

BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF APPROVING THE ICE) RESOLUTION NO. 13-4415
AGE TONQUIN TRAIL MASTER PLAN)
) Introduced by Councilor Craig Dirksen

WHEREAS, on July 23, 1992, the Metro Council adopted Resolution No. 92-1637, “For the Purpose of Considering Adoption of the Metropolitan Greenspaces Master Plan”, which included the Regional Trails and Greenways Map (amended December 1992, July 2002 and October 2008); and

WHEREAS, the 1992 Metropolitan Greenspaces Master Plan and Regional Trails and Greenways Map identified the Tonquin Trail as a regionally significant trail connecting the Willamette and Tualatin rivers and the cities of Wilsonville, Sherwood and Tualatin in Clackamas and Washington counties; and

WHEREAS, in May 1995 area voters approved ballot Measure 26-26, authorizing Metro to issue \$135.6 million for bonds for Open Spaces, Parks and Streams to purchase land in regional target areas including the Tonquin Geologic Area target area; and

WHEREAS, using 1995 bond measure funds, Metro acquired approximately 500 acres of natural areas in the Tonquin Geologic Area target area, including land where the Graham Oaks Nature Park and Coffee Lake Creek natural area exist today, and laying the foundation for the future Tonquin Trail; and

WHEREAS, on November 7, 2006, voters approved Metro’s Natural Areas Bond Measure, authorizing Metro to issue \$227.4 million for bonds to purchase land in 27 regional target areas, including the Tonquin Geologic Area; and

WHEREAS, on September 10, 2007, the Metro Council adopted Resolution No. 07-3850 approving the Tonquin Geologic Area target area refinement plan and confidential tax lot specific map, which highlighted acquisition priorities on properties with unique geologic formations formed in the last Ice Age floods and properties needed for the Tonquin Trail; and

WHEREAS, in 2005, Metro, in partnership with the cities of Wilsonville and Sherwood, applied for and was awarded a planning grant from Metro’s Metropolitan Transportation Improvements Program to retain a consultant service to conduct the Tonquin Trail master planning process; and

WHEREAS, a Tonquin Trail project steering committee was created in 2009 and included staff and citizens from the cities of Wilsonville, Sherwood and Tualatin and Washington and Clackamas counties, and technical experts from Clean Water Services and the Oregon Department of Transportation, to advise Metro and the consultant team throughout the master planning work; and

WHEREAS, Metro and its partners conducted extensive public involvement throughout the master planning process in order to identify a trail alignment and design that is widely supported by the trail partner jurisdictions and residents throughout the trail study area; and

WHEREAS, based on letters of support from the trail partner jurisdictions, the trail is now referred to as the Ice Age Tonquin Trail, to reinforce its connection to the federally designated Ice Age Floods National Geologic Trail and allow for the potential of applying for related funding; and

WHEREAS, the project steering committee reviewed and unanimously approved the Ice Age Tonquin Trail Master Plan (the "Master Plan"); and

WHEREAS, the updated confidential tax lot specific map for the Tonquin Geologic Area target area was signed by Metro Council President Hughes on February 26, 2013 and added the properties necessary to implement the Master Plan; and

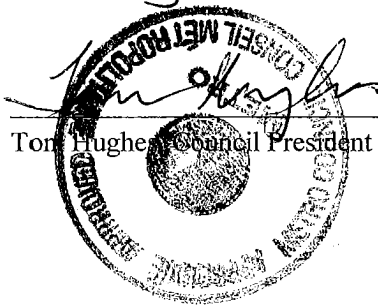
WHEREAS, approval of the Master Plan will allow Metro staff and other jurisdictions to begin trail acquisition work in earnest; and

WHEREAS, it is anticipated that the cities of Tualatin, Sherwood and Wilsonville, as well as Washington County will approve the Master Plan and that those jurisdictions and Clackamas County will subsequently include the new alignment in their transportation system plans; and

WHEREAS, it is anticipated that the Metro Council's approval of the Master Plan would allow for inclusion of the new alignment in the 2035 Regional Transportation Plan; now therefore

BE IT RESOLVED that the Metro Council hereby approves the Ice Age Tonquin Trail Master Plan, attached hereto as Exhibit A, and the updated confidential tax lot specific map for the Tonquin Geologic Area target area signed by Metro Council President Hughes on February 26, 2013.

ADOPTED by the Metro Council this 28 day of February, 2013.



Approved as to Form:


Alison Kean Campbell, Metro Attorney

Ice Age Tonquin Trail

Connecting the cities of Wilsonville, Tualatin,
and Sherwood in Oregon



February 2013

Project partners:

Metro, City of Wilsonville, City of Tualatin, City of Sherwood,
Clackamas County, and Washington County

Acknowledgments

The Ice Age Tonquin Trail Master Plan project team appreciates the efforts of local partners, stakeholders, and residents who participated in the development of this plan. Their creativity, energy, and commitment to the future of the Ice Age Tonquin Trail were the driving force behind this master planning effort. In addition, the following project steering committee and project team members contributed regularly to the development of this plan.

Project Steering Committee

Hal Ballard – Washington County citizen
bicycle advocate

Ronald Kroop – Oregon Department of
Transportation

Connie Ledbetter – Tualatin resident

Al Levit – Wilsonville resident

Lori Mastrantonio – Clackamas County

Michelle Miller – City of Sherwood

Chris Neamtzu – City of Wilsonville

Jeff Owen – City of Wilsonville

Damon Reische* – Clean Water Services

Stephen Shane – Washington County

Brian Stecher – Sherwood resident

Carl Switzer – City of Tualatin

Aisha Willits – Washington County

**Technical advisor/non-voting member*

Project Team

Metro

Jane Hart, Master Plan Project Manager

Mary Anne Cassin, Parks Planning and
Development Manager

Kathleen Brennan-Hunter, Natural Areas
Program Manager

Fritz Paulus, Real Estate Negotiator

Heather Coston, Communications Associate

Laura Odom, Communications Coordinator

Marlon Warren, Graphic Designer

Curt Zonick, Natural Resource Scientist

Anthony Butzek, Principal Transportation
Engineer

Alta Planning + Design

George Hudson, Principal

Rory Renfro, Associate

Elliot Akwai-Scott, Planner

Mary Stewart, Senior Designer

Anne Bothner-By, Graphic Designer

CH2M HILL

Kristin Hull, Project Manager

Howell Consulting

Leslie Howell

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Executive Summary

Located in the southwestern portion of the Portland metropolitan area, the Ice Age Tonquin Trail will provide a regional active transportation link between the Willamette and Tualatin Rivers, while enhancing local pedestrian and bicycle connectivity within and between the communities through which it passes.

The Ice Age Tonquin Trail Master Plan establishes a clearly defined roadmap for taking the trail from vision to reality. Building on work completed in the 2004 *Tonquin Trail Feasibility Study* and many other efforts, this Master Plan provides the information needed as local and regional partners embark on trail implementation efforts. Providing detailed alignment, design, and implementation guidance, this document represents the culmination of tremendous work efforts many stakeholders have undertaken over a multi-year period.

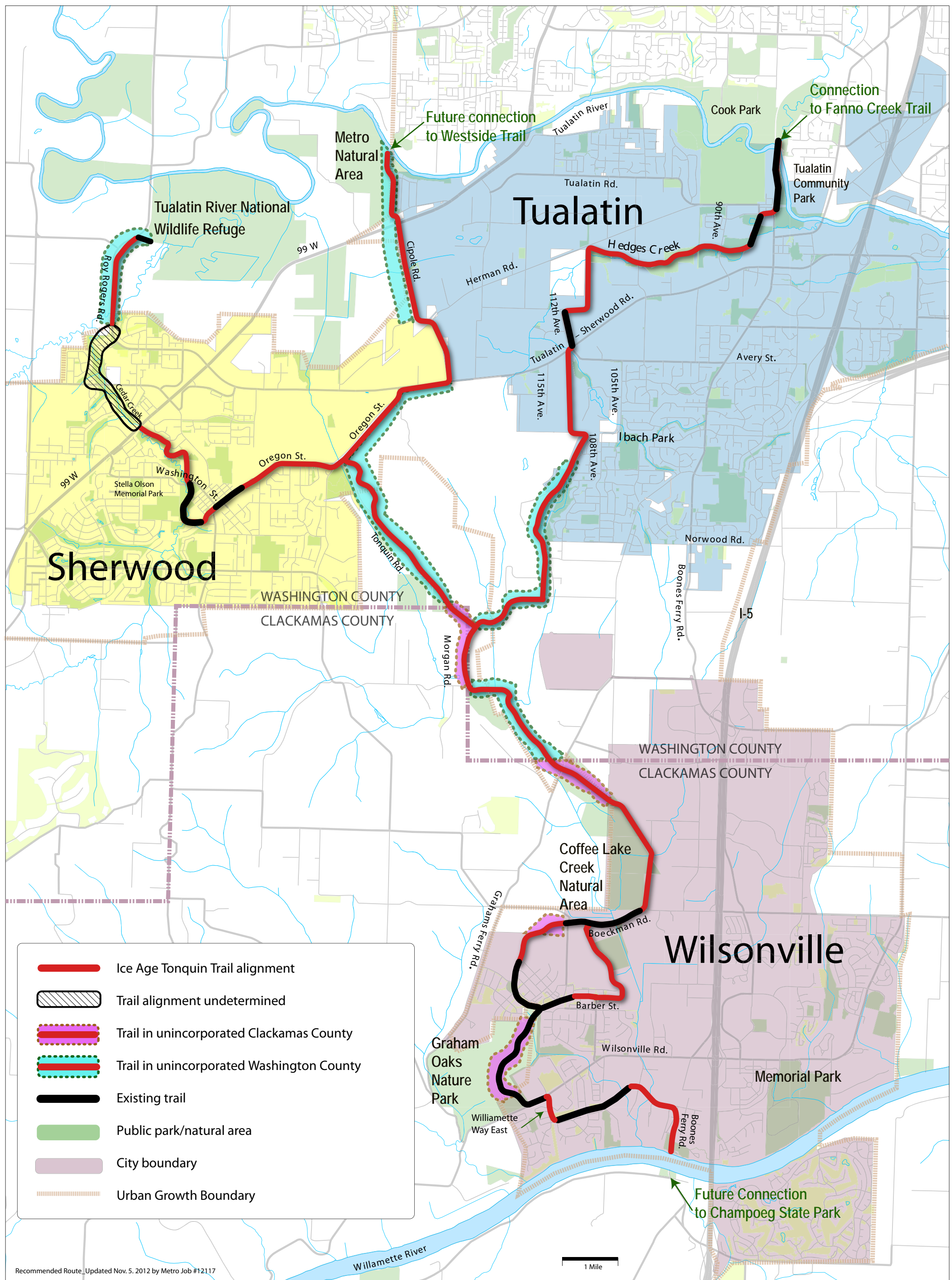
Spanning approximately 22 miles, the Ice Age Tonquin Trail will connect dozens of neighborhoods, businesses, schools, and parks as it travels through the communities of Wilsonville, Sherwood, and Tualatin (as shown on the Ice Age Tonquin Trail Route Map). The trail will provide a convenient, comfortable, and safe atmosphere for trail users of all ages and abilities.

The trail's name reinforces the primary theme to be interpreted throughout the corridor – the Glacial Lake Missoula Ice Age floods, a series of cataclysmic floods that formed the Columbia River Gorge and the Willamette Valley during the last Ice Age. Remains from the Ice Age floods that can be seen along the future trail include glacial erratics, scablands, kolk ponds, flood channels, and ripple marks. The trail's name also ties it to the National Park Service's Ice Age Floods National Geologic Trail, which increases the likelihood of trail funding opportunities and tourism in the cities the Ice Age Tonquin Trail will serve.

From its southern terminus at the Willamette River near Boones Ferry Park, the Ice Age Tonquin Trail may one day offer a connection south to Champoege State Park via the proposed French Prairie Bridge. Heading north from the Willamette River, the trail will pass through several Wilsonville neighborhoods and Graham Oaks Nature Park before splitting into three segments. The western segment will traverse a bluff above Tonquin Road before descending into downtown Sherwood and Stella Olsen Park. This segment will follow Sherwood's majestic Cedar Creek corridor on its way to a Tualatin River National Wildlife Refuge trailhead near Roy Rogers Road. The central segment will follow Oregon Street and Cipole Road along the Sherwood/Tualatin boundary, access the Tualatin River at a Metro-owned natural area, and offer a connection to the future Westside Regional Trail. Making its way to Tualatin, the eastern segment will pass within close proximity of several historic and geologic features north of Tonquin Road. This segment will travel adjacent to Tualatin's Hedges Creek Greenway en route to Tualatin Community Park, and seamlessly link with the Fanno Creek Regional Trail via the existing Ki-a-Kuts Bridge traversing the Tualatin River.

The trail has garnered strong support from project partners (including the cities of Sherwood, Tualatin, and Wilsonville; Clackamas and Washington Counties; and Metro), who will work together to implement this Master Plan. Nearly 5 miles of the trail are built, but the majority of the Ice Age Tonquin Trail has not yet been completed. The trail will be constructed in phases by the jurisdictions (cities and counties) through which the trail passes, as funding becomes available. The trail partners will adopt the trail into their respective plans and policy documents (for example, comprehensive plans, zoning codes, and

transportation system plans). The three cities will be the primary jurisdictions responsible for operations and maintenance, while county maintenance will be less common and achieved through agreements with the cities. Any property acquired by Metro for the Ice Age Tonquin Trail will be acquired via a “willing seller” program.



