which there are data). The maps also show the location of fatalities.

Key safety issues facing the Foster Road corridor

Crossing safety

- Long crossing distances and extensive driveway density create greater opportunities for pedestrian and bicycle conflicts
- Some longer block lengths combined with a lack of safe crossing facilities may encourage unsafe crossing practices
- Visibility of vulnerable roadway users is low, especially those using mobility aides

Motorist Behavior

- Excessive speeding along links and during turn movements (partially a geometric design issue)
- Many motorists do not comply with yield and stop controls
- Drunk/impaired driving is high (3% of all crashes involved alcohol; 45% of all fatal crashes involved alcohol)
- Red light running and tail-gating is common and contribute to the corridor's high number of collisions

Design

- Current geometric intersection design facilitates fast vehicle movements
- Lane widths—especially curb lanes with no marked parking bays and no parked vehicles—tend to encourage speeding
- Foster lacks comfortable accommodations for active transportation markets

Source: SE Foster Road High Crash Corridor Safety Action Plan

4 MULTIMODAL CONDITIONS

TRAFFIC OPERATIONS

Current and projected traffic volumes

As summarized in Figure 16, traffic volumes along the corridor range from moderate to high. Total average daily traffic (ADT) ranges between 19,315 east of SE 80th Avenue and 24,436 east of SE 82nd Avenue. Daily volumes also vary by direction. For example, ADT ranges from 9,685 westbound vehicles per day at Foster Road east of 80th Avenue to 13,245 eastbound vehicles per day at Foster Road west of 72nd Avenue.

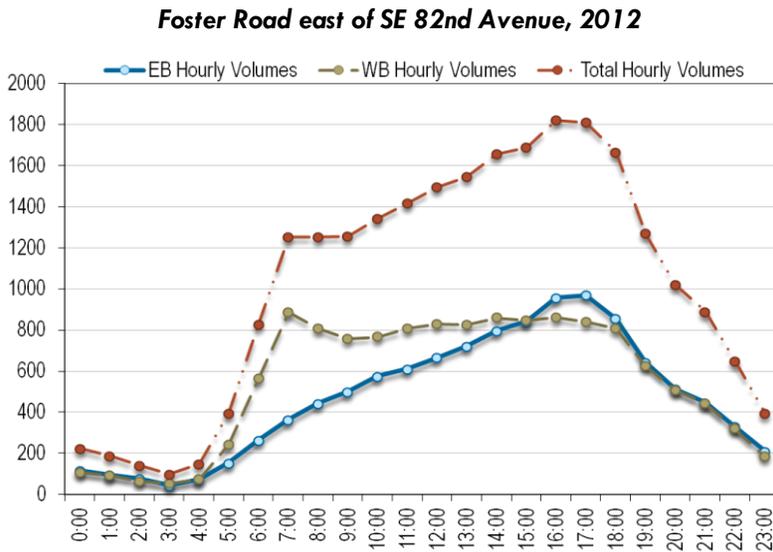
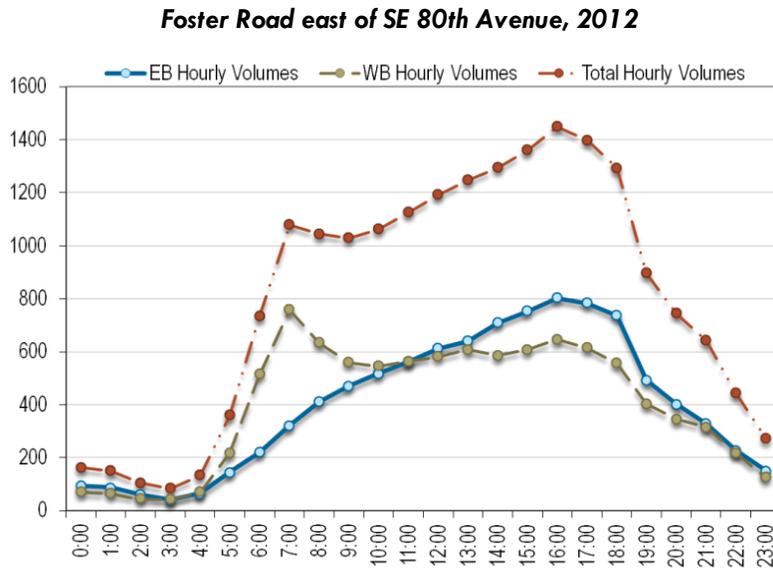
Figure 16 Foster Road traffic volumes at select intersections

Location (Date)	Southeast bound	Northwest bound	Total
SE Foster Rd at 72nd Ave (2008)	13,245	11,083	24,328
SE Foster Rd east of 80th Ave (2012)	9,618	9,697	19,315
SE Foster Rd east of 82 nd Ave (2012)	11,233	13,203	24,436
SE Foster Rd east of 88th Ave (2010)	10,620	12,437	23,057
Inbound couplet: SE Foster Rd east of SE 89th Ave (2010)	n/a	12,576	n/a
Outbound couplet: SE Couplet St south of SE Foster Rd (2010)	11,220	n/a	n/a

