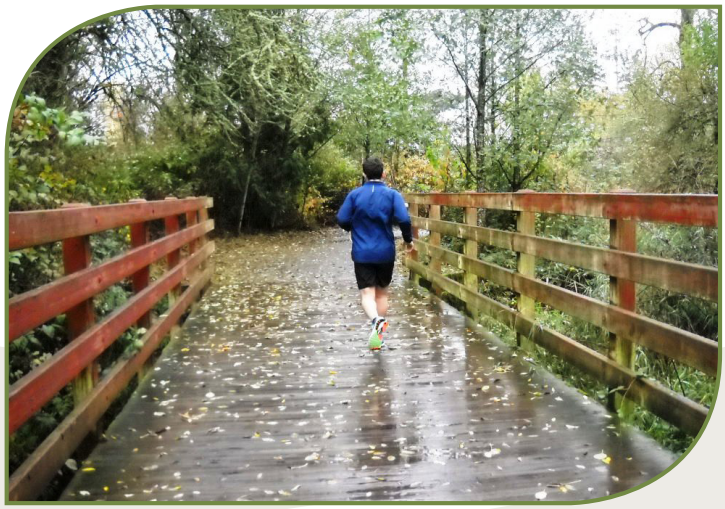

Council Creek Regional Trail Master Plan

Prepared for

City of Banks, Oregon
City of Forest Grove, Oregon
City of Cornelius, Oregon
City of Hillsboro, Oregon
Washington County, Oregon
Oregon Department of Transportation
Metro

Prepared by

Parametrix

Date

May 2015

Citation

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Project Management Team

Lake McTighe – Metro

Derek Robbins – City of Forest Grove

Michele Thom – ODOT

Dick Reynolds – City of Cornelius

Michael Cerbone – City of Cornelius

Mary Ordal – City of Hillsboro

Joy Chang – Washington County

Project Advisory Committee

Jolynn Becker – City of Banks

Seth Brumley – ODOT

Shelley Oylear – Washington County

Tom Gamble – City of Forest Grove

Bill Bash – City of Cornelius

Robert Spurlock – Metro

Stakeholder Advisory Committee

Glenn VanBlarcom – Forest Grove citizen

Greg Vandervelden – Cornelius Parks Board

Howard Sullivan – Chamber of Commerce

Peggy Harris – CPO 15

Steve Boughton – County Bicycle Transportation Coalition

April Olbrich – Tualatin River Watershed Council

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Jose Eduardo Rivera – Centro Cultural

Juana L. Meraz – Centro Cultural

Lyle Spiesschaert – Local resident and farmer

Tom Beck, Forest Grove Planning Commission

Parametrix

Jim Rapp – Project Manager

Gregg Everhart – Lead Trail Planner

Sara Morrissey – Planning

Nora Foote – Planning

Michael Pyszka – Trail Engineering

Dan McIntier – Bridge Engineering

Ellen Dorsey – Mapping and GIS

Chad Tinsley – Mapping and GIS

Sara Granberg – Graphic Design

Saundra Powell – Publications

Becky Mellinger – Publications

Others Assistance Provided

Arturo Villaseñor – Adelante Mujeres

Kaely Summers – Adelante Mujeres

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Appendices A, B, and C are major documents ranging upward of 100 pages each in length. These appendices can be downloaded from the link below.

http://www.oregonmetro.gov/public-projects/council-creek-regional-trail-master-plan

Executive Summary

Trail Purpose

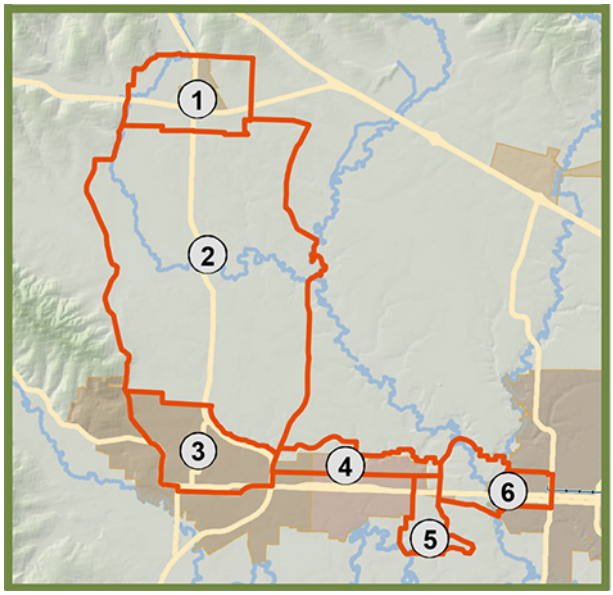
The Council Creek Regional Trail will be a multiuse pathway for pedestrians, bicyclists, and other nonmotorized travelers for both recreational and transportation purposes. The trail will extend almost 15 miles from the Banks-Vernonia Trail in Banks to the TriMet Blue Line MAX station in downtown Hillsboro. The regional trail will connect the cities of Banks, Forest Grove, Cornelius and Hillsboro, a large expanse of productive farmlands between Banks and Forest Grove, and some smaller areas of still unincorporated land within the urban growth boundary (UGB) between Forest Grove and Hillsboro.

This regional trail will pass through rural, suburban, and urban areas—residential neighborhoods, farms, downtowns, commercial, and industrial; cross or follow state highways Oregon 6, Oregon 8, and Oregon 47; and numerous urban and rural roadways; and follow and cross an Oregon Department of Transportation (ODOT) owned rail line. Council Creek will connect to six other existing or planned regional trails and greenways, and to local trail systems.

Study Area

The Council Creek Regional Trail study area consisted of two corridors—North-South and West-East. Smaller segments within these two corridors were identified for planning purposes. Some segment boundaries were modified as outcomes of the existing conditions and trail alignment analysis phases of the master planning process. Two segments defined earlier in the process were combined, and some trail alignments were initially considered that were outside of the original segment boundaries.

Trail Planning Segments



Master Plan

The Council Creek Regional Trail Master Plan is the culmination of a community vision that stretches back almost a decade. Work on the master plan began over 2 years ago. The master plan will provide implementation guidance as local and regional partners embark on efforts to fund, design and build the trail.

The master plan is the product of a combined effort by local, regional, and state governments, a local stakeholder advisory committee, and the many individuals and groups that contributed their ideas. The active government partners are the Cities of Banks, Forest Grove, Cornelius, and Hillsboro, as well as Washington County, Metro and ODOT. Some or all of these jurisdictions may be responsible for the final design, engineering and building of sections of the trail.

In the course of master plan development, trail sections were adjusted or eliminated; trail alignments were decreased, altered or added; and some underlying assumptions were modified, all to reflect partner, public, and stakeholder comments and recommendations. All illustrated trail alignments and trail types in the master plan are plan level, meaning that they have not been subject to survey, final design, or engineering.

The entire process of the Council Creek Regional Trail Master Plan is documented in three plan reports that are included as appendices to the master plan report:

- Plan Report No. 1 – Existing Conditions (February 2014)
- Plan Report No. 2 – Trail Alignment Analysis (July 2014)
- Plan Report No. 3 – Implementation Strategy (December 2014)

Public Review

In addition to technical reviews and analysis conducted by the project consultant and supported by the staff of the partner jurisdictions, a series of advisory committee and public reviews were conducted.

October 2013	Project Advisory Committee (PAC) considered and approved project goals and objectives, scope of work and schedule, and public involvement process.
January 2014	PAC considered existing conditions information.
April 2014	Stakeholder Advisory Committee (SAC) reviewed existing conditions information and full range of possible trail alternatives.
June 2014	Public open house review of the full range of possible trail alignments within the study area.
June 2014	SAC reviewed first public open house outcomes and considered recommendations on the trail alternatives to advance to the next phase.
July 2014	PAC considered trail alignment alternatives and recommendations on the alignments to advance to the preferred alternative phase.
August 2014	Open house review of the trail alignment alternatives identified by the PAC for consideration as the preferred alternatives.
November 2014	Open house review of preliminary preferred trail alternatives and costs, development phasing, and implementation actions.
December 2014	PAC and SAC met jointly to review the outcomes of project open houses, and make recommendations for preferred trail alternatives.

Trail Highlights

North-South – The preferred trail alignment for this corridor extends approximately 9 miles from the north side of the City of Banks to the northeast side of the City of Forest Grove. The corridor is primarily rural and in active agricultural use, except for sections in Banks. The preferred alignment passes through Banks, farmland in rural unincorporated Washington County, the unincorporated community of Verboort, and to the edge of Forest Grove. Outside of Banks, the multiuse trail aligns along the edges of existing county roadways, minimizing impacts on farmlands, stream corridors and wetlands. As private land acquisition for the north-south trail will be on a willing seller basis, an interim trail solution relying on shared-use of these county roadways is also included as part of the master plan.

West-East – The second trail corridor extends approximately 5.5 miles from downtown Forest Grove to downtown Hillsboro. Sections are in Forest Grove, Cornelius, and Hillsboro, and urban unincorporated Washington County between Cornelius and Hillsboro. A north-south "spur" trail to the Tualatin River is also included. The corridor is primarily urbanized, or planned for residential, commercial and industrial uses. Except for the Tualatin River spur, the entire west-east trail will be located within an existing rail right-of-way. A rail-with-trail solution is proposed, but final design could vary depending on changes in the future use of the corridor for freight or commuter train or other transit service.

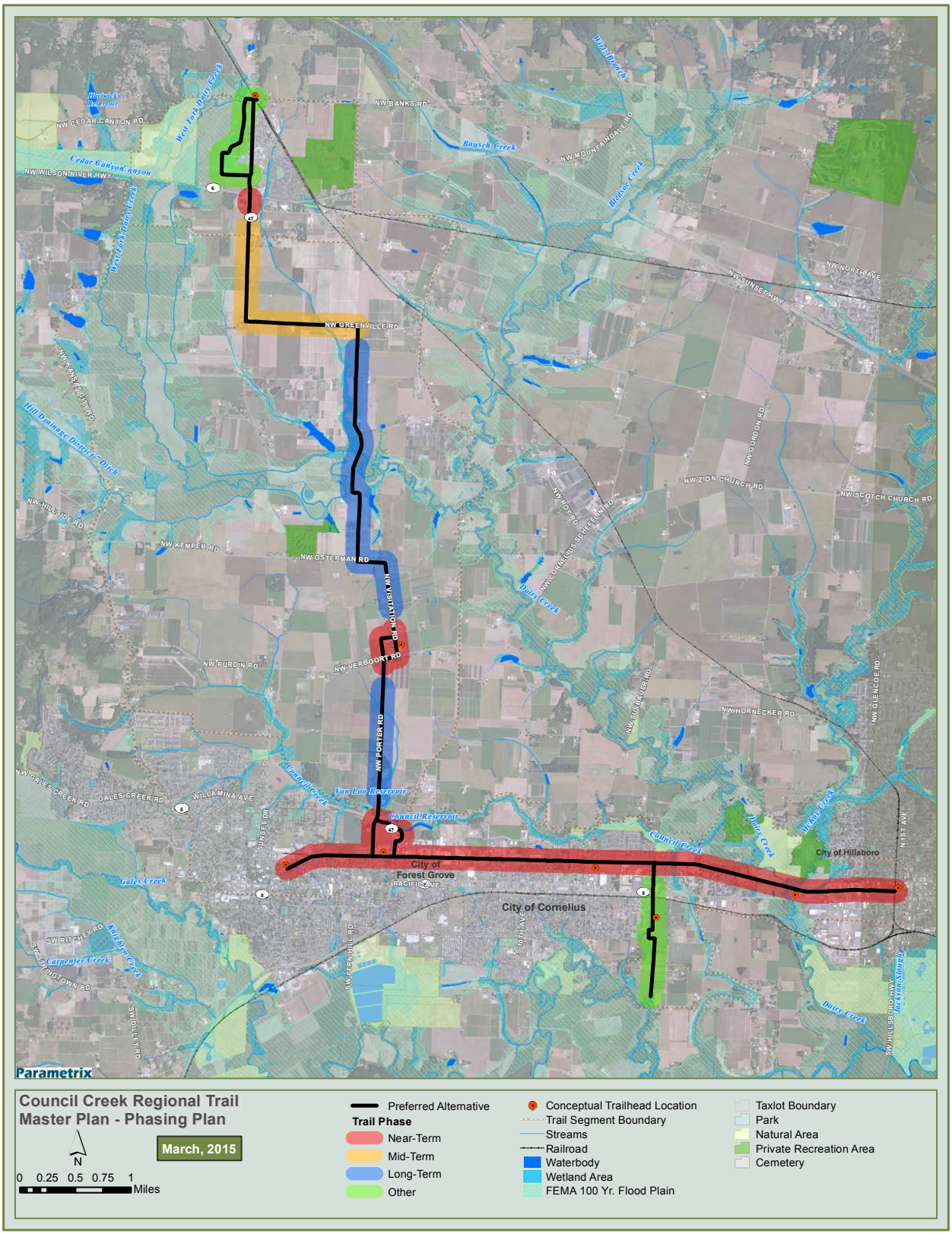
Plan Implementation – Trail Cost and Phasing

Cost estimates are plan level and subject to change based on survey, design and engineering, actual property acquisition costs, and the timing of trail development.

Banks to Forest Grove (Segments 1 and 2)	$27,149,400
Forest Grove to Hillsboro (Segments 3, 4 and 6)	$22,164,550
Tualatin River Spur Trail (Segment 5)	$2,611,500

Many factors will influence trail construction phasing and time frames. The timing and feasibility of property acquisition and availability of construction funding are primary drivers. Phasing will also be influenced by changing jurisdictional authority and priorities, public and private development, and evolving regional and local plans. The preferred trail alignments in both corridors and suggested phasing at the time of completion of this master plan are illustrated on the map that follows.

Council Creek Regional Trail
Preferred Alignment and Phasing Plan



Council Creek Regional Trail Master Plan - Phasing Plan

March, 2015

N

0 0.25 0.5 0.75 1 Miles

- Preferred Alternative
- **Trail Phase**
  - Near-Term
  - Mid-Term
  - Long-Term
  - Other
- Conceptual Trailhead Location
- Trail Segment Boundary
- Streams
- Railroad
- Waterbody
- Wetland Area
- FEMA 100 Yr. Flood Plain
- Taxlot Boundary
- Park
- Natural Area
- Private Recreation Area
- Cemetery

1: Plan Background and Development

Project Context and Location

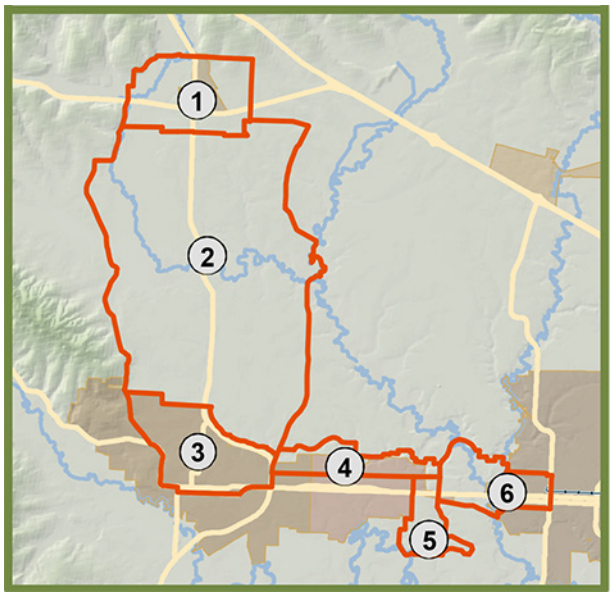
The Council Creek Regional Trail (CCRT) will be a multiuse pathway for pedestrians, bicyclists, and other nonmotorized travelers for both recreational and transportation purposes. The trail will extend almost 15 miles from the Banks-Vernonia Trail in Banks to the TriMet Blue Line MAX station in downtown Hillsboro. The CCRT will connect through rural, suburban, and urban areas—residential neighborhoods, farms, downtowns, commercial, and industrial. The CCRT will cross or follow state highways Oregon 6, Oregon 8, and Oregon 47; and follow and cross a rail line and numerous urban and rural roadways.

The CCRT Master Plan is a partnership of the cities of Banks, Forest Grove, Cornelius, and Hillsboro, Washington County, Metro and the Oregon Department of Transportation (ODOT). Some or all of these jurisdictions may be responsible for the final design, engineering and building of sections of the trail. The CCRT will pass through the four cities, a large expanse of productive farmlands between Banks and Forest Grove, and some smaller areas of still unincorporated land within the urban growth boundary (UGB) between Forest Grove and Hillsboro.

Trail Planning Corridors and Segments

The CCRT study area consists of two corridors – North-South and West-East. Smaller segments within these two corridors were identified for planning purposes. See Map 1 below. Some segment boundaries were modified as outcomes of the existing conditions and trail alignment analysis phases of this planning process. Two segments defined earlier in the process were combined, and some trail alignments were considered that were outside of the segment boundaries.

Map 1. Trail Planning Segments



North-South Trail Corridor

The preferred alternative for this corridor extends approximately 9 miles from the north side of the City of Banks to the City of Forest Grove. The original corridor was bounded by NW Thatcher Road and NW Kansas City Road on the west, and on the east by NW Martin Road, NW Marsh Road, and NW Roy Road (3 to 4 miles wide). The corridor is primarily rural and in active agricultural use, except for Banks and portions of Forest Grove. The preferred trail alternative will pass through the City of Banks, rural reserves south of Banks in rural unincorporated Washington County, through the unincorporated community of Verboort to Oregon 47, and to the north edge of Forest Grove.

Planning segments within the North-South Corridor are:

- **Segment 1: Banks**
- **Segment 2: Washington County North**

West-East Trail Corridor

The second trail corridor is less than 3,000 feet wide in some places and extends for approximately 5.5 miles from downtown Forest Grove to downtown Hillsboro. Council Creek is generally the original corridor's northern boundary, and Oregon 8 was generally the southern boundary. Portions of this corridor are in the cities of Forest Grove, Cornelius, and Hillsboro, and in urban unincorporated Washington County between Cornelius and Hillsboro. A north-south "spur" trail to the Tualatin River is also included. The corridor is primarily urbanized, or planned for residential, commercial and industrial uses. There are some high value natural resource lands along stream corridors and two remaining active commercial agricultural areas.

Planning segments within the West-East Corridor are:

- **Segment 3: Forest Grove**. This segment was originally included in the North-South Corridor, but was shifted when the joint PAC/SAC decision was made to extend the trail along the rail corridor into downtown Forest Grove.
- **Segment 4: Cornelius**. The west end of this segment includes areas of incorporated Forest Grove.
- **Segment 5: Jobes Ditch**. North-south in orientation. Accommodates a spur trail to the Tualatin River that would connect to the CCRT main stem trail at the east end of Segment 4.
- **Segment 6: Hillsboro – Washington County East**. This segment includes urban unincorporated lands that were brought within the Cornelius UGB in 2014.

Master Plan Reports

The CCRT Master Plan was developed in four phases, and each phase is reported in a standalone plan report:

- **Plan Report No. 1** – **Existing Conditions (February 2014)** – Described and mapped factors that may impact trail planning and development by each planning segment, as well as by existing conditions, including existing plans, design opportunities and challenges, natural resources, transportation, land uses and structures, and major utility corridors (see CCRT Master Plan Appendix A).

- **Plan Report No. 2** – **Trail Alignment Analysis (July 2014)** – Analyzed and mapped a range of trail alignment alternatives and trail types. This report documents public, stakeholder, and advisory committee processes and outcomes through July 2014, including alignment alternatives recommended for further analysis as the preferred alternative (see Appendix B).
- **Plan Report No. 3** – **Implementation Strategy (December 2014)** – Analyzed the alignments identified for additional consideration in the preceding phase, and provided trail design typology and conceptual cross sections, cost estimates, assessments of partner jurisdiction authority for trail development and operations, regulatory requirements, and a preliminary phasing plan (see Appendix C). This report also documents public, stakeholder and advisory committee processes and outcomes after July 2014, including preferred trail alternative recommendations made by the Project Advisory Committee (PAC) and Stakeholder Advisory Committee (SAC) meeting jointly in December 2014.
- **Master Plan** – The master plan describes and maps the preferred alternatives recommended in December 2014, and summarizes key existing conditions and implementation strategies developed as part of Plan Report Nos. 1 and 3. Recommended trail alignments, trail types, and roadway and stream crossings shown in the master plan have not been subject to survey, final design, or engineering.

Goals and Objectives

The CCRT Master Plan *Project Delivery and Quality Control Plan* details overarching master plan project goals, objectives and processes (Appendix D). This document states:

> *The Council Creek Regional Trail (CCRT) Master Plan will recommend a comprehensive strategy, including trail alignment alternatives and implementation actions, for the development of an uninterrupted 15-mile-long regional trail corridor from downtown Hillsboro through the cities of Cornelius and Forest Grove and then north across rural unincorporated farming areas in Washington County to the City of Banks. Specific master planning process objectives are to:*
>
> - *Coordinate the inputs and actions of the various project jurisdictional partners, and other stakeholders.*
> - *Engage local jurisdictions, property owners, citizens, businesses, and other stakeholders in the CCRT's development.*
> - *Collect and summarize baseline information on the existing conditions within the CCRT corridor and in immediately abutting areas.*
> - *Analyze specific trail segments within the trail corridor addressing opportunities and constraints with respect to roadway and railway crossings, stream and wetland impacts, urban and rural land uses, and other opportunities and limitations, to best assure trail sections and segments can be constructed to regional trail standards.*
> - *Develop implementation and phasing strategies.*
> - *Produce draft CCRT Master Plan documents available for jurisdictional, stakeholder, and public review and distribution.*
> - *Produce a final CCRT Master Plan to guide local jurisdictions in the planning, design, permitting, and development of the trail.*

Advisory Committees

The master plan process benefited from the input and guidance of three committees. Committee membership is listed on the Acknowledgments page of this master plan report. Committee roles and responsibilities, and the original project meeting schedule, are included as Appendix E.

Project Management Team (PMT)

The PMT met regularly over the course of the project to review project schedules, processes and preliminary deliverables; and to address issues raised during project outreach events such as public open houses. The PMT consisted of a staff representative from the Cities of Forest Grove, Cornelius, and Hillsboro, as well as from Washington County, Metro, and ODOT.

Project Advisory Committee (PAC)

The PAC consisted of PMT members, plus a staff representative from the city of Banks, and one additional official each from Forest Grove, Cornelius, Washington County, and Metro. The PAC met four times in the course of the master plan process.

- **October 2013**: Considered and approved project goals and objectives, scope of work and schedule, as well as public involvement processes.
- **January 2014**: Considered existing conditions information.
- **July 2014**: Considered trail alignment alternatives and recommendations on the alignments to advance to the preferred alternative phase.
- **December 2014**: Joint meeting with the Stakeholder Advisory Committee (SAC) to review the outcomes of project open houses, and make recommendations for preferred trail alternatives.

Stakeholder Advisory Committee (SAC)

SAC membership was drawn across a wide range of interests including the environmental, bicycling, neighborhood, business and agricultural communities. The SAC met three times in the course of the planning effort.

- **April 2014**: Reviewed existing conditions information and full range of possible trail alternatives.
- **June 2014**: Reviewed first public open house outcomes and considered recommendations on the trail alternatives to advance to the next stage of the planning process.
- **December 2014**: Met jointly with PAC.

Stakeholder and Community Engagement

The project's Public Involvement Plan (PIP) stated the following goals. The full PIP is included as Appendix F.

- *Ensure effective coordination and communication between jurisdictional partners and stakeholders and related projects taking place within the trail study corridor.*
- *Engage local jurisdictions, utilities, neighborhoods, property owners, citizens, bicycle and pedestrian advocates, area nonprofits, businesses, and other stakeholders directly in master plan development.*

- *Guide jurisdictional partners on future planning, design, permitting, and development of the trail.*
- *Host activities and provide tools that will add value to the project and genuinely engage the community in an open and transparent process.*
- *Keep the public informed with accurate, up-to-date information.*
- *Build trust and a long-term relationship with the community.*
- *Maintain a level of flexibility with the process.*

In the course of the master plan process, the PMT determined that the timing and number of outreach and advisory committee meetings as scheduled in the original PIP should be moved forward to better assure early and effective stakeholder and public input. Accordingly, SAC and PAC meetings, and an open house originally scheduled for presentation of the draft final master plan, were moved to the trail alignment analysis and implementation strategy phases of the project. Washington County, through the support of county staff and approval by the county commission, provided additional funding to hold a third public open house.

Hispanic Community Outreach

The CCRT Public Involvement Plan (see Appendix F) included a section specifically addressing Hispanic community outreach. The cities and rural areas of western Washington County have large Spanish speaking populations. As participation in project open houses proved, the Hispanic community strongly supports improved bicycle and pedestrian options. Local nonprofits Adelante Mujeres and Centro Cultural had representatives on the project's Stakeholder Advisory Committee. Arturo Villaseñor of Adelante Mujeres worked with the Project Management Team to coordinate outreach efforts.

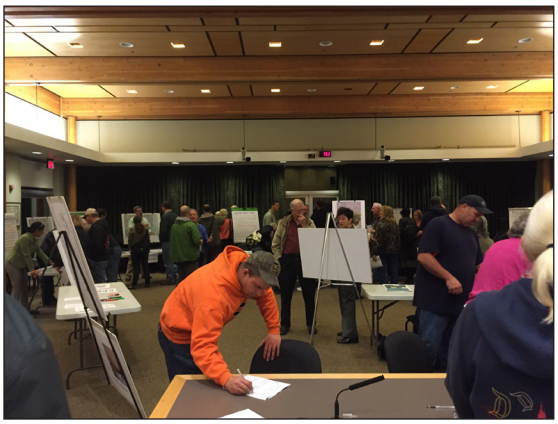
Through the support of Metro staff and the Metro Council (Resolution No. 14-4511), in particular Councilor Kathryn Harrington, additional funding was provided to engage the Hispanic community in this master plan. This funding provided for:

- Production of a written project overview in Spanish distributed through Adelante Mujeres and Centro Cultural, and the City of Forest Grove.
- Translation of public notices, project materials and display posters into Spanish for use at project open houses and for other outreach efforts such as farmers markets.
- Spanish translators provided by Adelante Mujeres and Centro Cultural at project open houses, and a open house resource table staffed with Spanish speakers. In addition, Parametrix, using the services of a native Spanish speaker on staff, recorded and transcribed open house notes in Spanish. The City of Hillsboro also assigned a native Spanish speaker on staff to the open houses.
- Booths at Summer 2014 farmers markets staffed by Spanish speakers and project information and surveys in Spanish and English.

Public Open Houses

The first and third open houses were held at the Forest Grove Community Auditorium. The second open house was held at the City of Cornelius Council Chambers.

- **June 4, 2014**: Reviewed the full range of possible trail alignments within the study corridor. Approximately 60 individuals attended this meeting. Public input on concerns and ideas for trail development was recorded. In addition, 47 project questionnaires were submitted. Open house records are included in Plan Report No. 2.
- **August 27, 2014**: Reviewed the set of trail alignment alternatives identified by the PAC for consideration as the preferred alternatives, and solicited public comments and suggestions for additional alternatives. Approximately 60 individuals attended. In addition, 15 project questionnaires were submitted. Open house records are included in Plan Report No. 3.
- **November 5, 2014**: Reviewed preliminary preferred trail alternatives and costs, development phasing, and implementation actions. Approximately 50 individuals attended. In addition, 15 project questionnaires were submitted. Open house records are included in Plan Report No. 3.



Stakeholder Interviews

Supplementing the community open houses, members of the project team met formally and informally with individual stakeholders throughout the planning process. Twelve formal interviews were conducted. Records of these interviews are included as appendices in Plan Report Nos. 2 and 3. Metro hosted a project website providing opportunities for interested parties to review all draft and final plan reports, and this master plan report.

2: Existing Conditions

Existing conditions within the CCRT study area present a wide range of opportunities and challenges for trail development. These include existing and planned land uses, property ownership and control, natural resources and other physical features, and transportation. For a complete review see Plan Report No. 1 – Existing Conditions (Appendix A). Additional existing conditions information and impacts, particularly with respect to applicable jurisdictional guidelines and regulations, are summarized in Plan Report No. 3.

Key conditions and features that may impact the preferred north-south and west-east trail corridors and preferred trail alignments and types include:

Table 1. North-South Corridor (EAST 1) Existing Conditions and Features

Condition or Feature	Impact
Private land ownership	• Extensive land acquisition required for multiuse trail alignment
Multiple jurisdictions	• Banks has authority to build trails • County can only build trails in road right of way, preference for trails along street edges makes County participation feasible
Wetlands/nonwetland waters/ floodplain	• New or improved crossing structures and bridge over West Fork Dairy Creek and associated wetlands/floodplain • May require special permitting and mitigation • Opportunity for habitat enhancement
Vegetative cover	• Native vegetation highly altered, primary trail impact will be on wetlands and riparian vegetation
Fish and Wildlife	• Limited ESA species reduces trail siting challenges • All structures—boardwalks, bridges, culverts—should be wildlife passage friendly
Flat topography	• No special structures or treatments required to be ADA-compliant
Highway crossings	• Crosses OR 6 by widening existing undercrossing, eliminates need for new crossing
Lower traffic local roadways	• Provides for safer and better quality bicycling and walking experience • Several collector and arterial roadways will be crossed, requiring bike/ped safety improvements • Trails along street edges in County will require right-of-way widening
Land uses/structures	• Passes through community of Verboort • Close to agricultural uses and buildings, making property acquisition more complex and requiring variations in trail type
Utilities	• Transmission power poles along some road sections will constrain trail siting • Irrigation lines along some road sections will limit siting options, particularly where transmission power poles are opposite

Table 2. West-East Corridor (RAIL 1) Existing Conditions and Features

Condition or Feature	Impact
Private land ownership	• Trail entirely within road or rail right of way except in Segment 5.
Wetlands/nonwetland waters/ floodplain	• New or improved crossing structures over Jobes Ditch and Dairy Creek, and associated wetlands/floodplain • May require special permitting and mitigation • Opportunity for habitat enhancement
Vegetative cover	• No major native vegetation impacts
Fish and wildlife	• Limited ESA species reduces trail siting challenges • Boardwalks, bridges, culverts should be wildlife passage friendly
Flat topography	• No special structures or treatments required to be ADA-compliant
Highway crossings	• Jobes Ditch spur trail (Segment 5) crosses a state highway (OR 8) • Crosses OR 47 in Forest Grove. Two conceptual options proposed (see Chapter 6).
Higher traffic roadways	• Several collector and arterial roadway will be crossed requiring bike/ped safety improvements
Rail	• Sharing MAX or freight rail with trail complicates design solutions (see Chapter 4)
Land use/structures	• Direct impacts to land use/structures negligible as trail is primarily within rail right of way • Some indirect impacts from increased use of rail corridor; safety and security fencing recommended • Commercial/industrial section of rail lessens visual quality of bicycling and walking experience
Utilities	• Power lines along north side of rail may impact trail siting (see Chapter 4)

Existing Plans

A variety of regional and local government plans and policies will impact CCRT development. These include plans related to conventional transportation, active transportation (including trails), parks and open space, and land use.

