APPENDIX E - VISIONING

MEMO

DATE: 6.24.2016
PROJECT: 40 Mile Loop – Troutdale to Springwater Trail Master Plan
FROM: Robin Wilcox, Project Manager, PLACE
TO: Robert Spurlock, Craig Ward, Tina Osterink, Katherine Kelly

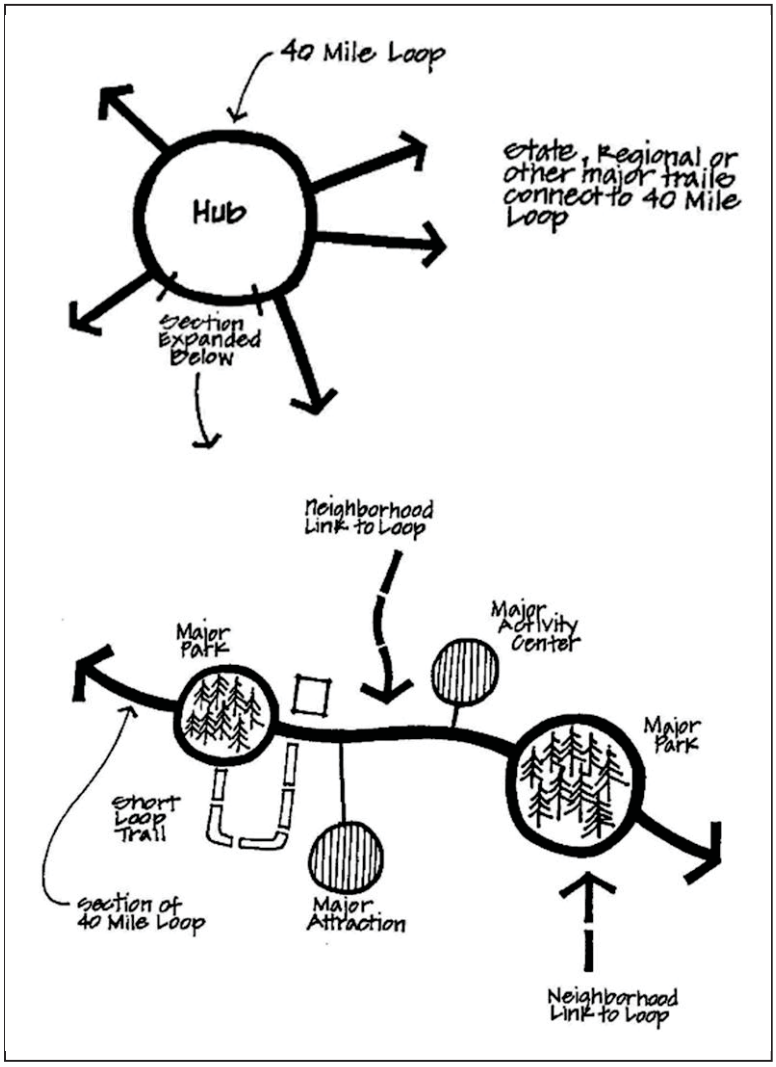
SUBJECT: Visioning

INTRODUCTION

The following memorandum summarizes the key themes, connections, sections and crossing conditions that will inform the trail alignment priorities.

Desired Connectivity

The 40-Mile Loop Trail Master Plan from 1983 established trail connectivity goals still relevant today: connect open spaces, town centers, and parks throughout the greater Portland area. This segment of the 40-Mile Loop will serve as a hub for reactional/active transit, supporting connections to neighborhoods and to larger regional and state trails.



Connectivity diagrams from the 1983 40-Mile Loop Master Plan.

Trail Name and Design Themes

The Troutdale to Springwater section of the 40-Mile Loop will need a more evocative name that references the trail character or local culture. The name will establish a sense of place for this segment of the 40-Mile Loop.

Listed below is a collection of terms that express our thinking and can be combined to create a name:

Environmental	**Built**	**Historical**
Valley	Corridor	Kon'-a-way (Chinook word for all)
Creek	Connection	Ko (Chinook word for reach)
Gorge	Link	Farming
Forest	Trail	Interurban
River	Approach	
Cascade	East Multnomah	

This list will expand and develop as we receive comments and progress through the project. Suggested names could be solicited from community members, local schools, or other groups to generate interest in the trail.

This section of the 40-Mile Loop is rich in history and culture that can be translated into themes to enhance the user experience and leave lasting impressions.

Some themes to consider as the design progresses include:

- **Indigenous Peoples –** The Chinook Illahee tribe has had a considerable impact on the Lower Columbia and Willamette Valley landscape. This area was inhabited by Upper Chinookan speakers including the Multnomah and Clackamas peoples. The Chinookans were known as skilled craftspeople who created distinct forms, artwork, and technologies that conveyed their utilitarian and ceremonial culture. This theme could be intrinsically connected to the trail through sculpture, material use, and interpretive storytelling.

- **Environmental/Natural History –** A focus on historical impacts of farming, industry, and development that shaped the current landscape character through the lens of ecological history and habitat significance. Interpretive opportunities can educate trail users about native wildlife species of rainbow trout, cedar waxwing, peregrine falcon, and norther flying squirrels, to name a few, and native plant species such as the black hawthorn, pacific dogwood, and Oregon grape.

- **Settlement History –** The Oregon Trail directly led to early settlements that shaped Troutdale and Gresham**.** This theme could speak to the complex beginnings of Troutdale and Gresham expressing the founders, noteworthy people, businesses and events that cultivated the east side of Portland as we see it today. For example, the significance of David Buxton the founder of Troutdale, and Captain John Harlow, who played an important role in creating the town; and the original settler James Powell, or Walter Gresham, the post master. The trail can relate back to the settler history through interpretive signage, town branded trail symbols/material, and alignment priorities.

- **Agricultural History** – The culture of farming has had a large impact on eastern Portland, especially in the Gresham area. Agriculture fueled the economy with farmers growing berries, grapes, cherries and vegetables. Some of these historic farm homes and fields are still present

today. The Gresham area has become known as a great stop for berries and the trail can highlight this cultural history through alignment selection and interpretive signage.

- **Fitness –** The trail can highlight the importance of physical activity. The Portland community is known for being active and adventurous; however, according to the Trust for American Health, Oregon has an obesity rate of 27.9%. Thus, there is always work to be done when it comes to healthy living.

Each of the themes suggested above can be expressed through educational wayfinding elements, use of local materials, the trail alignment, sculptural elements, and benchmarks. Additional themes may emerge through community engagement and as a preferred alignment is selected.

Precedents

There are several successful themed trails to look to as examples both locally and outside of our region. Locally, the newly completed Tualatin River Greenway features interpretive signs with information about the Ice Age, volcanic activity along the Ring of Fire, land use over time, native peoples, and historic flora and fauna found along the Tualatin River basin. Cast fossils, glacial erratics, and life size impressions of animal tracks enhance the trail users' experience.

Gateway to the "Walk Through Time" segment of the Tualatin River Greenway. The blue band of paving represents the duration of Ice Age Flooding.

Map of the Tualatin River Basin showing extents of Ice Age Flooding positioned in an overlook of the river.

Bands mark volcanic eruptions through time along the Tualatin River Greenway.

The Indianapolis Cultural Trail in Indiana connects six cultural districts and contains seven different public art projects and 25,400 square feet of stormwater planters. The Cultural Trail is effectively branded as it winds through downtown Indianapolis with unified materials and signs, and the alignment supports many cultural destinations.

Unified materials allow users to easily identify the Cultural Trail regardless of where they are along the route.

Public art in a trail roundabout along the Cultural Trail.

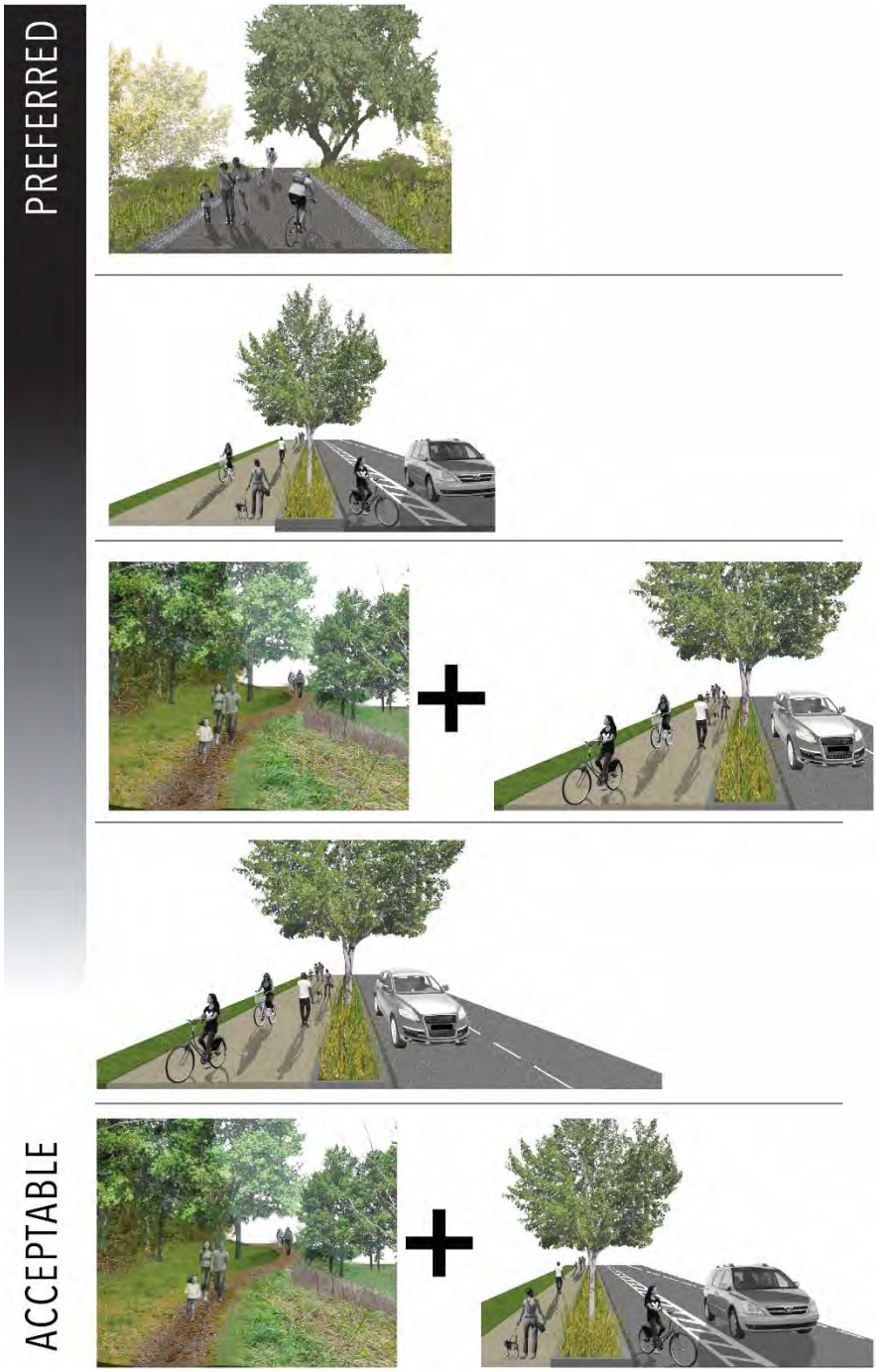
Trail Width and User Types

Through review of background documents, tours of the trail corridor, and discussions with project stakeholders, four initial trail cross section alternatives have emerged. These four cross sections will be used to inform alignment alternatives as the Master Plan moves forward.

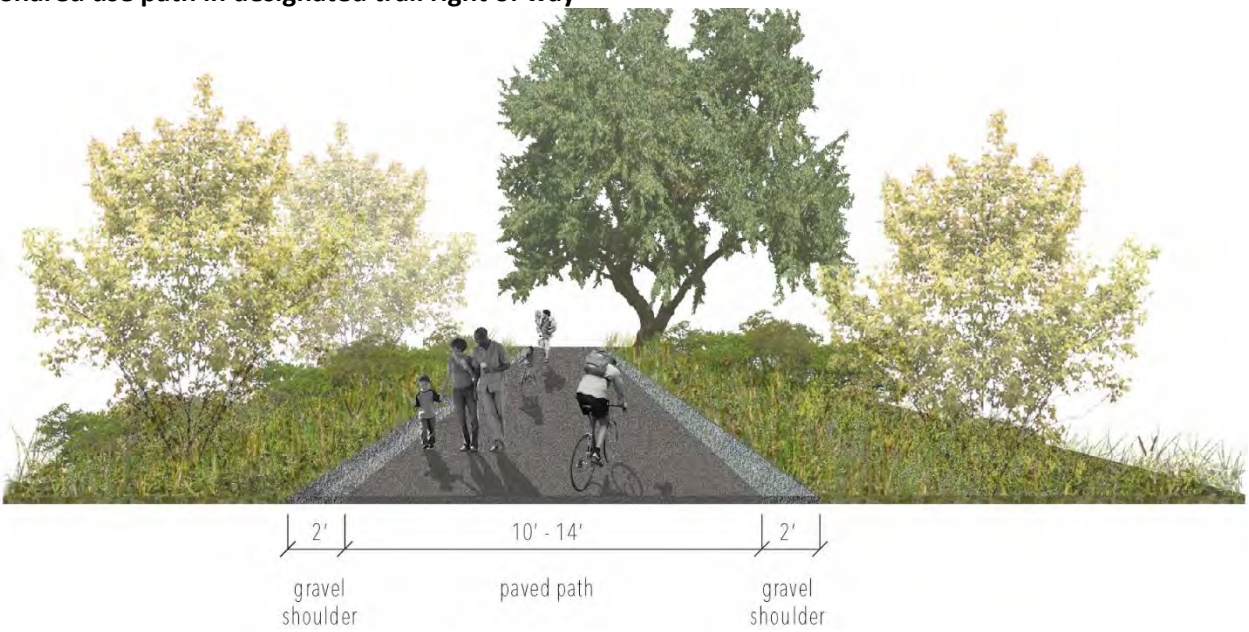
User groups:

The 40-Mile Loop is intended to be used by pedestrians/hikers and cyclists, and is designed to be accessible to the extent possible depending on terrain and adjacent topography. Segments of the trail to the north and south of the Troutdale to Springwater Trail allow equestrian use; therefore, equestrian use is being considered for this segment.

Continuum of preferred trail width and location:
After reviewing local, regional, and statewide trail standards and best practices regarding trail and pathway width with project stakeholders, a continuum of preferred trail cross sections emerged. These cross sections will be used to determine potential trail alignments and considered when a preferred alignment is selected. The most preferred trail condition is a paved, 10-12' wide shared use pathway within a designated trail right of way that is suitable for users of all ages and abilities and may include a widened shoulder for equestrians or off-road cyclists. The minimum acceptable condition is hiking trail with a parallel on-street buffered bicycle route and sidewalk. Larger cross sections with example photos are included on the following pages.

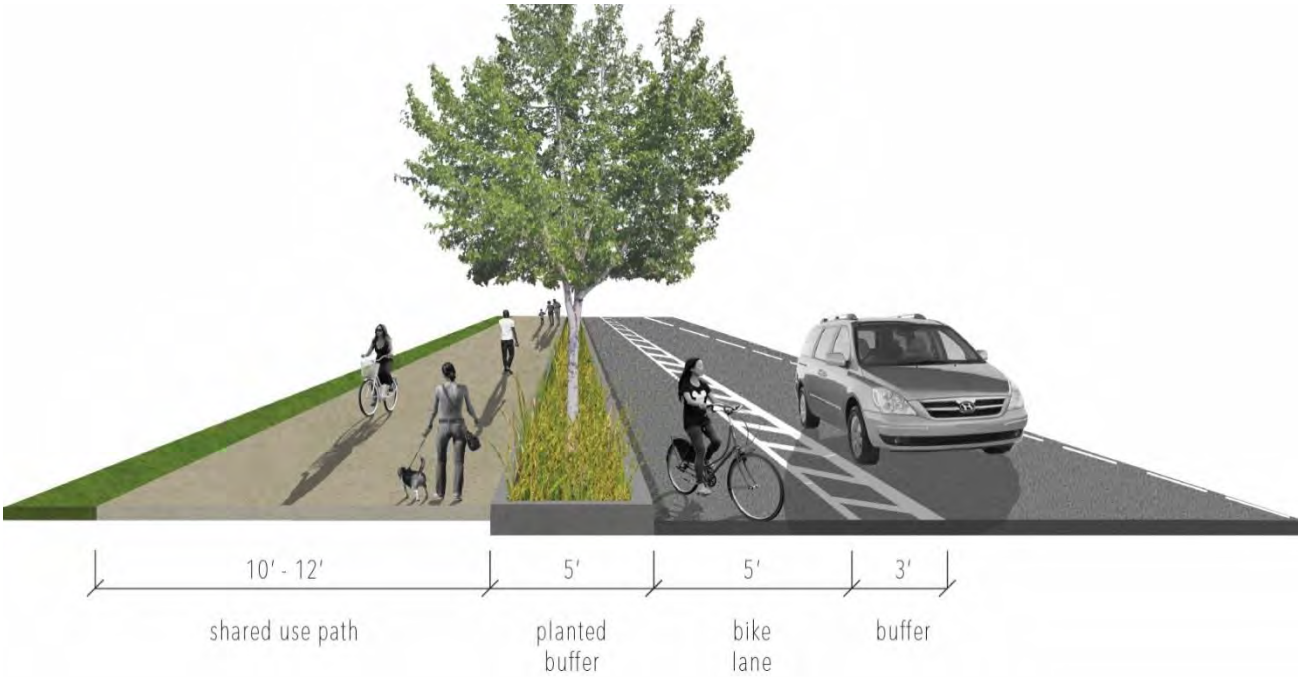


Shared use path in designated trail right of way



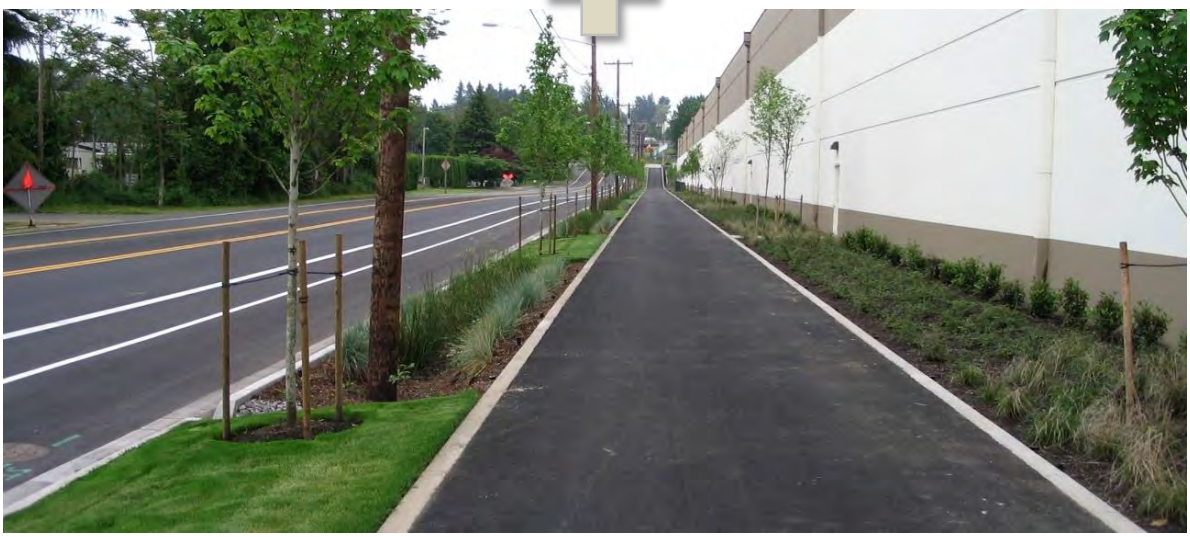
10' – 14' Wide paved shared use path in designated trail right of way.

Shared use path within the road right of way and an on-street buffered bike lane



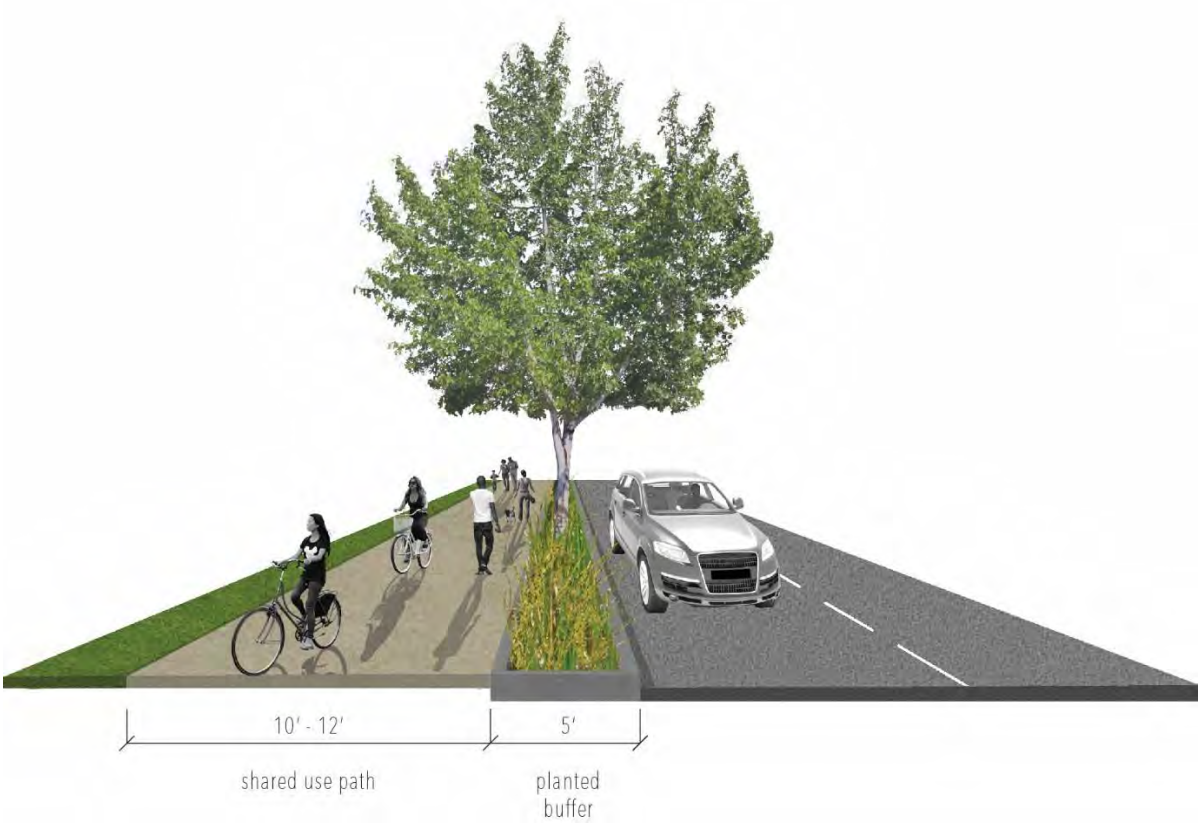
Hiking trail with parallel shared use path within the road right of way

6' trail corridor



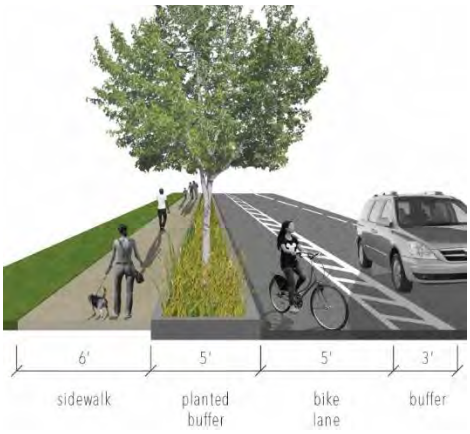
10' – 12' Wide paved shared use path within the road right of way

Shared use path within the road right of way



10' – 12' Wide paved shared use path within the road right of way

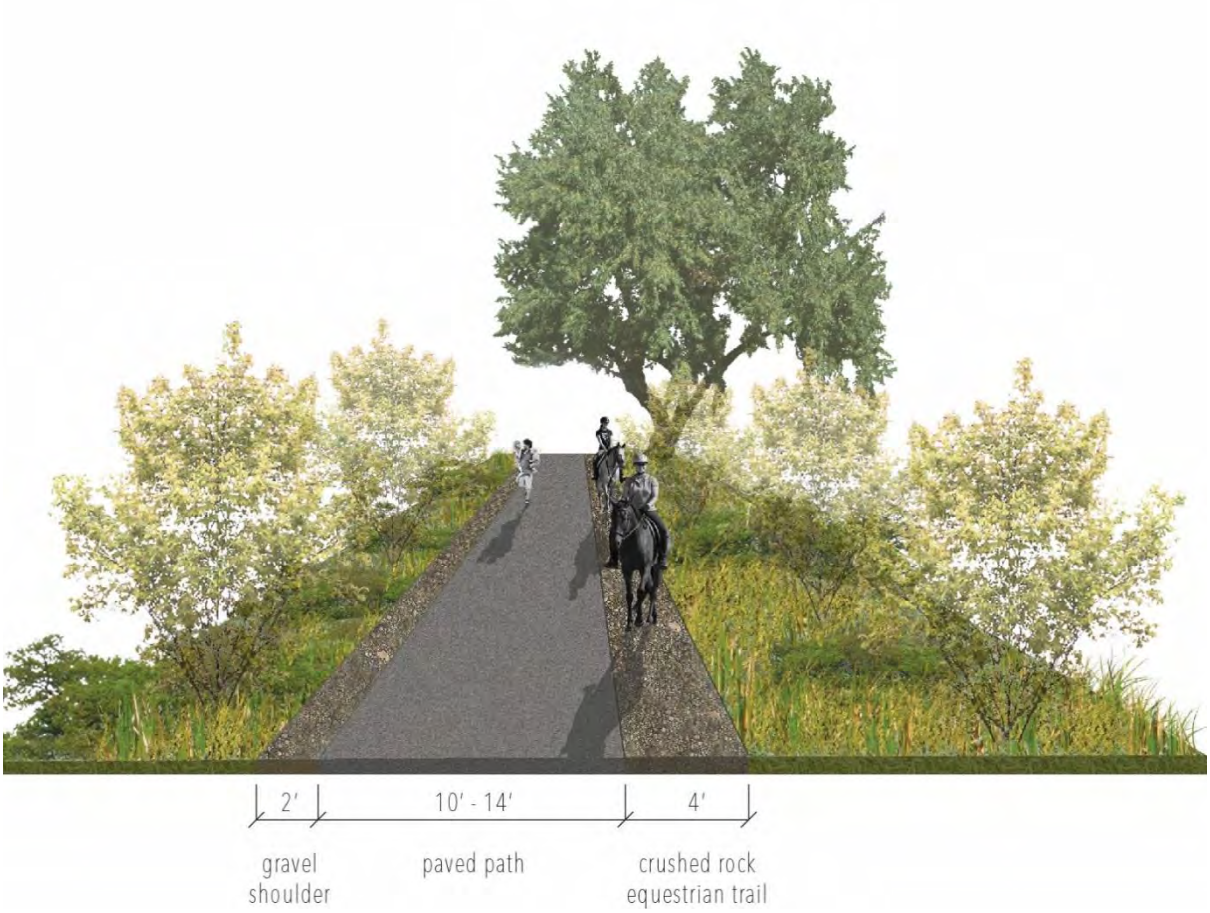
Hiking trail with parallel on-street route



6' trail corridor

5' bike lane with 3' buffer

Equestrian trail



Paved path with 4' equestrian trail

Crossing Conditions

There are four general crossing scenarios that will likely occur throughout the corridor. In subsequent planning phases, specific crossings will be conceptually designed and reviewed by the consultant team's transportation engineer, Lancaster Engineering. Each of the diagrams and descriptions below are intended to comply with the 2012 AASHTO *Guide for the Development of Bicycle Facilities* design guidelines for shared use paths.

Shared Use Pathway Street Crossing

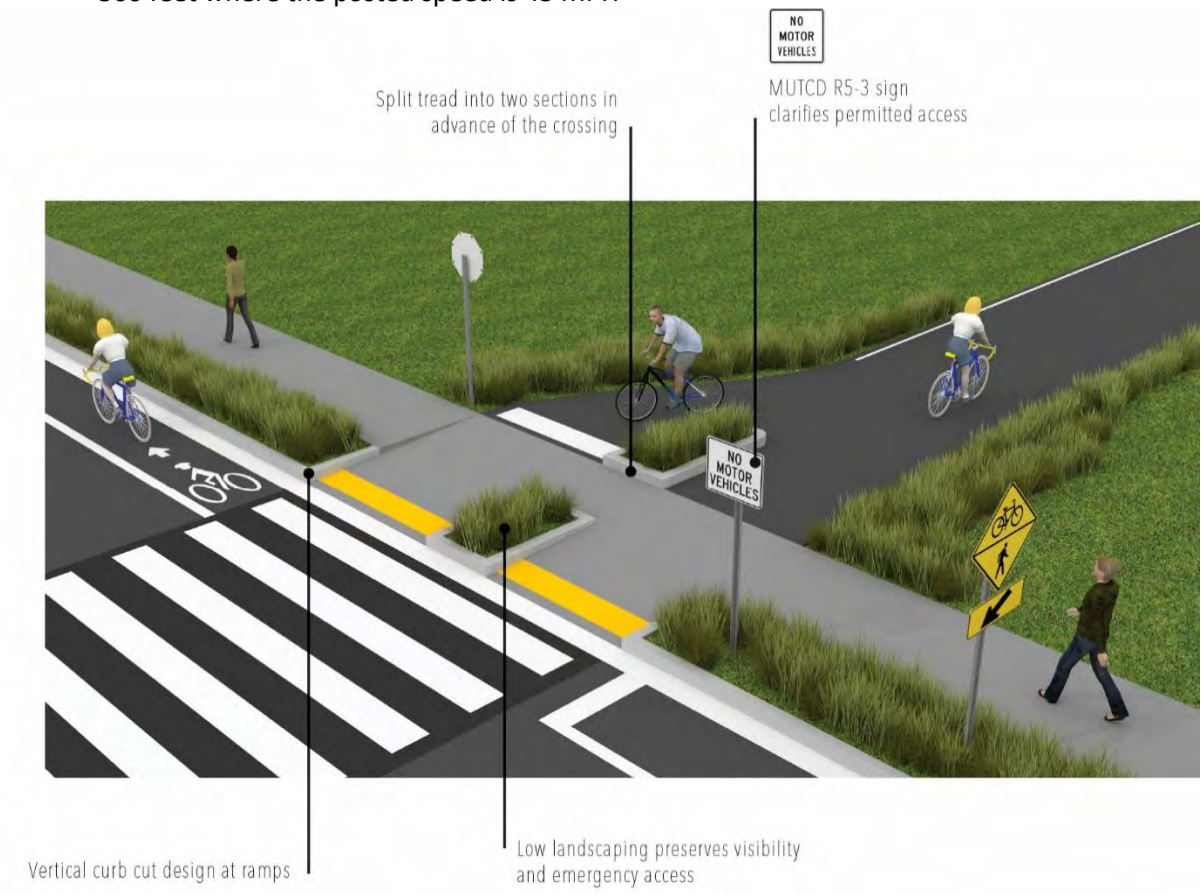
At intersections with streets where traffic volumes are within the acceptable limits and visibility is good the pathway crossing will be signed and marked consistent with local standards. Splitting the tread eliminates the need for bollards which can be hazardous to bicyclists, especially at night, and deters motor vehicles from turning onto the pathway.

Acceptable traffic volumes are defined in AASHTO to be:

- ≤9,000 – 12,000 ADT (average daily traffic)
- Up to 15,000 ADT on two-lane roads, preferably with a median
- Up to 12,000 ADT on four-lane roads with a median

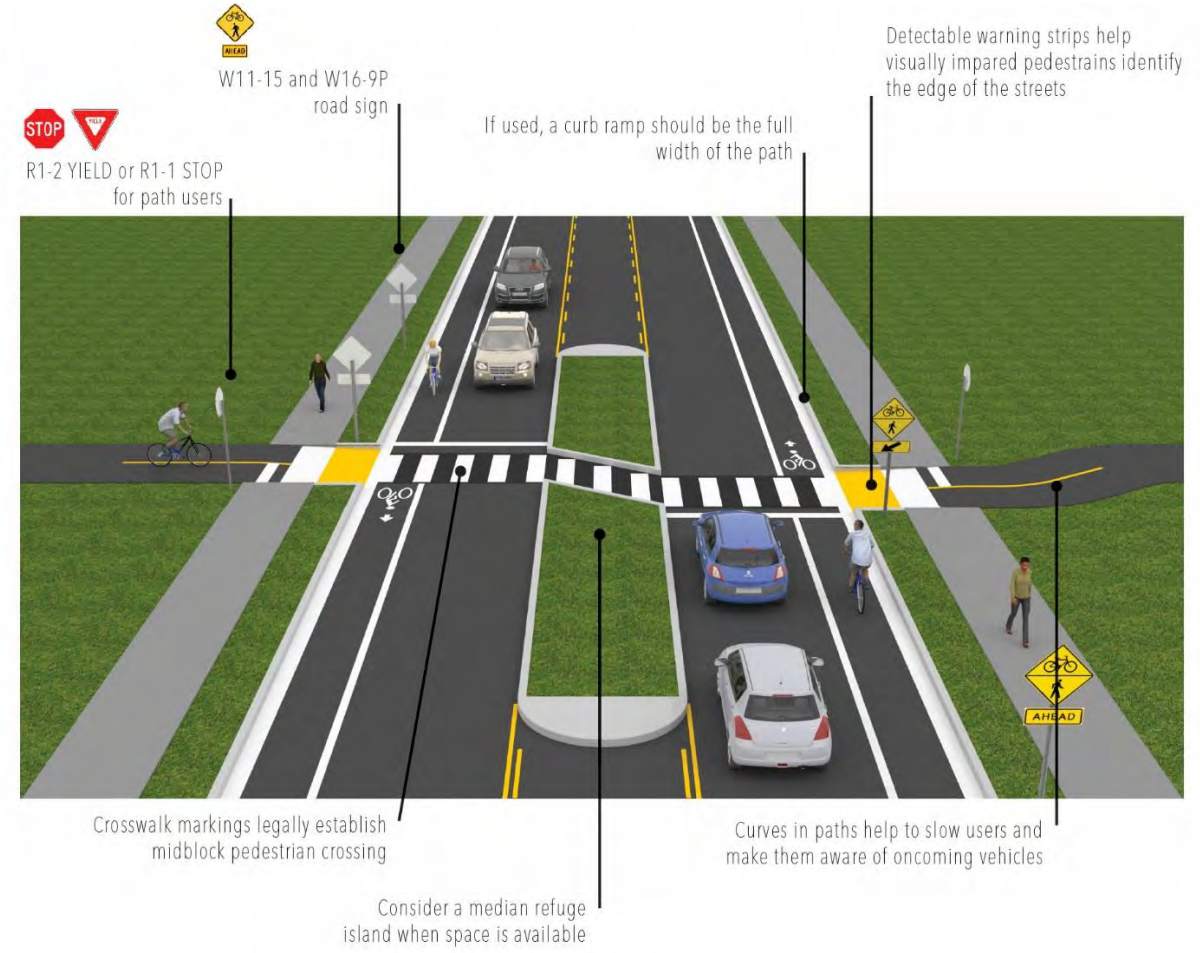
The maximum posted speed limit should be 35 miles per hour or less where the crossing is not signalized. Maximum lines of site are based on travel speed and are defined by AASHTO as:

- 155 feet where the posted speed is 25 MPH
- 250 feet where the posted speed is 25 MPH
- 360 feet where the posted speed is 45 MPH



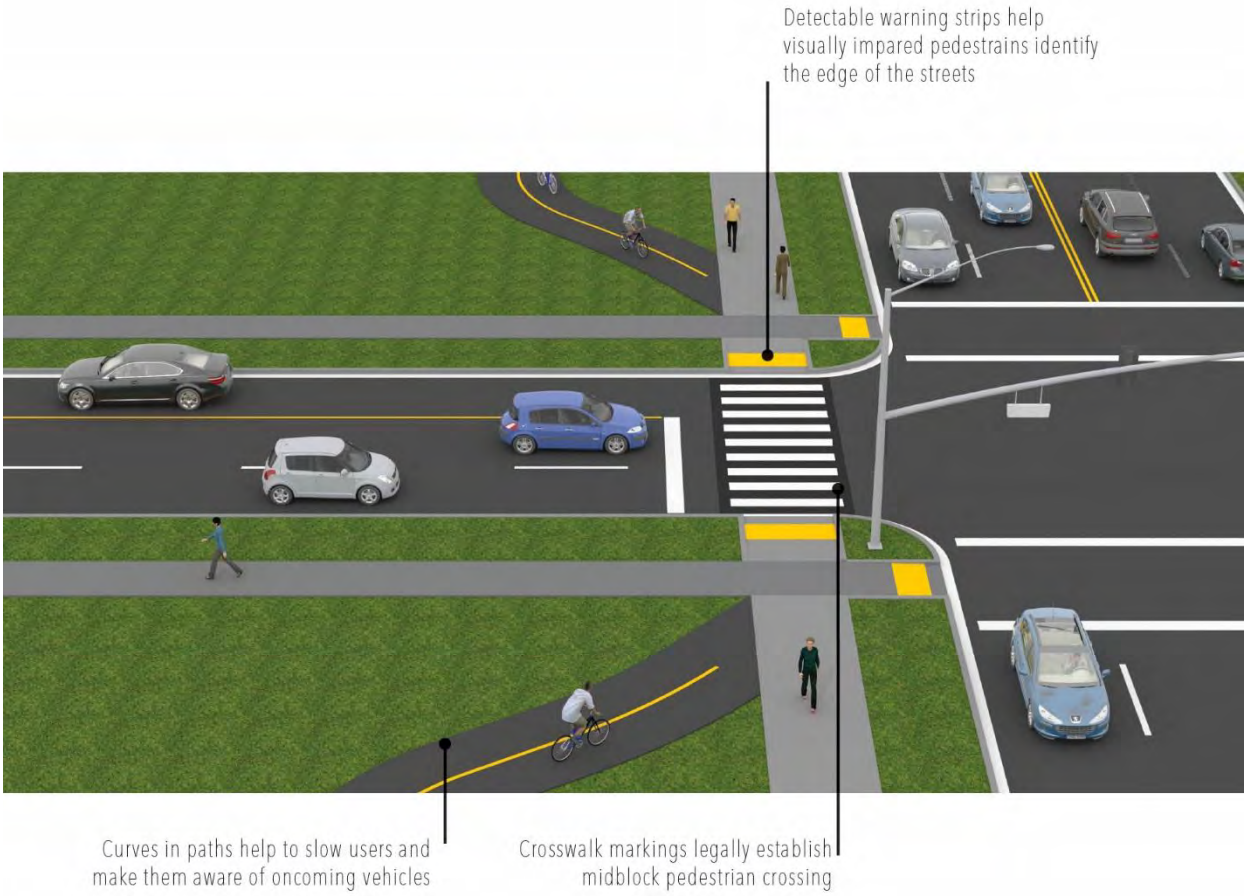
Shared Use Pathway Street Crossing with Median

On streets with two or more lanes of traffic moving in the same direction, including a median in the center of the road allows trail users to negotiate the crossing in two phases. Off-set crossings slow trail users and encourage eye contact between trail users and oncoming motor vehicles before the trail user proceeds into the street. Advanced warning signs alert vehicle drivers to the presence of a trail crossing ahead.



Shared Use Path Street Crossing at an Intersection

On streets with exceptionally high traffic volumes, or in locations where the trail alignment is close to an existing signalized intersection, the pathway should curve to align with the existing sidewalk. Trail users can use the existing crosswalk and crossing signal to cross the street, and proceed along the trail.



Bridge crossing

The southern end of the Troutdale to Springwater Trail will likely need to cross Highway 26. At present, there are a limited number of existing signalized crossings and no designated bicycle/pedestrian bridge exists. There are a few other locations throughout the corridor where the trail may need to cross a creek or river. Bridge designs should include the 2’ shoulders within the bridge deck and may be designed accommodate emergency or maintenance vehicles. A rub rail should be designed to the height of an average cyclists handlebars and should align with the outside edge of the travelway.

APPENDIX F – TROUTDALE CROSS SECTIONS

MEMO

DATE: 10.11.2016 REV 10.27.2016
PROJECT: 40-Mile Loop – Troutdale to Gresham Trail Master Plan
FROM: Robin Wilcox, PLACE
TO: Robert Spurlock, Chris Damgen, Ryan Krueger, Craig Ward

SUBJECT: Recommended Alignment Cross Sections – working draft

INTRODUCTION

The following cross sections reflect assumptions used for cost estimating purposes during the previous phase of work. Feedback regarding these assumptions will be used to prepare character cross sections of the recommended alignment to discuss with project stakeholders and members of the community for the project open house.

Alignment Alternatives - Troutdale

The cross sections below are based on previous discussions with the Project Management Team, project stakeholders, Metro's Active Transportation Plan, bicycle design best practices, and desire for consistency with the continuation of the 40-Mile Loop both north of Troutdale and through Gresham.

The attached cross sections for this segment of the 40-Mile Loop through Troutdale are intended to assist in the evaluation of route alternatives between downtown Troutdale and Mt Hood Community College. Five different options are currently being considered:

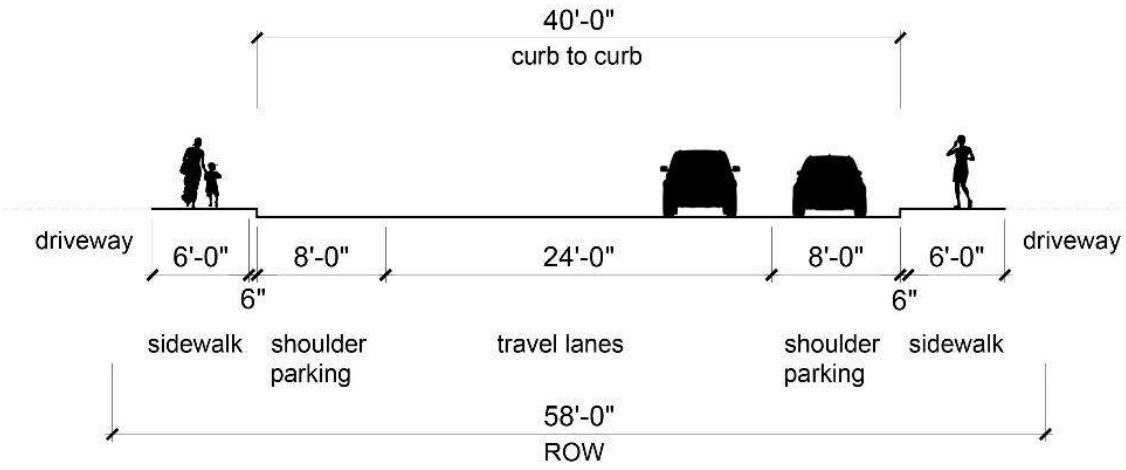
1. SE Buxton Road – Shared use pathway adjacent to SE Buxton Road within the existing road right of way. Traffic counts from 2013 showed Buxton Road has an Average Daily Traffic (ADT) of 3,063.
2. SE Sandy Avenue
    a. Addition of a shared use pathway adjacent to the existing two-lane, two-way street. The assumption was that the shared us pathway would be on the east side of the roadway and that the existing sidewalk would remain in place.
    b. Convert one lane of vehicle traffic to shared use pathway. Two options are shown:
        - Roadway widened slightly to accommodate a 10-12' shared use path
        - Roadway to remain the same width; pedestrians will use the sidewalk and a two-way cycle track will be striped on the eastern side of Sandy Avenue.
3. Beaver Creek Canyon
    a. Upgrade the existing natural surface trail within a utility easement behind houses along SE Evans Avenue to accommodate a 12-14' wide shared use pathway and extend the new shared use pathway through the utility easement south of the existing trailhead toward Mt Hood Community College.
    b. Upgrade the existing natural surface trail within a utility easement behind houses along SE Evans Avenue to accommodate a 12-14' wide shared use pathway and transition to an on-street route / neighborhood greenway (bikes share the road and pedestrians follow existing sidewalks) along SE Evans Avenue between the existing trailhead and SE 23rd Street. At SE 23rd Street, a new trailhead will connect users to a new shared use pathway adjacent to Beaver Creek toward Mt Hood Community College.

At this time, the consultant team is reviewing traffic count data from Multnomah County and collecting new traffic count data for SE Sandy Avenue and SE Evans Avenue and reviewing a Safe Routes to School Plan for Troutdale Elementary. For reference, the NACTO Urban Bikeway Design Guide (the Guide),

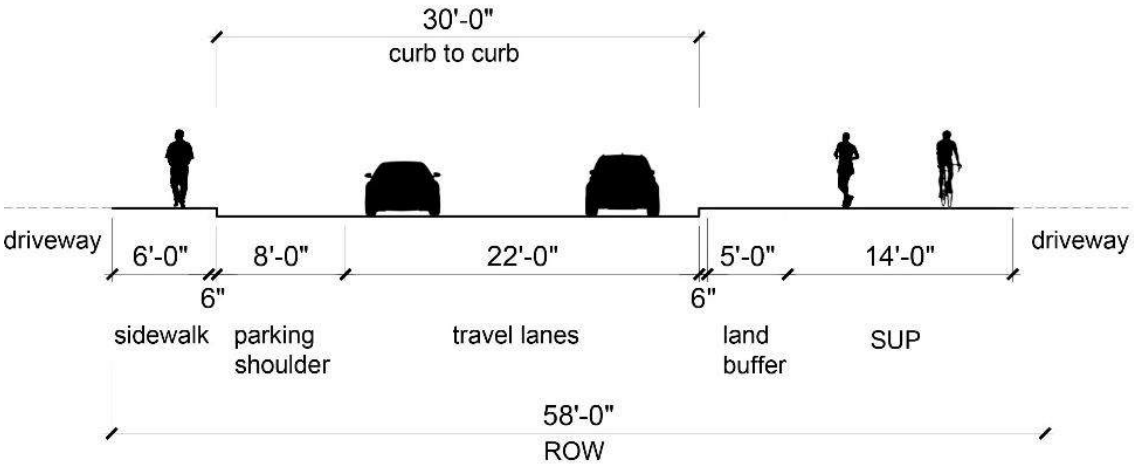
referenced in Metro's Active Transportation Plan recommends a bicycle facility with greater separation (such as a buffered bike lane or cycle track) on streets with high traffic volumes, regular truck traffic, or speeds greater than or equal to 35 miles per hour.