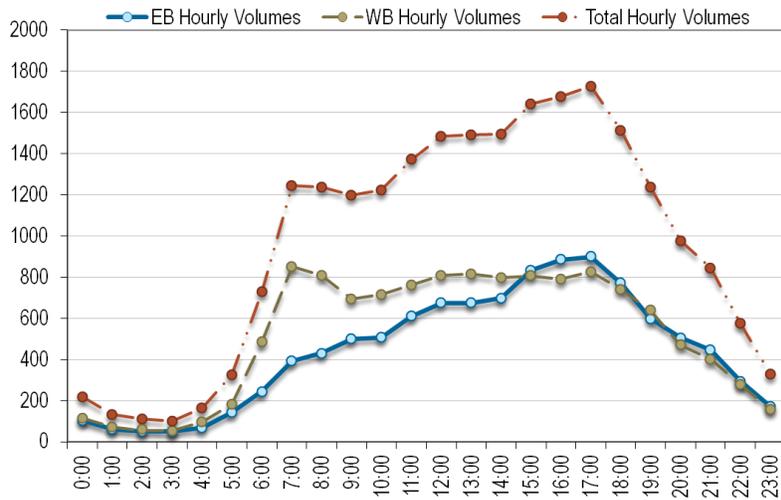
Source: PBOT

Traffic flow is relatively well distributed throughout the day. Throughout the corridor traffic is heaviest after the noon hour. However, stark occurrences of “peaked” traffic flow only occurs in the AM westbound direction. Average daily westbound volume is roughly double eastbound traffic in the AM peak. As a result return trips are more evenly distributed in the PM but east bound traffic is marginally higher than westbound traffic. Traffic volumes never exceed 1,000 vehicles per hour in any direction. This signals that, although traffic volumes are relatively high, they are well distributed throughout the day.

Figure 17 Foster Road Weekday Volume by Direction and Time of Day



Foster Road east of SE 88th Avenue, 2010



Source: PBOT

Various intersections exhibit high turn volumes. The most concentrated PM peak period (4:00 PM – 6:00PM) turn volumes occur at eastbound right turns from SE Holgate onto southeast bound Foster, and multiple turn movements onto and off of Foster Road at SE 82nd Avenue. Figure 18 summarizes high peak period turn movements (over 200) at four of the corridor’s key signalized intersections (peak period counts are indicated in parentheses and placed in order of magnitude).

Figure 18 High peak period turn movements (over 200) at key intersections, 2012

Foster/SE 52 nd Avenue (see reference map 2)	Foster/SE Holgate (see reference map 5)	Foster/SE 72 nd Avenue (see reference map 8)	Foster/SE 82 nd Avenue (see reference map 11)
<ul style="list-style-type: none"> ▪ Southeastbound Foster right turns onto southbound 52nd Avenue (285) ▪ Northbound 52nd Avenue left turns onto northwestbound Foster (265) 	<ul style="list-style-type: none"> ▪ Eastbound Holgate right turns onto southeastbound Foster (357) ▪ Westbound Holgate right turns onto northwestbound Foster (219) 	<ul style="list-style-type: none"> ▪ Southeastbound Foster right turns onto southbound 72nd Avenue (341) ▪ Northbound 72nd Avenue left turns onto northwestbound Foster (232) 	<ul style="list-style-type: none"> ▪ Southbound 82nd Avenue left turns onto southeastbound Foster (328) ▪ Northbound 82nd Avenue left turns onto northwestbound Foster (265) ▪ Northwestbound Foster left turns onto southbound 82nd Avenue (265) ▪ Southeastbound Foster left turns onto northbound 82nd Avenue (207) ▪ Southeastbound Foster right turns onto southbound 82nd Avenue

			Avenue (227) <ul style="list-style-type: none"> ▪ Northwestbound Foster right turns onto northbound 82nd Avenue (246)
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Source: PBOT 2012 intersection counts

Traffic on Foster will increase in the next 20 years.¹ According to PBOT traffic analysis conducted for the Regional Transportation Plan, PM peak traffic volumes are projected to increase throughout the Foster corridor. Westbound traffic will see less pronounced increases in PM peak period traffic, increasing between 6% and 25% depending on the segment. Segments between Holgate and SE 70th Avenue are projected to see a 3% decrease in PM peak period traffic. Eastbound traffic is projected to exhibit between 13% and 31% increases in PM peak period traffic depending on the segment.

Traffic condition on Foster Road compare favorably to other corridors in Portland that have undergone major streetscape and operation changes. Figure 19 compares traffic volumes on Foster with similar corridors. Foster is classified in the TSP as a Major City Traffic Street. At over 24,000, Foster and 82nd has among the highest daily volumes of any segment included in this analysis. Tacoma Street, a District Collector, regularly has daily volumes approaching 30,000 approaching the Sellwood Bridge.

Figure 19 Corridor volume comparison

Location	Date	Direction	ADT	One-Hour PM Peak	Speed
SE FOSTER RD E of 88TH AVE	8/10/2010	Both	23,057	876	35
SE FOSTER RD E of 80TH AVE	6/27/2012	Both	19,315	733	35
SE FOSTER RD E of 82ND AVE	6/27/2012	Both	24,436	921	35
SE HAWTHORNE BLVD E of 45TH AVE	1/31/2011	Both	12,687	603	25
SE HAWTHORNE BLVD W of 33RD AVE	1/31/2011	Both	17,137	857	25
NE SANDY BLVD E of PRESCOTT ST	1/4/2005	Both	15,795	703	35
NE SANDY BLVD W of 77TH AVE	2/9/2011	Both	15,340	787	35
NE WEIDLER ST W of 7TH AVE	5/18/2009	EB only	20,028	1,851	30
N WEIDLER ST W of WILLIAMS AVE	6/24/2009	EB only	26,062	2,355	30
N WEIDLER ST W of VANCOUVER AVE	6/29/2009	EB only	15,979	1,588	30
NE BROADWAY E of GRAND AVE	5/18/2009	WB only	21,592	1,621	30
NE BROADWAY W of VICTORIA AVE	1/19/2010	WB only	30,842	2,125	30
SW BARBUR BLVD S of 4TH AVE	2/18/2009	Both	15,581	750	35

¹ City of Portland Bureau of Transportation Foster Rd Traffic Study (2011)

Location	Date	Direction	ADT	One-Hour PM Peak	Speed
SW BARBUR BLVD N of LANE ST	11/1/2010	Both	15,170	756	35
SE TACOMA ST W of 6TH AVE	11/8/1999	Both	30,350	1,388	30
SE TACOMA ST W of 6TH AVE	9/18/2007	Both	29,978	1,292	30
SE TACOMA ST W of 6TH AVE	6/18/2012	Both	28,538	1,251	30

*Note: Foster, Sandy, and Broadway and Barbur are Major City Traffic Streets. Hawthorne/Tacoma are District Collectors.