The most significant finding regarding the 22 regional and local plans reviewed at the outset of this project is that with one exception (see Local Plans on the next page) all either support the CCRT directly or support trails and active transportation alternatives to motorized travel. Nine other statewide or local guidance and regulatory policy documents were reviewed later in the process. Results are documented in Plan Report No. 3, and are summarized in Chapter 5 of this master plan.

Regional Plans

Metro is responsible for regional planning on behalf of Washington County and three of the four local government jurisdictions participating in the CCRT planning effort (Banks is not within Metro). Three Metro planning documents support pedestrian and bicycle systems and regional trail development.

- Regional Transportation Plan (2013)
- Regional Active Transportation Plan (2014)

- Regional Trails and Greenways Plan (2014)

Local Plans

Washington County and the four partner cities have adopted numerous long-range plans addressing land use, trails and bicycle/pedestrian systems, parks and open space, and transportation. All plans reviewed, except for the Forest Grove Rail Concept Study (which nonetheless indirectly supports alternative transportation options), supported pedestrian and bicycle systems and trails and, in many cases, specifically identified the CCRT. See Plan Report No. 1 (Appendix A) for complete information.

Natural Resources

Vegetative Cover

Farming and forestry practices, and gradual urbanization in the CCRT study area have greatly altered woodland, valley, and stream corridor vegetation from historic patterns. Because of these losses, remaining native vegetation will present few constraints to trail development, except where associated with wetlands and riparian woodlands. Opportunities for wetland and riparian enhancement and prairie grassland restoration may arise as part of trail development.

There are four major habitats crossed or along the preferred trail alignments:

Farmlands

There are extensive and productive farmlands between Banks and Forest Grove (Segments 1 and 2). Segments 5 and 6 between Cornelius and Hillsboro also have remaining areas of farmland.

Farmlands in the valley floor were once prairie grassland habitat with oak savannah and other tree species. Although agricultural practices have greatly altered historic ecosystems, many grassland species, such as pollinators, insects, small mammals, and birds, are still present.

Urbanized Lands

Significant portions of Segments 1, 3, 4, and 6 are highly urbanized. Development has greatly reduced intact contiguous areas of native vegetation, and landscaping practices have introduced many nonnative plant species.

Valley Woodlands

Nonriparian woodland remnants include small woodlots surrounded by agricultural lands, and wooded residential areas. Many woodland wildlife and bird species will forage into farmlands and nearby suburban areas.

Wetlands and Riparian Woodlands

Wetlands and riparian areas crossed by the preferred trail alignments are along West Fork Dairy Creek (Segment 2), the main channel of Council Creek (Segment 3), and Dairy Creek near the confluence with McKay Creek (Segment 6). There are also numerous minor stream and drainage corridors, but many of these have been highly altered by channelization, draining, and/or the removal of riparian vegetation.

Wetlands and riparian habitats support pollinators and insects, smaller and larger mammals, and a variety of water-dependent reptiles and amphibians. Bird species that favor wetter environments are also common. Bridges and boardwalks, and careful trail siting along habitat edges or through previously disturbed areas, are recommended to avoid impacts. Trail development should be an opportunity to restore and improve these habitats.

Streams and Water Bodies

Streams crossed by the preferred trail alignments include the West Fork of Dairy Creek (Segment 2), Council Creek (Segment 3), and Dairy Creek near the confluence with McKay Creek (Segment 6).

Trail crossings of streams should be avoided if at all possible, and bridges and boardwalks, rather than culverts, should be used if a crossing is necessary. The design of crossing structures should take into careful consideration the preservation of stream and riparian habitat and passage for fish and wildlife. Bridges and boardwalks, and careful trail siting along habitat edges or through previously disturbed areas are recommended to avoid impacts. Trail development should be an opportunity to restore and improve these habitats.

Floodplains

East of Oregon 47, the West Fork Dairy Creek floodplain begins to narrow from the broad floodplain west of the highway (Segment 2). The Council Creek floodplain in Segment 3 is considerably more proscribed than that of West Fork Dairy Creek. Within Segment 6, the 100-year floodplain created by the confluence of Council, Dairy, and McKay Creeks significantly broadens.

Trails across floodplains should be avoided if possible, but trail alignments and treatments can be more flexible and adaptive than in wetland or riparian areas. Siting of trails outside of 10-year and 50-year floodplains and along edges of the 100-year floodplain will reduce the possibility of inundation. Trail structures in floodplain areas should be constructed to withstand intermittent flooding, and elevated structures such as boardwalks should be considered to avoid impeding floodwaters.

Fish and Wildlife

Although there are some federal Endangered Species Act (ESA)- and state-listed fish and wildlife species present within the CCRT study area, preferred trail alignments avoid most areas of high fish and wildlife value—stream corridors and associated riparian zones and wetlands. High value areas impacted by the preferred alignments are limited to improving two existing crossings of West Fork Dairy Creek (Segment 2) along NW Evers Road, improving or replacing the existing NW Porter Road bridge across Council Creek (Segment 3), and reuse or replacement of an existing railroad bridge across Dairy Creek (Segment 6).

Roadways and rail lines, and the lack of suitable connecting habitat due to urbanization and farming, are the primary barriers to wildlife movements across and along the preferred trail alignments. Higher traffic volume and wider streets in particular pose difficulties to wildlife passage, as can active rail lines. Future trail builders should consult Metro's Westside Trail Master Plan (2014) Chapter 6, Wildlife Corridors, for principles of habitat restoration and conservation and wildlife friendly passage treatments developed within the context of the Tualatin Valley.

Environmental Overlay Zones/Mitigation Areas

Some CCRT municipal partners have established land use regulations defining environmental or natural resource overlay zones. Only the City of Hillsboro's overlay around Dairy Creek (Segment 6) may be impacted by a preferred trail alignment, but the location of this section of trail within an established rail corridor will greatly limit or eliminate potential conflicts. No designated environmental mitigation sites are crossed by a preferred trail alignment.

Steep and Unstable Slopes

The preferred trail alignments are mostly along flat valley bottomland. Topography should not be a significant challenge to trail siting. The West Fork Dairy Creek (Segment 2), Council Creek (Segment 3), and Dairy Creek (Segment 6) have steeper slopes along stream banks. Slope impacts will be mitigated by using boardwalks and bridges for trail crossings.

The Oregon Department of Geology and Mineral Industries (DOGAMI) documents unstable slope conditions. According to the DOGAMI records, there are no unstable slopes along the preferred alignments.

Hazardous Materials

The preferred trail alignments do not cross or abut any hazardous materials sites documented by the Oregon Department of Environmental Quality (DEQ).

Soils and Geology

Except for soils associated with streams and wetlands, none of the soils along the preferred trail alignments pose significant constraints to trail development.

Transportation

Rail

The rail line extending from near the Pacific University campus in Forest Grove to the vicinity of the MAX station in downtown Hillsboro presently supports limited freight rail service. This line is a possibility for a future MAX light rail extension or some other form of high capacity transit.

This rail line corridor is the preferred west-east CCRT alignment.

Roadways

The preferred CCRT alignment will require several new arterial and collector roadway intersection or midblock crossing improvements. See Chapter 4.

Regional Trails and Bikeways

The CCRT preferred trail alignments will connect to, cross, or parallel the following existing or planned regional trails, bikeways, and greenways.

Table 3. Regional Trails

Segment 1	Banks-Vernonia Trail, Path to the Pacific Trail
Segments 1, 2, and 3	Tualatin Valley Scenic Bikeway
Segment 3	Gales Creek Trail*
South of Segment 3	Yamhelas Westsider Trail*
Segment 5	Tualatin River Greenway
Segment 6	Dairy Creek Greenway

*Connects via local trails that are or will be part of Forest Grove's "Emerald Necklace" trails vision.

Transit

TriMet provides transit and bus services within Segments 3, 4, and 6. The eastern terminus of the CCRT will be in downtown Hillsboro in the vicinity of the MAX Blue Line light rail station near N First Avenue (Segment 6). A possible extension of light rail or high capacity transit from Hillsboro to downtown Forest Grove could use the freight rail line that crosses Segments 3, 4, and 6.

Land Uses and Structures

The preferred CCRT trail alignments will connect to major destinations or activity generators such as schools, outdoor recreation areas, and civic and commercial centers. Existing land uses and structures can also significantly reduce the options for trail siting. A range of land uses and structures are documented in Plan Report Nos. 1 and 2.

Lands between Segment 1 and Segment 3 in unincorporated Washington County are primarily designated Rural Reserves under Metro authority and zoned Exclusive Farm Use under County code. Specific land use standards in the County's Rural/Natural Resources Plan and Community Development Code may apply to trail development.

Historic and Archaeological Resources

Oregon State Parks and Recreation (OPRD) manages a historic and archaeological preservation inventory program which identified the following resources near the preferred trail alignment.

Table 4. Historic Resources

Segment 1	Fifteen historic sites or within the city limits of Banks.
Segment 2	There are over a dozen historic sites and buildings in Segment 2 in or near to the community of Verboort.
Segments 3, 4, and 6	Only one designated historic or archaeological resource (Hillsboro Pioneer Cemetery), although the rail line itself is historically significant given its original function as an early 20th Century electric rail commuter service connecting Forest Grove to Portland.

Conflicts between documented historic resources and the preferred CCRT alignments should not be a factor. Historic sites and buildings are destinations for pedestrians and bicyclists, particularly where there are larger concentrations of such sites, as is the case around the community of Verboort (Segment 2).

Utility Corridors

Electrical Transmission Corridors

Electrical transmission structures can challenge trail routing. Pole or tower relocation can be very expensive (up to approximately $100,000 per pole set, plus permitting). With transmission-level infrastructure, relocations often involve multiple poles or towers. Utility requirements for maintenance access and vegetation management around and under power transmission infrastructure (wires, poles and towers) can also limit trail options. See Plan Report No. 3 (Appendix C) for more details.

Bonneville Power Administration (BPA): A BPA transmission-scale power line system enters and crosses the larger CCRT study area, but has no direct impact on preferred trail alignments. A BPA power substation near Oak Street (Segment 3) is near the intersection of the north-south and west-east preferred trail alignments, and power lines may pass over short sections of the trail in this location.

Portland General Electric (PGE): A PGE transmission line follows the east edge of Oregon 47 from Banks to NW Kemper Road through Segments 1 and 2. This transmission line then follows local roadways through the community of Verboort. The location of PGE transmission poles may constrain opportunities to site the preferred street-adjacent multiuse trail in these areas.

A PGE transmission line also follows the north side of the preferred CCRT rail corridor alignment through Segments 4 and 6. The location of these power poles may challenge trail-with-rail solutions.

Agricultural Irrigation

Tualatin Valley Irrigation District (TVID): Routes over or along major agriculture irrigation lines operated by TVID are possibilities for street-adjacent multiuse trail siting along the preferred alignment in Segment 2. These TVID lines parallel nearly the entire preferred alignment though these segments, except for the trail section along Oregon 47 south of Banks.

Trail use is limited by TVID and Bureau of Reclamation policy and would require special agreements with these agencies and with the underlying private property owners. PGE

transmission lines on the opposite side from TVID lines along NW Visitation Road and a portion off NW Osterman Road further complicates CCRT siting.

Sewer and Water

No preferred trail alignments conflict with major sanitary sewer and drinking water lines or structures.

Natural Gas and Petroleum Pipelines

No preferred trail alignments conflict with major natural gas or petroleum pipelines.

3: Preferred Trail Alignments

Overview

Plan Report No. 1 – Existing Conditions (Appendix A) provides the essential background and context to the technical analysis reported in Plan Report No. 2 – Trail Alignment Analysis (Appendix B). This analysis established the set of trail alternatives advanced to consideration as preferred alternatives. Plan Report No. 3 – Implementation Strategy (Appendix C) documents the considerations and processes that resulted in preferred alternative recommendations by the SAC and PAC.

All illustrated trail alignment alternatives and trail types are conceptual and plan-level and have not been subject to survey, final design, or engineering.

Master Plan Evolution

CCRT alignments and trail types evolved significantly as an outcome of technical analysis, public input, and advisory committee review. Comparative trail alternative criteria were developed and approved by the PAC. These criteria were applied to the range of alternatives published as part of Plan Report No. 3 (see Chapter 8).The selection of preferred alternatives in December 2014 also reflected stakeholder and public input, including identification of an interim shared-use on-street solution through the North-South Corridor (Segments 1 and 2).

Key changes and decisions with respect to trail alignments and types over the course of the project are summarized in Table 5 below, and illustrated on the three maps that follow (Maps 2, 3, and 4) showing the alternatives under consideration in April, July and October 2014. Capitalized names below (WEST, RAIL, CREEK, etc.) are those applied to various alignment alternatives. See Plan Report Nos. 2 and 3 for details and complete mapping. Map 5 shows the preferred alternatives selected by the SAC and PAC in December 2014. The preferred alternatives are described and mapped in more detail in the balance of Chapter 3 of this master plan report.

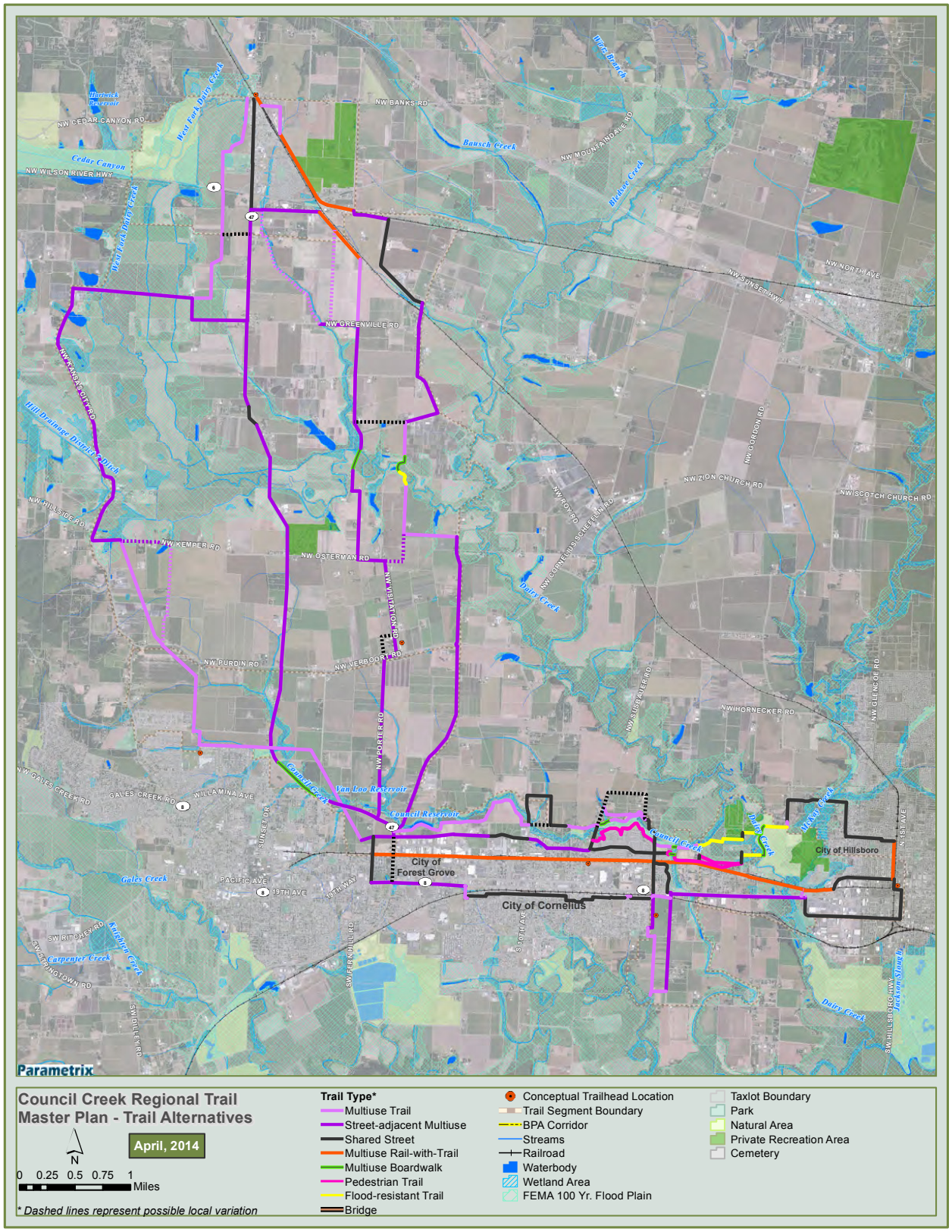
Table 5. Changes to Trail Alignments and Types (April 2014 to November 2014)

Segment 1: Banks
Original WEST option dropped to avoid extended crossings of farmland and a new crossing of OR 6.
Original CENTER option dropped at request of City to avoid undue impacts on Main St (OR 47) through downtown Banks. In late 2015, new City trail system plan may recommend use of Main St.
Added new combined WEST/CENTER option that used planned City collector road alignment and existing OR 6 undercrossing.

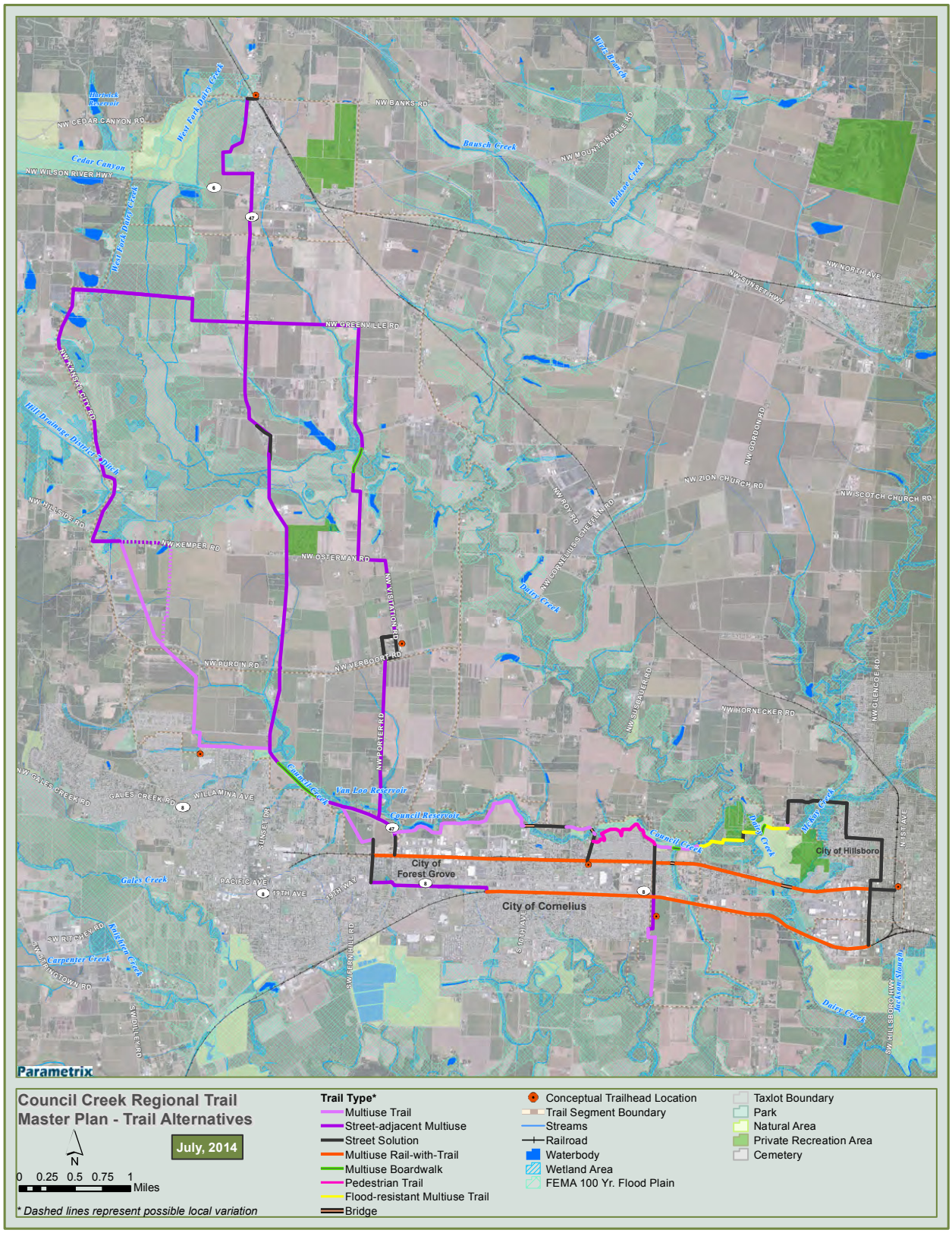
Segment 2: Washington County North
WEST and EAST connector routes to OR 47 shifted from local roads to collector (NW Greenville Rd) to align with Tualatin Valley Scenic Bikeway, and to eliminate farmland crossings.
All trail alignments involving crossings of farmland dropped, except for BPA corridor (WEST).
Only trail alignments along street edge of farmlands used, except BPA WEST.
Use of NW Thatcher Rd (WEST) dropped – too many farm impacts.

On-street solution used through Verboort community rather than separate trails, including for last 500 feet on NW Visitation Rd before NW Heesacker Rd.
Shared-use on-street option retained as interim alternative for all of EAST 1, except OR 47 approaching Banks.
On-street option retained as interim alternative for all of EAST 1.
On-street option recommended as permanent solution for first 500 feet at north end of NW Porter Rd to avoid impacts on farm improvements.
Segment 3: Forest Grove
West-East trail route along rail corridor extended into downtown Forest Grove.
Segment 4: Cornelius
Use of future N Holladay St roadway extension between OR 47 and N 10th Ave identified as possible route alternative to the along-the-creek CREEK option.
CREEK between N 10th Ave and N 19th Ave realigned to use street ROW and willing seller property only.
All trail alignment options north of Council Creek between N 19th Ave and NW Hobbs Rd dropped.
Use of north side of RAIL 1 further analyzed with ODOT, TriMet, and PGE input (south side remains the more technically feasible and cost effective option).
RAIL 2 option added at suggestion of urban unincorporated property owners (subsequently dropped based on Union Pacific Rail policy).
Segment 5: Jobes Ditch
Option along NW 334th Ave impacting rural reserve farm properties dropped, recommended option (N 29th Ave extension) exclusively in UGB.
Segment 6: Hillsboro/Washington County East
CREEK modified to use on-street option rather than separate trail along portion of golf course.
Use of north side of RAIL 1 further analyzed with ODOT, TriMet, and PGE input (south side remains the more technically feasible and cost-effective option).
New connector option between CREEK and RAIL 1 added to allow combination of two options.
RAIL 2 option added at suggestion of urban unincorporated property owners (subsequently dropped based on UPRR policy).

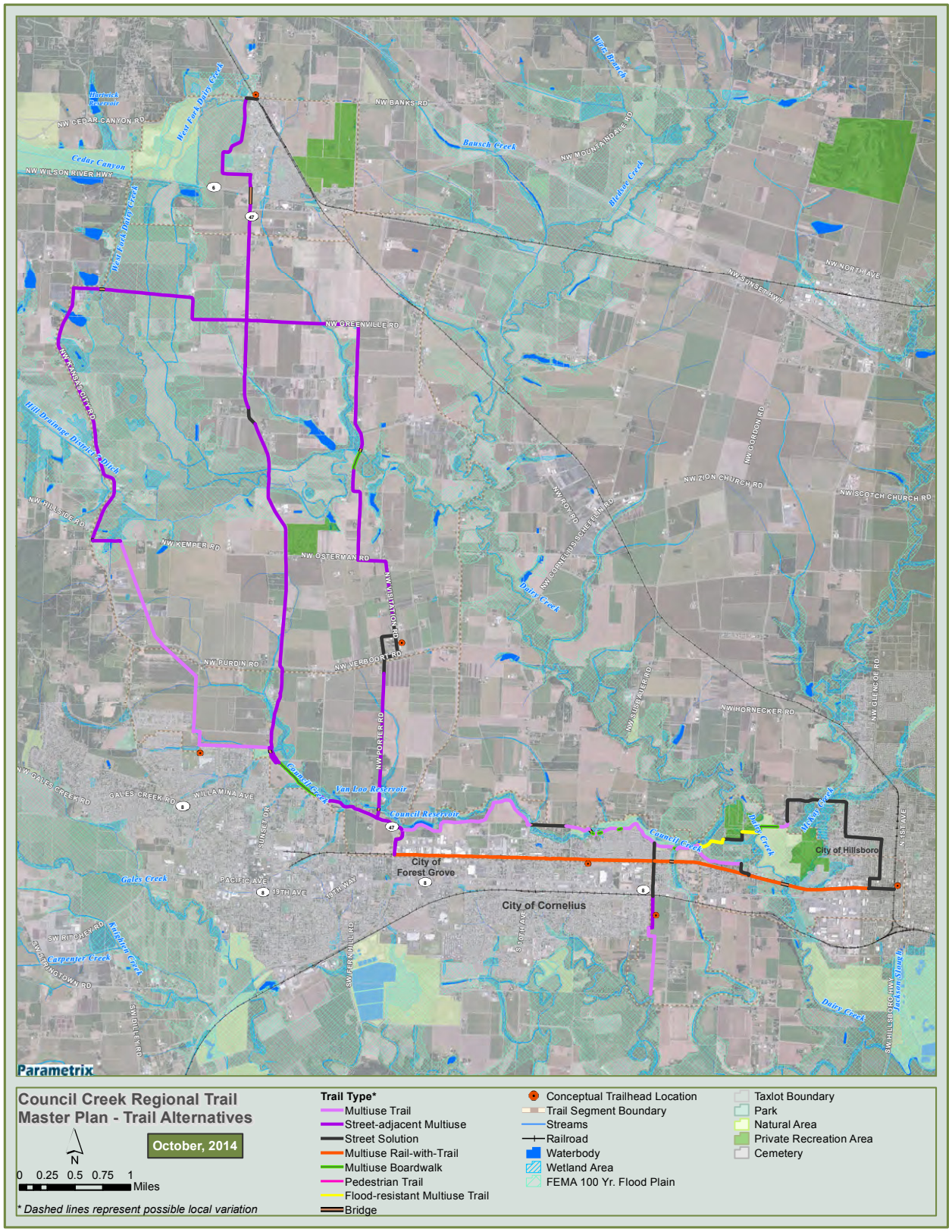
Map 2. Trail Alignment Alternatives – April 2014



Map 3. Trail Alignment Alternatives – July 2014



Map 4. Trail Alignments Alternatives – October 2014



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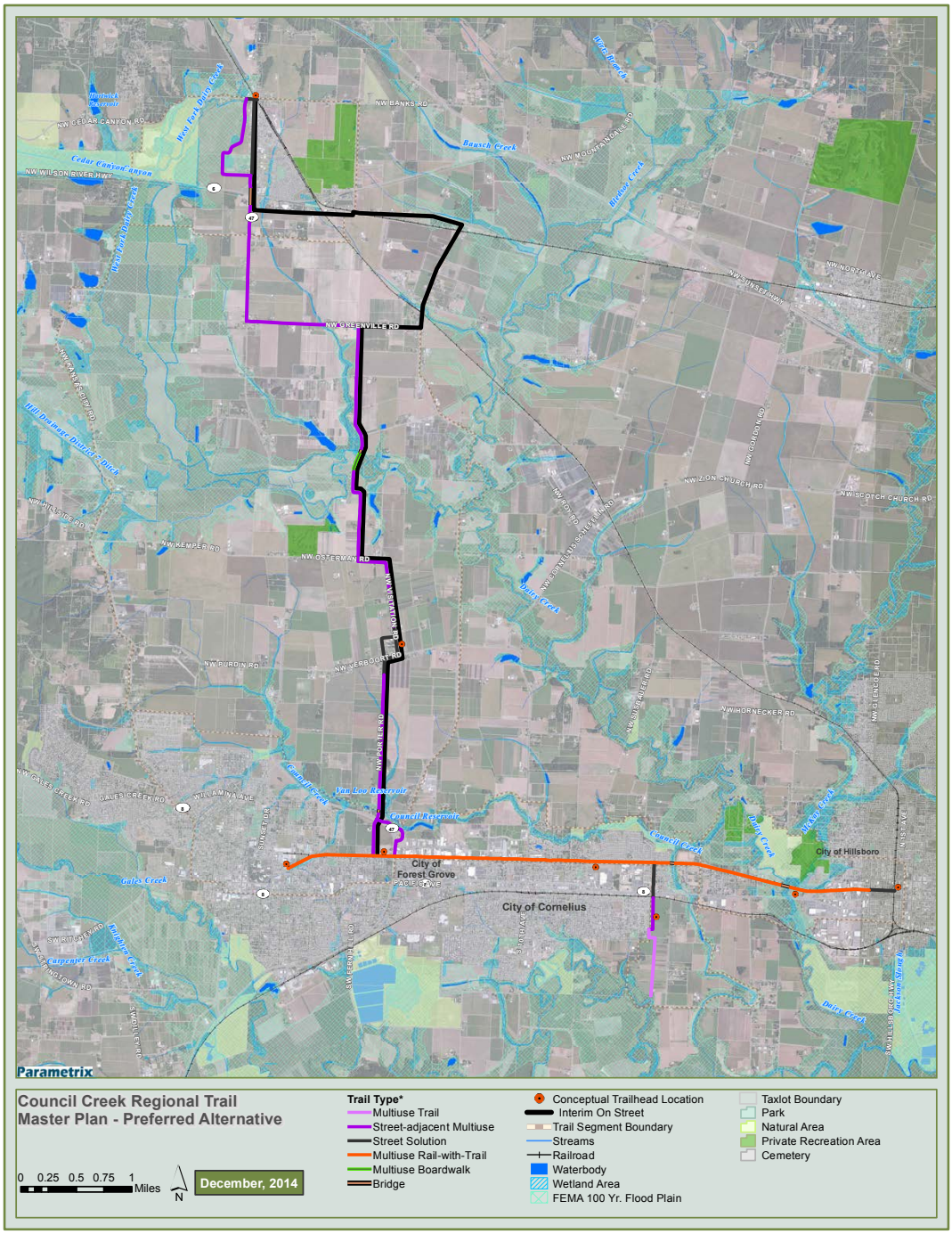
Preferred Trail Alternatives

Overall and north-south and west-east corridor maps follow illustrating the preferred alignments and trail type alternatives as recommended by the PAC and SAC in December 2014. The preferred alternatives for each trail planning segment are also mapped and key information listed (jurisdiction, trail types, trail design, trail length, estimated costs, and phasing). Conceptual trail type cross sections in each segment are also illustrated. Details of the interim on-street solution shown on Map 5 below can be found in Chapter 6.