1 – SE Buxton Road

Note: 58' ROW is approximate based on GIS data



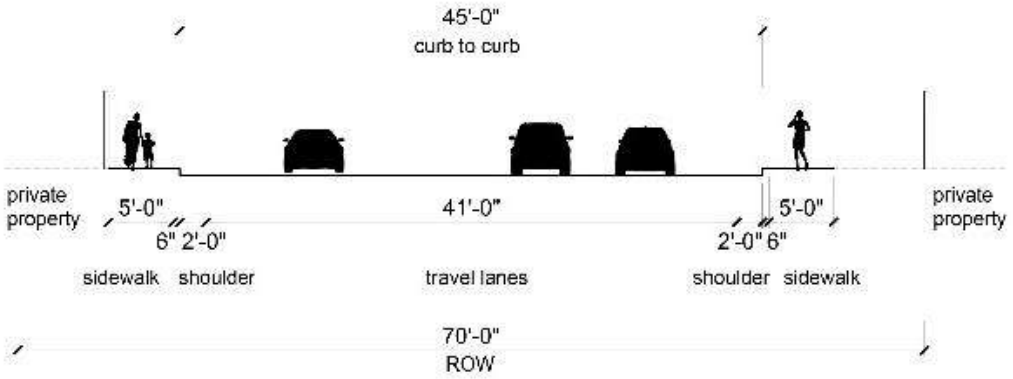
SE Buxton Road – Existing



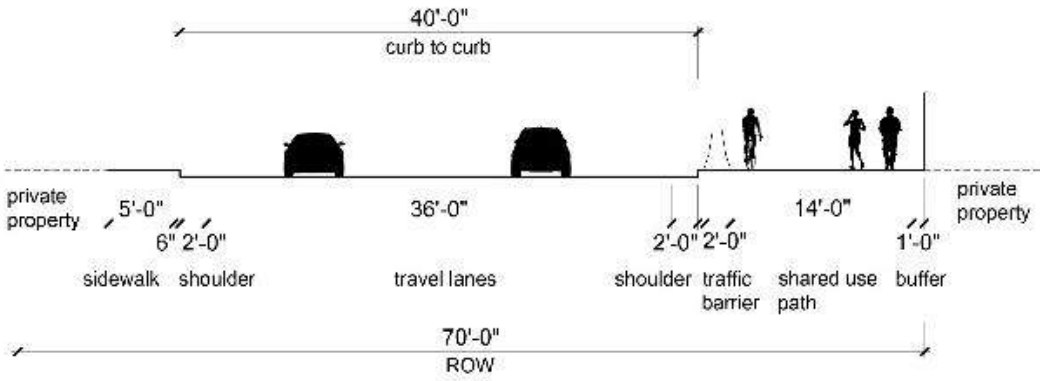
SE Buxton Road – Proposed

1 – SE Buxton Road

Note: 70' ROW is approximate based on GIS data



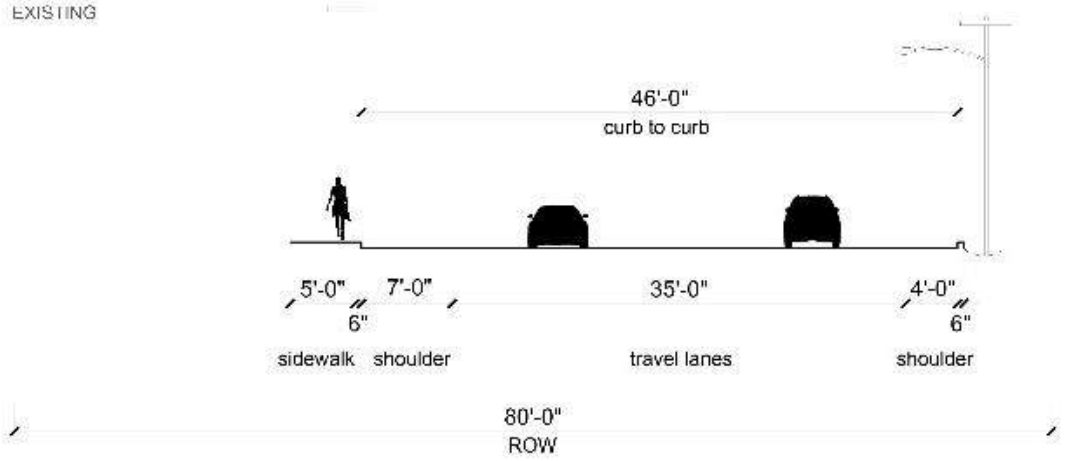
S Troutdale – Existing between SE Cherry Park Rd and SE Sandy Ave



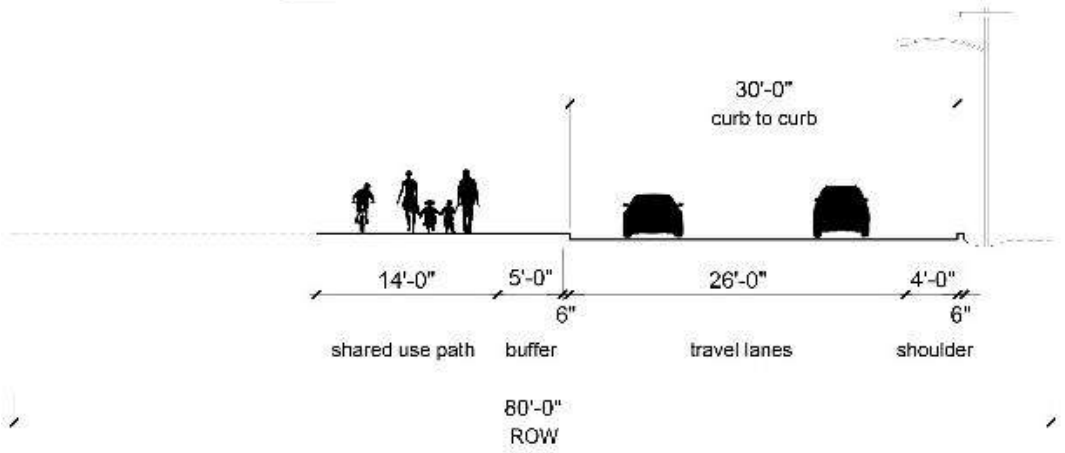
S Troutdale – Proposed shared use path between SE Cherry Park Rd and SE Sandy Ave

1 – SE Buxton Road

Note: 80' ROW is approximate based on GIS data



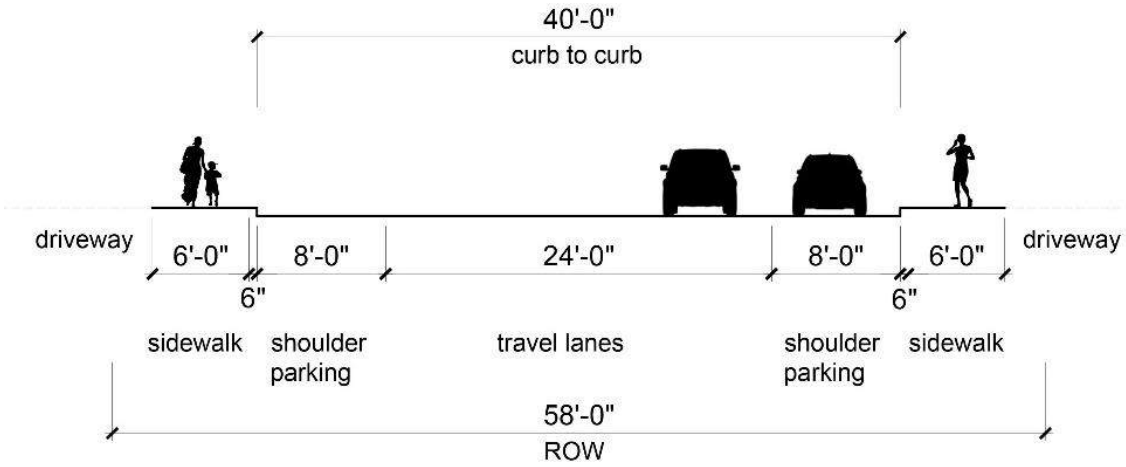
S Troutdale – Existing south of SE Sandy Ave



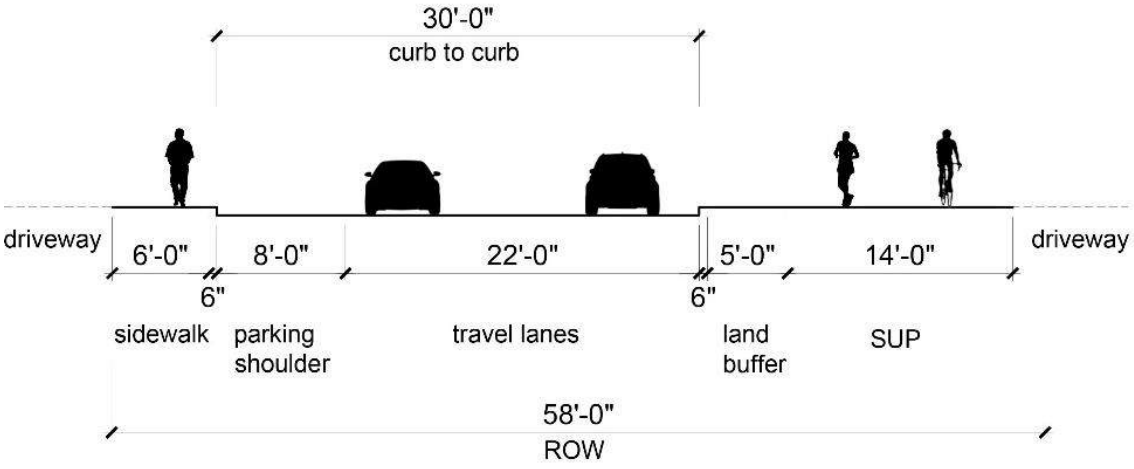
S Troutdale – Proposed shared use path south of SE Sandy Ave

2a – SE Sandy Avenue (two-way vehicle traffic to remain)

Note: 58' ROW is approximate based on GIS data



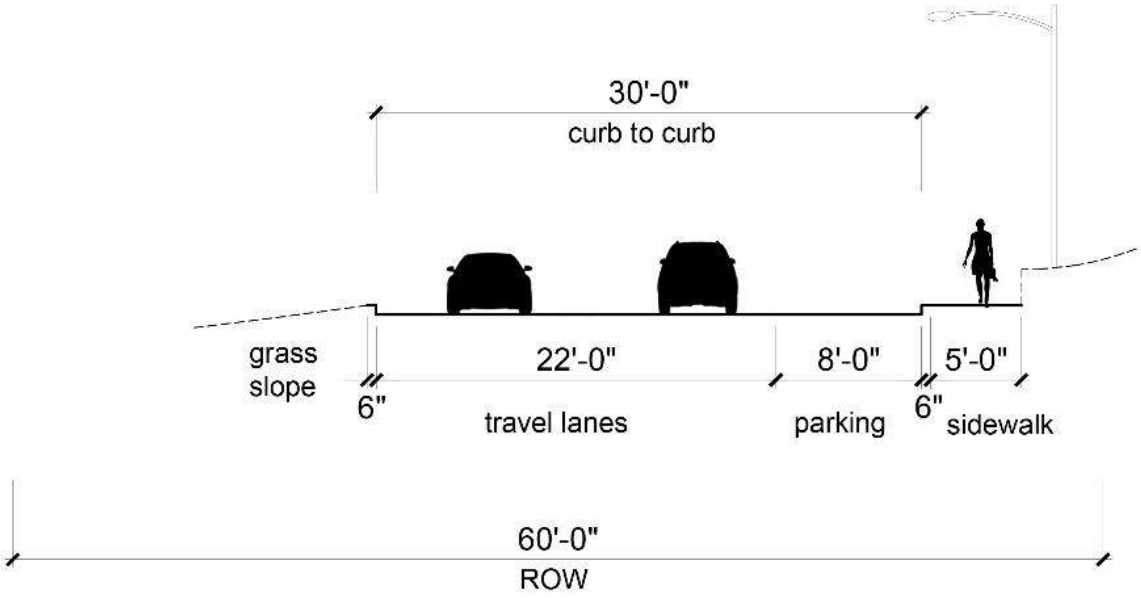
SE Buxton Road - Existing



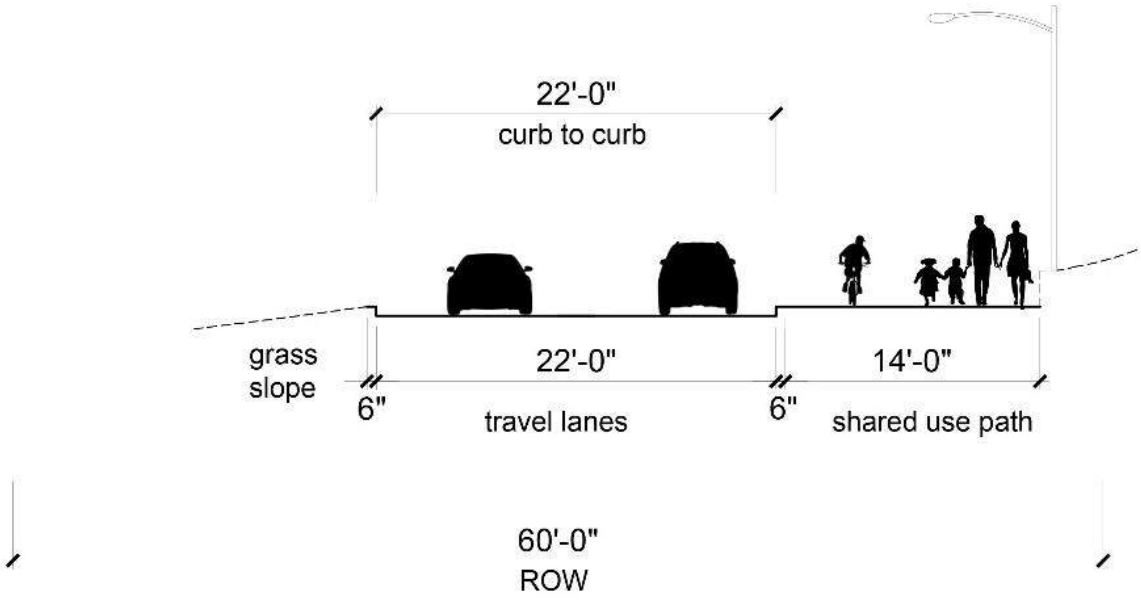
SE Buxton Road - Proposed

2a – SE Sandy Avenue (two-way vehicle traffic to remain)

Note: 60' ROW is approximate based on GIS data



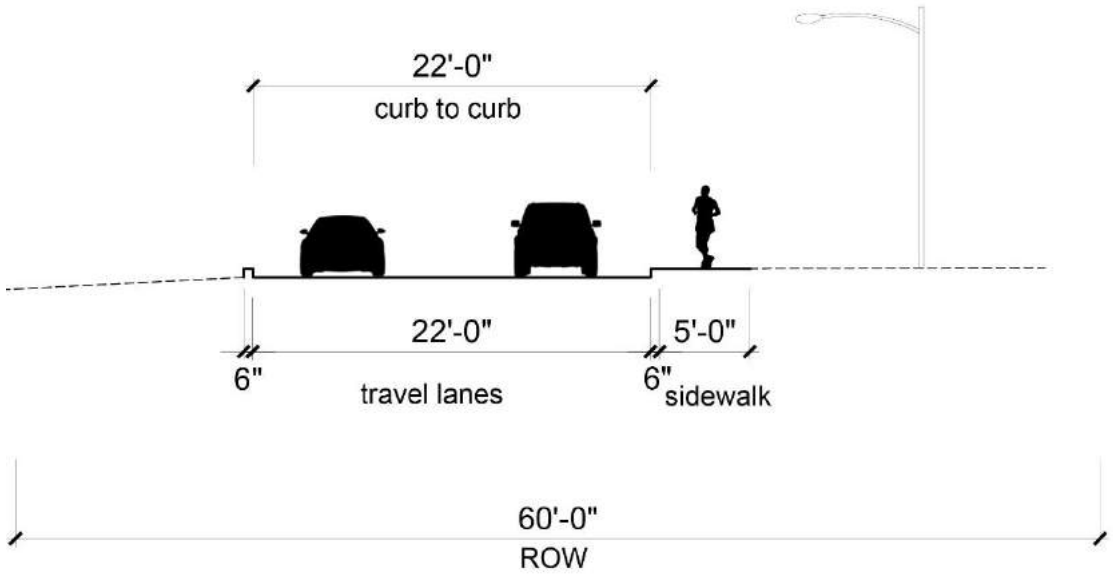
SE 3rd Street – Existing between SE Buxton and SE Harlow



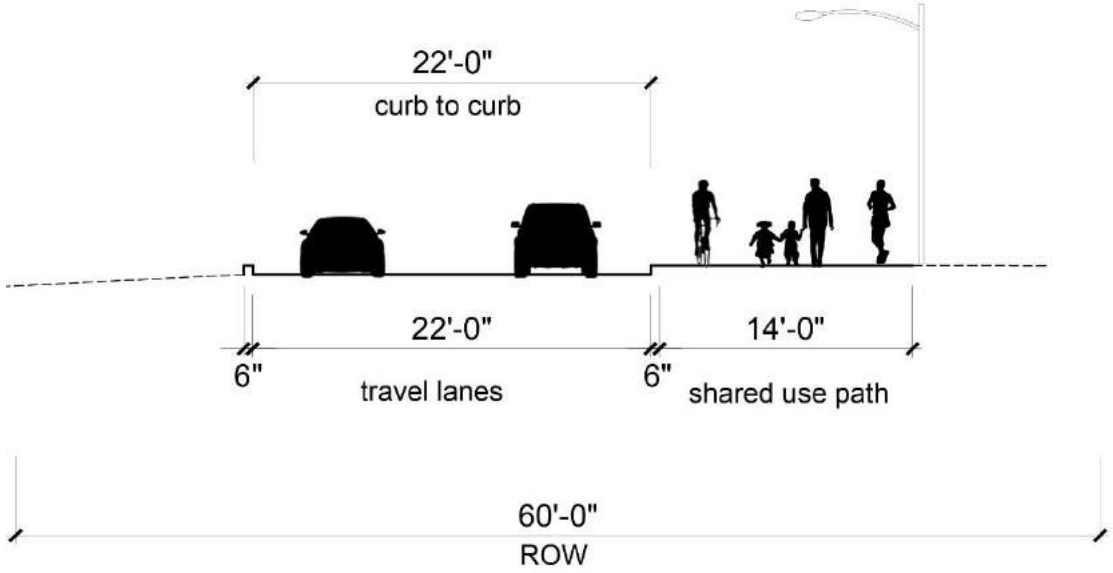
SE 3rd Street – Proposed shared use path between SE Buxton and SE Harlow

2a – SE Sandy Avenue (two-way vehicle traffic to remain)

Note: 60' ROW is approximate based on GIS data



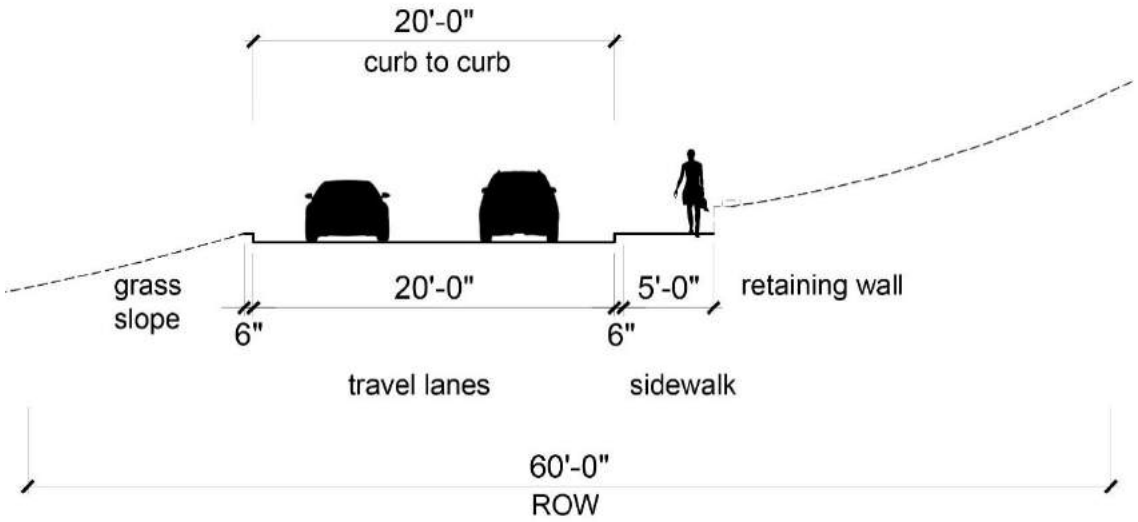
SE 3rd Street – Existing between SE Harlow Ave and SE Sandy Ave



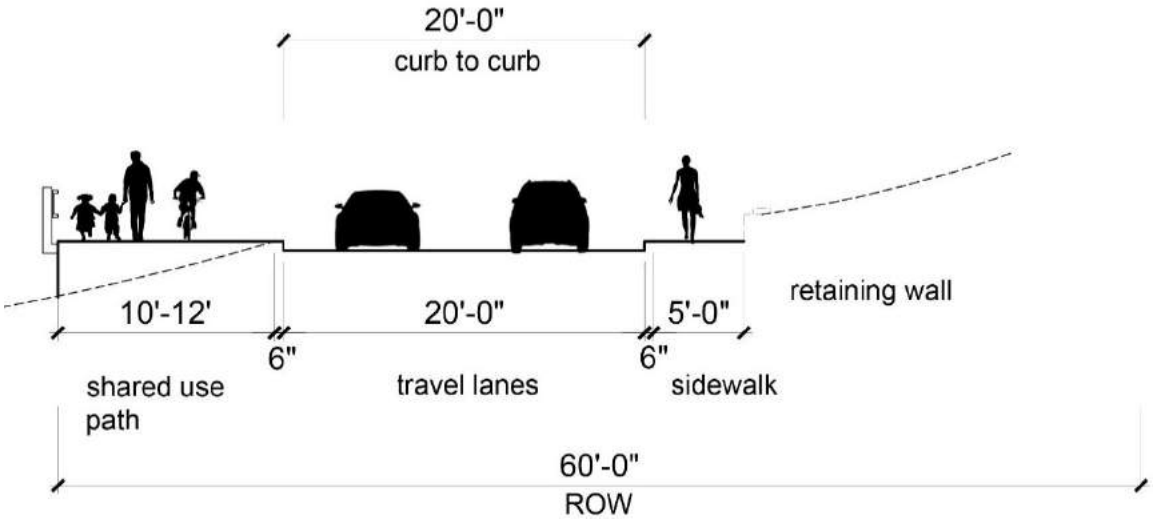
SE 3rd Street – Proposed shared use path between SE Harlow Ave and SE Sandy Ave

2a – SE Sandy Avenue (two-way vehicle traffic to remain)

Note: 60' ROW is approximate based on GIS data



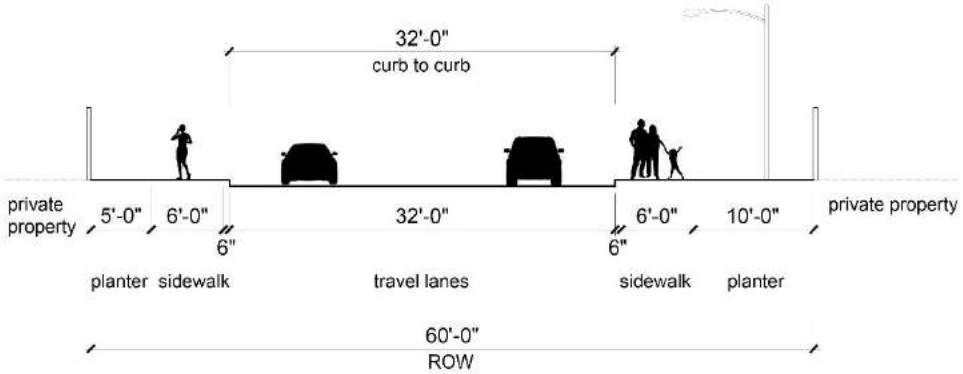
SE Sandy Avenue – Existing between SE 3rd St and SE Harlow Ave



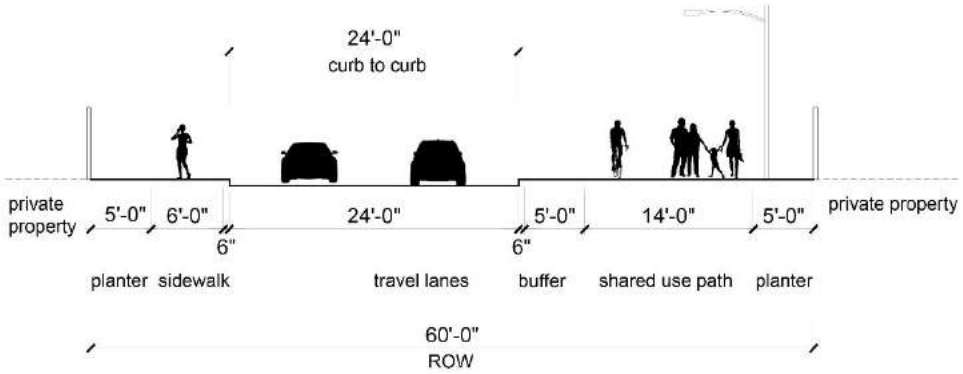
SE Sandy Avenue – Proposed shared use path between SE 3rd St and SE Harlow Ave

2a – SE Sandy Avenue (two-way vehicle traffic to remain)

Note: 60' ROW is approximate based on GIS data



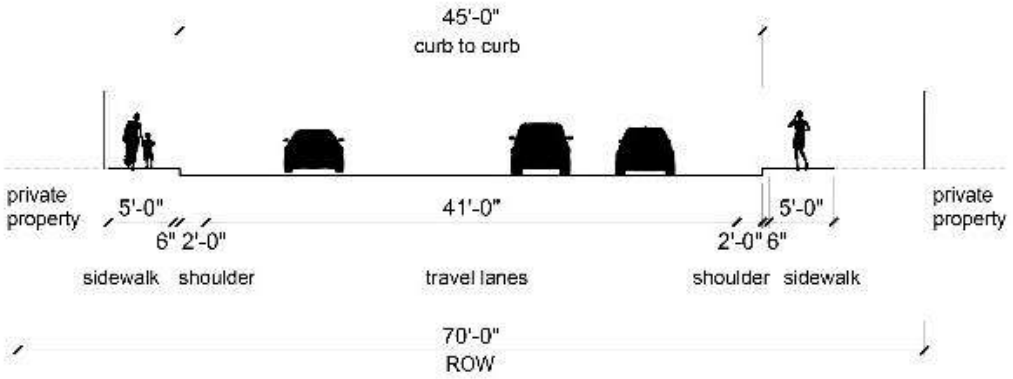
SE Sandy Avenue – Existing between SE 8th St and S Troutdale Rd



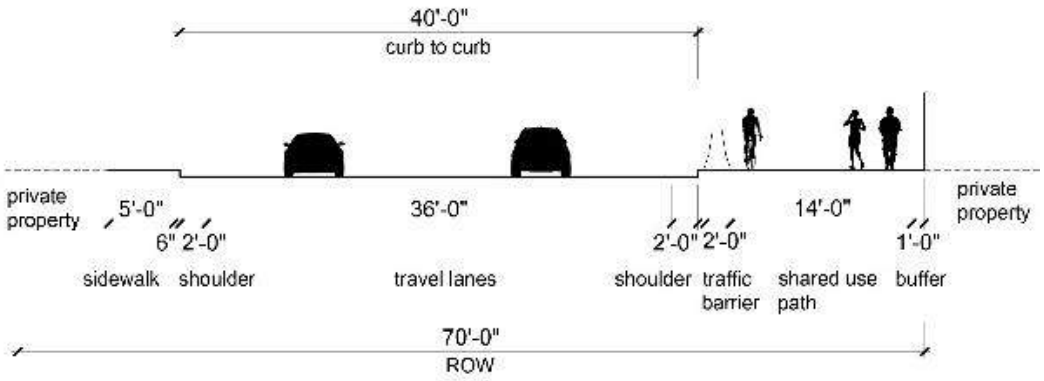
SE Sandy Avenue – Proposed shared use path between SE 8th St and S Troutdale Rd

2a – SE Sandy Avenue (two-way vehicle traffic to remain)

Note: 70' ROW is approximate based on GIS data



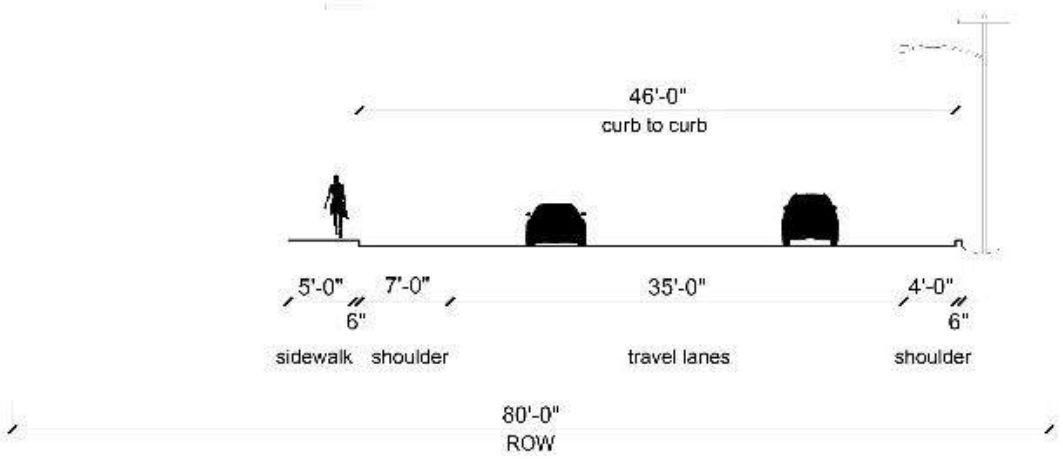
S Troutdale – Existing between SE Cherry Park Rd and SE Sandy Ave



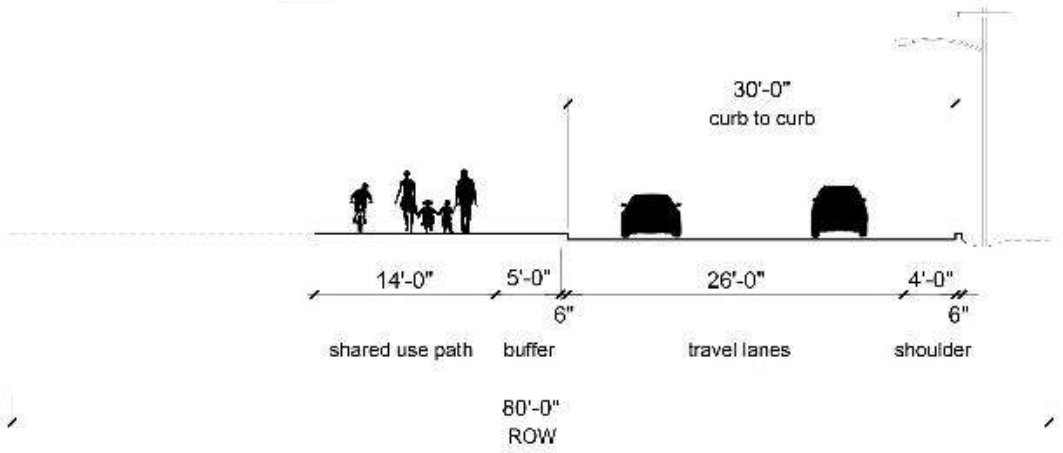
S Troutdale – Proposed shared use path between SE Cherry Park Rd and SE Sandy Ave

2a – SE Sandy Avenue (two-way vehicle traffic to remain)

Note: 80’ ROW is approximate based on GIS data



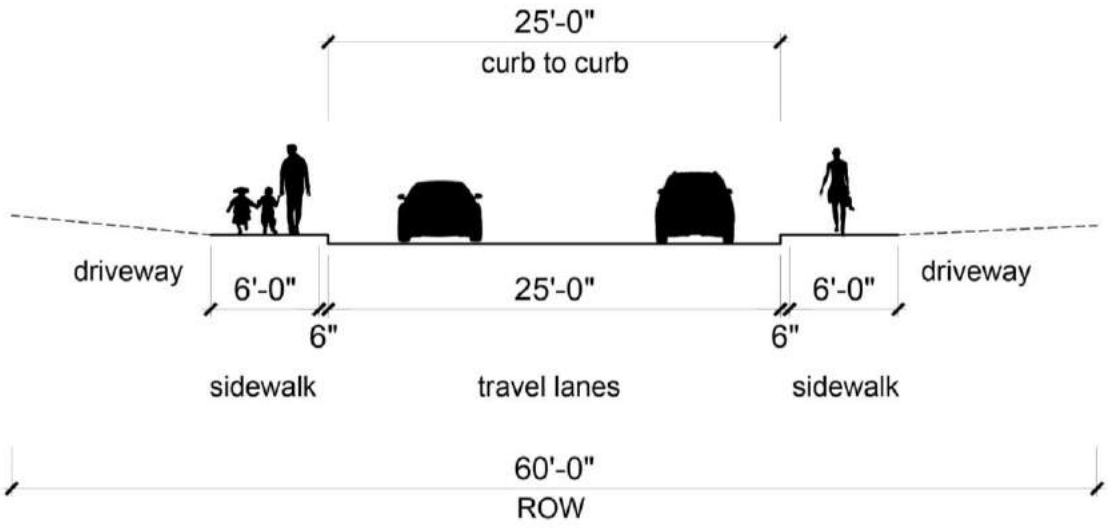
S Troutdale Road – Existing south of SE Sandy Ave



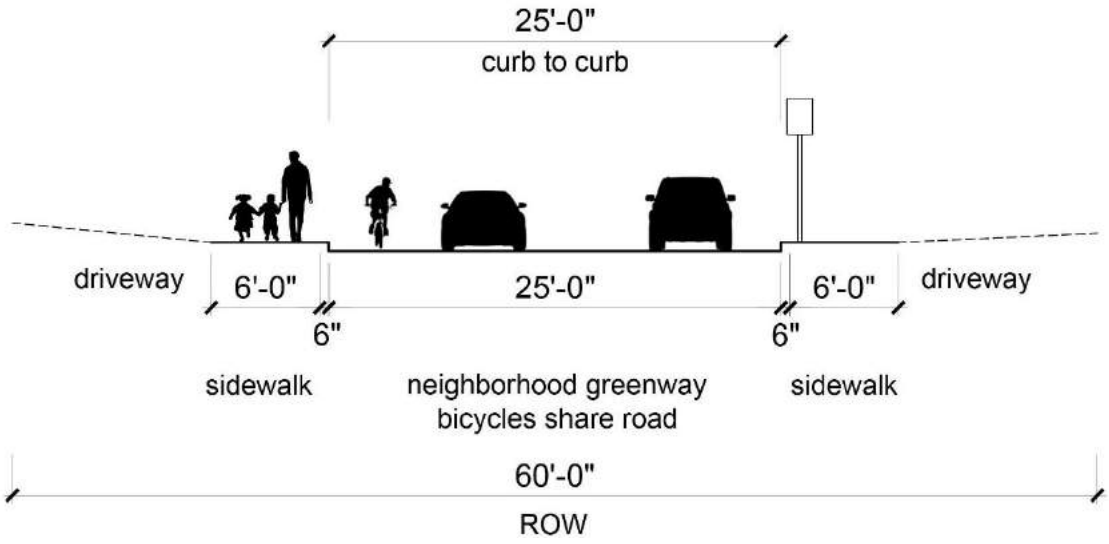
S Troutdale Road – Proposed shared use path south of SE Sandy Ave

2b – SE Sandy Avenue (one way vehicle traffic between SE 4th St and SE Harlow Ave)

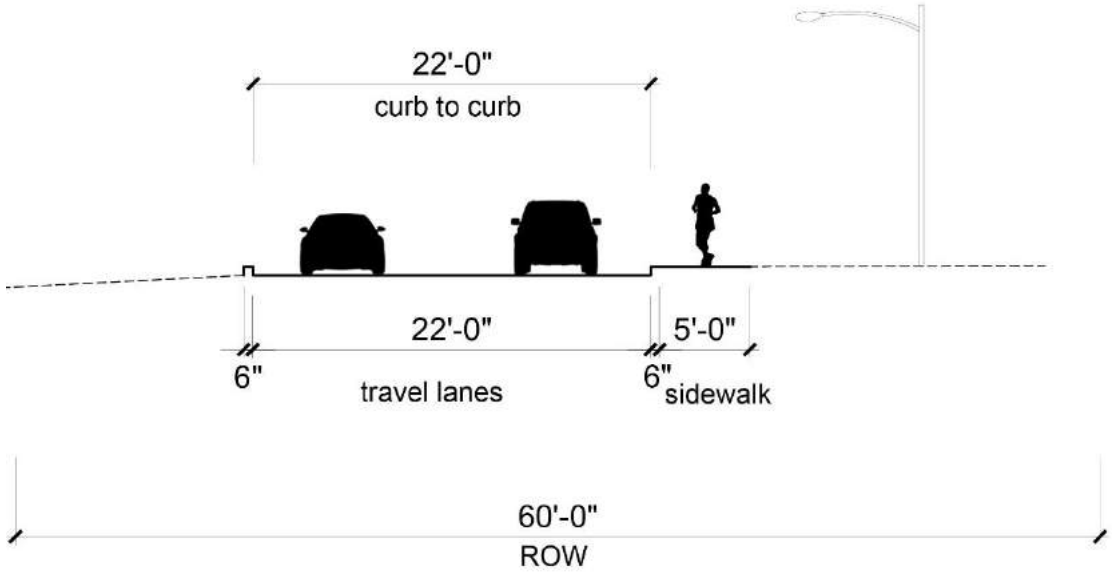
Note: 60' ROW is approximate based on GIS data



SE Harlow Avenue - Existing

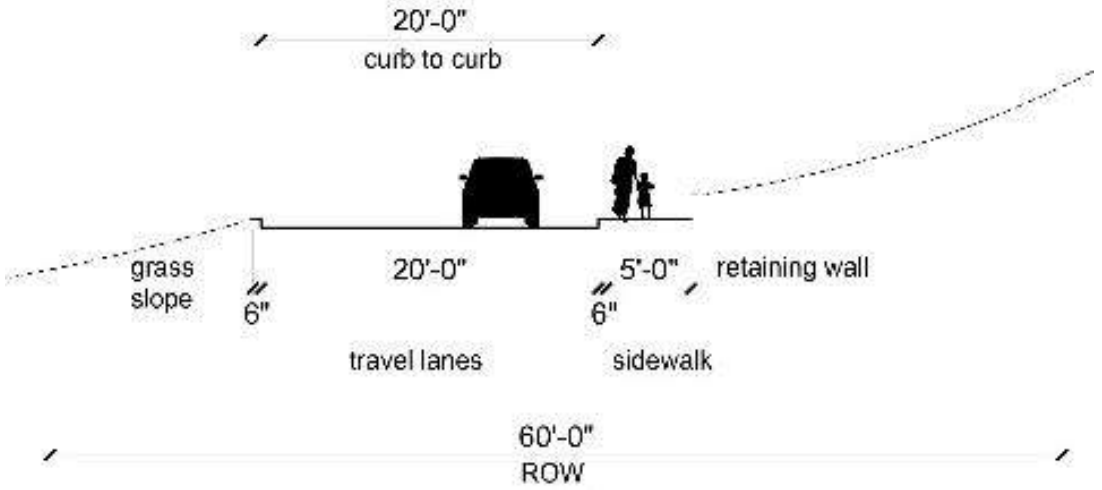


SE Harlow Avenue - Proposed

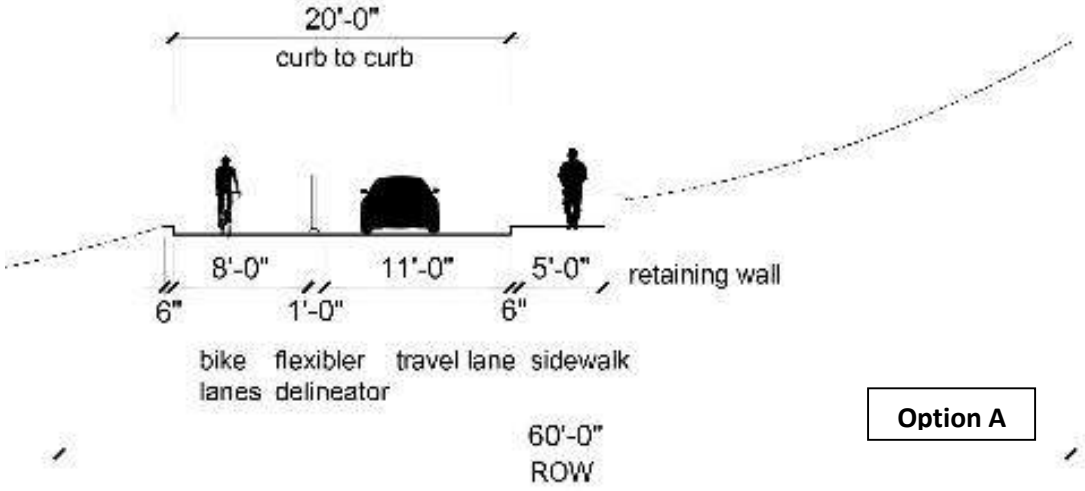
2b – SE Sandy Avenue (one way vehicle traffic between SE 4th St and SE Harlow Ave)
Note: 60' ROW is approximate based on GIS data    **SE 3rd Street –** Existing between SE Harlow Ave and SE Sandy Ave
SE 3rd Street – Proposed neighborhood greenway (bikes share roadway with cars) with existing sidewalk between SE Harlow Ave and SE Sandy Ave

2b – SE Sandy Avenue (one way vehicle traffic between SE 4th St and SE Harlow Ave)

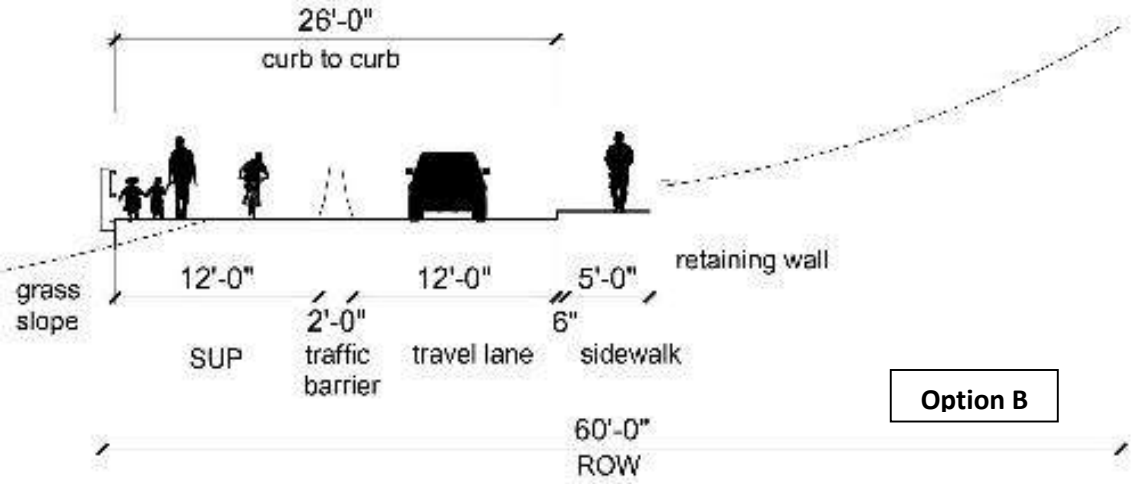
Note: 60' ROW is approximate based on GIS data



SE Sandy Avenue – Existing between SE 3rd St and SE Harlow Ave



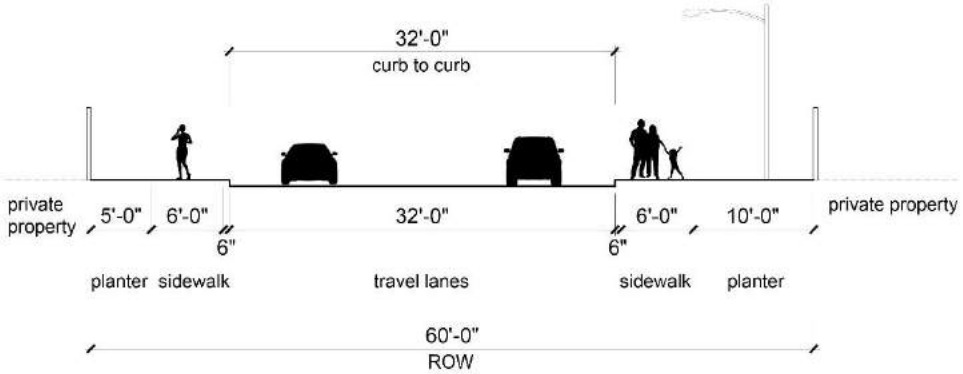
SE Sandy Avenue – Proposed separated bike lanes and sidewalk between SE 3rd St and SE Harlow Ave



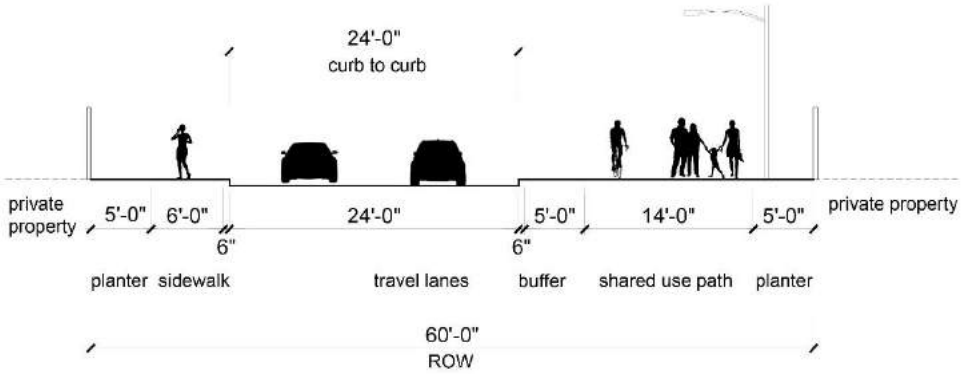
SE Sandy Avenue – Proposed shared use path between SE 3rd St and SE Harlow Ave

2b – SE Sandy Avenue (one way vehicle traffic between SE 4th St and SE Harlow Ave)

Note: 60' ROW is approximate based on GIS data



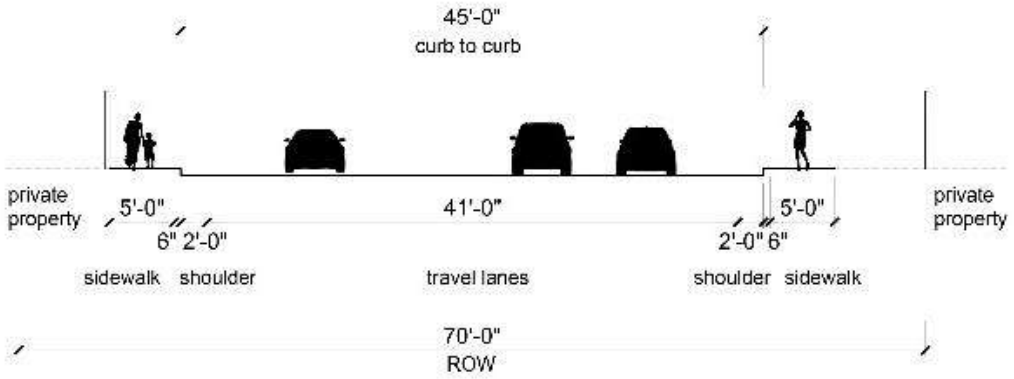
SE Sandy Avenue – Existing between SE 8th St and S Troutdale Rd



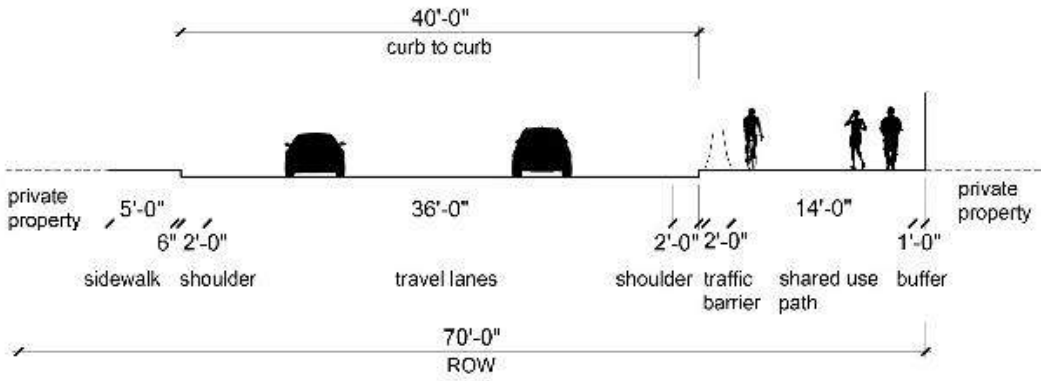
SE Sandy Avenue – Proposed shared use path between SE 8th St and S Troutdale Rd

2b – SE Sandy Avenue (one way vehicle traffic between SE 4th St and SE Harlow Ave)

Note: 70' ROW is approximate based on GIS data



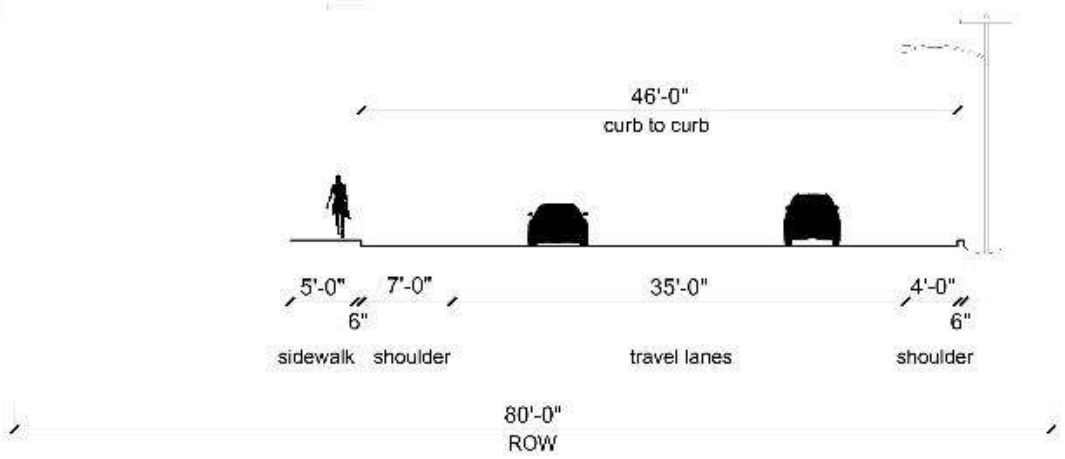
S Troutdale Road – Existing between SE Cherry Park Rd and SE Sandy Ave



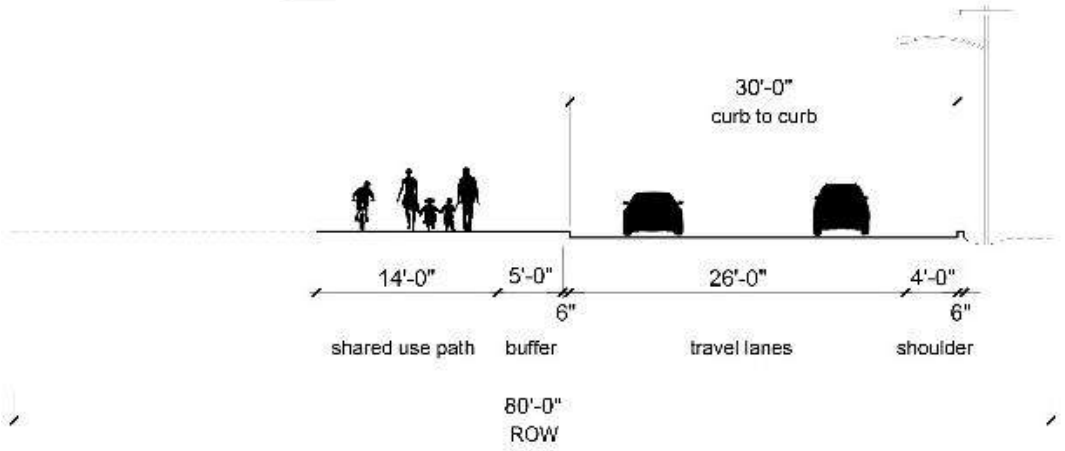
S Troutdale Road – Proposed shared use path between SE Cherry Park Rd and SE Sandy Ave

2b – SE Sandy Avenue (one way vehicle traffic between SE 4th St and SE Harlow Ave)

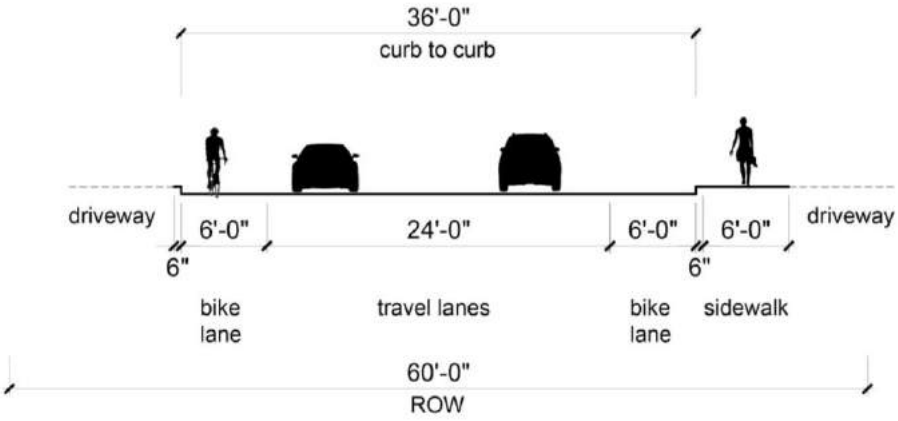
Note: 80' ROW is approximate based on GIS data



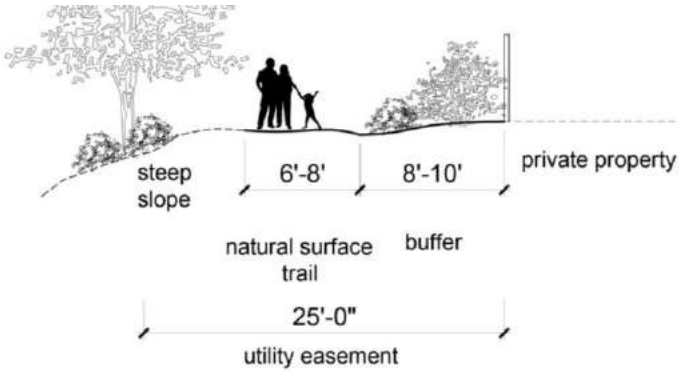
S Troutdale – Existing south of SE Sandy Ave



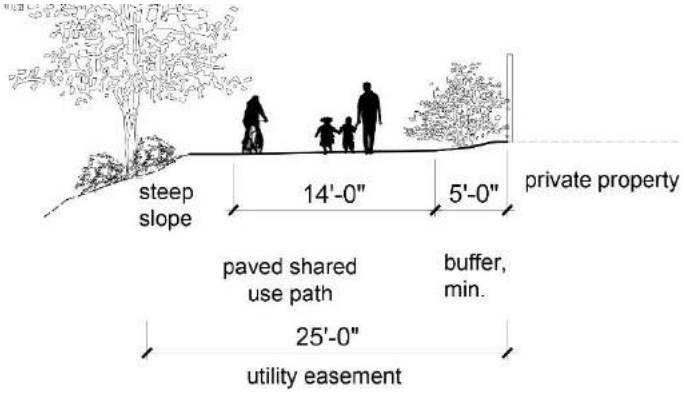
S Troutdale – Proposed shared use path south of SE Sandy Ave

3a – Beaver Creek Canyon Shared Use Pathway
Note: 60' ROW is approximate based on GIS data    **Historic Columbia River Highway –** Existing bike lanes in both directions and sidewalk on the west side of the street.
Historic Columbia River Highway – Proposed option to replace existing bike lanes with a shared use path on the "sidewalk"/west side of the road. Alternative is for the roadway to remain unchanged.
SE Jackson Park Road – Existing private roadway open to residents only
SE Jackson Park Road – Proposed easement obtained from residents to allow bicycle and pedestrian access via Jackson Park Road.

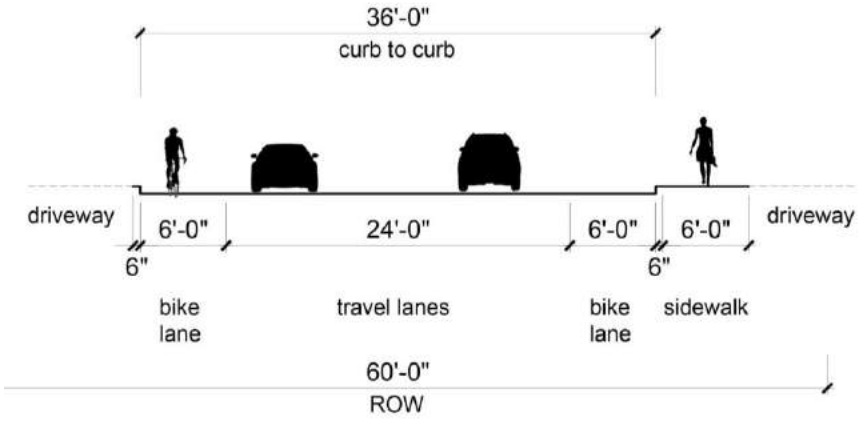
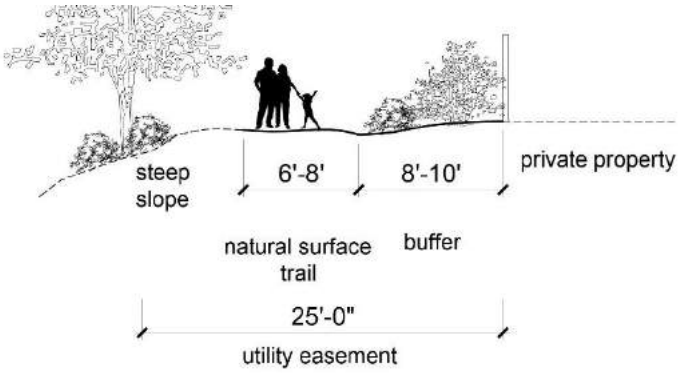
3a – Beaver Creek Canyon Shared Use Pathway



Utility Easement behind SE Evans Avenue – Existing utility easement with natural surface trail

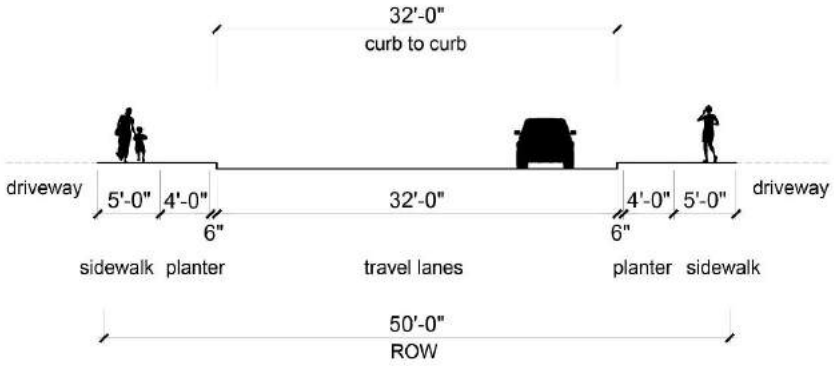


Utility Easement behind SE Evans Avenue – Proposed paved shared use pathway to extend south toward SE Stark Street/S Troutdale Road intersection

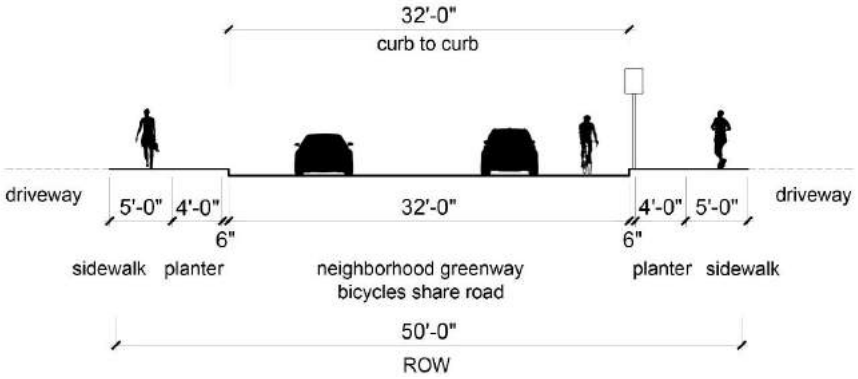
3b – SE Evans Avenue
Note: 60' ROW is approximate based on GIS data  **Historic Columbia River Highway –** Existing bike lanes in both directions and sidewalk on the west side of the street.
Historic Columbia River Highway – Proposed option to replace existing bike lanes with a shared use path on the "sidewalk"/west side of the road. Alternative is for the roadway to remain unchanged.
SE Jackson Park Road – Existing private roadway open to residents only
SE Jackson Park Road – Proposed easement obtained from residents to allow bicycle and pedestrian access via Jackson Park Road.
 **Utility Easement behind SE Evans Avenue –** Existing utility easement with natural surface trail

3b – SE Evans Avenue

Note: 50' ROW is approximate based on GIS data



SE Evans Avenue – Existing neighborhood street.