Recommended Route, Updated Nov. 5, 2012 by Metro Job #12117

Ice Age Tonquin Trail Route

Ice Age Tonquin Trail Master Plan

Source: Metro Data Resource Center



Chapter 1: Introduction

Trail Context

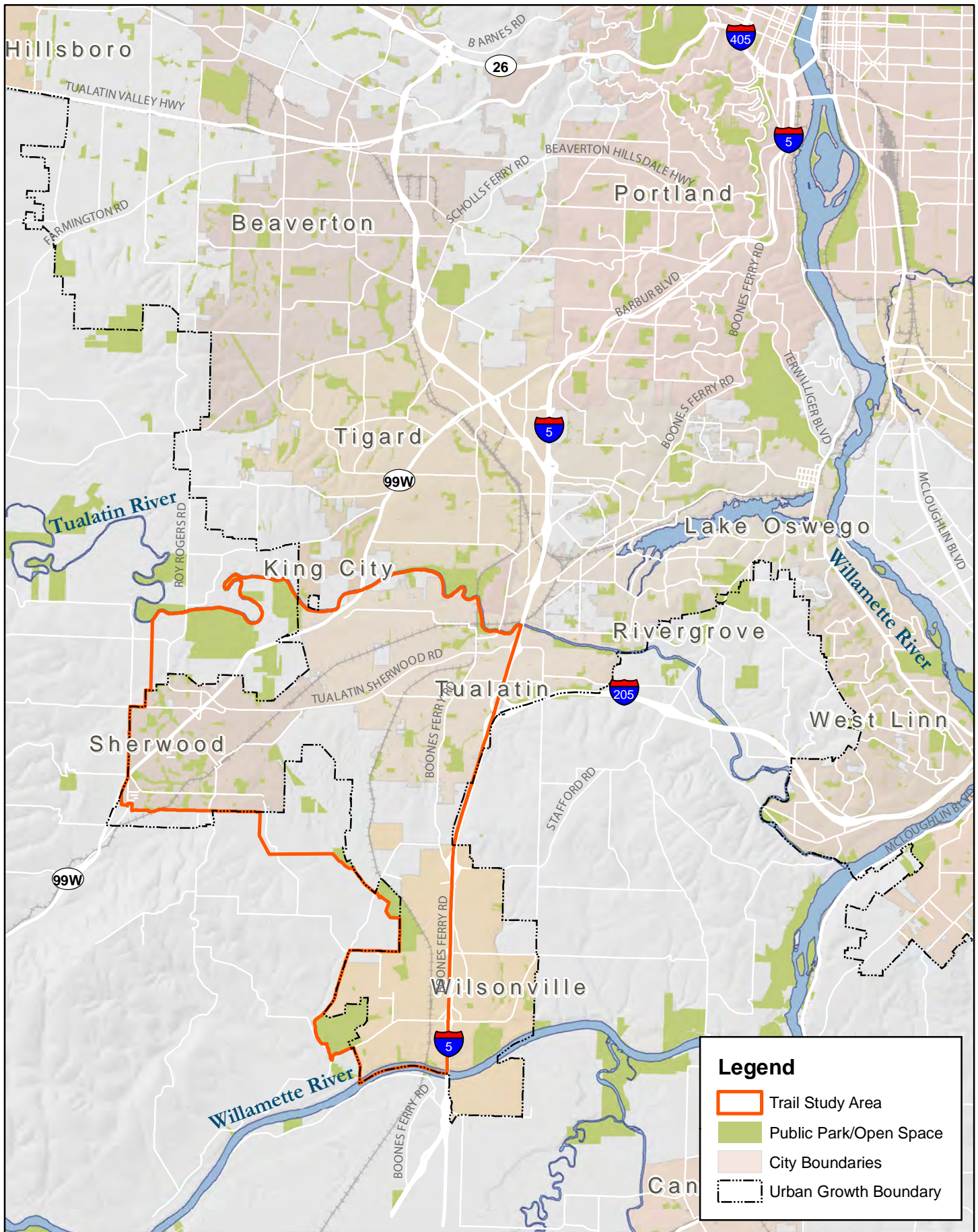
Location

Located in the southwestern portion of the Portland region, the Ice Age Tonquin Trail Master Plan study area encompasses portions of the cities of Sherwood, Tualatin, and Wilsonville, and Clackamas and Washington counties (see Map 1). Spanning urban and rural areas, the study area includes lands both inside and outside the regional urban growth boundary, including within and outside incorporated municipalities. As shown on Map 2, the area targeted for study is generally bounded by the Willamette River to the south, Tualatin River to the north, Interstate 5 to the east, and the regional urban growth boundary to the west. The Ice Age Tonquin Trail seeks to establish a regional active transportation link between the Willamette and Tualatin Rivers, while enhancing local pedestrian and bicycle connectivity within and between the communities through which it passes.

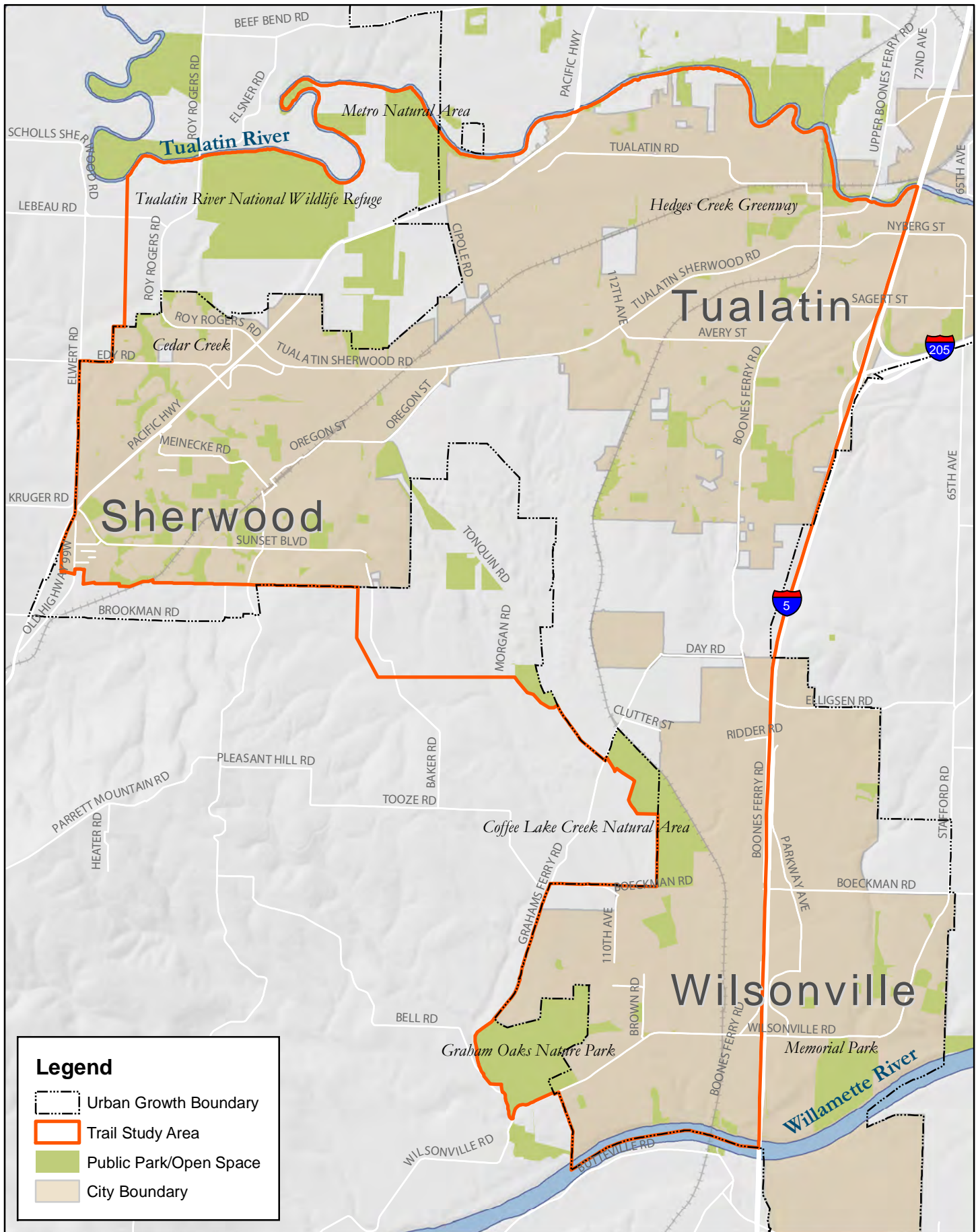
Regional Significance

The Ice Age Tonquin Trail is part of a larger interconnected network of regional trails and greenways that will connect the cities, parks, natural areas, and neighborhoods of the region with a special focus on waterways and views. This system of trails and greenways was originally conceived by the Olmsted Brothers 100 years ago as a 40-mile loop around Portland. Since then it has grown to an almost 140-mile system and has been endorsed or adopted by nearly 30 cities and 4 counties within the Portland/Vancouver metropolitan region. However, only 30 percent of the trail has been completed. Map 3 shows the Ice Age Tonquin Trail in the context of the regional trail system, and highlights eight trails identified in Metro's 2006 Parks and Natural Areas bond measure to be acquired (in no particular order of priority).

In 2011, a new bi-state organization (Oregon and Washington), known as the Intertwine Alliance, was formed consisting of a coalition of public, private, and nonprofit groups that are interested in working together to create a vibrant and healthy region, including completing the regional trail system. These leaders recognize the importance of building an interconnected network of parks, trails, and natural areas (the Intertwine), whether for economic development, public health or environmental conservation. Their work also involves developing a funding strategy to complete the remaining regional trail system. To learn more about the Intertwine go to <http://theintertwine.org>.

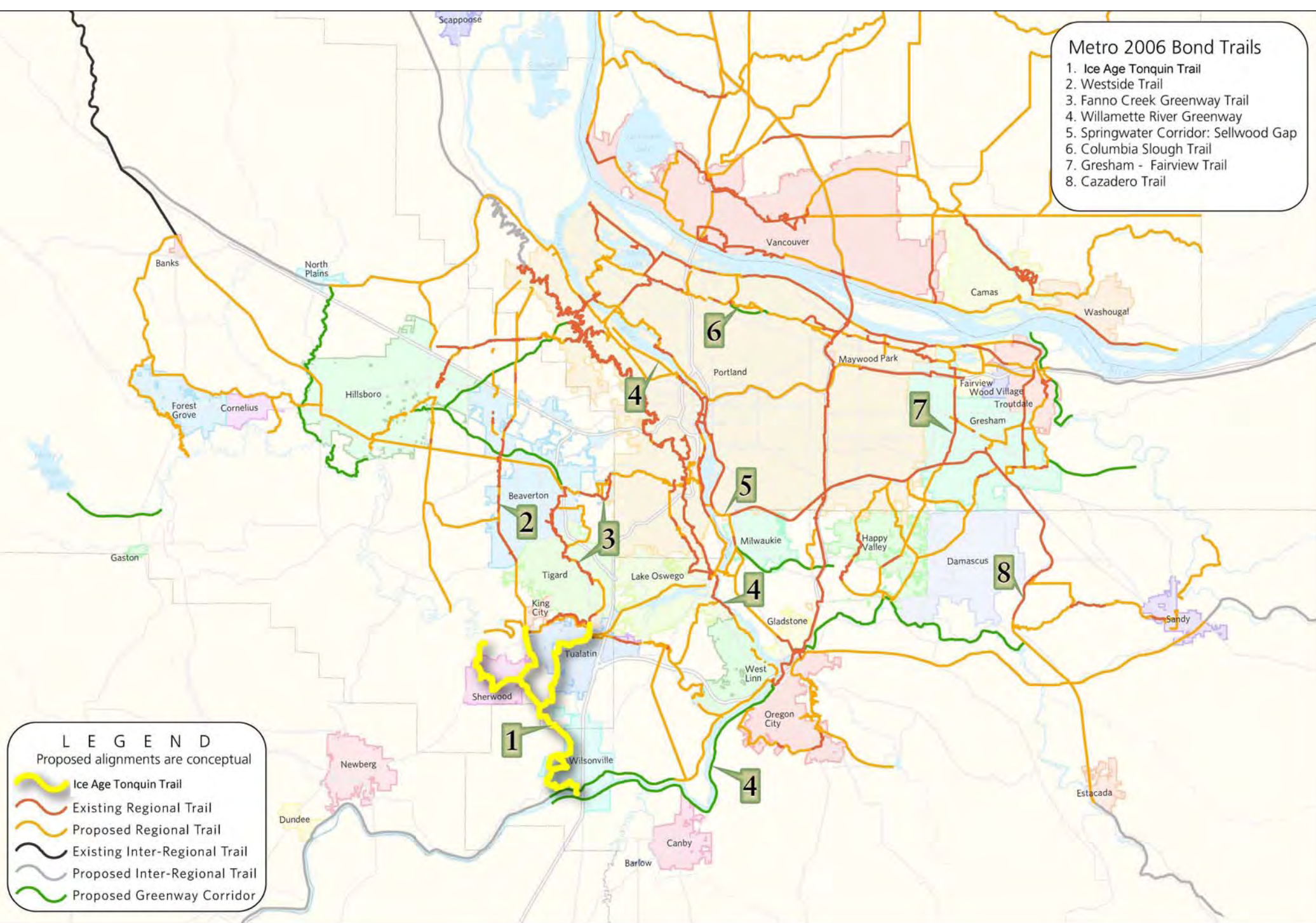


Map 1: Regional Vicinity Map



Map 2: Ice Age Tonquin Trail Study Area





Map 3: Ice Age Tonquin Trail within the Regional System

Geological and Cultural History

About 15,000 years ago, a glacial ice dam in western Montana gave way and released a torrential deluge of ice, rock, debris, and water across western Montana and Idaho, along the Columbia River Gorge, and through Washington and Oregon all the way to the Willamette Valley. This, along with other associated events known as the Glacial Lake Missoula (or Bretz) Floods, scoured the landscape, carrying large boulders and carving out new geological formations. The Tonquin Geologic Area south of Portland is one area transformed by this great flooding¹. The Ice Age Tonquin Trail will traverse the Tonquin Geologic Area, where one can see unique features left from the Ice Age floods such as kolk ponds² and basalt outcroppings.

The great floods created a lake that filled the Willamette Valley, providing habitat for mastodons and other mammals that roamed its shores. The lake gradually receded and local Native Americans, the Kalapuya Indians, used the land for hunting and travel. The arrival of fur traders and explorers in the early 19th century caused a decline for the Kalapuya Indians, primarily due to the diseases carried by the traders and explorers. In 1846, Alphonso Boone, the grandson of Daniel Boone, settled at Boone's landing where he began a ferry service at the current location of Boones Ferry Park on the Willamette River in Wilsonville. Following the fur traders and explorers, farmers settled Sherwood as early as 1853. In 1886, the town of Tualatin emerged on the banks of the Tualatin River.



Path of the Glacial Lake Missoula floods, shown in gray (Photo source: <http://nwcreation.net>).

¹ Allen, John Eliot, Burns, Marjorie and Sargent, Sam C. 1986. *Cataclysms on the Columbia*, Portland, Oregon: Timber Press.

² Kolk ponds are pot-hole lakes carved out by large-scale floods.



Alphonso Boone initiated ferry service on the Willamette River at the current location of Boones Ferry Park in Wilsonville (Photo source: Oregon Coast Magazine).

Planning History

This unique landscape formed by the last Ice Age floods is what prompted the Columbia Region Association of Governments, the predecessor of Metro, to propose acquisition of these lands as early as 1971. Metro listed the area as unique open space to be protected under the *Metropolitan Greenspaces Master Plan* in 1992. Two subsequent Metro bond measures were approved by the region's voters in 1995 and 2006, and provided funds to acquire natural areas and trail right-of-way in the Tonquin Geologic Area. Approximately 500 acres of natural areas have been protected to date, and more is being acquired to meet conservation and trail goals in the target area. The 250-acre Graham Oaks Nature Park and 167-acre Coffee Lake Creek Natural Area make up a portion of these publicly owned natural areas. The *Tonquin Trail Feasibility Study* was completed in 2004 to confirm that feasible routes existed for the trail, and helped inform the analysis performed during this master planning process.