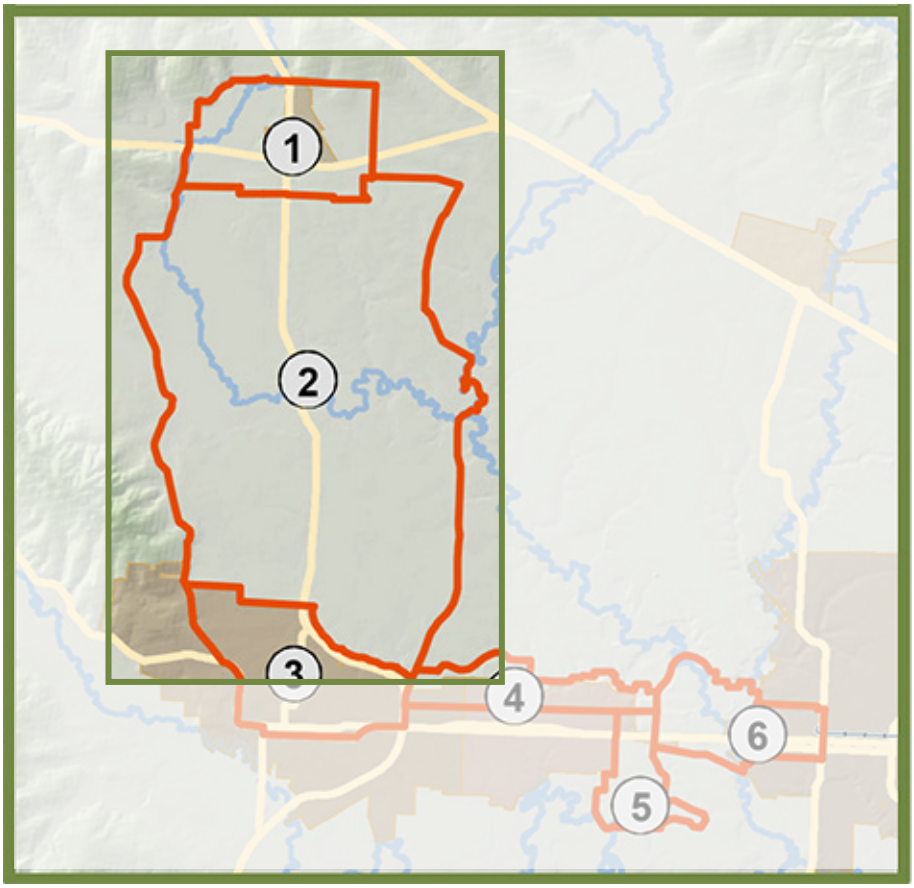
Map 5. Preferred Trail Alternative - December 2014



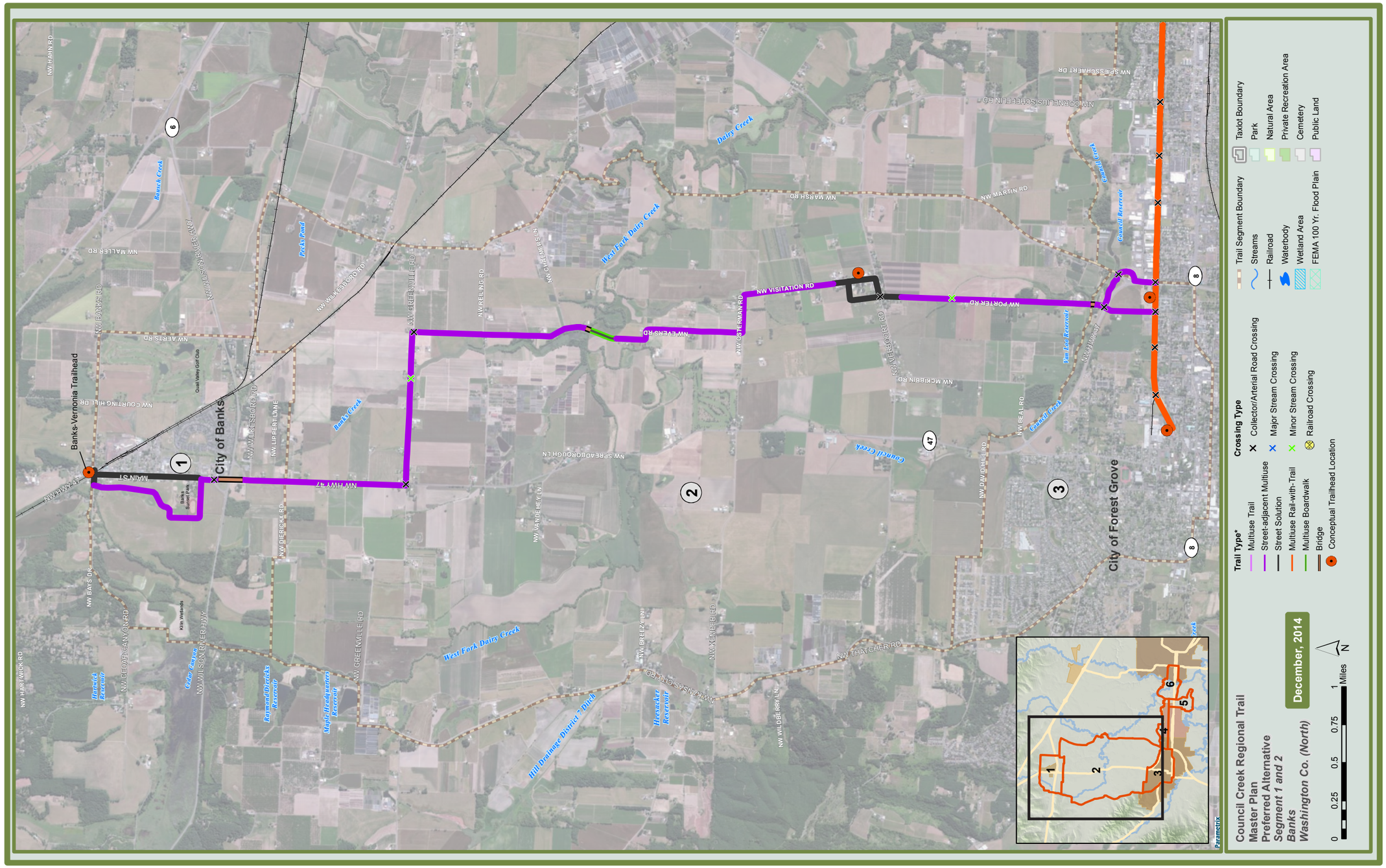
Preferred Trail Alternatives

Segment 1: Banks

Segment 2: Washington County North



Map 6. Segments 1 and 2 | North-South Corridor



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Segment 1: Banks

City of Banks Welcome Sign

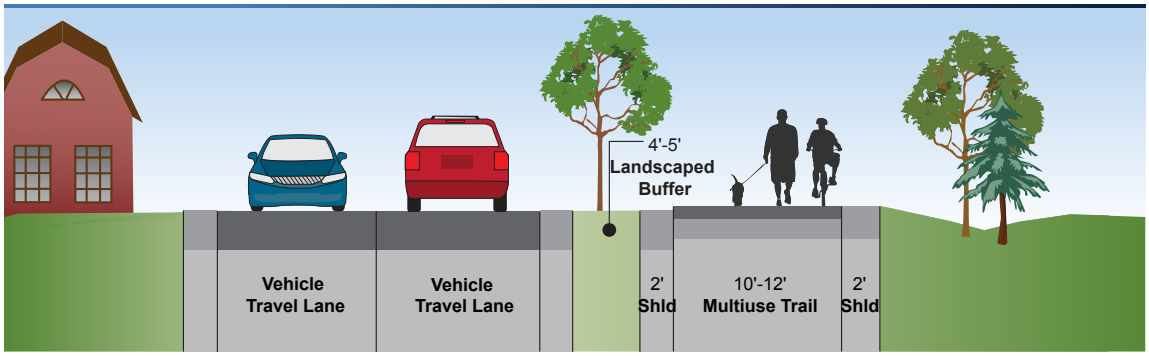
Oregon 6/Oregon 47 undercrossing looking south

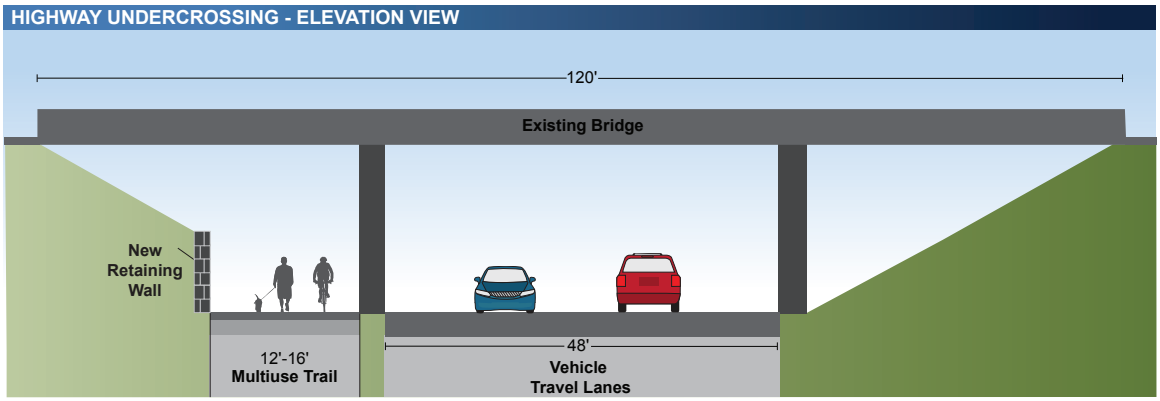
Banks-Vernonia Trailhead

Proposed Westside Circulator Roadway route

Segment 1: Banks

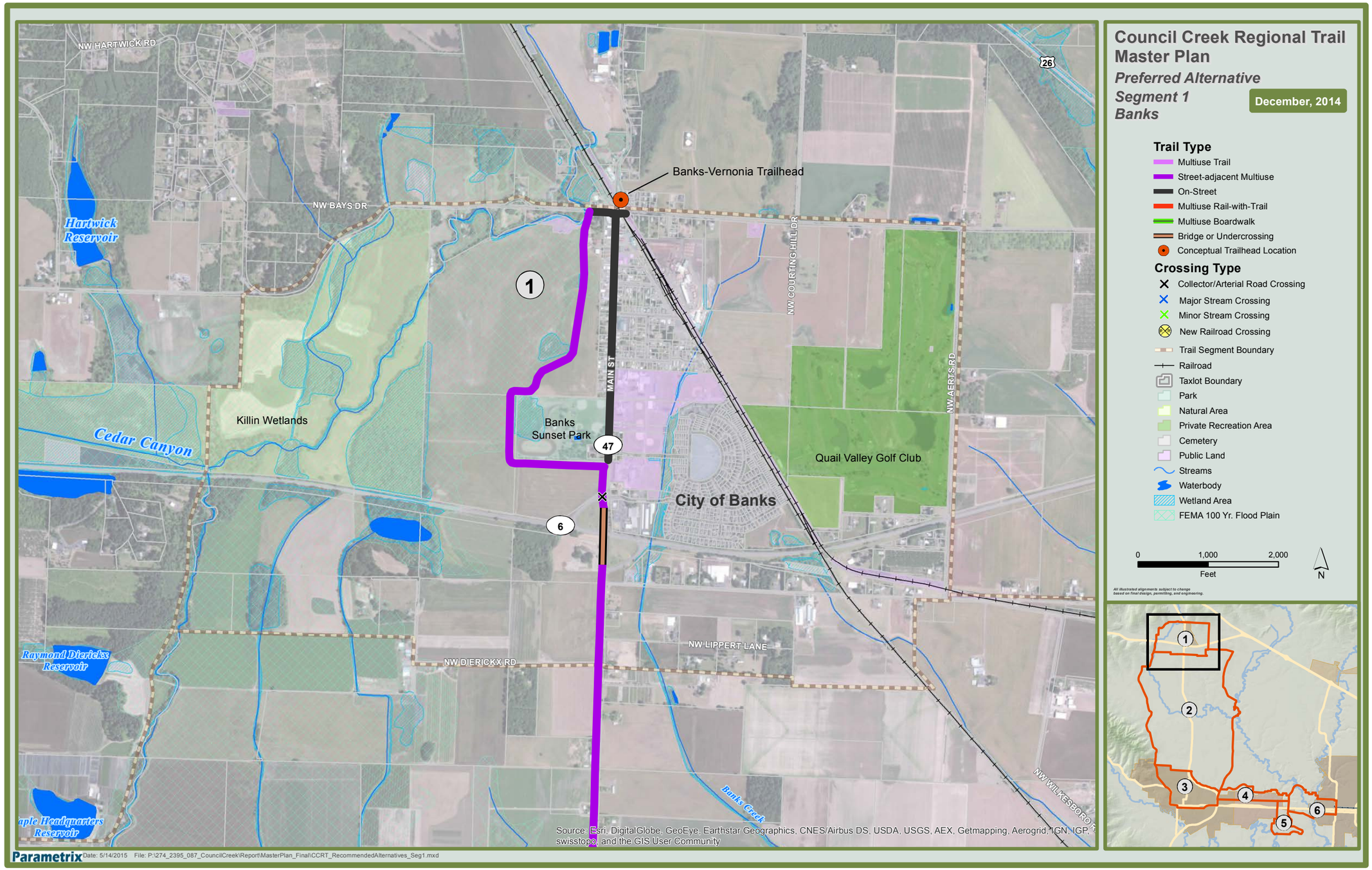
Jurisdiction	City of Banks		
Trail Types	• Urban street-adjacent multiuse on west side of downtown • Urban street-adjacent multiuse without buffer approaching and through OR 6 undercrossing, extensive retaining walls • Rural street-adjacent multiuse south of OR 6		
Design	• Asphalt, 10'–12' wide, gravel shoulders • Undercrossing: 14'–16' wide, concrete surface		
Length	1.44 mile	**Cost Estimate**	$4,473,200
Phasing	• OR 6 undercrossing/approach trails: NEAR-TERM • Along OR 47, south of OR 6: MID-TERM • West side of downtown: As new roadway is developed		
Notes	Undercrossing/approach trails on west side of Main St/OR 47; uses existing Banks-Vernonia Trailhead; trail on west side of downtown requires planned new collector roadway; City trail system plan scheduled for late 2015 adoption may recommend Main St rather than new collector for CCRT route; land acquisition required.		





Note: Trail surface under bridge may be concrete and/or widened.

Map 7. Segment 1: Banks



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Segment 2: Washington County North

NW Evers Road

Visitation Church in Verboort

NW Evers Road crossing of West Dairy Creek

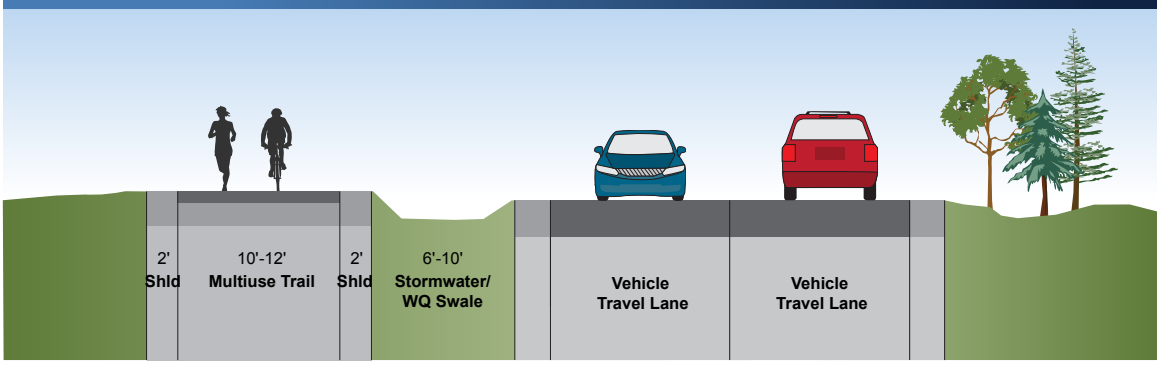
Porter Road showing TVID setback

NW Heesacker Road nearing Verboort

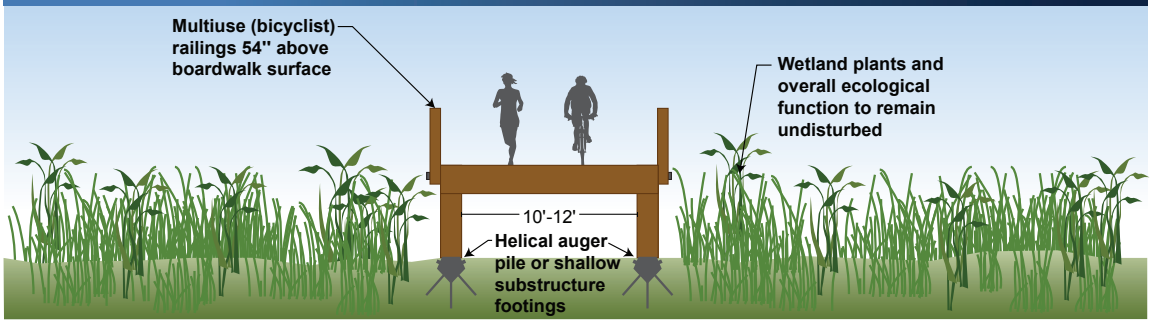
Segment 2: Washington County North

Jurisdiction	Washington County		
Trail Types	• Rural street-adjacent multiuse, buffer may be narrowed or eliminated to reduce impacts on farm buildings. • Multiuse boardwalk/bridge (crossing West Fork Dairy Creek) • Combination of widened shoulders, widened sidewalks, and shared-use roadway to create loop through community of Verboort		
Design	• Asphalt, 10'–12' wide, gravel shoulders • Boardwalk, 10'–12' wide, steel structure, concrete surface • Widened shoulders and sidewalks in Verboort		
Length	7.5 miles plus Verboort loop	**Cost Estimate**	$22,676,200
Phasing	• Through community of Verboort: NEAR-TERM • OR 47/Greenville Rd: MID-TERM • Balance of Segment 2: LONG-TERM		
Notes	New multiuse boardwalk across West Fork Dairy Creek combined with 90-foot-span bridge; new trailhead in vicinity of Verboort; crosses one arterial and four collector roadways; land acquisition required.		

MULTIUSE TRAIL – RURAL STREET ADJACENT

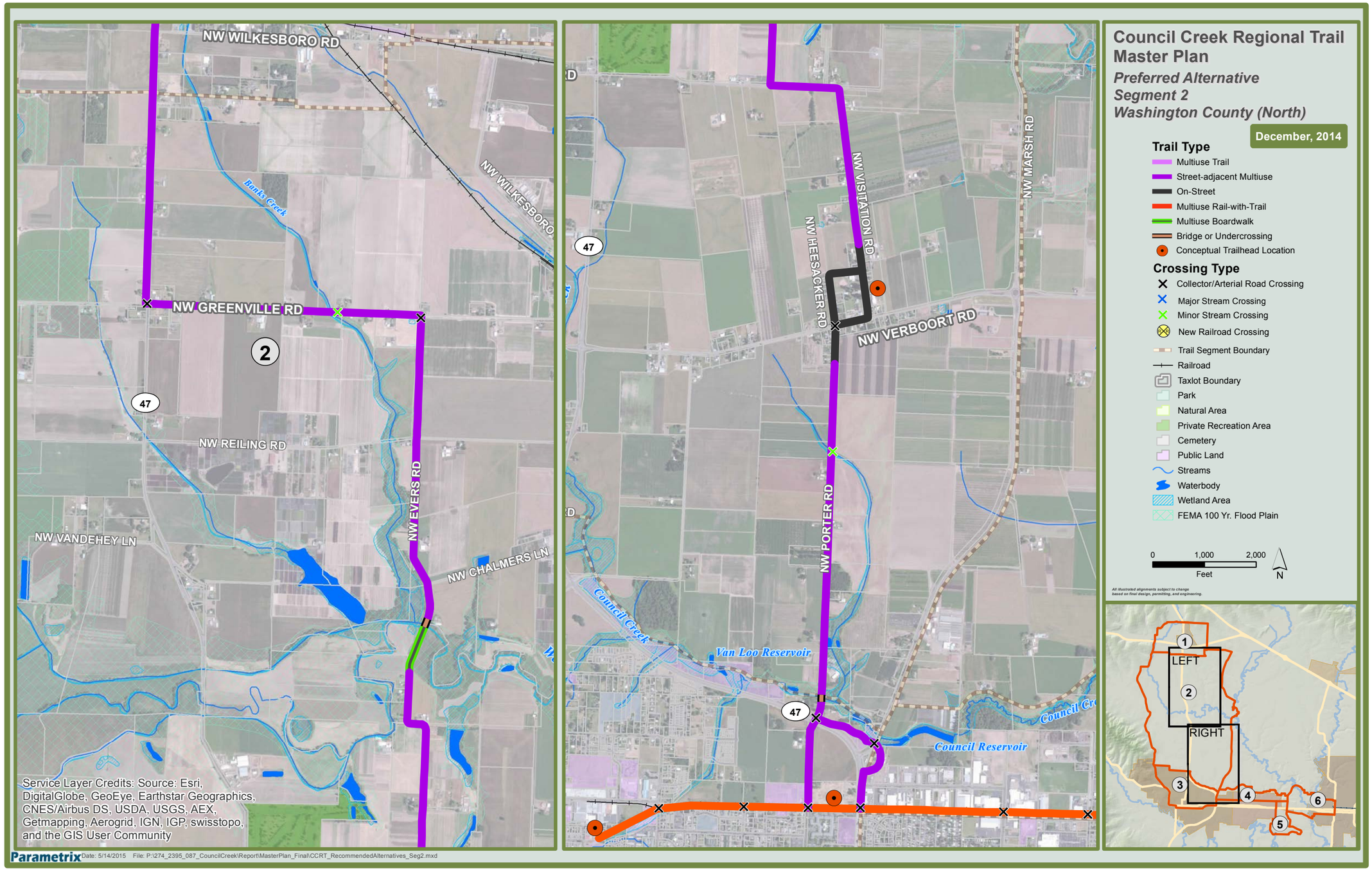


MULTIUSE BOARDWALK



Note: Boardwalk materials will vary: wood, steel, concrete, etc.

Map 8. Segment 2: Washington County North



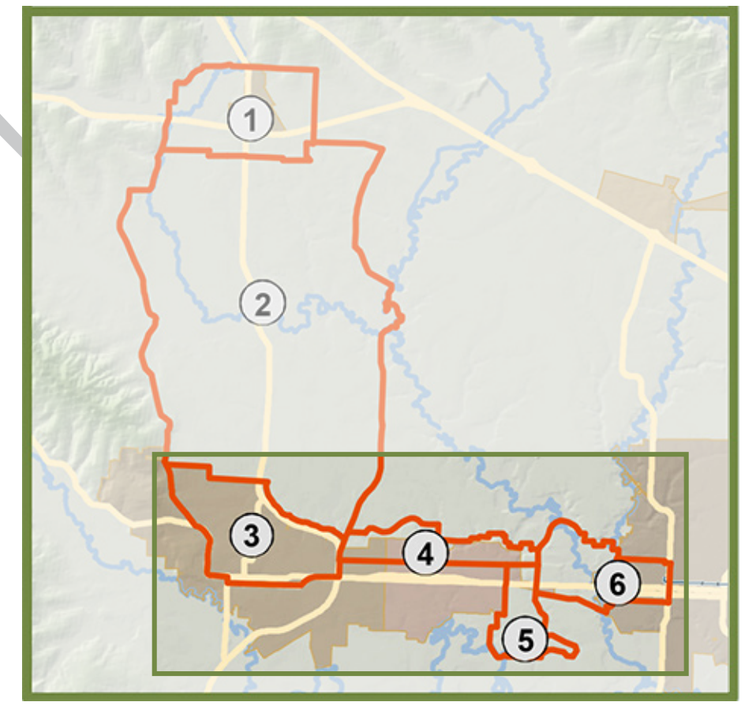
Preferred Trail Alternatives

Segment 3: Forest Grove

Segment 4: Cornelius

Segment 5: Jobes Ditch

Segment 6: Hillsboro – Washington County East



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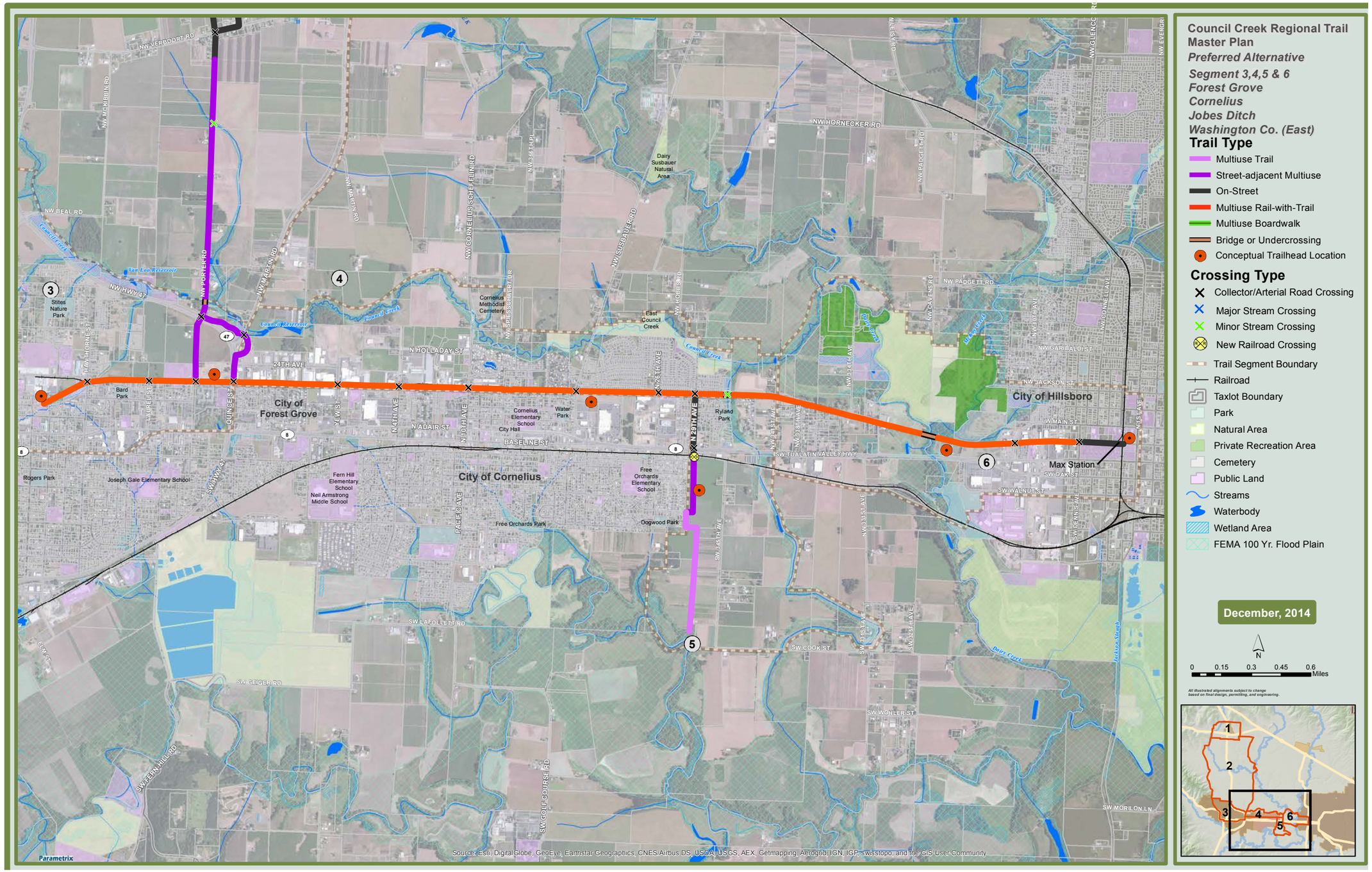
Map 9. Segments 3, 4, 5 and 6: West-East Corridor



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Segment 3: Forest Grove

Oak Street/Oregon 47/Porter Road

Rail corridor near Hawthorne Street

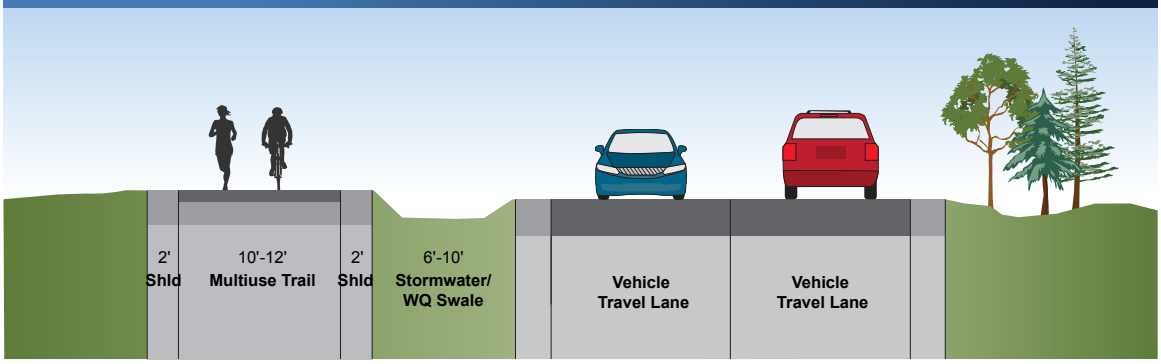
Pacific University

Rail corridor near BPA substation

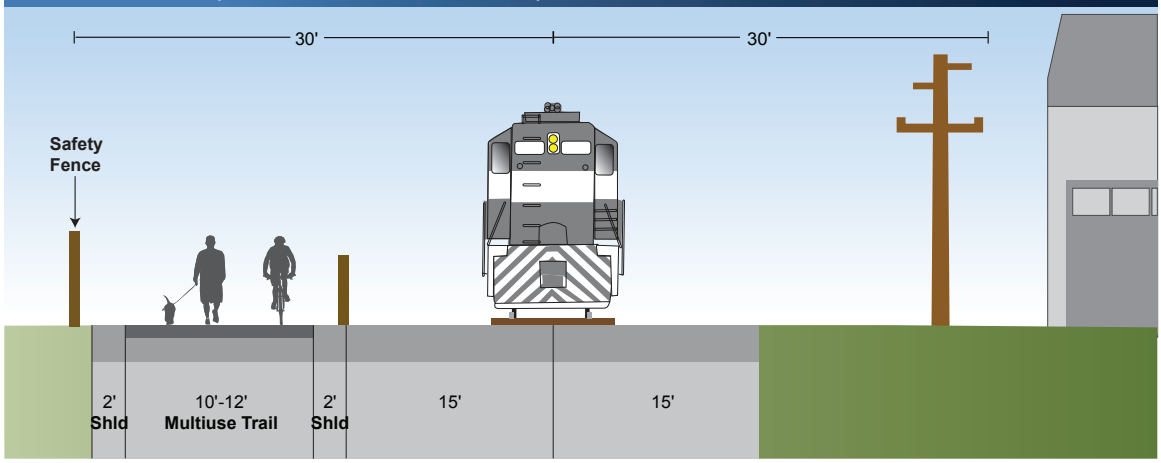
Segment 3: Forest Grove

Jurisdiction	City of Forest Grove		
Trail Types	• Urban street-adjacent multiuse (along Oak Street) • Rail-with-trail (section west of OR 47) • Connection across OR 47 in Forest Grove TBD (see page 79)		
Design	• Asphalt, 10'–12' wide, gravel shoulders • Rail-with-trail design may vary based on type of future rail or transit service		
Length	1.05 mile	**Cost Estimate**	$4,565,000
Phasing	• Rail-with-trail: NEAR-TERM • Connection across OR 47: NEAR-TERM		
Notes	Uses improved or replacement Porter Road Bridge; two options for crossing OR 47 in Forest Grove and connecting to rail-with-trail (see page 79); new trailhead in vicinity of Oak St/BPA power substation; uses downtown facilities as second trailhead; two to three arterial roadway crossings. See pages 54–57 for the full range of possible rail-with-trail or other transit solutions.		