Signal locations and performance

Figure 20 and 21 shows the location and distance between traffic signals on Foster. The distances vary from 445' to well over a quarter mile. In addition to providing fewer protected pedestrian crossings, large and inconsistent distances between traffic signals limit the ability to regulate traffic speeds. On Foster west of 94th, the average distance between traffic signals is just under a quarter mile (1,214 feet). This is considerably higher than the average distance on comparable streets, such as Hawthorne, Sandy, and NE Broadway (see Figure 22). However, when comparing smaller commercial districts, the Heart of Foster (Holgate – 67th) fares slightly better, with a smaller average distance between signals than the central Hawthorne commercial area (34th – 39th). Of these districts, only NE Broadway has dedicated bicycle facilities.

Figure 20 Existing and proposed signal locations and signal distances

Location	Distance	Roadway section
SE 52 nd Avenue – full signal	890'	SE Powell to SE 52 nd Avenue
SE 56 th Avenue –half signal	1125'	SE 52 nd Avenue to SE 56 th Avenue
SE Holgate – full signal	2225'	SE 56 th Avenue to SE Holgate Boulevard
SE 64 th Avenue – half signal (school)	445'	SE Holgate Boulevard to SE 64 th Avenue
SE 65 th Avenue –ped island and marked crosswalk	290'	SE 64 th Avenue to SE 65 th Avenue
SE 67 th Avenue –full signal	475'	SE 65 th Avenue to SE 67 th Avenue
SE 69 th Avenue – proposed future signal with ped island and marked crosswalk	400'	SE 67 th Avenue to SE 69 th Avenue
SE 72 nd Avenue – full signal	1335'	SE 69 th Avenue to SE 72 nd Avenue
SE 78 th Avenue – half signal	1625'	SE 72 nd Avenue to SE 78 th Avenue
SE 80 th Avenue –ped island, marked crosswalk and beacons	805'	SE 78 th Avenue to SE 80 th Avenue
SE 82 nd Avenue –full signal	530'	SE 80 th Avenue to SE 82 nd Avenue
SE 92 nd Avenue –full signal	2865'	SE 82 nd Avenue to 92 nd Avenue

Figure 21 Signals and pedestrian refuges

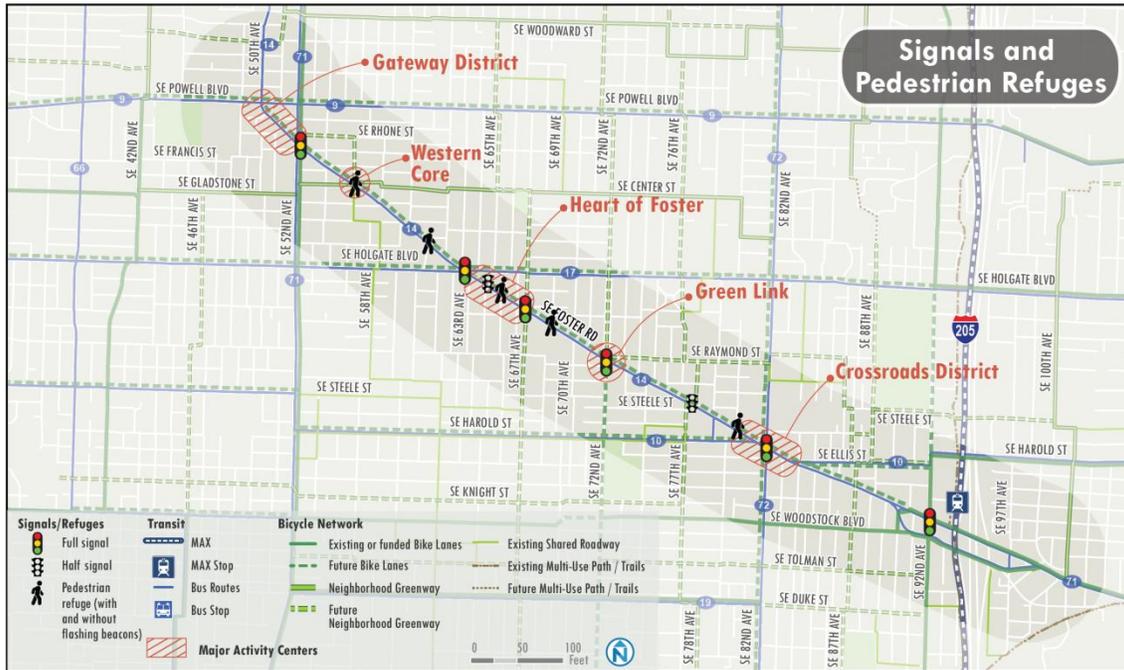


Figure 22 Corridor and commercial district comparison: Intersection and signal spacing

Corridors			
Street segment	Length (ft)	Average intersection spacing (ft)	Average traffic signal spacing (ft)
SE Foster: 50th - 94th	12,141	264	1,214
SE Hawthorne: Grand - 49th	10,805	204	900
NE Sandy: 14th - 47th	9,593	282	685
NE Broadway: Grand - 39th	9,655	333	644
Commercial districts			
Street segment	Length (ft)	Average intersection spacing (ft)	Average traffic signal spacing (ft)
SE Foster: Holgate - 67th	1,225	136	408
SE Hawthorne: 34th - 39th	1,731	192	433
NE Sandy: 37th - 43rd	1,800	164	300
NE Broadway: 7th - 16th	2,337	234	334

According to an intersection level of service (LOS) analysis conducted by PBOT using 2012 PM peak period traffic, all signals—except at SE 82nd Avenue—operate at acceptable levels with average levels of delay, at minimum (i.e. LOS C or better). Projected growth is anticipated to degrade operations at two signalized intersections, including Holgate Boulevard and SE 72nd Avenue. SE 72nd Avenue is the only intersection forecasted to fail (LOS F) in the 2035 PM peak. Figure 23 summarizes PM peak intersection performance at key intersections along the Foster Road corridor.