Purpose, Goals, and Process

Master Plan Purpose

The Ice Age Tonquin Trail Master Plan establishes a clearly defined roadmap for taking the trail from a feasible concept to reality. Building on work completed in the 2004 Tonquin Trail Feasibility Study and many other efforts, this Master Plan provides the information needed as local and regional partners embark on trail implementation efforts. Providing detailed alignment, design, and implementation guidance, this document represents the culmination of tremendous work undertaken by many stakeholders over a multi-year period.

The Master Plan is structured so that relevant items can be integrated into local comprehensive plans and transportation system plans, setting the stage for successful funding pursuits. Local jurisdictions responsible for implementing the Master Plan may need flexibility with some of the Master Plan's recommendations to meet local zoning code, regulatory, and other requirements.

Master Plan Goals

At the outset of the Metro-led master planning effort, Metro and the consultant team worked with the project steering committee to develop goals and criteria to clarify the Master Plan's intended purpose and outcome, and to establish a framework for evaluating trail alignment alternatives. The Ice Age Tonquin

Trail Master Plan includes 6 goals and 19 supporting criteria, as shown in Table 1. The project team also developed nearly 30 evaluation measures to provide an objective means for screening potential trail alignment options against the goals and criteria.

Table 1 - Ice Age Tonquin Trail Master Plan Goals and Criteria

Goal	Criteria
Develop a trail that addresses crime prevention through design to provide safety for trail users and security for adjacent property owners.	<ul style="list-style-type: none"> Segment provides for safe, sensible, multi-modal roadway crossings Segment provides a safe experience for trail users Segment provides safety and security for adjacent property owners
Develop a trail that avoids or minimizes impacts to natural and cultural resources.	<ul style="list-style-type: none"> Segment avoids or minimizes impacts to natural resources Segment avoids or minimizes impacts to cultural resources Segment provides an opportunity for resource enhancement
Develop a trail that is convenient, pleasant, and accessible to a range of users regardless of ability or mode.	<ul style="list-style-type: none"> Segment provides a positive user experience with respect to views, scenic quality, wildlife viewing, noise, and grades Segment can be used by a variety of users of different abilities (for example, bicyclists, joggers, walkers, in-line skaters, and motorized and non-motorized wheelchair users) Segment provides opportunities for interpretive and environmental education and access to unique natural features Segment provides for a direct route between Wilsonville and Tualatin and between Wilsonville and Sherwood Segment meets regional trail standards Segment minimizes trail user conflicts
Develop a trail that can be implemented.	<ul style="list-style-type: none"> Segment is consistent with local plans Segment can be developed with a reasonable cost and minimizes expensive elements Segment reduces private property impacts by (1) minimizing land acquisition needs, and (2) working with willing sellers where acquisition is needed Segment can meet regulatory requirements
Develop a trail that encourages and enhances bicycle and pedestrian connectivity throughout the region.	<ul style="list-style-type: none"> Segment provides linkages to other trails, parks, and natural areas Segment provides seamless connections among residential areas, schools, employment areas, shopping, and transit facilities, and other designated bikeways and walkways (for example, trails, bike lanes, bicycle boulevards, and so forth.)
Develop a trail that is supported by the community and local jurisdictions and is informed by input from the public, elected officials and jurisdictional staff.	Criteria were not developed for this goal since the ultimate measure could only be applied after Master Plan completion and local government approvals.

Stakeholder and Community Engagement

The Ice Age Tonquin Trail Master Plan was supported by a robust public involvement program including outreach to affected public and private landowners, potential trail users, jurisdictional partners, and other interested members of the community. The following public involvement goals were adopted through the Ice Age Tonquin Trail public involvement plan, created at the beginning of the planning process in 2009:

- Provide opportunities for meaningful and constructive public input to develop a community-supported master plan for the Ice Age Tonquin Trail
- Provide for early and proactive outreach to property owners, both private and institutional, adjacent to potential trail alignments
- Receive agreements, as needed, from willing partners and property owners to ensure that the Ice Age Tonquin Trail Master Plan will be implemented and will meet the needs of the intended users

The project steering committee and the project team agreed that success would be measured by public support for the trail, and willingness of project partners and adjacent property owners to engage in discussions and enter into agreements regarding the trail's siting, design, construction, and long-term management.

Project Steering Committee

The Ice Age Tonquin Trail project steering committee was formed to help guide the master planning effort. The project steering committee included staff from Washington and Clackamas Counties; the cities of Wilsonville, Sherwood, and Tualatin; and the Oregon Department of Transportation (ODOT). The project steering committee also included community representatives such as citizen-appointees from Sherwood, Tualatin, and Wilsonville; and a countywide cycling advocate. Although not a "voting" member, a Clean Water Services staff person also participated as a technical adviser.

Beginning in September 2009, the project steering committee convened ten times at major project milestones over the three-year master planning effort. The committee was charged with the following tasks:

- Reviewing technical deliverables and providing input
- Representing jurisdictional viewpoints and reaching consensus on key project recommendations such as trail alignment, design, funding, and phasing
- Serving as liaisons to jurisdictions on project issues
- Providing information and participating in research and fieldwork, as needed

The project steering committee reached consensus-based recommendations at key decision milestones including the Public Involvement Plan; evaluation criteria and measures; preferred trail alignment; trail design recommendations; and implementation. The project steering committee endorses this Master Plan. The next step in the approval process will be its adoption by local jurisdictions and the Metro Council.

In addition to the work of the project steering committee, representatives of the counties and cities met twice to discuss trail implementation agreements. The outcome of those meetings is discussed in the implementation chapter of this Master Plan.

Community Outreach

The project team conducted extensive outreach in a variety of formats to solicit public input and feedback throughout the master planning effort. Three series of community events were hosted at major project

milestones. In addition to publications in local newsletters; feature articles in local and regional newspapers; Metro GreenScene; and use of Metro's social media channels to advertise events; postcards were mailed to approximately 15,000 households in advance of each event. The community event series included the following:

- Open houses in Sherwood, Tualatin, and Wilsonville in December 2009 (with approximately 100 total attendees)
- Project booths set up at summer events in 2011 (for example, Tualatin Crawfish Festival, Sherwood Concert in the Park, and Wilsonville Fun in the Park), which attracted several hundred visitors
- Open house in May 2012, with approximately 70 participants

Metro hosted a project website over the course of the master planning effort, providing opportunities for interested parties to participate at their convenience. Website materials included online surveys and “virtual open houses.”

The project team also participated in other concurrent planning efforts in the study area, including concept planning and local transportation system planning. Presentations were given to community organizations upon request.

Appendix A provides a more detailed summary of the public involvement efforts conducted for this Master Plan.



A project booth was set up at Wilsonville's "Fun in the Park" event in June 2010.



Visitors at the trail booth in Sherwood's Stella Olsen Park during a "Music on the Green" concert in August 2010.

Stakeholder Outreach

Supplementing the broader community engagement, the project team met with individual stakeholders throughout the planning process, ranging from jurisdictions to individual property owners. These specific engagement activities included on-site stakeholder interviews with landowners (both institutional and private) and work sessions with jurisdictional partners (for example, City of Sherwood to discuss issues specific to the Cedar Creek corridor and City of Tualatin to discuss Hedges Creek Greenway issues). The

project team also coordinated extensively with numerous agencies including TriMet, Portland & Western Railroad, Clean Water Services, Tualatin Valley Water District, Bonneville Power Administration, ODOT, Tualatin River National Wildlife Refuge, and The Wetlands Conservancy. Presentations were also made to elected officials in the five jurisdictions through which the Ice Age Tonquin Trail passes.



The project team hosted several open houses, including this final one in May of 2012.

Chapter 2: Existing Conditions

Land Use and Transportation Connections

Land Use

Several types of land uses make up the expansive Ice Age Tonquin Trail Master Plan study area. Beginning at the trail corridor's southern end in Wilsonville, land uses are predominantly residential, industrial, and commercial in character (including redeveloping commercial areas along Boones Ferry Road). These areas are interspersed with attractive open spaces, including Morey's Landing Open Space and Graham Oaks Nature Park. Land uses transition to a rural setting in northern Wilsonville and southern Tualatin, with wetlands and vibrant water and wildlife habitat present near the Portland & Western Railroad. Rural land uses, including a portion of the Tualatin River National Wildlife Refuge along Tonquin Road, give way to residential and commercial uses as the trail corridor proceeds toward downtown Sherwood. Sherwood's downtown core benefits from a compact layout and land use mix appealing to residents and visitors alike. In the study area's far northwestern area, wildlife thrives in the Cedar Creek corridor, while residential and rural land uses comprise the area leading to the Tualatin River National Wildlife Refuge near Roy Rogers Road.

Encompassing portions of Tualatin, Sherwood, and unincorporated Clackamas and Washington Counties, the study area's central portion contains a mix of employment, light industrial, manufacturing, and commercial uses. North of Oregon 99W, the setting quickly transitions to residential and rural uses, offering future trail users a pleasant transition while making their way to the Tualatin River. The northeastern portion of the study area also offers a mix of settings including industrial uses in western Tualatin, an urban natural area environment along Hedges Creek Greenway, and a developed urban recreation area in Tualatin Community Park.



View of the Willamette River from the trail's southern terminus near Boones Ferry Park in Wilsonville.



Completed section of trail in Wilsonville's Morey's Landing neighborhood.



A wide promenade in Old Town Sherwood accommodates cyclists and pedestrians.



View of Coffee Lake Creek Natural Area from the Portland & Western Railroad.



The western-most trail segment terminates at the Tualatin River National Wildlife Refuge in Sherwood; a haven for bald eagles, herons, and many other wildlife species.



A future bicycle/pedestrian bridge over the Tualatin River will link the Ice Age Tonquin Trail to the Westside Trail.

Active Transportation Connections

Active transportation is about seamlessly connecting bicycling and walking trips from beginning to end. Active transportation projects like the Ice Age Tonquin Trail integrate walking; bicycling; transit; bike parking; signalization and wayfinding elements; and educational and interpretive signage. Increasing active transportation benefits the region by reducing greenhouse gas emissions and congestion, providing inexpensive travel options; improving our health and reducing health care costs; and fostering dynamic communities.

The Ice Age Tonquin Trail will link the Willamette River and Graham Oaks Nature Park in Wilsonville with the Tualatin River in Tualatin and the Tualatin River National Wildlife Refuge in Sherwood. The trail will connect with other regional trails and destinations including the Fanno Creek Greenway Trail, the Westside Trail, and (if the French Prairie Bridge is built) Champoege and Willamette Mission State Parks. The Ice Age Tonquin Trail will link homes with schools; jobs; recreation; Westside Express Service (WES) commuter rail stations; industrial centers; local and regional TriMet and South Metro Area Rapid Transit bus routes; town centers; and public parks and natural areas.

Each of the three cities through which the Ice Age Tonquin Trail passes has achieved progress toward making these active transportation connections a reality. A completed trail segment passing through Graham Oaks Nature Park connects two schools with other existing segments in Wilsonville's Villebois community (and eventually to Wilsonville's commuter rail station). A built portion of Sherwood's Cedar Creek Trail links downtown Sherwood with Stella Olsen Park, and functions as a completed portion of the Ice Age Tonquin Trail. Sherwood plans to continue this momentum by completing additional segments made possible by Metro Regional Flexible Funds allocation program. To the east, completion of the Ki-a-Kuts Bridge linking Tualatin Community Park with Tigard's Cook Park has filled a major gap in the regional active transportation network by connecting the Tonquin and Fanno Creek regional trails. Beyond these significant achievements, several other on- and off-street Ice Age Tonquin Trail segments exist throughout the study area.



Completion in 2010 of the Ice Age Tonquin Trail in Graham Oaks Nature Park has significantly enhanced active transportation connections in Wilsonville.



Built section of the Ice Age Tonquin Trail in Wilsonville's Villebois neighborhood.



The Ki-a-Kuts bicycle/pedestrian bridge over the Tualatin River links a built section of the Ice Age Tonquin Trail and the Fanno Creek Trail.

Related Planning Efforts

Numerous planning efforts were conducted in the study area during the trail master planning process. The project team and project steering committee members coordinated extensively with those efforts to be sure the Ice Age Tonquin Trail Master Plan recommendations were incorporated when there was overlap in project goals. Map 4 graphically depicts the planning areas, and a description of the most important planning efforts and coordination follows.

Transportation System Planning

Each of the three cities and two counties in the study area began updating their transportation system plans during the trail master planning work. These long range plans (required by the State of Oregon and Metro) prioritize multi-modal transportation investments that will be made in their respective jurisdictions through the year 2035. The trail master planning work was closely coordinated with the transportation system planning and continued coordination will ensure successful trail implementation.

Concept Planning

Jurisdictions in the study area were also conducting concept planning (required by Metro) to identify where future development will occur in unincorporated areas that will eventually be annexed by Wilsonville, Tualatin, and Sherwood. The trail master planning recommendations were incorporated into each of the following Concept Planning processes:

- Tonquin Employment Concept Plan (Sherwood)
- Southwest Concept Plan (Tualatin)
- Basalt Creek and West Railroad Concept Plans, ongoing (Wilsonville, Tualatin)

Continued coordination as the concept plans move forward is vital to successful trail implementation.

Other Land Use and Transportation Planning

Additional ongoing and upcoming planning efforts (for example, 124th Avenue Extension between Tualatin-Sherwood Road and Tonquin Road, and the Southwest Corridor Plan) will set the groundwork for enhancing active transportation connections from those projects to the Ice Age Tonquin Trail. This Master Plan also considered key elements of many other local plans including park master plans, neighborhood plans, natural resource plans and trail feasibility studies.

Ice Age Floods National Geological Trail Planning

The National Park Service is currently planning the Ice Age Floods National Geologic Trail, which will be a network of driving routes, with spurs for walking and biking, that will begin in Montana and travel west to Oregon, ending at the Pacific Ocean. The trail will follow the path of the cataclysmic floods that occurred 12,000 to 17,000 years ago, linking many of the spectacular geological features left behind, such as the Columbia River Gorge and the Willamette Valley. Because the Ice Age Tonquin Trail travels through a landscape and unique geological features formed by these Ice Age floods, there may be funding opportunities to tie the regional trail to the national trail through interpretive signage, events, and other facilities and activities.

The Ice Age Tonquin Trail (formerly the Tonquin Trail) was renamed during the master planning process to tie it to the national trail. By linking the two trails, future funding opportunities will be expanded and increased tourism is expected in the cities the Ice Age Tonquin Trail will serve. A National Park Service

publication about the national trail, with a map showing the proposed routes can be found in Appendix E. Background information about the process to rename the trail can be found in Appendix A.