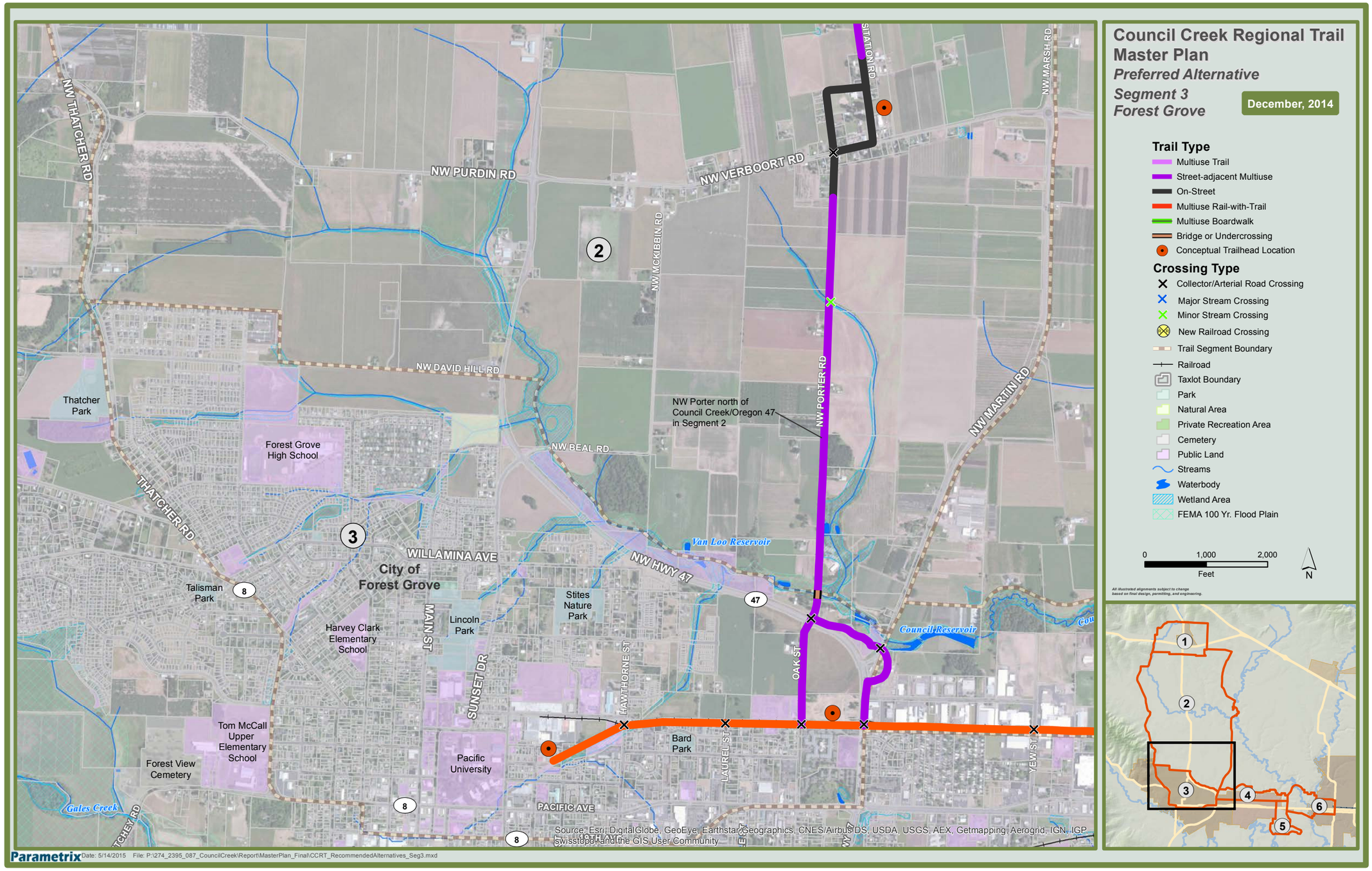
MULTIUSE TRAIL – RURAL STREET ADJACENT



RAIL-WITH-TRAIL (LOW TRAFFIC FREIGHT RAIL)



Map 10. Segment 3: Forest Grove



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Segment 4: Cornelius

Rail corridor through Cornelius

Rail corridor through Cornelius

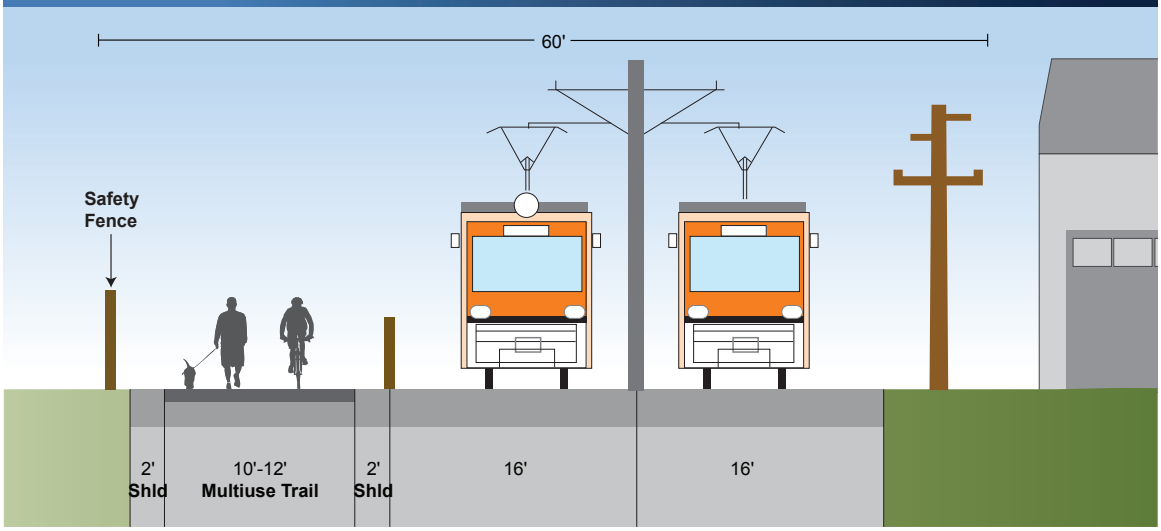
Rail siding west of N 10th Ave.

Cornelius welcome sign

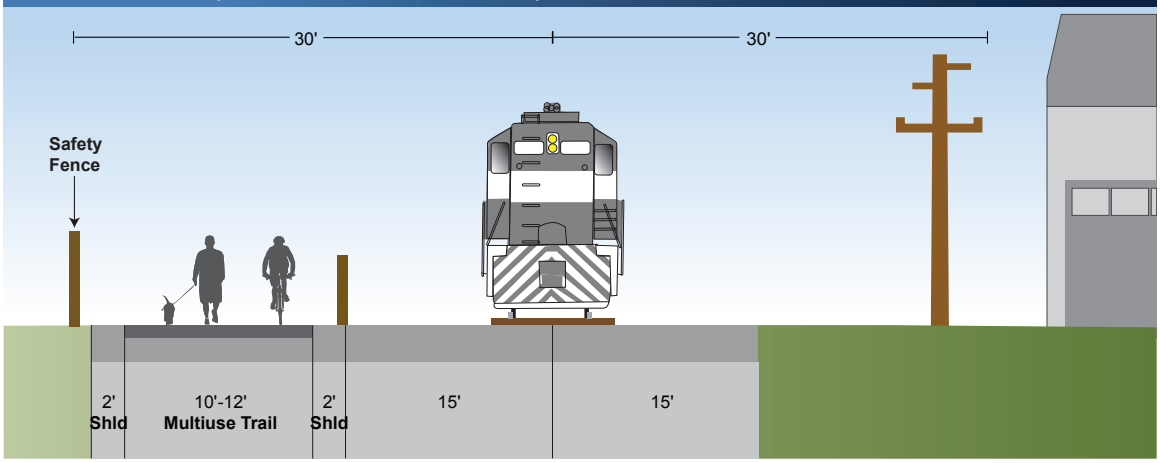
Segment 4: Cornelius

Jurisdiction	City of Forest Grove – west of Yew Street City of Cornelius – east of Yew Street		
Trail Type	• Rail-with-trail (section east of OR 47)		
Design	• Asphalt, 10'–12' wide, gravel shoulders • Rail-with-trail design may vary based on type of future rail or transit service		
Length	2.67 miles	**Cost Estimate**	$9,957,600
Phasing	• Staged west to east – NEAR TERM		
Notes	Trail on south side of rail right of way; location and design may vary based on possible future MAX extension or high capacity transit; four collector and two arterial roadway crossings; one minor stream crossing (Jobes Ditch); new trailhead on south side of rail along N 19th Ave. See pages 54–57 for a range of possible rail-with-trail or transit solutions.		

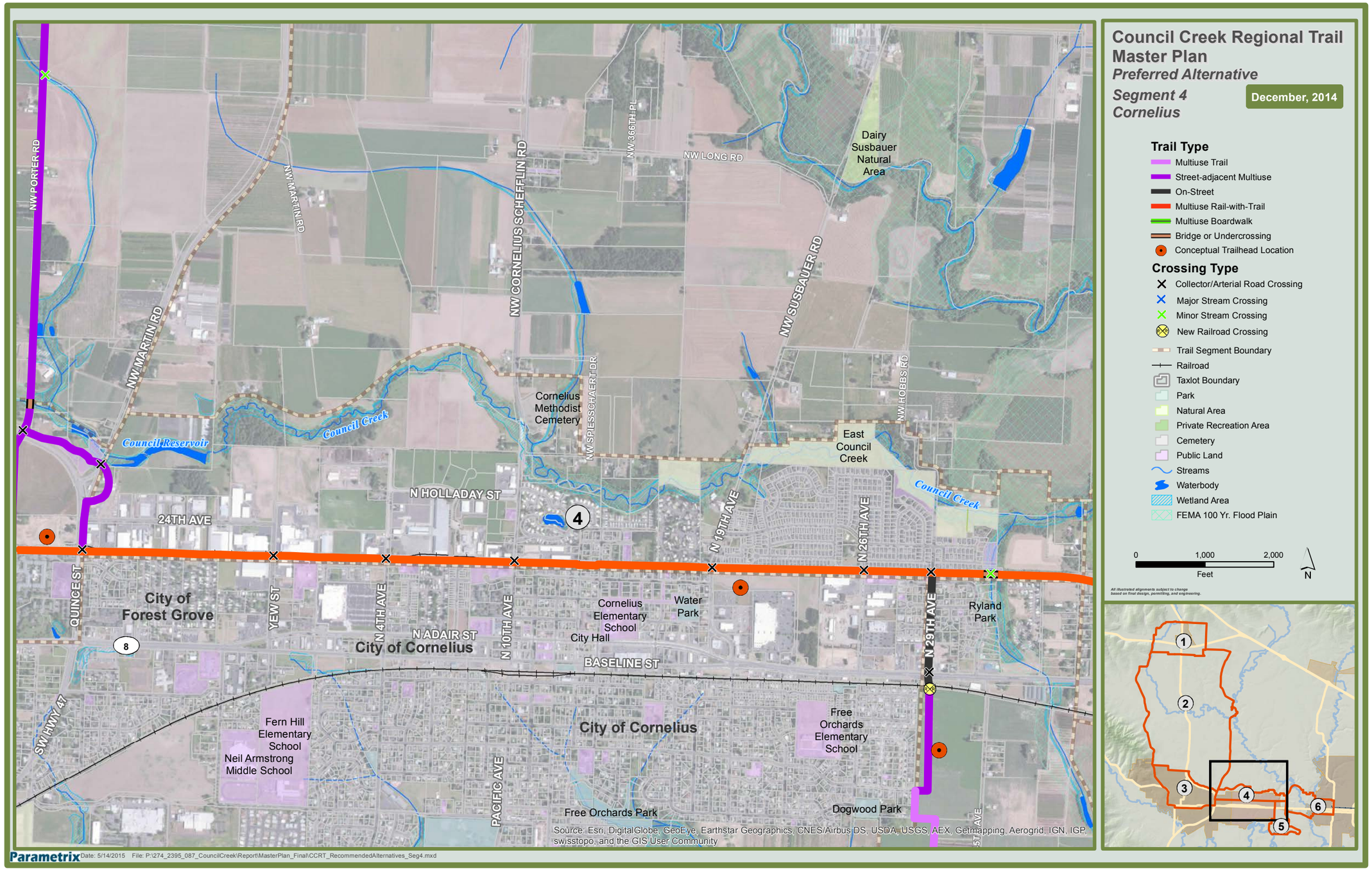
RAIL-WITH-TRAIL (DUAL TRACK MAX LINE WITHOUT STATION STOP)



RAIL-WITH-TRAIL (LOW TRAFFIC FREIGHT RAIL)



Map 11. Segment 4: Cornelius



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Segment 5: Jobes Ditch

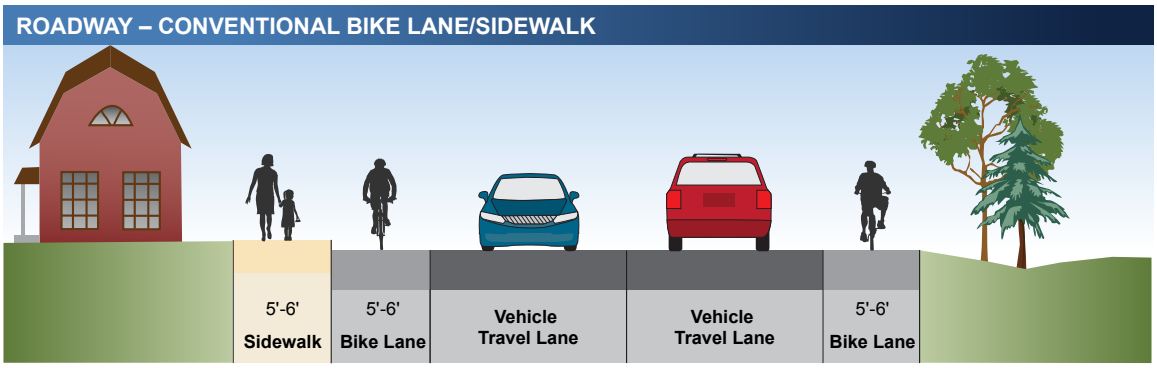
Jobes Ditch Spur Trail corridor near Dogwood Park

Jobes Ditch Spur Trail corridor looking toward Oregon 8

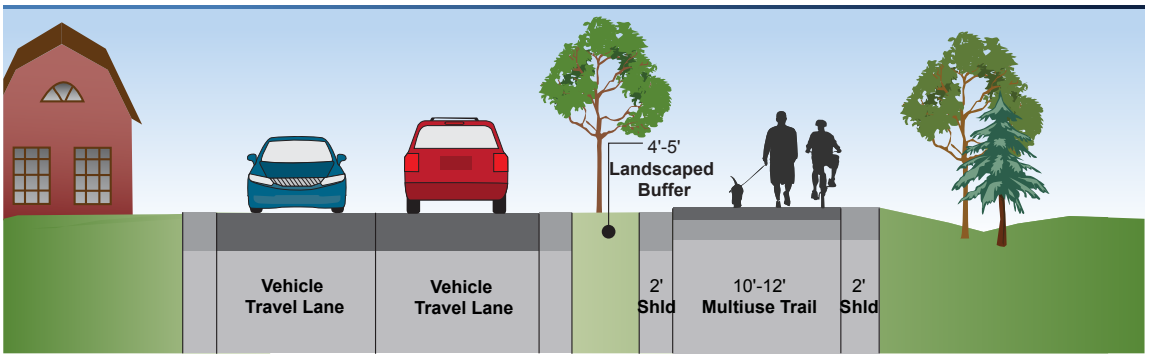
Looking toward Tualatin River from SW Cook Street

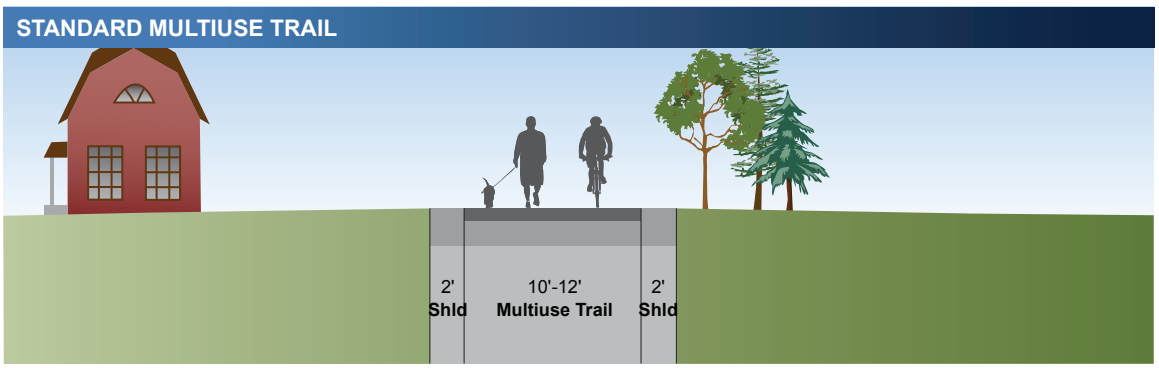
Segment 5: Jobes Ditch (HOBBS Alternative)

Jurisdiction	City of Cornelius – North of OR 8 Washington County – South of OR 8 to Tualatin River (area will eventually be annexed to Cornelius)		
Trail Types	• Bike lanes/sidewalks – RAIL 1 to OR 8 • Urban street-adjacent multiuse – OR 8 to Dogwood St • Standard multiuse – Dogwood St to Tualatin River		
Design	• Asphalt, 10'–12' wide, gravel shoulders		
Length	1.44 miles	**Cost Estimate**	$2,491,500 (excludes cost of new highway and railroad crossings)
Phasing	• As funding is obtained and building of street and rail crossings occur		
Notes	Will require building of N 29th Ave extension including new highway and rail crossing; new high school and new development south of Dogwood St. could include sections of trail; shared-use trailhead at new high school; requires property acquisition.		

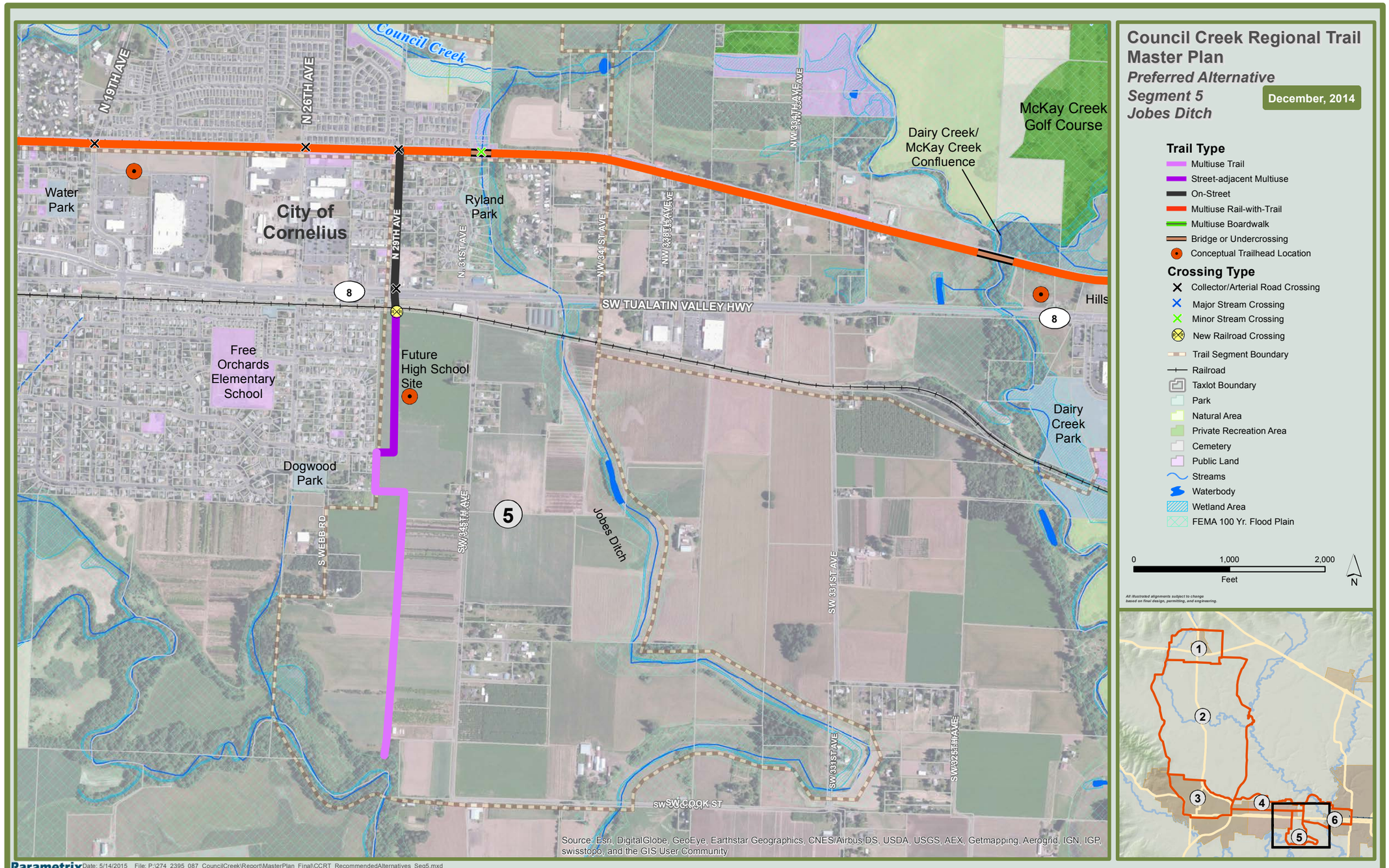


Note: Can include sidewalks on both sides.





Map 12. Segment 5: Jobes Ditch



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Segment 6: Hillsboro – Washington County East

Rail corridor near Dairy Creek

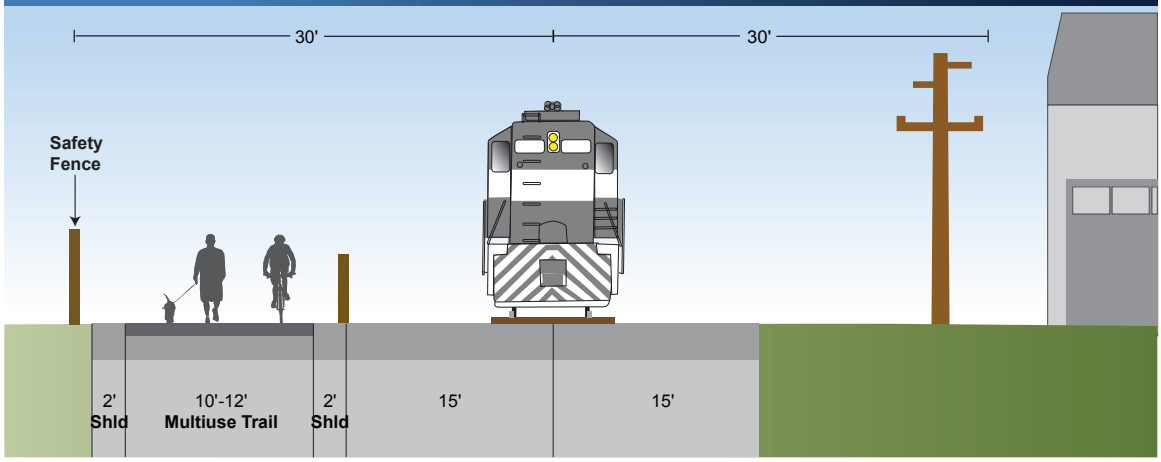
Wider rail right of way east of NW 334th Avenue

MAX Station in downtown Hillsboro

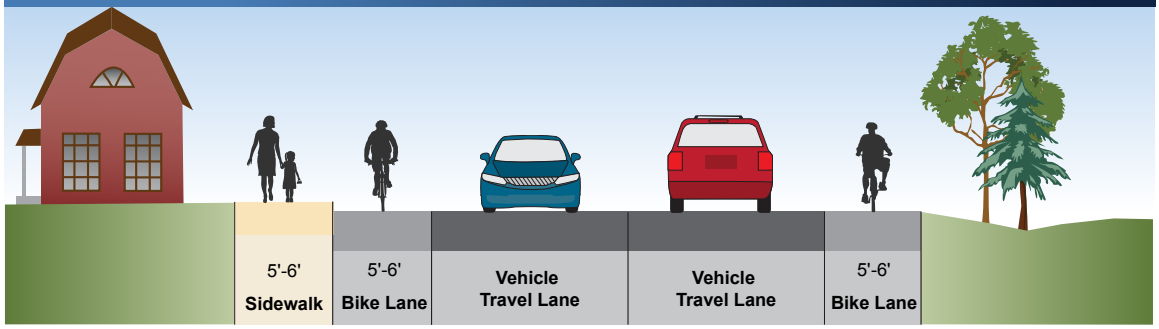
Segment 6: Hillsboro – Washington County East

Jurisdiction	Washington County* – West of Dairy Creek City of Hillsboro – East of Dairy Creek *Most of area between Segment 4 and Dairy Creek is in UGB and will annex to Cornelius		
Trail Types	• Rail-with-trail • Sidewalks/bike lanes – Washington St in Hillsboro		
Design	• Asphalt, 10'–12' wide, gravel shoulders • Rail-with-trail design may vary based on type of future rail or transit service • 390-foot-span bridge across Dairy Creek		
Length	1.69 miles	**Cost Estimate**	$7,646,800
Phasing	• NEAR-TERM to MID-TERM (probably last section of rail-with-trail to be built)		
Notes	Trail on south side of rail right of way; location and design may vary based on future MAX extension or other transit solution; two collector roadway crossings; if freight rail is abandoned, rail bridge over Dairy Creek could be reused; one new and one shared-use trailhead. See pages 54–57 for a full range of rail-with-trail and other transit solutions.		