Figure 23 Intersection Level of Service at Select Intersections, 2012 and 2035

Intersection	2012 PM Peak Performance		2035 PM Peak Performance	
	Intersection delay (sec)	LOS	Intersection delay (sec)	LOS
SE 52nd Avenue	22.2	C	29.2	C
SE 56th Avenue	6.0	A	7.7	A
SE Holgate Boulevard	14.7	B	21.1	D
SE 64th Avenue	3.6	A	3.4	A
SE 67th Avenue	2.8	A	3.4	A
SE 72nd Avenue	32.9	C	85.0	F
SE 78th Avenue	2.3	A	2.6	A
SE 82nd Avenue	34.0	D	47.0	D

Traffic speeds

Speeding occurs, but the severity of speeding does not seem as pronounced as perceived. Motorists generally adhere to Foster’s 35 mph posted speed limit. 85th percentile speeds range between 33 mph at SE 69th Avenue and 39 mph at SE Cora Street. Speed can reach up to 16% over the posted speed limit at SE 69th Avenue and 35% at SE Cora Street. Speeds are higher along the more rural sections of Foster Road east of I-205.

Access management and driveways

The number and length of driveways creates conflicts for pedestrians and bicyclists. Between Powell Boulevard and SE 82nd Avenue, there are 147 driveways providing business and residential access. This equates to roughly 77 driveways per mile and accounts for 40% of this corridor segment’s length. Although many of these driveways are not in operation, this data suggests that pedestrians and cyclists face turn conflicts for a sizeable portion of Foster Road. Driveways range from 10 feet to 90 feet in length, but the majority of driveways (roughly 65%) measure between 15 feet and 30 feet in length—typical lengths for arterial corridor driveways.

PEDESTRIAN CONNECTIVITY AND AMENITIES

Walking trips to, from, and along the corridor stem from a variety of demand generators. Key land uses that attract walking trips include area schools such as Mt. Scott High School, Creston School, Centennial Transition Center, Arleta Elementary School, office and retail located near SE 82nd Avenue (including the Fred Meyer at SE 80th Avenue), and the “Heart of Foster” commercial node. Moderate to high activity transit stops along the corridor are also major contributors to pedestrian demand.

Pedestrian counts. PM peak period pedestrian activity at the district nodes is highest at SE 82nd Avenue (364 total movements), SE Holgate Boulevard (133 total movements) and SE 72nd Avenue (90 total movements). High pedestrian activity at SE 82nd Avenue is likely due to the amount of PM peak period transfer activity between Line 10, 14, and 72. This occurs between Lines 14 and 17 at Holgate as well.

Signalized intersections and crossings. There are 18 signalized intersections along this stretch of Foster Road: eight pedestrian actuated, five timed (no pedestrian activation), and 3 dedicated pedestrian “half signals.” The limited number of signalized crossings increases effective block distances for those only willing or able to cross at signalized intersections. Consequently, this either increases walking distances or encourages unsafe crossing practices like jaywalking. Figure 24 summarizes the locations of pedestrian islands along the inner Foster Road corridor.

The marked crosswalk and pedestrian refuge at SE 80th Avenue was recently enhanced with pedestrian-activated Rectangular Rapid Flashing Beacons (RRFB) following recent pedestrian fatalities at this location. This treatment increases motorist awareness of pedestrians and cyclists crossing, and improves stop compliance at crossing locations.



The mid-block crossing east of SE 80th Avenue features a rectangular rapid flashing beacon
 Image from PBOT

Figure 24 Pedestrian island location on Foster Road

Distance to nearest signal in both directions	Pedestrian Island Location
575'/800'	SE Gladstone
790'/890'	SE Cora
265'/500'	SE 65 th Avenue
400'/1140'	SE 69 th Avenue
835'/530'	SE 80 th Avenue

Source: SE Foster Road High Crash Corridor Safety Plan

Sidewalk provision. Sidewalks are provided on all street segments between Powell Boulevard and I-205. West of SE 80th Avenue, sidewalks are generous in width, ranging between 13-17 feet. Sidewalks are generally clear of obstructions, but pedestrian zone widths (sidewalk width minus landscaped parkway, utilities, and furniture zone amenities) vary by segment and quality. In addition, driveway slope creates challenges for those using mobility devices (e.g., wheelchairs, walkers, etc.). East of SE 80th Avenue, the quality of the pedestrian environment degrades precipitously to substandard dimensions. Along this stretch, sidewalk pavement quality erodes, sidewalk widths narrow (roughly 5-8 feet), and obstructions like sign posts, utility poles, and driveway slopes become more prevalent. A new development at SE 89th Avenue with 20-foot sidewalks, well defined pedestrian zones, stormwater features, period lighting, street trees, and a recessed parallel parking buffer provides a glimpse at how pedestrian conditions along the corridor can improve.



Widths of sidewalk zones vary by segment.