Map 4: Relevant Planning Efforts Occurring in the Ice Age Tonquin Trail Study Area



Natural Environment

Despite a broad mix of developed land uses, the Ice Age Tonquin Trail study area offers a diversity of natural and cultural features potentially unmatched in the Portland region. Several rare species and habitats generally associated with these features can be found in the study area. For example, upland prairie fragments, oak and madrone woodlands, and rare wildflowers are found near basalt hummocks (scablands); and rare reptiles (pond turtles) and amphibians (northern red-legged frogs) live in the kolk ponds. Discussed earlier, remnants of geologic activities thousands of years in the making are on clear display, including kolk ponds and scablands dating to the Glacier Lake Missoula Floods over 15,000 years ago. Local and regional efforts have successfully preserved these and other key natural resources, offering a unique user experience once the Ice Age Tonquin Trail is completed.

The study area is also home to at least three sensitive natural areas including the Coffee Lake Creek Natural Area in Wilsonville, the Cedar Creek corridor in Sherwood, and Hedges Creek Greenway in Tualatin. Each area includes features contributing to their role as an environmental and community asset, thereby reinforcing the need to give careful consideration as trail or other development occurs. The Ice Age Tonquin Trail's proximity to these prominent natural areas provides opportunities to enhance these elements based on best practices while expanding environmental education and interpretive opportunities.



The publicly owned Coffee Lake Creek Natural Area in Wilsonville.



Tualatin's Hedges Creek Greenway is one of several sensitive natural areas in the Ice Age Tonquin Trail study area.

Chapter 3: Trail Segment Options Analysis and Preferred Trail Alignment

Segment Options Analysis

Working with the project steering committee, stakeholders, and local agency staff, the project team undertook an extensive process to identify and evaluate trail segment options. This process included the following key steps:

- An initial set of trail study segments were identified in late 2009, based on a review of background information, a “fatal flaw” analysis of segments proposed in the 2004 Tonquin Trail Feasibility Study, property research, and extensive input from stakeholders and the public.
- Additional study segments were added in 2010 in response to other concurrent planning efforts (for example, future 124th Avenue Extension between Tualatin-Sherwood Road and Tonquin Road) and additional public input.
- Adjustments to some study segments were made in 2011 as follow-up property research, additional discussions with stakeholders, and input from local agency staff and elected officials became available.

The evaluation was primarily based on an Evaluation Framework (including 6 goals, 19 criteria, and over 30 evaluative measures) jointly developed by the project team and project steering committee at the outset of the planning process. The project team performed a detailed evaluation of nearly 20 segment options based on each measure within the Evaluation Framework. This approach provided an objective means to compare the segments against one another. The project team then vetted the findings of the preliminary analysis with stakeholders, local decision makers, and the public, and made refinements, as needed, to develop the preferred Ice Age Tonquin Trail alignment.

Appendix B contains the Evaluation Framework memorandum and other technical background information related to the development and evaluation process.

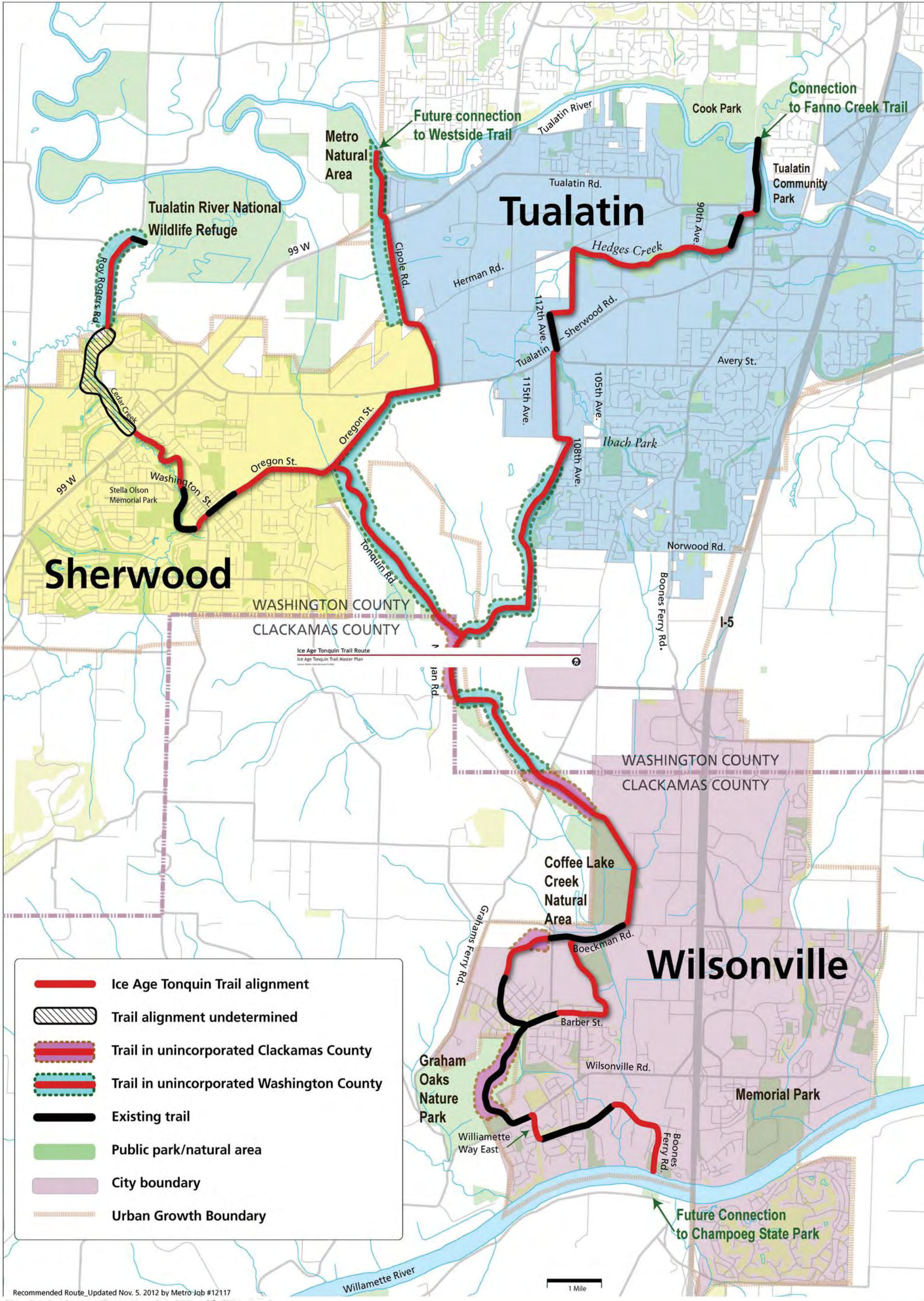
Preferred Trail Alignment

Overview

Spanning approximately 22 miles, the preferred Ice Age Tonquin Trail alignment will provide a seamless active transportation link between the Willamette and Tualatin Rivers while connecting the communities of Wilsonville, Sherwood, and Tualatin. The preferred alignment will provide a convenient, comfortable, and safe atmosphere for trail users of all ages and abilities; provide access (but limit impacts) to natural and cultural resources; and enhance non-motorized connectivity in the Portland region. Equally important, the alignment is implementable and has garnered support from the communities through which it passes.

From its southern terminus at the Willamette River, the preferred Ice Age Tonquin Trail alignment will pass through several Wilsonville neighborhoods and Graham Oaks Nature Park before splitting into three

segments, as depicted on Map 5. The western segment will traverse a bluff above Tonquin Road before descending into downtown Sherwood and Stella Olsen Park. This segment will follow Sherwood's majestic Cedar Creek corridor on its way to a Tualatin River National Wildlife Refuge trailhead near Roy Rogers Road. The central segment will follow Oregon Street and Cipole Road along the Sherwood/Tualatin boundary, access the Tualatin River at a Metro-owned natural area, and offer a connection to the future Westside Regional Trail. Making its way to Tualatin, the eastern segment will pass within close proximity of several historic and geologic features north of Tonquin Road. This segment will travel adjacent to Tualatin's Hedges Creek Greenway en route to Tualatin Community Park, and seamlessly link with the Fanno Creek Regional Trail via an existing bicycle/pedestrian bridge traversing the Tualatin River.



Recommended Route_Updated Nov. 5, 2012 by Metro-Job #12117

Map 5: Ice Age Tonquin Trail Route

Ice Age Tonquin Trail Master Plan

Source: Metro Data Resource Center



Recommended Trail Alignment

Tables 2 through 20 and the accompanying Maps 6 through 25 illustrate the preferred Ice Age Tonquin Trail alignment in greater detail, and describe specific recommended improvements. Beginning at the Willamette River in Wilsonville, the maps progress north first toward Sherwood, and conclude in Tualatin. The maps illustrate site-specific improvements that include the following:

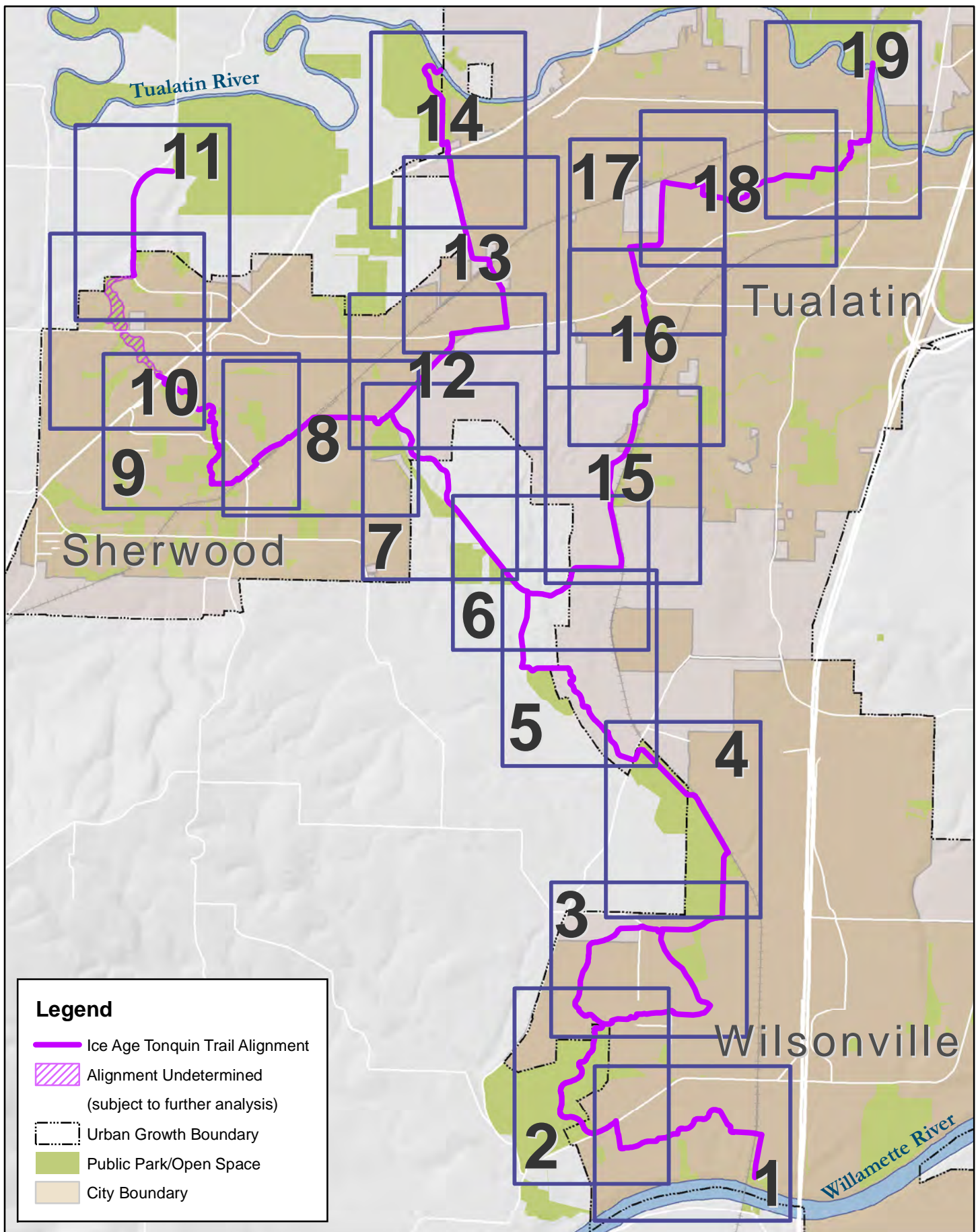
- Recommended trail type (for example, shared use path, boardwalk)
- Proposed at-grade and grade-separated trail crossings
- Proposed trailhead locations
- Art, educational, and interpretive opportunities
- Potential wayfinding signage locations
- Potential trail spurs
- Locations where property easements or acquisitions will be needed to accommodate the trail
- Other features including wetlands, parks, natural areas, schools, and major destinations

The accompanying tables provide additional information where necessary to augment the features shown on each map.