RAIL-WITH-TRAIL (LOW TRAFFIC FREIGHT RAIL)

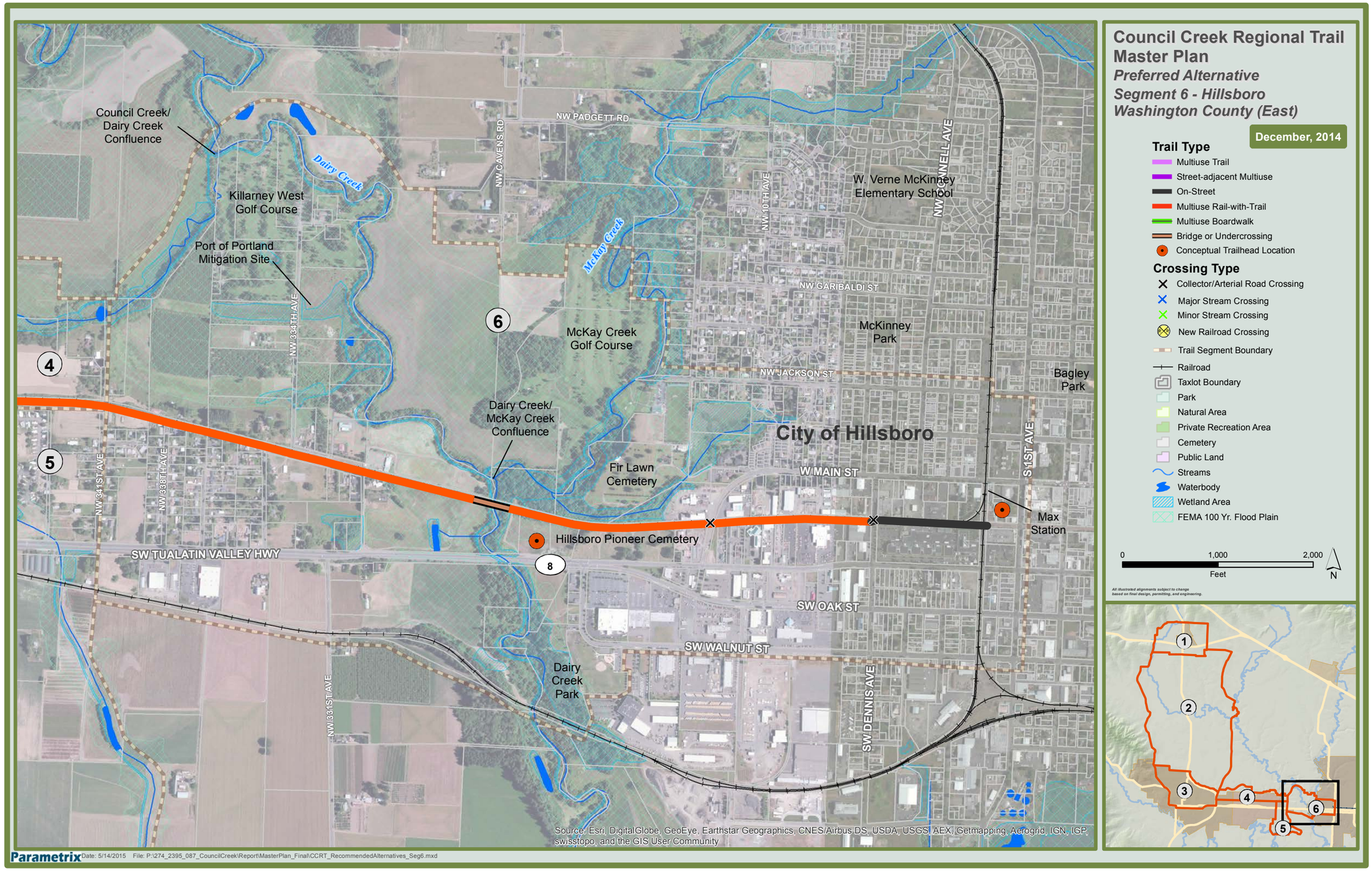


ROADWAY – CONVENTIONAL BIKE LANE/SIDEWALK



Note: Can include sidewalks on both sides.

Map 13. Segment 6: Hillsboro – Washington County East



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4: Trail Types and Treatments

Overview

Lengthy multijurisdictional trails such as Council Creek must reflect changing opportunities and constraints along the trail route. City and county transportation, bicycle/pedestrian, and parks and open space plans may define local standards. Trail width and treatments, surface materials, and structures may need to vary to accommodate trail use types and volumes, neighboring development, vegetation, streams, topography, and roadway patterns.

Trail design standards should incorporate such local standards and conditions. Standards should also apply reasonably consistent design and treatments that provide a common template creating economies in both construction and maintenance, and a uniform sense of place for trail users. Chapter 4 provides the following information:

- **Trail Types and Treatments**: Baseline standards for designing and building different trail types that are compatible with the varying landscapes along the trail corridor. Conceptual trail cross-sections and some plan views are provided.
- **Trail Crossings**: Conceptual guidelines and cross sections for crossings at major road intersections, midblock, and grade-separated.

Table 6. Trail Types and Treatments by Segment
NORTH-SOUTH CORRIDOR – EAST 1

Section	Description	Trail Type	Width	Surface
Segment 1: BANKS				
WESTSIDE	Follows future City Westside Circulator Roadway[a]	Urban street-adjacent multiuse	10'–12' (2' gravel shoulders)	Asphalt
UNDERCROSSING	Includes 750 linear feet of approach trail w/retaining walls; passes under OR 6	Multiuse highway undercrossing	12'–16' (no buffer)	Asphalt, concrete
HIGHWAY	Follows west side of OR 47 across city limits/UGB into Segment 2	Rural street-adjacent multiuse	10'–12' (2' gravel shoulders)	Asphalt
a City trail system plan scheduled for late 2015 adoption may change this section to bicycle lanes and sidewalks along Main Street.				
Segment 2: WASHINGTON COUNTY NORTH				
HIGHWAY	Follows west side OR 47 from Banks UGB to NW Greenville Rd	Rural street-adjacent multiuse	10'–12' (2' gravel shoulders)	Asphalt
GREENVILLE	North side of NW Greenville Rd to NW Evers Rd	Rural street-adjacent multiuse	10'–12' (2' gravel shoulders)	Asphalt
EVERS	West or east side of NW Evers Rd to north side section along NW Osterman Rd	Rural street-adjacent multiuse	10'–12' (2' gravel shoulders)	Asphalt

Section	Description	Trail Type	Width	Surface
VISITATION	West or east side of NW Visitation Rd to just north of NW Heesacker Rd	Rural street-adjacent multiuse	10'–12' (2' gravel shoulders)	Asphalt
VERBOORT	Verboort Loop w/some shoulder widening and sidewalk improvements	Shared-use	Existing roadways	Asphalt, concrete
PORTER	West or east side of NW Porter Rd to OR 47	Rural street-adjacent multiuse	10'–12' (2' gravel shoulders)	Asphalt

WEST-EAST CORRIDOR – RAIL 1

Section	Description	Trail Type	Width	Surface
Segment 3: FOREST GROVE				
OAK (For alternate route see Chapter 6.)	Along Oak St from OR 47 to RAIL 1	Urban street-adjacent multiuse	10'–12' (2' gravel shoulders)	Asphalt
RAIL 1	Follows south side of rail ROW; safety and security fencing recommended	Rail-with-trail	10'–12' (2' gravel shoulders)	Asphalt
Segment 4: CORNELIUS				
RAIL 1	Follows south side of rail ROW; safety and security fencing recommended	Rail-with-trail	10'–12' (varying shoulders)	Asphalt
Segment 5: JOBES DITCH				
N 29TH	Follows N 29th Ave to OR 8; may require some retrofit sidewalks	Bike lanes/ sidewalks	N/A	Concrete, asphalt
HIGH SCHOOL	OR 8 to S Dogwood St; build with N 29th Ave extension	Urban street-adjacent multiuse	10'–12' (2' gravel shoulders)	Asphalt
RIVER	S Dogwood St to Tualatin River; build as part of urban development	Standard multiuse	10'–12' (2' gravel shoulders)	Asphalt
Segment 6: HILLSBORO – WASHINGTON COUNTY EAST				
RAIL 1	Follows south side of rail ROW; safety and security fencing recommended; new bridge at Dairy Creek	Rail-with-trail	10'–12' (varying shoulders)	Asphalt
WASHINGTON	Some retrofit sidewalks required north side of Washington St	Bike lanes/ sidewalks	N/A	Concrete

Preferred Trail Types

The CCRT preferred trail type is a multiuse trail accommodating the full range of users—touring, commuter, family, and recreational bicyclists; users of other conveyances such as strollers, skates, etc.; and family, touring, and casual pedestrians seeking exercise and recreation or alternative means to schools, shopping, and services. Two multiuse trail variations are primarily recommended for of the CCRT—street-adjacent multiuse and rail-with-trail. The common features are:

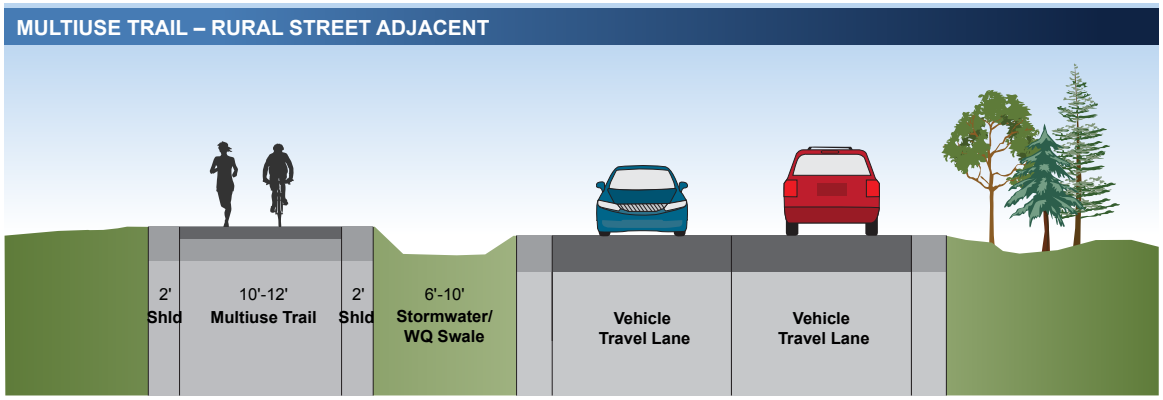
- Surface width of 10 to 12 feet, with 2-foot-wide graveled shoulders (10-foot width is practical for lower volume rural trail sections)
- Asphalt or other hard surface (concrete does not require graveled shoulders – can be used to narrow trail sections in constrained areas)
- ADA-compliant grades (less than 5 percent longitudinal slope and 2 percent cross-slope)

Street-Adjacent Multiuse

Alignments that closely parallel roadways distinguish street-adjacent multiuse trails from the standard multiuse trail (see page 57 for standard multiuse cross section). The street-adjacent trail is separated from the roadway by a landscaped buffer or drainage swale between edge of road and trail.

Rural Street-Adjacent Multiuse

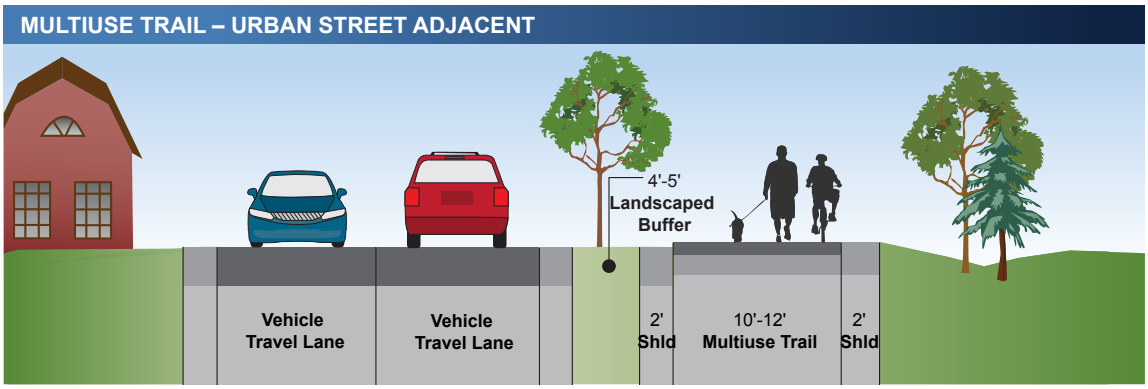
For roadways where stormwater conveyance and treatment is handled by open drainage swales, typically in rural areas. Swales act as the trail buffer. The rural street-adjacent multiuse type is the primary solution for the North-South Corridor. The greatest challenge for this trail type will be conflicts with other infrastructure—TVID irrigation lines or PGE power transmission poles—that also closely follow existing roadways. Relocation of these lines or the purchase of additional right of way may be necessary.



Urban Street-Adjacent Multiuse

For streets where stormwater is conveyed through culverts and piping, typically in urban areas. Includes a landscaped buffer between edge of road and trail. The urban street-adjacent multiuse trail is recommended for the following trail sections:

- **Segment 1**: West side of downtown Banks.
- **Segment 3**: Along Oak Street south of Oregon 47.
- **Segment 5**: Section of the Jobes Ditch/HOBBS spur trail developed as part of the future extension of N 29th Avenue and construction of a new high school.



Rail-with-Trail

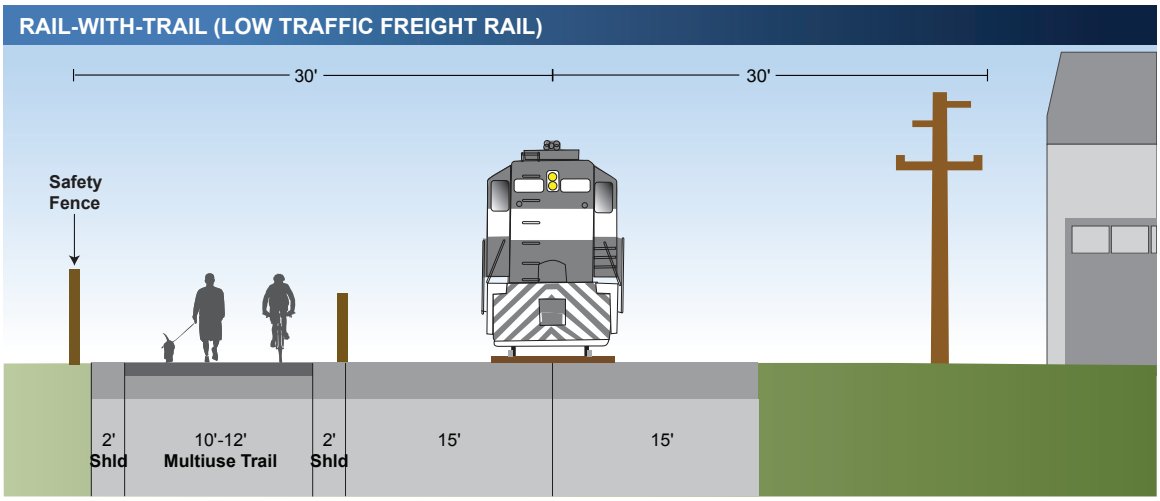
A rail corridor (RAIL 1) from downtown Forest Grove through downtown Cornelius to downtown Hillsboro is the preferred CCRT alignment through Segments 3, 4 and 6. This rail corridor is owned by the State of Oregon and leased to a private freight rail operator. The rail corridor is primarily 60 feet wide and occupied by single-track freight line with very limited low speed traffic. The freight rail track is approximately 5 feet off-center of the corridor towards the north side. Specific trail solutions are complicated by continued freight rail use, plans for a future TriMet MAX line or high capacity transit extension, and a PGE transmission-scale power line along the north edge of the rail corridor from Oregon 47 to Hillsboro.

Given current and future uses, four rail-with-trail variations are illustrated. All variations assume a multiuse trail sited along the south side of the rail corridor. North side trail alignments may require expensive power pole relocations, particularly through Segment 4. Final trail design and engineering may find room to switch sides for portions of the trail, or offer siting or design solutions providing five or more extra feet of separation between the south edge of the rail corridor right of way and the planned trail.

Any decision to extend MAX to downtown Forest Grove will be preceded by abandonment of the rail line for freight services, and a range of planning and transportation corridor studies. See page 57 for an illustration of one concept to re-use the rail corridor without freight or MAX lines. High capacity transit with a multiuse trail is another option for the future of the corridor.

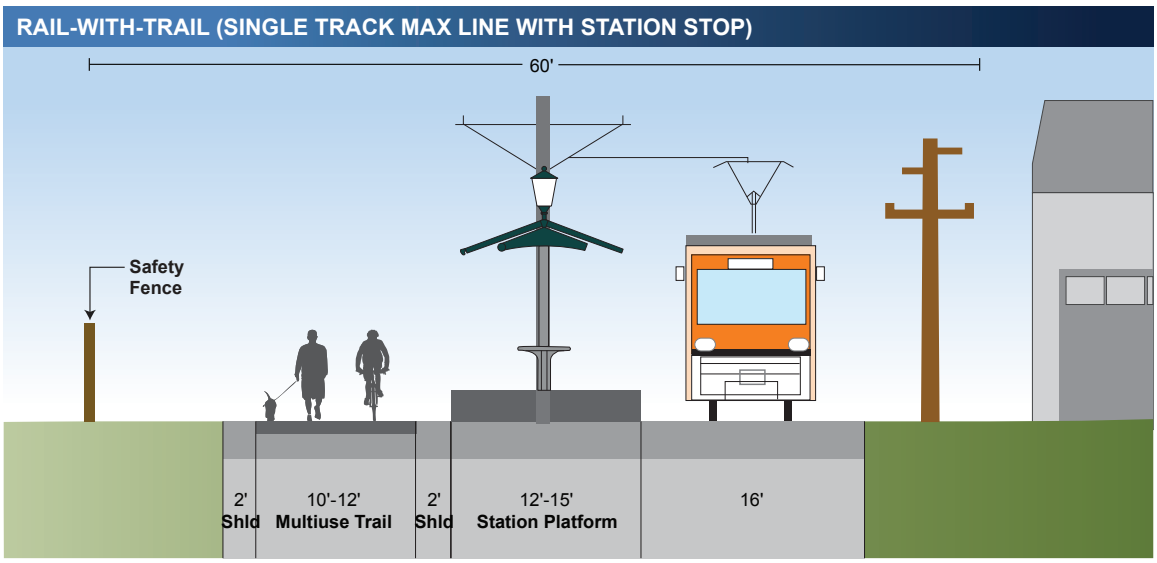
Single-Track Freight Rail

Assumes that freight rail is still operating at time of trail development. The cross section below illustrates the minimum trail separation from low speed, low traffic freight lines suggested by Federal Highway Administration (FHWA) guidance. The multiuse trail can be further modified to fit within the 60-foot rail corridor by eliminating one shoulder or reducing trail width to 10 feet.



Single-Track MAX (with Station Stops)

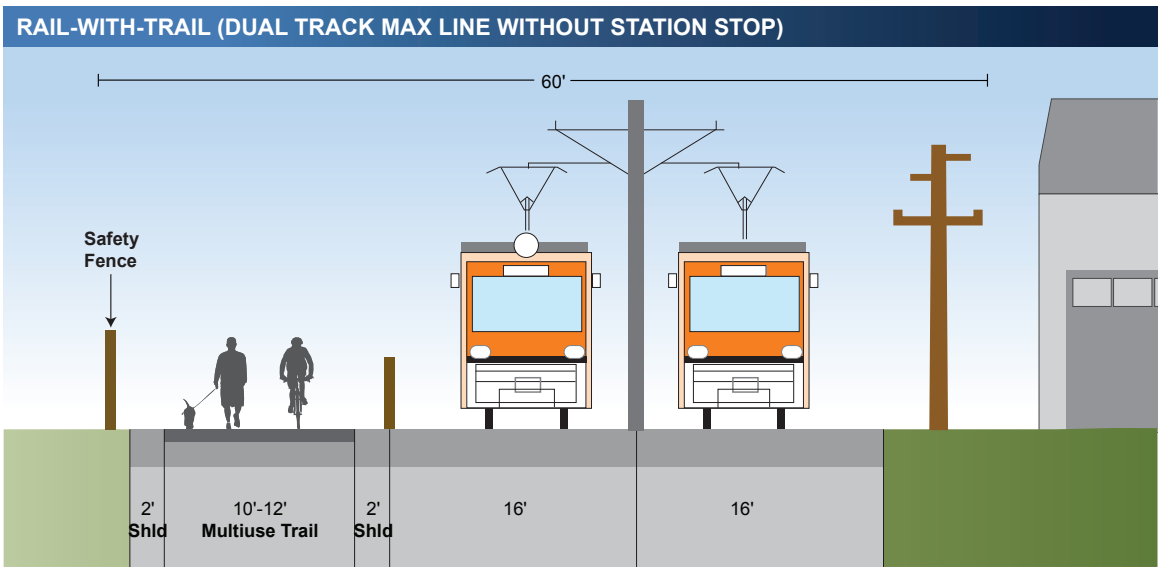
TriMet requires less separation from MAX tracks than FHWA guidance. Since MAX tracks would be new, the rail alignment could also be shifted within the corridor. This trail/single-track MAX combination, including minimum width (12 feet) station stop **side** platforms, would leave approximately 16 feet of the rail corridor for additional separation between the trail and track, for intermittent passing tracks, or for amenities such as landscaping. PGE power poles would not have to be relocated.

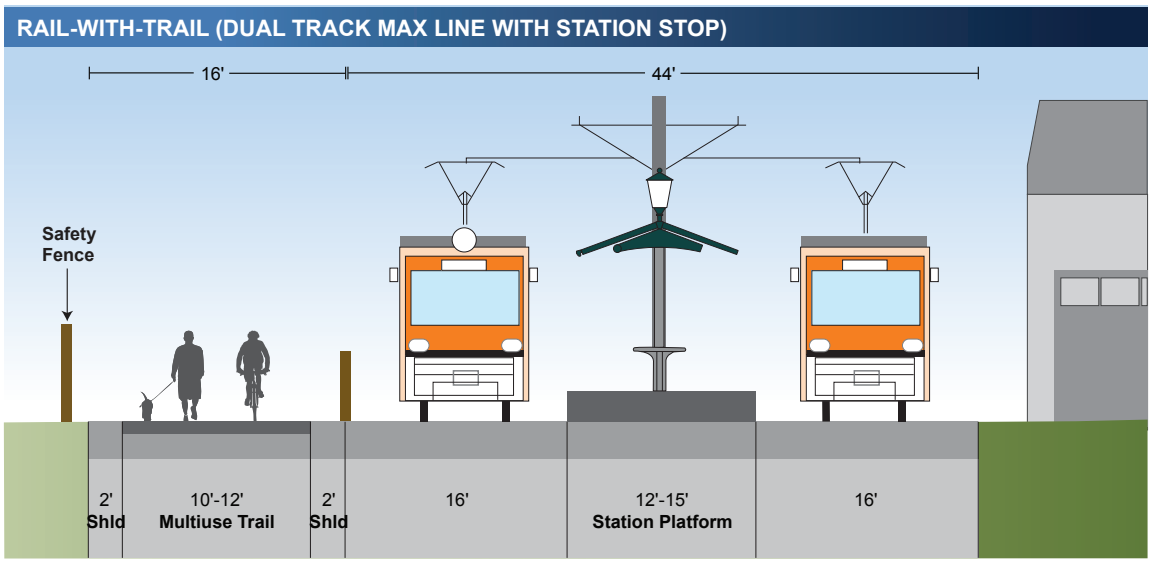


Dual-Track MAX (with and without Station Stops)

TriMet standards allow dual-track MAX systems **without** station stops within a 32-foot-wide section. This dual-track configuration, when combined with a 16-foot-wide trail section, leaves 12 feet for additional separation between the tracks and the trail. It also avoids power pole relocation.

The trail siting challenge with the dual-track is that station stops will be intermittently required. The minimum width for a station stop **center** platform sited between tracks is 15 feet, for a total 47-foot-wide MAX section. This leaves the rail corridor 3 feet too narrow to accommodate a 16-foot trail section. Additional right of way may be difficult to acquire due to surrounding development. The multiuse trail section could be narrowed or use concrete surfaces to eliminate gravel shoulders. Station stop design could also narrow the platform width. PGE power poles in the vicinity of station stops may have to be relocated.





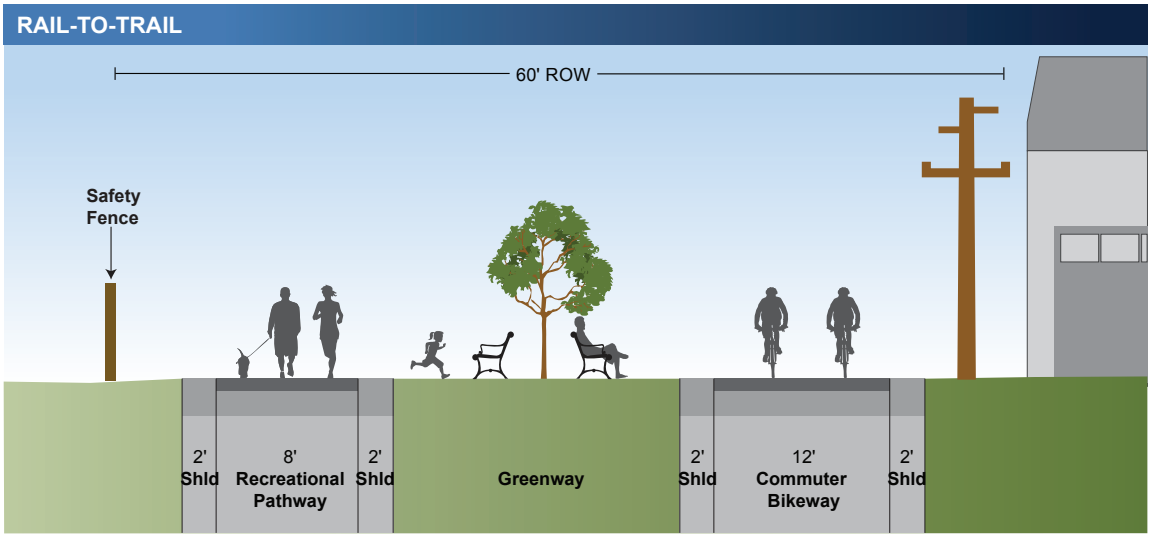
Note: May require power pole relocation, trail width may have to be modified to accomodate station platform.

Other Trail Types

A variety of opportunities and constraints suggest or require other trail types to establish a continuous and fully functional regional-scale trail accommodating all users.

Rail-to-Trail

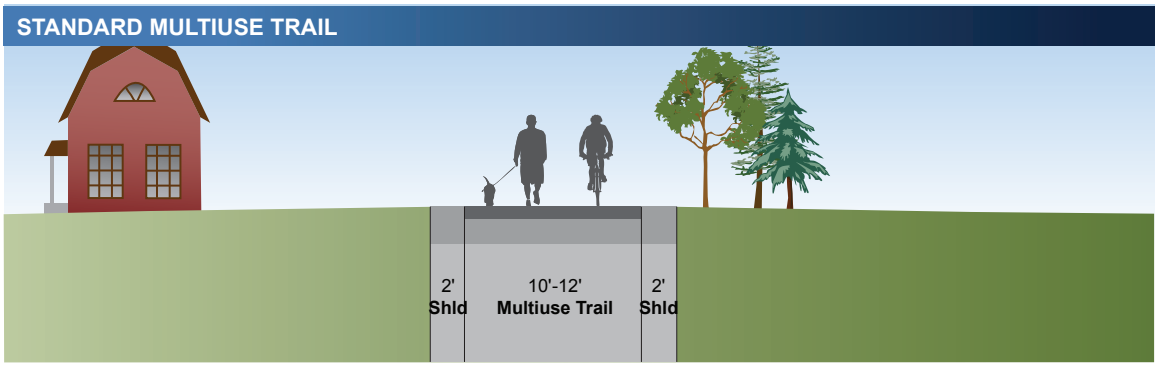
If freight rail vacates the West-East Corridor, and the MAX extension does not occur, a multiuse trail combined with greenway and recreational improvements is possible. One possible scenario is illustrated below. High capacity bus transit with a multiuse trail is another option.



Note: Wide range of trail combinations possible with rail right-of-way if no future freight or passenger rail service is planned.

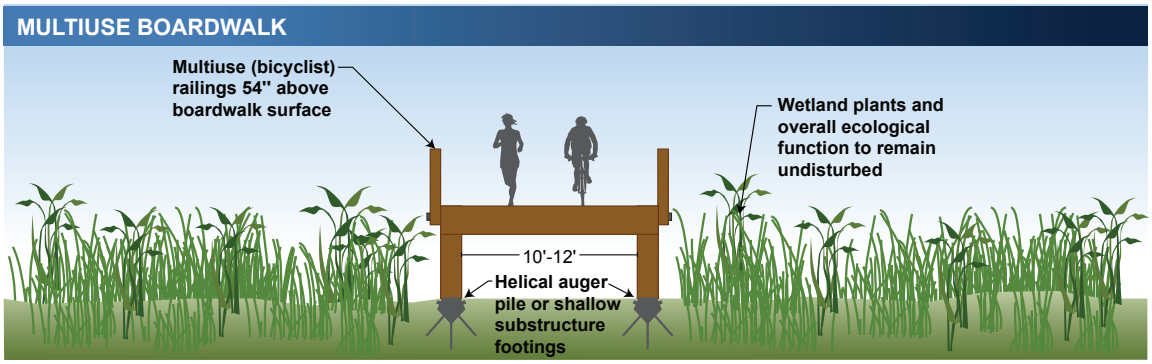
Standard Multiuse

The standard multiuse trail follows an off-road alignment, completely separate from and on a different route from roadways. The standard multiuse trail type is applied to the Segment 5: Jobes Ditch/HOBBS trail section south of S Dogwood Lane.