Image from PBOT

Crosswalks and crossing distances. Marked crosswalks are primarily located at signalized intersections, while unsignalized marked crossings at intersections are located at only five locations (including Foster Road at SE Cora Street and SE Couplet Street and SE Woodstock Boulevard). Only two mid-block crossings are provided; one between SE 68th and 69th Avenue (supplemented with a pedestrian refuge island and continental crosswalk markings) and the other between SE 80th Avenue and SE Harold Street (supplemented with a Z-pattern pedestrian refuge island, continental crosswalk markings, and a Rectangular Rapid Flashing Beacon).

Crossing distances range from roughly 60 feet at SE Cora Street to 110 feet at SE 82nd Avenue. This is partially due to skewed intersection design and the lack of curb extensions throughout the corridor. SE 52nd Avenue is a prime example of how skewed intersections increase crossing distances and can limit motorists' visibility of crossing pedestrians.

Complex intersections for pedestrians. Complex intersections at SE 82nd Avenue and the Foster Road/SE Couplet Street connection include crossing islands with protected right turn lanes, which offer slower pedestrians an opportunity to break their crossing into multiple phases. The intersection at SE 82nd Avenue has multiple signal phases including a protected left turn phase. Although this increases pedestrian delay, the safety benefit likely outweighs the time delay cost for pedestrians due to the high number of left turn movements onto and off of SE 82nd Avenue.

Curb ramps and curb extensions. The majority of curb ramps along Foster Road have diagonal rather than perpendicular (i.e. two ramps extending in each direction) curb ramp design. Perpendicular curb ramp design shortens crossing distances and makes crossing movements easier for people with sight impairments. Although Foster Road is relatively wide, only three intersections along the corridor are furnished with curb extensions (including Foster Road at SE Center Street, SE 87th Avenue, and SE Couplet Street). Additionally, only a small percentage of intersections have been fully retrofitted with accessible curb ramp design including detectable warnings, adequate landings, and acceptable ramp design accounting for major changes in cross slope and grade on the ramp and ramp flares.

Lack of placemaking features. Although sidewalks provide ample space for pedestrians west of SE 80th Ave, limited street trees, poor illumination, high traffic speeds and volumes, automobile-oriented land uses and prevalence of off-street parking lots make the pedestrian environment disengaging and a lined with potential conflicts.

Future improvements. PBOT has secured a Regional Flexible Funds Grant from Metro to construct crossing improvements at SE 58th, 60th, 61st, 65th and 69th Avenue. Sidewalk enhancements, curb ramps, curb extensions, signal upgrades and bus stop improvements are also proposed between SE 63rd and 67th Avenue and at SE 82nd Avenue.



The 6-leg intersection at Holgate and Foster presents pedestrians with complex multi-stage crossings, multiple conflict points, and long crossing distances.

Image from Bing

BICYCLE CONNECTIVITY AND CORRIDOR ACCESS

Cycling on Foster Road. Bicycle facilities along Foster are limited to bicycle lanes in the couplet section that connects into the Green Line light rail station starting at SE 91st Avenue. Between SE Powell Boulevard and SE 91st Avenue, there are no separated bicycle facilities. Subsequently, many cyclists choose to ride on the sidewalk or use indirect neighborhood connections.



With bicycle facilities lacking along the majority of Foster Road only strong and confident cyclists ride in the travel lane, while most choose to ride on the sidewalk.

Images from PBOT

Existing and funded bikeway connections are limited to the corridor edges. The Center Street Neighborhood Greenway (reference map 3), SE 87th Avenue (reference map 12), and the I-205 multi-use path (reference map 14) are the only existing direct bikeway connections across Foster Road. SE Woodstock Boulevard is a less direct east-west bikeway alternative to riding along Foster Road. It is furnished with a bike lane that connects cyclists to Eastmoreland, Sellwood, and eventually the Springwater Corridor. The planned bike lane on SE 52nd Avenue (as part of the 50s Bikeway project) and the SE 56th Avenue shared roadway are the only funded bikeway connections available to Foster Road in the near-term.

Future bikeway connections to and across Foster Road are limited today. However, the *Portland Bicycle Plan for 2030* identifies various unfunded network improvements. A dedicated bike lane or separated facility is planned for Foster Road by 2030. Other future bikeway connections planned for the corridor include bike lanes on SE 82nd Avenue and SE Holgate Boulevard, and neighborhood greenway connections on SE 87th Avenue, SE 77th/78th Avenue, and SE 67th Avenue. SE 72nd Avenue should have bike lanes south of Foster and a neighborhood greenway connection north of Foster.

Existing bicycle crossings are limited. Bicycle activated signals are not currently available to cyclists crossing Foster Road. Future pedestrian and bicycle actuated signals will be located at SE 58th Avenue, SE 60th Avenue, SE 61st Avenue, SE 64th Avenue, SE 65th Avenue, SE 67th Avenue, and SE 69th Avenue. However, a key deficiency is that all existing and future crossings in the 2030 Plan are focused at signalized intersections.

Bike counts. PM peak period (4PM- 6PM) bicycle counts are highest at SE 52nd Avenue (45 total) and SE 72nd Avenue (21 total). Although no counts are available for SE Center Street at this

time, it is likely that the SE Center Street Neighborhood Greenway crossing exhibits higher bicycle counts.

Bicycle parking. Between Powell Boulevard and I-205, Foster Road offers only 37 publically-owned and maintained staple or U-racks. This is equal to 8 racks per mile along the corridor. There are no on-street bicycle parking corrals along the corridor. There is also privately owned and maintained bicycle parking supply along the corridor, but they include wave or “wheelbender” racks that are less preferred by cyclists.