SE Evans Avenue – Proposed neighborhood greenway (bikes share roadway with cars) with existing sidewalks.

40 MILE LOOP: TROUTDALE TO GRESHAM TRAIL MASTER PLAN

TROUTDALE ROUTE REFINEMENT

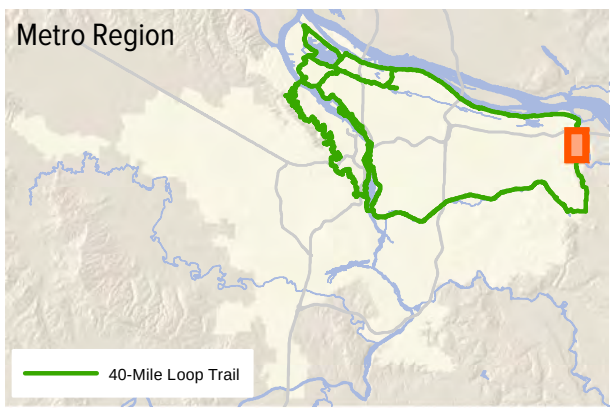
- 1 Buxton Road
- 2A Sandy Avenue retaining 2-way car traffic
- 2B Sandy Avenue converted to 1-way car traffic
- 3A Beaver Creek Canyon following canyon rim
- 3B Beaver Creek Canyon following Evans Avenue

Solid line indicates new shared-use path

Dashed line indicates shared roadway

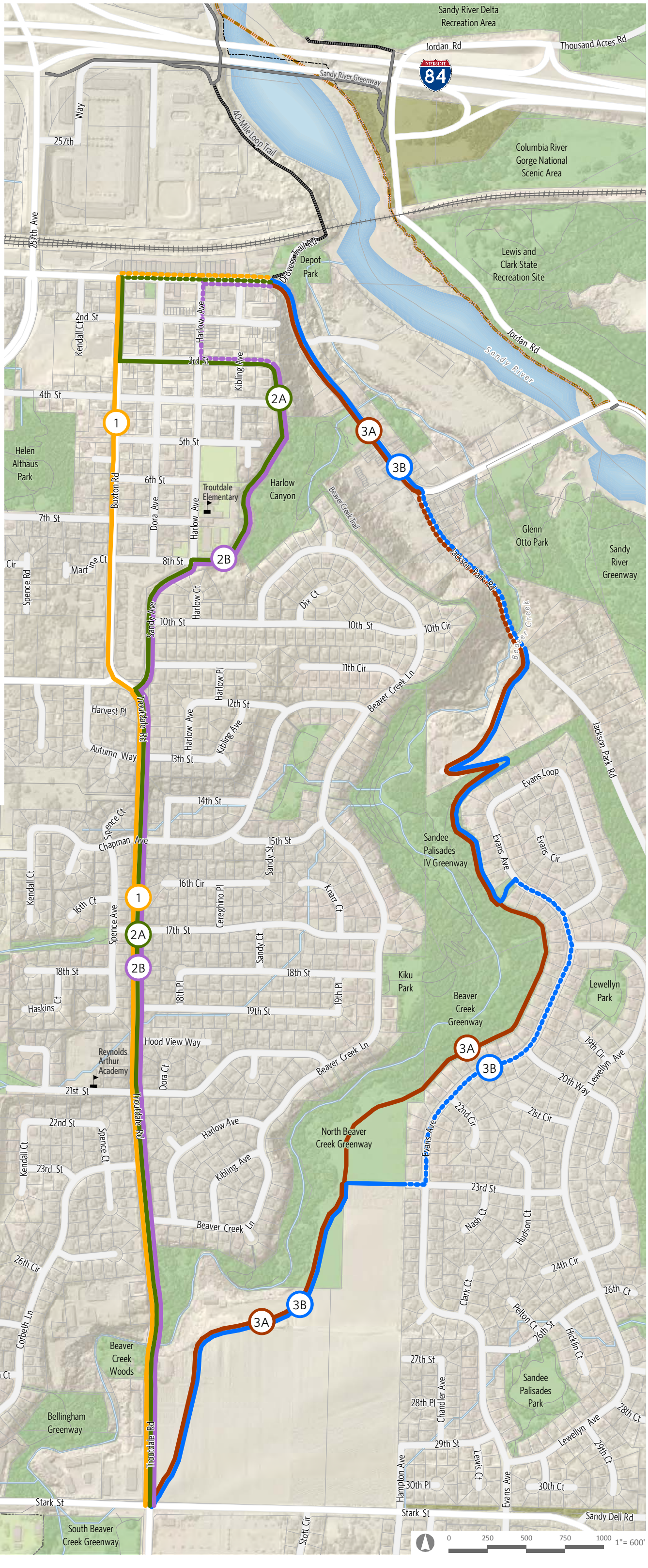
Existing conditions

- Existing 40-Mile Loop Trail
- Planned 40-Mile Loop Trail
- Other Existing Trail
- Parks and/or Natural Areas
- Streams
- City Boundaries
- Railroads
- Urban growth boundary



Metro

CITY OF TROUTDALE 1907



APPENDIX G – GRESHAM CROSS SECTIONS

MEMO

DATE: 9.7.2016
PROJECT: 40-Mile Loop – Troutdale to Gresham Trail Master Plan
FROM: Robin Wilcox, Sterling Rung, PLACE
TO: Robert Spurlock, Tina Osterink, Katherine Kelly

SUBJECT: Recommended Alignment Cross Sections – working draft

INTRODUCTION

The following cross sections reflect assumptions used for cost estimating purposes during the previous phase of work. Feedback regarding these assumptions will be used to prepare character cross sections of the recommended alignment to discuss with project stakeholders and members of the community for the project open house.

Assumptions

The cross sections below are based on the functional classification system plan from the Gresham Transportation System Plan (TSP; 2013). The functional classification system plan "defines the function and design of the city's roadways to serve all travel modes, support existing and planned land uses, creates aesthetic streets, and accommodates stormwater management".

The recommended route for the Troutdale to Gresham Trail segment of the 40-Mile Loop typically follows minor arterial or standard collector streets. Minor arterials provide access between neighborhoods or from neighborhoods to a major or standard arterial. Traffic volumes are typically between 10,000 and 15,000 vehicles per day, and may be as high as 20,000 vehicles per day. Standard collector streets facilitate travel within the community and neighborhoods, with an emphasis on serving adjacent land uses. Traffic volumes are typically 1,000-10,000 vehicles per day. For reference, the NACTO Urban Bikeway Design Guide (the Guide), referenced in Metro's Active Transportation Plan recommends at facility with greater separation (such as a buffered bike lane or cycle track) on streets with high traffic volumes, regular truck traffic, or speeds greater than or equal to 35 miles per hour.

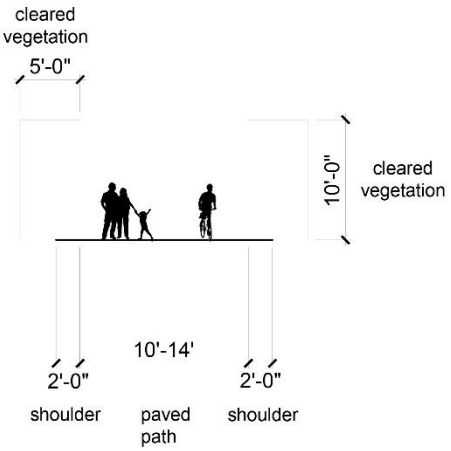
Recommended Alignment - Gresham

South of Mt Hood Community College, the route follows existing on-street bike routes through the neighborhood to a shared use pathway along

- Division, a minor arterial in the Gresham TSP
- Williams, a standard collector in the Gresham TSP;
- Powell Valley Road, a minor arterial in the Gresham TSP
- 282nd Avenue, a minor arterial in the Gresham TSP where Gresham has already conditioned a trail easement as part of two development permits.

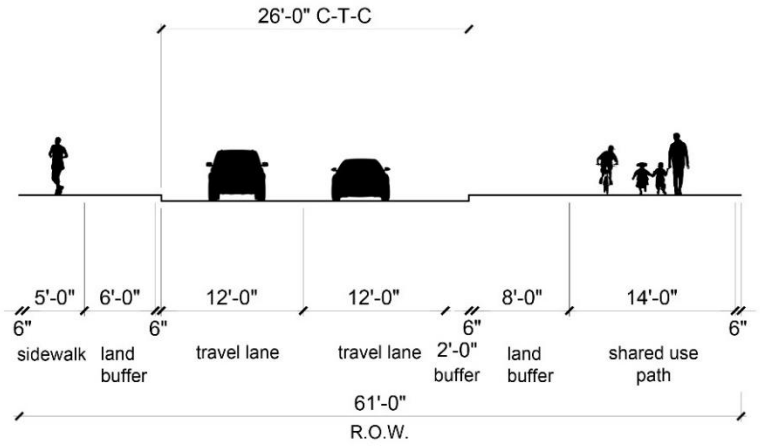
In the Springwater Area, a shared use path would be provided along a proposed Major Arterial that will cross Highway 26. The timeline for the planned highway crossing is uncertain and a near-term connection is likely desired as part of this effort. PLACE is looking for input from City of Gresham staff regarding options for a near-term alignment. For cost estimating purposes, a shared use path outside of an existing road right of way was used.

Recommended Alignment

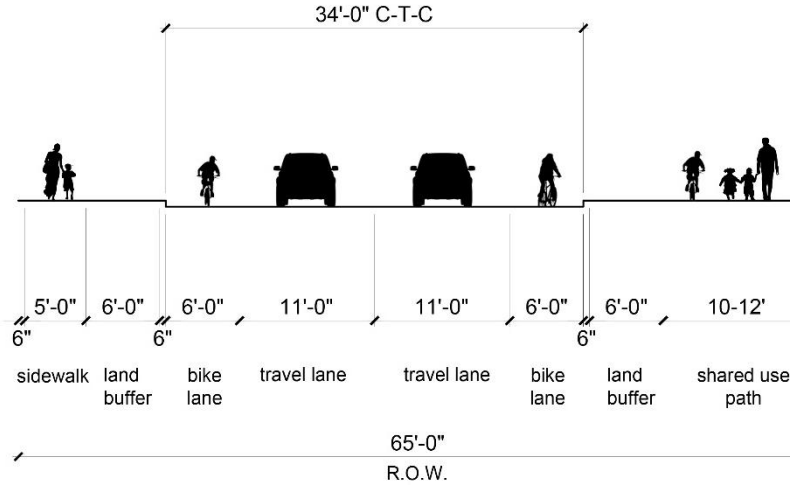


Mt Hood Community College – Shared use path

17th Street – Existing ROW is 80'.

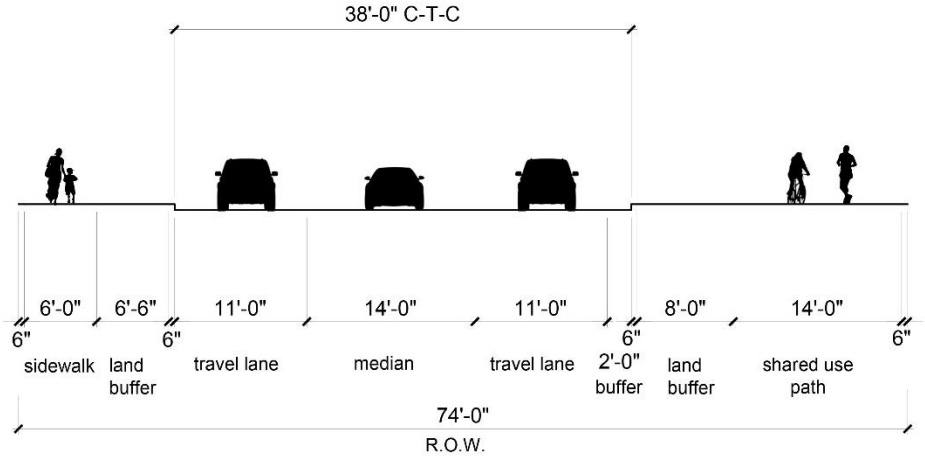


17th Street – Standard cross section from the Gresham TSP for a Standard Collector with a shared use path.

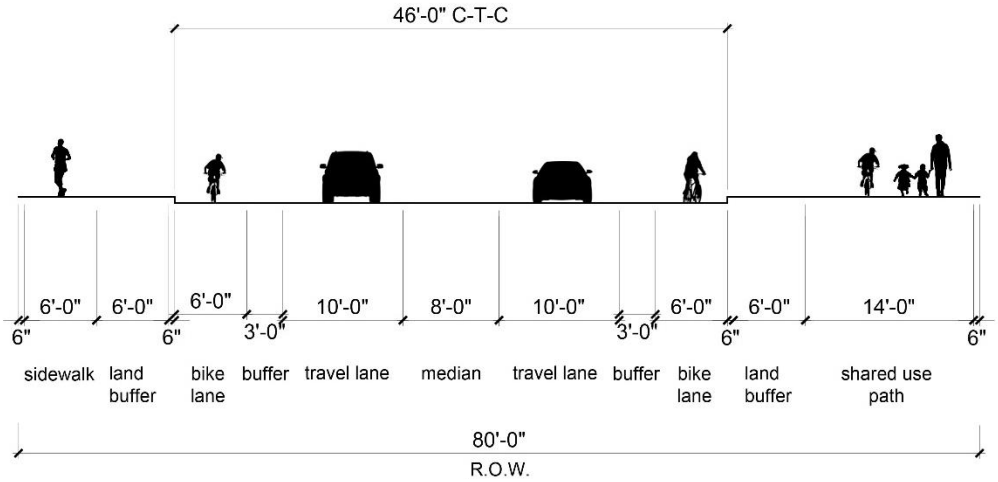


17th Street – Optimal cross section based on desire for on-street bicycle facilities with a shared use path.

Recommended Alignment
Hacienda Avenue, 15th Street, Centurion Drive – Shared on-street bike route with traffic calming to reduce vehicle speeds and volumes and improved sidewalks and wayfinding.
Division Street – Existing ROW varies between 60’ and 75’.



Division Street – Standard cross section from the Gresham TSP, adapted for Troutdale, for a Minor Arterial with a shared use path. See Troutdale Road, above.

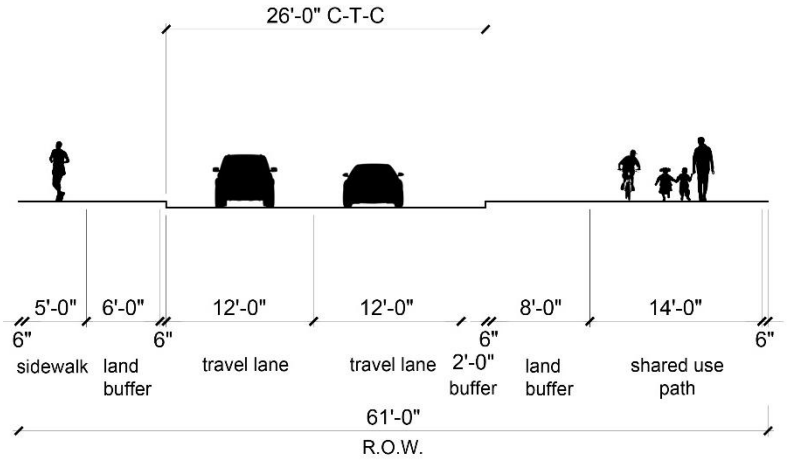


Division Street Road – Optimal cross section based on desire for on-street bicycle facilities with a shared use path.*

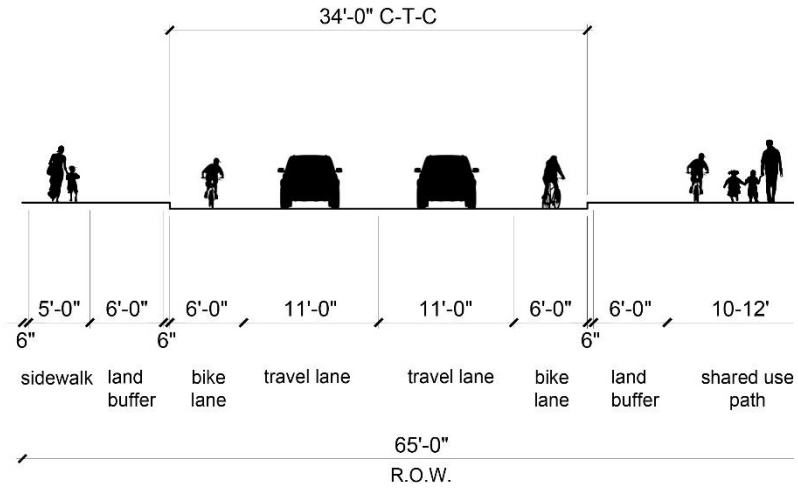
*Note: 8’ Median widens to 14’ center turn lane at intersections and 3’ buffer is dropped from buffered bike lane

Recommended Alignment

Williams Road – Existing ROW is 60’.



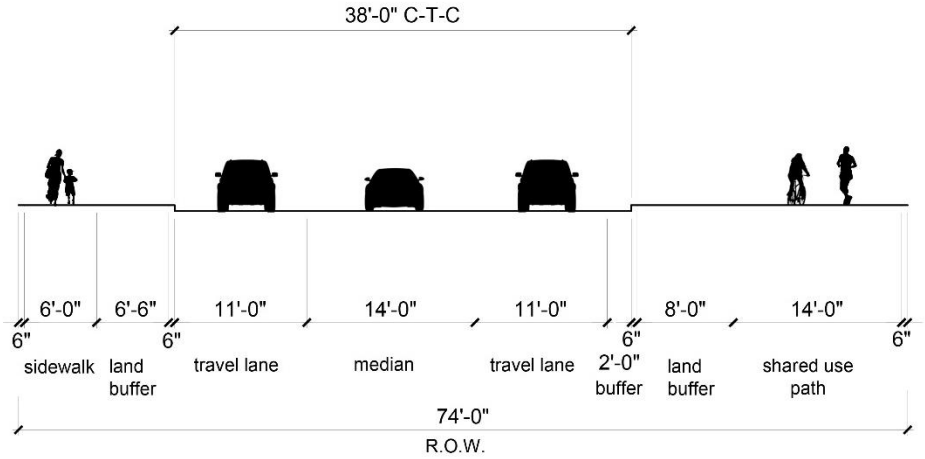
Williams Road – Standard cross section from the Gresham TSP for a Standard Collector with a shared use path.



Williams Road – Optimal cross section based on desire for on-street bicycle facilities with a shared use path.

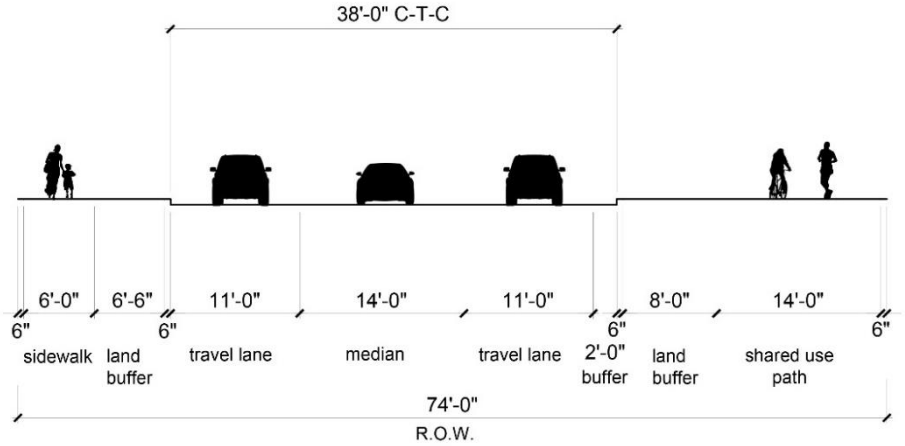
Recommended Alignment

Powell Valley Road – Existing ROW is 60’-80’.



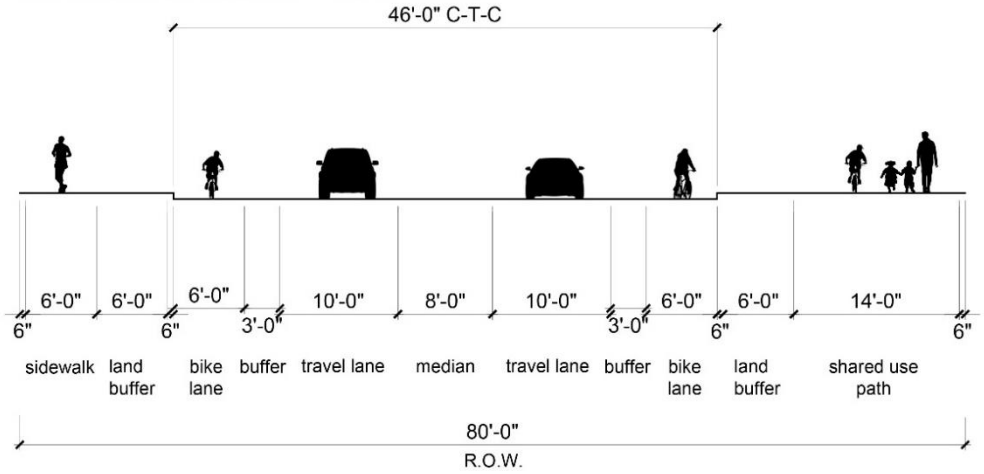
Powell Valley Road – Standard cross section from the Gresham TSP, adapted for Troutdale, for a Minor Arterial with a shared use path. See Division, above, for alternate cross section.

282nd Avenue – Existing ROW is 60’-70’.



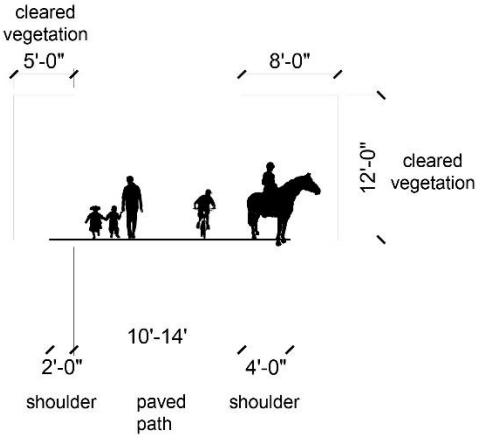
282nd Avenue – Standard cross section from the Gresham TSP for a Minor Arterial with a shared use path.

Recommended Alignment



282nd Avenue – Optimal cross section based on desire for on-street bicycle facilities with a shared use path.*

*Note: 8' Median widens to 14' center turn lane at intersections and 3' buffer is dropped from buffered bike lane.



South Fork Johnson Creek – Shared use path along Johnson Creek. The Springwater Area Plan calls for a collector with a trail connection over Highway 26 and a Loop Trail Alignment along Johnson Creek.

APPENDIX H – KELLY CREEK FIELD NOTES

Appendix H

FIELD NOTES

DATE: 8.24.2016
11 AM-12 PM
PROJECT: Troutdale to Gresham Trail Master Plan
SUBJECT: Kelly Creek Headwater Site Tour

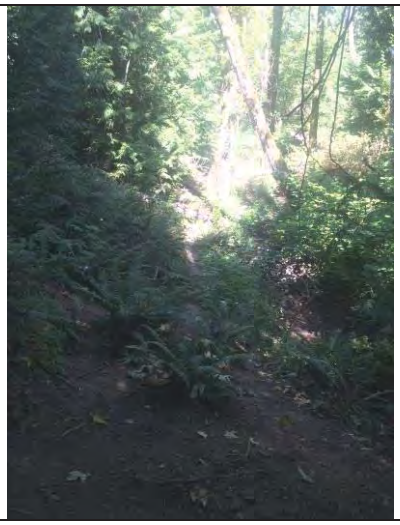
The purpose of this site visit was to understand the site conditions present in the Kelly Creek Natural Area and opportunities or challenges of routing a regional trail through the site. The site diagram and photos below summarize the outcome of this site visit.

These notes were edited based on feedback from those in attendance.

Site Photos

1		SE Woodland Drive does not continue for motor vehicles between SE Glacier Lane and SE Ironwood Lane, but it is a popular pedestrian connection for the adjacent neighborhood.
2		The public property north of Kelly Creek Headwaters Natural Area continues north to Powell Valley Road, but the property is dense with vegetation and adjacent property owners have encroached on the property in places. A new nature trail could connect Powell Valley Road to the existing trails in the natural area.

3		SE Ironwood Lane turns into SE 16th Drive as it curves from south to west and is the main collector through the neighborhood. Kelly Creek passes under the road at the curve. A pedestrian crossing at this corner would need to be well marked, and is potentially unsafe.
4		Between SE 16th Drive/SE Ironwood Lane and SE Salquist Road, Kelly Creek continues through private property. The space between adjacent residential properties and the creek is very constrained.
5		Just west of SE Ironwood Way, there is another parcel of publically-owned land south of the Kelly Creek Headwaters Natural Area. Terrain, existing vegetation, and a private residential property make a connection south to SE Salquist Road a challenge.
6		The trail through Kelly Creek Headwaters Natural Area is a 1.5-2' wide natural surface hiking trail through dense vegetation.

7			The western portion of the Kelly Creek Headwaters Natural Area is very dense with vegetation and both the northern and southern banks of Kelly Creek are very steep.

Conclusions

- A regional trail through the Kelly Creek Headwaters Natural Area is not appropriate, but connections from the regional trail to existing natural surface trails in the Natural Area are desirable.
- The intersection of SE Powell Valley Road and SE 282nd Avenue is very busy and a trail crossing at the existing 4-way stop would be challenging.
- Available right-of-way on both sides of 282nd Avenue between SE Powell Valley Road and SE Lusted Road is very constrained. Neighborhood representatives noted that SE Powell Valley Church has discussed putting a walking loop for neighbors to use on its property and might be willing to have the 40-Mile Loop route go through its property. A possible route might be along church property on SE Mimosa Drive south to SE Woodland Drive to the east on publically owned right-of-way that is currently not a through route for motor vehicles.
- No conclusion has been made at this time regarding whether the north or south side of SE Powell Valley Road is a more suitable location for a shared use pathway. There are fewer driveway crossings on the south side of SE Powell Valley Road.

Next Steps

- Review potential trail and roadway cross sections on SE Powell Valley Road, SE Mimosa Drive, and SE 282nd Avenue with City of Gresham staff.
- Review crossing options and conditions at SE Williams Ave/SE Powell Valley Road, SE Powell Valley Road/SE 282nd Avenue, SE Mimosa Drive/SE Powell Valley Road, and SE Woodland Drive/SE 282nd Avenue.
- Contact Powell Valley Church.
- Review alignment recommendations with neighborhood associations.
- Identify the recommended alignment route and cross sections for this segment of the 40-Mile Loop.

Route continues north on SE Williams Road

40-Mile Loop North to Mt.Hood CC

Preliminary recommendation is to add the shared use path on the south side of the road to avoid driveway conflicts on the north

23 Driveways on the north side
14 Driveways on the south side

Challenging Intersection

Natural surface trail connection to trails in Kelly Creek Natural Area

Route avoids SE 282nd/SE Powell Valley Road intersection; requires property owner conversation

Potential alternative; requires property owner conversation

Alignment from Gresham Paths and Trails Master Plan

40-Mile Loop South to Gresham

Alignment Comparison

- Potential Alignment - Recommended
- Potential Alignment
- Potential Nature Trail Connection
- Driveway - Conflict
- Intersection - Road Crossing Required

Legend

- Existing Trail
- Taxlots
- Contours - 2 ft.
- Wetlands
- Kelly Creek
- Kelly Creek Headwaters Natural Area

1 inch = 400 feet

0 250 500 1,000

10.19.2016

APPENDIX I – MT. HOOD ROUTE ANALYSIS

Appendix I

FIELD NOTES

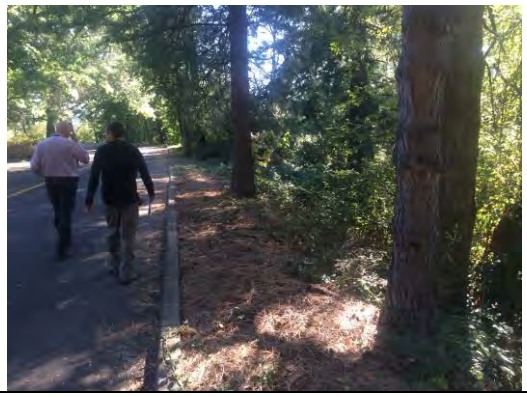
DATE: 9.12.2016
8 AM-10 AM
PROJECT: Troutdale to Gresham Trail Master Plan
SUBJECT: Mt Hood Community College Sit Visit #1

The purpose of this site visit was to understand the site conditions present at Mt Hood Community College to determine a recommended route, or route options, through the campus near Beaver Creek. The site diagram and photos below summarize the outcome of this site visit.

Site Photos

1		Cochran Road is very narrow, curvy, and steep as it crosses Beaver Creek. The steep slopes would create a challenge for cyclists, and the narrow corridor does not currently have enough space to include a shared use pathway over Beaver Creek adjacent to Cochran Road.
2		An existing maintenance road enters Mt Hood Community College campus from Cochran Road just east of the baseball stadium. This is a possible connection for the 40-Mile Loop. Between this access road and Hacienda Avenue, there is available right-of-way along Cochran Road/17th Street to accommodate a shared use pathway.
3		The existing maintenance road passes behind (east of) the existing visitors bleachers for the football/track facility at the edge of a steep slope above Beaver Creek.

4		The existing maintenance road continues north of the track along a chain link fence at the top of a steep slope above Kelly Creek.
5		An existing set of stairs connects the top of a dam across Kelly Creek to the edge of Kelly Creek. There is approximately 100 feet of elevation change between the top of the dam to the edge of Kelly Creek.
6		An existing walkway bisects the north and south ends of Mt Hood Community College campus on top of an existing dam. The dam is approximately 100 feet above Kelly Creek.
7		At the south end of the dam the pathway continues, but passes through campus buildings and would not be suitable for a regional trail.

8		An existing natural surface trail connect the South Beaver Creek Greenway with Mt Hood Community College campus. This is the least steep way to access the banks of Beaver Creek from the west.
9		An existing natural surface trail connect the South Beaver Creek Greenway with Mt Hood Community College campus. This is the least steep way to access the banks of Beaver Creek from the west.
10		An internal roadway through the north end of Mt Hood Community College is at the top of a steep slope leading down to Beaver Creek.
11		An existing natural surface trail with overlooks and benches is in the northeast corner of the Mt Hood Community College Campus. The planned 40-Mile Loop trail will connect to Mt Hood Community College at this point.

12 	Continuation to the south of the existing natural surface trail in the northeast corner of the Mt Hood Community College campus. The existing trail is above an existing wetland and the heavily vegetated banks of Beaver Creek.
13 	South of the existing natural surface trail in the northeast corner of Mt Hood Community College there is an existing network of user trails above Beaver Creek. Steep slopes and dense vegetation make connecting down to Beaver Creek from this point challenging.
14 	Troutdale Road, east of Mt Hood Community College, currently has right-of-way available for a shared use path.
15 	An existing natural surface trail and service road is adjacent to the north bank of Kelly Creek. Steep slopes and existing athletic facilities make crossing Kelly Creek and continuing the 40-Mile Loop along the western edge of Mt Hood Community College a challenge.

Conclusions

- A regional trail continuing south from the Kelly Creek dam through existing campus buildings and a parking lot is not appropriate for a regional trail.
- Space adjacent to Kelly Creek, along 257th/Kane Road, and 17th in the southwest corner of Mt Hood Community College is not sufficient for a regional trail.
- Two-way traffic must be maintained on the internal campus road on the north side of Mt Hood Community College from Stark Street. A future building will eliminate the only other north-south internal circulation route for service vehicles. A trail between the existing road and the existing greenway is desirable if two-way delivery truck traffic can be maintained.
- The dam and existing sidewalk across Kelly Creek is a desirable location for a trail, but the connections to the south through the athletic facilities are challenging.
- A possible route along the eastern edge of Metro's property (South Beaver Creek Greenway) may be an option. Slopes and existing conditions need to be investigate further.
- Crossing Beaver Creek is challenging due to existing slopes and wide stream channel. The cost of a bridge over Beaver Creek may be cost prohibitive for a trail project. There is the possibility of using existing remnants of a farm pond dam/weir structure (picture below) for bridge abutments crossing Beaver Creek.
- Continuing the trail along Troutdale Road is a viable option, but a trail along Cochran Road over Beaver Creek would require improvements to the existing culverts or the addition of a bridge. Cochran Road is steep and curvy as it crosses Beaver Creek, and a potentially dangerous location for a trail without considerable right-of-way improvements.

Next Steps

- Metro provided location information and a photograph of a former pump station or dam across Beaver Creek just north of Cochran Road. Robert will confirm whether using the existing abutments for a trail crossing would be a potential.

Photo 11.

Remnants of a farm pond dam/weir structure at the upper end of the subreach constrict the floodplain and may act as a low flow fish passage barrier due to channel-spanning concrete bed.

- Metro will discuss options for improvements within the Cochran Road right-of-way with Multnomah County.
- Metro will obtain copies of the current culvert improvement plans for Stark Street.
- Review alignment alternatives with project stakeholders at a second site visit.
- Determine the final alignment through or adjacent to Mt Hood Community College.

40 MILE LOOP
TROUTDALE TO SPRINGWATER
TRAIL MASTER PLAN

RECOMMENDED ALIGNMENT

MT HOOD COMMUNITY COLLEGE SECTION

Culvert improvements in progress

Service access; maintain two-way access.

Future Building Site.

Very steep slopes, typ.

Sidewalk goes through a building (locked).

40-Mile Loop North to Troutdale

Connection point, typ.

Title 13 - Moderate Habitat Zone (approx.)

Potential site of former pump station or dam; abutments still in place. Robert to confirm potential for trail crossing at this site.

40-Mile Loop South to Gresham

Mt. Hood Community College Head Start-Mt. Hood Site

South Beaver Creek Greenway

Bellingham Greenway

Beaver Creek

Mt Hood Cc Driveway

29th Cir

Corbeth Ln

Stark St

Troutdale Rd

Stout Cir

34th Cir

Sweetbriar Ln

Harlow Ct

Sandy Cir

Stout Ave

Dora Ct

40th St

Kibling Ct

43rd Cir

43rd Dr

Cochran Rd

Sweetbriar Rd

Troutdale Rd

Inter Ct

Paloma Ave

Barnes Ln

17th St

23rd St

29th St

257th Ave

Paropa Pl

Kane Dr

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

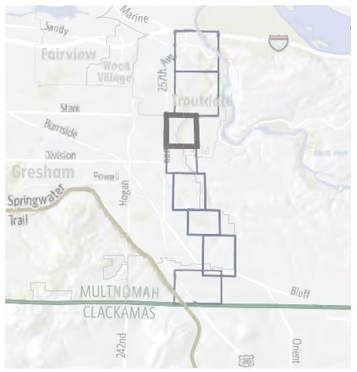
0 250 500 750 1000 1"=400'

LEGEND

- SOUTH BEAVER CREEK GREENWAY
- MT HOOD COMMUNITY COLLEGE
- WETLANDS
- EXISTING TRAIL
- 2 FT CONTOURS

2015 METRO REGIONAL AERIAL ORTHO PHOTOS

LOCATION MAP



PLACE Field Notes - 9.12.2016

- Potential Alignment
- Alignment Reviewed and No Longer Being Considered

Metro

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FIELD NOTES

DATE: 10.03.2016
10 AM-11 AM
PROJECT: Troutdale to Gresham Trail Master Plan
SUBJECT: Mt Hood Community College Sit Visit #2

The purpose of this site visit was to discuss the draft recommended alignment through Mt Hood Community College with project stakeholders, to hear their feedback on the options considered, and to determine if there are additional alternatives that should be considered. The site diagram and photos below summarize the outcome of this site visit.

Site Photos

1 	Mt Hood Community College maintains access to their property on the east side of Beaver Creek. There is evidence of camping and unauthorized use on the property.
2 	Mt Hood Community College maintains access through their property by brushing paths through the blackberry (on the left). Restoration efforts on the Metro property (on the right) have been underway for several years, and native plants have replaced the once-dominant invasive species.
3 	The Mt Hood Community College baseball field lights can be seen across Beaver Creek and beyond the Metro-owned property. Existing abutments from a former pump station are downhill on either side of Beaver Creek. This location is being considered for a future bridge.

4		Cochran Road crosses Beaver Creek just southeast of the Mt Hood Community College baseball field. Beaver Creek currently passes through culverts below the road. Multnomah County plans to replace the culverts with a bridge in 2018. The road will be elevated about 2-3' from the present elevation and the bridge will be wide enough to accommodate bike lanes and a sidewalk, but the bike lanes and sidewalk will not be constructed as part of the new bridge project.
5		Stakeholders commented that the route along the Metro Natural Area was a more pleasant experience than the alignment along Troutdale Road. There is sufficient right-of-way for a shared use path along Troutdale Road on either the east or west side of the road. The photo shows the west shoulder of Troutdale Road.

Conclusions

- A path through the Mt Hood Community College property on the east side of Beaver Creek has been considered before, and not developed, because of concerns about maintenance and management. The area is also relatively remote and safety is a major concern. The stakeholders on the tour raised concerns about safety as well.
- Lighting is one element that could be added to improve safety. Considerations for lighting types, quality of the light, and position will all be important to mitigate possible negative effects on the natural area and impacts to wildlife.
- The trail is a long-range project. It will likely be developed in parallel with Mt Hood Community College development, and will provide a buffer between the campus and the natural area.
- The stakeholders agreed that the route along Troutdale Road "isn't bad", but the route along the natural area was a more pleasant experience.
- Multnomah County is in the process of designing a new bridge over Cochran Road. An alignment to consider is one that follows the boundary of the Metro property, connects to the new bridge, and switchbacks uphill away from the road to the gate near the baseball field. This alternative has been added to the map.
- The recommended alignment was refined further on the attached map of field notes to reflect stakeholder comments.
- A long term and near term route alignment may be appropriate for this segment of the trial.

Next Steps

- Review stakeholder feedback with the project management team, and finalize the recommended alignment through Mt Hood Community College.

40 MILE LOOP
TROUTDALE TO SPRINGWATER
TRAIL MASTER PLAN

RECOMMENDED ALIGNMENT

MT HOOD COMMUNITY COLLEGE SECTION

Culvert improvements in progress

40-Mile Loop North to Troutdale

Connection point, typ.

Title 13 - Moderate Habitat Zone (approx.)

Potential site of former pump station or dam; abutments still in place.

Potential to use planned bridge over Beaver Creek.

Planned bridge (2018)

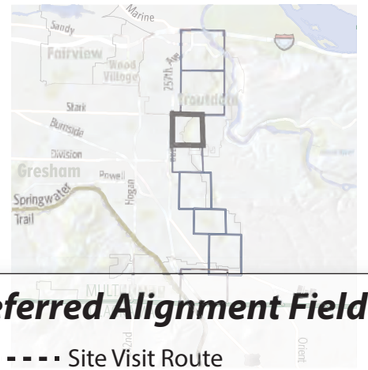
40-Mile Loop South to Gresham

LEGEND

- SOUTH BEAVER CREEK GREENWAY
- MT HOOD COMMUNITY COLLEGE
- WETLANDS
- EXISTING TRAIL
- 2 FT CONTOURS

2015 METRO REGIONAL AERIAL ORTHO PHOTOS

LOCATION MAP



Preferred Alignment Field Notes - 10.3.2016

- Site Visit Route
- Draft Recommended Alignment
- Recommended Alignment - **REFINED PER SITE VISIT**
- Alignment Suggested by Stakeholder
- Potential Alignment
- Alignment Reviewed and No Longer Being Considered

Metro

PLACE

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MEMO

DATE: 11.15.2016
PROJECT: 40-Mile Loop – Troutdale to Gresham
FROM: Robin Wilcox, PLACE
TO: Robert Spurlock, Chris Damgen, Ryan Krueger, Craig Ward, Tina Osterink, Katherine Kelly

SUBJECT: Alignment Refinement, Mt Hood Community College Campus

INTRODUCTION
The following memorandum is a summary of the final recommended alignment through the Mt Hood Community College (MHCC) campus. This refinement is based on feedback from project stakeholders, including MHCC representatives, and two site visits.

Recommended Alignment
From north to south, the 40-Mile Loop route through MHCC campus is as follows:

- Corner of Stark St and Troutdale – widen existing paved connection to the Mt Hood Community College Greenway nature trail to accommodate a shared use path
- Along MHCC property boundary – share use path that borders South Beaver Creek Greenway
- Beaver Creek crossing – new bridge at the site of a former weir
- 17th St – shared use pathway on the north side of the street

Recommendations for the intersection of Start St and Troutdale Rd are pending the outcome of a refined alignment recommendation from Troutdale to MHCC.

Implementation of the 40-Mile Loop between Stark St and 17th St will likely be in parallel with expansion of MHCC east of Beaver Creek, and will act as a buffer between campus and the restored natural area along Beaver Creek. A short-term alignment with a pathway along Troutdale Road, bike lanes and sidewalks on the new Cochran Rd/17th St bridge over Beaver Creek (in design now, and planned for 2018 by Multnomah County), and existing bike lanes and sidewalks along 17th St could be implemented until MHCC expands east of Beaver Creek. Stakeholders were also supportive of lighting this portion of the 40-Mile Loop to improve user safety, and alternatives for specific lighting types should be considered further as part of the design phase. Lighting recommendations will also be among the elements included in the Conceptual Design chapter of the 40-Mile Loop: Troutdale to Gresham Master Plan.

<u>Mt Hood Community College - North</u>
A minor modification to the existing trailhead for the Mt Hood Community College Greenway, replacing the existing sidewalk from the intersection of Stark St and Troutdale Rd with a shared use pathway, will allow the 40-Mile Loop to connect through MHCC regardless of whether the alignment from Troutdale is along the western side of Troutdale Rd or through newly-acquired public property on the northeast corner of the intersection. This shared use path continues south to the west of an existing row of trees. The existing natural surface nature trail, an important 40-Mile Loop asses, and a sidewalk along Troutdale Rd will remain.

The existing Mt Hood Community College Greenway will remain unchanged.

735 NW 18th Avenue Portland OR 97209 503.334.2080 place@place.la www.place.la

40-Mile Loop connection to the north side of Mt Hood Community College at the intersection of Stark St and Troutdale Rd.

Mt Hood Community College - Central

South of the nature trail connection to 34th Ctr, the shared use path will follow the canyon rim on property owned by MHCC. Development of this portion of trail will serve as a buffer between future MHCC campus development and the restored natural area adjacent to Beaver Creek. A new bridge crossing of Beaver Creek will be located at the site of a former weir. Weir abutments that currently existing will be removed, and the new bridge will span the floodway.

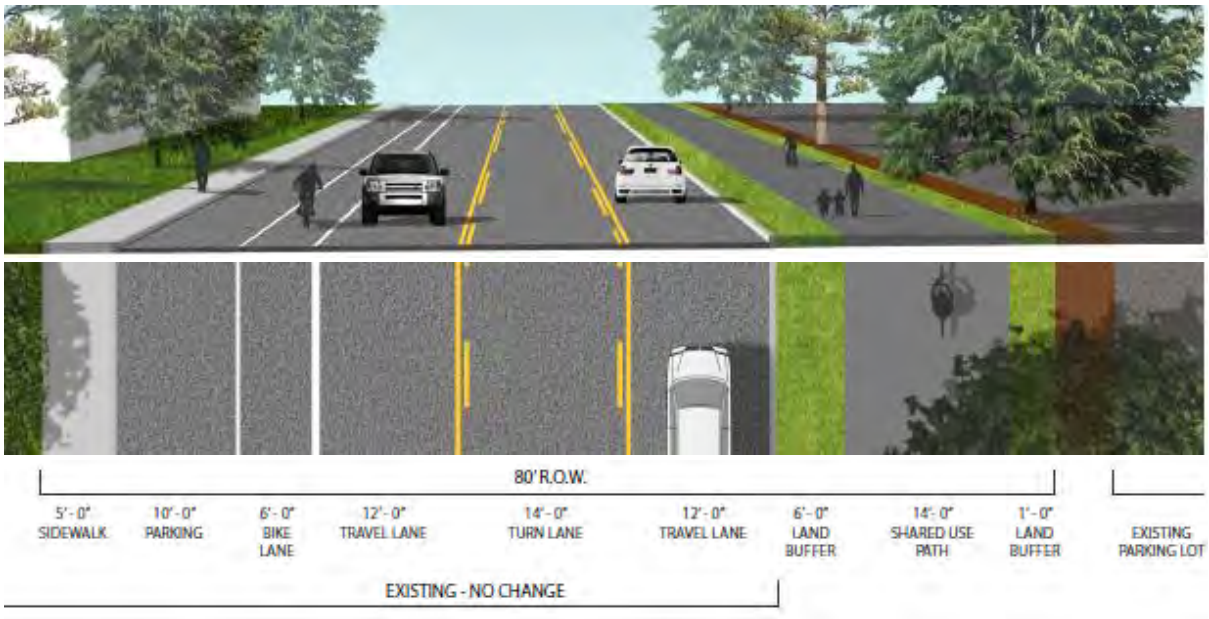
40-Mile Loop connection through Mt Hood Community College property adjacent to Metro-owned South Beaver Creek Greenway.

New 40-Mile Loop bridge over Beaver Creek.

Mt Hood Community College – South

On the west side of Beaver Creek, the shared use pathway will continue along 17th St between a MHCC access road east of the baseball field and the existing shared roadway on Hacienda Ave. Depending on timing of construction, the shared use pathway may be constructed as a standalone project, or as part of road improvements recommended in the Gresham Transportation System Plan (TSP). The existing roadway includes sidewalks and bike lanes, one travel lane in each direction, on-street parking on the south side, a wide shoulder/turn lane on the north side, and a center turn lane. The existing road is wider than the recommended TSP cross section.

As a standalone project, most of the existing 17th St roadway will remain. When the road widens west of La Mesa Place, the existing bike lane, shoulder, and sidewalk on the north side of 17th St are replaced by a new shared use pathway.



17th Street – Existing road plus a shared use path on the north side of the street adjacent to Mt Hood Community College

The 40-Mile Loop will continue south through the neighborhood using Gresham's existing network of shared roadways. These streets are signed bicycle routes with low traffic volumes. Most street have sidewalks on both sides except one block of Hacienda Ave immediately south of 17th St; the sidewalk is missing on the east side. As part of construction of the 40-Mile Loop, this sidewalk will be constructed and shared lane markings and signs will be added to Hacienda Ave. A more visible crossing of 17th St is recommended including:

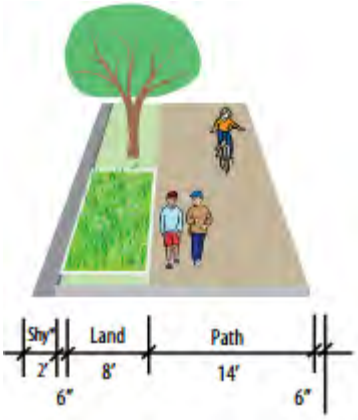
- Accessible curb ramps on all four corners of the intersection
- Striped crosswalks on the east and west legs of the intersection
- Crosswalk striped at the entry to the MHCC parking lot
- Warning signs
- Two stage turn box to facilitate a left turn toward the shared use path by cyclists eastbound on 17th St in the bike lane
- Median in the existing left turn lane west of Hacienda Ave where there are no left turning movements to facilitate a two-stage crossing

40-Mile Loop connection to the south side of Mt Hood Community College at the intersection of 17th St and Hacienda Ave.

Gresham's TSP identifies 17th St as a standard collector. The recommended characteristics of a standard collector are:

Volume, ADT	*Design Speed*	*Vehicle Lanes*	*Bicycle Lane*	*Parking*	*Median*	*Landscape Strip*	*Sidewalk*	*Curb & Gutter*	*Right-of Way*
1,000-10,000	25-35 mph	2 lanes, 12' wide	Yes, 6' wide	No	No	Yes, 6' wide	Yes, 5' wide	2' total	60'

Locations for “multi-use paths” (shared use paths, shared use pathways) were identified from the Regional TSP and a design configuration for “multi-use paths” adjacent to the road right-of-way that replaces bike lanes on both sides of the street and one sidewalk with a “multi-use path” was adopted as part of the Gresham TSP. Typically, this option is reserved for a major, standard, or minor arterials. If 17th St is reconfigured based on the recommendations from the Gresham TSP with the addition of a “multi-use path”, the resulting cross section would be narrower than the existing road. In this configuration, the intersection improvements for 17th St/Hacienda Ave described above apply, but without the center median.



Multi-Use Path from the Gresham TSP

17th Street – Existing road plus a shared use path on the north side of the street adjacent to Mt Hood Community College

40 MILE LOOP
TROUTDALE TO SPRINGWATER
TRAIL MASTER PLAN

RECOMMENDED ALIGNMENT

MT HOOD COMMUNITY COLLEGE SECTION

40-Mile Loop North to Troutdale

Connection point, typ.

Potential Near Term Alignment along Troutdale Rd

Former weir abutments to be removed. Potential bridge location.

40-Mile Loop South to Gresham

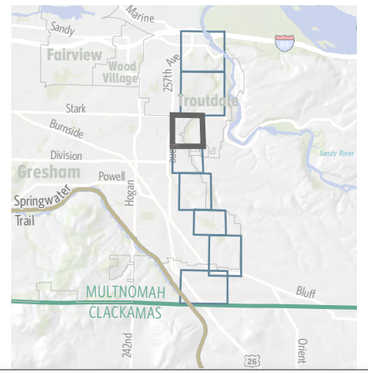
Planned bridge (2018)

LEGEND

- SOUTH BEAVER CREEK GREENWAY
- MT HOOD COMMUNITY COLLEGE
- WETLANDS
- EXISTING TRAIL
- 2 FT CONTOURS

2015 METRO REGIONAL AERIAL ORTHO PHOTOS

LOCATION MAP



Alignment Refinement - 11.15.2016

Recommended Alignment

Potential Near Term Alignment

PLACE

Metro

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APPENDIX J – TROUTDALE ROUTE ALIGNMENT COMPARISON

MEMO

DATE: 11.17.2016 (REV 12.06.2010)
PROJECT: 40-Mile Loop – Troutdale to Gresham
FROM: Robin Wilcox, PLACE
TO: Robert Spurlock, Chris Damgen, Ryan Krueger, Craig Ward, Tina Osterink, Katherine Kelly

SUBJECT: Alignment Refinement, Troutdale

INTRODUCTION

The following memorandum is a summary of the final recommended alignment through Troutdale based on feedback from project stakeholders, planning-level cost estimates, traffic volumes, number of crossing conflicts, on-street parking loss, and steepness of each route.

Recommended Alignment

Five alignments were considered from downtown Troutdale to Mount Hood Community College (MHCC):

- Buxton Road (1) – a new shared use path within the right-of-way (ROW)
  - Shared use path on Buxton Rd
  - Shared use path on Troutdale Rd
- Sandy Avenue (2A) – keep 2-way car traffic on Sandy Ave
  - Shared use path on Buxton Rd
  - Share use path on 3rd St
  - Shared use path on Sandy Ave
  - Shared use path on Troutdale Rd
- Sandy Ave (2B) – 1-way car traffic on Sandy Ave
  - Shared roadway on Harlow Ave
  - Shared roadway on 3rd St
  - Shared use path on Sandy Ave
  - Shared use path on Troutdale Rd
- Beaver Creek Canyon (3A) – following canyon rim
  - Either keep existing bike lanes and sidewalk on Historic Columbia River Hwy or replace the existing sidewalk and EB/SB bike lane with a shared use path
  - Shared roadway on Jackson Park Rd, requires easement
  - Shared use path through private property at the southern end of Jackson Park Rd, requires easement or property purchase
  - Shared use path to replace the existing trail within the publicly-owned utility corridor to the west of residences along Evans Ave
  - Shared use path through private property to the NE corner of Stark St and Troutdale Rd, requires easement.
- Beaver Creek Canyon (3B) – follow Evans Ave
  - Either keep existing bike lanes and sidewalk on Historic Columbia River Hwy or replace the existing sidewalk and EB/SB bike lane with a shared use path
  - Shared roadway on Jackson Park Rd, requires easement
  - Shared use path through private property at the southern end of Jackson Park Rd, requires easement or property purchase
  - Shared use path to replace the existing trail within the publicly-owned utility corridor to the west of residences along Evans Ave to the existing trailhead just north of Evans Loop
  - Shared roadway between trailhead and SE 23rd St
  - Shared use path through private property to the NE corner of Stark St and Troutdale Rd, requires easement.

Evaluation Criteria

The evaluation criteria outlined below was recommended by the project management team (PMT) to further compare alignment alternatives through Troutdale after additional study was recommended by the PMT and project stakeholder advisory committee (SAC).

Cost	• Based on planning level cost estimate • Relative cost of each option is compared
Traffic Volume	• Existing traffic counts were provided by Multnomah County • Traffic counts for City of Troutdale roads were conducted
Roadway Condition	• Insufficient information was available about all alignments to make a comparison
Crossing Conflicts	• Driveways and road crossings were counted along each alignment alternative where a shared use path is proposed • Fewer crossings are preferred for a shared use pathway
On-Street Parking	• Number of on-street parking spaces were estimated and confirmed with a field review • No consideration is given to existing or future demand for on-street parking
Steepness	• Based on available GIS slope information for each alignment alternative

Cost

Planning level cost estimates were developed using the cross sections described above for each alignment alternative and are based on rough order of magnitude lineal foot pricing. The costs do not include:

- Architectural, design, and construction management fees
- Assessments, taxes, finance, legal, or development charges
- Environmental impact
- Owner-provided insurance or builder's risk
- Land and easement acquisition

The assumed mark ups used are:

Mobilization	10.0%
General Conditions	15.0%
Overhead and Profit	6.0%
Bonds and Insurance	2.0%
Escalation to July 2018	3.5%
Contingency	20.0%
	56.5%

The full project workbook is attached as an appendix to this memo. The summary of cost for each alignment as well as the cost per linear foot (LF) of each alignment is included on the next page. The least cost alignment alternative is 3B, but additional property purchases and easements are not included in the estimate.