Multiuse Boardwalk

Elevated multiuse boardwalk structures set on piers across wetlands, floodplain areas, or other sensitive lands can reduce or eliminate many environmental impacts. Multiuse boardwalks combined with new or existing bridges are recommended to cross the West Fork Dairy Creek (Segment 2). Boardwalk materials can vary: wood, steel, concrete, etc. Steel structures with concrete surfaces are recommended.



Shared-Use Roadway

Shared-use roadways allow all trail users to use vehicular roadways, with signing and road surface markings to assure safety. This solution is only practical and safe on low-speed, low-traffic roadways. See page 78 for an interim shared-use trail alignment solution for the North-South Corridor (EAST 1).

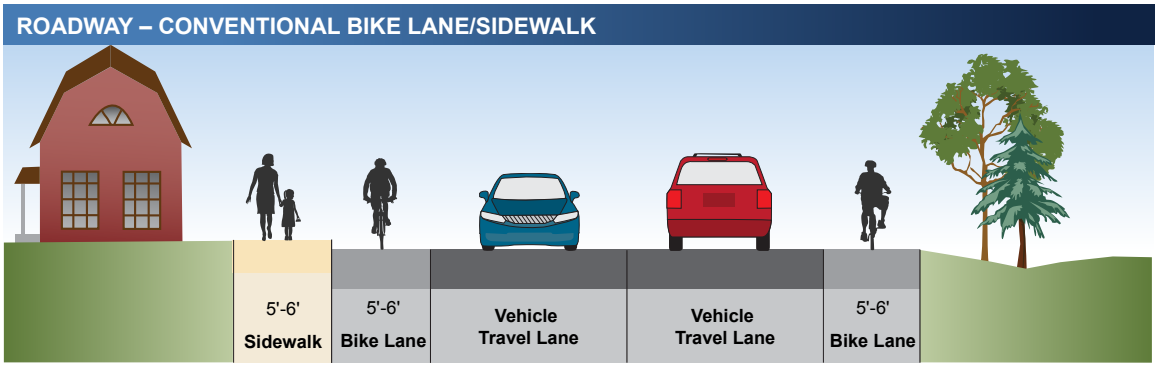
The EAST 1 preferred alternative proposes a permanent shared-use solution through Verboort. This includes sections of NW Visitation Road, NW Heesacker Road, and NW Porter Road; a widened shoulder on NW Visitation Road; and a widened sidewalk on the north side of NW Verboort Road.

Note: Functional for low speed, low vehicle traffic roadways.

Bicycle Lane–Sidewalk

Conventional bicycle lanes, designated by road surface striping/signing, with parallel pedestrian sidewalks, are recommended for two CCRT sections:

- Along N 29th Avenue to the Jobes Ditch/HOBBS multiuse trail (Segment 5).
- Along NW Washington Street between NW Dennis Avenue and the downtown Hillsboro MAX station (Segment 6). Most of this section is already developed with sidewalks and bicycle lanes.



Note: Can include sidewalks on both sides.

In addition, the City of Banks is expected to adopt a new bicycle/pedestrian and trail system plan by the end of 2015. Early in the CCRT process the City requested that Main Street (Segment 1) **not** be part of the CCRT route. The City's new plan may reverse this recommendation.

Crossing Structures

Multiuse Bridges

Up to three new bridges crossing streams will be required (Segments 2, 3 and 6). Bridge lengths are approximate but conceptually sized to limit any in-water work. The final design and construction method for bridges will be subject to the specifics of each site.

Table 7. Multiuse Bridges

Segment 2	West Fork Dairy Creek – NW Evers Rd	90-foot span
Segment 3	Council Creek – NW Porter Rd	Existing restored bridge
Segment 6	Dairy Creek – south of confluence with McKay Creek	390-foot span

The new Dairy Creek trail bridge in Segment 6 would parallel the existing railway bridge. If freight rail is abandoned, the existing bridge could be adapted for trail use.

Example multiuse bridge

Other Stream Crossings

Minor stream crossings may require modifying existing conveyance structures (such as by lengthening culverts), installation of short new culverts, or signing and pavement markings over existing bridge structures. Culverts may require permitting from Clean Water Services (CWS) or other local agencies, and from federal agencies for fish bearing streams. See Chapter 9 of Plan Report No. 3 for more information.

Roadway Crossings

The CCRT will cross a variety of urban and rural local, collector, and arterial roadways at existing intersections and at midblock. Collector and arterial midblock and intersection crossing points are shown on segment maps. CCRT roadway crossings are all at-grade, with the exception of the recommended undercrossing of Oregon 6 south of Banks (Segment 1). The final determination of intersection and midblock crossing treatments should be based on local jurisdiction or Washington County standards. Local street midblock and intersection street crossings use conventional crosswalk signing and striping.

Crossings in *italics* are at the same point as a rail crossing. To the extent freight rail or light rail is operating at the time of trail development, improvements to rail crossing infrastructure and surfaces may also be required.

Table 8. Arterial and Collector Crossings

Segment 1	NW Banks Rd at new Westside Circulator Roadway
Segment 1	OR 47/Main St Undercrossing of OR 6
Segment 2	NW Greenville Rd at OR 47 and NW Evers Rd
Segment 2	NW Verboort Rd at NW Porter Rd
Segment 3	NW Porter Rd/Oak St at OR 47 or NW Martin Rd Two options (see Chapter 6) connecting the north-south and west-east preferred alignments
Segment 3	*Hawthorne St*
Segment 3	*Laurel St*

Segment 3	*Oak St*
Segment 3	*OR 47/Quince St*
Segment 4	*Yew St*
Segment 4	*N 4th Ave*
Segment 4	*N 26th Ave*
Segment 4	*NW Hobbs Rd/N 29th Ave*
Segment 5	N 29th Ave at OR 8
Segment 6	W Main St
Segment 6	NW Dennis Ave

Arterial and Collector Intersections

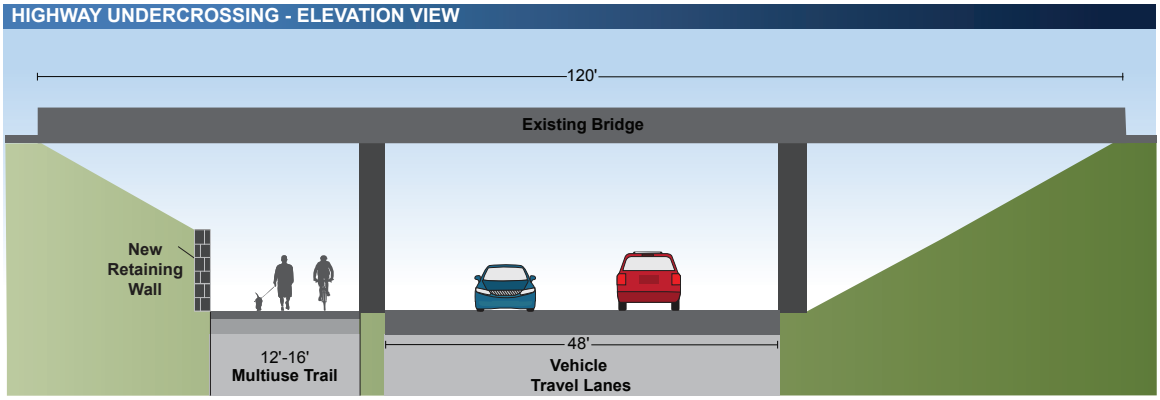
Trail crossings at established collector and arterial intersections will use traffic stop signals or signing, crosswalk signing and striping, and other traffic controls. Upgrades may be required on a case-by-case basis in accordance with municipal or ODOT standards.

Arterial and Collector Midblock

Arterial roadway crossings use crosswalk signing and striping and pedestrian-activated full stop signals. A raised center refuge island is highly preferable. Collector roadway crossings use crosswalk signing and striping and pedestrian-activated flashing beacons. A raised center refuge island is preferable.

Highway Undercrossing

An undercrossing of Oregon 6 is recommended south of downtown Banks (Segment 1). The trail will follow the west side of Main Street (Oregon 47) south out of the city, cross under Oregon 6, and continue south into Segment 2. This solution requires a 14- to 16-foot widening of the existing undercrossing. The undercrossing retaining slope would be cut back and replaced with an approximate 50-foot-long retaining wall. Slope cuts and varying height retaining walls would be required for the trail's north (350 linear feet) and south (400 linear feet) approaches to the undercrossing. Although street-adjacent, the approach trails would **not** include the standard 4- to 5-foot buffer. Trail paving should be concrete through the undercrossing and may be asphalt for the approaches.



Note: Trail surface under bridge may be concrete and/or widened.

Rail Crossings

Although the west-east trail alignment will follow a rail line for its entire distance, the trail will only cross rail lines in two places. ODOT Rail will have to be consulted for all rail crossings and issue applicable crossing orders and permits.

- **Segment 3**: EAST 1 will have to cross to the south side of the rail line at either Oak Street or Oregon 47 (Quince Street) to connect to the west-east trail alignment on the south side of the rail right of way.
- **Segment 5**: Jobes Ditch/HOBBS will require permitting and construction of a new rail crossing as part of the future NW Hobbs Road/N 29th Avenue extension. This rail crossing treatment and cost will be determined as part of the larger road project.

Other Trail Structures

Trailheads

Trailhead facilities can include vehicle parking, secure bicycle parking, wayfinding and interpretive signing, restrooms, shelters, and picnic areas. Site design and amenities may vary greatly based on location and expected usage. Trailheads that share parking and other facilities at government centers, schools, and commercial areas are an economical alternative to standalone sites.

In areas along the CCRT without nearby trailhead facilities or available commercial center or institutional facility parking, appropriate “no parking” and other traffic control signing should be installed. In particular, trail crossings of residential and agricultural area roadways, or where other trails intersect, should be signed.

Trailhead locations shown on segment maps are intended to identify the general areas within which a trailhead facility would be desirable, *and are not property-specific*. Conceptual trailhead locations are listed in Table 9. A lump-sum land acquisition estimate is included in estimated overall trailhead costs. Trailhead sites with probable private property acquisition requirements are in *italics* in Table 9.

Table 9. Conceptual Trailhead Locations

Segment 1	Existing Banks-Vernonia Trailhead, Banks
Segment 2	*NW Visitation Rd, Verboort*
Segment 3	Downtown Forest Grove: Shared-use with existing commercial center or government offices
Segment 3	*Near Oak St south of OR 47, Forest Grove*
Segment 4	*Near N 19th Ave south of rail corridor*
Segment 5	Shared-use with future high school
Segment 6	*North side of OR 8 near Dairy Creek*
Segment 6	Downtown Hillsboro: Shared-use with existing commercial center or government offices

5: Implementation

Cost Estimates

Tables 10 and 11 summarize construction and design/engineering costs, and order of magnitude land acquisition costs, for each trail alignment alternative in each trail planning segment. Cost assumptions and more detailed cost breakdowns are included in Plan Report No. 3 (see Appendix C). Plan Report No. 3 cost information includes all the trail alternatives being considered as of November 2014. The cost estimates below represent refinements based on PAC/SAC recommendations in December 2014.

Table 10. Cost Estimates by Overall Trail Corridor

Banks to Forest Grove (Segments 1 and 2)	
North-South: EAST 1[a]	$27,149,400
Forest Grove to Hillsboro (Segments 3, 4 and 6)	
West-East: RAIL 1[b]	$22,169,550
Jobes Ditch Spur Trail (Segment 5)	
HOBBS[c]	$2,611,500

a Includes WEST option through Banks, and use of Porter/Oak connection to RAIL1. The OR 47/Martin/Quince connection option to RAIL 1 would be part of a larger intersection improvement and is more expensive by $400,000.

b Includes cost of extension of RAIL 1 to Douglas St in Forest Grove

c HOBBS does NOT include cost of new crossings of OR 8 or UPRR rail line. These costs are assumed to be incurred as part of planned NW Hobbs Rd/N 29th Ave extension, without which HOBBS spur trail is not possible.

Table 11. Cost Estimates by Segment Alignment Alternative

Section	Trail Length (Linear Feet)	Land Acquisition (Linear Feet)	Land Acquisition	Construction[a]	Total
1: BANKS					
WEST	7,629	1,398	$48,000	$4,425,200	$4,473,200
2: WASHINGTON COUNTY NORTH					
EAST 1	39,416	32,171	$309,000	$22,367,200	$22,676,200[b]
3: FOREST GROVE					
RAIL 1	5,565	N/A	0[c]	$4,565,100	$4,565,100
4: CORNELIUS					
RAIL 1	14,113	N/A	0[c]	$9,957,600	$9,182,600
5: JOBES DITCH					
HOBBS	7,630	3,464	$120,000	$2,491,500	$2,611,500
6: HILLSBORO – WASHINGTON COUNTY EAST					
RAIL 1	8,906	N/A	0[c]	$7,646,850	$7,646,850

a Includes engineering, permitting, contingencies, plus new trailheads in Segments 2, 3, 4, and 6.

b Cost for Porter/Oak connection to Segment 4 (OR 47/Martin/Quince connection option is $400,000 more expensive).

c Lump-sum trailhead land acquisition cost estimate embedded in overall trailhead cost.

Trail Partners

The CCRT is within the jurisdiction of the cities of Banks, Forest Grove, Cornelius, and Hillsboro, and Washington County. Metro is the regional planning authority (except for Banks). ODOT manages three state highways crossed by the preferred trail alignment (Segments 2, 3, and 5). These are the formal jurisdictional partners for planning and developing the CCRT.

Acquisition Partners

Other governmental authorities such as stormwater and irrigation utility districts, and private entities such as power utilities and railroads, may have to be partnered with on a case-by-case basis. Trail right of way or easements may have to be acquired from private property owners. Right of way acquisition will be conducted on a willing seller basis only, not through powers of eminent domain.

TriMet may be a partner if the MAX line or high capacity transit is extended down RAIL 1. MAX design standards combined with a multiuse trail may require a widened rail right of way. TriMet **does** acquire private property through eminent domain.

Table 12. Possible Acquisition Partners

Segment	Utility	Road Authority	Rail	Parks Authority	Private Owner
1: Banks		X		X	X
2: County	X	X			X
3: Forest Grove	X	X	X	X	X
4: Cornelius	X	X	X	X	X
5: Jobes Ditch		X	X	X	X
6: Hillsboro-County	X	X	X	X	X

Development and Operating Authority

Parks authority is traditionally considered a prerequisite for local governments to participate in trail funding, construction, and maintenance. Increasingly, fully functional transportation systems are defined to include trails. As such, jurisdictions without full service parks programs may consider a road authority to be sufficient basis to undertake building and operating trails. The cities of Banks, Forest Grove, Cornelius, and Hillsboro all exercise full parks authority. Both ODOT and the Oregon Parks and Recreation Department build and operate trails. Washington County authority is more limited (see discussion below).

Portions of all six CCRT planning segments are currently within the jurisdiction of Washington County. The County is not a parks or trail provider. Washington County may partner with neighboring jurisdictions or other parks providers to build and maintain trails in these segments. The County does, however, build and operate bicycle and pedestrian facilities within road right of way. The street-adjacent trails proposed for use in rural sections of the CCRT (primarily Segment 2) may in part be within existing right of way. Any additional property needed would have to be in the form of road right of way contiguous to an existing right of way to qualify for consideration for construction and maintenance under the County's road authority.

Table 13. Trail Development Authority

		Jurisdictional Authority					
Jurisdiction	**Segment**	**Parks**	**Road**	**Funding**	**Construction**	**Operating**	**Challenges**
Banks	Portion of 1	Yes	Yes	Yes	Yes	Yes	Limited City funds
County	All of 2, portions 1, 4, 5, 6	No	Yes	Limited	Limited	Limited	Not parks or trail provider, but can build/maintain within road ROW
Forest Grove	All of 3, portions of 4	Yes	Yes	Yes	Yes	Yes	Limited City funds
Cornelius	Portions 4, 5, 6	Yes	Yes	Yes	Yes	Yes	Limited City funds
Hillsboro	Portion of 6	Yes	Yes	Yes	Yes	Yes	Limited City funds
Metro	Areas within UGB only	Yes	Planning authority only	Yes	Limited	Limited	Rural portions of trail not in Metro
ODOT	All segments	No	Yes	Yes	Yes	Yes	Does not typically build/ operate urban regional trails

Trail Standards

Jurisdictional and other partner policies, plans, and standards may have a direct bearing on CCRT implementation. Plans and policies for transportation systems, parks and open space, and natural resource and surface water protection may include standards that define or influence trail development.

Key standards are highlighted below. All policies, plans, and standards are subject to periodic updates and revisions. Current versions or new policies should be reviewed and used at the time of trail design and engineering. Additional information can be found in Plan Report No. 1 – Existing Conditions and Plan Report No. 3 – Implementation Strategy.

Oregon Department of Transportation

ODOT has jurisdiction over three state highways crossed or followed by the preferred trail alignments: Oregon 6 (Segment 1), Oregon 47 (Segments 1, 2, and 3), and Oregon 8 (Segment 5). ODOT Rail owns the rail right of way used for the preferred West-East (RAIL 1) CCRT alignment.

Oregon Bicycle and Pedestrian Design Guide

ODOT has adopted the American Association of State Highway Transportation Officials (AASHTO) guidelines for path design standards. The ODOT *Bicycle and Pedestrian Design Guide*[1] includes chapters for on-road bikeways, walkways, street crossings, and

1 http://www.oregon.gov/ODOT/HWY/BIKEPED/pages/planproc.aspx

intersections, as well as "shared-use paths." Shared-use paths (termed multiuse trails in this master plan) are those used by pedestrians, joggers, skaters, and bicyclists. The Guide notes that trail design must consider the varying needs of different users, and that "there are circumstances where economics or physical constraints make it difficult to meet standards. A reasonable approach must be taken, so extraordinary sums are not spent on a short section of path; nor would the natural landscape be excessively disturbed."

Table 14 summarizes key ODOT standards. Concrete surfaces are recommended by ODOT for heavily used trails to maximize the longevity of the surface, although asphalt surfaces are acceptable for most paths. The CCRT Master Plan primarily recommends asphalt surfaces.

Table 14. ODOT Trail Width Standards

Two-way Cyclists and Pedestrians (unless otherwise noted)	Trail Width
One-way cyclist or pedestrian	6'
Few users and/or space constraints	8'
Typical minimum in rural area	10'
Urban and suburban mixed use	12'
High mixed use, faster/commuting bicyclists	12'+
High mixed use of multiple modes	Add separate soft surface trail on one side
Very high use by both bicycles and pedestrians	16' (two 5' bike lanes and one two-way walking area, striped)
Extremely high use by both bicycles and pedestrians	18'–20' (tripled in proportion to expected users; separate paths for each mode

Adapted from ODOT Oregon Bicycle and Pedestrian Design Guide

Washington County

Community Development Code

Section 408-9, Accessway and Greenway Design, contains design standards applicable to trail design. Modifications to these standards are allowed if strict compliance due to constrained site conditions is not practicable.

- Maximum slope of 5 percent wherever practical.
- 10-foot-wide paved surface to safely accommodate both bicycles and pedestrians.
- Asphalt surfacing according to the Washington County Road Standards or other all-weather surfaces (including pervious paving materials) as approved by the county engineer.
- 9-foot 6-inch vertical clearance to accommodate bicyclists.
- Removable, lockable posts (bollards) that prevent use by unauthorized motor vehicles at all intersections with streets.

Bicycle Facility Design Toolkit (2012)

This toolkit provides guidance in selecting bicycle facility options as well as design summaries, cross sections, and photographs of different options and treatments. Many of the options are similar to those described in the CCRT Master Plan.

Pedestrian Midblock Crossing Policy

The recommended CCRT standard for midblock roadway crossings is the Washington County Pedestrian Midblock Crossing Policy. These standards are also recommended for crossing designs for non-County roads.

Table 15. Midblock Crossing Standards

	Standard Treatments	Additional Treatments to be Considered
Tier 1	Crosses a 2-lane road with or without an island refuge. Install high visibility mounted signs and markings.	Refuge islands, curb extensions, staggered pedestrian refuges.
Tier 2	Crosses a 3-lane road with island refuge. Install high visibility signs and markings.	Flashing beacons, pedestrian-actuated signal/ beacon.
Tier 3	Crosses a 3-lane road without island refuge or a 4-lane road with island refuge. Install high visibility signs and markings or pedestrian-actuated signal.	Pedestrian-actuated signal/beacon.
Tier 4	Crosses a 4-lane or greater road without an island/refuge. Install pedestrian-actuated signal or beacon.	Pedestrian-actuated signal, pedestrian over- or undercrossing.

Metro

Green Trails: Guidelines for Environmentally Friendly Trails

Green Trails suggests that natural resource opportunities and challenges should be identified early in trail planning and development processes so trails are designed to preserve sensitive natural resources. Green Trails provides “recommendations to complement existing standards and guidelines adopted by local cities, counties, park providers and watershed groups in the region.” The focus is on “trails in environmentally sensitive areas and recommends strategies for avoiding or limiting the impacts on wildlife, water quality and water quantity.”

The Green Trails chapter on types, dimensions and materials suggests that “trail surface materials reflect the kind and intensity of use expected and the environmental sensitivity of the site.” Tables 16 and 17 illustrate how to select trail widths and surface materials based on level and type of use.

Table 16. Trail Width and Surface Material Based on Level of Use

Level of use and trail type	Very low use (less than 25)[1]	Low (25–100)[1]	Moderate (100–200)[1]	High (200–400)[1]	Very high (greater than 400)[1]
Multiple-use hard surface	8’	8’	8’	10’ [2]	10’ [2]
Crusher fines surface, bikes	4’–5’	6’	8’	8’–10’	7’–10’
Natural surface[3]	18”–2’	2’–3’	3’–5’	4’–6’	5’–7’

1 Estimated total number of users on a typical busy day in the busiest season.

2 Note to Table 8-2 states that the Portland metropolitan area uses trail widths of “up to 12 feet or more, where practicable.”

3 Note to Table 8-2 also states that natural surfaces may require high and expensive maintenance, and recommends a surface of crusher fines when trails are wider, when hillside cross slopes are more than 20 percent, or when soil is not well-drained.

Table 17. Trail Surface Suitability in Natural Resource Areas

Asphalt	Concrete
Not suitable for wet areas	Holds up well in wet areas
Will deform to accommodate tree roots	Not as prone to buckling from tree roots as asphalt
Porous grades can be used to facilitate infiltration	Better accommodates imperfections in the subgrade

Source: Green Trails: Guidelines for Environmentally Friendly Trails.

Other Metro Guidance

Metro has published two other documents that could be used for reference in designing and engineering environmentally friendly trails:

- **Wildlife Crossings:** Providing Safe Passage for Urban Wildlife (2009).
- **Westside Trail Master Plan, Chapter 6:** Wildlife Corridor (2014). Although this trail master plan concentrates on prairie grassland habitat within a wide power transmission corridor, it contains useful guidelines, practices, and techniques for restoring and conserving other habitats, as well as for wildlife-friendly trail crossing and structure treatments.

Other Jurisdictions

Other government agencies and nonprofit organizations build and maintain regional trails. For instance, Oregon Parks and Recreation operates the Banks-Vernonia Trail at the north end of the CCRT. Governmental agencies and public and private utilities may also indirectly control trail development and operations through regulation or directly through trail corridor ownership. For more information, see Chapter 9 of Plan Report No. 3.

Trail Features and Amenities

Structural and amenity features include bridges, boardwalks, signage, lighting and trail furniture. These features support an overall design framework that communicates a unified sense of place, appearance, and experience. CCRT Master Plan Chapter 4 and ODOT, Metro, and applicable Intertwine[2] guidelines should be used to support overall consistency in design and construction. At the time of actual engineering of particular trail sections, current standards and updated trail use information should be reviewed, and appropriate changes to recommended CCRT trail types and design made.

2 http://theintertwine.org/

Americans with Disabilities Act Compliance

CCRT preferred alignments are within the flat valley floor of the Tualatin River Watershed. Longitudinal slopes are primarily under 5 percent and cross slopes under 2 percent. These existing grades allow full compliance with ADA standards without extensive use of special structures or trail meanders and switchbacks.

The limited exceptions are where the trail crosses the West Fork Dairy Creek (Segment 2), Council Creek (Segment 3), and the main stem of Dairy Creek (Segment 6). Stream banks may exceed longitudinal and cross slope maximums. These can be readily mitigated using boardwalk and bridges.

Signage

Guidance on various forms of signing are available from several sources including guidance specific to the Portland metropolitan region. Strong Hispanic community participation in CCRT Master Plan public review processes indicates that native Spanish speakers will be significant trail users. Appropriate wayfinding, educational, and interpretive signage should be bilingual.

- FHWA's Manual on Uniform Traffic Control Devices and the Oregon supplement provide guidance on regulatory and warning signs. This type of signage needs to be closely coordinated with city, county, and ODOT standards.
- The Intertwine's *Regional Trails Signage Guidelines* should be used to support a consistent look and feel for wayfinding, educational, and interpretive signage.

Environmental Regulations

The CCRT preferred alignments cross or pass near to streams, wetlands, floodplains, and associated riparian areas. Regulatory compliance requirements will have to be considered, impacts from trail construction mitigated, and restoration or enhancement may have to be undertaken. Engineering, permitting, and construction requirements may vary based on the physical conditions of a given segment, differences in local regulations and processes, and even the source of development funding.

Wetland and Nonwetland Waters

Detailed information on wetlands, nonwetland waters, and floodplains in the larger CCRT study area can be found in Plan Report No. 1. Features potentially impacted by the preferred alternatives are summarized in Table 18. Wetland and stream impacts in Segments 3 and 4 are relatively minor.

Table 18. Wetlands, Nonwetland Waters, and Floodplain Crossings

Segment	Wetlands	Streams	Floodplains	Other
1: Banks	X		X	
2: County	X	X	X	
3: Forest Grove	X	X	X	
4: Cornelius	X	X	X	
5: Jobes Ditch				Tualatin River
6: Hillsboro-County	X	X	X	

Clean Water Services (CWS)

CWS is the surface water management regulatory authority for urban Washington County. Trail development may trigger CWS standards to protect sensitive areas and vegetated corridors, and mitigation and enhancement may be required. Although CWS does not have jurisdiction outside of the UGB, CWS standards are recommended in CCRT's rural unincorporated sections (Segment 2).

CWS standards[3] allow pedestrian or bicycle trail crossings of vegetated corridors. Trails have to be designed and constructed to protect water quality and mitigate any impacts to public stormwater systems. Vegetated swales and/or dry basins are required to provide on-site treatment of all stormwater runoff from paved trails. Standards for percent covered by native trees, shrubs and groundcover could particularly apply to trails through riparian corridors. More than 50 percent tree canopy has to be preserved, or variances obtained or off-site mitigation provided. Invasive nonnative species are to be removed, and a native plant revegetation plan developed to restore the corridor to "good condition."

Paths between 12 and 14 feet wide are an allowed use if constructed using low impact development approaches in accordance with Chapter 4,[4] Runoff Treatment and Control. If these conditions cannot be met, this wider pathway must be permitted in accordance with Section 3.07, Encroachment Standards.[5] Paths up to 12 feet wide, including any structural embankments, are permitted outright if:

- Constructed to minimize disturbance to existing vegetation and maintain slope stability.
- For the Tualatin River, located no closer than 30 feet from the 2-year, 24-hour design storm elevation.
- For all other sensitive areas, the path is located in the outermost 40 percent of the vegetated corridor.
- The area of the path beyond the first 3 feet of width is mitigated in accordance with Section 3.08, Replacement Mitigation Standards.
- Path construction does not remove native trees greater than 6 inches diameter at breast height.

Other Permitting Processes

Table 19 lists the most likely trail development environmental and use permitting and/or compliance processes. Plan Report No. 1 – Existing Conditions provides additional information to help identify the particular trail sections or structures to which different permitting might apply.

3 http://www.cleanwaterservices.org/Content/Permit/DAndC%20Chapters/Chapter%203%20DC%20Amendment%20RO%2008-28.pdf.
4 http://www.cleanwaterservices.org/Content/Permit/DAndC%20Chapters/Chapter%204%20Amendment%20RO%2007-20.pdf.
5 http://www.cleanwaterservices.org/Content/Permit/DAndC%20Chapters/Chapter%203%20DC%20Amendment%20RO%2008-28.pdf.

Table 19. Possible Permitting Processes

Agency	Method
Federal	
Federal Highway Administration	National Environmental Policy Act (NEPA)
Executive Orders	EO 11988 Floodplain Management Compliance EO 11990 Protection of Wetlands Compliance EO 12898 Environmental Justice Compliance
National Marine Fisheries Service	Endangered Species Act Section 7 Consultation Magnuson-Stevens Fishery Conservation and Management Act Consultation Fish and Wildlife Coordination Act
U.S. Fish and Wildlife Service	Endangered Species Act Section 7 Consultation Migratory Bird Treaty Act Compliance Fish and Wildlife Coordination Act Coordination
U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit
State of Oregon	
State Historic Preservation Office	National Historic Preservation Act Section 106 Consultation
Department of Environmental Quality	Clean Water Act Section 401: Water Quality Certification Clean Water Act Section 404 Permit Review National Pollutant Discharge Elimination System Program Construction Stormwater Discharge Permit
Department of State Lands	Wetland Delineation Clearance Removal-Fill Permit or General Authorization
Department of Fish and Wildlife	Oregon Fish Passage Law Compliance Oregon Endangered Species Act Compliance Habitat Mitigation Policy
Department of Transportation	Permit to occupy or perform operations upon state highways
Local Government, Special Districts, Railroads	
County, Banks, Forest Grove, Cornelius, Hillsboro	Land use permits and approvals (conditional use, development, and/or environmental) Natural resource overlay zone reviews Floodplain development permits Roadway construction permits
Clean Water Services	Environmental review, development review, storm water permits
Tualatin Valley Irrigation District	Must grant permission to follow or cross major irrigation lines
ODOT Rail/Portland and Western Rail	Must agree to use of rail corridor for rail-with-trail

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6: Phasing Plan

Many factors will influence actual CCRT construction phasing and time frames. The timing and feasibility of property acquisition, which will be exclusively on a willing seller basis, and availability of construction funding are primary drivers. Phasing will also be influenced by changing jurisdictional authority and priorities, public and private development, and evolving regional and local plans. The building of specific trail sections and structures may change phasing priorities over time. Phasing should be periodically reviewed and adjusted in light of such factors.