Short-term bicycle parking off of Foster Road
Image from PBOT

TRANSIT OPERATIONS AND ACCESS

Frequent transit service. The Foster Road corridor is well served by transit. Anchored by Lents Town Center and Downtown Portland, TriMet’s Frequent Service line 14 operates 20-hour service on Foster daily between 5:00 AM and 1:30 AM. Stops are served every 5-10 minutes in the peak commute periods and 17 minutes in the afternoon. PM peak hour bus volumes on inner Foster Road (5:00 PM – 6:00 PM) reaches up to 12 buses, including two limited stop express trips. Buses typically use pull out spaces to facilitate boarding activity. There are no bus bulbs along Foster Road to facilitate in-lane boarding activity.



A passenger gets off Line 14 at SE 65th Avenue in the Heart of Foster. Many stops along Foster Road offer basic passenger amenities including route information and benches.

Image from PBOT

Transfer hubs. Lines 9, 10, 17, 71, 72, and MAX Green Line each serve the corridor at key transfer locations. The Crossroads District (SE 82nd Avenue), Green Link (SE 72nd Avenue), and Heart of Foster (SE Holgate) nodes serve as key bus transfer hubs. In addition to Line 14, Lines 10 and 72—the latter being a key east-west connection—serve the Crossroads District, which partially explains the area’s high level of boarding and alighting activity (over 1,500 average daily boarding alightings). The corridor is also served by Kern Park Christian Church Park & Ride—one of Portland’s 19 Park & Ride facilities. This Park & Ride accommodates 24 parking spaces and is located on SE Holgate roughly 1,200 feet east of the Heart of Foster.

Weekday boarding activity and daily transit flows. Weekday boarding activity on Foster Road is highest at the Crossroads District transfer hub at SE 82nd Avenue (1,500 boarding/alightings) and the MAX Green Line Lents Town Center/SE Foster Rd Station area (2,400 boarding/alightings including transfers).² Other stop locations with relatively high boarding and alighting activity include SE 72nd Avenue (260 boardings/alightings) and SE Holgate (225 boardings/alightings).

Boarding activity roughly aligns with daily commute flows; westbound stops generally exhibit higher boarding counts, while eastbound stops have higher alighting counts.

Stop amenities. The quality of stop amenities ranges from sign posts with basic stop signage to stops with shelters, benches and trash receptacles.

² Note: This does not include boarding and alighting activity on routes that intersect the Foster Road corridor.

5 NEEDS ASSESSMENT AND GAP ANALYSIS

CORRIDOR OPPORTUNITIES AND TRADE-OFFS

Existing conditions of the Foster Road corridor have been identified and analyzed to provide insight into the challenges and opportunities for future transportation enhancements. The following matrix presents:

- Key gaps and issues with Foster Road mobility and access
- Opportunities to improve person mobility, safety, and economic development potential along the inner Foster Road corridor (corresponding with key gaps)
- Trade-offs and/or constraints that weigh the financial implications, modal impacts, and coordination efforts required for implementing specific opportunities

This will inform prioritization of spot improvements and corridor-wide cross section alternatives in the latter phases of the Foster Lents Integration Partnership process. The Foster corridor gaps and opportunities matrix (Figure 25) is not meant to be a final determination of opportunities. Additional opportunities will be explored to maximize potential corridor enhancements. Each opportunity in the matrix highlights general multimodal benefits on the basis of safety, accommodation/comfort, and travel time.

Figure 25 Foster corridor gaps and opportunities matrix

Benefits Legend		
 Transit	 Pedestrians	 Motorists
 Bicyclists	 On-street parking	

Key Gaps/Issues	Opportunities	Tradeoffs/Constraints
Current cross section focuses on auto access, contributing to safety and access issues for pedestrians and cyclists.	Consider reconfiguring the roadway to calm traffic, improves safety, enhances aesthetic character, and better allow for multimodal access 	<ul style="list-style-type: none"> ▪ Despite the experience of similar corridors with lane reductions, some cross sections may exacerbate peak period traffic congestion ▪ Vehicle capacity constraints at major intersections may require retaining turn lanes and complex/split signal phasing ▪ Could require loss of permanent and protime on-street parking in some of the more narrow sections ▪ Cross section changes may require reconfiguring or removing median refuges

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Foster Lents Integration Partnership