Due to the diverse physical landscapes and settings through which the preferred alignment travels in its 22-mile course, the specific trail facility type will vary by location. The facility types are grouped into four main categories:

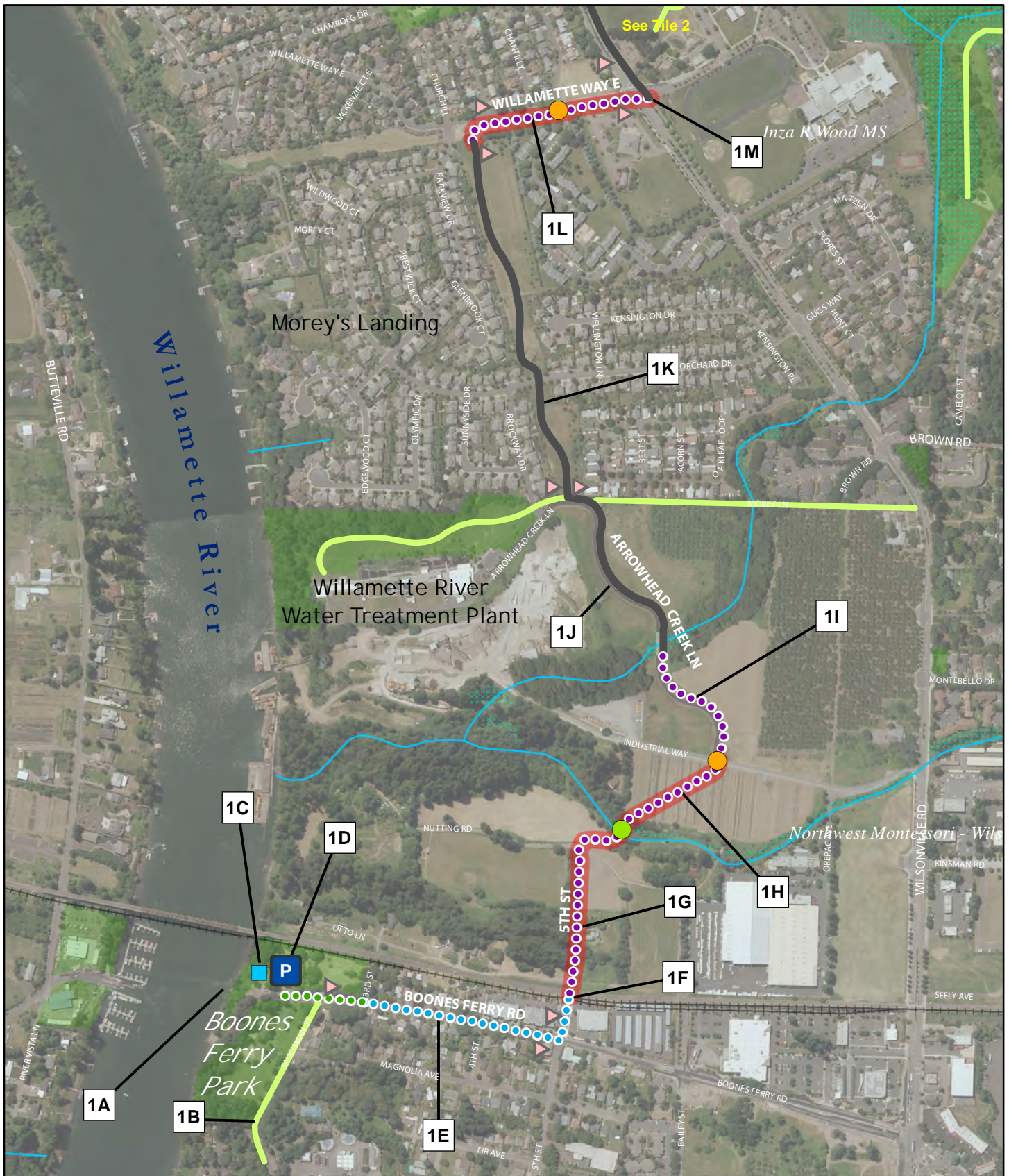
- **Shared Use Path.** A facility physically separated from motor vehicle traffic, dedicated for the exclusive use of bicyclists, pedestrians, joggers, in-line skaters, and other non-motorized users.
- **Boardwalk.** Similar to a shared use path and used in and near environmentally sensitive areas such as wetlands and sensitive wildlife habitat.
- **Bike Lanes/Sidewalks.** Where physical or other constraints (primarily in urban settings) preclude development of a shared use path, bicyclists would be accommodated with striped bike lanes while sidewalks would accommodate pedestrians.
- **Shared Roadway.** Where physical or other constraints along lower-volume and/or lower-speed streets preclude development of a shared use path, bicyclists and motorists would share the road (possibly augmented by shared lane markings), while sidewalks would accommodate pedestrians. Where vehicle volumes and speeds are very low, pedestrians, cyclists, and motorists would potentially use the same space.

While this section depicts locations of site-specific improvements, the Ice Age Tonquin Trail Design Guidelines in Chapter 4 provide more detailed design guidance for the facility types listed above. It should be noted, however, that appropriate design treatments will vary on a case-by-case basis depending on location and further analysis at the time the Master Plan is implemented.



Map 6: Key to Tile Maps





Map 7: Tile 1 - Willamette River to Morey's Landing

Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center

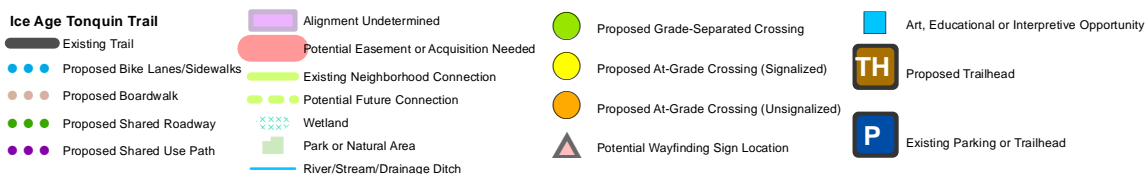


Table 2 - Tile 1: Willamette River to Morey's Landing

Reference # (see Tile 1 map)	Recommended Improvements and Opportunities
1A	Connection to potential future French Prairie Bicycle/Pedestrian/Emergency Access Bridge
1B	Connection to Memorial Park
1C	Potential Willamette River art, educational or interpretive opportunity
1D	Use existing trailhead at Boones Ferry Park (includes parking, restrooms, a picnic shelter, and a boat launch)
1E	Coordinate trail development with Boones Ferry Road improvements; consider re-striping roadway to position bike lane on east (northbound) side to accommodate uphill cyclists, and shared lane markings in southbound direction
1F	Use existing at-grade railroad/roadway crossing; upgrade crossing treatments in tandem with future roadway and/or trail extension
1G	Trail design to occur in tandem with potential future roadway design in this area; trail will parallel 5 th Street or Bailey Street
1H	Trail to either follow an independent corridor, or follow parallel to a potential future roadway such as Brown Road Extension (as a physically separated trail)
1I	Use existing graded trail alignment along Arrowhead Creek Lane (paving of trail corridor necessary) and existing creek crossing
1J	Use existing trail on north side of Arrowhead Creek Lane in this area
1K	Use existing trail in Morey's Landing
1L	Use power line corridor on east side of Willamette Way East; potential need for fence relocation immediately north of Chantilly
1M	Use existing signalized intersection of Wilsonville Road and Willamette Way East



Map 8: Tile 2 - Morey's Landing to Villebois

Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center

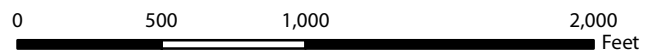
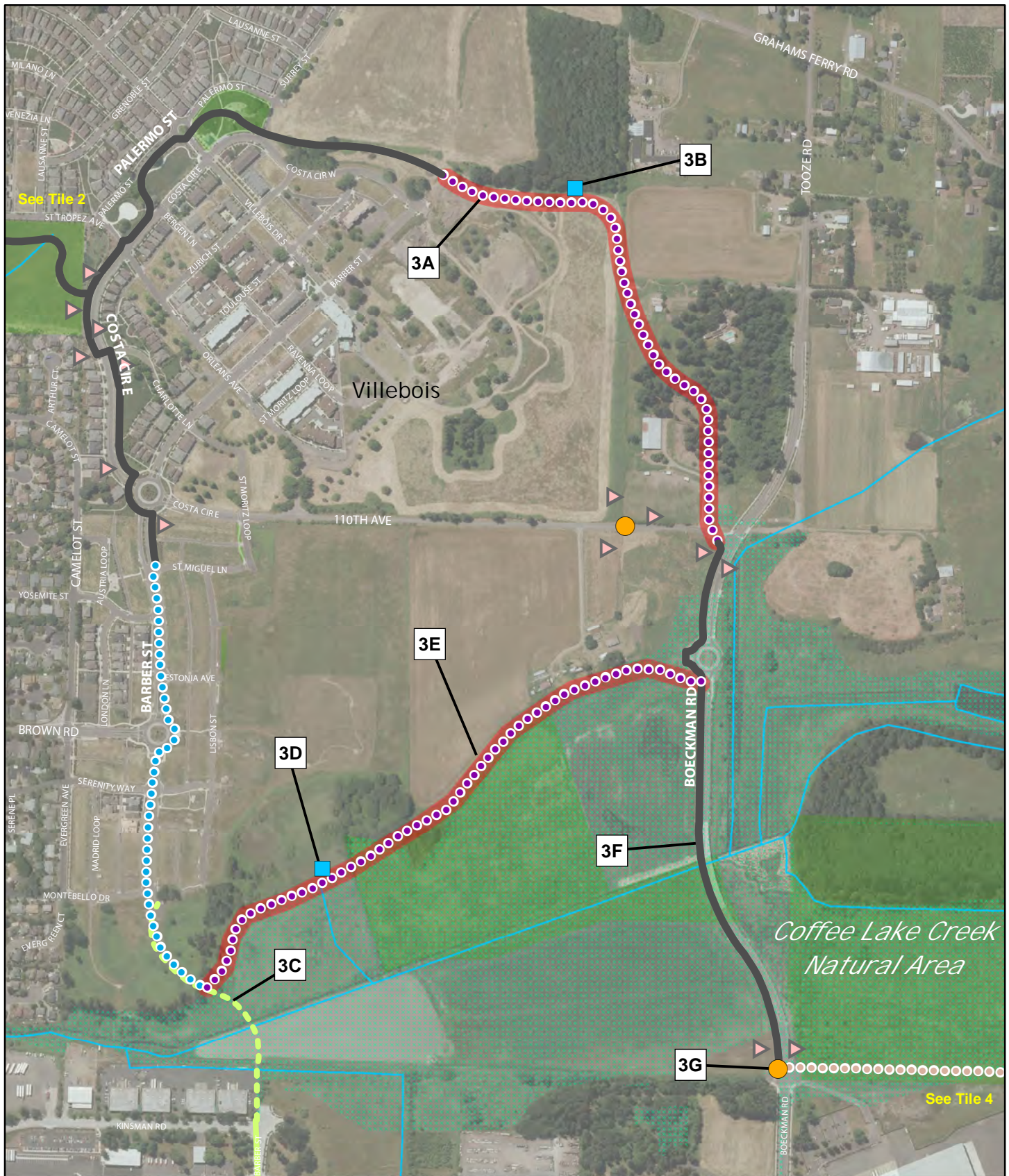


Table 3 - Tile 2: Morey's Landing to Villebois

Reference # (see Tile 2 map)	Recommended Improvements and Opportunities
2A	Use existing trailhead at Graham Oaks Natural Area (includes parking, restrooms, a picnic shelter, and wayfinding/interpretive signage)
2B	Use built section of Ice Age Tonquin Trail through Graham Oaks Natural Area
2C	Existing connection between Merryfield Park and Ice Age Tonquin Trail
2D	Use existing trail in Villebois
2E	Use existing trail in Villebois



Map 9: Tile 3 - Villebois to Boeckman Road

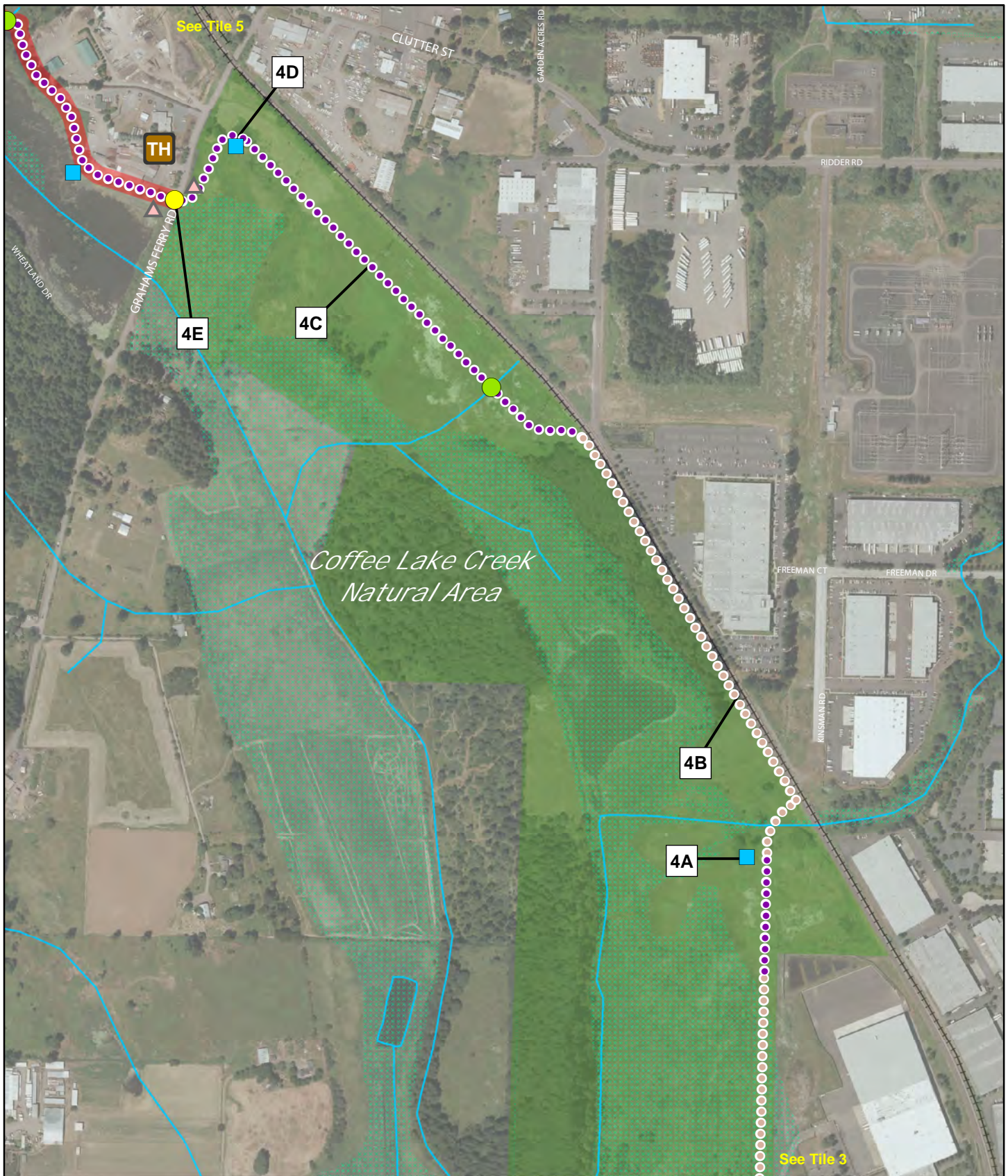
Ice Age Tonquin Trail Master Plan
 Preferred Alignment

Source: Metro Data Resource Center



Table 4 - Tile 3: Villebois to Boeckman Road

Reference # (see Tile 3 map)	Recommended Improvements and Opportunities
3A	Specific trail alignment, improvements, and necessary property easements/acquisitions dependent on Villebois Master Plan implementation
3B	Potential art, educational or interpretive opportunity associated with “neighborhood commons” area proposed in Villebois Master Plan
3C	Planned connection between Ice Age Tonquin Trail and Westside Express Service (WES) commuter rail station
3D	Potential Coffee Lake Creek Natural Area art, educational or interpretive opportunity
3E	Specific trail alignment, improvements, and necessary property easements/acquisitions dependent on Villebois Master Plan implementation
3F	Use existing trail on Boeckman Road’s south side
3G	Install high-visibility crosswalk on intersection’s west leg to align with trail corridor; install pedestrian push buttons on intersection’s northwest (NW) and southwest (SW) corners and coordinate with existing overhead flashing warning lights; provide wayfinding signage for nearby WES commuter rail station