			Total Length		Cost Per LF		Total Cost
Alignment 1	8,030.00	LF	**8,030**	**$**	**517.26**	**$**	**4,153,558.53**
SE Buxton Road			2,566	$	416.39	$	1,068,454.47
SE Cherry Park Rd and SE Sandy Ave			200	$	373.31	$	74,661.63
South of SE Sandy Ave			5,264	$	446.91	$	2,352,516.43
Additional Trail Elements							
Roadway Bridge (Light vehicular)			20	$	32,896.30	$	657,926.00
Alignment 2A	9,356.00	LF	**9,356**	**$**	**495.36**	**$**	**4,634,602.98**
SE Buxton			544	$	414.04	$	225,238.64
SE Buxton and SE Harlow			477	$	317.23	$	151,318.22
SE Harlow Ave and SE Sandy Ave			510	$	260.89	$	133,053.38
SE 3rd St and SE Harlow Ave			1,527	$	945.79	$	1,444,224.54
SE 8th and S Troutdale Rd			1,034	$	484.77	$	501,253.13
SE Cherry Park Rd and SE Sandy Ave							NIC
South of SE Sandy Ave			5,264	$	414.04	$	2,179,515.07
Additional Trail Elements							**NIC**
Alignment 2B - Option A	8,777.00	LF	**8,777**	**$**	**331.58**	**$**	**2,910,261.05**
OR							
Alignment 2B - Option B	8,777.00	LF	**8,777**	**$**	**478.86**	**$**	**4,202,927.33**
SE Harlow Ave			503	$	28.17	$	14,169.51
SE Harlow Ave and SE Sandy Ave			449	$	317.23	$	142,435.81
SE 3rd St and SE Harlow Ave - Option A			1,527	$	47.73	$	72,887.53
SE 3rd St and SE Harlow Ave - Option B			1,527	$	894.27	$	1,365,553.80
SE 8th and S Troutdale Rd			1,034	$	484.77	$	501,253.13
SE Cherry Park Rd and SE Sandy Ave							NIC
South of SE Sandy Ave			5,264	$	414.04	$	2,179,515.07
Additional Trail Elements							**NIC**
Alignment 3A	10,574.00	LF	**10,574**	**$**	**327.77**	**$**	**3,465,814.70**
Historic Columbia River Highway			1,722	$	292.97	$	504,496.88
SE Jackson Park Road			1,178	$	28.17	$	33,184.26
Utility Easement behind SE Evans Ave			7,674	$	193.33	$	1,483,638.55
Additional Trail Elements							
Retaining Walls - medium grade			3,692	$	391.25	$	1,444,495.00
Alignment 3B	11,272.00	LF	**11,272**	**$**	**142.98**	**$**	**2,307,757.09**
Historic Columbia River Highway			1,722	$	292.97	$	504,496.88
SE Jackson Park Road			1,178	$	28.17	$	33,184.26
SE Evans Ave Connections			3,297	$	28.17	$	92,876.49
Utility Easement			5,075	$	193.33	$	981,165.71
Additional Trail Elements							
Retaining Walls - medium grade			1,779	$	391.25	$	696,033.75

Traffic Volume

Traffic volume information is based on traffic counts from different sources. Counts for Buxton Rd were available from Multnomah County from Aug, 2013, and counts for Troutdale Rd from May, 2015. No counts were available for either Sandy Ave or Evans Ave from the City of Troutdale, and a private consultant was hired to collect and analyze traffic counts. Counts for Sandy Ave were collected for a 24-hour period beginning at midnight Tuesday, October 11, 2016. Counts for Evan Ave are based on morning and evening peak hour traffic counts collected at the intersection of Evans Ave and Lewellyn Ave.

	ADT	AM 2hr Peak	NB - AM	SB - AM	PM 2hr Peak	NB – PM	SB - PM
Buxton Rd	6,439	825	168	657	1,092	705	387
Sandy Ave	130	-	-	-	33	-	-
Troutdale Rd	8,176	1,139	454	685	1,515	584	931
Evans Ave	490	34	-	25	49	36	-

Both Buxton Rd and Troutdale Rd are owned and managed by Multnomah County within the Troutdale city limits. Buxton Rd has average daily traffic (ADT) of approximately 6,500 vehicles. Approximately 2.6% of the vehicles counted with tube counters were bicycles and 87.8% of the vehicles were cars, small trucks, or buses. Troutdale Rd has an ADT of approximately 8,200 vehicles. Approximately 1.0% of the vehicles counted were bicycles and 89.9% of the vehicles were cars, small trucks, or buses. For comparison, 257th Ave which parallels Buxton Rd and Troutdale has an ADT of 18,499 (June, 2013) with 1.2% of the vehicles being bicycles and 88.4% being cars, small trucks, or buses. 257th Ave is also the designated truck route from Gresham, through Troutdale, to I-84. From the Troutdale Transportation System Plan (counts collected June, 2004), pedestrian counts during the PM peak are available for Buxton Rd/Historic Columbia River Highway (38 pedestrians), Buxton Rd/Cherry Park Rd (2 pedestrians), and Troutdale Rd/Stark St (44 pedestrians).

The threshold typically used for separating car and bicycle traffic with a shared use path, or similar facility, is 10,000-50,000 ADT. Buxton Rd, Sandy Ave, and Troutdale Rd are below this threshold. In this case, a shared use path rather than bike lanes and sidewalks is being considered because the 40-Mile Loop is a regional trail with a goal of connecting users of all ages and abilities and a higher level of separation and clarity is desired.

Sandy Ave is owned and maintained by the City of Troutdale and has an ADT of approximately 130 vehicles. No properties are directly served by Sandy Ave between 4th St and 8th St, and Harlow offers a more direct route between 4th St and 8th St, so the low traffic volumes are not surprising. Based on field observations and collected traffic volumes, a lane of vehicle traffic could be repurposed for a shared use pathway with very little impact to the surrounding street system.

Evans Ave is also owned and maintained by the City of Troutdale. The ADT is approximately 490 vehicles. Evans Ave is being considered as a candidate for a shared roadway or neighborhood greenway; bicycles will share the road with motor vehicles and pedestrians willuse the sidewalks. The North American City Transportation Officers (NACTO) *Urban Bikeway Design Guide*, and the recently published City of Portland Neighborhood *Greenway Assessment Report*, suggest 1,500 ADT (former) or 1,000 ADT is the threshold for vehicle volumes for a neighborhood greenway. The *Greenway Assessment Report* also says that ideally a neighborhood greenway should have fewer than 50 peak hour vehicles in the peak

direction; Evans Ave has 49 vehicles in both directions combined during the PM peak. For all standards, the examined segments of Evans Ave are well within the ideal range.

Crossing Conflicts

Crossing conflicts include driveways or roadways that will cross a separated shared use path. Field observations, aerial photos, and Google street view images were reviewed for both sides of the streets where shared use paths are being considered to determine which side of the street would have fewer motor vehicle crossings. This data was not collected for streets where a shared roadway and sidewalk is being considered. The table below and corresponding map quantify the number of crossings and show locations of intersections and driveways.

		Driveway	*Roadway*	***Total Crossings***
Buxton Rd – Hist Columbia River Hwy to 3rd St	*West*	2	1	**3**
	East	2	1	**3**
Buxton Rd –3rd St to Cherry Park Rd	*West*	13	3	**16**
	East	4	6	**10**
3rd St – Buxton Rd to Harlow Ave	*North*	0	1	**1**
	South	3	1	**4**
3rd St – Harlow Ave to Sandy Ave	*North*	2	0	**2**
	South	3	0	**3**
Sandy Ave – 3rd St to Troutdale Rd	*West*	1	2	**3**
	East	1	3	**4**
Troutdale Rd – Cherry Park Rd to Stark St	*West*	11	4	**15**
	East	10	5	**15**
Hist Columbia River Hwy – Depot Park to Bridge	*West*	13	0	**13**
	East	8	2	**10**

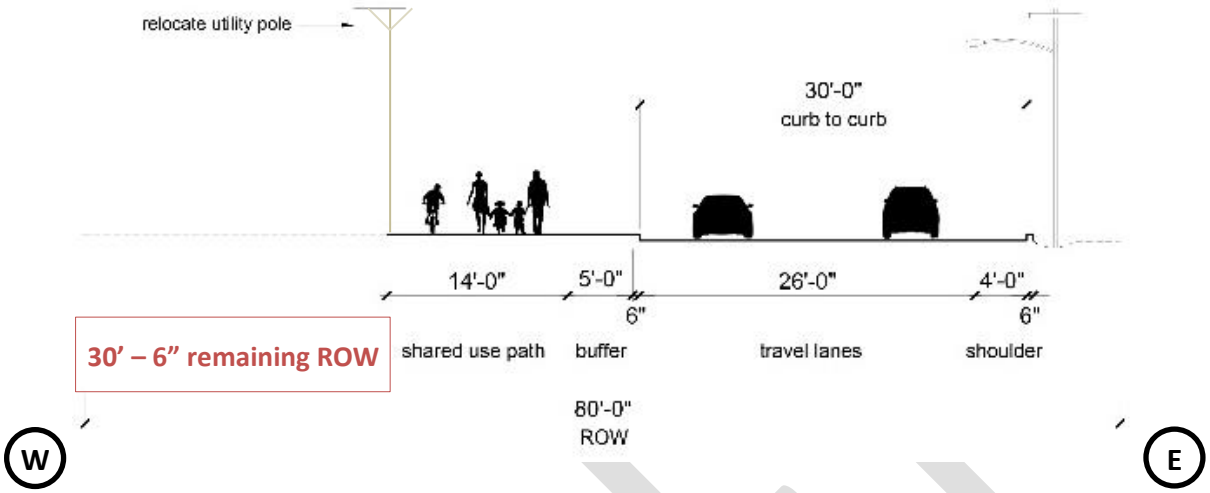
The number of crossings alone is not an accurate comparison. Some driveways or roadways are frequented several times per day, such as those of a business or those of a busy street, and others are frequented only one to two times per day by the same individual. Drivers who regularly cross the path are more likely to be aware of trail users, and portions of the pathway with more frequent vehicle crossings will need additional signs and visual cues for both 40-Mile Loop users and drivers.

On-Street Parking

For each of the streets being compared where parking loss is anticipated with the addition of a shared use path, parking spaces are not striped. Rather, we assumed each space is 25-feet long. The distance was measured using Google Earth imagery and GIS data. Driveways and driveway offsets (5' each side), intersections and intersection offsets (10' each side), and areas labeled No Parking were subtracted from the total distance and divided by 25-feet to figure the approximate number of available on-street parking spaces. This information was field verified. On-street parking for Buxton Rd, Troutdale Rd, and Sandy Ave appears to see limited use, and remaining spaces are expected to cover the potential demand based on surrounding land uses. Parking loss is shown on the analysis map in the appendix.

	On-Street Parking, Existing	*On-Street Parking, Remaining*
Buxton Rd – Hist Columbia River Hwy to Cherry Park Rd	167	85
3rd St – Buxton Rd to Sandy Ave	11	11
Sandy Ave – 8th St to Troutdale Rd	31	16
Troutdale Rd – Cherry Park Rd to Stark St*	190	105

It is worth noting that because of the available unused right-of-way adjacent to Troutdale Rd, there may be an option to keep parking in areas where it is most needed in addition to installing a shared use pathway. This should be studied in more detail in the design phase.



Troutdale Road ROW is 80'-0". The cross section above indicates additional ROW is available for parking on the west side of Troutdale Road depending on need/desire.

Steepness

Areas of each alignment near Troutdale are quite steep, and this comparison considered the slope in the steepest segments of each alignment.

- Buxton Rd – 8.8% for approximately 715-feet
- Sandy Ave – 4.3% for approximately 1,190-feet
- Jackson Rd/Evans Ave – 5% max (unbuilt)

When a shared use path is installed within the right-of-way of a road, the recommended maximum slope should be equal to or less than the slope of the road. Typically, the recommended maximum slope for a shared use path is 5%. Sandy Ave is the least steep of the three roads currently being considered. The Jackson Rd to Evans Ave alignment does not currently exist, and slope steepness may be mitigated slightly during design, but that will also require obtaining additional land for the shared use path.

Alignment Evaluation

For each of the evaluation criteria identified above, a maximum score of 10 was given. The matrix below summaries how the evaluation criteria were scored.

Cost	• Is the cost reasonable relative to the expected user experience and community value of the project? • Is the cost per unit relative to similar scaled projects in the Portland region? • Higher scores are given for lower relative costs
Traffic Volume	• Do the traffic volumes support the facility proposed? • Lower scores are given for higher traffic volumes
Crossing Conflicts	• Does the number of driveway crossings present a safety concern? • Do roadway crossings present a safety concern? • Higher scores are given for fewer crossings
On-Street Parking	• Will the loss of available on-street parking present a burden to adjacent land uses? • Less parking loss results in a higher score
Steepness	• Steep slopes present a barrier to some 40-Mile Loop trail users • Steepness was evaluated for the steepest portion of the route only • Less steep slopes result in a higher score

Alignment Evaluation

Ealuation Criteria	1 **Buxton Rd** *Shared Use Path*	2A **Sandy Ave, 2-Way Cars** *Share Use Path*	2B **Sandy Ave, 1-Way Cars** *Shared Roadway, Shared Use Path*	3A **Beaver Creek Canyon** *Shared Use Path*	3B **Beaver Creek Canyon / Evans** *Shared Use Path, Shared Roadway*
Cost (max 10)	4	2	8	6	8
Traffic Volume (max 10)	6	8	10	10	8
Crossing Conflicts (max 10)	6	6	7	8	8
On-Street Parking (max 10)	4	7	8	10	10
Steepness (max 10)	4	8	8	6	6
Total Score (max 50)	**24**	**31**	**41**	**40**	**40**

Alignment 2B scored the highest using the criteria outlined above. The alignment keeps construction costs relatively low because it utilizes and existing road, and is entirely within the public right-of-way. Traffic volumes are low enough on Sandy Ave that removing one lane of vehicle traffic will not negatively impact the adjacent neighborhood streets. The number of crossing conflicts are not as low as options 3A or 3B, but there are fewer conflicts than either options 1 or 2A. On street parking is lost along Sandy Ave between 8th St and Troutdale Rd, but there are no adjacent property owners, homes, or businesses; parking loss along Troutdale Rd could be mitigated as discussed above. Sandy Ave is the least steep route between Troutdale and Mt Hood Community College.

A recommendation is subject to approval by the project management team and project stakeholders.

APPENDIX 1 – Analysis Map

40 MILE LOOP: TROUTDALE TO GRESHAM TRAIL MASTER PLAN

TROUTDALE ROUTE REFINEMENT

- 1 Buxton Road
- 2A Sandy Avenue retaining 2-way car traffic
- 2B Sandy Avenue converted to 1-way car traffic
- 3A Beaver Creek Canyon following canyon rim
- 3B Beaver Creek Canyon following Evans Avenue

Solid line indicates new shared-use path

Dashed line indicates shared roadway

Existing conditions

- Existing 40-Mile Loop Trail
- Planned 40-Mile Loop Trail
- Other Existing Trail
- Parks and/or Natural Areas
- Streams
- City Boundaries
- Railroads
- Urban growth boundary

LEGEND

- Street Parking Loss
- % Downhill Slope
- Intersections
- Driveways

Metro

85 on street spaces to remain

16 on street spaces to remain

105 on street spaces to remain

5.8%

1.15%

8.8%

4.3%

2.9%

5%

DRAFT

Sandy River Delta Recreation Area
Jordan Rd
Thousand Acres Rd
Sandy River Greenway
40-Mile Loop Trail
257th Way
257th Ave
Columbia River Gorge National Scenic Area
Lewis and Clark State Recreation Site
Depot Park
Dropkick Trail
Jordan Rd
Sandy River
Helen Althaus Park
Troutdale Elementary
Harlow Canyon
Beaver Creek Trail
Glenn Otto Park
Sandy River Greenway
Jackson Park Rd
Beaver Creek
Dix Ct
Harlow Pl
Harlow Ave
Kibling Ave
Beaver Creek Ln
Evans Loop
Evans Ave
Evans Cir
Sandee Palisades IV Greenway
Sandee Palisades Park
Kiku Park
Beaver Creek Greenway
Lewellyn Park
Lewellyn Ave
Hood View Way
Reynolds Arthur Academy
North Beaver Creek Greenway
Sunrise Park
Hampton Ravine
Beaver Creek Woods
Bellingham Greenway
Mt Hood Community College
South Beaver Creek Greenway
Sandy Dell Rd
Troutdale Rd
Buxton Rd
Dora Ave
Spence Rd
Spence Ct
Spence Cir
Martine Cir
Harvest Pl
Autumn
Chapman Ave
Kendall Ct
Clara St
Kings Byway
Hewitt Ave
Miranda Pl
Grant Way
Morgan Way
Fox Ave
17th Way
18th Way
19th Way
20th Way
Wright Pl
Elise Pl
Laura Ct
Wright Ct
Fox Ct
Hensley Rd
Edgefield Pl
Howell Ave
Laura Ave
Fox Ln
Faith Ct
Burlingame Ave
Hewitt Pl
Corbeth Ln
Haskins Ct
Cereghino Pl
Knarr Ct
Sandy St
Chandler Ave
Nash Ct
Hudson Ct
Clark Ct
Pelton Ct
Hickin Ct
Lewis Ct
Hampton Ave
Kane Dr
Stott Cir
Stark St
1st St
2nd St
3rd St
4th St
5th St
6th St
7th St
8th St
11th Cir
12th St
13th St
14th St
15th St
15th Ct
16th Way
16th Cir
16th Ct
17th St
18th St
18th Pl
19th St
19th Cir
19th Pl
20th Cir
21st St
21st Cir
22nd St
22nd Cir
23rd St
24th St
24th Cir
25th St
25th Cir
26th St
26th Cir
26th Ct
27th St
27th Cir
27th Way
28th St
28th Ct
28th Pl
29th St
29th Cir
29th Way
29th Ct
30th Ct
30th Pl
Jackson Park Rd
Interstate 84
1
2A
2B
3A
3B
0 250 500 750 1000 1"= 600'

APPENDIX 2 – Traffic Counts

SE Evans Avenue Alignment

A second potential alignment under consideration would utilize part of SE Evans Avenue. In this scenario, Evans would function as a neighborhood greenway, with automotive traffic and bicycles sharing the roadway and pedestrians and slower active modes utilizing the sidewalk. The exact beginning and ending points of the multi-use path's utilization of Evans Avenue in this scenario are not yet finalized; however, it is expected that the path may utilize Evans Avenue for some or all of the segment between SE 23rd Street on the south and SE Evans Loop on the north.

To determine if this street is appropriate for this sort of neighborhood greenway conversion, morning and evening peak hour traffic counts were obtained at the intersection of SE Evans Avenue at SE Lewellen Avenue. Counts were obtained from 7:00 to 9:00 AM to capture the morning peak hour and from 4:00 to 6:00 PM to capture the evening peak hour. The traffic volumes observed are shown in Table 1 below.

Table 1: Traffic volumes along SE Evans Avenue on each side of the intersection with SW Lewellen Avenue

	Morning Peak Hour		Evening Peak Hour	
	S of Lewellen	N of Lewellen	S of Lewellen	N of Lewellen
Total volume	34	28	49	44
Peak direction	SB	SB	NB	NB
Peak direction volume	25	30	36	33

As shown in Table 1, 49 vehicles or fewer were observed along each examined segment during each peak hour. As a general rule of thumb, daily traffic volumes are expected to be approximately ten times as great as the volumes during the peak hour; this suggests that the average daily traffic (ADT) along Evans Avenue is approximately 490 vehicles south of Lewellen Avenue and 440 vehicles north of Lewellen Avenue.

This is well within the accepted volumes for a comfortable greenway that can be utilized by all ages and ability levels. Guidance for these sorts of facilities includes the North American City Transportation Officers (NACTO) *Urban Bikeway Design Guide,* and the recently released City of Portland released a *Neighborhood Greenway Assessment Report.* The former indicates that volumes of below 1,500 ADT are ideal. The latter largely concurs, though it indicates that volumes below 1,500 ADT are "acceptable" with volumes below 1,000 ADT as the goal. Further, the *Neighborhood Greenway Assessment Report* offers an alternate performance standard: ideally a neighborhood greenway should have fewer than 50 peak hour vehicles in the peak direction. For all standards, the examined segments of Evans Avenue are well within the ideal range.

Conclusion

While there are certainly considerations other than existing automotive volumes that inform the route selection, both of the potential alignments examined here have the potential to be successful as part of the 40-Mile Loop alignment. Either existing automotive lane of SE Sandy Avenue between 4th Street and Harlow Avenue could be removed to create space for a multi-use path with minimal impact to the greater system. Alternatively, vehicle volumes and usage patterns along SE Evans Avenue are appropriate for converting the examined segments into a neighborhood greenway that would serve as part of the path. Thus, either potential route is feasible for continued consideration as part of the alignment.

APPENDIX 3 – Cost Estimate

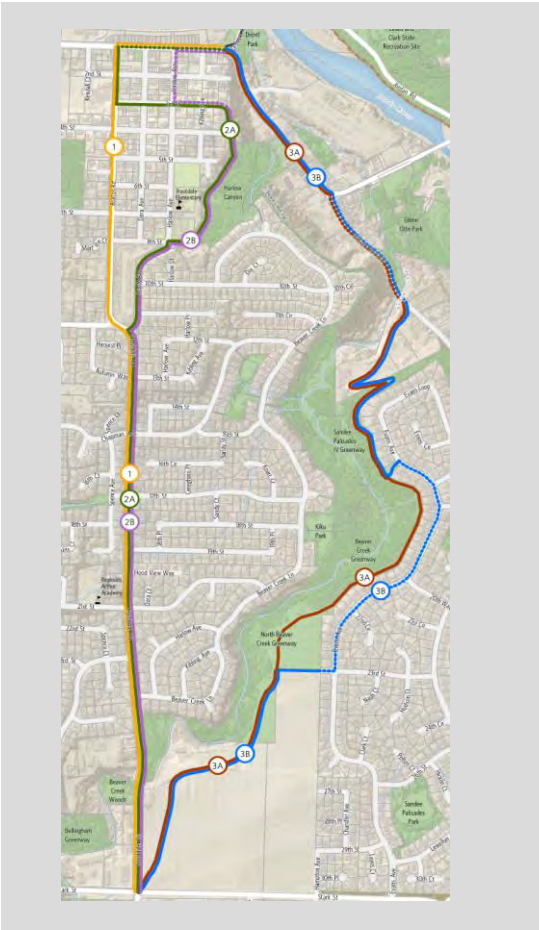
DCW COST MANAGEMENT

Prepared for:

PLACE

40 Mile Loop - Troutdale Route Refinement

Master Plan Cost Study



Assumptions and Clarifications

1 Costs are based upon Rough Order of Magnitude lineal foot pricing.

2 The trail type lengths are based on the Trail Master Plan, and corresponding route/section details for each trail option. Additive costs and reductions based on site conditions are not included in the Rough Order of Magnitude pricing. (See below).

3 The Additional Trail Elements section provides additive cost, and base line costs for future deductions for trail sections that do not require full-construction of each trail type.

4 Hazardous material handling, disposal and abatement other than soil replacement is not included

5 Testing and inspection fees are not included

6 Architectural, design and construction management fees are not included

7 Scope change and post contract contingencies are not included

8 Assessments, taxes, finance, legal and development charges are not included

9 Environmental impact mitigation is not included

10 Builder's risk, project wrap-up and other owner provided insurance program is not included

11 Land and easement acquisition is not included

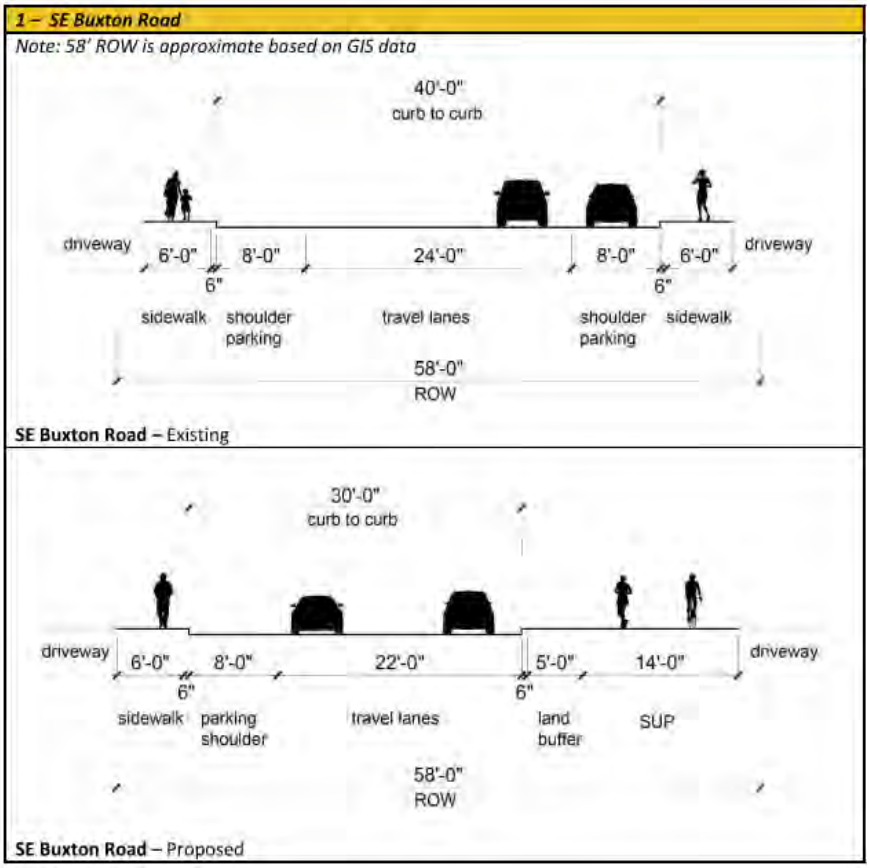
Contractor Mark ups

Mobilization	10.0%
General Conditions	15.0%
Overhead and Profit	6.00%
Bonds and Insurance	2.00%
Escalation to July 2018	3.50%
Contingency	20.00%
	56.5%

40 Mile Loop - Troutdale to Springwater Cost Work Book

		Total Length	Cost Per LF	Total Cost
Alignment 1	8,030.00 LF	**8,030**	**$ 517.26**	**$ 4,153,558.53**
SE Buxton Road		2,566	$ 416.39	$ 1,068,454.47
SE Cherry Park Rd and SE Sandy Ave		200	$ 373.31	$ 74,661.63
South of SE Sandy Ave		5,264	$ 446.91	$ 2,352,516.43
Additional Trail Elements				
Roadway Bridge (Light vehicular)		20	$ 32,896.30	$ 657,926.00
Alignment 2A	9,356.00 LF	**9,356**	**$ 495.36**	**$ 4,634,602.98**
SE Buxton		544	$ 414.04	$ 225,238.64
SE Buxton and SE Harlow		477	$ 317.23	$ 151,318.22
SE Harlow Ave and SE Sandy Ave		510	$ 260.89	$ 133,053.38
SE 3rd St and SE Harlow Ave		1,527	$ 945.79	$ 1,444,224.54
SE 8th and S Troutdale Rd		1,034	$ 484.77	$ 501,253.13
SE Cherry Park Rd and SE Sandy Ave				NIC
South of SE Sandy Ave		5,264	$ 414.04	$ 2,179,515.07
Additional Trail Elements				**NIC**
Alignment 2B - Option A	8,777.00 LF	**8,777**	**$ 331.58**	**$ 2,910,261.05**
OR				
Alignment 2B - Option B	8,777.00 LF	**8,777**	**$ 478.86**	**$ 4,202,927.33**
SE Harlow Ave		503	$ 28.17	$ 14,169.51
SE Harlow Ave and SE Sandy Ave		449	$ 317.23	$ 142,435.81
SE 3rd St and SE Harlow Ave - Option A		1,527	$ 47.73	$ 72,887.53
SE 3rd St and SE Harlow Ave - Option B		1,527	$ 894.27	$ 1,365,553.80
SE 8th and S Troutdale Rd		1,034	$ 484.77	$ 501,253.13
SE Cherry Park Rd and SE Sandy Ave				NIC
South of SE Sandy Ave		5,264	$ 414.04	$ 2,179,515.07
Additional Trail Elements				**NIC**
Alignment 3A	10,574.00 LF	**10,574**	**$ 327.77**	**$ 3,465,814.70**
Historic Columbia River Highway		1,722	$ 292.97	$ 504,496.88
SE Jackson Park Road		1,178	$ 28.17	$ 33,184.26
Utility Easement behind SE Evans Ave		7,674	$ 193.33	$ 1,483,638.55
Additional Trail Elements				
Retaining Walls - medium grade		3,692	$ 391.25	$ 1,444,495.00
Alignment 3B	11,272.00 LF	**11,272**	**$ 142.98**	**$ 2,307,757.09**
Historic Columbia River Highway		1,722	$ 292.97	$ 504,496.88
SE Jackson Park Road		1,178	$ 28.17	$ 33,184.26
SE Evans Ave Connections		3,297	$ 28.17	$ 92,876.49
Utility Easement		5,075	$ 193.33	$ 981,165.71
Additional Trail Elements				
Retaining Walls - medium grade		1,779	$ 391.25	$ 696,033.75

SE Buxton Road

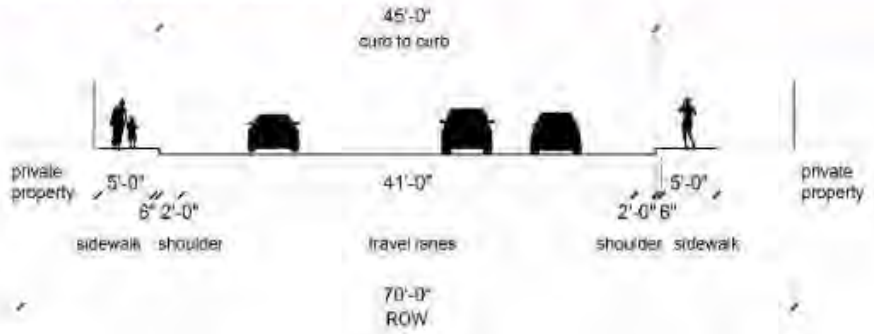


Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	1330.52	CY	$ 30.00	$ 39,916	$ 22,552	$ 24
Base Agg, 6"	665.26	CY	$ 45.00	$ 29,937	$ 16,914	$ 18
Fine Grade & Compact	35924.00	SF	$ 0.32	$ 11,496	$ 6,495	$ 7
Asphalt Paving, 6"	35924.00	SF	$ 6.50	$ 233,506	$ 131,931	$ 142
				$ 314,854	**$ 177,892**	**$ 192**
Land Buffer						
Excavation to 18"	713	CY	$ 30.00	$ 21,383	$ 12,082	$ 13
Curb	2566	LF	$ 22.50	$ 57,735	$ 32,620	$ 35
Topsoil, 18"	713	CY	$ 40.00	$ 28,511	$ 16,109	$ 17
Mulch, 3"	119	CY	$ 45.00	$ 5,346	$ 3,020	$ 3
Planting Allowance	12830	SF	$ 5.50	$ 70,565	$ 39,869	$ 43
Trees, @ 60' O.C.	43	EA	$ 350.00	$ 14,968	$ 8,457	$ 9
				$ 198,509	**$ 112,157**	**$ 121**
Demo						
Saw Cut	2566	LF	$ 6.50	$ 16,679.00	$ 9,424	$ 10
Demo existing Sidewalk	15396	SF	$ 3.00	$ 46,188.00	$ 26,096	$ 28
Grind and Overlay	25660	SF	$ 4.00	$ 102,640.00	$ 57,992	$ 63
Grade and Compact	7698	SF	$ 0.50	$ 3,849.00	$ 2,175	$ 2
				$ 169,356	**$ 95,686**	**$ 103**

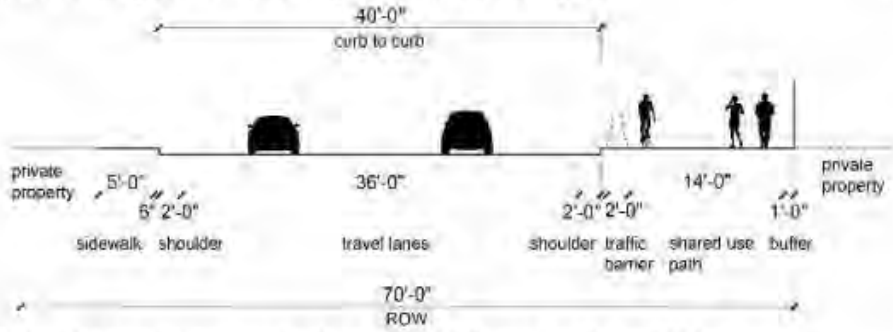
SE Cherry Park Rd to SE Sandy Ave

1 – SE Buxton Road

Note: 70' ROW is approximate based on GIS data



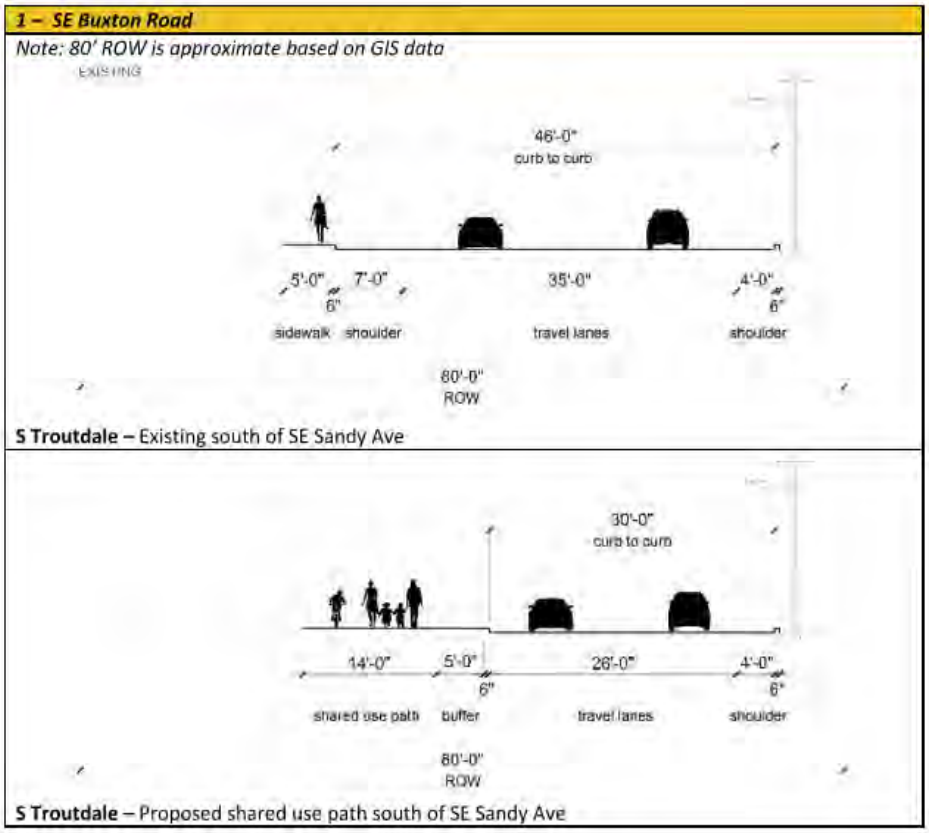
S Troutdale – Existing between SE Cherry Park Rd and SE Sandy Ave



S Troutdale – Proposed shared use path between SE Cherry Park Rd and SE Sandy Ave

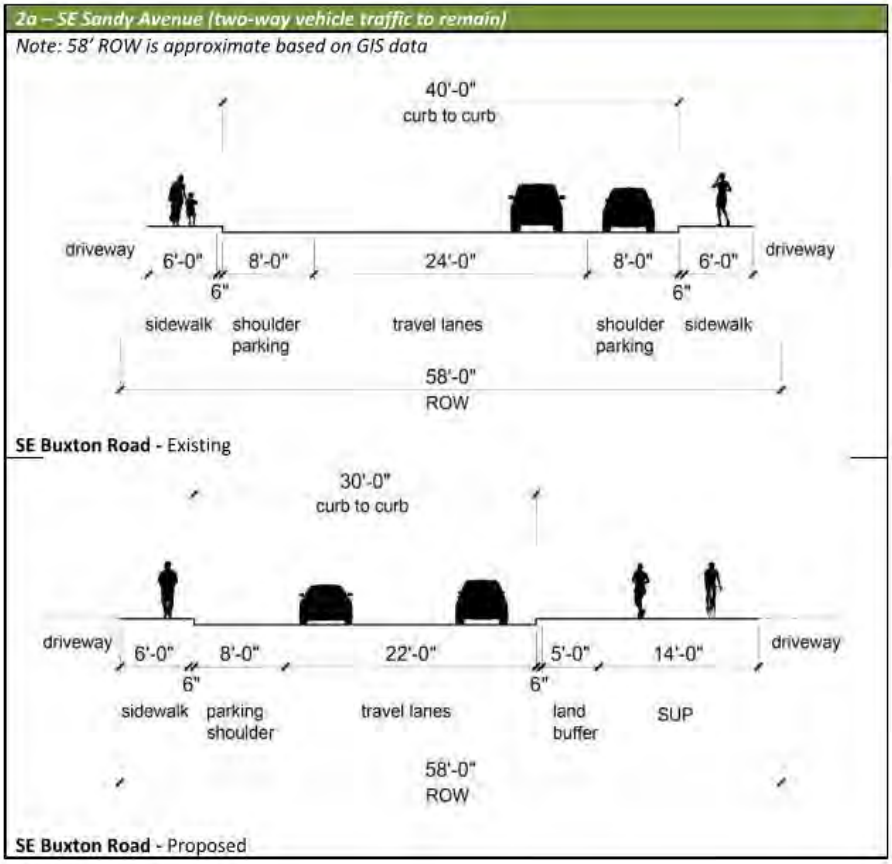
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	103.70	CY	$ 30.00	$ 3,111	$ 1,758	$ 24
Base Agg, 6"	51.85	CY	$ 45.00	$ 2,333	$ 1,318	$ 18
Fine Grade & Compact	2800.00	SF	$ 0.32	$ 896	$ 506	$ 7
Asphalt Paving, 6"	2800.00	SF	$ 6.50	$ 18,200	$ 10,283	$ 142
Traffic Barrier	200.00	LF	$ 45.00	$ 9,000	$ 5,085	$ 70
Curb	200.00	LF	$ 22.50	$ 4,500	$ 2,543	$ 35
Gravel Buffer, 6"	14.81	CY	$ 45.00	$ 667	$ 377	$ 5
				$ 38,707	**$ 21,870**	**$ 303**
Demo						
Saw Cut	200	LF	$ 6.50	$ 1,300	$ 735	$ 10
Demo Existing Sidewalk	1000	SF	$ 3.00	$ 3,000	$ 1,695	$ 23
Grind and Overlay	1000	SF	$ 4.00	$ 4,000	$ 2,260	$ 31
Grade and Compact	1400	SF	$ 0.50	$ 700	$ 396	$ 5
				$ 9,000	**$ 14,085**	**$ 70**

South of SE Sandy Ave



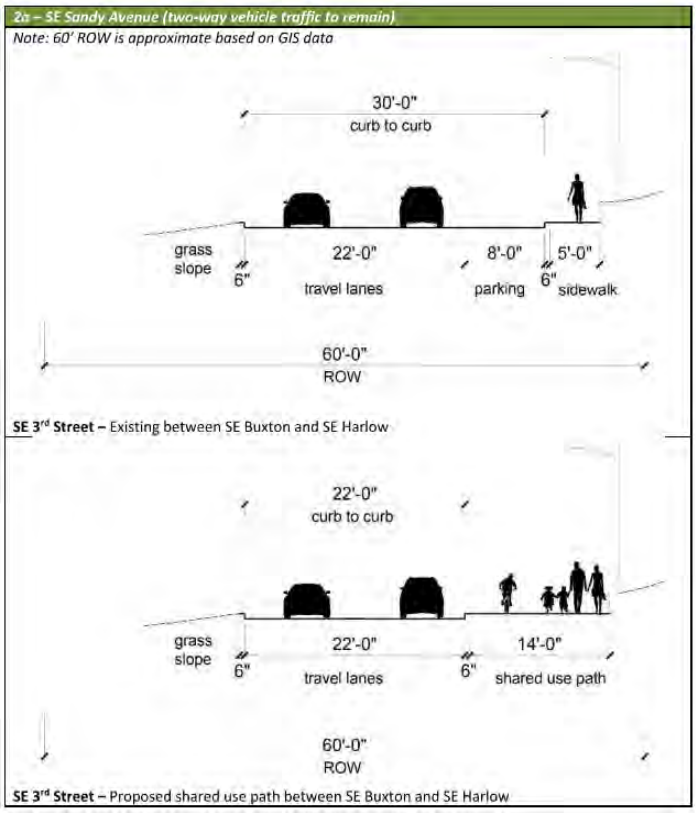
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	2729	CY	$ 30.00	$ 81,884	$ 46,265	$ 24
Base Agg, 6"	1365	CY	$ 45.00	$ 61,413	$ 34,699	$ 18
Fine Grade & Compact	73696	SF	$ 0.32	$ 23,583	$ 13,324	$ 7
Asphalt Paving, 6"	73696	SF	$ 6.50	$ 479,024	$ 270,649	$ 142
				$ 645,904	**$ 364,936**	**$ 192**
Land Buffer						
Excavation to 18"	1462	CY	$ 30.00	$ 43,867	$ 24,785	$ 13
Curb	5264	LF	$ 22.50	$ 118,440	$ 66,919	$ 35
Topsoil, 18"	1462	CY	$ 40.00	$ 58,489	$ 33,046	$ 17
Mulch, 3"	244	CY	$ 45.00	$ 10,967	$ 6,196	$ 3
Planting Allowance	26320	SF	$ 5.50	$ 144,760	$ 81,789	$ 43
Trees, @ 60' O.C.	88	EA	$ 350.00	$ 30,707	$ 17,349	$ 9
				$ 407,229	**$ 230,084**	**$ 121**
Demo						
Saw Cut	5264	LF	$ 6.50	$ 34,216	$ 19,332	$ 10
Demo Existing Sidewalk	26320	SF	$ 3.00	$ 78,960	$ 44,612	$ 23
Grind and Overlay	84224	SF	$ 4.00	$ 336,896	$ 190,346	$ 100
				$ 450,072	**$ 254,291**	**$ 134**

SE Buxton Ave



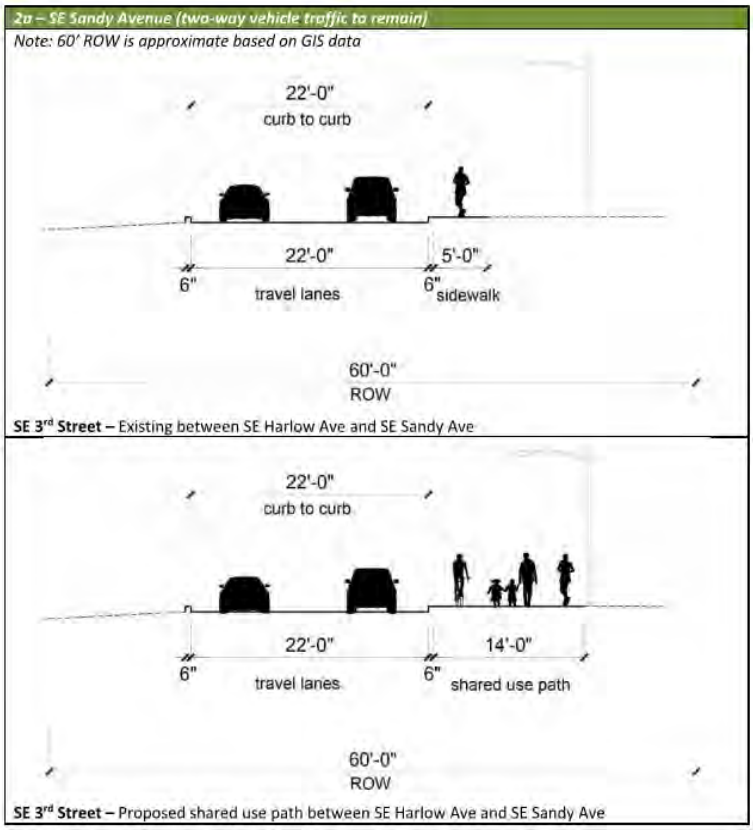
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	282	CY	$ 30.00	$ 8,462	$ 4,781	$ 24
Base Agg, 6"	141	CY	$ 45.00	$ 6,347	$ 3,586	$ 18
Fine Grade & Compact	7616	SF	$ 0.32	$ 2,437	$ 1,377	$ 7
Asphalt Paving, 6"	7616	SF	$ 6.50	$ 49,504	$ 27,970	$ 142
				$ 66,750	**$ 37,714**	**$ 192**
Land Buffer						
Excavation to 18"	151	CY	$ 30.00	$ 4,533	$ 2,561	$ 13
Curb	544	LF	$ 22.50	$ 12,240	$ 6,916	$ 35
Topsoil, 18"	151	CY	$ 40.00	$ 6,044	$ 3,415	$ 17
Mulch, 3"	25	CY	$ 45.00	$ 1,133	$ 640	$ 3
Planting Allowance	2720	SF	$ 5.50	$ 14,960	$ 8,452	$ 43
Trees, @ 60' O.C.	9	EA	$ 350.00	$ 3,173	$ 1,793	$ 9
				$ 42,084	**$ 23,778**	**$ 121**
Demo						
Saw Cut	544	LF	$ 6.50	$ 3,536	$ 1,998	$ 10
Demo Existing Sidewalk	3264	SF	$ 3.00	$ 9,792	$ 5,532	$ 28
Grind and Overlay	5440	SF	$ 4.00	$ 21,760	$ 12,294	$ 63
Grade and Compact	1632	SF	$ 0.50	$ 816	$ 461	$ 2
				$ 35,904	**$ 20,286**	**$ 101**

SE 3rd St, SE Buxton to SE Harlow



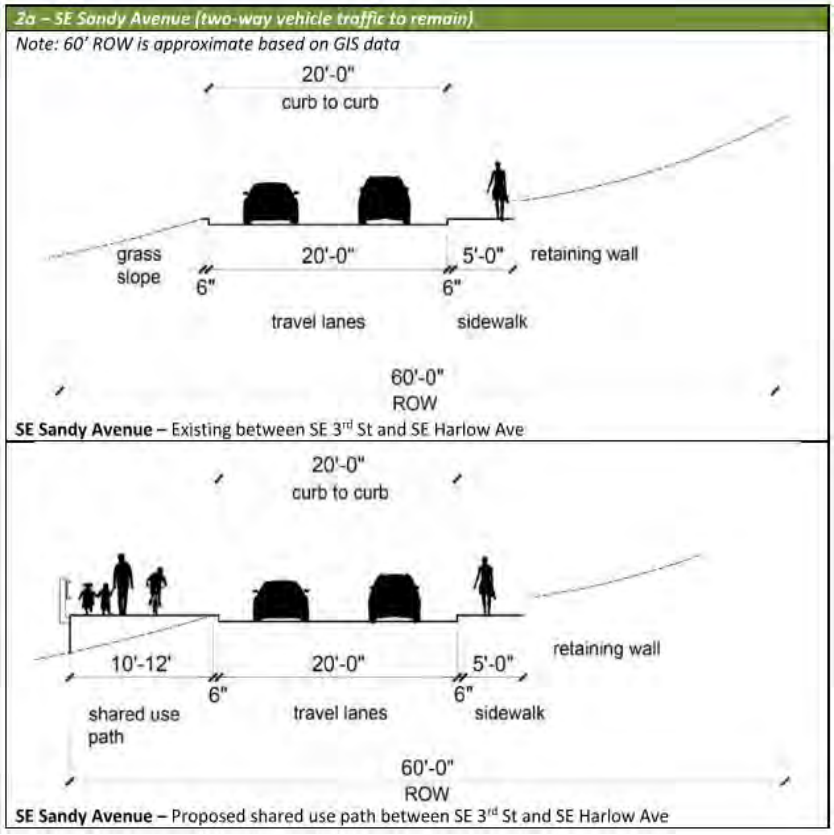
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	247	CY	$ 30.00	$ 7,420	$ 4,192	$ 24
Base Agg, 6"	124	CY	$ 45.00	$ 5,565	$ 3,144	$ 18
Fine Grade & Compact	6678	SF	$ 0.32	$ 2,137	$ 1,207	$ 7
Asphalt Paving, 6"	6678	SF	$ 6.50	$ 43,407	$ 24,525	$ 142
Curb	477	LF	$ 22.50	$ 10,733	$ 6,064	$ 35
				$ 69,261	**$ 39,133**	**$ 227**
Demo						
Saw Cut	477	LF	$ 6.50	$ 3,101	$ 1,752	$ 10
Demo Existing Sidewalk	2385	SF	$ 3.00	$ 7,155	$ 4,043	$ 23
Grind and Overlay	4293	SF	$ 4.00	$ 17,172	$ 9,702	$ 56
				$ 27,428	**$ 15,497**	**$ 90**

SE 3rd St, SE Harlow to SE Sandy Ave



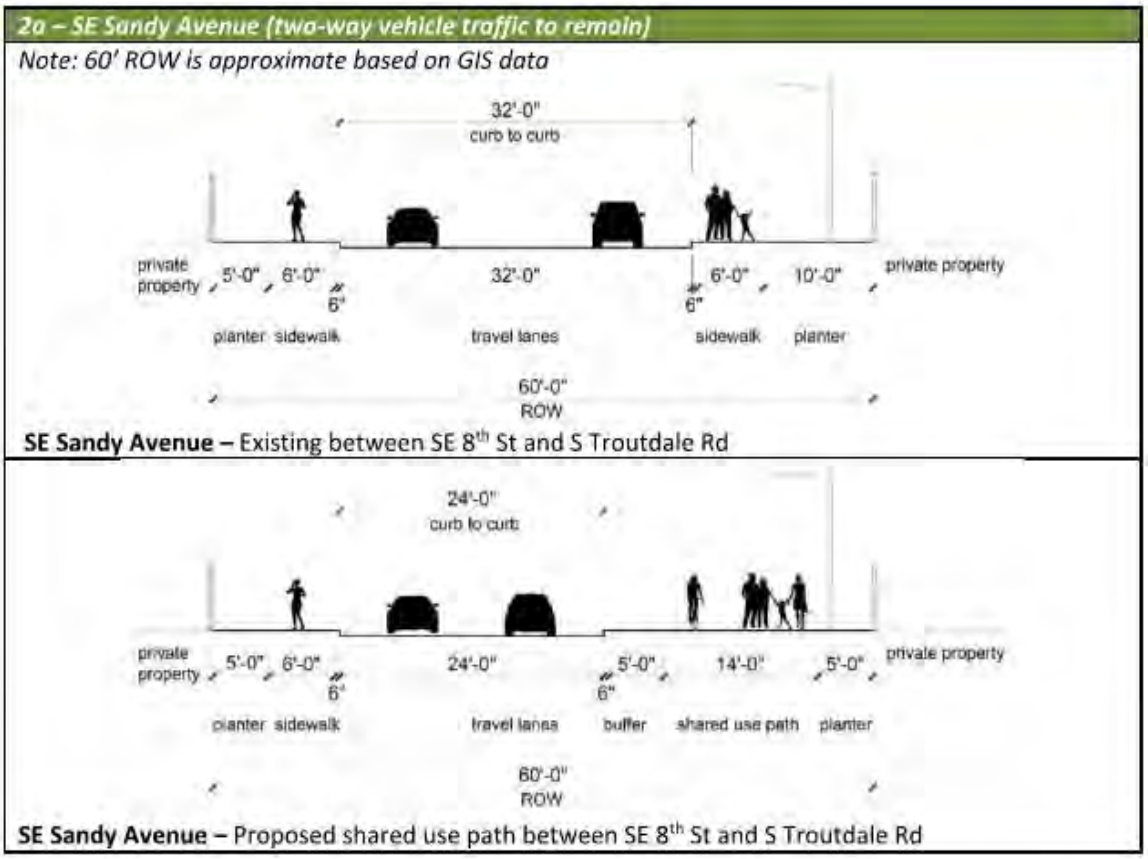
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	264	CY	$ 30.00	$ 7,933	$ 4,482	$ 24
Base Agg, 6"	132	CY	$ 45.00	$ 5,950	$ 3,362	$ 18
Fine Grade & Compact	7140	SF	$ 0.32	$ 2,285	$ 1,291	$ 7
Asphalt Paving, 6"	7140	SF	$ 6.50	$ 46,410	$ 26,222	$ 142
Curb	510	LF	$ 22.50	$ 11,475	$ 6,483	$ 35
				$ 74,053	**$ 41,840**	**$ 227**
Demo						
Saw Cut	510	LF	$ 6.50	$ 3,315	$ 1,873	$ 10
Demo Existing Sidewalk	2550	SF	$ 3.00	$ 7,650	$ 4,322	$ 23
Grade and Compact	4590	SF	$ 4.00	$ 18,360	$ 10,373	$ 56
				$ 29,325	**$ 16,569**	**$ 34**