Phasing Criteria

The following phasing criteria are not in order of importance nor weighted. Higher priority trail segments or sections will demonstrate some combination of the following characteristics:

Table 20. Phasing Criteria

Criterion	Description
Jurisdictional Authority	The trail segment or section is within a jurisdiction with authority to fund, develop, own and/or operate trails.
Funding Availability	Wide range of funding programs are available and adequate to fund a specific trail section or structure.
User Alternatives	There are no practical or safe alternatives for trail users without constructing a specific trail section or structure.
Connectivity and Functionality	• Connects to major activity center(s). • Extends built trails • Connects to existing or planned transportation facilities • Functional in and of itself (e.g., if other sections were never built, would still be useful) • Crucial link without which other sections would not be functional.
Overall Benefit/Cost	The benefits of a specific trail section or structure are distinctly greater than the relative length or cost, environmental mitigation or permitting complexity, and other factors.

Corridor Phasing

Development of the West-East Corridor – RAIL 1 (Forest Grove to Hillsboro) has general priority over the North-South Corridor – EAST 1 (Banks to Forest Grove). The reasons for prioritizing RAIL 1 over EAST 1 are:

- RAIL 1 will serve larger urban concentrations of commuting and recreational users of all types and modes.
- There are no suitable interim options for a trail from Forest Grove to Hillsboro.
- There are no land acquisition costs or timing constraints (other than funding availability) on RAIL 1.
- Motorized vehicle traffic volumes along most of EAST 1 are relatively low. Interim shared-use solutions may suffice in the near-term.

Table 21. Trail Phasing Priorities

Near-Term

EAST 1: Banks to Forest Grove	• OR 6 undercrossing and approach trail options • Verboort area improvements • Interim on-street shared-use improvements
RAIL 1: Downtown Forest Grove through incorporated Cornelius	• Douglas St in downtown Forest Grove to OR 47/Quince St (including new arterial roadway crossing improvement) • OR 47/Quince St to Yew St or N 4th Ave • Yew or N 4th Ave to N 10th Ave • N 10th Ave to N 19th Ave • N 19th Ave to NW Hobbs Rd/N 29th Ave/Ryland Park (this stage could utilize shared-use on N Holladay St as an interim solution)
EAST 1 – RAIL 1 Connection	See page 79.

Near-Term to Mid-Term

RAIL 1: Cornelius (N 29th Ave/Ryland Park) to Downtown Hillsboro	This relatively long section of RAIL 1 would be built last. Due to the need for a new bridge across Dairy Creek, and the challenges with user access and neighborhood impacts if the section were built in multiple stages, this section would probably have to be constructed in a single stage.

Mid-Term

EAST 1: OR 6 to NW Greenville Rd	Street-adjacent multiuse trail along west side of OR 47 and northeast side of NW Greenville Rd from OR 6 to NW Evers Rd. An at-grade bicycle/pedestrian crossing of OR 47 at NW Greenville Rd may be required.

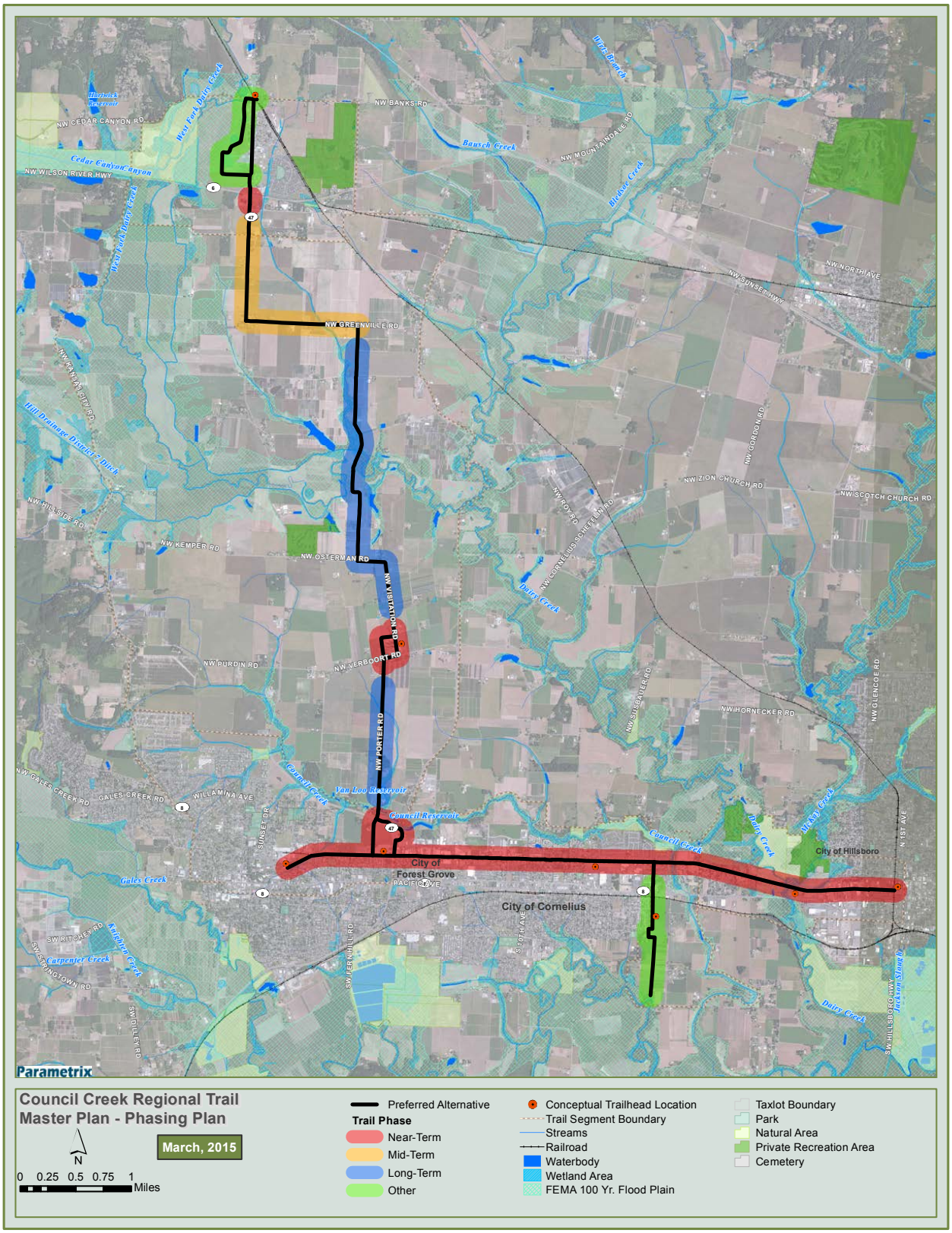
Long-Term

EAST 1: NW Evers Rd to south end of NW Porter Rd	• NW Evers Rd – Greenville to NW Osterman Rd • Osterman/NW Visitation Rd – to community of Verboort • NW Porter Rd – community of Verboort to OR 47

Other

EAST 1: NW Banks Rd to OR 47/Main St	Extends from NW Banks Rd near the Banks-Vernonia Trailhead around the west side of downtown Banks and back to OR 47/Main Street between Sunset Park and the northwest OR 6 ramp. Would be built as part of planned roadway improvements on the west side of the City. City may elect to use improved bicycle lanes and sidewalks along Main St for this section of CCRT,
Jobes Ditch/HOBBS: OR 8 to Tualatin River	Trail development is dependent on a new crossing of OR 8, a new UPRR rail crossing, and development of a new high school immediately south of the UPRR line. The south end of this trail section from the high school site to the Tualatin River can be established as part of planned future urbanization.

Map 14. Phasing Plan



Rail-with-Trail Phasing (RAIL 1)

The phasing of RAIL 1 is complicated by current freight rail service and future MAX or high capacity transit service. The recommended multiuse rail-with-trail improvement has an estimated total cost of over $22 million and will almost certainly have to be phased. The linear nature of RAIL 1 does not lend to easily defined stages. Although jurisdictional boundaries could be used, staged sections generally defined by major cross streets are suggested.

The staging of RAIL 1 from west to east is recommended. The west and center sections of RAIL 1 primarily cross through urbanized areas with multiple options to enter and exit the trail – cross streets, sidewalks, and bicycle lanes. Higher density urban populations would immediately benefit from a linear trail spanning Forest Grove and Cornelius.

On the east end of RAIL 1 toward Hillsboro, lower densities and fewer cross streets could result in trail users being left with no acceptable options (to both the users and surrounding neighborhoods) to exit and enter the trail until RAIL 1 was completely constructed. In addition, west to east phasing will provide additional time to determine if the existing rail bridge across Dairy Creek (Segment 6) could be re-used, thus saving the $2.6 million needed for a complex-to-engineer new trail bridge paralleling the existing rail bridge.

North-South Trail Corridor (EAST 1)

Development of the North-South Corridor is generally a LONG-TERM priority. Multiuse trail development for EAST 1 should be managed so that continuous trail sections between major road intersections are built as single stages. For example, the NW Porter Road multiuse trail section should not be built until all required right of way between NW Verboort Road and Oregon 47 is secured.

Staging sections notwithstanding, the actual phasing of the North-South Corridor street-adjacent multiuse trail will be primarily dependent on the acquisition of additional right of way. Partner jurisdictions must be ready to identify and act on opportunities to acquire necessary right of way along the Greenville-Evers-Osterman-Visitation-Verboort-Porter sections of EAST 1, with the long-term goal of assembling enough land to build functional rural street-adjacent multiuse trail sections that gradually replace the near-term interim shared-use solution (see pages 77–78).

Corridor Phasing Exceptions

The following north-south trail sections should be given NEAR-TERM priority.

EAST 1: Undercrossing of Oregon 6 at Oregon 47/Main Street (Banks)

Considerable safety and functionality benefits accrue from a relatively inexpensive (estimated at $750,000) widening of the Oregon 47/Main Street undercrossing of Oregon 6. Conflicts between bicycle/pedestrian and motorized vehicle traffic crossing under the highway would be significantly reduced, and access to existing bike lanes and sidewalks in downtown Banks and to the Banks-Vernonia Trailhead greatly improved.

This undercrossing improvement would require approach trails on the west side of Oregon 47/Main Street from the northwest ramp of Oregon 6 intersecting with Main

Street to the unsignalized intersection of Oregon 47 and NW Wilkesboro Road just south of Oregon 6. A future extension of a street-adjacent trail on the west side of Oregon 47 and an arterial roadway crossing improvement at NW Greenville Road will be needed to connect to the balance of the future EAST 1 street-adjacent trail.

EAST 1: Community of Verboort

Recommended NEAR-TERM improvements include:

- Shared-use signing and/or pavement markings on NW Heesacker Road, the south 500 feet of NW Visitation Road, and the north 500 feet of NW Porter Road.
- Shoulder widening on NW Visitation Road, and a widened sidewalk on the north side NW Verboort Road, as well as signing and pavement markings.
- Improved arterial bicycle/pedestrian roadway crossing of NW Verboort Road at the intersection with NW Heesacker Road.

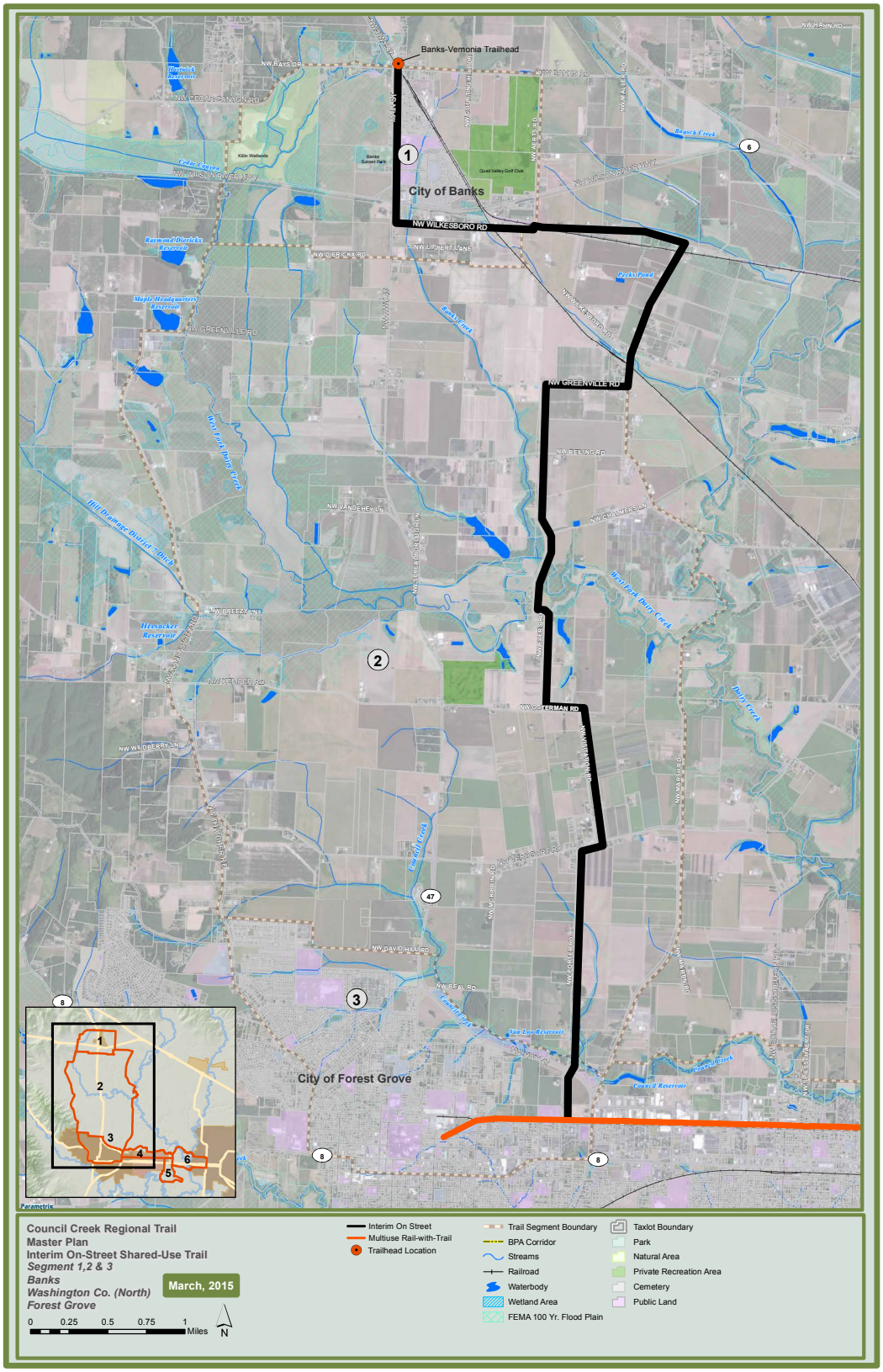
EAST 1: Interim Shared-Use On-Street Improvements

Vehicle traffic volumes along many sections of EAST 1 (NW Evers Road, NW Osterman Road, NW Visitation Road, NW Porter Road, and possibly NW Greenville Road) are low enough that on-street shared-use solutions and/or roadway shoulder widening may be economic and safe trail alternatives. Portions of this route are also along the Tualatin Valley Scenic Bikeway (TVSB), which may be programmed by the County for spot improvements in the NEAR-TERM.

Shared-use is therefore recommended as a practical **interim** solution through Segments 1, 2, and 3 until funding and property is secured to build functional multiuse trail sections.

- Bicycle route signing and/or pavement markings for shared-use should be added or improved along EAST 1 roadways to establish an interim CCRT route generally following the recommended long-term street-adjacent trail alignment between Banks and Forest Grove. The TVSB overlaps with EAST 1 along NW Greenville Road, NW Osterman Road, NW Visitation Road, and NW Porter Road.
- As the Oregon 47 section of EAST 1 (Segment 2) carries higher motorized-vehicle volumes and speeds making shared-use potentially unsafe, the CCRT interim shared-use solution should be temporarily extended along the NW Greenville-NW Roy-NW Wilkesboro section of the TVSB, rejoining Oregon 47 immediately south of the Banks and Oregon 6 interchange at NW Wilkesboro Road.

Map 15. Interim On-Street Shared-Use Trail Segments 1, 2, and 3



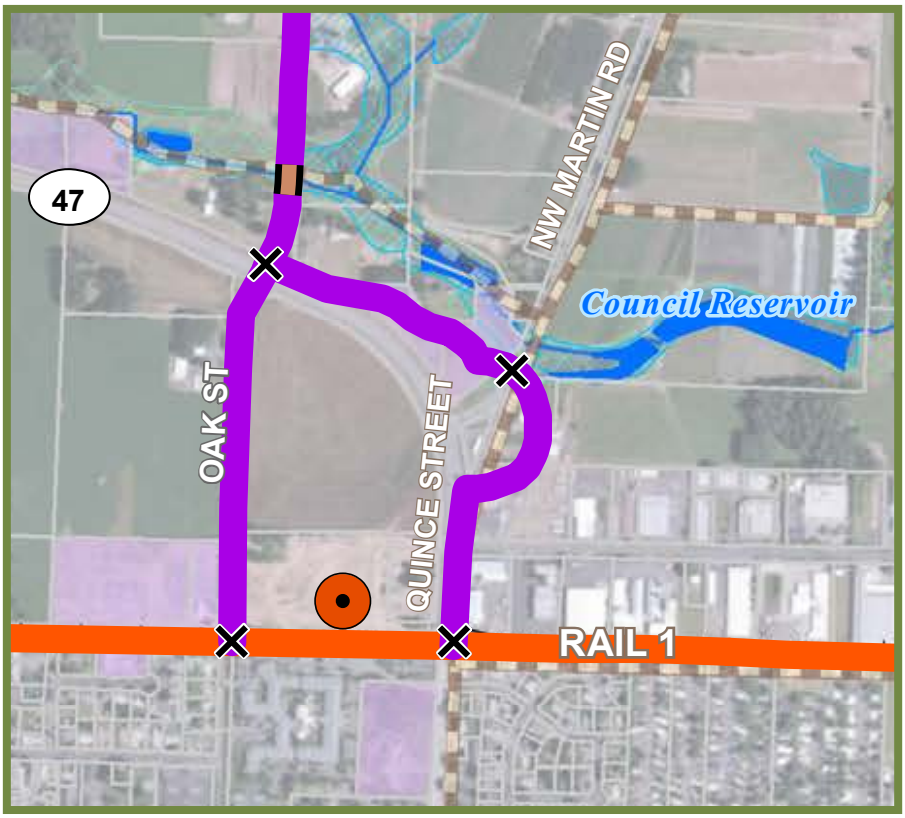
EAST 1 and RAIL 1: Connecting Trail and Highway Crossing

A critical improvement impacting the functionality of the entire CCRT is the need for a new arterial roadway crossing and connecting trail sections between Segments 2, 3 and 4 in the vicinity of the intersection of Oregon 47/Quince Street and NW Martin Road.

Two conceptual connector options are illustrated below (Map 16). Selection will be driven by ODOT determination of new permissible signalized or user-activated crossings and the final design and timing of a planned rebuild of the Oregon 47/NW Martin Road intersection. The Oak Street alternative is simpler and less expensive than the NW Martin Road alternative but requires two new arterial roadway bicycle/pedestrian crossings of Oregon 47 (at Oak Street and the rail crossing). The major future intersection improvements at NW Martin Road will require only one new arterial bicycle/pedestrian crossing.

The cost of bicycle and pedestrian facilities and trail sections associated with the Oregon 47/Martin Road option are estimated to be $400,000 greater than the Oak Street option, even though Oak will require an additional arterial crossing.

Map 16. Oregon 47 Connection Option



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7: Funding Opportunities

Trail development and enhancement funding sources are summarized in Tables 22 and 23. Terms and conditions will change from time to time, new programs may emerge or others may sunset, and funding cycles and levels will vary. Funding or construction planning should be preceded by a review of current programs and cycles.

Construction Funding

Transportation and parks system development charges (SDC) are assessed by trail partner jurisdictions against new development. Although limited to funding extra-capacity capital improvements to meet the demands generated by new development, SDCs could be available to apply to regional trail development within a jurisdiction's boundary. Other jurisdictions collect street utility fees to underwrite operations and maintenance costs, another possible funding source for trails.

Table 22. Trail Design and Construction Funding Sources

Agency	Program	Funding Cycle	Local Match Percentage	Range of Funds Available
Washington County	MSTIP 3d - Opportunity Funds	5-year cycle	Undetermined	$5M total
Metro	Metropolitan Transportation Improvement Program (MTIP) Regional Flexible Funds (2016–2018)	3-year cycle	10%	$94.6M total
ODOT	Statewide Transportation Improvement Program (STIP) – Enhance and Fix-it (2015–2018)	3-year cycle	10% (Enhance)	$1.3B total ($720M Fix-It & $227M Enhance)
ODOT	Oregon Connect (2015–2018)	Each biennium	20%	$42M

Enhancement Funding

Funding may also be available to underwrite specific elements or types of trail construction, or to provide enhancements or mitigation within trail corridors. Such funds are summarized in Table 23. These funds are sometimes sourced from federal or state government, with state or regional agencies administering allocation and award. Locally sourced funds may also be available.

Table 23. Potential Trail Enhancement Funding Sources

Agency	Program	Funding Cycle	Local Match Percentage	Range of Available Funds
Metro	Restoration and Enhancement Grants	Annual	100%	$10,000 to $30,000
	Nature in Neighborhoods Capital Grants	Annual	200%	Minimum of $50,000
	Natural Areas Bond Acquisition Funds	Varies	Varies	Varies
	Regional Travel Options	Biannual	10%	Minimum of $50,000
Oregon Parks and Recreation	Local Government Grant	Annual	20% to 50%	$40,000 to $1M
	Recreational Trails Grants	Annual	20%	Minimum of $5,000
	Land and Water Conservation Fund (LWCF)	Annual	50%	Minimum of $12,500
Oregon Community Foundation	Oregon Historic Trails Fund	Annual	N/A	Up to $40,000
	Oregon Parks Foundation Fund	Annual	N/A	$1,500 to $5,000
Bikes Belong	Bikes Belong Grant	Quarterly	N/A	Up to $10,000
Cycle Oregon	Cycle Oregon Signature Grant	Annual	N/A	$50,000 to $100,000

Appendix A: Plan Report No. 1 – Existing Conditions

Appendix A is a major document ranging upward of 100 pages in length. This appendix can be downloaded from the link below.

http://www.oregonmetro.gov/public-projects/council-creek-regional-trail-master-plan

Appendix B: Plan Report No. 2 – Trail Alignment Analysis

Appendix B is a major document ranging upward of 100 pages in length. This appendix can be downloaded from the link below.

http://www.oregonmetro.gov/public-projects/council-creek-regional-trail-master-plan

Appendix C: Plan Report No. 3 – Implementation Strategy

Appendix C is a major document ranging upward of 100 pages in length. This appendix can be downloaded from the link below.

http://www.oregonmetro.gov/public-projects/council-creek-regional-trail-master-plan

Appendix D: Project Delivery and Quality Control Plan

COUNCIL CREEK REGIONAL TRAIL (CCRT) MASTER PLAN
Project Delivery and Quality Control Plan

Budget and Expenditure Controls
Parametrix shall:

- Produce and submit monthly reports along with invoices to City of Forest Grove and ODOT highlighting key activities for the prior month and documenting project expenditures for the billing period and to-date.
- Use the Parametrix "Crystal Reports" project monitoring system to provide PMT with weekly budget updates as needed. Crystal Reports document project hours billed and other costs accrued on a task and sub-task basis, and are updated every seven (7) calendar days (reports issued every Tuesday).

Master Plan Content QA/QC
The Parametrix Bellevue, Washington Office will provide independent peer review and quality control for each of the Plan Reports (excluding the *Public Involvement Plan*) and for the draft and final versions of the Master Plan.

Review and Acceptance of Deliverables
The City of Forest Grove and ODOT are responsible for the final review and official acceptance of all Master Plan deliverables. The PMT, PAC, and SAC will review and comment on Master Plan deliverables.

Consensus comments by the PAC and SAC, and input from public open houses, on the Master Plan, will be delivered to the PMT in the form of meeting notes prepared by Parametrix. In addition, any additional individual comments or input provided directly by or through PAC or SAC members will be delivered to the PMT. The City of Forest Grove is responsible for consolidating all comments and input and providing formal direction to Parametrix for any modifications to the draft deliverables through a single comment memorandum and/or "track changes" version of the submitted draft deliverable. The project's WOC further details these processes.

Contingency Tasks
No formal contingencies are contemplated by the project's work order contract. Contingencies may be considered on a case-by-case basis by ODOT and the City of Forest Grove in consultation with Parametrix, based on agreed to additional project needs and the availability of additional funding.

Appendix E: Advisory Committee Roles and Responsibilities

COUNCIL CREEK REGIONAL TRAIL MASTER PLAN

Committee Roles and Responsibilities

Three advisory committees will assist in developing the Council Creek Regional Trail Master Plan (Master Plan). The Project Advisory Team (PMT) will generally be the initial review body for each Master Plan task deliverable, followed by review by the Stakeholder Advisory Committee (SAC), then review in public open houses as applicable, and finally review by the Project Advisory Committee (PAC). The PAC shall consider input from the PMT, SAC, and from public open houses, and make the final advisory recommendations on the three (3) project task Plan Reports, and on the draft Master Plan that is forwarded to the jurisdictional partners that will adopt the Master Plan.

Committee Responsibilities

The members of all three project committees shall have the following responsibilities. PAC and SAC members may choose an alternate representative but are encouraged to use this representative only when unavoidable circumstances arise. Consistency in committee participation is a key factor in delivering an effective Master Plan.

- Review all meeting materials in advance and attend all meetings.
- Assist in gathering existing conditions information including environmental and land use information and stakeholder contact information.
- Provide advice on Master Plan trail alignment alternatives and other deliverables.
- Assist in public outreach, such as by identifying strategies, venues, and invitees; helping to staff such outreach events.
- Act as project liaisons to the organizations and constituencies they represent. Committee members will be asked to verbally report on their prior liaison activities at each committee meeting.

Committee Types and Membership

PAC and SAC members may choose an alternate representative but are encouraged to use this representative only when unavoidable circumstances arise. Consistency in committee participation is a key factor in delivering an effective Master Plan.

Project Management Team (PMT)

The PMT will help to ensure completion of tasks and deliverables in accordance with the Master Plan scope, schedule and budget; and provide policy and technical guidance. The PMT shall review and comment on draft Plan Reports prior to distribution to the PAC, SAC, appointed and elected officials, and the public.

Four (4) PMT meetings shall be held over the duration of the Master Plan project. PMT meetings shall be held to coincide with delivery of the draft Plan Reports associated with project Tasks 3, 4, and 5, and with delivery of the internal draft Master Plan (Task 6). In addition, the PMT shall participate in the project kick-off meeting. The project kick-off meeting and the meeting for project Task 3 shall be held jointly with the PAC as single meetings. All other PMT meetings will held separate from the PMT and be one (1) hour in length and conducted by teleconference.

The PMT membership shall be the following entities and specific persons:

- City of Forest Grove Derek Robbins (City Project Manager)
- City of Cornelius Dick Reynolds (Collaborative Project Manager)
- Metro Lake McTighe (Collaborative Project Manager)
- ODOT Michele Thom (ODOT Project Manager)
- Parametrix Jim Rapp (Consultant Project Manager)

The City Project Manager shall facilitate the PMT meetings. Consultant shall lead meeting discussions on technical issues. Specific responsibilities of City Project Manager, with the assistance of other PMT members and the Consultant, related to the functioning of the PAC and SAC include:

- Facilitating PAC and SAC meetings to begin and end on time, stay on topic, consider all issues on the agenda, afford all members the opportunity to express their views and concerns, and to the extent possible, reach consensus on Master Plan alternatives and recommendations.
- Providing the PAC and SAC with timely meeting agendas and materials.
- Preparing and distributing PAC and SAC meeting summaries.
- Arriving early and remaining after each PAC and SAC meeting to manage meeting set-up and take-down logistics.
- Providing general Master Plan project updates and information on upcoming project activities and events notices as part of each meeting.
- Sharing agency, stakeholder, and public input; and other information that may have been received between PAC and SAC meetings.

Project Advisory Committee (PAC)
The PAC will provide technical assistance, feedback, review, and provide advisory recommendations on project task deliverables; and provide policy guidance and act as a sounding board over the course of the Master Plan project.

Four (4) PAC meetings shall be held over the duration of the Master Plan project. PAC meetings shall be held to coincide with delivery of the draft Plan Reports associated with Master Plan project tasks 3, 4, and 5, and with delivery of the external draft Master Plan (Task 6). In addition, the PAC shall participate in the project kick-off meeting. The project kick-off meeting and the meeting for project Task 3 shall be held jointly with the PAC as single meetings. All PAC meetings will be two (2) hours in length and be held at City of Forest Grove offices or at other locations convenient to PAC members, as determined by the City.

The PAC membership shall include one (1) representative from each of the following entities. PMT members shall also serve on the PAC. Each jurisdiction shall have one “vote” in arriving at PAC recommendations. The Parametrix representative shall be “non-voting”. PAC representatives for the City of Forest Grove and City of Cornelius are in addition to its member on the PMT. The cities are the local government managing agencies for the Master Plan project, and the additional PAC representation will allow its PMT representative to concentrate on project contractual and management issues.