Map 10: Tile 4 - Boeckman Road to Grahams Ferry Road

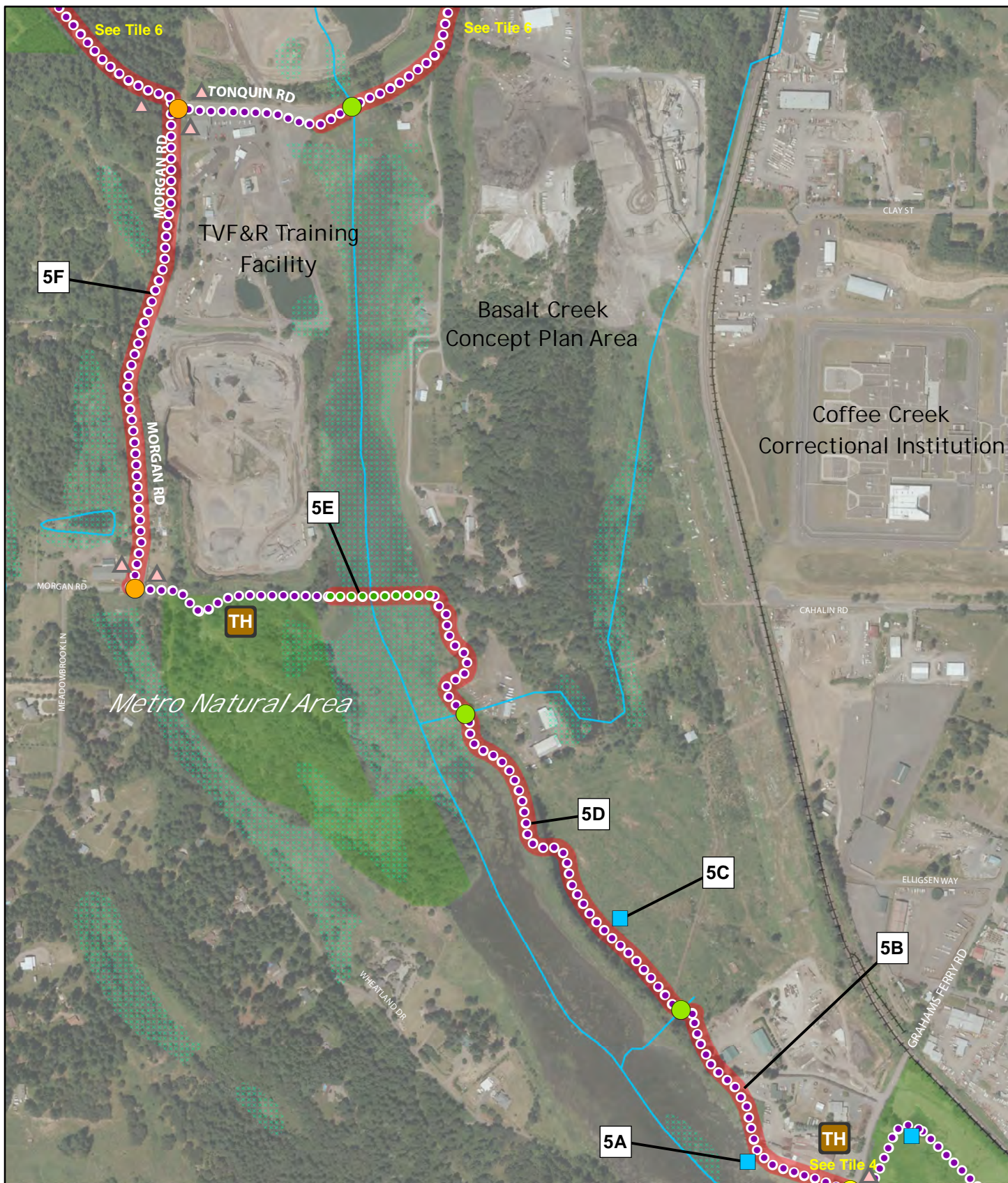
Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center



Table 5 - Tile 4: Boeckman Road to Grahams Ferry Road

Reference # (see Tile 4 map)	Recommended Improvements and Opportunities
4A	Potential Coffee Lake Creek Natural Area art, educational or interpretive opportunity
4B	Trail alignment to follow eastern edge of Metro's Coffee Lake Creek Natural Area (to minimize wetland impacts); potential to include trail spurs to provide wetland views
4C	Specific trail alignment in this area to be determined during trail design
4D	Potential Coffee Lake Creek Natural Area art, educational or interpretive opportunity
4E	Install signal at crossing of Grahams Ferry Road and include advanced warning signage for motorists; further analysis may be needed to determine the most appropriate crossing type (for example, at-grade versus grade-separated crossing)



Map 11: Tile 5 - Grahams Ferry Road to Morgan Road/Tonquin Road

Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center

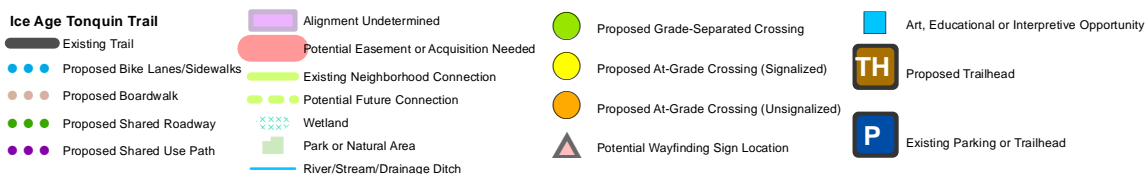
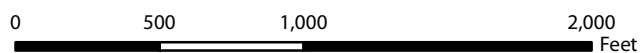
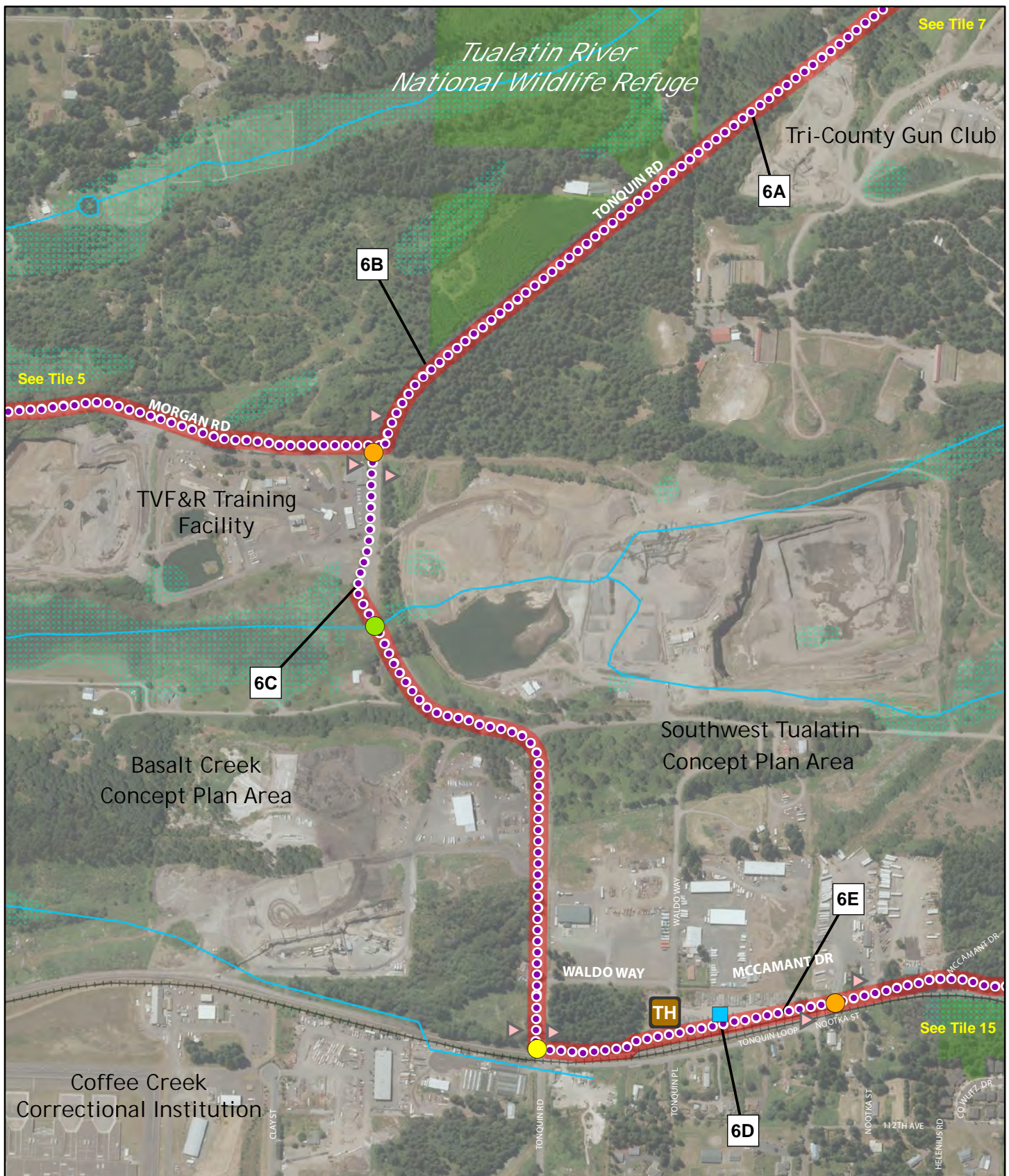


Table 6 - Tile 5: Grahams Ferry Road to Tonquin Road/Morgan Road

Reference # (see Tile 5 map)	Recommended Improvements and Opportunities
5A	Potential Coffee Lake Creek Natural Area art, educational or interpretive opportunity
5B	Specific trail alignment immediately north of Grahams Ferry Road to be determined during trail design
5C	Potential Coffee Lake Creek Natural Area art, educational or interpretive opportunity
5D	Trail alignment to follow top of hill above wetlands area
5E	Potential need for fencing on both sides of causeway
5F	Specific trail alignment between Metro Natural Area and Tonquin Road to be determined in coordination with the following land use and transportation processes—Poole Quarry, Basalt Creek Concept Plan, 124 th Avenue Extension project, and Southwest Tualatin Concept Plan



Map 12: Tile 6 - Tonquin Road/Morgan Road and Vicinity

Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center

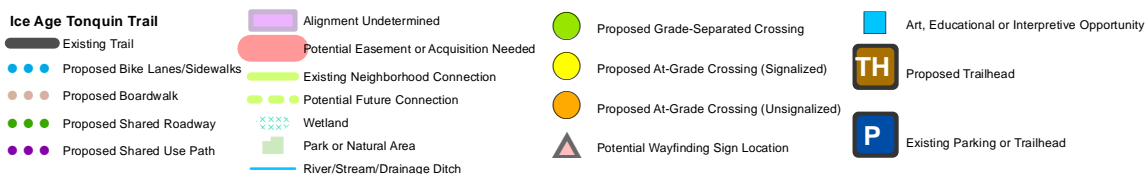
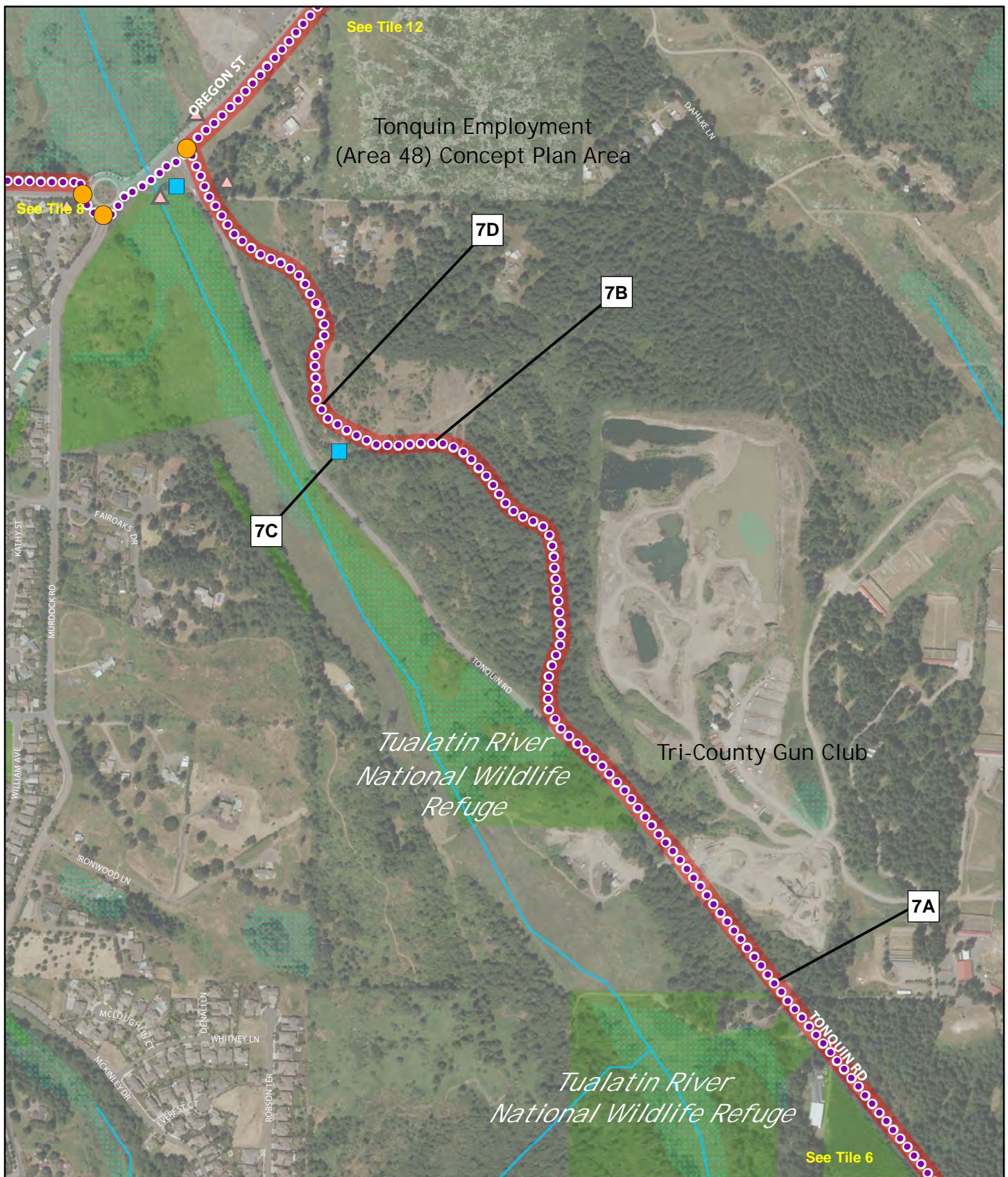


Table 7 - Tile 6: Tonquin Road/Morgan Road and Vicinity

Reference # (see Tile 6 map)	Recommended Improvements and Opportunities
6A	Trail alignment proposed to follow east side of Tonquin Road (west of Morgan Road intersection); potential need for retaining walls between Tri-County Gun Club entrance and quarry entrance to the northwest; potential need for utility pole and/or guywire relocation in some locations north of Morgan Road; some vegetation removal necessary between Morgan Road and Tri County Gun Club entrance.
6B	Washington County's <i>Transportation System Plan</i> (TSP) recommends widening Tonquin Road; this could potentially enable the trail to be constructed on the roadway's west side within the existing right-of-way; continue to monitor Washington County's plans for Tonquin Road improvements, but pursue acquisition for the trail on east side of the road.
6C	<p>The recommended alignment shown along Tonquin Road between Morgan Road and Tonquin Loop Road (including the intersection of Morgan and Tonquin Roads) was determined before the Basalt Creek Concept Planning process began and in the early stages of the 124th Avenue Extension project. The alignment shown here will be finalized during the design for the east-west corridor in the Basalt Creek Concept Plan, 124th Avenue Extension, and improvements to Tonquin Road.</p> <p>For purposes of the Master Plan documentation, details regarding the alignment that is shown include the following—trail to follow south side of Tonquin Road (east of Morgan Road intersection); existing right-of-way encroachment along several adjacent properties (would necessitate relocation of existing fencing and mailboxes); potential need for utility pole and/or guywire relocation in some locations; and vegetation removal necessary.</p>
6D	Potential historic railway art, educational or interpretive opportunity
6E	The goal of the Ice Age Tonquin Trail in the Southwest Tualatin Concept Plan area is to have a north/south orientation through and adjacent to the areas of highest desirability for interpretation of the Ice Age floods and the associated natural and geologic features. The exact alignment and proposed trailhead location have yet to be determined and will be developed in the future in consultation with the industrial land owners in this area, adjacent property owners, the general public and other stakeholders, no later than the time of annexation. Any property acquired by Metro for the trail will be acquired via a willing seller program.