SE Sandy Ave to SE Harlow Ave



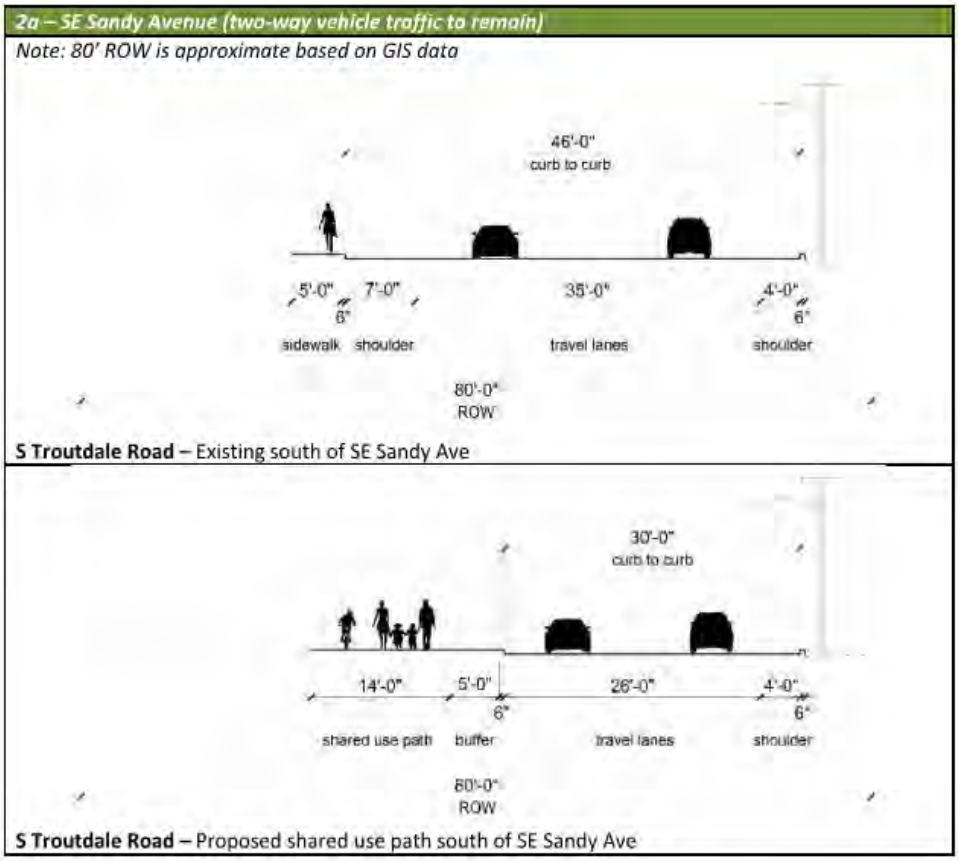
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 3'	1018	CY	$ 30.00	$ 30,540	$ 17,255	$ 31
Base Agg/Fill, 3'	2036	CY	$ 45.00	$ 91,620	$ 51,765	$ 94
Fine Grade & Compact	18324	SF	$ 0.32	$ 5,864	$ 3,313	$ 6
Asphalt Paving, 6"	18324	SF	$ 6.50	$ 119,106	$ 67,295	$ 122
Retaining Wall	4581	SF	$ 90.00	$ 412,290	$ 232,944	$ 423
Railing	1527	LF	$ 150.00	$ 229,050	$ 129,413	$ 235
Curb	1527	LF	$ 22.50	$ 34,358	$ 19,412	$ 35
				$ 922,827	**$ 521,397**	**$ 946**

Sandy Ave - SE 8th to S Troudale Rd **1034**



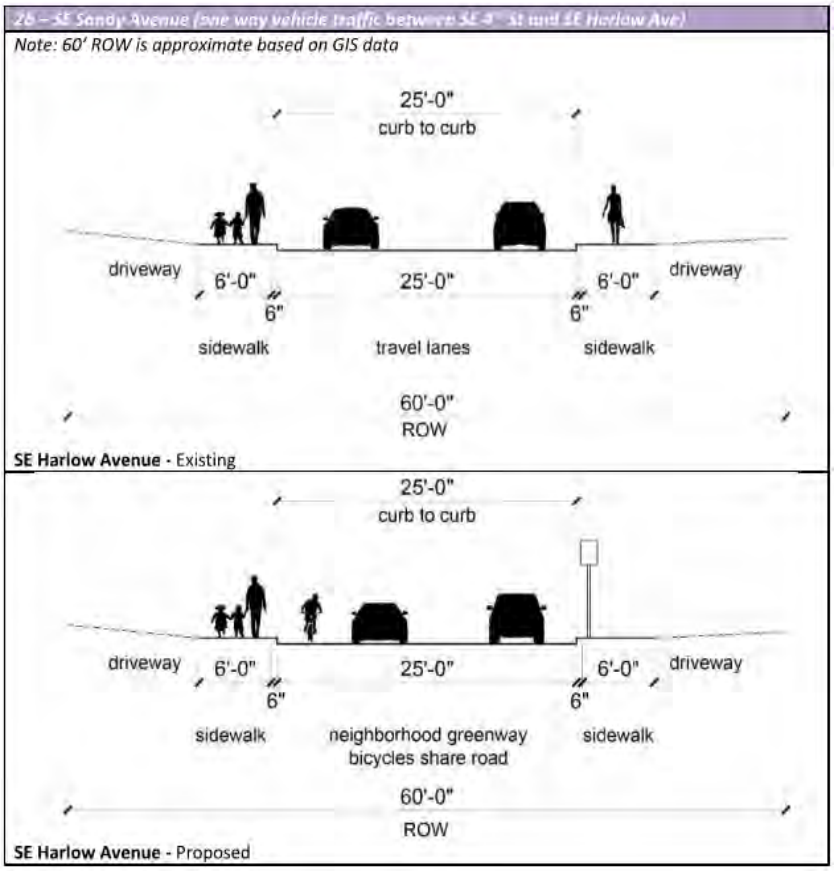
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	536	CY	$ 30.00	$ 16,084	$ 9,088	$ 24
Base Agg, 6"	268	CY	$ 45.00	$ 12,063	$ 6,816	$ 18
Fine Grade & Compact	14476	SF	$ 0.32	$ 4,632	$ 2,617	$ 7
Asphalt Paving, 6"	14476	SF	$ 6.50	$ 94,094	$ 53,163	$ 142
				$ 126,874	**$ 71,684**	**$ 192**
Land Buffer and Planter						
Excavation to 18"	574	CY	$ 30.00	$ 17,233	$ 9,737	$ 26
Curb	1034	LF	$ 22.50	$ 23,265	$ 13,145	$ 35
Topsoil, 18"	574	CY	$ 40.00	$ 22,978	$ 12,982	$ 35
Mulch, 3"	191	CY	$ 45.00	$ 8,617	$ 4,868	$ 13
Planting Allowance	10340	SF	$ 5.50	$ 56,870	$ 32,132	$ 86
Trees, @ 60' O.C.	17	EA	$ 350.00	$ 6,032	$ 3,408	$ 9
				$ 134,994	**$ 76,272**	**$ 204**
Demo						
Saw Cut	1034	LF	$ 6.50	$ 6,721	$ 3,797	$ 10
Demo Existing Sidewalk	6204	SF	$ 3.00	$ 18,612	$ 10,516	$ 28
Grind and Overlay	8272	SF	$ 4.00	$ 33,088	$ 18,695	$ 50
Grade and Compact	10340	SF	$ 0.50	$ 5,170	$ 2,921	$ 8
				$ 63,591	**$ 35,929**	**$ 88**

S Troutdale road **5264**



Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	2729	CY	$ 30.00	$ 81,884	$ 46,265	$ 24
Base Agg, 6"	1365	CY	$ 45.00	$ 61,413	$ 34,699	$ 18
Fine Grade & Compact	73696	SF	$ 0.32	$ 23,583	$ 13,324	$ 7
Asphalt Paving, 6"	73696	SF	$ 6.50	$ 479,024	$ 270,649	$ 142
				$ 645,904	**$ 364,936**	**$ 192**
Land Buffer						
Excavation to 18"	1462	CY	$ 30.00	$ 43,867	$ 24,785	$ 13
Curb	5264	LF	$ 22.50	$ 118,440	$ 66,919	$ 35
Topsoil, 18"	1462	CY	$ 40.00	$ 58,489	$ 33,046	$ 17
Mulch, 3"	244	CY	$ 45.00	$ 10,967	$ 6,196	$ 3
Planting Allowance	26320	SF	$ 5.50	$ 144,760	$ 81,789	$ 43
Trees, @ 60' O.C.	88	EA	$ 350.00	$ 30,707	$ 17,349	$ 9
				$ 407,229	**$ 230,084**	**$ 121**
Demo						
Saw Cut	5264	LF	$ 6.50	$ 34,216	$ 19,332	$ 10
Demo Existing Sidewalk	31584	SF	$ 3.00	$ 94,752	$ 53,535	$ 28
Grind and Overlay	52640	SF	$ 4.00	$ 210,560	$ 118,966	$ 63
				$ 339,528	**$ 191,833**	**$ 101**

Sandy Ave -SE Harlow Ave **503**

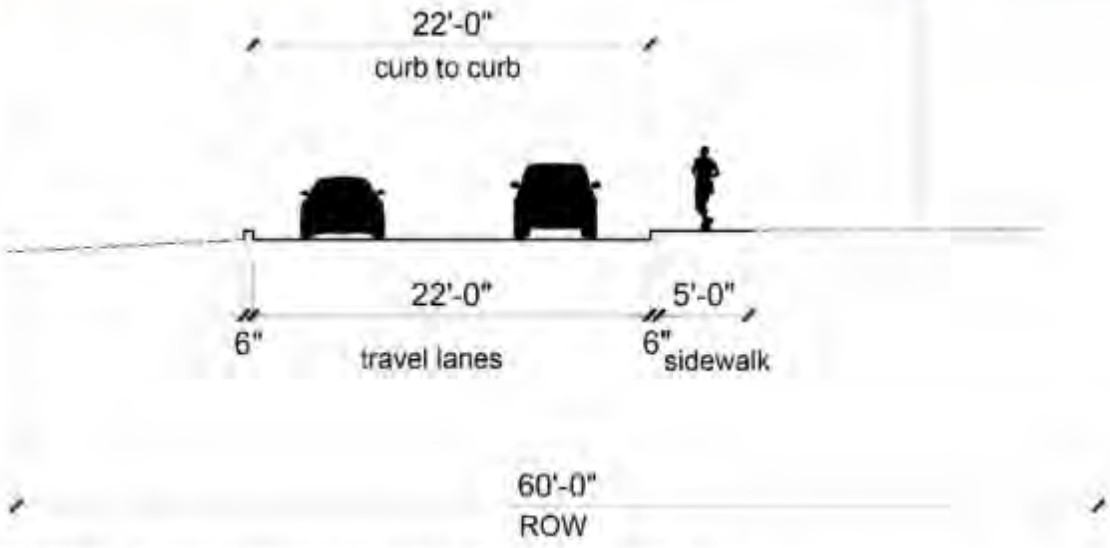


Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Modification of existing roadways						
Low Impact	503	LF	$ 18.00	$ 9,054	$ 5,116	$ 28.17
				$ 9,054	$ 5,116	**$ 28**

Sandy Ave -SE Harlow Ave **449**

2b – SE Sandy Avenue (one way vehicle traffic between SE 4th St and SE Harlow Ave)

Note: 60' ROW is approximate based on GIS data

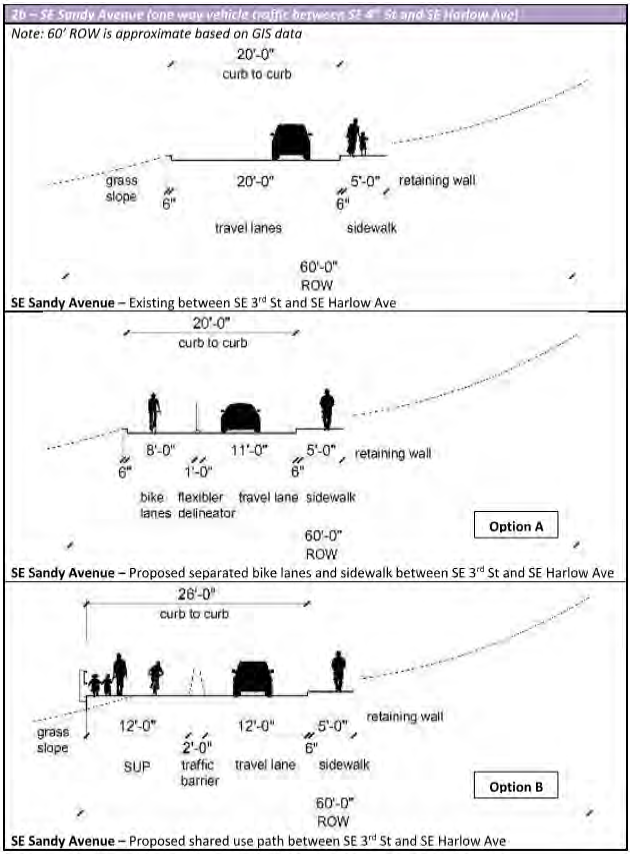


SE 3rd Street – Existing between SE Harlow Ave and SE Sandy Ave

SE 3rd Street – Proposed neighborhood greenway (bikes share roadway with cars) with existing sidewalk between SE Harlow Ave and SE Sandy Ave

Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Modification of existing roadways						
Low Impact	449	LF	$ 18.00	$ 8,082	$ 4,566	$ 28.17
				$ 8,082	**$ 4,566**	**$ 28**

Sandy Ave -SE Harlow Ave **1527**

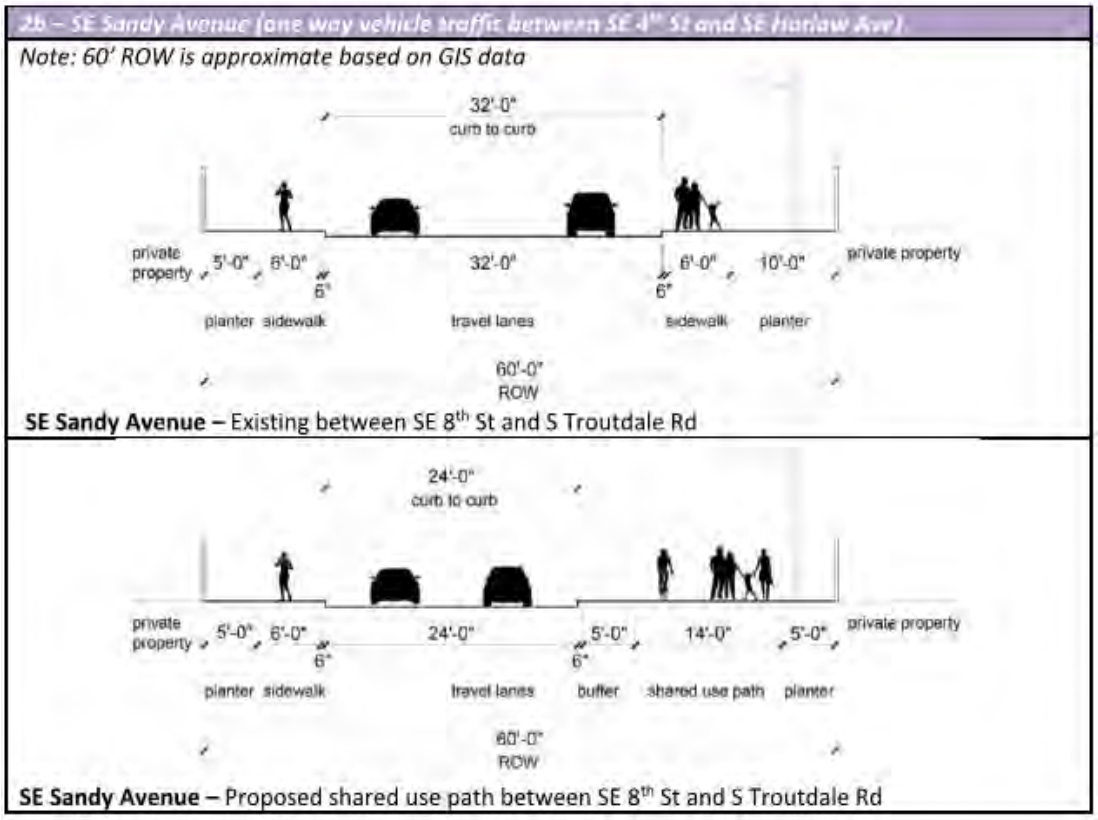


CLARIFICATION: A) Flexible Barrier

B) 6' Fill/Retaining wallCantilive

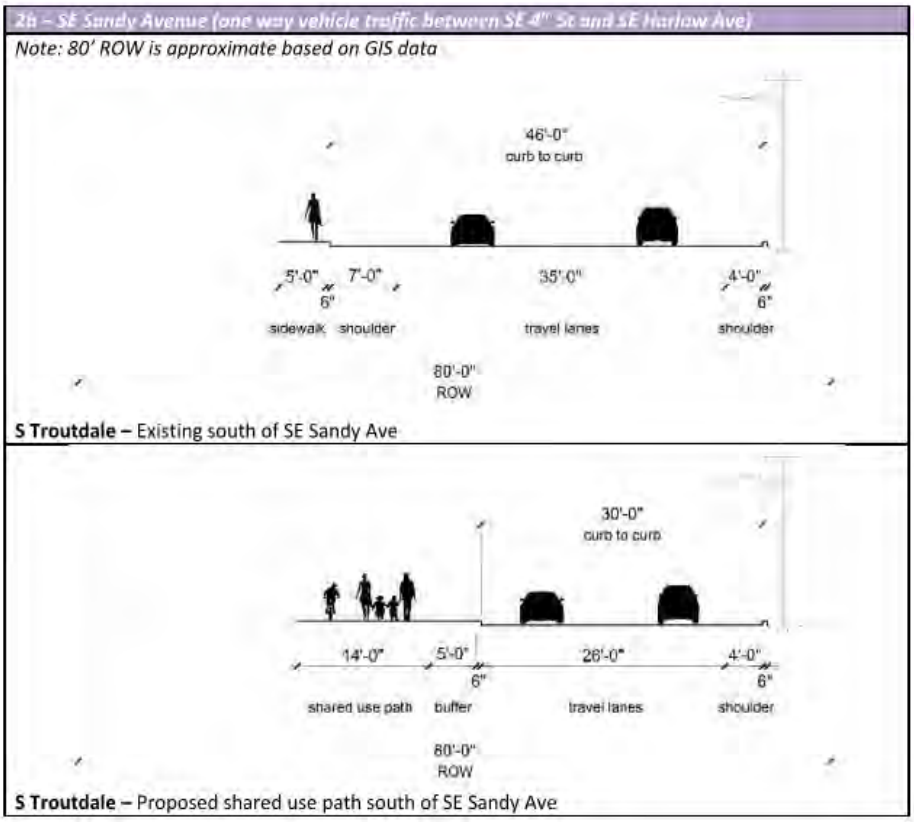
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Option A: Shared Use Path						
Flexible Delineator	1527	LF	$ 12.50	$ 19,088	$ 10,784	$ 20
Road Modification	1527	LF	$ 18.00	$ 27,486	$ 15,530	$ 28
				$ 46,574	**$ 26,314**	**$ 48**
Option B: Shared Use Path						
Excavation to 3'	509	CY	$ 30.00	$ 15,270	$ 8,628	$ 16
Base Agg/Fill, 3'	1018	CY	$ 45.00	$ 45,810	$ 25,883	$ 47
Fine Grade & Compact	9162	SF	$ 0.32	$ 2,932	$ 1,656	$ 3
Asphalt Paving, 6"	9162	SF	$ 6.50	$ 59,553	$ 33,647	$ 61
Traffic Barrier	1527	LF	$ 45.00	$ 68,715	$ 38,824	$ 70
Retaining Wall	4581	SF	$ 90.00	$ 412,290	$ 232,944	$ 423
Railing	1527	LF	$ 150.00	$ 229,050	$ 129,413	$ 235
Curb	1527	LF	$ 22.50	$ 34,358	$ 19,412	$ 35
				$ 867,977	**$ 490,407**	**$ 890**
Demo						
Grade and Compact	9162	SF	$ 0.50	$ 4,581	$ 2,588	$ 5
				$ 4,581	**$ 2,588**	**$ 5**

Sandy Ave - SE 8th to S Troudale Rd **1034**



Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	536	CY	$ 30.00	$ 16,084	$ 9,088	$ 24
Base Agg, 6"	268	CY	$ 45.00	$ 12,063	$ 6,816	$ 18
Fine Grade & Compact	14476	SF	$ 0.32	$ 4,632	$ 2,617	$ 7
Asphalt Paving, 6"	14476	SF	$ 6.50	$ 94,094	$ 53,163	$ 142
				$ 126,874	**$ 71,684**	**$ 192**
Land Buffer						
Excavation to 18"	574	CY	$ 30.00	$ 17,233	$ 9,737	$ 26
Curb	1034	LF	$ 22.50	$ 23,265	$ 13,145	$ 35
Topsoil, 18"	574	CY	$ 40.00	$ 22,978	$ 12,982	$ 35
Mulch, 3"	191	CY	$ 45.00	$ 8,617	$ 4,868	$ 13
Planting Allowance	10340	SF	$ 5.50	$ 56,870	$ 32,132	$ 86
Trees, @ 60' O.C.	17	EA	$ 350.00	$ 6,032	$ 3,408	$ 9
				$ 134,994	**$ 76,272**	**$ 204**
Demo						
Saw Cut	1034	LF	$ 6.50	$ 6,721	$ 3,797	$ 10
Demo Existing Sidewalk	6204	SF	$ 3.00	$ 18,612	$ 10,516	$ 28
Grind and Overlay	8272	SF	$ 4.00	$ 33,088	$ 18,695	$ 50
Grade and Compact	10340	SF	$ 0.50	$ 5,170	$ 2,921	$ 8
				$ 63,591	**$ 35,929**	**$ 88**

Sandy Ave - SE 8th to S Troudale Rd **5264**

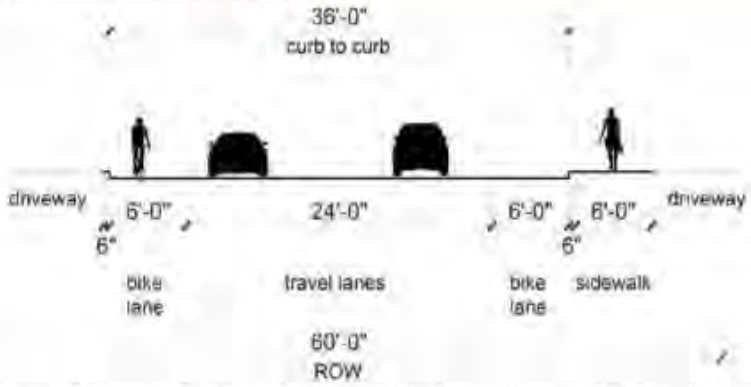


Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	2729	CY	$ 30.00	$ 81,884	$ 46,265	$ 24
Base Agg, 6"	1365	CY	$ 45.00	$ 61,413	$ 34,699	$ 18
Fine Grade & Compact	73696	SF	$ 0.32	$ 23,583	$ 13,324	$ 7
Asphalt Paving, 6"	73696	SF	$ 6.50	$ 479,024	$ 270,649	$ 142
				$ 645,904	**$ 364,936**	**$ 192**
Land Buffer						
Excavation to 18"	1462	CY	$ 30.00	$ 43,867	$ 24,785	$ 13
Curb	5264	LF	$ 22.50	$ 118,440	$ 66,919	$ 35
Topsoil, 18"	1462	CY	$ 40.00	$ 58,489	$ 33,046	$ 17
Mulch, 3"	244	CY	$ 45.00	$ 10,967	$ 6,196	$ 3
Planting Allowance	26320	SF	$ 5.50	$ 144,760	$ 81,789	$ 43
Trees, @ 60' O.C.	88	EA	$ 350.00	$ 30,707	$ 17,349	$ 9
				$ 407,229	**$ 230,084**	**$ 121**
Demo						
Saw Cut	5264	LF	$ 6.50	$ 34,216	$ 19,332	$ 10
Demo Existing Sidewalk	31584	SF	$ 3.00	$ 94,752	$ 53,535	$ 28
Grind and Overlay	52640	SF	$ 4.00	$ 210,560	$ 118,966	$ 63
Grade and Compact	15792	SF	$ 0.50	$ 7,896	$ 4,461	$ 2
				$ 347,424	**$ 196,295**	**$ 101**

Historic Columbia River Hwy **1722**

3a – Beaver Creek Canyon Shared Use Pathway

Note: 60' ROW is approximate based on GIS data



Historic Columbia River Highway – Existing bike lanes in both directions and sidewalk on the west side of the street.

Historic Columbia River Highway – Proposed option to replace existing bike lanes with a shared use path on the "sidewalk"/west side of the road. Alternative is for the roadway to remain unchanged.

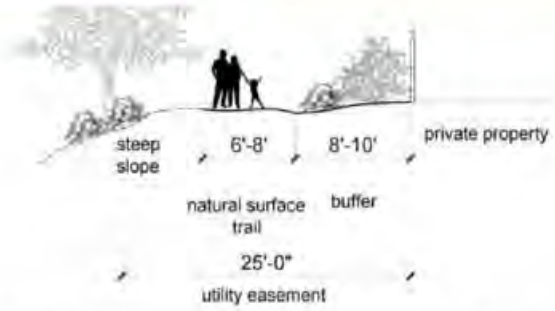
SE Jackson Park Road – Existing private roadway open to residents only

SE Jackson Park Road – Proposed easement obtained from residents to allow bicycle and pedestrian access via Jackson Park Road.

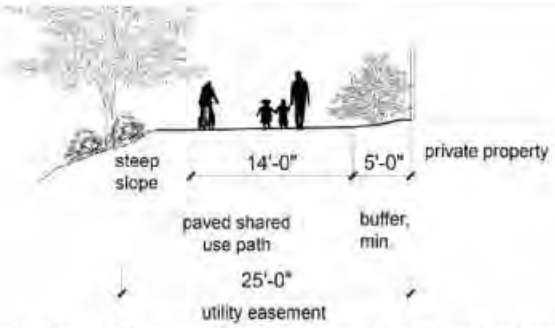
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	893	CY	$ 30.00	$ 26,787	$ 15,134	$ 24
Base Agg, 6"	446	CY	$ 45.00	$ 20,090	$ 11,351	$ 18
Fine Grade & Compact	24108	SF	$ 0.32	$ 7,715	$ 4,359	$ 7
Asphalt Paving, 6"	24108	SF	$ 6.50	$ 156,702	$ 88,537	$ 142
				$ 211,293	$ 119,381	**$ 192**
Demo						
Saw Cut	1722	LF	$ 6.50	$ 11,193	$ 6,324	$ 10
Demo Existing Sidewalk	10332	SF	$ 3.00	$ 30,996	$ 17,513	$ 28
Grind and Overlay	17220	SF	$ 4.00	$ 68,880	$ 38,917	$ 63
Grade and Compact	5166	SF	$ 0.50	$ 2,583	$ 1,459	$ 2
				$ 113,652	**$ 64,213**	**$ 101**

Utility Easement - to SE Stark St **7674**

3a – Beaver Creek Canyon Shared Use Pathway



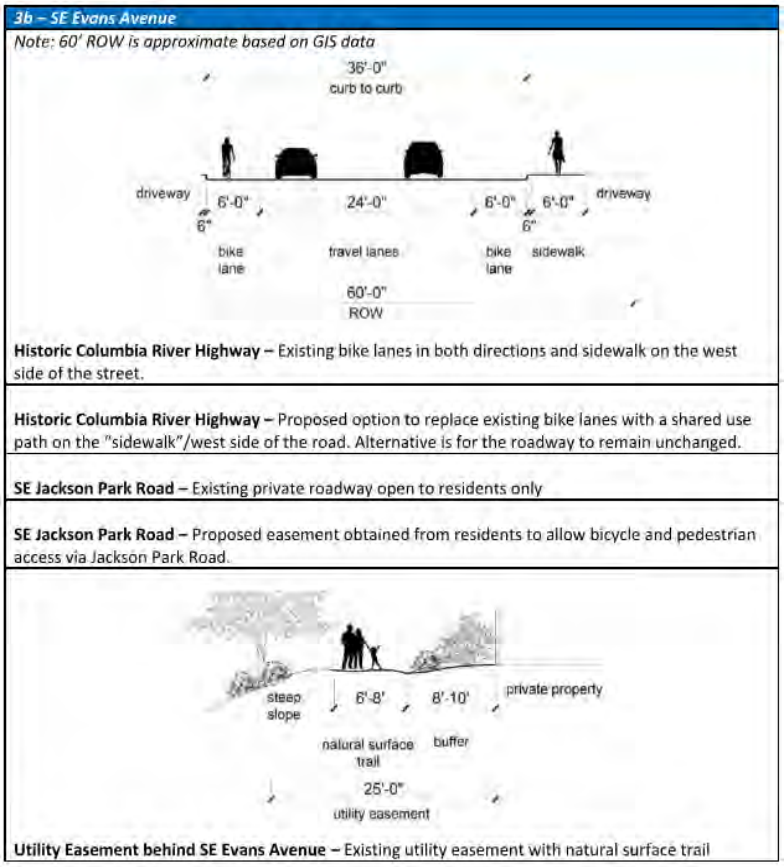
Utility Easement behind SE Evans Avenue – Existing utility easement with natural surface trail



Utility Easement behind SE Evans Avenue – Proposed paved shared use pathway to extend south toward SE Stark Street/S Troutdale Road intersection

Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	3979	CY	$ 30.00	$ 119,373	$ 67,446	$ 24
Base Agg, 6"	1990	CY	$ 45.00	$ 89,530	$ 50,584	$ 18
Fine Grade & Compact	107436	SF	$ 0.32	$ 34,380	$ 19,424	$ 7
Asphalt Paving, 6"	107436	SF	$ 6.50	$ 698,334	$ 394,559	$ 142
Gravel Buffer, 6"	142	CY	$ 45.00	$ 6,395	$ 3,613	$ 1
				$ 948,012	$ 535,627	**$ 193**

Historic Columbia River Hwy **1722**

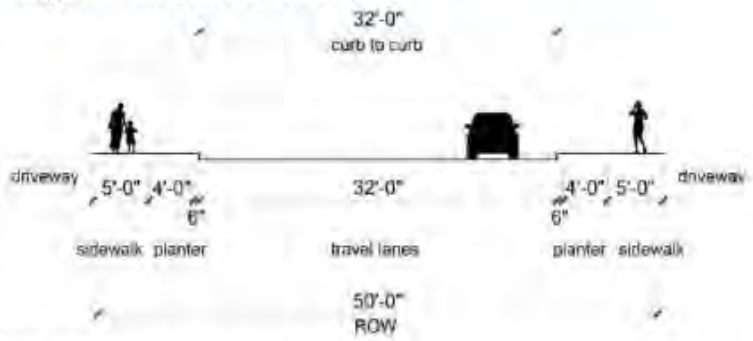


Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	893	CY	$ 30.00	$ 26,787	$ 15,134	$ 24
Base Agg, 6"	446	CY	$ 45.00	$ 20,090	$ 11,351	$ 18
Fine Grade & Compact	24108	SF	$ 0.32	$ 7,715	$ 4,359	$ 7
Asphalt Paving, 6"	24108	SF	$ 6.50	$ 156,702	$ 88,537	$ 142
				$ 211,293	**$ 119,381**	**$ 192**
Demo						
Saw Cut	1722	LF	$ 6.50	$ 11,193	$ 6,324	$ 10
Demo Existing Sidewalk	10332	SF	$ 3.00	$ 30,996	$ 17,513	$ 28
Grind and Overlay	17220	SF	$ 4.00	$ 68,880	$ 38,917	$ 63
Grade and Compact	5166	SF	$ 0.50	$ 2,583	$ 1,459	$ 2
				$ 113,652	**$ 64,213**	**$ 101**

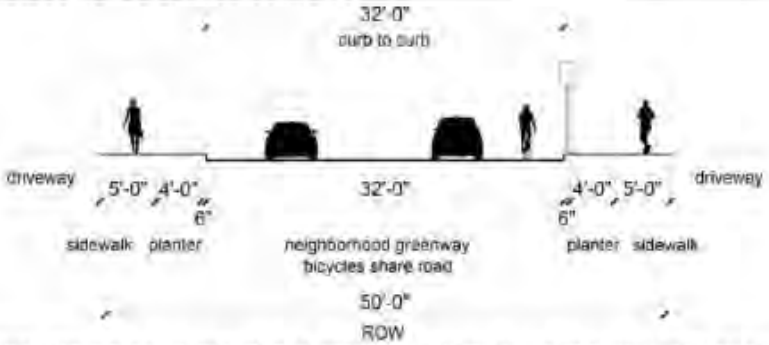
Utility Easement - to SE Stark St **3297**

3b – SE Evans Avenue

Note: 50' ROW is approximate based on GIS data



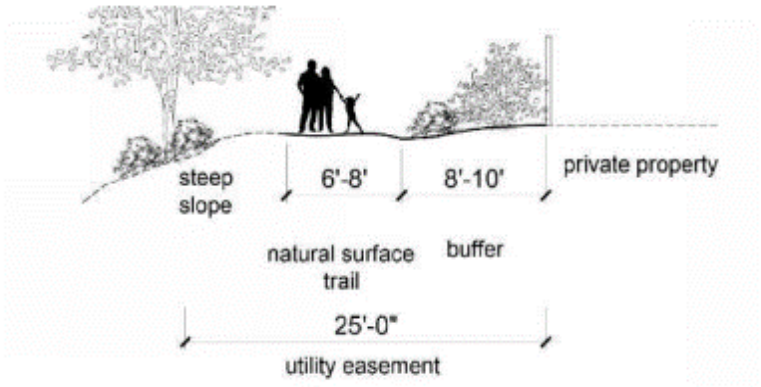
SE Evans Avenue – Existing neighborhood street.



SE Evans Avenue – Proposed neighborhood greenway (bikes share roadway with cars) with existing sidewalks.

Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Modification of existing roadways						
Low Impact	3297	LF	$ 18.00	$ 59,346	$ 33,530	$ 28.17
				$ 59,346	$ 33,530	**$ 28**

Utility Easement - to SE Stark St **5075**



Utility Easement behind SE Evans Avenue – Existing utility easement with natural surface trail

Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	2631	CY	$ 30.00	$ 78,944	$ 44,604	$ 24
Base Agg, 6"	1316	CY	$ 45.00	$ 59,208	$ 33,453	$ 18
Fine Grade & Compact	71050	SF	$ 0.32	$ 22,736	$ 12,846	$ 7
Asphalt Paving, 6"	71050	SF	$ 6.50	$ 461,825	$ 260,931	$ 142
Gravel Buffer, 6"	94	CY	$ 45.00	$ 4,229	$ 2,389	$ 1
				$ 626,943	$ 354,223	**$ 193**

ADDITIONAL TRAIL ELEMENTS - 40 MILE LOOP

Added Excavation, Fill and Shoring	Length	Direct Cost	Markup	Total Cost per LF
Low Impact	1	$ 3.90	$ 2.20	**$ 6.10**
Medium Impact	1	$ 17.50	$ 9.89	**$ 27.39**
High Impact	1	$ 33.30	$ 18.81	**$ 52.11**

Demo of existing conditions and roadways	Length	Direct Cost	Markup	Total Cost per LF
Low Impact	1	$ 9.00	$ 5.09	**$ 14.09**
Medium Impact	1	$ 15.00	$ 8.48	**$ 23.48**
High Impact	1	$ 33.30	$ 18.81	**$ 52.11**

Modification of existing roadways	Length	Direct Cost	Markup	Total Cost per LF
Low Impact	1	$ 18.00	$ 10.17	**$ 28.17**
Medium Impact	1	$ 35.00	$ 19.78	**$ 54.78**
High Impact	1	$ 50.00	$ 28.25	**$ 78.25**

Roadway Crossing (assumes 30')	EA	Direct Cost	Markup	Total Cost per EA
Low Impact (stripping & signage)	1	$ 555.00	$ 313.58	**$ 868.58**
Medium Impact (relocate signal, ADA curbs,etc)	1	$ 23,250.00	$ 13,136.25	**$ 36,386.25**
High Impact (new signlization)	1	$ 80,550.00	$ 45,510.75	**$ 126,060.75**

Bridges	Length	Direct Cost	Markup	Total Cost per LF
Trail Bridge (Ped. Only)	1	$ 350.00	$ 197.75	**$ 547.75**
Roadway Bridge (Light vehicular)	1	$ 21,020.00	$ 11,876.30	**$ 32,896.30**

Retaining Walls	Length	Direct Cost	Markup	Total Cost per LF
Low grade, (1 to 4')	1	$ 150.00	$ 84.75	**$ 234.75**
Medium grade (4 to 6')	1	$ 250.00	$ 141.25	**$ 391.25**
High grade (Engineered) (6 to 10')	1	$ 550.00	$ 310.75	**$ 860.75**

Roadway Improvements	Length	Direct Cost	Markup	Total Cost per LF
Guard Rails	1	$ 45.00	$ 25.43	**$ 70.43**
Widened Equestrain Trail	1	$ 2.28	$ 1.29	**$ 3.56**

Utility Adjustments	EA	Direct Cost	Markup	Total Cost per LF
Adjust utility lids (typical)	1	$ 770.00	$ 435.05	**$ 1,205.05**

APPENDIX K – WILLIAMS ROAD WALK SUMMARY

Meeting minutes

Metro
600 NE Grand Ave.
Portland, OR 97232-2736

Meeting:	Troutdale to Gresham Trail Master Plan: Williams Road Neighbors Field Visit/Walking Tour
Date/time:	Tuesday, Jan. 10, 2017 8 a.m. to 9:30 a.m.
Place:	NE Williams Road, Gresham

On Tuesday, January 10th a field visit/walking tour was held with neighbors to look at and discuss the Williams Road Route – one of the Gresham area route options being discussed in the Troutdale-Gresham Regional Trail Master Plan effort. The field visit was arranged at the request of several neighbors on Williams Road. Metro Project Manager Robert Spurlock and Metro Councilor Craddick, as well as some of the Advisory Committee members, project consultants, Gresham Councilors, and many neighbors met outside on Williams Road from 8:00 to 9:30 a.m. Just over 20 people attended. There had been several days of snow and ice, so the tour was cold with some ice remaining on the ground.

Robert Spurlock introduced the project planning process and shared that no option has been selected at this time. He also shared that he City of Gresham, City of Troutdale, and Metro began this effort in partnership and City of Gresham would be a decision maker in any trail in Gresham. Metro helps coordinate, but the Cities build and manage the trails. An open house is being held next week [and has since been postponed indefinitely] but a decision is not being made on this option at that time.

The City of Gresham's approved Transportation System Plan shows a future vision of Williams Road with improved lanes and bike and pedestrian amenities being added in the 60-80' right-of-way . This was one reason that Williams Road has been considered as a route option between Mt Hood Community College and 282nd Avenue. Another option for this segment is the on-street route along Kelly Creek in Scott and Greenway Avenues, which is being explored in the City's Active Transportation planning efforts to improve local bicycling connections. The third option is along Troutdale Road outside of the City. The off-street options of Williams and Troutdale Roads would occur over time as properties are redeveloped. Sections of Williams Road are seeing more redevelopment. The Active Transportation/Scott/Greenway Avenue option assumes shared roadway with vehicles.

The focus of this meeting was on Williams Road. Many neighbors expressed concerns about the route option. Neighbors asked questions and expressed concerns about the process to identify routes and about Williams Road, specifically. The following are issues and concerns raised. Staff responses are shown in "[ ]", as possible.

Concerns/comments/questions from neighbors:

- The right-of-way on this road is not appropriate for a regional trail. Trails like Springwater were placed in larger rail corridors and not in front of homes.
- There is concern that once a line is drawn on a map (approved as the route in the master plan), there may be negative impacts, limitations, or restrictions on properties.
- How wide is the path? [The path would be approximately 10-12' wide. The cross section schematics show as much as 14' to accommodate trees or other issues in the right-of-way.]
- Many neighbors expressed concern about bringing a trail routed through the neighborhood.
- Is a "no option" for a trail being considered?
- There are concerns about the homeless situation and campers being directed into the neighborhood via the trail. They did not want to re-create the illegal camping that has happened on the Springwater Trail. [Robert talked about the difference in city policy between Portland and Gresham. Portland had not enforced no camping, while Gresham had

and the Gresham section of Springwater did not experience the issues to the same degree. The Gresham section of Springwater has always remained a positive experience for users. Having the trail located within view of drivers and neighbors would put more eyes on the trail and also means there are not places to loiter. Research is consistent that crime rates on trails reflect crime rates in the neighborhoods. There is not an increase on the trail or due to the trail.]

- City of Gresham police are understaffed to monitor and enforce for illegal camping.
- There is illegal camping already taking place on and near Williams Road area.
- References were made to a murder at Main City Park [neighbors mentioned that this was not related to a homeless person] and a rape. There was a comment about not being able to feel safe riding light rail at night.
- There is concern that Metro hasn't taken care or been able to maintain the existing trails, such as Springwater.
- Who would maintain the trail? [The City of Gresham would maintain trail in Gresham.]
- There is nothing being done to maintain the undeveloped nature park area.
- Neighbors asked about the difference between the Greenway/Active Transportation option and the Williams Road option. [The Greenway option places cyclists in the road shared with vehicle traffic, while Williams is a separated path along the side of the road. Williams would use additional right-of-way that is currently undeveloped, while the road for the Greenway option is already in use by just vehicles.]
- Neighbors say vehicles speed on Williams Road; it is signed at 25 mph and nobody is going under 42 miles when recently monitored with a radar gun. [Robert mentioned a need for traffic enforcement.]
- There were some questions about when the trail might be developed on Williams. [Robert explained that it would likely be built in pieces as properties were developed in the future along Williams Road. It wouldn't be built without the road being upgraded, as planned in the City's Transportation System Plan (TSP)].
- How long would construction take on a project like this? [If it were fully funded, it would take about one construction season.]
- There was discussion on how a Williams Road option would connect with Division Street. There were concerns about the steep drop off along Williams and if that was buildable. [retaining walls and other design elements can be used to address steep slopes.]
- There was concern about the process and how the Williams Road option had come in later.
- Who makes the decision? [City of Gresham is the decision-maker on trails in Gresham.]
- Will trees be removed? [There are likely to be trees removed with any road widening. With a path, the path can meander as possible to avoid impact to some trees. Projects prefer to avoid trees as much as possible, but avoiding all trees is not possible.]
- Has it been determined which side it would be on, if on Williams? [No determination has been made yet.]
- Will there be lighting and security? [This would be up to the City of Gresham and would be determined during the design phase.]
- There is concern about sight distance given the grade on Williams Road.
- There were concerns about how residents would be able to exit driveways. There is not a sense of how many users would be on the trail and what that would be like when entering/exiting driveways.
- There was interest in seeing a cross-section of the Kelly Creek On Street/Greenway/Active Transportation option. [It would look exactly as it does today with bicycles sharing the street with vehicles.]

- There was concern about the labeling of Williams Road as a trail or giving it the label of the Springwater Trail. [The trail would not be the Springwater Trail. It would have another name similar to other trails around the region. It would provide a connection to the Springwater Trail, but this trail would not be the Springwater Trail.]

The group walked along a short section of Williams Road to observe and discuss the extent of the public right of way, traffic speeds, steep slope near Division Street, driveways, sight distance and other visibility issues. A map of the options being explored and sample cross sections were distributed. Robert invited everyone to the open house the following week, where more discussion could occur inside where it was warm. The visit formally ended after 9 a.m., but several people stayed and discussed the project.

[Note the January 19 workshop was later postponed indefinitely due to City of Gresham halting work on it.]

APPENDIX L – PRELIMINARY COST COMPARISON

Appendix L

40 Mile Loop - Troutdale to Springwater Master Plan Cost Study

Executive Summary

The 40 Mile Loop - is a network of trails that surround the Portland metro region. PLACE is working with the cities of Gresham and Troutdale and Metro to plan a 6-mile segment of the 40-mile loop between Troutdale and Gresham. This trail section passes through a diverse region, which includes urgan, agricultural, and forested zones.

DCW Cost Management has provided cost-consulting services related to the total construction cost of the 6-mile trail section

Methodology

The project report designates a Rough Order of Magnitude cost per lineal foot for each of the proposed trail types. This will provide a simple comparison tool demonstrating the cost differences of each of the (4) trail types:

*Shared-use path in designated R.O.W, (10-14' wide paved path with 2' wide gravel shoulders).
*Shared-used path adjacent to R.O.W., (10-12' wide paved path with 5' wide planted buffer).
*Hiking Trail, (5' wide gravel trail).
*On-street bicycle facility & sidewalk improvements

The project also includes additive costs, associated with the trail construction. These are assigned a lineal foot cost, based on a magnitude of construction effort/impact rating of Heavy, Medium, or Light.

*Added fill, excavation, and shoring.
*Demo of existing conditions and existing roadways.
*Modification of existing roadways.
*Roadway crossings.
*Retaining walls

Additional features which will impact construction costs are:

*Pedestrian and Vehicular Bridges.
*Guardrails.
*Widened equestrian trails.

Exclusions: Not included in the cost analysis is land acquisition necessary to complete the trail construction.

Assumptions and Clarifications

1 Costs are based upon Rough Order of Magnitude lineal foot pricing.

2 The Alignment Summary, (Page 4) trail type lengths are based on the Trail Master Plan, and corresponding Facility Type percentages for each trail type and alignment. Additive costs and reductions based on site conditions are not included in the Rough Order of Magnitude pricing. (See below).

3 The Additional Trail Elements section provides additive cost, and base line costs for future deductions for trail sections that do not require full-construction of each trail type.

4 Hazardous material handling, disposal and abatement other than soil replacement is not included

5 Testing and inspection fees are not included

6 Architectural, design and construction management fees are not included

7 Scope change and post contract contingencies are not included

8 Assessments, taxes, finance, legal and development charges are not included

9 Environmental impact mitigation is not included

10 Builder's risk, project wrap-up and other owner provided insurance program is not included

11 Land and easement acquisition is not included

Contractor Mark ups

Mobilization	10.0%
General Conditions	15.0%
Overhead and Profit	6.00%
Bonds and Insurance	2.00%
Escalation to July 2018	3.50%
	36.5%

40 Mile Loop - Troutdale to Springwater Cost Work Book

NORTH to Mt. Hood CC.

			Total Length	Cost Per LF	Total Cost
Alignment 1: North	12,857.00 LF		**11,327**	**$ 476.01**	**$ 5,391,739.58**
Shared Use Path in Designated R.O.W			-	$ 184.40	$ -
On-Street Bicycle Facility & Sidewalk Improvements			1,929	$ 328.07	$ 632,701.10
Shared Use path Adjacent to R.O.W			9,398	$ 345.39	$ 3,246,149.60
No Work - Later Phase			1,530		
Additional Trail Elements					
Demo of existing conditions and roadways		*High*	10,995	$ 45.45	$ 499,772.23
Roadway Crossing (assumes 30')		*Low*	2	$ 757.58	$ 1,515.15
Roadway Crossing (assumes 30')		*Medium*	3	$ 31,736.25	$ 95,208.75
Roadway Crossing (assumes 30')		*High*	8	$ 109,950.75	$ 879,606.00
Adjust utility lids (typical)			35	$ 1,051.05	$ 36,786.75
Alignment 2A: North	21,855.00 LF		**21,855**	**$ 280.04**	**$ 6,120,374.21**
On-Street Bicycle Facility & Sidewalk Improvements			5,797	$ 328.07	$ 1,901,925.33
Shared Use path Adjacent to R.O.W			8,221	$ 345.39	$ 2,839,433.23
Hiking Trail			7,837	$ 14.00	$ 109,685.08
Additional Trail Elements					
Added Excavation, Fill and Shoring		*High*	4,009	$ 23.89	$ 95,764.99
Roadway Crossing (assumes 30')		*Low*	1	$ 757.58	$ 757.58
Roadway Crossing (assumes 30')		*Medium*	2	$ 31,736.25	$ 63,472.50
Roadway Crossing (assumes 30')		*High*	2	$ 109,950.75	$ 219,901.50
Trail Bridge (Ped. Only)			60	$ 477.75	$ 28,665.00
Roadway Bridge (Light vehicular)			30	$ 28,692.30	$ 860,769.00

Alignment 2B: North	21,227.00	LF	**21,227**	**$**	**278.67**	**$**	**5,915,305.99**
On-Street Bicycle Facility & Sidewalk Improvements			2,627	$	328.07	$	861,920.95
Shared Use path Adjacent to R.O.W			10,763	$	345.39	$	3,717,281.58
Hiking Trail			7,837	$	14.00	$	109,685.08
Additional Trail Elements							
Modification of existing roadways		Medium	3,019	$	47.78	$	144,232.73
Roadway Crossing (assumes 30')		*Low*	2	$	757.58	$	1,515.15
Roadway Crossing (assumes 30')		*High*	2	$	109,950.75	$	219,901.50
Roadway Bridge (Light vehicular)			30	$	28,692.30	$	860,769.00
Alignment 3: North	17,971.00	LF	**17,971**	**$**	**357.13**	**$**	**6,417,974.78**
Shared Use Path in Designated R.O.W			13,260	$	184.40	$	2,445,155.54
Shared Use Path in Designated R.O.W - No Work			(2,643)				
On-Street Bicycle Facility & Sidewalk Improvements			5,032	$	328.07	$	1,650,813.32
Hiking Trail			2,322	$	14.00	$	32,498.25
Additional Trail Elements							
Modification of existing roadways		*Medium*	2,044.00	$	47.78	$	97,652.10
Roadway Crossing (assumes 30')		*Low*	1.00	$	757.58	$	757.58
Roadway Crossing (assumes 30')		*High*	1.00	$	109,950.75	$	109,950.75
Trail Bridge (Ped. Only)			30.00	$	477.75	$	14,332.50
Retaining Walls		High	2,753.00	$	750.75	$	2,066,814.75

40 Mile Loop - Troutdale to Springwater Cost Work Book

SOUTH of Mt. Hood CC.