- City of Forest Grove
- City of Banks
- City of Hillsboro

- City of Cornelius
- Washington County

Stakeholder Advisory Committee (SAC)
The SAC shall advise the PMT and PAC on constituency and community concerns and issues, assist in public outreach, review and provide comment on Master Plan alternatives and deliverables, serve as a forum to provide information and contacts that will help advance the Master Plan, and help to build community consensus on Master Plan recommendations.

Three (3) SAC meetings will be held over the duration of the Master Plan project. SAC meetings shall be held to coincide with the delivery of the draft Plan Reports associated with Master Plan Tasks 4 and 5, and with delivery of the external draft Master Plan (Task 6). All meetings will be two (2) hours in length and be held at City of Forest Grove offices or at other locations convenient to SAC members, as determined by the City. PMT and PAC member participation in SAC meetings shall be ex-officio.

The SAC membership may include but not be limited to one (1) representative from each of the following entities or interests.

- Forest Grove Recreation Commission
- Cornelius Parks Advisory Board
- Forest Grove Economic Development Commission
- Forest Grove Chamber of Commerce
- Cornelius Chamber of Commerce
- Rural Roads Operations & Maintenance Advisory Committee (RROMAC)
- Washington Transportation Association (WTA)
- Citizen Participation Organization (CPO) 15
- Salmonberry Corridor Coalition
- Friends of Yamhelas Westsider Trail Coalition
- Friends of Banks-Vernonia Trail
- Banks Chamber of Commerce
- Washington County Visitors Association
- Washington Co. Bicycle Transportation Coalition
- Tualatin Soil & Water Conservation District
- Hillsboro Chamber of Commerce
- Hillsboro Economic Development Commission
- Tualatin River Watershed Council
- Adelante Mujeres
- Forest Grove Committee for Citizen Involvement
- Verboort Citizen Advisory Board
- Oregon Farm Bureau

Committee Meeting Purpose and Schedule

The three committees will meet several times over the course of the Master Plan process. Meeting dates below are "**the business week of**" and preliminary, and may be subject to modification over the course of the Master Plan process, based on adjusting timing to coincide with key deliverables, to maximize committee participation, or to account for other variables that may arise. Committee decision-making processes, protocols, and limitations are summarized elsewhere in the Roles and Responsibilities document.

- **Kick-off Meeting (Task 1.2.1)**
  - PMT and PAC Week of October 7, 2013

    Purpose: Present project history, study area, and overview; review project scope and schedule, "Committee Roles and Responsibilities" and "Project Delivery and Quality Control Plan" documents, and SAC membership.

    Materials: Full ODOT-approved project scope, project mapping, draft "Roles and Responsibilities" and "Quality Control" documents.

    Outcomes: Modify or accept project schedule, "Roles and Responsibilities" and Quality Control" documents, and SAC membership.

- **Public Involvement Plan, Existing Conditions Report, Trail Alignment Criteria (Task 2.1, Task 3, Task 4.1)**
  - PMT and PAC Week of January 13, 2014

    Purpose: Review draft Existing Conditions Report; draft Public Involvement Plan; and draft trail alignment criteria.

    Materials: Draft Existing Conditions Report and draft Public Involvement Plan.

    Outcomes: Modify or accept Existing Conditions Report, Public Involvement Plan, and Trail Alignment Criteria.

- **Trail Alignment Analysis (Task 4.2)**
  - PMT Week of April 14, 2014
  - SAC Week of April 28, 2014
  - Open House Week of May 27, 2014
  - PAC Week of June 9, 2014

    Purpose: Review draft Trail Alignment Report and mapping identifying up to 3 alignments in each of 7 trail segments.

    Materials: Draft Trail Alignment Report and Map Atlas.

    Outcomes: Modify or accept project schedule, "Roles and Responsibilities" and Quality Control" documents, and SAC membership.

- **Plan Implementation Report (Task 5)**
  - PMT Week of October 27, 2014
  - SAC Week of November 4, 2014
  - PAC Week of November 17, 2014

    Purpose: Review Plan Implementation Report, which will include a "preferred" trail alignment for each segment and revised map atlas, trail design typology, cost estimates, and report on other implementation factors.

    Materials: Draft Plan Implementation Report

    Outcomes: Modify or accept Plan Implementation Report including selection of preferred trail alignment for each trail segment

- **Master Plan Production (Task 6)**
  - PMT — Week of March 23, 2015
  - SAC — Week of March 30, 2015
  - Open House — Week of April 20, 2015
  - PAC — Week of May 18, 2015

  Purpose: Review full draft Master Plan and map atlas.

  Materials: Draft Plan Implementation Report

  Outcomes: Modify or accept Plan Implementation Report including selection of preferred trail alignment for each trail segment
- **Final Master Plan Submitted to City** — Week of June 29, 2015
- **Jurisdictional Reviews** — July – September 2015

Committee Meeting and Communication Protocols

Decision-making Processes

All three project committees will strive to reach consensus decisions on Master Plan deliverables and recommendations. The PMT's Parametrix representative shall be "non-voting".

- Consensus is defined as the point where all committee members agree on the best option, even if it is not each member's personal preference.
- If consensus cannot be reached, the committees will be encouraged to narrow the possibilities by making majority/minority recommendation(s). Any committee member that still has a strongly held divergent viewpoint may ask that their position be included in the meeting record.
- While committee input is highly valued and essential to the success of the Master Plan project, all actions of the three committees are advisory. The City of Forest Grove and ODOT reserve the final decision-making authority for all Master Plan recommendations and for directing the activities of Parametrix.

Meeting Agreements

Committee members are volunteers and will have limited time to consider Master Plan findings and deliverables. In addition, the Master Plan project budget and scope is set by contract with ODOT. The ability to extend meetings, re-consider recommendations, or add or extend tasks will be highly constrained. In order to assure that committee meetings are the most productive, the following meeting agreements are suggested:

- Treat fellow committee members, project staff, and audience members, if any, with respect.
- Share the floor – let others speak once before speaking twice. Listen carefully with the intent of understanding the positions and statements of other committee members.
- Collaborate with other committee members, and project staff and consultants, in seeking to find consensus.
- Help create an atmosphere in which differences can be raised, discussed and melded into group decisions. Divergent views and opinions are expected and are to be respected.
- Be an active member of the committee. Make every effort to attend every committee meeting. The committees will not revisit information provided or decisions made in your absence.

- Represent your designated constituents, but ultimately strive to set aside personal or constituent interests in order to seek the best solutions for all stakeholders and future users of the trail.
- Focus questions and comments on the subject at hand and on the published agenda, unless committee members agree by consensus to add or remove agenda or discussion items.
- When discussing agenda items and project issues, apply your comments to the subject at hand, not to personalities or personal disagreements. Raise issues honestly, clearly and early, and share differences of opinion – silence is considered consent.
- Turn off cell phones, pagers, laptops, and other communication devices, except when using such devices will help to move forward issues associated with the agenda.
- Refrain from conducting non-project business during committee meetings. If you must take a priority call or have to conduct a necessary time-specific non-project conversation, please excuse yourself from the meeting and return as soon as possible. The committees will not revisit information provided or decisions made in your absence.
- Notify the City of Forest Grove if you are unable to attend a meeting or project event. Indicate if an alternate representative will be attending in your place.

Communications

Acting as liaisons to constituents, appointed and elected officials, the public, and other groups and stakeholders is a key responsibility of all committee members. Outside communications by committee members on the Master Plan process and findings are encouraged. However these communications need to be consistent. The following guidelines are suggested:

- Members will be expected to report at each committee meeting on their liaison activities and what they are hearing back from constituents and the public.
- Members will not engage in outside actions or discussions in a manner that misrepresents committee processes or decisions. Members are free to express their disagreement or issues with committee decisions, but should do so in the context of accurately representing the decisions and recommendations of the full committee.
- Members will refrain from trying to reverse or change committee decisions or recommendations by engaging with outside parties to unduly influence other committee members. Disagreement or dissent is legitimate but it should be expressed in the context of committee decision-making processes and recorded as a minority or individual position.
- Members can suggest agenda items by contacting the City project manager. Between committee meetings, members should also provide the City project manager with reports of any comments, issues, or concerns they are hearing from outside sources or constituents.
- Members will notify the City project manager about any news media inquiries, and refer requests for official statements or viewpoints.

Appendix F: Public Involvement Plan

COUNCIL CREEK REGIONAL TRAIL MASTER PLAN

PUBLIC INVOLVEMENT PLAN

INTRODUCTION and OVERVIEW

The Council Creek Regional Trail Public Involvement Plan (PIP) serves as a guide for outreach activities throughout the Master Plan process. The PIP will be implemented with two distinct audiences in mind. The first audience includes stakeholders with specific advocacy, location, property, or jurisdictional interests in the Master Plan. The second audience is the general public that may engage as it relates to specific concerns or general interests.

Public involvement activities will include both traditional and social media, a project web site, and coordination with the Master Plan's jurisdictional partners. Targeted interactions with specific groups and interests through key stakeholder interviews and the project's broad-based stakeholder advisory committee, and general interactions at project open houses will be publicized through a variety of media and direct notice activities that will assure a high level of contact with and participation by multiple audiences.

In addition to the specific outreach events described in this PIP, a Stakeholder Advisory Committee (SAC) will meet three (3) times in the course of the Master Plan process to provide advice and recommendations. The SAC will be an important means for engaging stakeholders, encouraging deliberation in the formation of recommendations and building understanding about Master Plan decisions. Details on the SAC's purpose, membership and meeting schedule are included in *Attachment A - Committee Roles and Responsibilities.*

PROJECT GOALS

The Master Plan will recommend a comprehensive strategy for the completion of an uninterrupted 15-mile long regional trail from downtown Hillsboro, Oregon through the cities of Cornelius and Forest Grove, thence north through unincorporated Washington County to the City of Banks. The trail study corridor is divided into seven segments based on the differing attributes along the corridor, which include older neighborhoods, business and industrial areas, riparian stream corridors, and rural farmlands.

PUBLIC INVOLVEMENT GOALS

- Ensure effective coordination and communication between jurisdictional partners and stakeholders and related projects taking place within the trail study corridor.
- Engage local jurisdictions, utilities, neighborhoods, property owners, citizens, bicycle and pedestrian advocates, area non-profits, businesses, and other stakeholders directly in master plan development.
- Guide jurisdictional partners on future planning, design, permitting, and development of the trail.

- Host activities and provide tools that will add value to the project and genuinely engage the community in an open and transparent process.
- Keep the public informed with accurate, up-to-date information.
- Build trust and a long-term relationship with the community.
- Maintain a level of flexibility with the process.

OBJECTIVES and OUTCOMES

In order to achieve the preceding goals, the project will offer multiple opportunities to engage:

One-on One Involvement

Key stakeholder interviews will be a primary strategy for early outreach, enabling the project team to understand the corridor's opportunities and challenges from a local level. As each stakeholder or group of stakeholders is interviewed, new stakeholders are likely to be identified.

Information Sharing

- Project updates available on the project web site and from links on project partner web sites, as well as by project postcards, newsletters and newsfeeds.
- Formal open houses as specified in the project consultant's contract.
- Jurisdictional partners will share project information at key milestones via a number of methods depending on the desired audience, information to be shared, feedback needed and timing. This could include outreach by jurisdictional partners at other community events, at community centers, or other community gathering places. The jurisdictional partners may also hold targeted meetings with stakeholders as needed.

Comments and Preferences

Throughout the development of the master plan, the overall public process will allow interested parties to engage with the project. The communication process will provide the public with easy access to project information, the ability to get questions answered and the ability to provide feedback on the plan and process.

AUDIENCES and OUTCOMES

Target and general audiences will be asked to review project information, share it with those they know, engage with each other, and provide comments and preferences in writing or at public open houses.

- Residents/Neighbors – those who live within the trail study corridor that may be impacted most directly by trail route options.
- Businesses – those who operate businesses or work in the trail study corridor.
- Commuters – those who travel through the trail study corridor.

- Advocacy groups – groups with a particular interest in the trail, for example groups focused on increasing travel by foot or by bicycle, etc.
- Underrepresented populations - particularly the trail study corridor's large Hispanic population.

KEY MESSAGES

Key project messages may be refined as the master plan progresses. Some messages may be emphasized at certain times based on the event purpose, timing and audience. Key messages are:

1. **The Council Creek Regional Trail will create new connections within communities and between communities.**

   Linking diverse community destinations along the trail corridor will increase opportunities to bike and walk for recreational, shopping, and commuter purposes. The trail will provide access between homes, commercial destinations, schools, and transit, as well as provide a continuous bicycle and pedestrian link from the city of Hillsboro to the city of Banks with access to Cornelius, Forest Grove, and farming communities in Washington County in-between.

2. **The Council Creek Regional Trail will support increased health and well-being through recreation and exercise, as well as improving air quality by providing for safe and convenient non-motorized transportation options.**

   Motorized transportation is responsible for nearly 40% of all greenhouse gas emissions, and is a significant source of air pollution. Studies show that households living near a greenway or trail are more likely to meet nationally recognized measures of health.

3. **The Council Creek Regional Trail is supported by local communities, and has already been included in nearly all regional and local land use plans in the area.**

4. **The Council Creek Regional Trail will keep dollars in the local economy by providing safe alternative means to make trips between neighborhoods, shops and jobs.**

   As automobile, fuel and insurance prices rise, the percentage of household dollars going to transportation significantly increases. Biking and walking are an affordable and healthy alternative. Studies have shown that businesses are investing in locations accessible by trails to attract and retain employees.

5. **Local governments are working together with residents, businesses and community organizations to create the Council Creek Regional Trail.**

First and foremost, the purpose of this trail is to serve neighborhoods, citizens, businesses, commuters, and recreational users. They serve on the master plan advisory committees and are guiding the process. Local governments and jurisdictional partners include the cities of Banks, Forest Grove, Cornelius and Hillsboro; Washington County; Metro; and the Oregon Department of Transportation.

DIVERSITY OUTREACH

Targeted public outreach activities to the significant concentration of the Hispanic population (see table below) in the vicinity of the project study corridor is apriority. 2010 U.S. Census figures report the City of Cornelius and City of Forest Grove area as having the greatest concentration and highest growth rate of Hispanics in Washington County. The Hillsboro area also has a significant Hispanic population.

Study Area Hispanic Population (2010)

Location	Total Population	Hispanic or Latino(of any race)	% Hispanic
City of Banks	1,777	124	7.0%
City of Cornelius	11,869	5,948	50.1%
City of Forest Grove	21,083	4,874	23.1%
City of Hillsboro	91,611	20,726	22.6%
Washington County	529,710	83,270	15.7%
Oregon	3,831,074	450,062	11.5%

Source: U.S. Census Bureau

Targeted information and notifications to Hispanic communities and populations within the Council Creek Regional Trail Master Plan project area will be accomplished through:

- Publication in the *El Hispanic News.*
- Emailed project notices requesting re-posting to churches specifically serving Hispanic populations in Western Washington County.
- Emailed project notices requesting re-posting to businesses in Hillsboro, Cornelius, Forest Grove and Banks specifically serving Hispanic populations.
- Postings and take home materials distributed to schools and libraries within the Forest Grove, Banks and Hillsboro School Districts with large Hispanic student bodies.
- Postings to on-line calendars to the following non-profits and health centers that serve the Hispanic population in Western Washington County: Adelante Mujeres, Centro Cultural and the Virginia Garcia Memorial Health Clinic.

See *Attachment B – Hispanic Community Outreach* background for more information

TOOLS and TASKS

A successful master plan will reflect the interests and desires of the local community. A variety of public information materials and activities will be developed and refined in the course of master planning and public outreach processes to keep interested parties informed and to invite participation at key milestones. Informational materials (e.g., newsletters and meeting

advertisements) will be disseminated at specific points in the master plan process and made available on an ongoing basis through the project website and other media platforms. A stakeholder database will be developed and expanded as the master plan progresses.

Stakeholder Interviews
Interviews will be conducted with key stakeholders. Interviewed stakeholders will include but are not limited to citizen participation organizations (CPO), other neighborhood associations, utilities and railroads owning or controlling lands within the trail corridor, property owners, governmental service providers not otherwise represented on a project committee, bicycle and trail advocacy associations, and area non-profits.

Stakeholder Advisory Committee
This committee will advise the project team on constituency and community concerns and issues, as well as serve as a forum to provide information and contacts that will help advance the master plan, review and evaluate master plan findings and deliverables, assist in considering options and alternatives, and build consensus recommendation(s) as to draft and final master plan findings and conclusions. Members will also serve as liaisons to their constituents by sharing information and gathering additional input.

Electronic Media
Information will be continually updated on the project web site and the jurisdictional partners will use other social media tools to provide people with an understanding of the current work of the project as well as background and next steps. Opportunities for public engagement will be clearly delineated. Jurisdictional partners will also be encouraged to provide links on their organizational web site to project resources.

Email Alerts
Email addresses available through the project mailing list will be used to send updates at project milestones. The jurisdictional partners may also share information through other communication networks as appropriate.

Media Outreach
The jurisdictional partners will proactively work with local media to describe the project, explain its timeline, highlight opportunities for involvement, discuss relevant issues and frame intended outcomes. Articles, event listings, and public notices will be submitted to community newspapers and newsletters and other media outlets as appropriate.

Presentations
Presentations will be a primary avenue for communications with stakeholders, the public, and the appointed and elected decision-making bodies of jurisdictional partners. Open houses featuring project presentation will be held, and meetings will be scheduled to present the draft master plan to elected or appointed bodies.

Public Events
To share information and request public feedback, the project team will hold an open house at two master plan milestones. Participants will have an opportunity to ask questions and offer comments on project proposals and ideas.

Outreach events associated with the trail alignment alternative and draft master plan milestones will open with presentations on current master plan outcomes and findings at the time of the milestone. The two events will also include a facilitated question and answer session, followed by participant interaction in an "open house" setting. The meetings will include a comment form/online survey to capture public feedback. The project team will also capture public comments at the events.

Meeting Materials
A meeting announcement will be sent in advance of the two outreach events to all property owners within the trail study corridor and to other interested parties that have requested notification or that have been identified by the jurisdictional partners. The following materials will be produced in conjunction with each round of outreach events:

- One project informational postcard, one newsletter article, one Metro newsfeed release, one power point presentation and one public web-based survey.
- Project website content.
- One set of large format informational displays.
- Posters distributed to local businesses and organizations in the project area.

Displays, visual renderings, illustrations
Display boards, PowerPoint presentations, sketches, renderings, illustrations or still photographs may be used to describe potential trail alignments and other master plan findings and recommendation at outreach events.

PROJECT SCHEDULE
Public engagement will be ongoing throughout the entire master plan process. The detailed project schedule is included in *Attachment A - Committee Roles and Responsibilities.*

MEASUREMENT and EVALUATION
A summary of all public involvement activities and outcomes will be compiled at the conclusion of the master plan. The summary will include individual public event records, stakeholder interviews, public comments, survey responses and also describe how public and stakeholder input helped shape the master plan.

Successful communication will be evidenced by a clear understanding of the project alternatives and timeline and participation in opportunities for engagement and the decision-making process. This will be measured by the following:

- The overall attendance and the number of documented direct contacts made with community members at outreach events, and the number of “hits” on the project website.
- The number of community members submitting comments on the master plan through outreach event surveys, the project website, and by other means; and/or requesting follow-up information.
- The outreach participants that indicate that the master plan outreach program was effective based on outreach event surveys, the project website, and from other input.
- An assessment of the degree to which targeted audiences and populations were engaged in project development.
- The level and type (i.e., positive or negative) of media interest in the project.

PIP AMENDMENTS

PIP amendments may be necessary as master plan findings, outcomes and recommendations emerge. Changes will primarily relate to the type, frequency, locations and targeted audiences for outreach events and activities.

Attachments

A. Committee Roles and Responsibilities
B. Hispanic Community Outreach Background

COUNCIL CREEK REGIONAL TRAIL MASTER PLAN

Hispanic Community Outreach Background

The Council Creek Regional Trail is located at the western edge of the Portland metropolitan region to serve as a primary transportation and recreational facility for bicycle and pedestrian travel. The Project study area includes four (4) cities and portions of unincorporated Washington County. The study area extends from the City of Hillsboro Regional Center at the existing western terminus of the region's MAX light rail system, through the City of Cornelius, City of Forest Grove and unincorporated Washington County to the City of Banks, a distance of approximately fifteen (15) miles.

Between 2000 and 2010, the population of the cities and counties in the study area has grown at a faster rate than the state average of 12% (Table 1). The smallest jurisdiction in the study area, Banks, has grown by nearly 40% and the City of Hillsboro has seen an overall population increase of 30.5%. Much of this growth is attributed to a large increase in the Hispanic population in the area.

Table 1. Total Population Change from 2000 to 2010

Location	2000 Population	2010 Population	% Change
City of Banks	1,286	1,777	38.2%
City of Cornelius	9,652	11,869	23.0%
City of Forest Grove	17,708	21,083	19.1%
City of Hillsboro	70,186	91,611	30.5%
Washington County	445,342	529,710	18.9%
Oregon	3,831,074	3,899,353	12.0%

Source: U.S. Census Bureau

Oregon's Hispanic population grew by nearly 64% from 2000-2010, and continues to grow (Table 2). The City of Banks had an increase of 150% while the other cities in the study area saw their Hispanic population increase by over 50%. More than 80 percent of Hispanics in Oregon are of Mexican ancestry. Washington County is the metro area's most racially diverse area, with people of color accounting for three of 10 residents (The Oregonian, 2011).

Table 2. Hispanic Population Growth from 2000 to 2010

Location	2000 Population	2010 Population	% Change
City of Banks	49	124	153.1%
City of Cornelius	3,609	5,948	64.8%
City of Forest Grove	3,065	4,874	59.0%
City of Hillsboro	13,262	20,726	56.3%
Washington County	49,735	83,270	67.4%
Oregon	275,314	450,062	63.5%

Source: U.S. Census Bureau

The City of Cornelius has the most diverse population with over 50% of its population being Hispanic. Over 20% of the population in City of Forest Grove and Hillsboro are also Hispanic. Table 3 demonstrates the Hispanic population as a percentage to the total population in each city, county and state.

Table 3. Percent of Population that is Hispanic

Location	Total Population	Hispanic or Latino(of any race)	% Hispanic
City of Banks	1,777	124	7.0%
City of Cornelius	11,869	5,948	50.1%
City of Forest Grove	21,083	4,874	23.1%
City of Hillsboro	91,611	20,726	22.6%
Washington County	529,710	83,270	15.7%
Oregon	3,831,074	450,062	11.5%

Source: U.S. Census Bureau

The Council Creek Trail Master Plan will seek feedback from interested and affected parties, diverse communities and environmental justice populations. Strategies for outreach to the area's Hispanic populations include posting open house announcements and communications in Spanish to the following sources:

- Adelante Mujeres
- El Hispanic News
- Centro Cultural de Washington County
- Hillsboro Futsal
- Local churches and schools with large Hispanic populations
- Hillsboro Arts & Culture Council

Community events are excellent locations in which to engage the community and there are various located throughout the study area. Farmers markets are popular in Washington County and have high rates of attendance from community members. The follow table lists the farmers markets in the study area. Local athletic events, such as soccer games, are also venues in which large numbers of the community attend, pose as potential venues for outreach.

Table 4. Farmers Markets in the Area

Name	Location	Time	Day / Week	Duration
Forest Grove	Main Street between Pacific and 21st avenues	4 p.m. to 8 p.m.	Wednesday	May 15 - Oct 30
Banks	41905 N.W. Arbor Park Loop	3 p.m. to 7 p.m.	Friday	June 7 - Sept. 27
Cornelius	220 N. Adair St. (Walmart parking lot)	11 a.m. to 3 p.m.	Sunday	May - August
Hillsboro	Downtown Hillsboro (between 1st and 3rd Ave.)	9 a.m. to 1:30 p.m.	Saturday	May 4 - Oct 26

Hillsboro	MAX Orenco Station	10 a.m. to 2 p.m.	Sunday	May 5 - Oct 27
Hillsboro	Tanasbourne (NW Cornell Rd. and Stucki Ave.)	4 p.m. to 7:30 p.m.	Wednesday	June 5 - Aug 28
Hillsboro	Tuality Hospital (Baseline and 8th Ave.)	11 a.m. to 1:30 p.m.	Thursday	July 11 - Aug 22

Adelante Mujeres, a non-profit in Forest Grove that works to educate and empower low-income Latina women, recently completed a "Photovoice" project with Oregon Walks titled '"Walking: para vida, familia, y comunidad". In the project, more than twenty women from Adelante Mujeres' English class took photos and shared their stories to demonstrate why walking matters and what is needed to make their communities safer and more walkable. Working with Adelante Mujeres will ensure there is participation, input and engagement from the Hispanic community on the Council Creek trail project.

Metro also offers the '¡Vámonos!' project which encompasses a bilingual mapping project to help people in Cornelius, Forest Grove and Hillsboro learn about great places to walk and bike in their communities. The maps are free to the public and highlight points of interest, history, commerce and transit stops as well as highlight parks, trails and natural areas.

Appendix G: Conceptual Community Trails

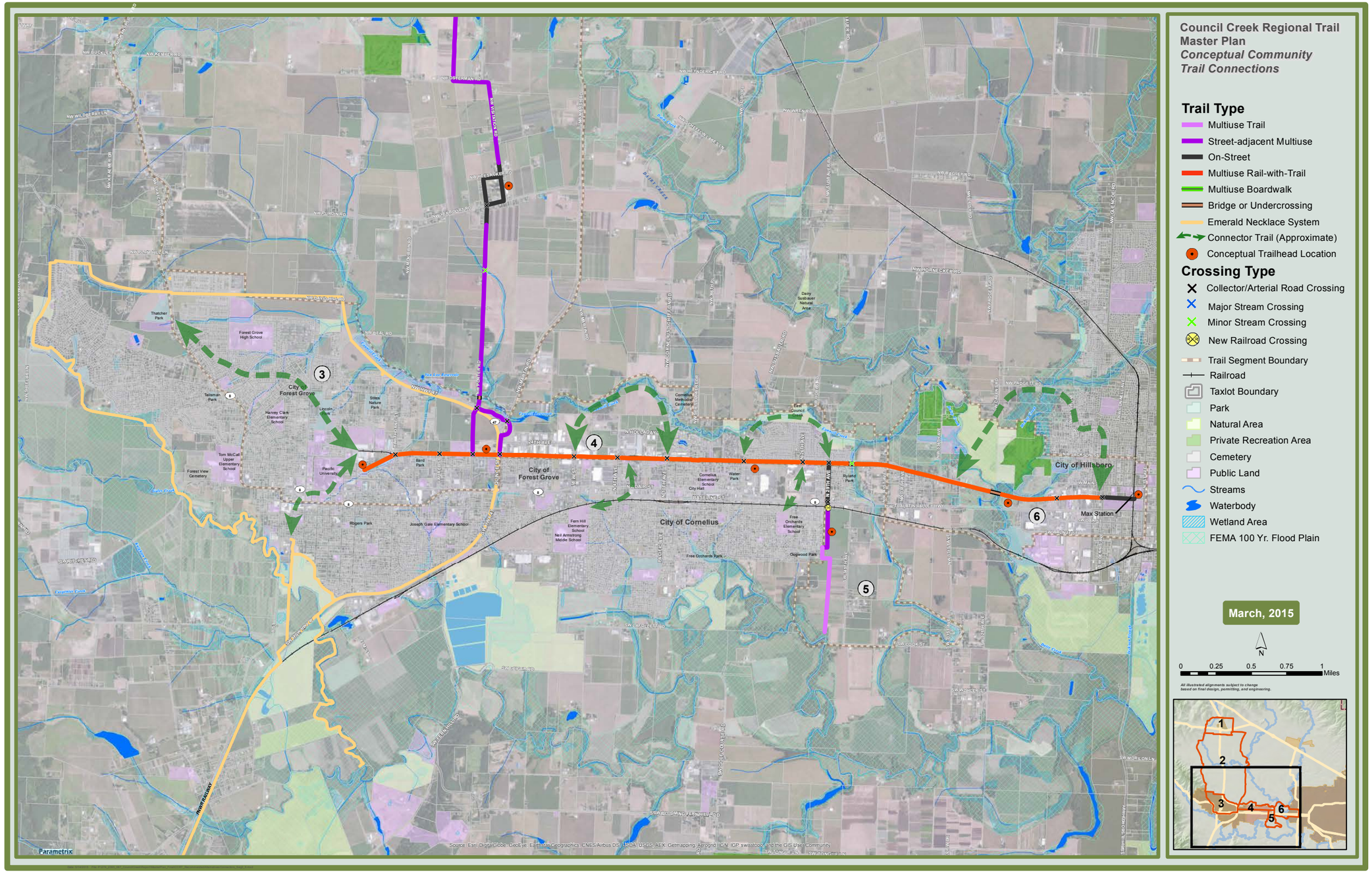
In recommending preferred regional trail alignments and types, the PAC and SAC also considered the need for additional community and local-scale trails connecting to the CCRT. Such trails could provide access from the CCRT to schools, streams and natural areas, and community services.

As such trails will be the sole responsibility of local jurisdictions or public property owners, the PAC/SAC decided not to make specific recommendations. The committees did, however, direct that a map be prepared conceptually showing the general locations of possible community trail routes and included as an appendix to this master plan report (see Map 17).

In addition, the City of Forest Grove has adopted a trail and bicycle/pedestrian system plan termed the “Emerald Necklace.” See Forest Grove’s Community Trails Plan, Comprehensive Plan, and Transportation System Plan, as well as the Washington County Transportation System Plan for more details on the Emerald Necklace. The cities of Banks and Hillsboro are in the final stages of new trail system plans, and these efforts should also be integrated into the development of the CCRT.

Council Creek

Thatcher Park

Dairy Creek

Map 17. Conceptual Community Trail Connections