Map 13: Tile 7 - Tonquin Road/Morgan Road and Vicinity to Oregon Street

Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center



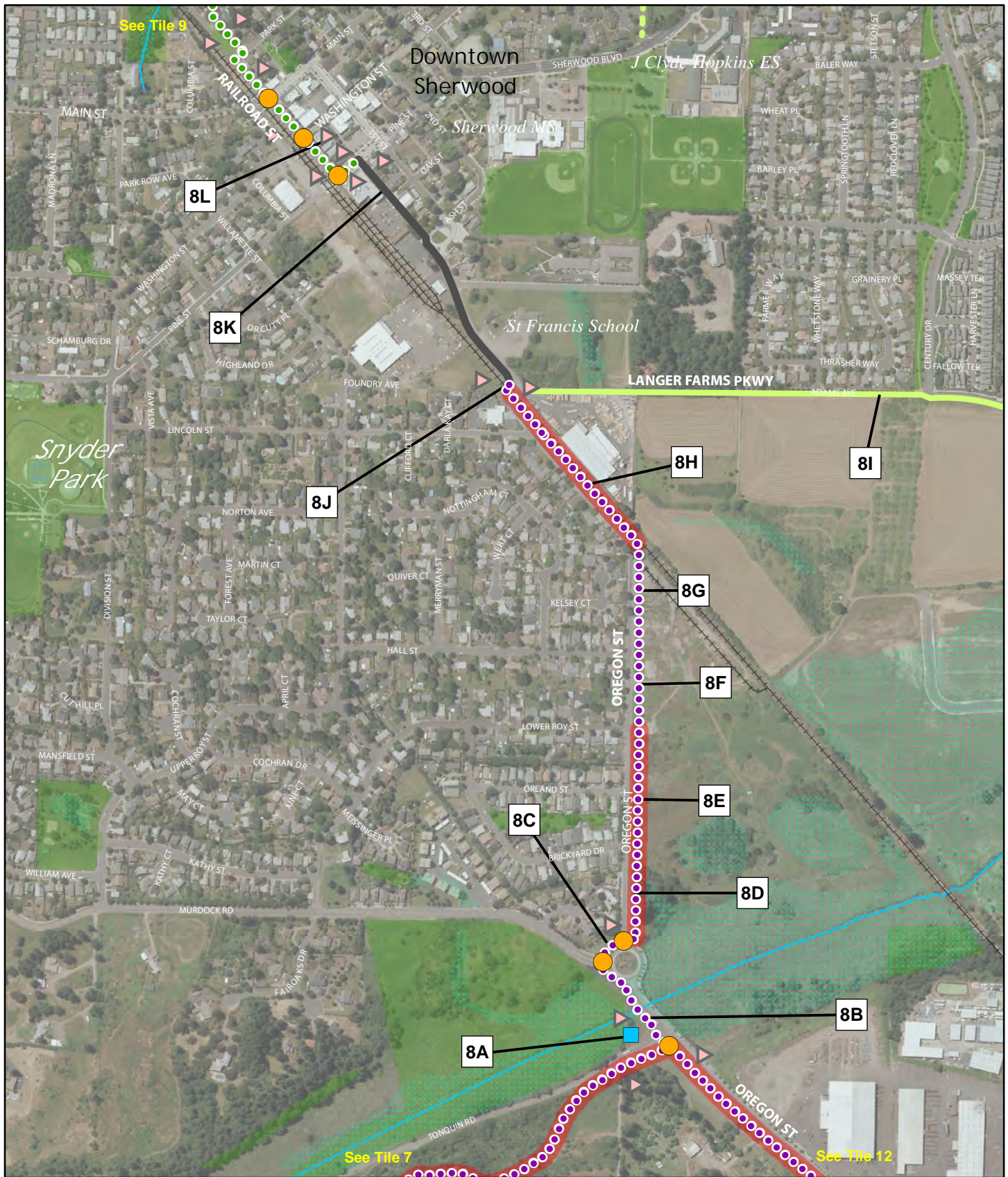
Ice Age Tonquin Trail

- Existing Trail
- Proposed Bike Lanes/Sidewalks
- Proposed Boardwalk
- Proposed Shared Roadway
- Proposed Shared Use Path
- Alignment Undetermined
- Potential Easement or Acquisition Needed
- Existing Neighborhood Connection
- Potential Future Connection
- Wetland
- Park or Natural Area
- River/Stream/Drainage Ditch

- Proposed Grade-Separated Crossing
- Proposed At-Grade Crossing (Signalized)
- Proposed At-Grade Crossing (Unsignalized)
- Potential Wayfinding Sign Location
- Art, Educational or Interpretive Opportunity
- Proposed Trailhead
- Existing Parking or Trailhead

Table 8 - Tile 7: Tonquin Road/Morgan Road and Vicinity to Oregon Street

Reference # (see Tile 7 map)	Recommended Improvements and Opportunities
7A	Barrier separation needed between trail and Tonquin Road
7B	Trail alignment to follow bluff above Tonquin Road
7C	Potential Tualatin River National Wildlife Refuge art, educational or interpretive opportunity
7D	Trail alignment could follow existing unimproved roadway; final alignment to be determined in coordination with Sherwood's Tonquin Employment Area Concept Plan (which includes a future east-west road in this area)



Map 14: Tile 8 - Tonquin Road/Oregon Street to Downtown Sherwood

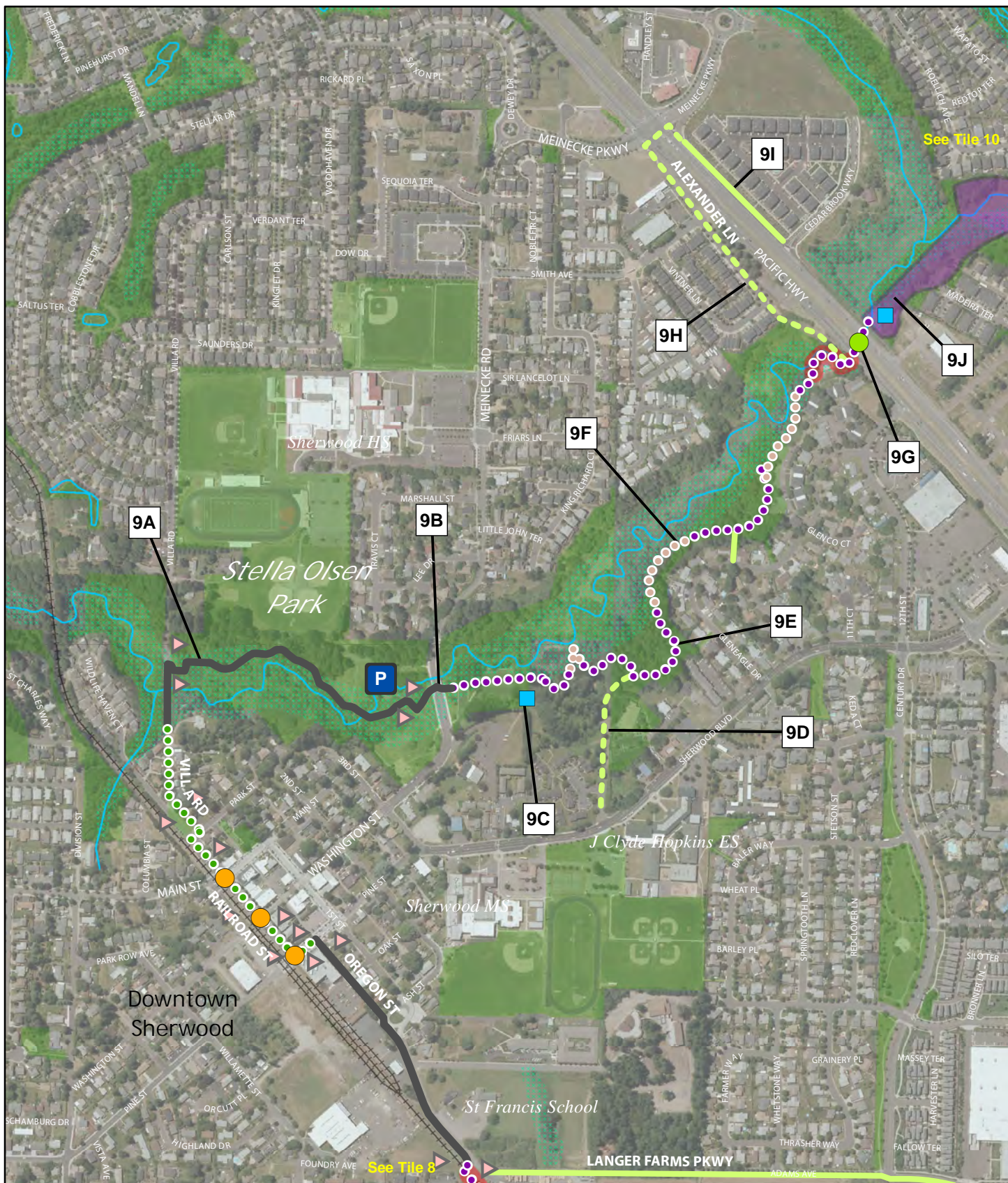
Ice Age Tonquin Trail Master Plan
 Preferred Alignment
 Source: Metro Data Resource Center



- | | | | |
|-------------------------------|--|---|--|
| Ice Age Tonquin Trail | Alignment Undetermined | Proposed Grade-Separated Crossing | Art, Educational or Interpretive Opportunity |
| Existing Trail | Potential Easement or Acquisition Needed | Proposed At-Grade Crossing (Signalized) | Proposed Trailhead |
| Proposed Bike Lanes/Sidewalks | Existing Neighborhood Connection | Proposed At-Grade Crossing (Unsignalized) | Existing Parking or Trailhead |
| Proposed Boardwalk | Potential Future Connection | Potential Wayfinding Sign Location | |
| Proposed Shared Roadway | Wetland | | |
| Proposed Shared Use Path | Park or Natural Area | | |
| | River/Stream/Drainage Ditch | | |

Table 9 - Tile 8: Tonquin Road/Oregon Street to Downtown Sherwood

Reference # (see Tile 8 map)	Recommended Improvements and Opportunities
8A	Potential Tualatin River National Wildlife Refuge art, educational or interpretive opportunity
8B	Widen sidewalk on Oregon Street's south side between Tonquin Road and Murdock Road to accommodate trail
8C	Widen sidewalk on SW and southeast (SE) sides of roundabout to accommodate trail
8D	Potential need for vegetation removal and retaining wall (or bank stabilization) to accommodate trail
8E	Relocate existing fence on Oregon Street's north side
8G	Trail alignment to follow Oregon Street's north side between Murdock Road and Langer Farms Parkway
8G	Potential need for utility pole relocation and vegetation removal
8H	Trail alignment to be situated beneath power line corridor between railroad and Oregon Street; install fencing between trail and railroad; potential need for utility pole relocation
8I	Existing local connection on Langer Farms Parkway (including a 12-foot-wide sidewalk on roadway's east side, and a 6-foot wide sidewalk and a 5-foot wide planter strip on roadway's west side)
8J	Existing at-grade railroad/roadway crossing
8K	Use existing trail on Oregon Street's south side and existing trail in downtown Sherwood
8L	City of Sherwood to coordinate shared roadway treatments on Railroad Street (including wayfinding)



Map 15: Tile 9 - Cedar Creek Corridor (Southern Portion)