			Total Length	Cost Per LF	Total Cost
Alignment 1A: South	14,103.00	LF	**14,103**	**$ 46.20**	**$ 651,562.28**
Modification of existing roadways		Medium	9,328	$ 47.78	$ 445,645.20
Shared Use Path in Designated R.O.W - Limited Scope			(466.40)		
OSB Facility & SW Improvements - Limited Scope			(5,596.80)		
Shared Use path Adjacent to R.O.W - Limited Scope			(3,264.80)		
No Work - Later Phase			4,775.00		
Additional Trail Elements					
Roadway Crossing (assumes 30')		Low	1	$ 757.58	$ 757.58
Roadway Crossing (assumes 30')		Medium	3	$ 31,736.25	$ 95,208.75
Roadway Crossing (assumes 30')		High	1	$109,950.75	$ 109,950.75
Alignment 1B: South	15,394.00	LF	**15,394**	**$ 280.19**	**$ 4,313,298.31**
On-Street Bicycle Facility & Sidewalk Improvements			6,158	$ 328.07	$ 2,020,129.27
Shared Use path Adjacent to R.O.W			2,883	$ 345.39	$ 995,903.34
Modification of existing roadways		Medium	6,353	$ 47.78	$ 303,514.58
Shared Use path Adjacent to R.O.W - Limited Scope			(6,353)		
Additional Trail Elements					
Demo of existing conditions and roadways		*High*	*6,316*	$ 45.45	$ 287,090.62
Modification of existing roadways		High	466	$ 68.25	$ 31,804.50
Roadway Crossing (assumes 30')		Low	2	$ 757.58	$ 1,515.15
Roadway Crossing (assumes 30')		Medium	3	$ 31,736.25	$ 95,208.75
Roadway Crossing (assumes 30')		High	5	$109,950.75	$ 549,753.75
Adjust utility lids (typical)			27	$ 1,051.05	$ 28,378.35
Alignment 2A: South	22,198.00	LF	**22,198**	**$ 355.91**	**$ 7,900,431.75**
Shared Use Path in Designated R.O.W			3,996	$ 184.40	$ 736,805.61
On-Street Bicycle Facility & Sidewalk Improvements			1,998	$ 328.07	$ 655,426.57
Shared Use path Adjacent to R.O.W			16,205	$ 345.39	$ 5,596,918.75
Modification of existing roadways		Medium	1,009	$ 47.78	$ 48,204.98
Shared Use path Adjacent to R.O.W - Limited Scope			(1,009)		
Additional Trail Elements					
Roadway Crossing (assumes 30')		Low	4	$ 204.75	$ 819.00
Roadway Crossing (assumes 30')		Medium	4	$ 341.25	$ 1,365.00
Roadway Crossing (assumes 30')		High	2	$ 61.43	$ 122.85
Roadway Bridge (Light vehicular)			30	$ 28,692.30	$ 860,769.00
Alignment 2B: South	26,144.00	LF	**26,144**	**$ 342.13**	**$ 8,944,552.38**
On-Street Bicycle Facility & Sidewalk Improvements			13,778	$ 328.07	$ 4,520,121.26
Modification of existing roadways		Medium	6,353	$ 47.78	$ 303,514.58
OSB Facility & SiW Improvements - Limited Scope			(6,353)		

Shared Use path Adjacent to R.O.W			6,013	$	345.39	$ 2,076,883.64
Additional Trail Elements						
Modification of existing roadways		High	10,406	$	68.25	$ 710,209.50
Roadway Crossing (assumes 30')		Low	2	$	757.58	$ 1,515.15
Roadway Crossing (assumes 30')		Medium	1	$	31,736.25	$ 31,736.25
Roadway Crossing (assumes 30')		High	4	$	109,950.75	$ 439,803.00
Roadway Bridge (Light vehicular)			30	$	28,692.30	$ 860,769.00
Alignment 3: South	43,784.00	LF	**43,784**	**$**	**258.74**	**$ 11,328,737.54**
Shared Use Path in Designated R.O.W			17,514	$	184.40	$ 3,229,549.87
Modification of existing roadways		Medium	17,116	$	47.78	$ 817,716.90
Shared Use Path in Designated R.O.W - Limited Scope			(17,116)			
On-Street Bicycle Facility & Sidewalk Improvements			17,076	$	328.07	$ 5,602,059.67
Shared Use path Adjacent to R.O.W			1,314	$	345.39	$ 453,679.32
Hiking Trail			7,881	$	14.00	$ 110,335.68
Additional Trail Elements						
Roadway Crossing (assumes 30')		Low	8	$	757.58	$ 6,060.60
Roadway Crossing (assumes 30')		High	2	$	109,950.75	$ 219,901.50
Trail Bridge (Ped. Only)			60	$	477.75	$ 28,665.00
Roadway Bridge (Light vehicular)			30	$	28,692.30	$ 860,769.00

Shared Use Path in ROW

Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					36.5%	
Paved Path with Gravel Shoulder						
Excavation to 1'	0.67	CY	$ 30.00	$ 20.00	$ 7.30	$ 27.30
Base Agg, 6"	0.33	CY	$ 45.00	$ 15.00	$ 5.48	$ 20.48
Fine Grade & Compact	18.00	SF	$ 0.32	$ 5.76	$ 2.10	$ 7.86
Asphalt Paving, 6"	14.00	SF	$ 6.50	$ 91.00	$ 33.22	$ 124.22
Gravel Path, 6"	0.07	CY	$ 45.00	$ 3.33	$ 1.22	$ 4.55
				$ 135.09	$ 49.31	**$ 184.40**

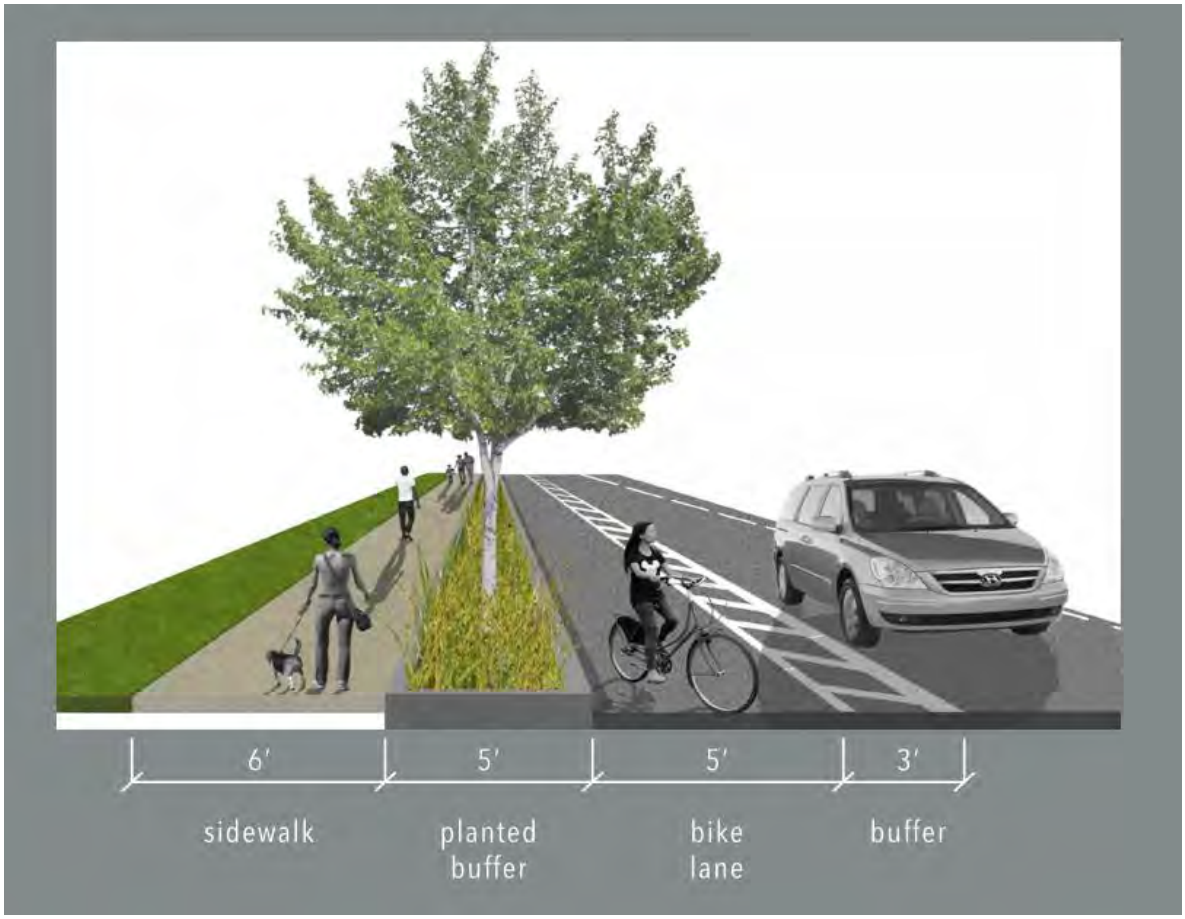
Shared Use Path Adjacent to R.O.W

Construction Components	QTY	U/M	Unit Rate	Cost	Markup	Cost/LF
					36.5%	
Sidewalk						
Excavation to 1'	0.44	CY	$ 30.00	$ 13.33	$ 4.87	$ 18.20
Base Agg, 6"	0.22	CY	$ 45.00	$ 10.00	$ 3.65	$ 13.65
Fine Grade and Compact	12.00	SF	$ 0.32	$ 3.84	$ 1.40	$ 5.24
Ped. Sidewalk	12.00	SF	$ 10.50	$ 126.00	$ 45.99	$ 171.99
				$ 153	$ 56	**$ 209.08**
Planted Buffer						
Excavation to 18"	0.28	CY	$ 30.00	$ 8.33	$ 3.04	$ 11.38
Curb	2.00	LF	$ 22.50	$ 45.00	$ 16.43	$ 61.43
Topsoil, 18"	0.28	CY	$ 40.00	$ 11.11	$ 4.06	$ 15.17
Mulch, 3"	0.05	CY	$ 45.00	$ 2.08	$ 0.76	$ 2.84
Planting Allowance	5.00	SF	$ 5.50	$ 27.50	$ 10.04	$ 37.54
Trees, @ 60' O.C.	0.02	EA	$ 350.00	$ 5.83	$ 2.13	$ 7.96
				$ 99.86	$ 36.45	**$ 136.31**
TOTAL				$ 253.03	$ 92.36	**$ 345.39**

Hiking Trail

Construction Components	QTY	U/M	Unit Rate	Cost	Markup	Cost/LF
					36.5%	
Hiking Trail'						
Excavation to 6"	0.11	CY	$ 30.00	$ 3.33	$ 1.22	$ 4.55
Base Agg, 6"	0.11	CY	$ 45.00	$ 5.00	$ 1.83	$ 6.83
Fine Grade and Compact	6.00	SF	$ 0.32	$ 1.92	$ 0.70	$ 2.62
				$ 10.25	$ 3.74	**$ 14.00**

Shared Use Path Adjacent to R.O.W



Construction Components	QTY	U/M	Unit Rate	Cost	Markup 36.5%	Cost/LF
Sidewalk						
Excavation to 1'	0.22	CY	$ 30.00	$ 6.67	$ 2.43	$ 9.10
Base Agg, 6"	0.11	CY	$ 40.00	$ 4.44	$ 1.62	$ 6.07
Fine Grade and Compact	6.00	SF	$ 0.32	$ 1.92	$ 0.70	$ 2.62
Ped. Sidewalk	6.00	SF	$ 10.50	$ 63.00	$ 23.00	$ 86.00
				$ 76.03	$ 27.75	**$ 103.78**
Planted Buffer						
Excavation to 18"	0.28	CY	$ 30.00	$ 8.33	$ 3.04	$ 11.38
Curb	2.00	LF	$ 22.50	$ 45.00	$ 16.43	$ 61.43
Topsoil, 18"	0.28	CY	$ 40.00	$ 11.11	$ 4.06	$ 15.17
Mulch, 3"	0.05	CY	$ 45.00	$ 2.08	$ 0.76	$ 2.84
Planting Allowance	5.00	SF	$ 5.50	$ 27.50	$ 10.04	$ 37.54
Trees, @ 60' O.C.	1.00	LF	$ 5.83	$ 5.83	$ 2.13	$ 7.96
				$ 99.86	$ 36.45	**$ 136.31**
Bike Lane						
Existing Roadway Repair	8.00	SF	$ 4.50	$ 36.00	$ 49.14	$ 85.14
Striping	1.00	LF	$ 1.20	$ 1.20	$ 1.64	$ 2.84
				$ 37.20	$ 50.78	**$ 87.98**
TOTAL						**$ 328.07**

ADDITIONAL TRAIL ELEMENTS - 40 MILE LOOP

Added Excavation, Fill and Shoring	Length	Direct Cost	Markup	Total Cost per LF
Low Impact	1	$ 3.90	$ 1.42	**$ 5.32**
Medium Impact	1	$ 17.50	$ 6.39	**$ 23.89**
High Impact	1	$ 33.30	$ 12.15	**$ 45.45**

Demo of existing conditions and roadways	Length	Direct Cost	Markup	Total Cost per LF
Low Impact	1	$ 9.00	$ 3.29	**$ 12.29**
Medium Impact	1	$ 15.00	$ 5.48	**$ 20.48**
High Impact	1	$ 33.30	$ 12.15	**$ 45.45**

Modification of existing roadways	Length	Direct Cost	Markup	Total Cost per LF
Low Impact	1	$ 18.00	$ 6.57	**$ 24.57**
Medium Impact	1	$ 35.00	$ 12.78	**$ 47.78**
High Impact	1	$ 50.00	$ 18.25	**$ 68.25**

Roadway Crossing (assumes 30')	EA	Direct Cost	Markup	Total Cost per EA
Low Impact (stripping & signage)	1	$ 555.00	$ 202.58	**$ 757.58**
Medium Impact (relocate signal, ADA curbs,etc)	1	$ 23,250.00	$ 8,486.25	**$ 31,736.25**
High Impact (new signlization)	1	$ 80,550.00	$ 29,400.75	**$ 109,950.75**

Bridges	Length	Direct Cost	Markup	Total Cost per LF
Trail Bridge (Ped. Only)	1	$ 350.00	$ 127.75	**$ 477.75**
Roadway Bridge (Light vehicular)	1	$ 21,020.00	$ 7,672.30	**$ 28,692.30**

Retaining Walls	Length	Direct Cost	Markup	Total Cost per LF
Low grade, (1 to 4')	1	$ 150.00	$ 54.75	**$ 204.75**
Medium grade (4 to 6')	1	$ 250.00	$ 91.25	**$ 341.25**
High grade (Engineered) (6 to 10')	1	$ 550.00	$ 200.75	**$ 750.75**

Roadway Improvements	Length	Direct Cost	Markup	Total Cost per LF
Guard Rails	1	$ 45.00	$ 16.43	**$ 61.43**
Widened Equestrain Trail	1	$ 2.28	$ 0.83	**$ 3.11**

Utility Adjustments	EA	Direct Cost	Markup	Total Cost per LF
Adjust utility lids (typical)	1	$ 770.00	$ 281.05	**$ 1,051.05**

APPENDIX M – REFINED TROUTDALE COST COMPARISON

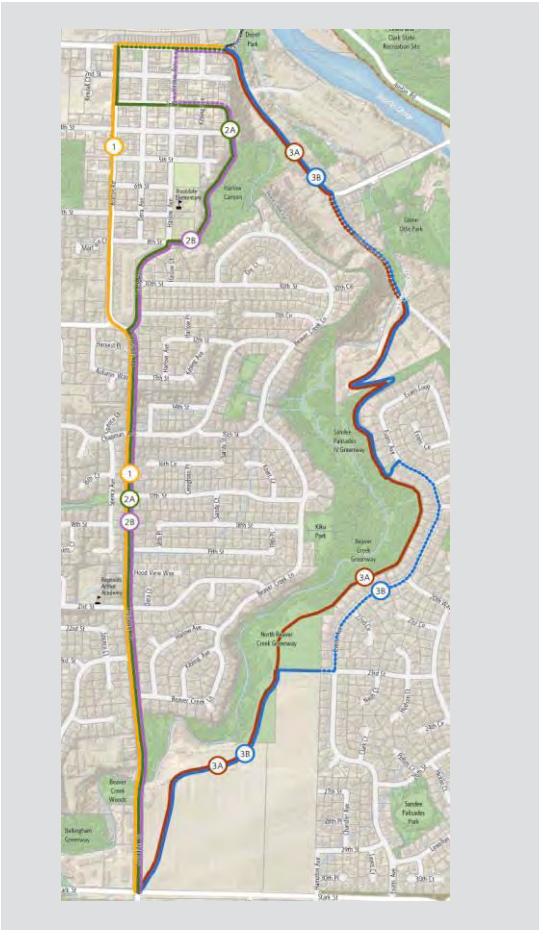
Appendix M

Prepared for:

PLACE

40 Mile Loop - Troutdale Route Refinement

Master Plan Cost Study



Assumptions and Clarifications

1 Costs are based upon Rough Order of Magnitude lineal foot pricing.

2 The trail type lengths are based on the Trail Master Plan, and corresponding route/section details for each trail option. Additive costs and reductions based on site conditions are not included in the Rough Order of Magnitude pricing. (See below).

3 The Additional Trail Elements section provides additive cost, and base line costs for future deductions for trail sections that do not require full-construction of each trail type.

4 Hazardous material handling, disposal and abatement other than soil replacement is not included

5 Testing and inspection fees are not included

6 Architectural, design and construction management fees are not included

7 Scope change and post contract contingencies are not included

8 Assessments, taxes, finance, legal and development charges are not included

9 Environmental impact mitigation is not included

10 Builder's risk, project wrap-up and other owner provided insurance program is not included

11 Land and easement acquisition is not included

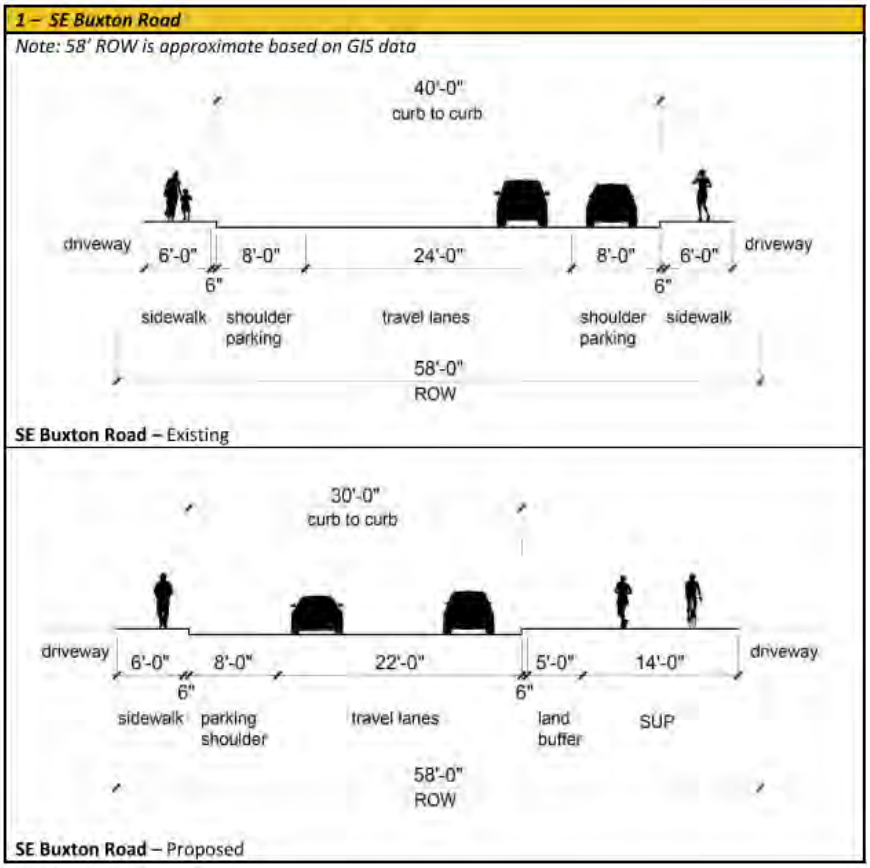
Contractor Mark ups

Mobilization	10.0%
General Conditions	15.0%
Overhead and Profit	6.00%
Bonds and Insurance	2.00%
Escalation to July 2018	3.50%
Contingency	20.00%
	56.5%

40 Mile Loop - Troutdale to Springwater Cost Work Book

		Total Length	Cost Per LF	Total Cost
Alignment 1	8,030.00 LF	**8,030**	**$ 517.26**	**$ 4,153,558.53**
SE Buxton Road		2,566	$ 416.39	$ 1,068,454.47
SE Cherry Park Rd and SE Sandy Ave		200	$ 373.31	$ 74,661.63
South of SE Sandy Ave		5,264	$ 446.91	$ 2,352,516.43
Additional Trail Elements				
Roadway Bridge (Light vehicular)		20	$ 32,896.30	$ 657,926.00
Alignment 2A	9,356.00 LF	**9,356**	**$ 495.36**	**$ 4,634,602.98**
SE Buxton		544	$ 414.04	$ 225,238.64
SE Buxton and SE Harlow		477	$ 317.23	$ 151,318.22
SE Harlow Ave and SE Sandy Ave		510	$ 260.89	$ 133,053.38
SE 3rd St and SE Harlow Ave		1,527	$ 945.79	$ 1,444,224.54
SE 8th and S Troutdale Rd		1,034	$ 484.77	$ 501,253.13
SE Cherry Park Rd and SE Sandy Ave				NIC
South of SE Sandy Ave		5,264	$ 414.04	$ 2,179,515.07
Additional Trail Elements				**NIC**
Alignment 2B - Option A	8,777.00 LF	**8,777**	**$ 331.58**	**$ 2,910,261.05**
OR				
Alignment 2B - Option B	8,777.00 LF	**8,777**	**$ 478.86**	**$ 4,202,927.33**
SE Harlow Ave		503	$ 28.17	$ 14,169.51
SE Harlow Ave and SE Sandy Ave		449	$ 317.23	$ 142,435.81
SE 3rd St and SE Harlow Ave - Option A		1,527	$ 47.73	$ 72,887.53
SE 3rd St and SE Harlow Ave - Option B		1,527	$ 894.27	$ 1,365,553.80
SE 8th and S Troutdale Rd		1,034	$ 484.77	$ 501,253.13
SE Cherry Park Rd and SE Sandy Ave				NIC
South of SE Sandy Ave		5,264	$ 414.04	$ 2,179,515.07
Additional Trail Elements				**NIC**
Alignment 3A	10,574.00 LF	**10,574**	**$ 327.77**	**$ 3,465,814.70**
Historic Columbia River Highway		1,722	$ 292.97	$ 504,496.88
SE Jackson Park Road		1,178	$ 28.17	$ 33,184.26
Utility Easement behind SE Evans Ave		7,674	$ 193.33	$ 1,483,638.55
Additional Trail Elements				
Retaining Walls - medium grade		3,692	$ 391.25	$ 1,444,495.00
Alignment 3B	11,272.00 LF	**11,272**	**$ 142.98**	**$ 2,307,757.09**
Historic Columbia River Highway		1,722	$ 292.97	$ 504,496.88
SE Jackson Park Road		1,178	$ 28.17	$ 33,184.26
SE Evans Ave Connections		3,297	$ 28.17	$ 92,876.49
Utility Easement		5,075	$ 193.33	$ 981,165.71
Additional Trail Elements				
Retaining Walls - medium grade		1,779	$ 391.25	$ 696,033.75

SE Buxton Road

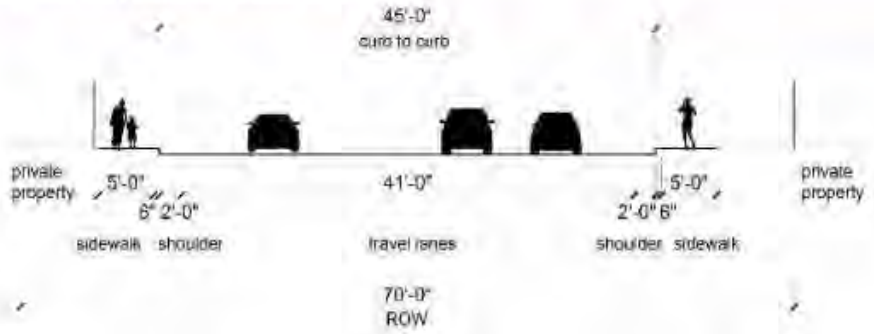


Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	1330.52	CY	$ 30.00	$ 39,916	$ 22,552	$ 24
Base Agg, 6"	665.26	CY	$ 45.00	$ 29,937	$ 16,914	$ 18
Fine Grade & Compact	35924.00	SF	$ 0.32	$ 11,496	$ 6,495	$ 7
Asphalt Paving, 6"	35924.00	SF	$ 6.50	$ 233,506	$ 131,931	$ 142
				$ 314,854	**$ 177,892**	**$ 192**
Land Buffer						
Excavation to 18"	713	CY	$ 30.00	$ 21,383	$ 12,082	$ 13
Curb	2566	LF	$ 22.50	$ 57,735	$ 32,620	$ 35
Topsoil, 18"	713	CY	$ 40.00	$ 28,511	$ 16,109	$ 17
Mulch, 3"	119	CY	$ 45.00	$ 5,346	$ 3,020	$ 3
Planting Allowance	12830	SF	$ 5.50	$ 70,565	$ 39,869	$ 43
Trees, @ 60' O.C.	43	EA	$ 350.00	$ 14,968	$ 8,457	$ 9
				$ 198,509	**$ 112,157**	**$ 121**
Demo						
Saw Cut	2566	LF	$ 6.50	$ 16,679.00	$ 9,424	$ 10
Demo existing Sidewalk	15396	SF	$ 3.00	$ 46,188.00	$ 26,096	$ 28
Grind and Overlay	25660	SF	$ 4.00	$ 102,640.00	$ 57,992	$ 63
Grade and Compact	7698	SF	$ 0.50	$ 3,849.00	$ 2,175	$ 2
				$ 169,356	**$ 95,686**	**$ 103**

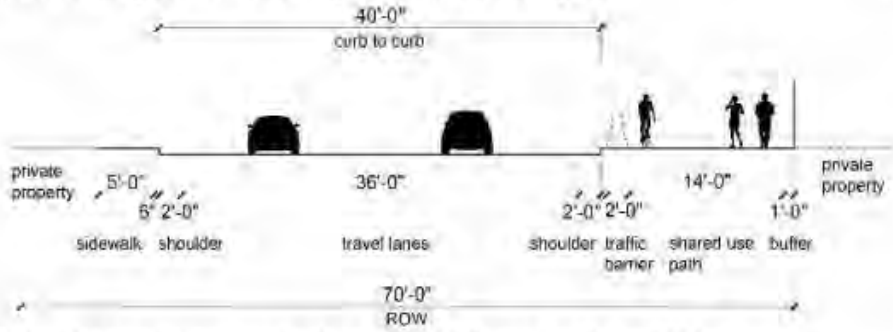
SE Cherry Park Rd to SE Sandy Ave

1 – SE Buxton Road

Note: 70' ROW is approximate based on GIS data



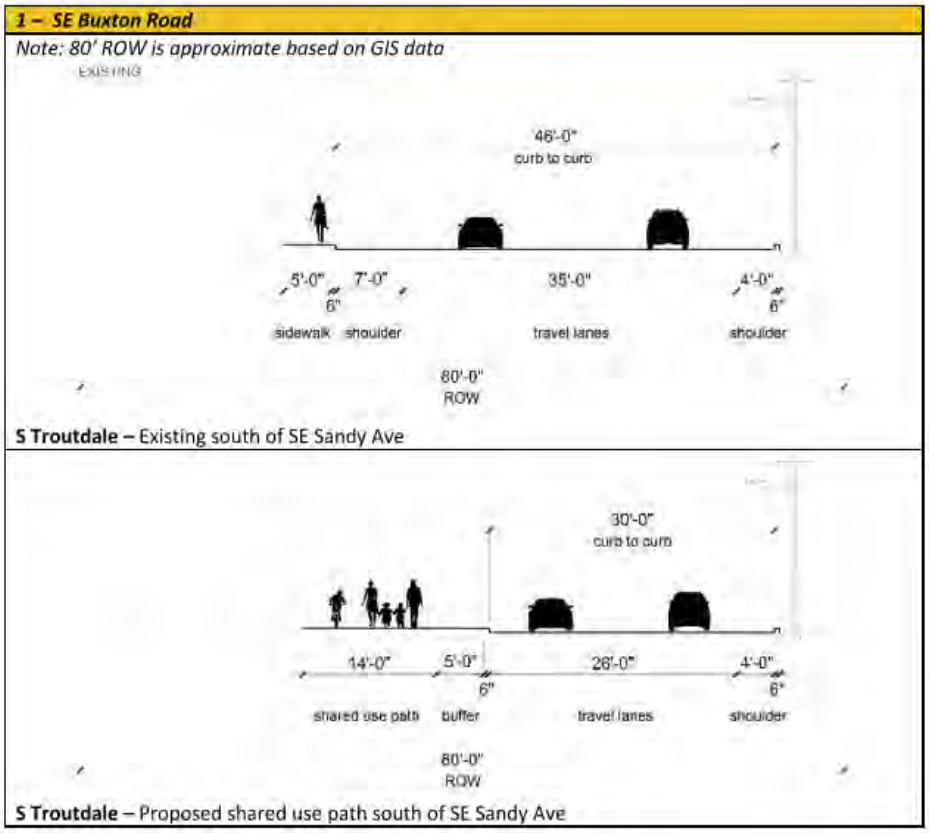
S Troutdale – Existing between SE Cherry Park Rd and SE Sandy Ave



S Troutdale – Proposed shared use path between SE Cherry Park Rd and SE Sandy Ave

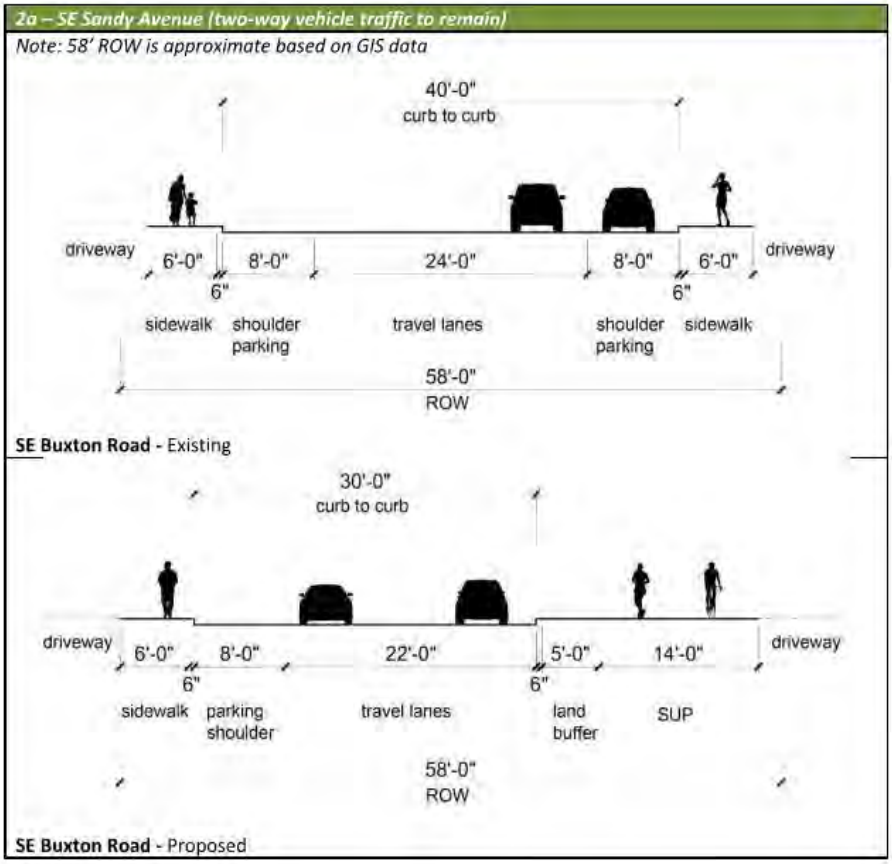
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	103.70	CY	$ 30.00	$ 3,111	$ 1,758	$ 24
Base Agg, 6"	51.85	CY	$ 45.00	$ 2,333	$ 1,318	$ 18
Fine Grade & Compact	2800.00	SF	$ 0.32	$ 896	$ 506	$ 7
Asphalt Paving, 6"	2800.00	SF	$ 6.50	$ 18,200	$ 10,283	$ 142
Traffic Barrier	200.00	LF	$ 45.00	$ 9,000	$ 5,085	$ 70
Curb	200.00	LF	$ 22.50	$ 4,500	$ 2,543	$ 35
Gravel Buffer, 6"	14.81	CY	$ 45.00	$ 667	$ 377	$ 5
				$ 38,707	**$ 21,870**	**$ 303**
Demo						
Saw Cut	200	LF	$ 6.50	$ 1,300	$ 735	$ 10
Demo Existing Sidewalk	1000	SF	$ 3.00	$ 3,000	$ 1,695	$ 23
Grind and Overlay	1000	SF	$ 4.00	$ 4,000	$ 2,260	$ 31
Grade and Compact	1400	SF	$ 0.50	$ 700	$ 396	$ 5
				$ 9,000	**$ 14,085**	**$ 70**

South of SE Sandy Ave



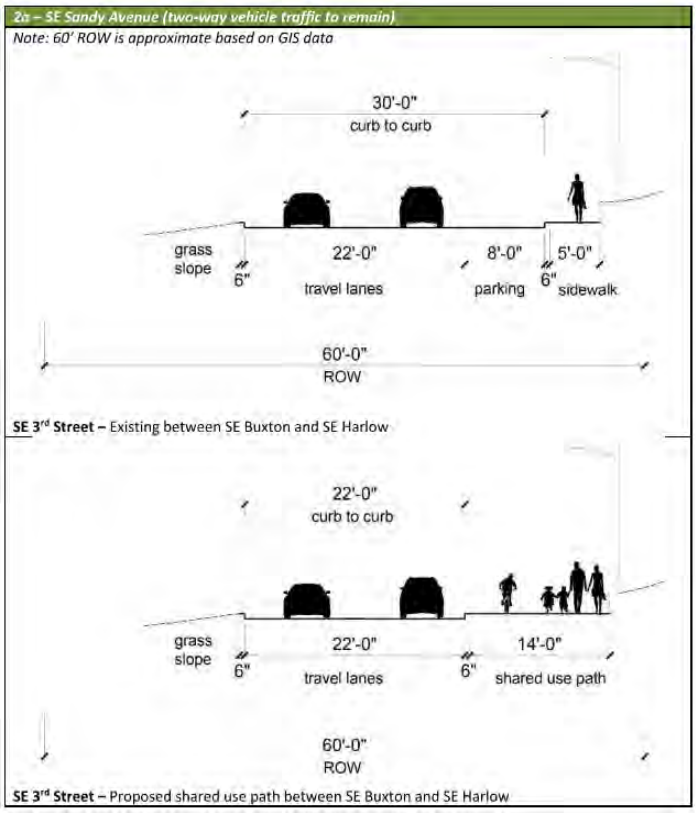
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	2729	CY	$ 30.00	$ 81,884	$ 46,265	$ 24
Base Agg, 6"	1365	CY	$ 45.00	$ 61,413	$ 34,699	$ 18
Fine Grade & Compact	73696	SF	$ 0.32	$ 23,583	$ 13,324	$ 7
Asphalt Paving, 6"	73696	SF	$ 6.50	$ 479,024	$ 270,649	$ 142
				$ 645,904	**$ 364,936**	**$ 192**
Land Buffer						
Excavation to 18"	1462	CY	$ 30.00	$ 43,867	$ 24,785	$ 13
Curb	5264	LF	$ 22.50	$ 118,440	$ 66,919	$ 35
Topsoil, 18"	1462	CY	$ 40.00	$ 58,489	$ 33,046	$ 17
Mulch, 3"	244	CY	$ 45.00	$ 10,967	$ 6,196	$ 3
Planting Allowance	26320	SF	$ 5.50	$ 144,760	$ 81,789	$ 43
Trees, @ 60' O.C.	88	EA	$ 350.00	$ 30,707	$ 17,349	$ 9
				$ 407,229	**$ 230,084**	**$ 121**
Demo						
Saw Cut	5264	LF	$ 6.50	$ 34,216	$ 19,332	$ 10
Demo Existing Sidewalk	26320	SF	$ 3.00	$ 78,960	$ 44,612	$ 23
Grind and Overlay	84224	SF	$ 4.00	$ 336,896	$ 190,346	$ 100
				$ 450,072	**$ 254,291**	**$ 134**

SE Buxton Ave



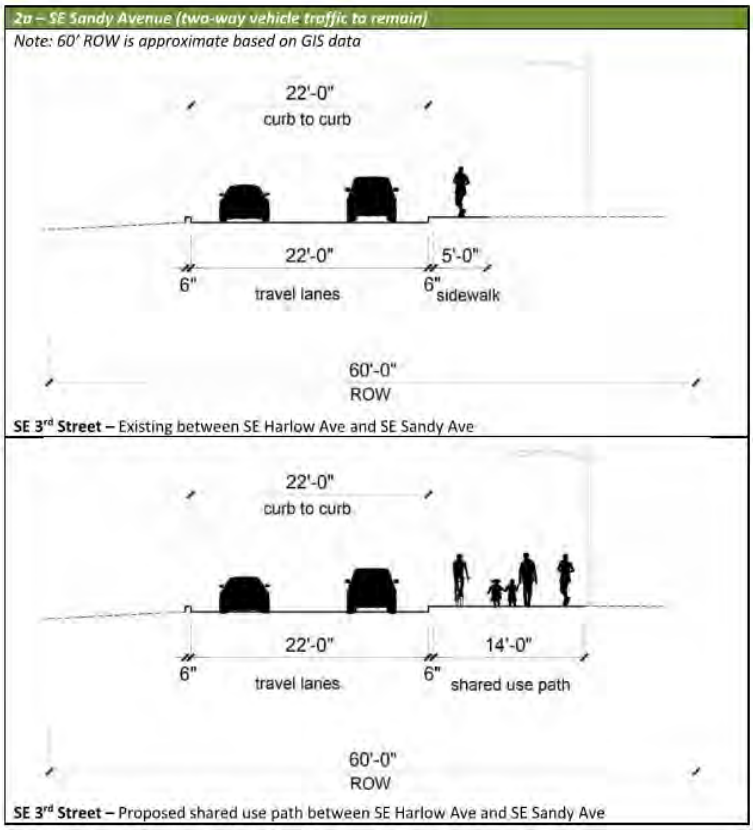
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	282	CY	$ 30.00	$ 8,462	$ 4,781	$ 24
Base Agg, 6"	141	CY	$ 45.00	$ 6,347	$ 3,586	$ 18
Fine Grade & Compact	7616	SF	$ 0.32	$ 2,437	$ 1,377	$ 7
Asphalt Paving, 6"	7616	SF	$ 6.50	$ 49,504	$ 27,970	$ 142
				$ 66,750	**$ 37,714**	**$ 192**
Land Buffer						
Excavation to 18"	151	CY	$ 30.00	$ 4,533	$ 2,561	$ 13
Curb	544	LF	$ 22.50	$ 12,240	$ 6,916	$ 35
Topsoil, 18"	151	CY	$ 40.00	$ 6,044	$ 3,415	$ 17
Mulch, 3"	25	CY	$ 45.00	$ 1,133	$ 640	$ 3
Planting Allowance	2720	SF	$ 5.50	$ 14,960	$ 8,452	$ 43
Trees, @ 60' O.C.	9	EA	$ 350.00	$ 3,173	$ 1,793	$ 9
				$ 42,084	**$ 23,778**	**$ 121**
Demo						
Saw Cut	544	LF	$ 6.50	$ 3,536	$ 1,998	$ 10
Demo Existing Sidewalk	3264	SF	$ 3.00	$ 9,792	$ 5,532	$ 28
Grind and Overlay	5440	SF	$ 4.00	$ 21,760	$ 12,294	$ 63
Grade and Compact	1632	SF	$ 0.50	$ 816	$ 461	$ 2
				$ 35,904	**$ 20,286**	**$ 101**

SE 3rd St, SE Buxton to SE Harlow



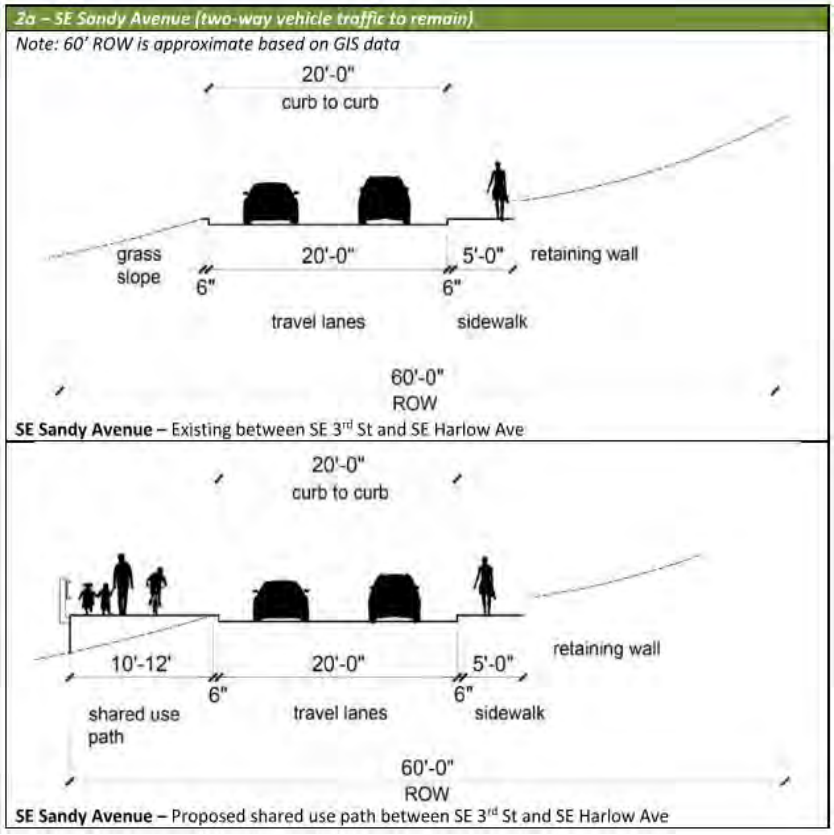
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	247	CY	$ 30.00	$ 7,420	$ 4,192	$ 24
Base Agg, 6"	124	CY	$ 45.00	$ 5,565	$ 3,144	$ 18
Fine Grade & Compact	6678	SF	$ 0.32	$ 2,137	$ 1,207	$ 7
Asphalt Paving, 6"	6678	SF	$ 6.50	$ 43,407	$ 24,525	$ 142
Curb	477	LF	$ 22.50	$ 10,733	$ 6,064	$ 35
				$ 69,261	**$ 39,133**	**$ 227**
Demo						
Saw Cut	477	LF	$ 6.50	$ 3,101	$ 1,752	$ 10
Demo Existing Sidewalk	2385	SF	$ 3.00	$ 7,155	$ 4,043	$ 23
Grind and Overlay	4293	SF	$ 4.00	$ 17,172	$ 9,702	$ 56
				$ 27,428	**$ 15,497**	**$ 90**

SE 3rd St, SE Harlow to SE Sandy Ave



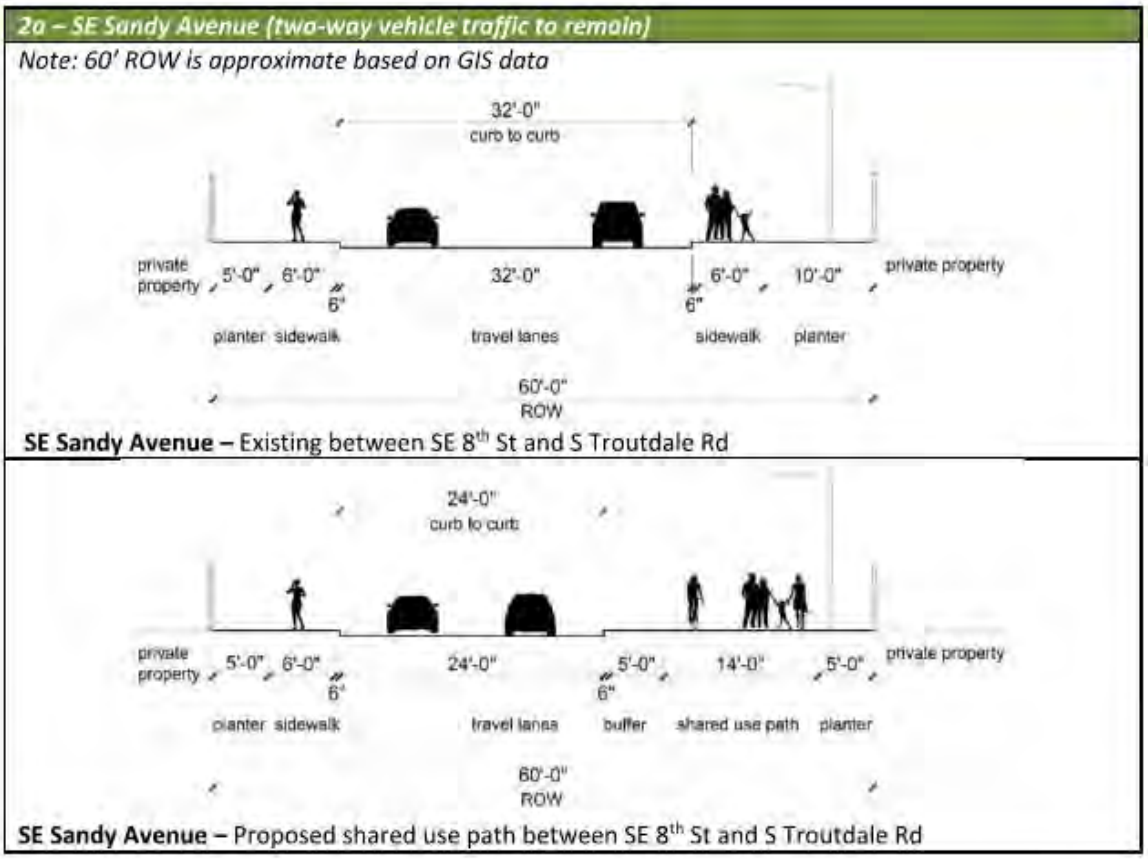
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	264	CY	$ 30.00	$ 7,933	$ 4,482	$ 24
Base Agg, 6"	132	CY	$ 45.00	$ 5,950	$ 3,362	$ 18
Fine Grade & Compact	7140	SF	$ 0.32	$ 2,285	$ 1,291	$ 7
Asphalt Paving, 6"	7140	SF	$ 6.50	$ 46,410	$ 26,222	$ 142
Curb	510	LF	$ 22.50	$ 11,475	$ 6,483	$ 35
				$ 74,053	**$ 41,840**	**$ 227**
Demo						
Saw Cut	510	LF	$ 6.50	$ 3,315	$ 1,873	$ 10
Demo Existing Sidewalk	2550	SF	$ 3.00	$ 7,650	$ 4,322	$ 23
Grade and Compact	4590	SF	$ 4.00	$ 18,360	$ 10,373	$ 56
				$ 29,325	**$ 16,569**	**$ 34**

SE Sandy Ave to SE Harlow Ave



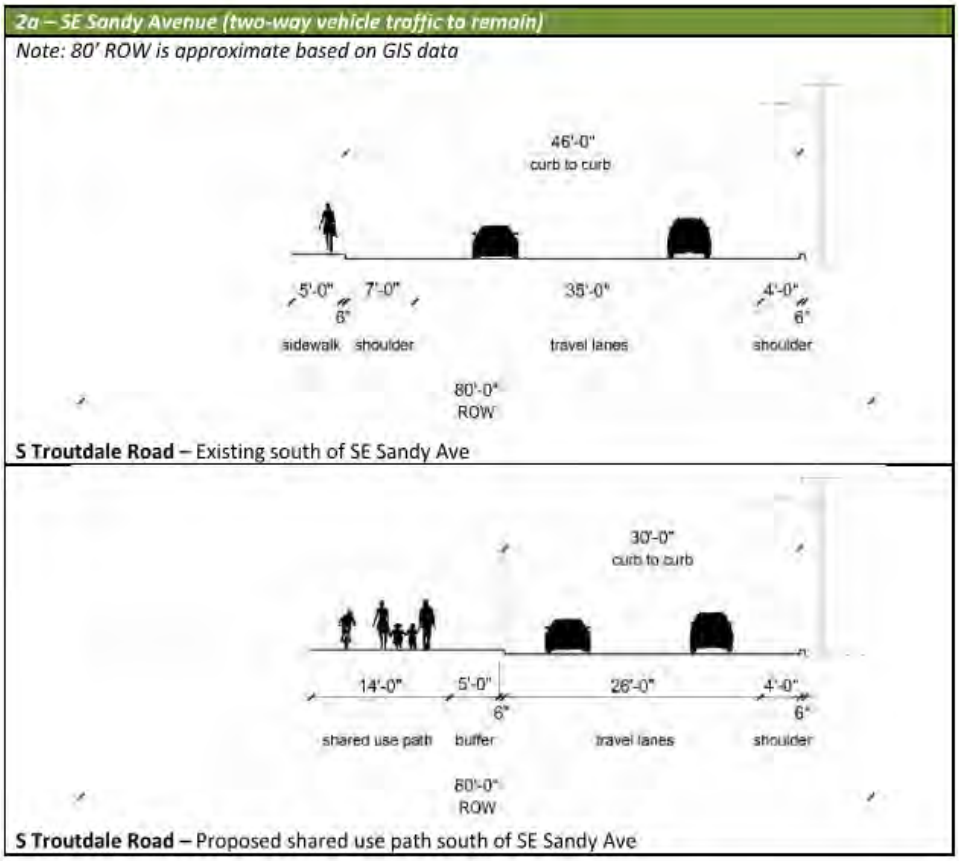
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 3'	1018	CY	$ 30.00	$ 30,540	$ 17,255	$ 31
Base Agg/Fill, 3'	2036	CY	$ 45.00	$ 91,620	$ 51,765	$ 94
Fine Grade & Compact	18324	SF	$ 0.32	$ 5,864	$ 3,313	$ 6
Asphalt Paving, 6"	18324	SF	$ 6.50	$ 119,106	$ 67,295	$ 122
Retaining Wall	4581	SF	$ 90.00	$ 412,290	$ 232,944	$ 423
Railing	1527	LF	$ 150.00	$ 229,050	$ 129,413	$ 235
Curb	1527	LF	$ 22.50	$ 34,358	$ 19,412	$ 35
				$ 922,827	**$ 521,397**	**$ 946**

Sandy Ave - SE 8th to S Troudale Rd **1034**



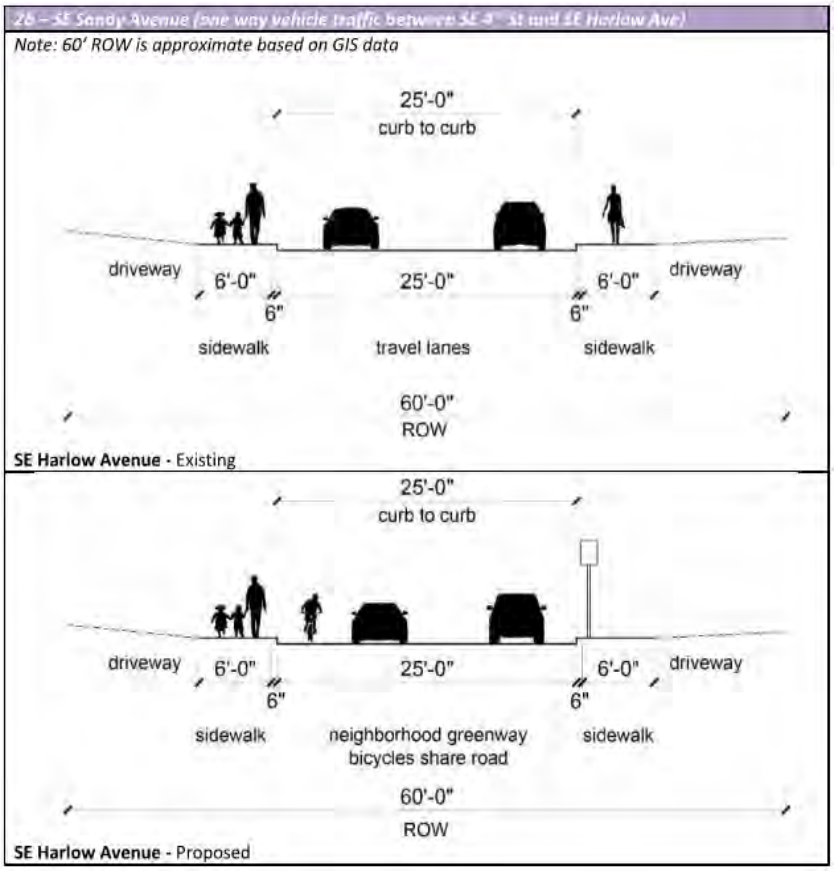
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	536	CY	$ 30.00	$ 16,084	$ 9,088	$ 24
Base Agg, 6"	268	CY	$ 45.00	$ 12,063	$ 6,816	$ 18
Fine Grade & Compact	14476	SF	$ 0.32	$ 4,632	$ 2,617	$ 7
Asphalt Paving, 6"	14476	SF	$ 6.50	$ 94,094	$ 53,163	$ 142
				$ 126,874	**$ 71,684**	**$ 192**
Land Buffer and Planter						
Excavation to 18"	574	CY	$ 30.00	$ 17,233	$ 9,737	$ 26
Curb	1034	LF	$ 22.50	$ 23,265	$ 13,145	$ 35
Topsoil, 18"	574	CY	$ 40.00	$ 22,978	$ 12,982	$ 35
Mulch, 3"	191	CY	$ 45.00	$ 8,617	$ 4,868	$ 13
Planting Allowance	10340	SF	$ 5.50	$ 56,870	$ 32,132	$ 86
Trees, @ 60' O.C.	17	EA	$ 350.00	$ 6,032	$ 3,408	$ 9
				$ 134,994	**$ 76,272**	**$ 204**
Demo						
Saw Cut	1034	LF	$ 6.50	$ 6,721	$ 3,797	$ 10
Demo Existing Sidewalk	6204	SF	$ 3.00	$ 18,612	$ 10,516	$ 28
Grind and Overlay	8272	SF	$ 4.00	$ 33,088	$ 18,695	$ 50
Grade and Compact	10340	SF	$ 0.50	$ 5,170	$ 2,921	$ 8
				$ 63,591	**$ 35,929**	**$ 88**

S Troutdale road **5264**



Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	2729	CY	$ 30.00	$ 81,884	$ 46,265	$ 24
Base Agg, 6"	1365	CY	$ 45.00	$ 61,413	$ 34,699	$ 18
Fine Grade & Compact	73696	SF	$ 0.32	$ 23,583	$ 13,324	$ 7
Asphalt Paving, 6"	73696	SF	$ 6.50	$ 479,024	$ 270,649	$ 142
				$ 645,904	**$ 364,936**	**$ 192**
Land Buffer						
Excavation to 18"	1462	CY	$ 30.00	$ 43,867	$ 24,785	$ 13
Curb	5264	LF	$ 22.50	$ 118,440	$ 66,919	$ 35
Topsoil, 18"	1462	CY	$ 40.00	$ 58,489	$ 33,046	$ 17
Mulch, 3"	244	CY	$ 45.00	$ 10,967	$ 6,196	$ 3
Planting Allowance	26320	SF	$ 5.50	$ 144,760	$ 81,789	$ 43
Trees, @ 60' O.C.	88	EA	$ 350.00	$ 30,707	$ 17,349	$ 9
				$ 407,229	**$ 230,084**	**$ 121**
Demo						
Saw Cut	5264	LF	$ 6.50	$ 34,216	$ 19,332	$ 10
Demo Existing Sidewalk	31584	SF	$ 3.00	$ 94,752	$ 53,535	$ 28
Grind and Overlay	52640	SF	$ 4.00	$ 210,560	$ 118,966	$ 63
				$ 339,528	**$ 191,833**	**$ 101**

Sandy Ave -SE Harlow Ave **503**

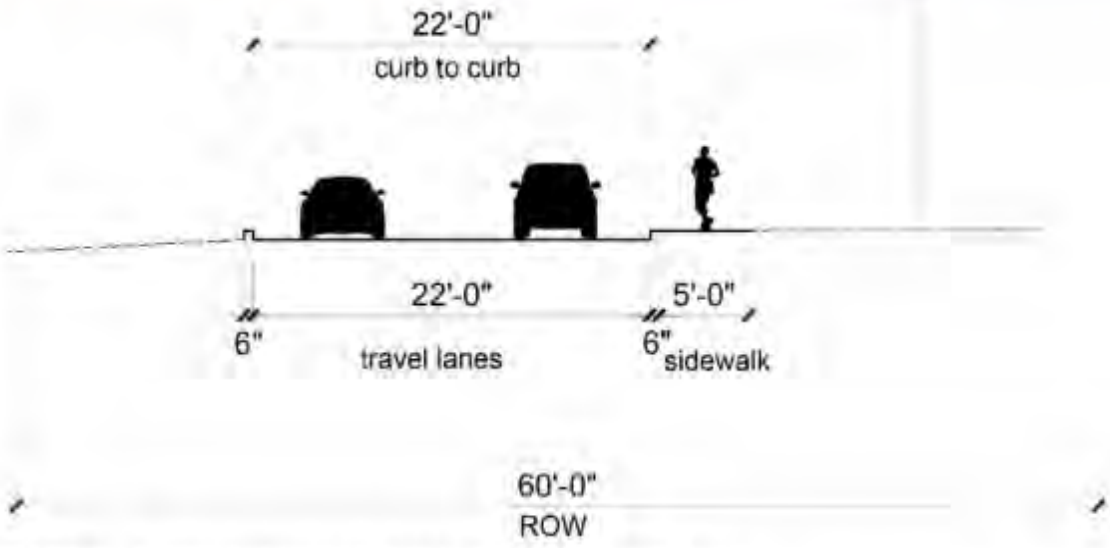


Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Modification of existing roadways						
Low Impact	503	LF	$ 18.00	$ 9,054	$ 5,116	$ 28.17
				$ 9,054	$ 5,116	**$ 28**

Sandy Ave -SE Harlow Ave **449**

2b – SE Sandy Avenue (one way vehicle traffic between SE 4th St and SE Harlow Ave)

Note: 60' ROW is approximate based on GIS data

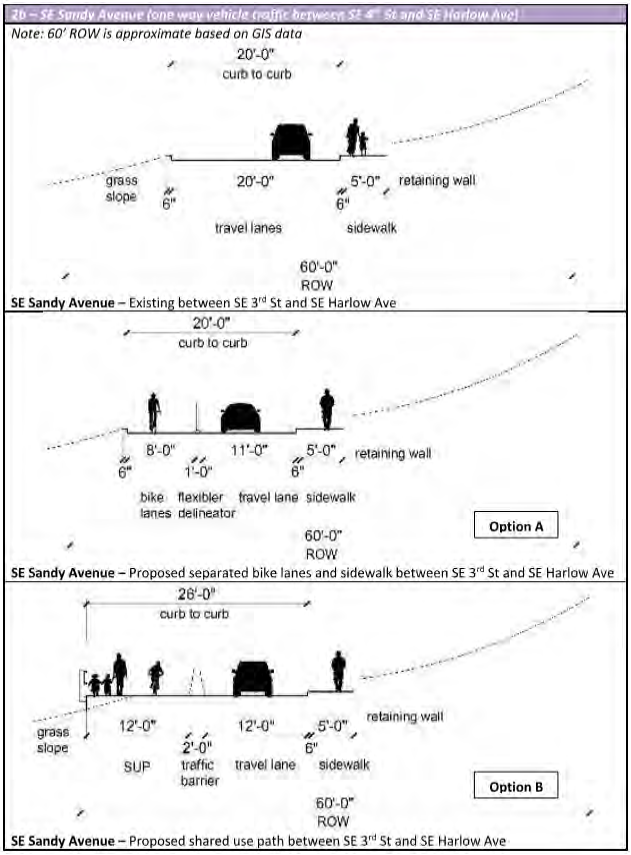


SE 3rd Street – Existing between SE Harlow Ave and SE Sandy Ave

SE 3rd Street – Proposed neighborhood greenway (bikes share roadway with cars) with existing sidewalk between SE Harlow Ave and SE Sandy Ave

Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Modification of existing roadways						
Low Impact	449	LF	$ 18.00	$ 8,082	$ 4,566	$ 28.17
				$ 8,082	**$ 4,566**	**$ 28**

Sandy Ave -SE Harlow Ave **1527**

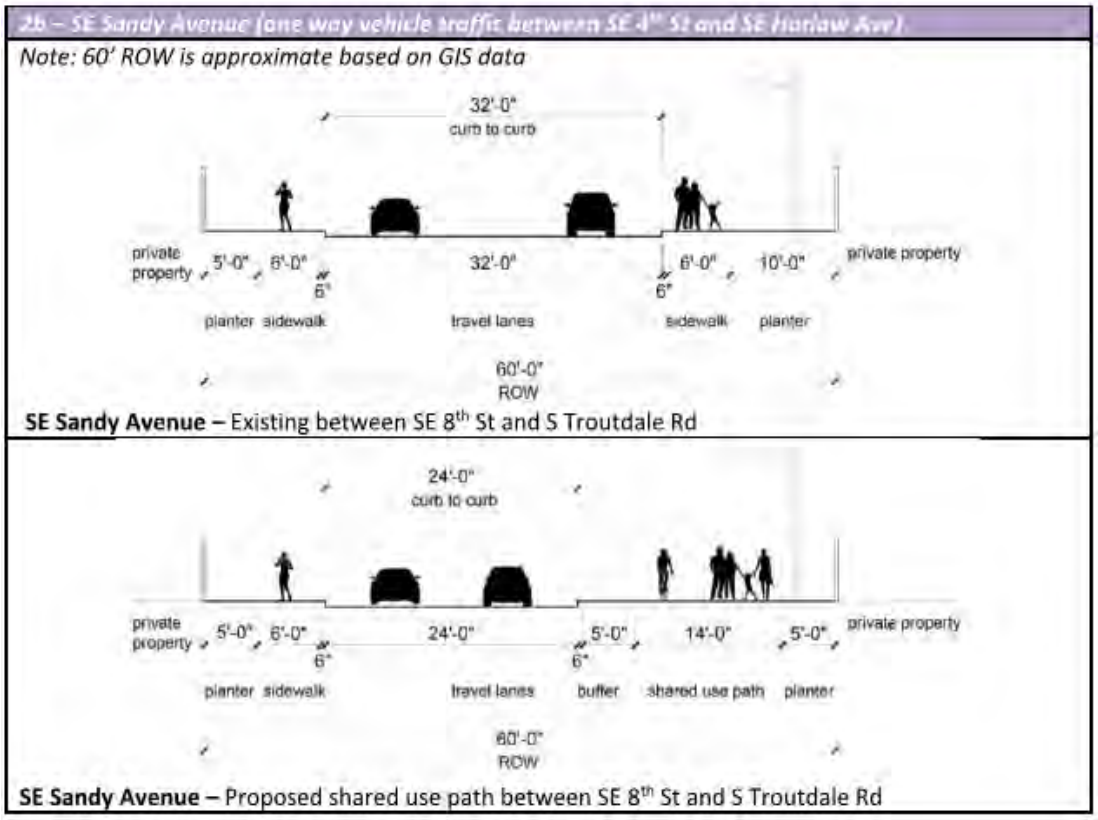


CLARIFICATION: A) Flexible Barrier

B) 6' Fill/Retaining wallCantilive

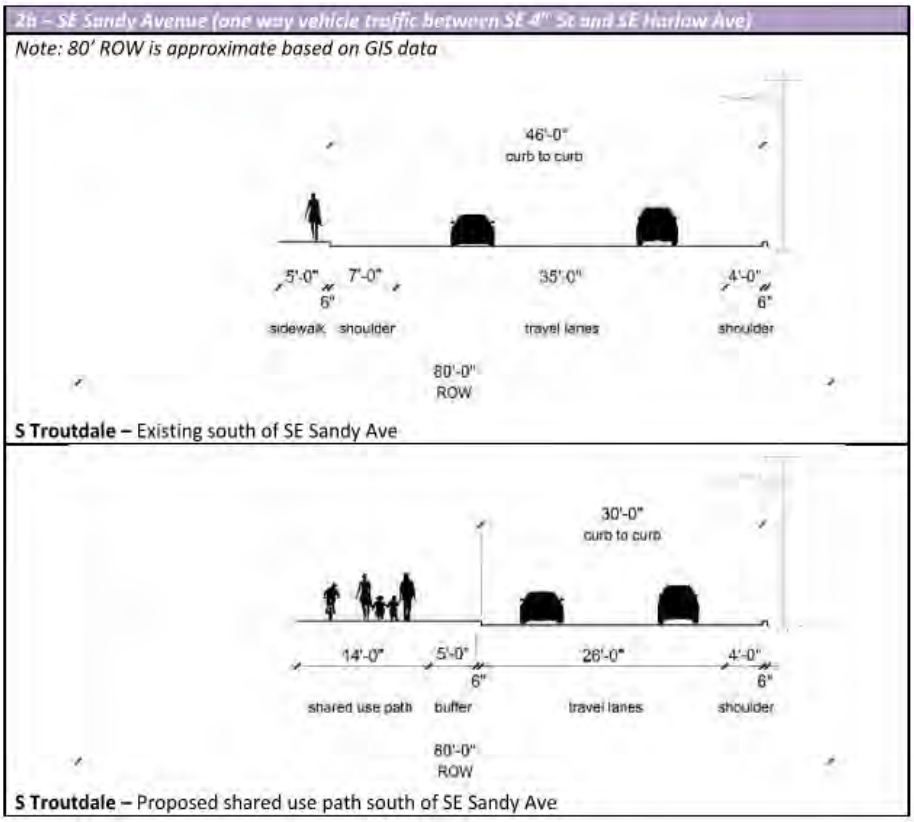
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Option A: Shared Use Path						
Flexible Delineator	1527	LF	$ 12.50	$ 19,088	$ 10,784	$ 20
Road Modification	1527	LF	$ 18.00	$ 27,486	$ 15,530	$ 28
				$ 46,574	**$ 26,314**	**$ 48**
Option B: Shared Use Path						
Excavation to 3'	509	CY	$ 30.00	$ 15,270	$ 8,628	$ 16
Base Agg/Fill, 3'	1018	CY	$ 45.00	$ 45,810	$ 25,883	$ 47
Fine Grade & Compact	9162	SF	$ 0.32	$ 2,932	$ 1,656	$ 3
Asphalt Paving, 6"	9162	SF	$ 6.50	$ 59,553	$ 33,647	$ 61
Traffic Barrier	1527	LF	$ 45.00	$ 68,715	$ 38,824	$ 70
Retaining Wall	4581	SF	$ 90.00	$ 412,290	$ 232,944	$ 423
Railing	1527	LF	$ 150.00	$ 229,050	$ 129,413	$ 235
Curb	1527	LF	$ 22.50	$ 34,358	$ 19,412	$ 35
				$ 867,977	**$ 490,407**	**$ 890**
Demo						
Grade and Compact	9162	SF	$ 0.50	$ 4,581	$ 2,588	$ 5
				$ 4,581	**$ 2,588**	**$ 5**

Sandy Ave - SE 8th to S Troudale Rd **1034**



Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	536	CY	$ 30.00	$ 16,084	$ 9,088	$ 24
Base Agg, 6"	268	CY	$ 45.00	$ 12,063	$ 6,816	$ 18
Fine Grade & Compact	14476	SF	$ 0.32	$ 4,632	$ 2,617	$ 7
Asphalt Paving, 6"	14476	SF	$ 6.50	$ 94,094	$ 53,163	$ 142
				$ 126,874	**$ 71,684**	**$ 192**
Land Buffer						
Excavation to 18"	574	CY	$ 30.00	$ 17,233	$ 9,737	$ 26
Curb	1034	LF	$ 22.50	$ 23,265	$ 13,145	$ 35
Topsoil, 18"	574	CY	$ 40.00	$ 22,978	$ 12,982	$ 35
Mulch, 3"	191	CY	$ 45.00	$ 8,617	$ 4,868	$ 13
Planting Allowance	10340	SF	$ 5.50	$ 56,870	$ 32,132	$ 86
Trees, @ 60' O.C.	17	EA	$ 350.00	$ 6,032	$ 3,408	$ 9
				$ 134,994	**$ 76,272**	**$ 204**
Demo						
Saw Cut	1034	LF	$ 6.50	$ 6,721	$ 3,797	$ 10
Demo Existing Sidewalk	6204	SF	$ 3.00	$ 18,612	$ 10,516	$ 28
Grind and Overlay	8272	SF	$ 4.00	$ 33,088	$ 18,695	$ 50
Grade and Compact	10340	SF	$ 0.50	$ 5,170	$ 2,921	$ 8
				$ 63,591	**$ 35,929**	**$ 88**

Sandy Ave - SE 8th to S Troudale Rd **5264**

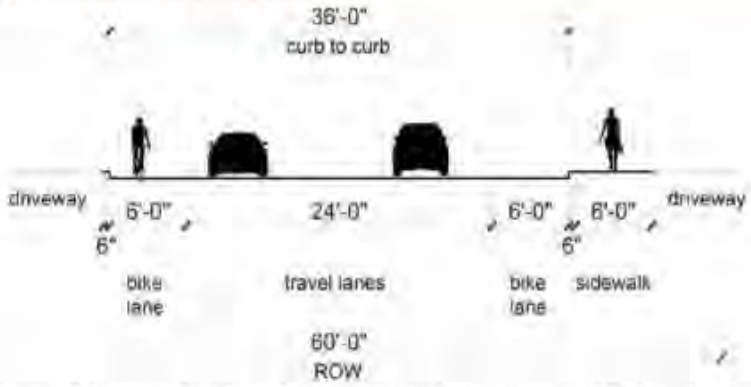


Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	2729	CY	$ 30.00	$ 81,884	$ 46,265	$ 24
Base Agg, 6"	1365	CY	$ 45.00	$ 61,413	$ 34,699	$ 18
Fine Grade & Compact	73696	SF	$ 0.32	$ 23,583	$ 13,324	$ 7
Asphalt Paving, 6"	73696	SF	$ 6.50	$ 479,024	$ 270,649	$ 142
				$ 645,904	**$ 364,936**	**$ 192**
Land Buffer						
Excavation to 18"	1462	CY	$ 30.00	$ 43,867	$ 24,785	$ 13
Curb	5264	LF	$ 22.50	$ 118,440	$ 66,919	$ 35
Topsoil, 18"	1462	CY	$ 40.00	$ 58,489	$ 33,046	$ 17
Mulch, 3"	244	CY	$ 45.00	$ 10,967	$ 6,196	$ 3
Planting Allowance	26320	SF	$ 5.50	$ 144,760	$ 81,789	$ 43
Trees, @ 60' O.C.	88	EA	$ 350.00	$ 30,707	$ 17,349	$ 9
				$ 407,229	**$ 230,084**	**$ 121**
Demo						
Saw Cut	5264	LF	$ 6.50	$ 34,216	$ 19,332	$ 10
Demo Existing Sidewalk	31584	SF	$ 3.00	$ 94,752	$ 53,535	$ 28
Grind and Overlay	52640	SF	$ 4.00	$ 210,560	$ 118,966	$ 63
Grade and Compact	15792	SF	$ 0.50	$ 7,896	$ 4,461	$ 2
				$ 347,424	**$ 196,295**	**$ 101**

Historic Columbia River Hwy **1722**

3a – Beaver Creek Canyon Shared Use Pathway

Note: 60' ROW is approximate based on GIS data



Historic Columbia River Highway – Existing bike lanes in both directions and sidewalk on the west side of the street.

Historic Columbia River Highway – Proposed option to replace existing bike lanes with a shared use path on the "sidewalk"/west side of the road. Alternative is for the roadway to remain unchanged.

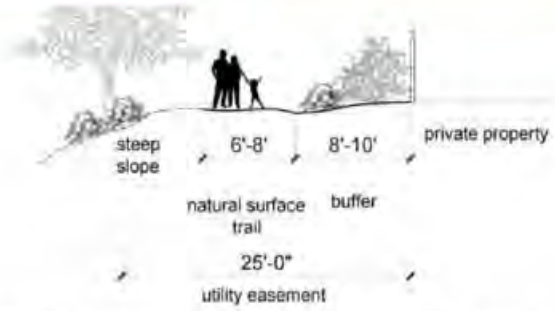
SE Jackson Park Road – Existing private roadway open to residents only

SE Jackson Park Road – Proposed easement obtained from residents to allow bicycle and pedestrian access via Jackson Park Road.

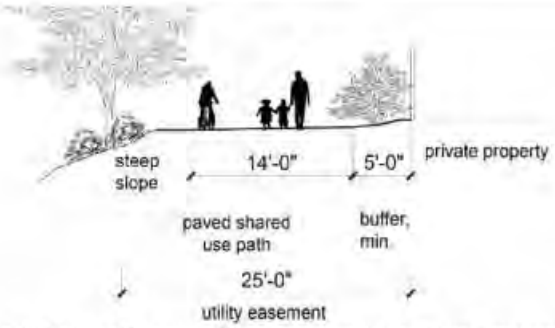
Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	893	CY	$ 30.00	$ 26,787	$ 15,134	$ 24
Base Agg, 6"	446	CY	$ 45.00	$ 20,090	$ 11,351	$ 18
Fine Grade & Compact	24108	SF	$ 0.32	$ 7,715	$ 4,359	$ 7
Asphalt Paving, 6"	24108	SF	$ 6.50	$ 156,702	$ 88,537	$ 142
				$ 211,293	$ 119,381	**$ 192**
Demo						
Saw Cut	1722	LF	$ 6.50	$ 11,193	$ 6,324	$ 10
Demo Existing Sidewalk	10332	SF	$ 3.00	$ 30,996	$ 17,513	$ 28
Grind and Overlay	17220	SF	$ 4.00	$ 68,880	$ 38,917	$ 63
Grade and Compact	5166	SF	$ 0.50	$ 2,583	$ 1,459	$ 2
				$ 113,652	**$ 64,213**	**$ 101**

Utility Easement - to SE Stark St **7674**

3a – Beaver Creek Canyon Shared Use Pathway



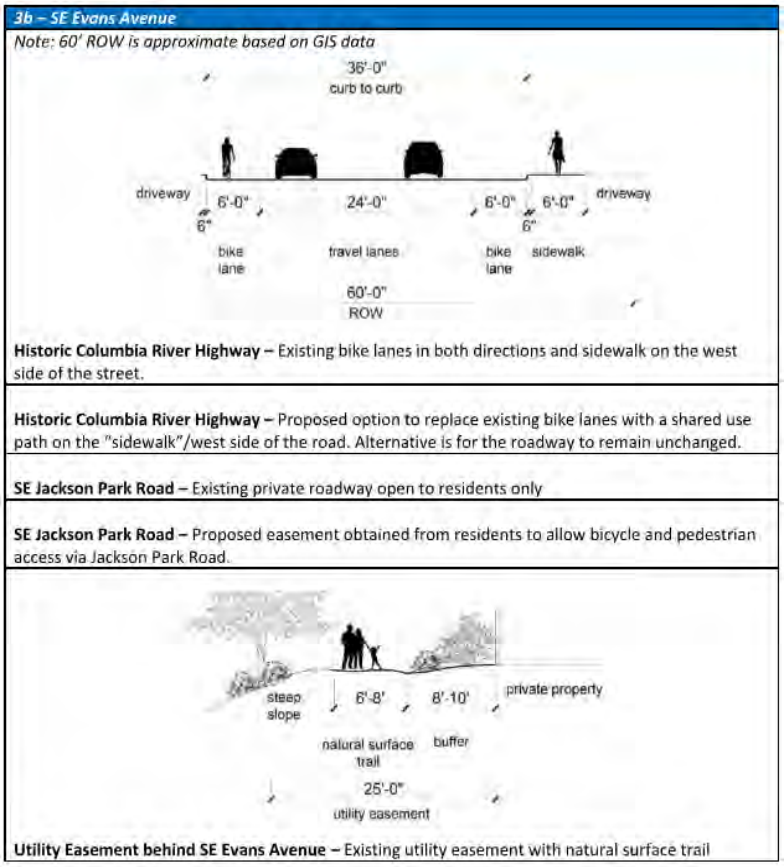
Utility Easement behind SE Evans Avenue – Existing utility easement with natural surface trail



Utility Easement behind SE Evans Avenue – Proposed paved shared use pathway to extend south toward SE Stark Street/S Troutdale Road intersection

Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	3979	CY	$ 30.00	$ 119,373	$ 67,446	$ 24
Base Agg, 6"	1990	CY	$ 45.00	$ 89,530	$ 50,584	$ 18
Fine Grade & Compact	107436	SF	$ 0.32	$ 34,380	$ 19,424	$ 7
Asphalt Paving, 6"	107436	SF	$ 6.50	$ 698,334	$ 394,559	$ 142
Gravel Buffer, 6"	142	CY	$ 45.00	$ 6,395	$ 3,613	$ 1
				$ 948,012	$ 535,627	**$ 193**

Historic Columbia River Hwy **1722**

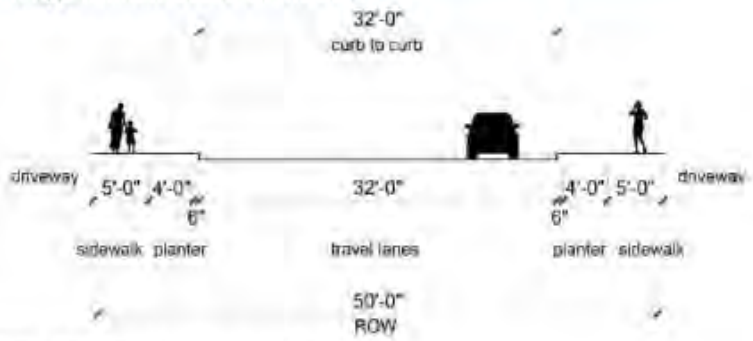


Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	893	CY	$ 30.00	$ 26,787	$ 15,134	$ 24
Base Agg, 6"	446	CY	$ 45.00	$ 20,090	$ 11,351	$ 18
Fine Grade & Compact	24108	SF	$ 0.32	$ 7,715	$ 4,359	$ 7
Asphalt Paving, 6"	24108	SF	$ 6.50	$ 156,702	$ 88,537	$ 142
				$ 211,293	**$ 119,381**	**$ 192**
Demo						
Saw Cut	1722	LF	$ 6.50	$ 11,193	$ 6,324	$ 10
Demo Existing Sidewalk	10332	SF	$ 3.00	$ 30,996	$ 17,513	$ 28
Grind and Overlay	17220	SF	$ 4.00	$ 68,880	$ 38,917	$ 63
Grade and Compact	5166	SF	$ 0.50	$ 2,583	$ 1,459	$ 2
				$ 113,652	**$ 64,213**	**$ 101**

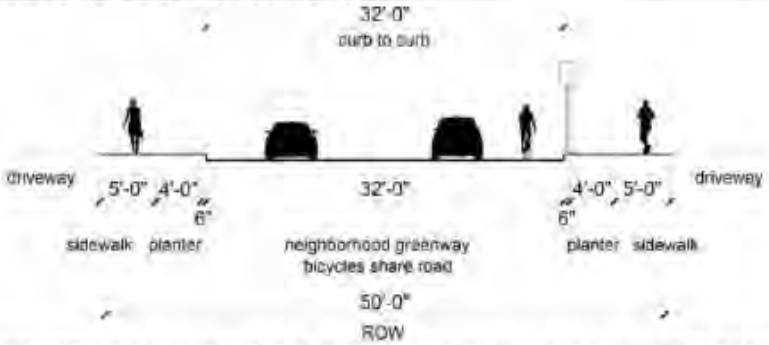
Utility Easement - to SE Stark St **3297**

3b – SE Evans Avenue

Note: 50' ROW is approximate based on GIS data



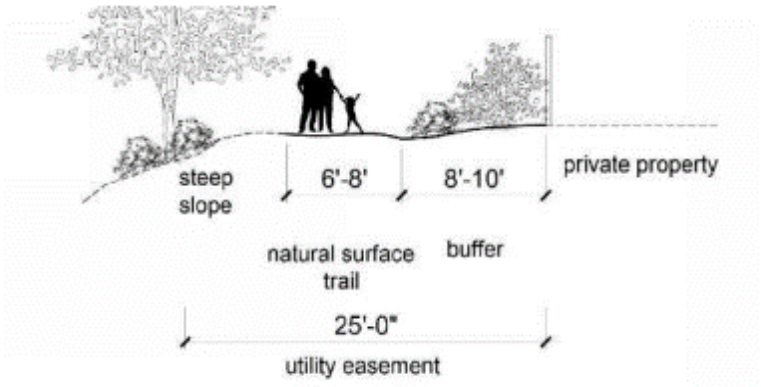
SE Evans Avenue – Existing neighborhood street.



SE Evans Avenue – Proposed neighborhood greenway (bikes share roadway with cars) with existing sidewalks.

Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Modification of existing roadways						
Low Impact	3297	LF	$ 18.00	$ 59,346	$ 33,530	$ 28.17
				$ 59,346	$ 33,530	**$ 28**

Utility Easement - to SE Stark St **5075**



Utility Easement behind SE Evans Avenue – Existing utility easement with natural surface trail

Construction Components	QTY	U/M	Unit Rate	Direct Cost	Markup	Cost/LF
					56.5%	
Shared Use Path						
Excavation to 1'	2631	CY	$ 30.00	$ 78,944	$ 44,604	$ 24
Base Agg, 6"	1316	CY	$ 45.00	$ 59,208	$ 33,453	$ 18
Fine Grade & Compact	71050	SF	$ 0.32	$ 22,736	$ 12,846	$ 7
Asphalt Paving, 6"	71050	SF	$ 6.50	$ 461,825	$ 260,931	$ 142
Gravel Buffer, 6"	94	CY	$ 45.00	$ 4,229	$ 2,389	$ 1
				$ 626,943	$ 354,223	**$ 193**

ADDITIONAL TRAIL ELEMENTS - 40 MILE LOOP

Added Excavation, Fill and Shoring	Length	Direct Cost	Markup	Total Cost per LF
Low Impact	1	$ 3.90	$ 2.20	**$ 6.10**
Medium Impact	1	$ 17.50	$ 9.89	**$ 27.39**
High Impact	1	$ 33.30	$ 18.81	**$ 52.11**

Demo of existing conditions and roadways	Length	Direct Cost	Markup	Total Cost per LF
Low Impact	1	$ 9.00	$ 5.09	**$ 14.09**
Medium Impact	1	$ 15.00	$ 8.48	**$ 23.48**
High Impact	1	$ 33.30	$ 18.81	**$ 52.11**

Modification of existing roadways	Length	Direct Cost	Markup	Total Cost per LF
Low Impact	1	$ 18.00	$ 10.17	**$ 28.17**
Medium Impact	1	$ 35.00	$ 19.78	**$ 54.78**
High Impact	1	$ 50.00	$ 28.25	**$ 78.25**

Roadway Crossing (assumes 30')	EA	Direct Cost	Markup	Total Cost per EA
Low Impact (stripping & signage)	1	$ 555.00	$ 313.58	**$ 868.58**
Medium Impact (relocate signal, ADA curbs,etc)	1	$ 23,250.00	$ 13,136.25	**$ 36,386.25**
High Impact (new signlization)	1	$ 80,550.00	$ 45,510.75	**$ 126,060.75**

Bridges	Length	Direct Cost	Markup	Total Cost per LF
Trail Bridge (Ped. Only)	1	$ 350.00	$ 197.75	**$ 547.75**
Roadway Bridge (Light vehicular)	1	$ 21,020.00	$ 11,876.30	**$ 32,896.30**

Retaining Walls	Length	Direct Cost	Markup	Total Cost per LF
Low grade, (1 to 4')	1	$ 150.00	$ 84.75	**$ 234.75**
Medium grade (4 to 6')	1	$ 250.00	$ 141.25	**$ 391.25**
High grade (Engineered) (6 to 10')	1	$ 550.00	$ 310.75	**$ 860.75**

Roadway Improvements	Length	Direct Cost	Markup	Total Cost per LF
Guard Rails	1	$ 45.00	$ 25.43	**$ 70.43**
Widened Equestrain Trail	1	$ 2.28	$ 1.29	**$ 3.56**

Utility Adjustments	EA	Direct Cost	Markup	Total Cost per LF
Adjust utility lids (typical)	1	$ 770.00	$ 435.05	**$ 1,205.05**

APPENDIX N – TROUTDALE TRAFFIC ANALYSIS

TECHNICAL MEMORANDUM

LANCASTER ENGINEERING
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Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

TO: Robin Wilcox, PLACE

FROM: Brian Davis

DATE: October 18, 2016

SUBJECT: 40-Mile Loop: Troutdale to Gresham
Discussion of Feasibility of Sandy Ave/Evans Ave Options

This memorandum discusses the feasibility of utilizing two potential road segments—SE Sandy Avenue between SE 4th Street and SE Harlow Avenue and SE Evans Avenue north of SE 20th Way—to form a piece of the Troutdale to Gresham segment of the 40-Mile Loop.

SE Sandy Avenue Alignment

One potential alignment under consideration would utilize SE Sandy Avenue, including the somewhat steep and winding section that runs between SE Harlow Avenue to the south and SE 4th Street to the north. In order to safely accommodate the multi-use path, one standard lane would likely need to be closed to automotive traffic; thus only one direction of automotive traffic would be accommodated.

To determine the potential impacts of this conversion to the greater street system, 24-hour traffic counts were collected from midnight to 11:59 PM on Tuesday October 11, 2016. A total of 130 vehicles were observed over the course of the day, with 75 observed in the northbound direction and 55 observed in the southbound direction. The three busiest hours were the 5:00 PM hour, the 4:00 PM hour, and the 8:00 AM hour, when 17 vehicles, 16 vehicles, and 12 vehicles were observed respectively.

No properties take access to this segment of SE Sandy Avenue, and SE Harlow Avenue offers a more direct route between SE 4th and SE 8th Streets, so it is not surprising that automotive volumes are so low along this segment. Based on these observed volumes, an automotive lane could be converted to the multi-use path with very little impact to the surrounding street system. Removing the southbound lane would appear to represent a slightly lower impact to the greater system; however, either lane could be removed and the overall impact would be negligible.

SE Evans Avenue Alignment

A second potential alignment under consideration would utilize part of SE Evans Avenue. In this scenario, Evans would function as a neighborhood greenway, with automotive traffic and bicycles sharing the roadway and pedestrians and slower active modes utilizing the sidewalk. The exact beginning and ending points of the multi-use path's utilization of Evans Avenue in this scenario are not yet finalized; however, it is expected that the path may utilize Evans Avenue for some or all of the segment between SE 23rd Street on the south and SE Evans Loop on the north.

To determine if this street is appropriate for this sort of neighborhood greenway conversion, morning and evening peak hour traffic counts were obtained at the intersection of SE Evans Avenue at SE Lewellen Avenue. Counts were obtained from 7:00 to 9:00 AM to capture the morning peak hour and from 4:00 to 6:00 PM to capture the evening peak hour. The traffic volumes observed are shown in Table 1 below.

Table 1: Traffic volumes along SE Evans Avenue on each side of the intersection with SW Lewellen Avenue

	Morning Peak Hour		Evening Peak Hour	
	S of Lewellen	N of Lewellen	S of Lewellen	N of Lewellen
Total volume	34	28	49	44
Peak direction	SB	SB	NB	NB
Peak direction volume	25	30	36	33

As shown in Table 1, 49 vehicles or fewer were observed along each examined segment during each peak hour. As a general rule of thumb, daily traffic volumes are expected to be approximately ten times as great as the volumes during the peak hour; this suggests that the average daily traffic (ADT) along Evans Avenue is approximately 490 vehicles south of Lewellen Avenue and 440 vehicles north of Lewellen Avenue.

This is well within the accepted volumes for a comfortable greenway that can be utilized by all ages and ability levels. Guidance for these sorts of facilities includes the North American City Transportation Officers (NACTO) *Urban Bikeway Design Guide,* and the recently released City of Portland released a *Neighborhood Greenway Assessment Report.* The former indicates that volumes of below 1,500 ADT are ideal. The latter largely concurs, though it indicates that volumes below 1,500 ADT are "acceptable" with volumes below 1,000 ADT as the goal. Further, the *Neighborhood Greenway Assessment Report* offers an alternate performance standard: ideally a neighborhood greenway should have fewer than 50 peak hour vehicles in the peak direction. For all standards, the examined segments of Evans Avenue are well within the ideal range.

Conclusion

While there are certainly considerations other than existing automotive volumes that inform the route selection, both of the potential alignments examined here have the potential to be successful as part of the 40-Mile Loop alignment. Either existing automotive lane of SE Sandy Avenue between 4th Street and Harlow Avenue could be removed to create space for a multi-use path with minimal impact to the greater system. Alternatively, vehicle volumes and usage patterns along SE Evans Avenue are appropriate for converting the examined segments into a neighborhood greenway that would serve as part of the path. Thus, either potential route is feasible for continued consideration as part of the alignment.

APPENDIX O – OPEN HOUSE 1

Appendix O

Engagement Summary

Troutdale to Springwater Trail Master Plan

Community Event #1 | June 2016

INTRODUCTION

The first public engagement opportunity for the Troutdale to Springwater Trail Master Plan took place Wednesday, June 29, from 6 to 8 p.m. at Mt. Hood Community College. Approximately 90 people attended. Metro staff gave a presentation and provided an opportunity for community members to review information on boards around the room and talk more in-depth with project staff.

Most attendees wanted to confirm that the route emerging as the recommended alternative is located mainly along streets, is the most direct and responds to safety concerns expressed by community members.

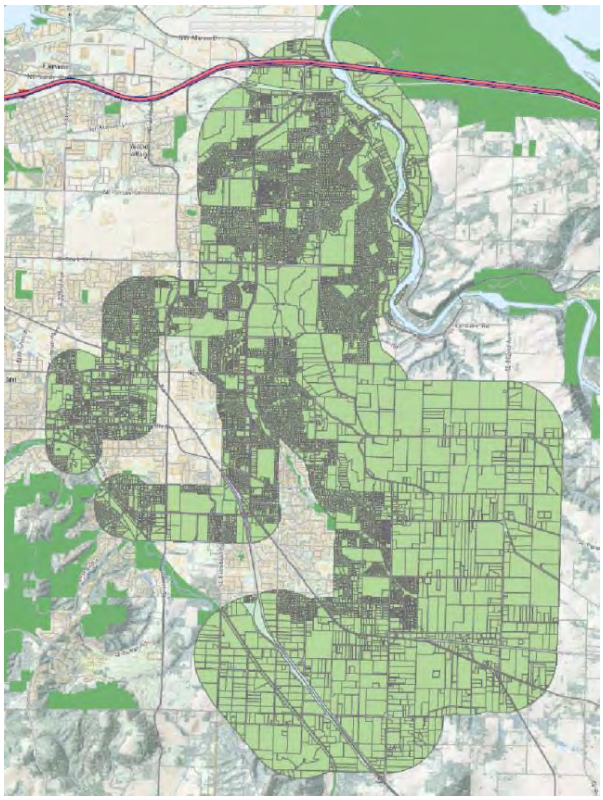
A brief summary of outreach methods and a specific breakdown of what we heard follows.

EVENT PROMOTION

Metro advertised the event using a direct mail postcard, neighbor letter, advertising in the Gresham Outlook and through media contacts and story coverage in the Gresham Outlook. Project partners and stakeholders were notified via e-mail and Metro's website included updates on the events calendar as well as the specific project page: www.oregonmetro.gov/troutdale-springwater.

Metro also posted a brief story on the Metro newsfeed and in the spring edition of Our Big Backyard magazine highlighting the upcoming project opportunities and encouraged people to visit the project website. The newsfeed article is available here: http://www.oregonmetro.gov/news/40-mile-loop-metro-move-forward-closing-key-trail-gap.

Metro staff mailed the postcard to 12,337 addresses within the project area, and a neighbor letter to each of the 64 property owners along the trail route alternatives.



Mailing distribution area

An advertisement was posted in the June 24 issue of the Gresham Outlook.

Reporter Christopher Keizur wrote a story promoting the event, which ran in the June 28 issue of the Gresham Outlook.

Metro emailed 65 community members who had signed up for the project list.

A project webpage announcement and Metro calendar event were created, and Metro partners shared the electronic invitation with their networks.

Advertisement in Gresham Outlook

Metro also provided news coverage of the open house following the event: http://www.oregonmetro.gov/news/community-members-share-hopes-concerns-about-troutdale-gresham-trail-routes.

EVENT FORMAT AND PARTICIPATION

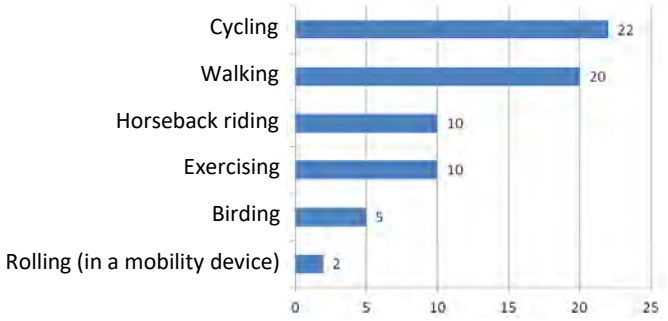
Metro staff Robert Spurlock, Lisa Goorjian, Lake McTighe, Elaine Stewart, Julie Cash and Linda Lechler hosted the event with Gresham staff Katherine Kelly and Tina Osterink, and Troutdale staff Craig Ward supporting. Project consultants from Place Studio were also on hand to answer questions. Metro project manager Robert Spurlock and Place Studio project manager Robin Wilcox gave a 20-minute presentation with photos, maps, and graphics depicting the project background, existing conditions, trail route alternatives and conceptual design.

Community members were greeted at the open house entrance with a sign-in table where they received project fact sheets, blank comment cards, fact sheets on Gresham's homelessness alleviation initiatives, and the current issue of Our Big Backyard magazine. Approximately 65 attendees signed in, but attendance was closer to 90.

There were 11 informational boards on several project themes displayed throughout the room:

- Event agenda
- Project goals
- Project timeline
- Map asking attendees to indicate where they live
- Regional context map highlighting the project study area, the 40-Mile Loop, and the regional trails system
- Large format map showing all three route alternatives
- Map of Route Alternative 1 with proposed cross sections
- Map of Route Alternative 2 with proposed cross sections
- Map of Route Alternative 3 with proposed cross sections
- Photo board showing different types of trails and bike/pedestrian facilities under consideration
- Photo board of various popular trail activities

People placed a sticky dot on the picture of the trail activity in which they participate or have experienced. The results show cycling and walking were the most popular activities among open house participants.



Trail activities exercise

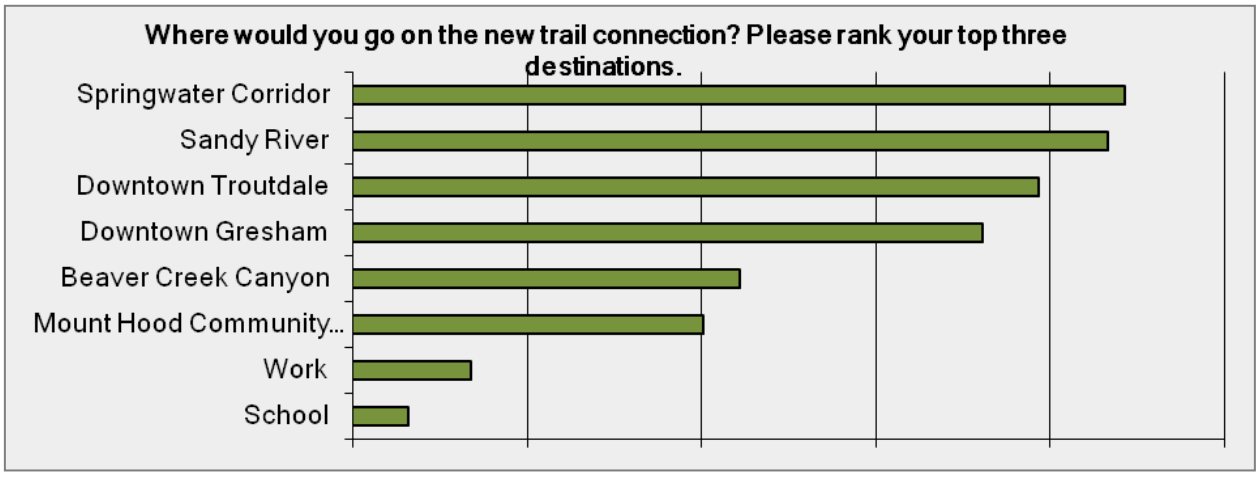
Attendees were also asked to indicate where they live by placing a sticky dot on a map of the study area. The results showed an even distribution of responses from throughout the project area.

COMMENT CARD AND ONLINE SURVEY RESPONSES

Open house attendees completed a comment card with three questions about how they would use the trail and where they would like to travel along the trail. The comment card questions were also available as an online survey on the project webpage for two-and-a-half weeks following the open house. Metro received a combined total of 247 completed comment cards and online survey responses from June 29 through July 16.

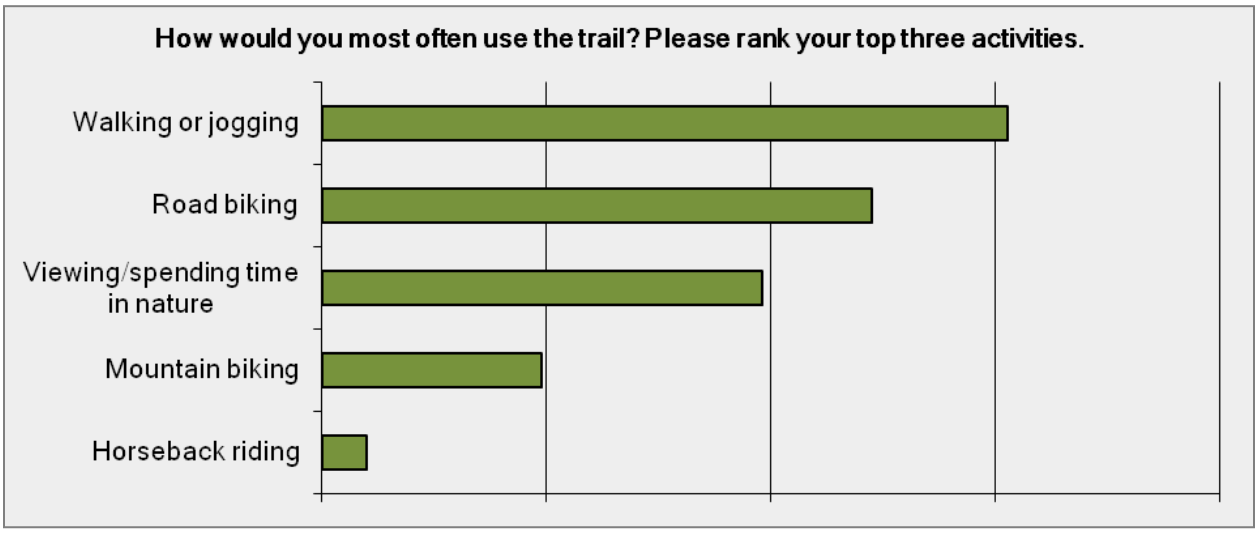
QUESTION 1: WHERE WOULD YOU GO ON THE NEW TRAIL CONNECTION?

Based on 203 responses (44 people skipped the question), the most popular destinations are the Springwater Corridor, the Sandy River, downtown Troutdale and downtown Gresham.



QUESTION 2: HOW WOULD YOU MOST OFTEN USE THE TRAIL?

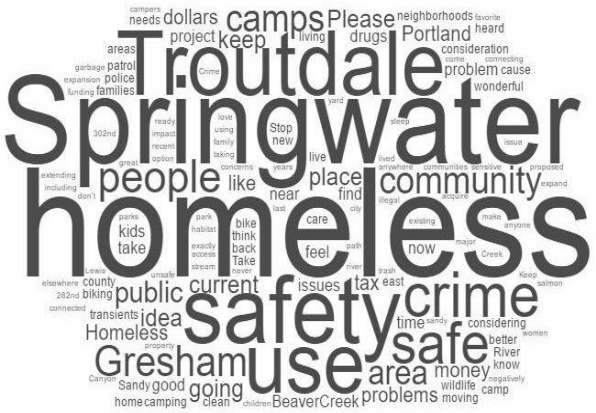
Based on 202 responses (45 people skipped the question), the most popular activities were walking or jogging, road biking, and viewing/spending time in nature. It is important to note that 11 respondents specifically noted that skateboarding or longboarding should have been included as a choice.



QUESTION 3: WHAT ELSE SHOULD THE PROJECT TEAM CONSIDER?

Survey participants wrote 159 open-ended responses to this question (88 participants did not respond). Metro staff analyzed each comment and 47 percent of respondents were in favor of the trail, 31 percent were generally supportive but had concerns, and 21 percent were opposed. By far the most frequently expressed concerns had to do with crime and homeless campers along sections of the Springwater Trail. Many respondents also expressed a desire to make the trail a comfortable alternative to streets, safe from roadway traffic. The graphics below shows text analyses of comments in favor of the trail and those either opposed to the trail or generally supportive but with concerns.

Text analysis of Question 3 responses in favor of the trail



Text analysis of Question 3 responses either opposed to the trail or generally supportive but with concerns

SURVEY DEMOGRAPHICS

1. HOW WOULD YOU IDENTIFY YOUR RACE OR ETHNICITY? (Please select all that apply)

Answer options	Response percent	Response count
White	91.9%	137
Black or African-American	1.3%	2
Hispanic or Latino/a	6.7%	10
Asian	4.7%	7
Pacific Islander	1.3%	2
Native American	4.7%	7
Other (please specify)		6
answered question		**149**
skipped question		**107**

2. HOW OLD ARE YOU?

Answer options	Response percent	Response count
18 or under	2.6%	4
19 - 24	2.6%	4
25 - 34	18.5%	28
35 - 44	26.5%	40
45 - 54	21.2%	32
55 - 64	20.5%	31
65 or over	7.9%	12
answered question		**151**
skipped question		**105**

3. WHAT IS YOUR IDENTIFIED GENDER?

Answer options	Response percent	Response count
Female	58.3%	91
Male	39.1%	61
Transgender Female	0.0%	0
Transgender Male	1.9%	3
Prefer not to say	0.6%	1
answered question		**156**
skipped question		**100**

4. WHAT IS YOUR ANNUAL HOUSEHOLD INCOME?

Answer options	Response percent	Response count
Less than $10,000	2.6%	4
$10,000 - $19,999	1.3%	2
$20,000 - $29,999	6.5%	10
$30,000 - $49,999	16.1%	25
$50,000 - $74,999	18.1%	28
$75,000 - $99,999	18.1%	28
$100,000 - $149,999	14.2%	22
$150,000 or more	8.4%	13
Not sure/prefer not to say	14.8%	23
answered question		**155**
skipped question		**101**

5. WHAT COUNTY DO YOU LIVE IN?

Answer options	Response percent	Response count
Clackamas County	6.8%	11
Multnomah County	90.1%	145
Washington County	0.6%	1
Other (please specify)	2.5%	4
answered question		**161**
skipped question		**95**

6. DO YOU EXPERIENCE A MENTAL OR PHYSICAL DISABILITY?

Answer options	Response percent	Response count
Yes	2.5%	4
No	89.8%	141
Prefer not to say	7.6%	12
Please share more if you would like to describe your experience.		14
answered question		**157**
skipped question		**99**

SUMMER OUTREACH EVENTS

The project team also hosted outreach booths at two weekend community events in Gresham and Troutdale. These events offered an opportunity to meet community members who may not have heard about or were unable to attend the open house. Staff provided project information at the booth, including a map of the route alternatives, graphics depicting conceptual trail designs, project factsheets, 40-Mile Loop trail maps, and Regional Trails and Greenways brochures. Staff encouraged the public to fill out comment cards and sign up for email updates. Comments collected at the first summer outreach event are included in the comment card summary above.

- **Gresham Farmers Market and Annual Gresham Arts Festival |** Saturday, July 16
  250 community members visited the booth and were overwhelmingly supportive of the project. Many booth visitors expressed concerns about homelessness and illegal camping along the Springwater Trail.

- **Troutdale Summerfest |** Saturday, July 23
  120 community members visited the booth. Most booth visitors were enthusiastic about the project but also shared concerns about homelessness and illegal camping.

Overall, visitors at the Troutdale event expressed greater concern about crime, safety and homelessness than visitors at the Gresham event. Crime, safety and homelessness were the recurring themes expressed at both events, but the majority of visitors expressing these concerns also expressed that they like the idea of the trail as long as these concerns can be addressed.

NEXT STEPS

The next community event to select a preferred alignment will take place this fall. Community outreach to promote the event will be similar to that for the summer community event. Information and considerations around safety, homelessness and crime will be taken into strong consideration as Metro staff proposes a recommended trail alignment.

APPENDIX P – OPEN HOUSE 2

TROUTDALE 40-MILE LOOP
TRAIL MASTER PLAN

Open House and Online Comments Summary
February 22 through March 8, 2017

Introduction

A public open house was held on February 22, from 7 to 9 p.m. at Harvest Christian Church for the Troutdale 40-Mile Loop Trail Master Plan, a planning effort to refine the location of a regional trail that has been included in adopted transportation and regional trail plans for many years. The purpose of the open house was to seek feedback on five potential route options for a trail in Troutdale between Depot Park in downtown and Mt. Hood Community College. The routes had been developed and studied over the six months following a summer public open house and additional outreach. Participants were asked to share ideas and concerns regarding a future trail, including feedback on the five route options. Just over 200 people attended. The majority of attendees were Troutdale residents. Ninety attendees submitted written comment forms.

Over 200 people attended the open house on February 22.

After the public open house, an online comment form was made available for attendees who wished to share the information and opportunity to comment with others or submit their comments online. The online comment form was available from February 22 through March 8, 2017 and was completed by 172 people.

Event promotion

Metro advertised the February open house using a direct mail postcard which showed the potential routes. The mailing was distributed to 5,115 households within one mile of the route options. An advertisement ran twice in the Gresham Outlook, email invitations were sent to a 290-person email distribution list, and the event was posted on Metro's Facebook page and targeted to Facebook users with Troutdale zip codes. The City of Troutdale also advertised the meeting on the City's webpage and Facebook page. The Gresham Outlook had also published an article about the trail planning process the day prior to the meeting. Project information and meeting information was also available at the project page: www.oregonmetro.gov/troutdaletrail.

Open House Meeting Format

Attendees were greeted at the door and received a handout and comment form. The open house consisted of several information stations with staff to answer questions and help document concerns or suggestions. At 7:30, there was a brief welcome and overview. Pastor Mike Halstead welcomed attendees to the church meeting space and consultant Kristen Kibler oriented attendees to the meeting format and the information in the room. A brief background and overview presentation was given by the City of Troutdale Interim City Manager Ray Young, Metro Councilor Shirley Craddick, and Metro Project Manager Robert Spurlock. Attendees were then encouraged to visit information stations, talk with staff from the project team and partner agencies, and leave comments on the form or on flipcharts in the room.

The information stations included:

- **Background** – The station included history of regional trail planning, adopted regional and local plans that include this trail, decision-making and schedule, what had been looked at to date, and what we've heard from the public.
- **Trail Route Options** – The station included maps and potential cross sections of the five routes under consideration. Additional information included vehicle counts, elevations, parking, and other existing trails in the area.
- **Mt. Hood Community College Trail Route** – The station shared a preferred route of trail connections along the South Beaver Creek Greenway in areas owned by Mt. Hood Community College and Metro, from Stark Street at the college to the southern edge of the campus.
- **Maintenance and Public Safety** – The station provided an opportunity to see what people had been saying about the topic and discuss ideas and current concerns with project staff and Multnomah County Sheriff's Office. Public safety and enforcement on the trails is the top concern that has been heard.
- **Thinking Ahead** – The station allowed participants to capture ideas for the future or to ask any questions they might have.
- **West Columbia Gorge Chamber** – The chamber hosted some information about tourism, transportation, and other travel and marketing programs led by the business community.

Participants talked with staff and committee members at information stations.

What we heard at the in-person meeting (from discussions and comment forms collected at meeting)

Just over 200 people attended the open house and 97 comment forms were submitted that night. Most of the attendees lived within a mile of one of the trail route options. Many of the attendees had not attended the June open house and were seeing trail route options for the first time. Those that were more supportive of the trail were aware of past planning for regional trails and spent more time looking at the trail route options maps and graphics.

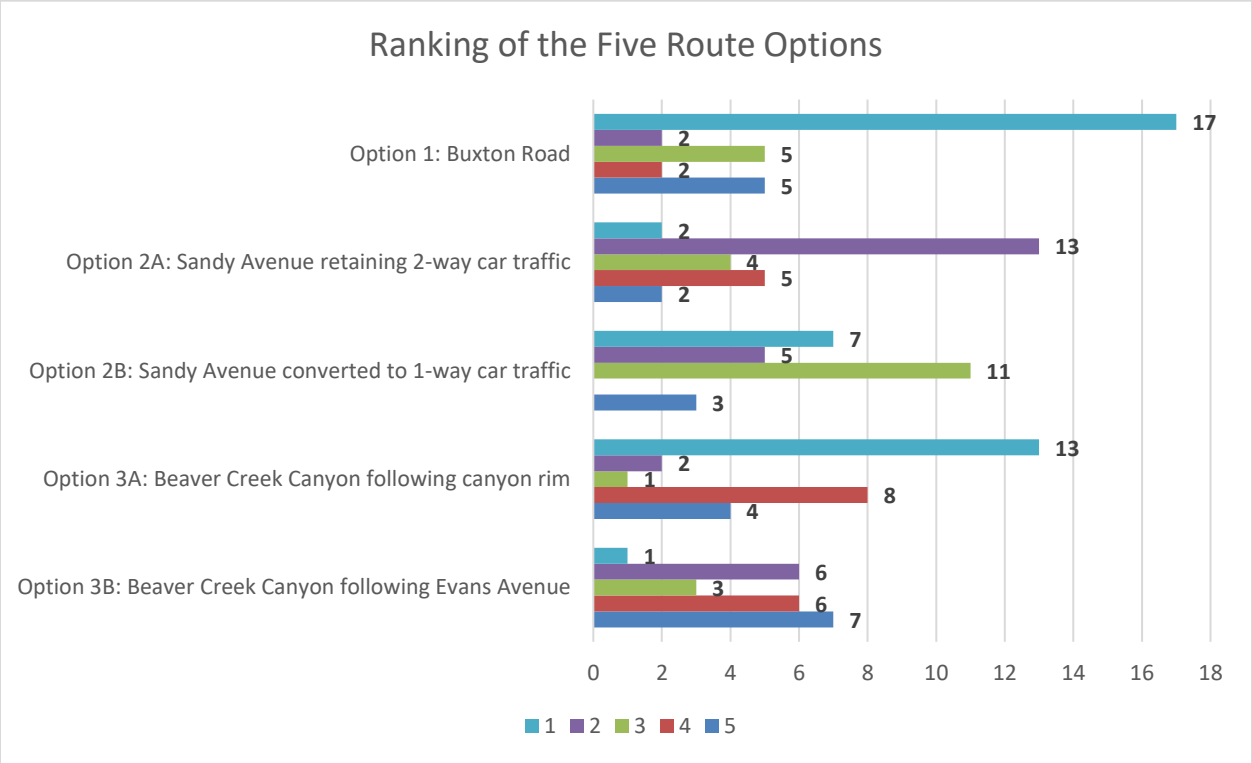
Key themes heard from the public at the open house:

- Public safety and illegal camping on trails and in the community were top concerns.
- Many were worried about the trail changing the character and livability of Troutdale.
- There were many comments and discussions regarding infrastructure not currently being maintained, i.e. gravel swept, paths cleared, and monitoring and enforcement of activities on trails. There is a broader concern that agencies should not take on more responsibility than they are able to maintain.
- Based on the responses submitted on comment forms at the meeting,
    - About half of the attendees were not supportive of a trail and did not rank route options. (Note: from discussions with community members, there was a sense that more than half of the attendees in the room were not supportive of a trail.)
    - About half of the attendees ranked the five route options or offered an alternate suggestion for a trail route
- For those that ranked the route options, the routes that allowed for more visibility were more favorable. There was some concern about a regional trail being in close proximity to an elementary school.
- There were still many people in attendance who would like to see a trail be built and suggested ideas for design, maintenance, and location. (Note: based on discussion with attendees and the comment forms received, less than half of the participants were in favor of a trail.)
- Many currently see Beaver Creek as a valuable recreational and environmental resource for the Troutdale area. Many Troutdale neighbors already use it for recreation. Some wish it to remain more natural for habitat.

Comment form responses related to the Route Options

Meeting attendees were asked to use their comment form to rank their preference of the five route options. Of the 97 people who filled out the comment form only 42 people chose to rank at least one to all of the five route options that were shared at the meeting.