Key Gaps/Issues	Opportunities	Tradeoffs/Constraints
		<ul style="list-style-type: none"> ▪ Could create diversion impacts ▪ Alternatives that reconstruct the curb and gutter or move utilities will be costly ▪ Potential high cost, high/multi-user benefit improvement ▪ Requires substantial outreach effort (underway)
<p>Existing transit service operates as “Frequent Service” but there is opportunity for service that can stimulate development and corridor revitalization and improve frequency</p>	<p>Establish streetcar, or enhanced bus service on SE Foster Road</p> 	<ul style="list-style-type: none"> ▪ Enhanced transit, especially rail, requires substantial capital, and analysis of land use and network connections. ▪ Current land uses would not support enhanced transit services (streetcar and busway), though Foster has zoning that generally supports transit.
<p>Corridor lacks a density of bikeway connections—especially to district nodes</p>	<p>Develop direct and low stress bikeway connections across Foster Road, prioritizing access to Crossroads, GreenLink, Heart of Foster, Western Core, and Gateway</p> 	<ul style="list-style-type: none"> ▪ Requires greater funding allocation to bicycle improvements ▪ Likely requires improvements to signal timing, intersection approaches and the number and quality of crossings (see below) ▪ Because of the area’s irregular street grid, opportunities for direct connections are limited
	<p>Expand the number of bicycle crossings and enhance existing crossings with bicycle detection, colored pavement treatments, pavement markings, refuges, and turn queue boxes, among others</p> 	<ul style="list-style-type: none"> ▪ Might be a lower priority improvement as there are no planned bikeway connections at unsignalized intersections ▪ Costs depend on the type of improvement
<p>Pedestrian access along Foster Road presents users with complex intersections (e.g., long crosswalk distances, pedestrian delay, etc.) and conflict points (e.g., driveways)</p>	<p>Redesign intersections with tighter curb radii to limit intersection skew/crossing complexity, increase pedestrian visibility, and reduce turning movements speeds</p> 	<ul style="list-style-type: none"> ▪ High cost improvement requiring significant study and engineering ▪ Would work best with a speed limit reduction as vehicles currently expect geometries that are amenable to faster turns
	<p>Adjust traffic signal timing to limit pedestrian delay</p> 	<ul style="list-style-type: none"> ▪ May increase traffic delay and queuing in the AM/PM peaks
	<p>Break up long block faces and expand safe crossing opportunities with mid-block crossing furnished with pedestrian refuges and expanded use of rectangular rapid flashing beacons (RRFBs)</p> 	<ul style="list-style-type: none"> ▪ Higher cost, high compliance traffic control devices ▪ RRFBs may cause minor cumulative traffic delay in the peak travel periods
	<p>Clearly define conflict zones at intersections and high activity driveways with pavement markings, signs, and pavement design</p> 	<ul style="list-style-type: none"> ▪ Pavement design/decorations are more costly than pavement markings and bicycle/pedestrian benefits depend on type of application
<p>Many transit stops lack high quality passenger amenities that improve the transit experience</p>	<p>Construct high amenity transit shelters that improve passenger comfort and safety, including lighting, benches, covered shelters, transit information, consistent bus landing</p>	<ul style="list-style-type: none"> ▪ Costs depend on the type of improvement ▪ Requires coordination and cost sharing with TriMet

FOSTER CORRIDOR EXISTING CONDITIONS & OPPORTUNITIES | DRAFT PRELIMINARY ASSESSMENT
Foster Lents Integration Partnership

Key Gaps/Issues	Opportunities	Tradeoffs/Constraints
	<p>pads, facility design that establishes predictable passenger ingress and egress, bicycle parking (at major transfer hubs), and trash receptacles</p> 	
<p>Several transit stops are located a sizeable walking distance from traffic controlled intersections or crossings, which may encourage jaywalking or crossing at unsignalized intersections with no marked crosswalks</p>	<p>Adhere to the TSP's Major Transit Priority Street designation, by establishing regular stop distances with enhanced pedestrian and bicycle safety crossing measures</p> 	<ul style="list-style-type: none"> Moving stop location require extensive coordination with TriMet (and ODOT depending on whether the stops lie their sphere of influence) Potential high cost service/capital improvement, requiring replacement of stop infrastructure
<p>No strategic access management efforts have been pursued (i.e. median, median barriers, driveway closure/consolidation)</p>	<p>Develop a raised/landscaped median along portions of Foster Road</p> 	<ul style="list-style-type: none"> Developing landscaped medians will require coordination between PBOT, BES, and volunteer organizations. Landscaped medians create higher capital and annual operating and maintenance costs. Requires significant property owner and business engagement
	<p>Decommission driveways that are underutilized, not in operation, or pose significant risk to pedestrians and bicyclists</p> 	
<p>Existing and planned bicycle crossing are only located at signalized intersections; average signal spacing is roughly 1,200 feet</p>	<p>Establish marked bicycle crossings at unsignalized intersections with crosswalks, median refuges that facilitate two-stage crossings, and median barriers/access management where appropriate</p> 	<ul style="list-style-type: none"> Developing landscaped medians will require coordination between PBOT, BES, and volunteer organizations. Landscaped medians create higher capital and annual operating and maintenance costs.
<p>Current pedestrian conditions generally are not consistent with the corridor's City Walkway and Regional Main Street designations</p>	<p>Establish consistent pedestrian/sidewalk zones that organize sidewalk uses and introduce urban design/placemaking features</p> 	<ul style="list-style-type: none"> My require expanding sidewalks in places where sidewalks are less than 13-15' (high cost) Costly/Redesigning will likely need to occur with redevelopment
<p>Sidewalk widths and walking conditions east of SE 82nd Avenue are uncomfortable and, in some cases, unsafe</p>	<p>Pursue a lane reduction east of SE 82nd Avenue to gain space for sidewalks</p>  <p><i>Benefits depend on lane configuration</i></p>	<ul style="list-style-type: none"> Sidewalk expansion will likely occur over time through redevelopment dedications Will require buy-in from ODOT and other stakeholders Will require buy-in from ODOT and local businesses Requires additional traffic study to determine potential traffic and diversion impacts or calming measures
	<p>Implement arterial traffic calming measures (e.g., gateways, reduce lane widths, provide permanent on-street parking with curb extensions)</p> 	
<p>Foster Road lacks a comfortable, designated bicycle facility</p>	<p>Develop a clearly demarcated bikeway—preferably separated by a marked buffer or physical barrier—on Foster Road between SE 52nd Avenue and the couplet area (SE 87th Avenue)</p> 	<ul style="list-style-type: none"> Separated facilities introduce challenges at intersections; may require bicycle signals and/or parking removal to preserve motorist' sightlines May require lane reduction and/or parking removal depending on the corridor segment
<p>Parking supply is constrained by driveway density, inadequate parking bay widths, and a lack of clear pavement markings</p>	<p>Maintain and expand on-street parking supply as a pedestrian buffer and a speed management tool.</p>	<ul style="list-style-type: none"> Parking supply can be increased by consolidating driveways, although this will require significant property owner and