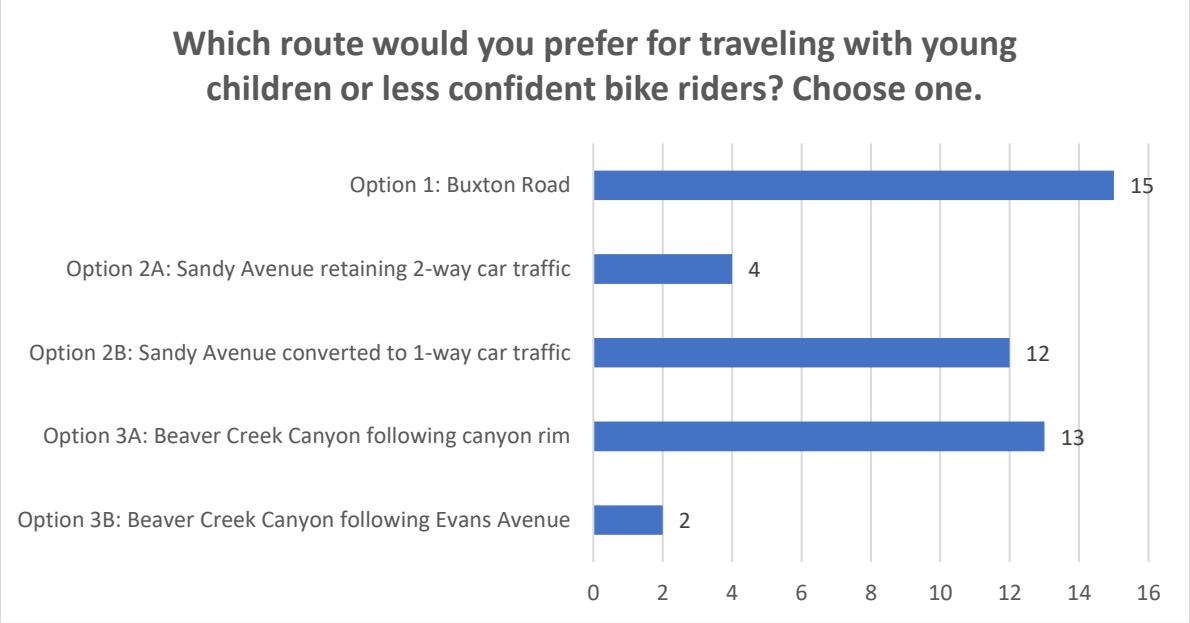
Of the participants who used the ranking system to show preference for the options, Route 1 – Buxton Road was slightly more favorable than the others. Route 3B – Beaver Creek Canyon following Evans Avenue was the least favorable when ranked.



42 out of 97 (43.3%) participants used the ranking system for at least one option. When averaging these rankings above, the order of preference from most favored to least favored is Option 1 as the most favored, then 2A, 2B, 3A, and then 3B is the least favored.

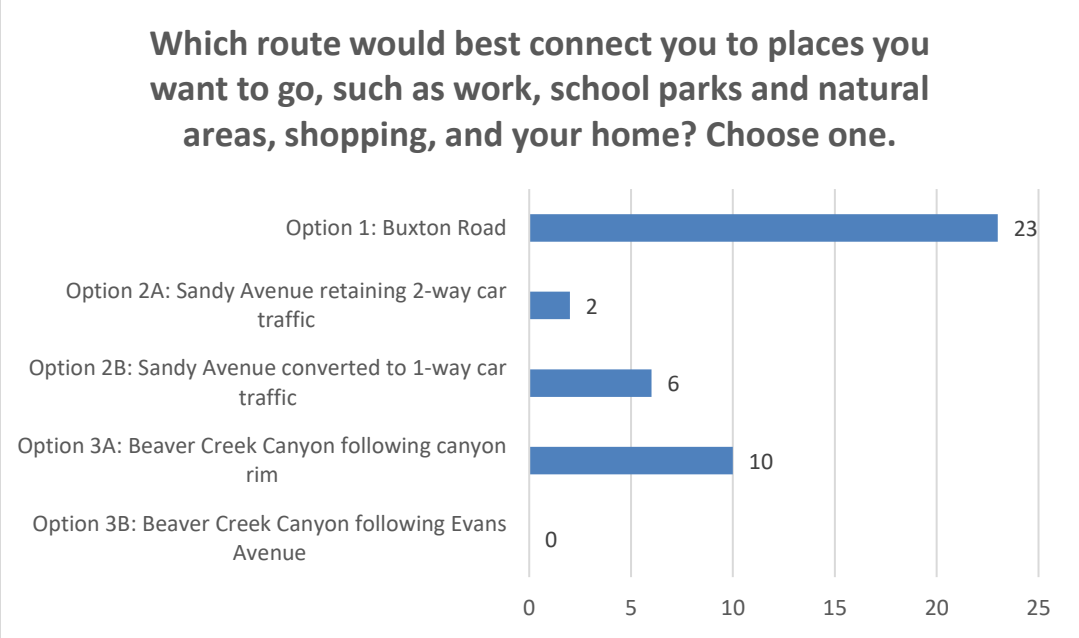
54 out of the 97 who submitted comment forms chose not to rank any of the route options. Most shared that no trail was acceptable and a few suggested 257th Avenue as a preferred route. There were a couple of other routes drawn on the map on the comment form.

Option 1: Buxton Road was also shown as slightly more favorable for traveling with young children or less confident bike riders. 43 people answered this question.



Note: 43 out of 97 participants answered the question. 2 participants chose more than one option.

Option 1: Buxton Road was also shown as more favorable for connecting people to places they go. 41 people answered this question.



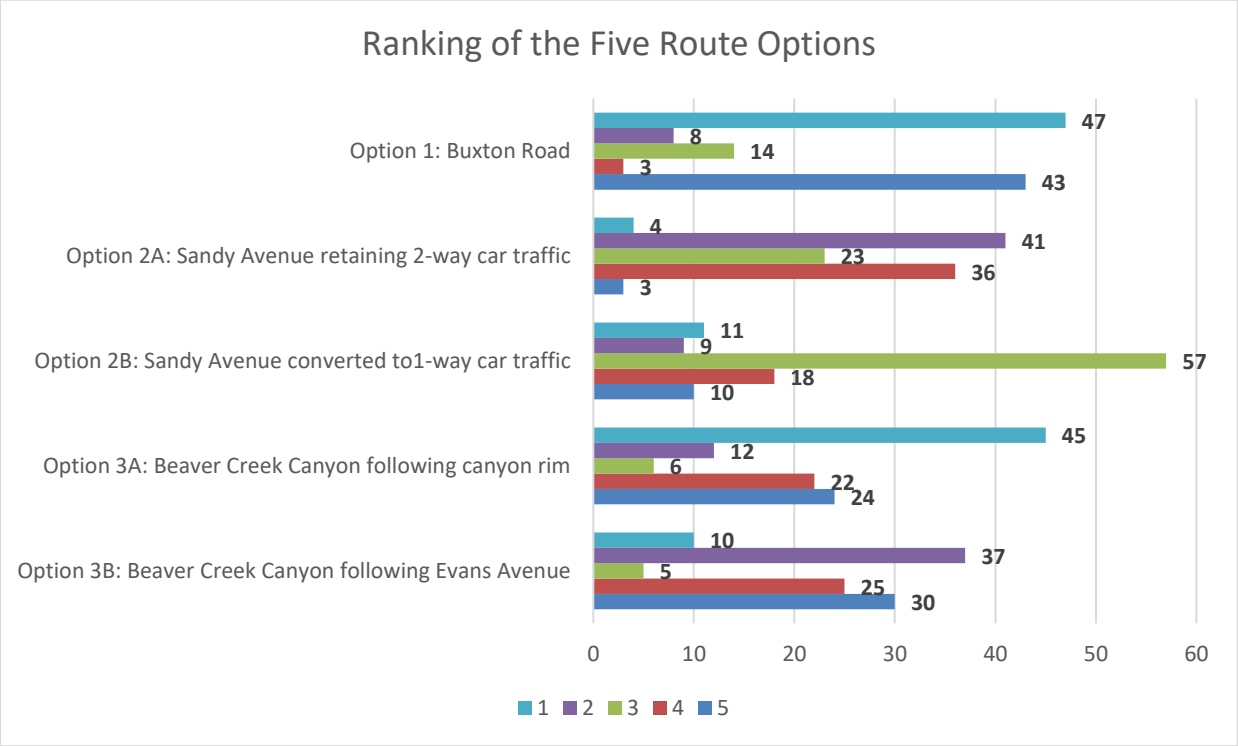
Note: 40 out of 97 participants answered the question. 2 participants chose more than one option.

What we heard on the online survey (from online comment forms submitted after the meeting through March 8)

After the open house and through March 8, 172 people submitted comments on the online version of the comment form.

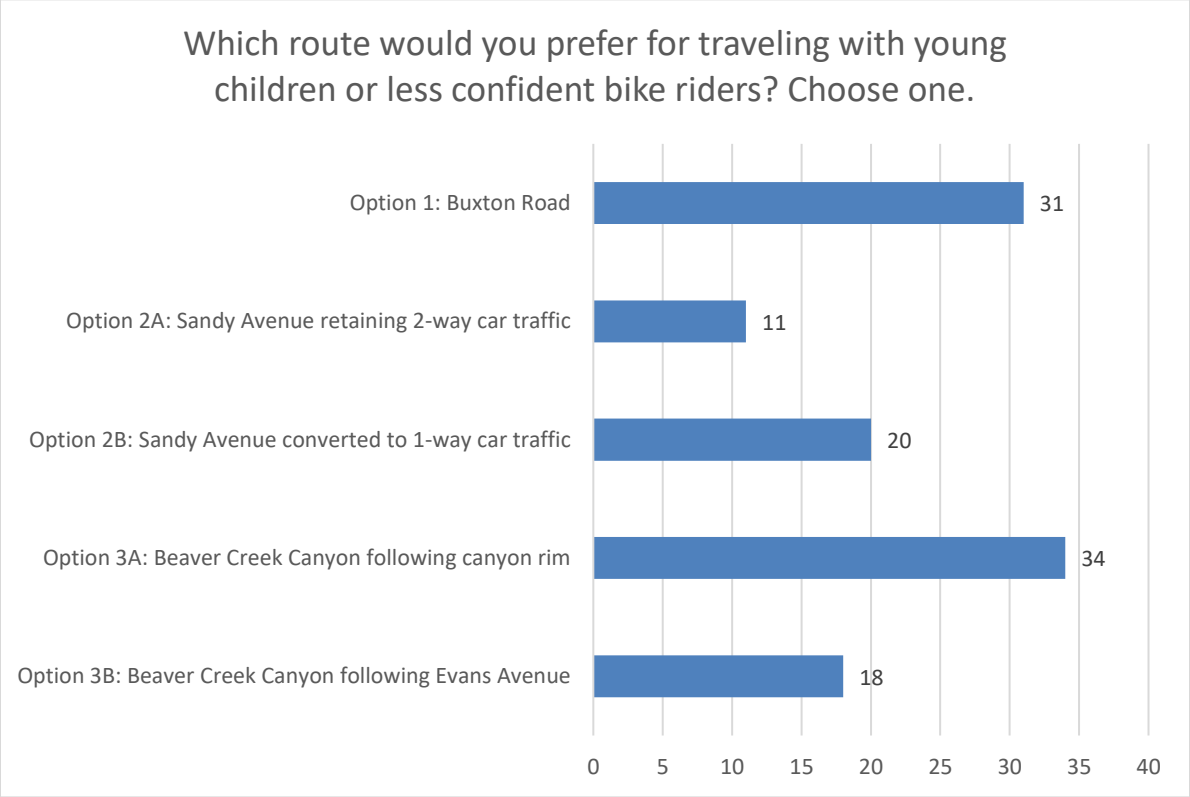
At the in-person open house, only 43% of those who submitted paper comment forms chose to rank the at least one to all of the five route options that were shared at the meeting. For the online comment form, 70% of the respondents ranked the route options.

When looking at a weighted average of the priority rankings, the overall ranking of the route options was different for the online comments. At the in-person open house, Route 1 – Buxton Road was slightly more favorable than the others. For the online comments, Route 3A – Beaver Creek Canyon Following Rim was slightly more favorable. Route 3B – Beaver Creek Canyon following Evans Avenue was the least favorable when ranked by both the in-person open house comments and the online comments.



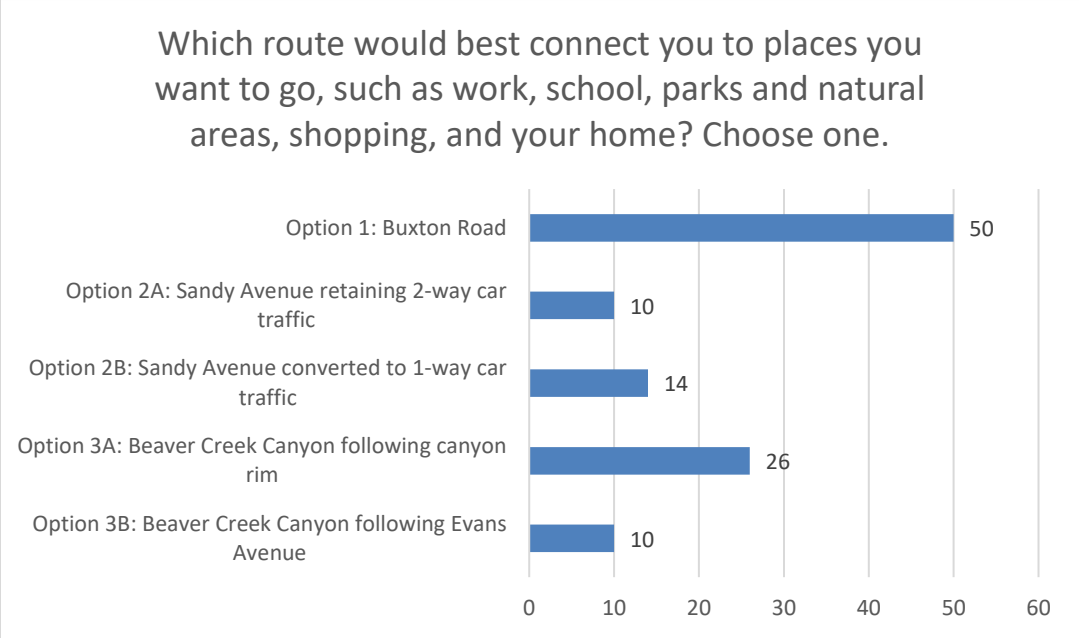
122 out of 172 (70.1%) participants used the ranking system for at least one option. 50 participants did not respond to this question online. When averaging these rankings above, the order of preference from most favored to least favored is Option 3A as the most favored, then 1, 2A, 2B, and then 3B is the least favored.

At the in-person open house, Option 1: Buxton Road was shown as slightly more favorable for traveling with young children or less confident bike riders. However, from the online responses, Option 3A: Beaver Creek Canyon following canyon rim was slightly more popular, with Option 1: Buxton Road being next favored for traveling with young children or less confident bike riders.



Note: 114 out of 172 participants answered the question online.

Similar to the in-person open house, Option 1: Buxton Road was shown as the more favorable for connecting people to the places they go. 110 people answered this question online.



Note: 110 out of 172 participants answered the question. 2 participants chose more than one option.

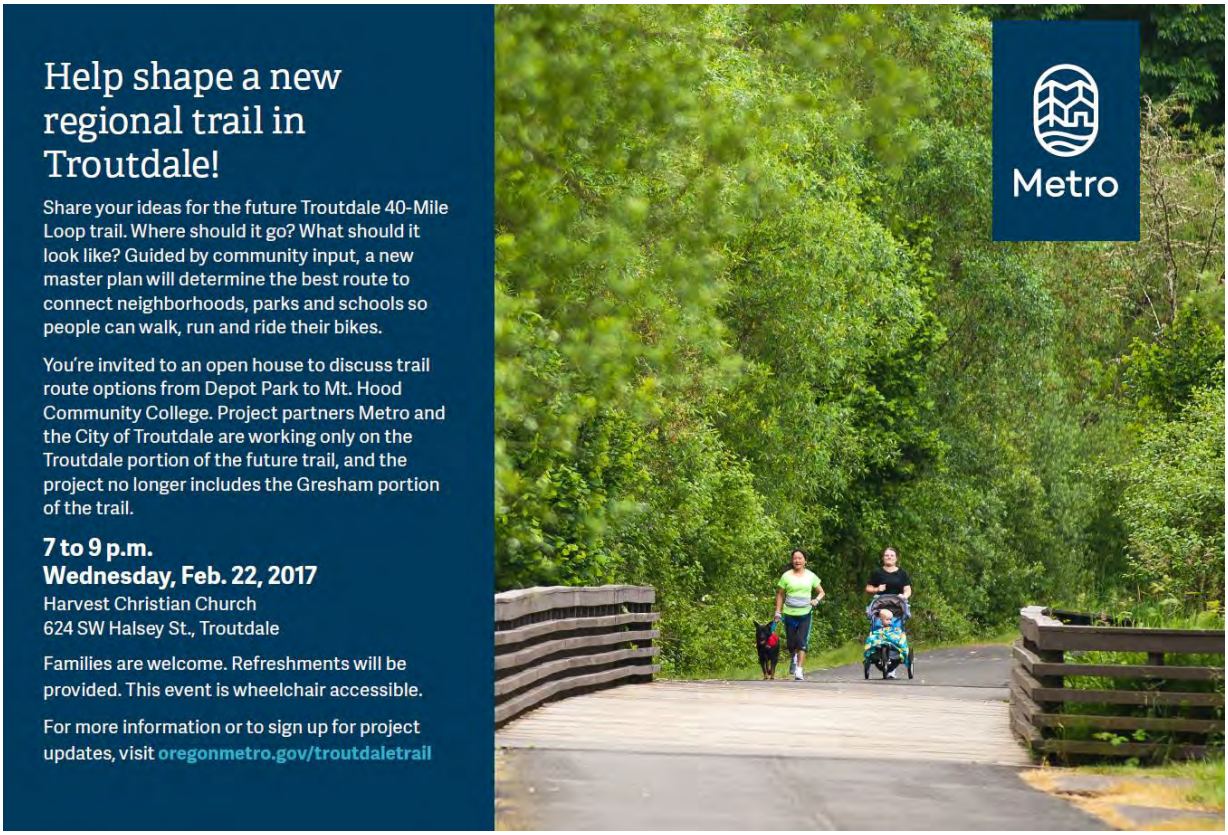
The open-ended comments from the online responses were similar in nature to the online open house with concerns about illegal camping and crime following the placement of the trail. The verbatim comments can be found in the appendix.

Appendix

- Postcard Mailer
- Comment form (as printed from in-person open house, online version was similar)
- "Where do you live" map from open house and demographics from open house and online comment forms
- Verbatim comments from "What additional feedback would you like to provide?" (from open house and online comments)
- Comments collected on flipcharts/post-it notes during open house

Postcard Mailer

The postcard was sent to 5,115 addresses within one mile from any of the route options.



Project partners

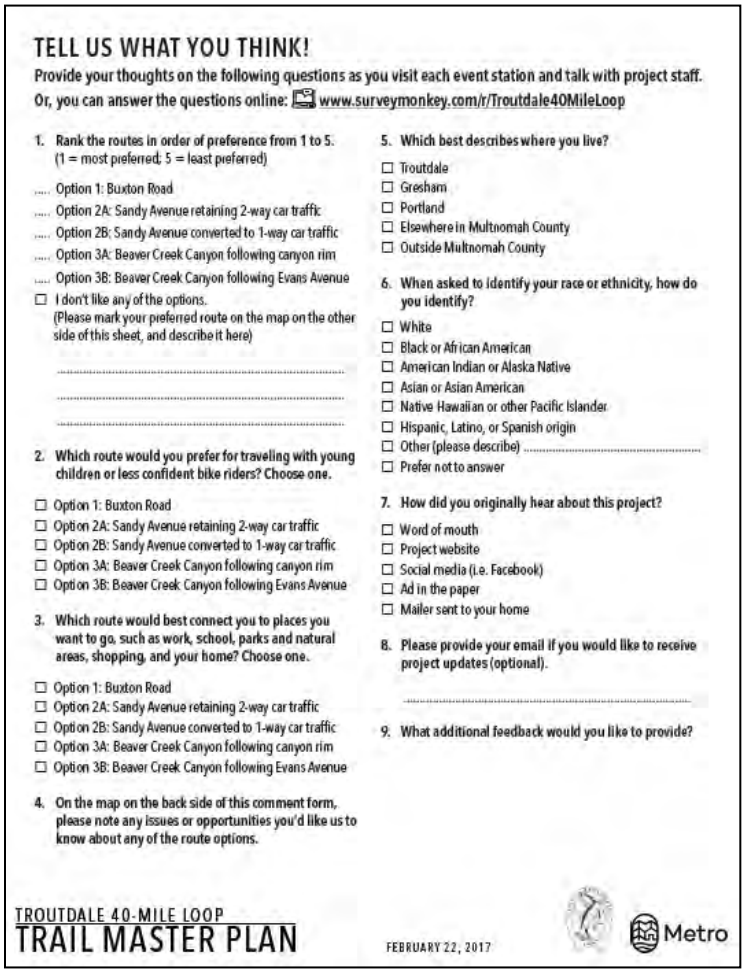
Metro

Metro
600 NE Grand Ave
Portland, OR 97232

Printed on recycled-content paper.

Comment Form

The following comment form was distributed at the meeting. 97 forms were collected on 2/22/17.



TELL US WHAT YOU THINK!

Provide your thoughts on the following questions as you visit each event station and talk with project staff.
Or, you can answer the questions online: www.surveymonkey.com/r/Troutdale40MileLoop

1. Rank the routes in order of preference from 1 to 5. (1 = most preferred; 5 = least preferred)

..... Option 1: Buxton Road
..... Option 2A: Sandy Avenue retaining 2-way car traffic
..... Option 2B: Sandy Avenue converted to 1-way car traffic
..... Option 3A: Beaver Creek Canyon following canyon rim
..... Option 3B: Beaver Creek Canyon following Evans Avenue
☐ I don't like any of the options. (Please mark your preferred route on the map on the other side of this sheet, and describe it here)

.....
.....
.....

2. Which route would you prefer for traveling with young children or less confident bike riders? Choose one.

☐ Option 1: Buxton Road
☐ Option 2A: Sandy Avenue retaining 2-way car traffic
☐ Option 2B: Sandy Avenue converted to 1-way car traffic
☐ Option 3A: Beaver Creek Canyon following canyon rim
☐ Option 3B: Beaver Creek Canyon following Evans Avenue

3. Which route would best connect you to places you want to go, such as work, school, parks and natural areas, shopping, and your home? Choose one.

☐ Option 1: Buxton Road
☐ Option 2A: Sandy Avenue retaining 2-way car traffic
☐ Option 2B: Sandy Avenue converted to 1-way car traffic
☐ Option 3A: Beaver Creek Canyon following canyon rim
☐ Option 3B: Beaver Creek Canyon following Evans Avenue

4. On the map on the back side of this comment form, please note any issues or opportunities you'd like us to know about any of the route options.

5. Which best describes where you live?

☐ Troutdale
☐ Gresham
☐ Portland
☐ Elsewhere in Multnomah County
☐ Outside Multnomah County

6. When asked to identify your race or ethnicity, how do you identify?

☐ White
☐ Black or African American
☐ American Indian or Alaska Native
☐ Asian or Asian American
☐ Native Hawaiian or other Pacific Islander
☐ Hispanic, Latino, or Spanish origin
☐ Other (please describe) .....
☐ Prefer not to answer

7. How did you originally hear about this project?

☐ Word of mouth
☐ Project website
☐ Social media (i.e. Facebook)
☐ Ad in the paper
☐ Mailer sent to your home

8. Please provide your email if you would like to receive project updates (optional).

.....

9. What additional feedback would you like to provide?

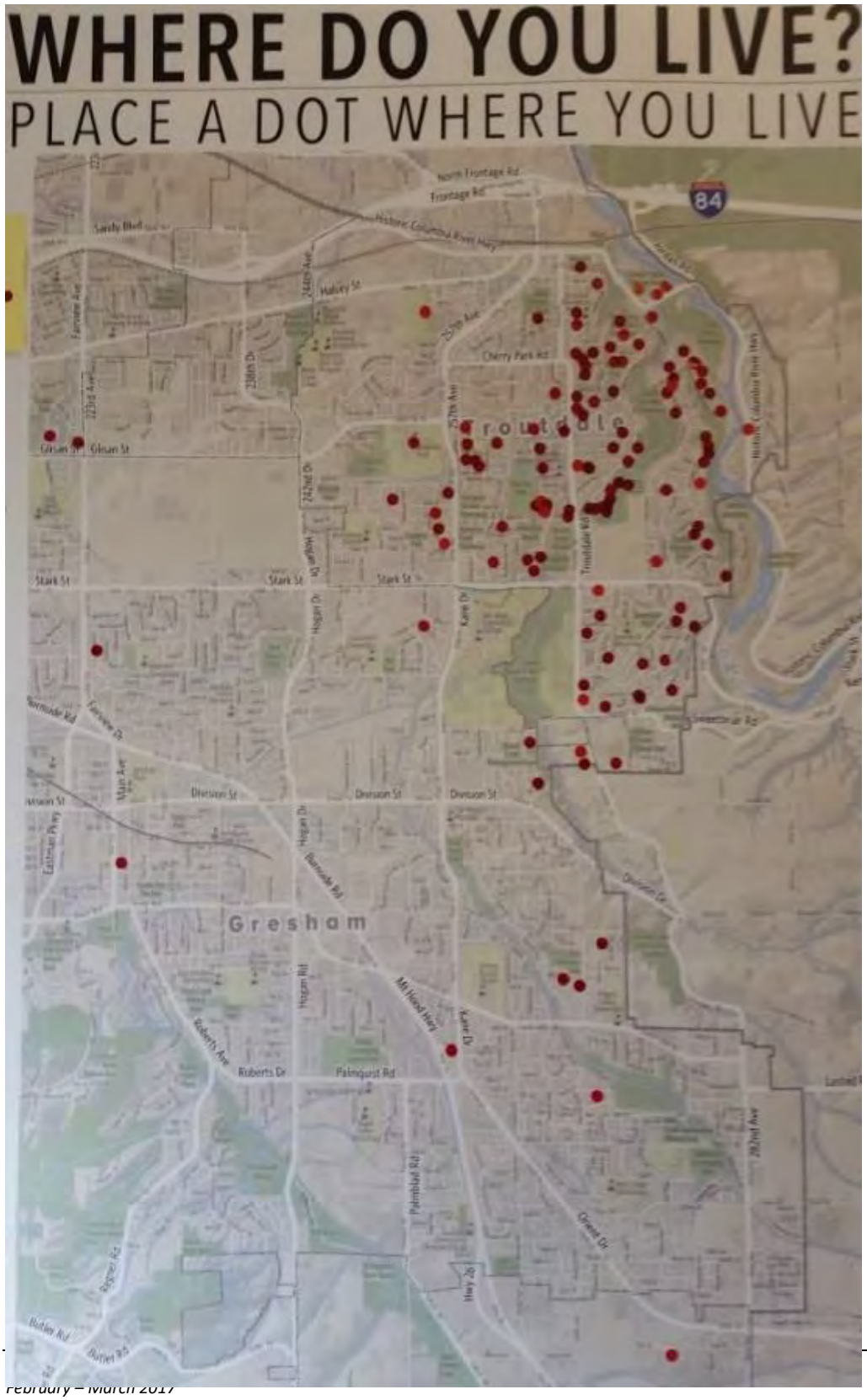
TROUTDALE 40-MILE LOOP
TRAIL MASTER PLAN

FEBRUARY 22, 2017

Metro

Where do you live map?

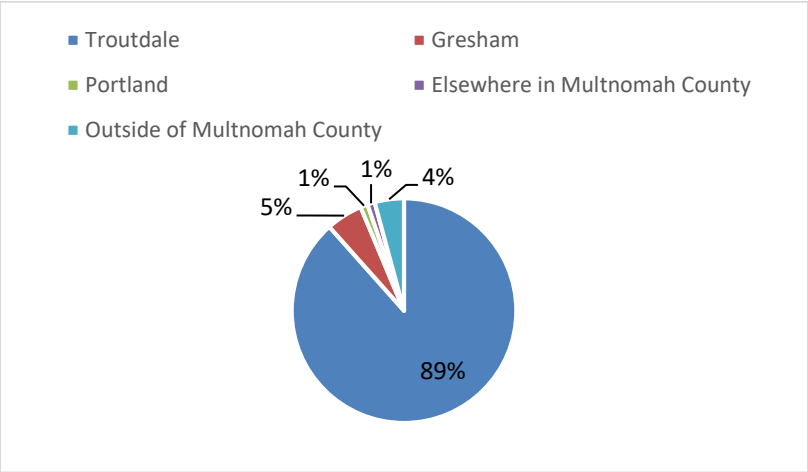
Attendees at the open house used red dots to indicate where they lived.



Which best describes where you live?

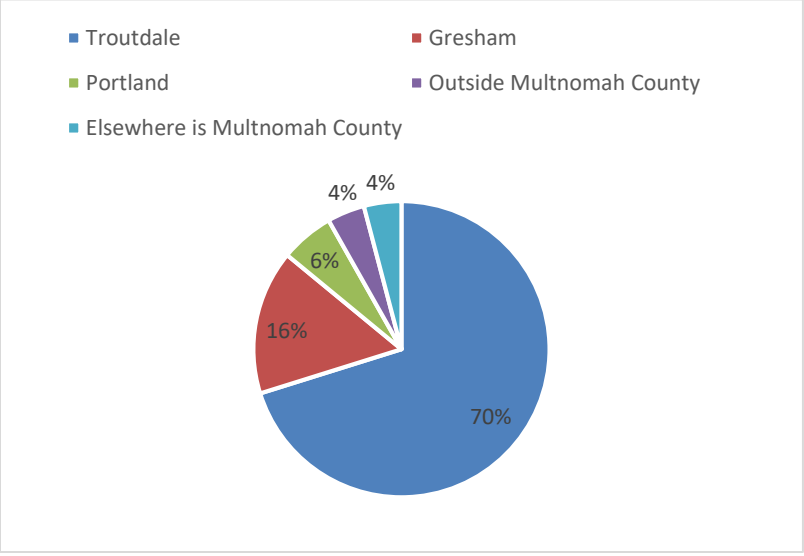
The majority of comments came from Troutdale residents. 119 online participants (70% of those who participated online) and 84 in-person open house participants (89% of those who filled out comment forms at the meeting) identified that they lived in Troutdale.

Most participants that filled out comments forms at the open house live in Troutdale.



Note: 95 of 97 participants answered this question on the comment form.

Most of the participants that provided online comments also live in Troutdale.



Note: 171 of 172 participants answered this question.

What additional feedback would you like to provide (from open house comment form)?

Verbatim responses from comment forms:

I feel that options already exist for bike, walk and running along the desired route.
Do not build! Improve trails that exist.
This project is not one I approved of. We moved out of the city to get away from all this and you're trying to bring it to us! Bought a house with Beaver Creek behind us and did it for the view and no other occupants. We aren't looking for a view of homeless and trash to tarnish our property value. Thank you but no thank you.
Any trail built must provide a sense of safety. No matter how pretty it is, families and individuals must feel comfortable using it w/o having to worry about homeless camps and or crime.
I'm sorry. However, I'm totally against the plan all together! #1 A different route towards the Sandy River= extending off of Options 3A & 3B = impact less existing houses #2 Very concerned about the homeless taking over the trail like they have at Springwater! They will just follow on down to this trail at Troutdale! Are the police going to be able to monitor this effectively?!
My daughter lives close to the Springwater Trail, so I am concerned about homeless camps "popping" up, as they continue to do so along the Springwater Trail. *On Question 3 &4 ranked: 2B =1, 2A =2, 1 =3
Thank you for your hard work! We hope to one day enjoy the trail!
Feel that a small town that has limited space is not a good option for a trail of this size. We have plenty of parks for our town needs.
Question 7: Stop asking this question. Question 8: Also heard on TV Other feedback: Also, even though its a great idea in theory- its just basically a path to more crime
The city of Portland is out of control. Roads horrible, dirty, trash everywhere, no maintenance being done to infrastructure! Multnomah County is right there with them.
I am also concerned about security issues related to having a trail so near homes and families.
No trail. Sidewalks needed in many areas.
The Bellingham Greenway is directly behind my house. We've had homeless problems, drug deals, and upkeep concerns. I'm afraid it (this new project) will turn in another Springwater Trail/homeless debacle.
I strongly oppose this project, since Metro has shown that it can't assure that camping and crime and garbage can't be policed.
We don't want it!
Build it please!
This trail is very concerning for safety reasons. 2 of these proposed options wrap around an elementary school- the road is not visible. How will you secure?! Concerned about crime, homeless, trash & drugs.
Our government should focus on current issues such as fixing the existing roads and the challenges with our expanding homeless population. Today, expanding/creating additional trails/paths will only encourage homeless expansion into our city- would be willing to revisit in 3 years once these issues are corrected.
Since the election, I have not felt safe on the rural roads. There seems to be an entitlement to harass bicyclists.

Please identify how it would be paid for, who will maintain it, who will police it, why has Gresham rejected it and where on this route can anyone not already walk, run, or bike?
Strong preference for nature, view, = 3A Biking/walking along busy streets are noisy and fumes from cars unhealthy.
Are you going to reimburse the depreciated value of our home back to us when we decide to sell and this trail has brought crime to our neighborhood and negatively affected our resale value?
When I was looking to purchase my home, I looked at a few houses near the Springwater Trail. I was actually scared by the surroundings. We asked some of the neighbors and they said if they had a choice they wouldn't live near the trail. That was why I moved further out to Troutdale.
Do not think it is needed.
You can't take care of and keep people safe on existing. Now you want more!? Money Trails Crime
Very upset about how this will bring crime, waste drugs to a safe area. Not to mention the way it negatively impacts homeowners house value. No no no
Why?
Crime rates between us & Gresham? Where is the money coming from to keep up this trail and keep homeless out!?
ABSOLUTELY NOT!
Nice Job!
No means NO!! We experienced a sex offender living in our woods - and Gresham did nothing.
I think Stark and Troutdale road work fine as is. Or Stark to Columbia Hwy for bikes.
257th is the best route
Cyclists who have $4,000+ bikes do NOT leave bikes down the road at a "bike hub." We need bike racks in Troutdale near the eating places! We need to watch our bikes even though they are locked.
Grow the community into the future by adding infrastructure. Fear does not build healthy communities.
Options 3A & 3B are bad and should be dropped. too expensive too unstable Keep the canyon more natural with no bike trails. Private property & bridge
Please build trail :)
We do not want this in our town
Make 238th 4 lanes so 257th won't continue to grow as a freight route.
Nothing in the region, including the Sandy River Delta, has indicated to me that you, the city, or the county has the desire or ability to keep these trails clean. They are an invitation to homeless, criminal activity, and a decrease in housing value. Please use this $ to police other Areas instead of providing access to my backyard.
I do not support or even think it wise to consider a trail that follows Beaver Creek Canyon. Building along existing streets, with safety considerations, should be pursued. *Written on question #3: Option 2B- 1, Option 2A - 2, Option 1 - 3, Option 3A and 3B - No
East county needs more non-car connectivity.
Do not open Troutdale to more problems as seen on Springwater. Delta park is already a mess and danger!
Thank you for the open house. I gathered more information here than expected. Well done all!
Reasons against: 1. Enough trails now 2. Money spent 3. Maintenance (cost) 4. Can't maintain trails and parks now 5. Environmental 6. CRIME 7. HOMELESS

Safety issues Lets not do this
We moved out of the City of Portland to be away from problems. We do not want or need any trails in Troutdale
We need to take care what we have first. Parks for one, more police
Fill the potholes first! Put people first. House the homeless. Not a trail for a home.
I see no success in maintaining the Spring Water Trail. I doubt the ability to do so in Troutdale.
Preserve Beaver Creek coho run. Keep humans out and away from creek.
No way!!! But will you listen? Hell no! Typical Metro
Not in Troutdale! (Comment written next to "Mailer sent to your home": funny- did not get mailer!!) Comment card 13
Really don't like any of the options. Think it is a bad idea.
The trail is past its time.
We do not want this!
We don't want any trail here.
No Trail in Troutdale!
No trail
Trails were planned perpendicular to roadways - not parallel. If the original documents said Master Plan Objectives 4. Develop trail standard 5. Identify ordinances or policies for agency implementation Why didn't you do this on Springwater Trail?
We do not want this. It will only bring more crime to the area. Go away Metro!

What additional feedback would you like to provide (from online comment form through March 8)?

Verbatim responses from online comment form:

I do not approve of the plan to make a loop at all. It is not necessary and will make Troutdale a highway for illegal activities and a more dangerous place, just like the Springwater Corridor. Please do not do this to our community.
The trail is not wanted. I do not feel safe on the current one with my children any longer therefore why would I want it in my neighborhood. Clean up the mess that is already there and show us you can maintain it before expanding it.
It seems that the City of Troutdale is asking its residents if they want the trail. Metro seems to be telling residence to choose the trail.
I have lived in Troutdale for 40 years, have raised my kids here.
The Multi-Modal path network should be viewed as an international tourist draw. With the Columbia River gorge and Pacific Crest trails in reach, connecting the network paths, including the Salmonberry, will pay for itself long term in job creation and economic development. Focusing on serious investment on high quality paths will create a more robust, but defuse, economic base for many more in the region than investing in a convention center hotel for example.
Development of the region is desired. This may take time and affordable housing stock is the only long-term solution to homeless/camping.
No thank you to this trail.

I can't support this project because it hasn't been properly managed elsewhere and because those of us living in east county don't necessarily want to be a part of something Portland does.
Let's not stop progress because we're not able to overcome a few obstacles like campers. Let's not be the cities who stopped the development of the 40-mile loop.
Keep your "trail" out of my neighborhood
I used to be excited about this project. Now it just concerns me as we are giving homeless people a way to move out here.
Associating the issues with the homeless this last year and a bike trail is irrational. I've been biking on the Springwater Corridor for the last five years and until the Portland Mayor change the policy for public camping the trail was fine. Please allow this to be based on facts and not "alternative facts".
Please DO NOT use the Metro green space along Troutdale Road. We do not want this beautiful area used and destroyed by unwanted and unwelcome homeless campers. We are currently using taxpayer dollars to improve the Beaver Creek area to be more hospitable to returning native fish. What a waste it would be to have this restoration be polluted.
totally bad idea! This will only bring all the Portland homeless crime and trouble to Troutdale
No on the trails in Troutdale.
Do NOT put an extension of the Springwater Trail in Gresham or Troutdale. The majority of people don't want it.
No trail in Troutdale!
As stated previously, I'm concerned more about the safety of our neighborhoods. The other issue would be the cost and methods of paying for and maintaining it. We are already overburdened with taxes and fees (another name for taxes). The cost of living continues to increase making it more difficult to make ends meet.
Please say no. Thank you.
I would much rather see our parks updated, Sunrise, Kiku and Weedin. They are very run down. I would like a place to play, take my dog and would love a SKATEBOARD area, even if it's not a huge decked out skate park. Troutdale should be more Dog friendly in the parks. I clean up after my dog, as well as others, who did not. There is more trash in the parks from kids, McDonald's and Plaid Pantry than from dogs. It would be nice to have the parks get a little love. I would gladly volunteer to help.
Troutdale does not need a trail. We should do the same thing as Gresham and reject the trail from our community!
No trail in Troutdale or Gresham
TROUTDALE RESIDENTS DO NOT WANT THIS TRAIL.
We need to have a more bike friendly plan out here in East County. I do not trust cars much out here and the more we can create a system that keeps bikes safe yet encourages bicycling as an activity the better.
I would like to again beg you to not run the trail through our greenway or neighborhood. It will surely ruin a good thing. Please do not do it.
No trail wanted! We already have enough issues out this way

Part of my property and the property of my neighbors would be required to establish one of the routes in the unincorporated part of Multnomah County. None of us support the trail. I moved here from S.E. Portland where I lived 1/4 mile away from the trail. After our 17 years of what we experienced because of that trail, we DO NOT want to be that close to it again. Until the existing trail meets the intended vision of those that support the trail, we will not even consider it.
The trail could run right next to my mother in laws house. She is adamantly opposed to this trail. She is almost 70 and is terrified of the crime and vandalism it could bring, knowing the existing problems with the current trail.
Please hear us out. I love the idea of it but it's not what we want and has proven unsuccessful and problematic where it already exists.
I love this idea! I am torn between a direct route and a nature trail though.
I live at the top Beaver Creek Canyon. I beg you, do not mess with this pristine area by asking for vandals and garbage.
I am 100% against this trail, it will become a Haven for the homeless.
The Beaver Creek Canyon is a pristine and sensitive ecosystem which should never be developed for a trail or otherwise. There are many species both plant and animal that could not survive or thrive with more people trapsing through its beauty. Please save what little natural spaces we have left.
Concerned that I have only just learned about this from friend. I live on Evans Ave with beaver creek right behind my house and do not wish to have a trail in my backyard. I'm glad I get a chance this way at least to voice my opinion on the matter. It seems to me to make much more sense to keep to the roadways and not disturb Beaver Creek more than it has been. I believe much more cost effective as well to stay to roadways. I'm afraid that if you put the trail through Beaver Creek we'll end up with the same problems as they have on Spring Water Trail. Absolutely a bad mistake !!!
From my understanding, Metro will only consider this project if the City of Troutdale asks for it. But that hasn't been clear in any of the marketing materials. I only got this information in a direct email from a staff member at Metro.
I live in Fairview and was excited when the Fairview loop was opened. It is now filled with homeless camps. I have personally experienced hostility towards me; campers blocking my way, yelling threats and one chasing me on their bike. I really like the crime prevention through environmental design, if it is monitored. Metro is great at committing money to projects like these and then washing their hands of it. Tax payers money spent without sustainability is a waste. Please consider monitoring and making it the safe place the literature portrays. Thank you.
I do not support any continuation of the trail until the homeless crisis is solved. If Metro wants to increase the ability of people to walk or bike more places, then sidewalks should be added-- not an extension of the trail.
As a frequent cyclist and walker I fully support this project!
I do not want an extension to the Springwater Trail going through East Gresham
Please do NOT do this. We live right near the gorge and many other trails, improve the ones we have. Spend the $$ on other areas, open it up to public input, not elite Metro overlords.

I've rode my bike from Gresham to Portland. Getting from Troutdale to the Springwater Corridor was kinda scary.
Neighborhood website for Responsible Government
Do not want this trail in Troutdale
Please consider the needs of what this trail will do to folks living in the area. The impact of the Springwater on adjacent homeowners in Gresham has been very negative. I know because I used to live on the Springwater trail and moved because of the increased crime and homeless encampments in the area.
I moved to Troutdale to be away from "Foot Traffic." There is plenty of space for walking already if anyone chooses to do it!
No trail!
I think the trail would be a great addition to our community
Troutdale needs to inform all neighbors and residents along proposed trails. Neighbors are going door to door word of mouth. Troutdale has done nearly no communication with those most impacted
I would like the residents of Troutdale to be allowed to vote for or against this trail not which route is the best this vote is not fair to Troutdale residents.
SERIOUSLY, NO TRAILS NEAR MAIN ROADS!
Good luck with making this important project happen
Many of us moved out here to get away Portland's rif raf that has now invaded Gresham. We do not want more people, more congestion of traffic, or the garbage that is left behind.
Two of us hike five days a week. Trails in the area are wonderful. The best are the natural parts of Springwater and Saddle Trail. Neighbors have expressed fears about Springwater, so more positive reports would be more realistic and reduce the level of fear.
Never want to see this happen unless our community is like Lake Oswego
This trail is such an incredible asset for everyone in this community and surrounding areas. Please don't let the "not in my backyard" people who have an out of proportionate fear of the homeless and crime ruin this for the rest of us. We need to fix any problems and maximize the enjoyment of our natural resources.
We do not need a connecting trail through Troutdale, all it will do is bring homeless and crime into our neighborhoods.
Don't do this. It will not be good.
I want to be supportive of this project but it brings me a great amount of sadness to think about what will happen if it goes through our neighborhood on Evans Ave. It will take away the biggest reason we moved there in the first place, privacy.
I do not want this in Troutdale!
I belong to the Portland Wheelmen and am very interested in the project. Found out about it through Bike Portland website and emails from member of the club.
I understand there was a recent open house for residents to voice their opinions, I only wish I was available to attend to voice my strong opposition to this proposal.
Mailer and social media Neighborhood
Horrible Idea!! What are you thinking????

This is another idea that looks great yet isn't necessary since we have bike lanes and sidewalks. I have been taking my kids by bike to downtown Troutdale for years and have never needed a special path. I don't live in the area of Beavercreek that the trail is proposed yet can't imagine how crappy it would be to live there and then have a new super highway of low level crime, trouble, and bad visits. Use roads that are here already, make them safer, and don't take away lanes on the road (leave removing lanes to our idiot bigger brother to the west we call Portland).
Thanks for trying to spread more homeless camps into east county.
Would very much appreciate getting weekly, at least, updates from the Parks Department about all the current & potential trails they are responsible for.
Do NOT build this trail. Unless you want to see trash spread all over Troutdale and raise the crime rate. I am against it entirely. There is better places to put this money to use like supporting local schools and maintaining roads. I don't need this trail
I am opposed to the trail in any part of Troutdale.
Hope the project will be completed. (In my lifetime. I'm 70.). It's a jewel in Portland's chest of treasurers. The concerns of the neighborhood around Evans must be addressed. I hope (and think) the homeless camps last year was an aberration from the norm. Must be addressed, for many reasons. Hope the horse trail options can happen. Kids used to ride our horses on the field roads to the Oxbow horse trail head at the end of Homan Rd. We live on Dodge Park Blvd even though the address is Gresham.) Best wishes, and remember, there will always be the NIMBY folks.
Please stop trying to bring more people east.
People are saying is not a good idea to do this project due to safety
As a resident on Evans Ave I am concerned about how much this would change the privacy we enjoy on our currently quiet neighborhood. That is why we moved here and we don't want that taken away
I think you missed in including something in your survey. An option to choose none of the above. How one sided a survey can you get? You are not asking if anyone even desires to have such a trail in their area. If we could control the transient camping on the trails already in existence, I would probably be in favor of this trail. However through sad experience in watching the torment of homeowners and renters alike whose property or safety have been put at risk, I have zero desire to create such an environment in my neighborhood.
Don't do it. No one in Troutdale wants it. Like I said before, all you'll be doing is creating habitat for transients. Fix that problem first.
Prefer lower cost Sandy Ave. option with pylons rather than barrier with street-widening.
Troutdale already has a homeless population problem and the crime rates are rising, this project will only add more problems to the city and will lost citizen populations. I have grown up in Troutdale and I love the closeness of the town, but I will move if this plan comes to be.
Again...just to be clear...WE DO NOT WANT THIS TRAIL AT ALL!!! Use the money for existing parks or to clean out the homeless...they ruin areas, crime goes up...NOT HERE!!!!!

I don't believe this is a good use of our tax dollars, and there have already been many issues with the Springwater Trail that we don't want to emulate. Please don't build the trail.
Would much rather see existing Metro Beavercreek acreage at Stark/Troutdale road developed. This place is already a haven for transient encampments.
I am vehemently against the extension of the trail past its current location. That being said, this is a project that would complement our community if it were not for the criminal element and homeless camps. I am aware of the problems these folks cause and would continue into our community. until this issue is resolved I am an opponent. I missed the last meeting due to sickness but am following it closely. Good day.
lets not build a trail system if the out of towners want to ride their bikes out here, use 257th or troutdale rd. I dont need a bunch of people we don't know riding their bikes through our neighborhood.
I would like to see the trail that ends near Reynolds Middle School be continued to Blue Lake Park and the trail along Marine Drive.
After all the problems experienced elsewhere in Portland with this trail, it would be INSANE to bring more of those problems here. We do not live in Utopia, despite the delusions of the project planners.
Troutdale already has many wonderful parks for citizens. The city budget is already stretched to maintain them. How will we pay for taking care of a trail that will bring more users & problems. I for one will not support increased taxes.
The council needs to respect the citizens of Troutdale. It seems to be that most citizens are against the trail. I am particularly concerned that the council and Mayor will not really listen to the people.
Fix the streets, **school crossing** bridges and potentails areas for land slides. Do what's important! Troudale looks like a dump now!
This project may open a passage to vagrants between Lewis & Clark SP and Springwater corridor. I don't see that it is needed. Perhaps $$ should be allocated to keeping wind-generated debris (branches and plastic bags) off our main streets and sidewalks, e.g. 257th.
No trail for Troutdale please. There are PLENTY of other ways to spend Troutdale's money. We don't need another trail, there are trails everywhere already.
What benefit do we get from making a trail over just adding adequate sidewalks to button road? From the college there is bike lanes all the way to Troutdale and the historic highway.
Don't destroy Troutdale. Already way too much industrial and traffic here. Supposed to be residential!!
I think you could be spending our money a little bit wiser on current projects other than another Spring Water trail. This is a bad idea and I don't want it at all.
DO NOT PUT TROUTDALE ON THE MAP BY ADDING US TO THIS TRAIL
I see great opportunity connecting communities. There are great prospects for fun-runs and other activities on the route.

Fully support the trail. Concerns with homeless and crime not likely to occur. Need for safe bike routes in the area
I would actually prefer that there be no trails built or designated. There are literally miles of trails very close to the area already.
No more bike roads! Spend the money on improving the roads we actually drive on.
This is a terrible idea. I don't want to see the trail connected thru our Town/neighborhood.
I am not a fan of this proposal in really any way. One of the best things about living in Troutdale is that we already many options for safe parks and trails very close to everybody. Having lived next to the springwater trail for years before I know that a trail like this will allow unwanted activity and make my family feel less safe. We moved away from and area with a trail like this and now we are faced with is again.
The current Beaver Creek trails only allow out and back running (no loop) which means having to go past the barking dogs twice. The Jackson Park portion would be very helpful to me (We live in River Court townhouses).
I live along the route and fully support this project. I think it would be great for Troutdale economics and that the concerns of people regarding the Springwater Trail are blown out of proportion regarding this project.
Any of the trail options would be great for quality of life and public safety by creating a path separate from traffic that connects the community.
There is no need for this extension of the 40 mile loop. Please use the money for more relevant Troutdale needs.
It needs to be placed on the voting ballot.
I do not want this project to go forward. I do not want any more homeless people living on the route nor do I want any more crime in Troutdale. I live in this area for the specific reason that it is relatively crime free and free of homeless people. Please use this money for some kind of project to improve the livability of Troutdale no decrease it, A leash free dog park and rebuilding the Imagination Station would be a better use of this money. I vote no on the proposed project
We moved to Troutdale from Portland to remove ourselves from the issues that the Spring Water Trail and light rail have created. We like the small town feel, yet being close to PDX for doctors, etc. It has created easy access for homeless people to our neighborhoods.
Who will patrol it and keep things safe. I personally have big concerns after what I have seen take place on the Springwater trail. it's no longer safe, crime has exploded.
my neighbors and myself do not want this in our neighborhood
This project has been poorly handled and was in the process of being shoved through without public input. Thankfully people got wind of it and stepped up. Shame on Metro - you've behaved like a big bully
Gresham and troutdale DO NOT want this trail extension. I have several family members who live in troutdale... we don't want it!!!
Do not make Troutdale a bum haven.
We don't want this through our neighborhood period for route 2a or 2b

Frequent cyclist and runner. Though I live in Clackamas country I use the Springwater corridor often. Having an option to not only visit Troutdale restaurants but to access other areas would be great. Our running club frequently runs out there but doing so on a corridor would be much safer.
This is a very bad idea for our community....very opposed!! I have no confidence that this extension will be any different then what already exists. This will serve as a freeway from 1000 acres to the rest of gresham and portland for all the homeless to commute. My vote is a huge No!!!!
We have plenty of opportunities for outdoor activities and walking biking trails. We have seen how the Springwater trail has diminished the quality of life, safety, and decreased property values. NOT INTERESTED
Do not do this!
A lot of people, a lot of whom don't ride bikes or walk, are concerned that having the trail will increase the homeless population in Troutdale. I see that as the biggest obstacle for us to overcome to get popular approval.
As voters, we would like you to gather data from relevant projects such as the Gresham -Fairview trail regarding property value, crime rate, homeless population , homeowner satisfaction. The Oregon Metro needs to release all their studies instead of just referring to studies that were performed in other states. We do not know the relevance of these studies. Are they meta-analysis, quantitative, qualitative...? Why are you not addressing creating new policies to protect homeowners and community members?

Additional written comments (from flipchart/post-it notes written at the in-person meeting)

The following notes were captured on flipcharts or post-it notes at the information stations – specifically at the Route Options, Maintenance and Public Safety, and Thinking Ahead stations. Comments were either written by attendees or transcribed by staff on behalf attendees during conversation.

- There have been large homeless camps on the trail next to the Sandy River (e.g. under bridge, etc)
- Agencies are not taking care of infrastructure currently and shouldn't start something new to maintain - complaints about gravel on bike lane/sidewalk currently, enforcement issues regarding camping
- Don't want people behind their yard due to safety concerns (this was regarding Option 1)
- Need more connecting and continuous bike/ped infrastructure, i.e. bike lane on Troutdale Rd from Stark to Division; bike parking in front of Troutdale businesses
- Who decides on plan, how will it be funded
- Prefer on road routes for perceived safety (lives in Sandy Palisades and is supportive of trails)
- Concerned about constraints along ROW in Option 1 - narrow areas
- Questions to ensure would not impact traffic- congested intersections
- Putting the trail next to an elementary school is not a good idea- seemed to be related to safety, they didn't think students lived in neighborhood that would be along path
- Concern about traffic safety issues of having pedestrians near the road (particularly the cross section at end of Buxton where there is not a large buffer)
- Will there be good trail markings/signs so public safety can respond quickly?
- Will size of the trail accommodate police/fire/medical vehicles?
- Schools input regarding children and trail location (bus stops)
- Can sections of the trail be closed during specific times (i.e. evening closure hours)?
- 911 response at 1000 Acres, Camas
- No build option
- More off the road, the better – safer for bikes/peds
- No build – security concerns
- Manage shallow root tree species to avoid future break up of trail surface
- Improve what is already there
- No!
- Don’t reduce lanes on 2-way road
- Yes! Build it now!
- Reduce auto lane width to maximize protection for pedestrians and bikes – keep youth and elders safe from drivers
- But not the homeless
- What happens to home values along a trail? More Portland specific information about Portland area values.
- Long term we need more connectivity that don’t always use cars