Key Gaps/Issues	Opportunities	Tradeoffs/Constraints
		business engagement
	Stripe parking bays with T-bars to reduce the effective curb travel lane width	<ul style="list-style-type: none"> None
Right-of-way widths and signal spacing encourage speeding	Reduce the speed limit to 30 mph, and potentially lower at select district nodes 	<ul style="list-style-type: none"> May heighten vehicle and transit delay during peak travel periods Requires buy-in from neighborhood, businesses, and ODOT See the tradeoffs/challenges from the "Alternative cross sections with a two or three-lane cross-section" opportunity above

IMPROVEMENTS CONSTRUCTED SINCE 2003

Since adoption of the 2003 Plan, several safety enhancements have been built by PBOT. In 2006-2007, median islands, marked crosswalks, and crossing signage were installed at SE 58th, 61st, 65th, and 69th Avenues. In 2008, a median island, marked crosswalk, and a Rectangular Rapid Flashing Beacon was installed at SE 80th Avenue. In addition, crossing improvements targeted at bicyclists were built in 2010 as part of the Center Avenue Neighborhood Greenway Project.

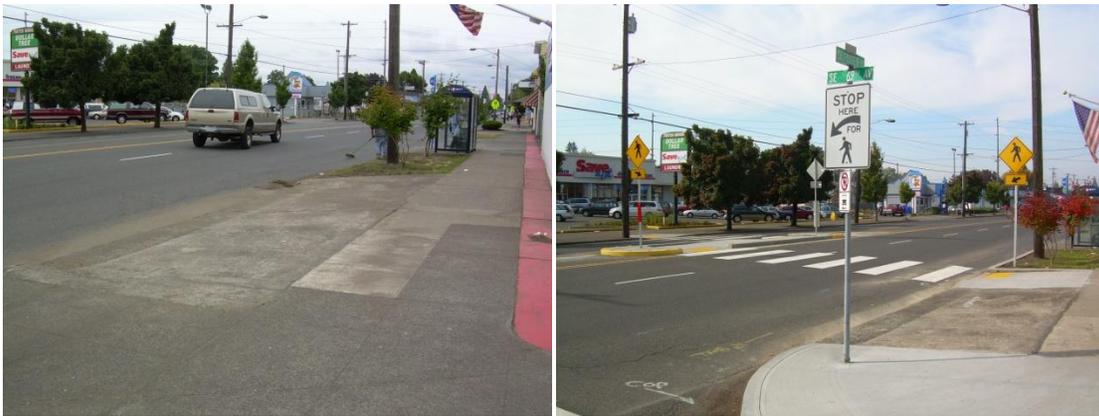
SE 58th Avenue and Foster Road, before and after crossing improvements



SE 65th Avenue and Foster Road, before and after crossing improvements



SE 69th Avenue and Foster Road, before and after crossing improvements



SE 56th Avenue and Center Avenue Neighborhood Greenway Crossing



SE 70th Avenue and Foster Road



In August 2012, PBOT installed a speed reader board at SE 70th and Foster. This board is placed below a speed limit sign and advises motorists if they are traveling too fast. It will be relocated along this stretch of Foster approximately every 6 months.

PLANNED AND FUNDED IMPROVEMENTS

As a result of previous planning and evaluation efforts, including the *Foster Road Transportation and Streetscape Plan*, PBOT engineers estimate that the following elements can be fully or partially funded through a \$3.25 million project. They are listed in priority order. These elements will either be re-affirmed or revised through the *Foster Road Transportation and Streetscape Plan* update process prior to 2014.

- **Crossing safety enhancements.** Similar to those already built at priority locations throughout the corridor
- **Bus stop investments.** Provide up to \$125,000 of additional bus stop investments (e.g. seating, shelters, ADA landing pads) at multiple locations along the whole corridor, to be determined in coordination with TriMet.
- **Bike parking.** Individual bike racks dispersed all along the whole corridor. Two high capacity artistic racks in bike corrals located in the Districts or along the corridor.
- **Public Art.** Local funding sources are subject to the “2 Percent for Art” City Policy. Therefore, 2% of the local funds spent on construction will be dedicated to providing art on the corridor. This will likely provide gateway treatments identified in the 2003 Plan.
- **Signal synchronization equipment upgrades** along the whole corridor.
- **“Heart of Foster” Business District.** Build the majority of the planned improvements from SE 63rd to 67th Ave. In addition to the above, the type of improvements will include: pedestrian-scale ornamental street lighting, street trees, sidewalk and ADA curb ramp improvements, curb extensions with green street stormwater management facilities, a bus stop curb extension coupled with far-side bus stop re-location, signal upgrades at 64th Ave and 67th Ave, pedestrian and bicycle accessible push buttons and pedestrian countdown signal heads.

- **“Crossroads District”**. Build many of the planned improvements from SE 80th to 84th Ave. Some improvements have been built at 80th Ave and 84th Ave. In addition to the above, the following will be built at the 82nd Ave and Foster Rd intersection: wider sidewalks near the intersection with right-of-way acquisition, new ADA curb ramps, green street stormwater management facilities, possibly street trees and signal upgrades, including new signal pole and mast arms, signal head back plates for greater visibility, microwave pedestrian detection to extend the “Don’t Walk” phase for slow-moving pedestrians that remain in the crosswalk at the end of the regular phase, in-road vehicle detectors to extend the red light to avoid crashes from red light running, count-down pedestrian signal heads and accessible push buttons.
- **Possibly the “Green Link” Focal Point**. Improvements may include curb extensions, street trees, bike racks, lighting, and public art at SE 72nd Avenue.

In addition, the 50s Bikeway project, to be built in 2013, will include an enhanced crossing at Foster and 52nd. The project will rebuild the SE corner, with 5’ green bike lanes approaching the intersection on both sides of Foster, and dotted bike lanes through the intersection.