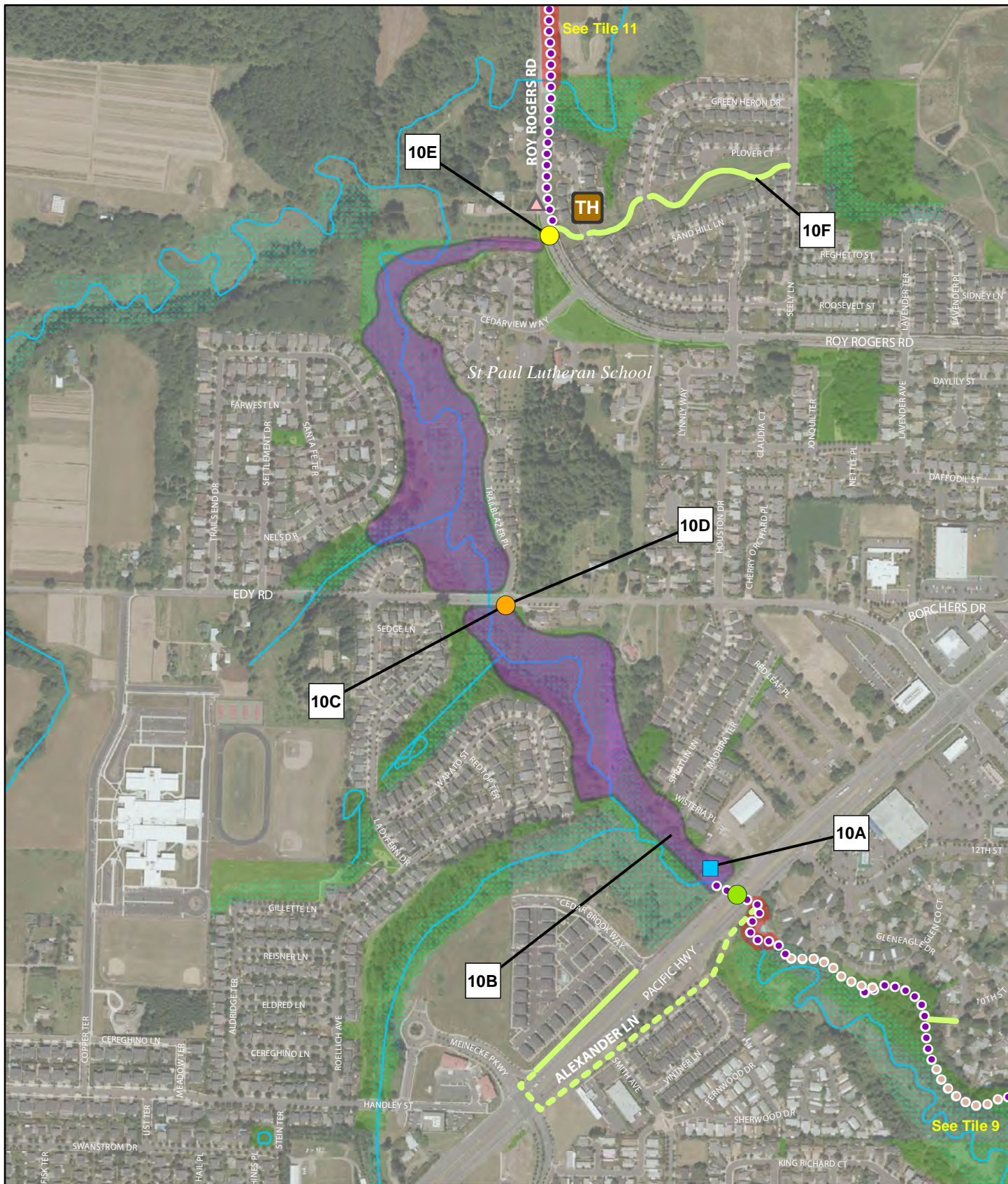
Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center



Table 10 - Tile 9: Cedar Creek Corridor (Southern Portion)

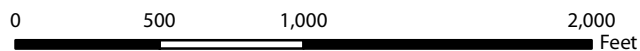
Reference # (see Tile 9 map)	Recommended Improvements and Opportunities
9A	Use existing Cedar Creek Trail
9B	Use existing grade-separated crossing at Washington Street; use existing trailhead immediately south of Washington Street (parking available north of Washington Street)
9C	Potential Cedar Creek art, educational or interpretive opportunity
9D	Planned trail access for nearby senior center and elementary school
9E	City of Sherwood to conduct further analysis to determine specific trail alignment in this area; trail design to be based on guidance provided in the Ice Age Tonquin Trail Master Plan specific to the Cedar Creek corridor
9F	Vegetation removal and mitigation necessary to accommodate trail throughout most portions of the Cedar Creek corridor
9G	Proposed trail/wildlife undercrossing of Pacific Highway/Oregon 99W (subject to ODOT approval)
9H	Planned neighborhood connection and crossing enhancements at intersection of Pacific Highway/Oregon 99W and Meinecke Road
9I	Existing neighborhood connection (sidewalk)
9J	City of Sherwood to conduct further analysis to determine specific trail alignment in this area; trail design to be based on guidance provided in the Ice Age Tonquin Trail Master Plan specific to the Cedar Creek corridor



Map 16: Tile 10 - Cedar Creek Corridor (Northern Portion)

Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center



Ice Age Tonquin Trail

- Existing Trail
- Proposed Bike Lanes/Sidewalks
- Proposed Boardwalk
- Proposed Shared Roadway
- Proposed Shared Use Path
- Alignment Undetermined
- Potential Easement or Acquisition Needed
- Existing Neighborhood Connection
- Potential Future Connection
- Wetland
- Park or Natural Area
- River/Stream/Drainage Ditch

- Proposed Grade-Separated Crossing
- Proposed At-Grade Crossing (Signalized)
- Proposed At-Grade Crossing (Unsignalized)
- Potential Wayfinding Sign Location

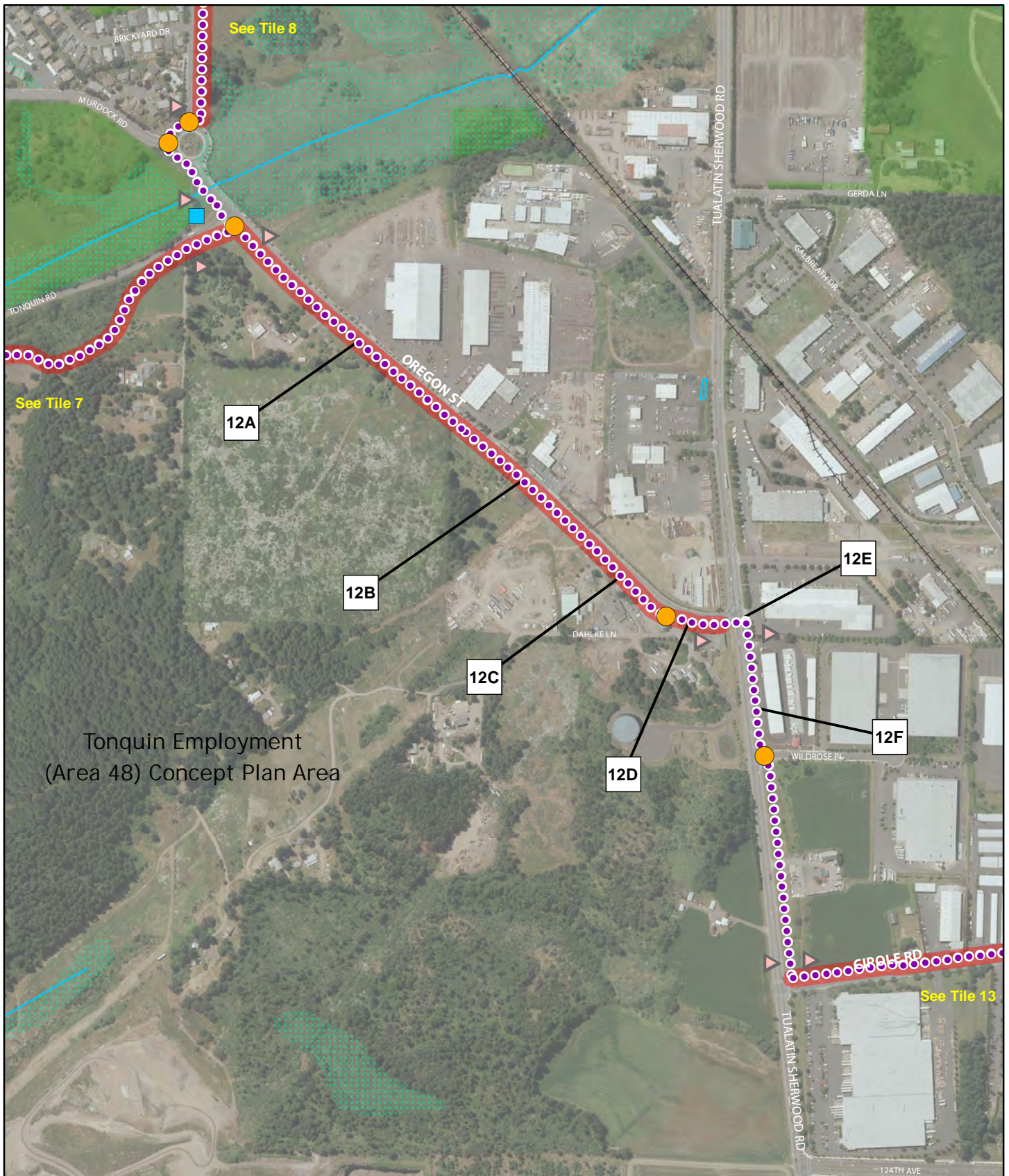
- Art, Educational or Interpretive Opportunity
- Proposed Trailhead
- Existing Parking or Trailhead

Table 11 - Tile 10: Cedar Creek Corridor (Northern Portion)

Reference # (see Tile 10 map)	Recommended Improvements and Opportunities
10A	Potential Cedar Creek art, educational or interpretive opportunity
10B	City of Sherwood to conduct further analysis to determine specific trail alignment in this area; trail design to be based on guidance provided in the Ice Age Tonquin Trail Master Plan specific to the Cedar Creek corridor
10C	Use existing Edy Road bridge to cross over Cedar Creek
10D	Potential to create future trail/wildlife undercrossing of Edy Road
10E	Potential motorist sight distance issues on horizontal curve of Roy Rogers Road; signalization proposed to provide protected bicyclist/pedestrian crossings
10F	Existing neighborhood connection

Table 12 - Tile 11: Roy Rogers Road to Tualatin River National Wildlife Refuge

Reference # (see Tile 11 map)	Recommended Improvements and Opportunities
11A	Widen existing sidewalk on east side of Roy Rogers Road to accommodate trail (vegetation removal necessary)
11B	Widen existing bridge over Chicken Creek to accommodate trail, or construct cantilevered bridge or independent structure immediately east of Roy Rogers Road; retaining walls/bank stabilization necessary immediately north and south of creek crossing
11C	Trail alignment to follow east side of Roy Rogers Road (located within Sherwood's urban growth boundary)
11D	Trail will share access road to existing trailhead at Tualatin River National Wildlife Refuge



Map 18: Tile 12 - Tonquin Road/Oregon Road to Tualatin-Sherwood Road

Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center

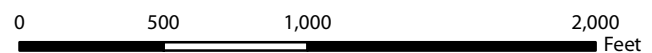
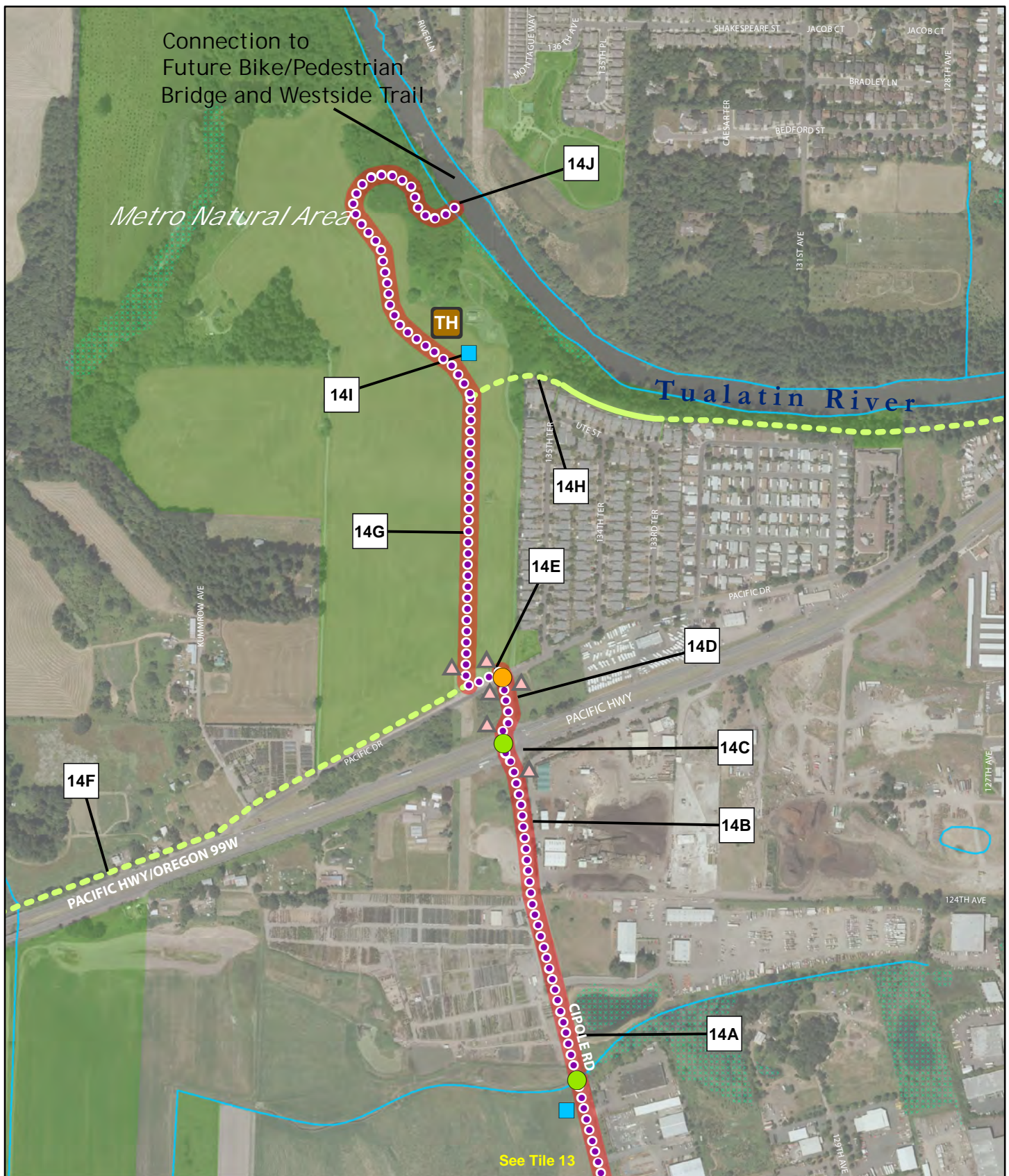


Table 13 - Tile 12: Tonquin Road/Oregon Street to Tualatin-Sherwood Road

Reference # (see Tile 12 map)	Recommended Improvements and Opportunities
12A	Trail alignment to follow Oregon Street's east side between Tonquin Road and Tualatin-Sherwood Road; alignment to be sited immediately east of power line corridor (vegetation removal necessary in several locations); property easements/acquisitions could occur as part of Tonquin Employment Area Concept Plan implementation
12B	Trail alignment to be sited on top of bank immediately east of Oregon Street
12C	Relocate existing fence and retaining wall south of Dahlke Lane
12D	Retaining wall/bank stabilization necessary between Dahlke Lane and Tualatin-Sherwood Road
12E	Use existing signalized intersection of Tualatin-Sherwood Road and Oregon Street; potential need to relocate existing signal poles and utility boxes on intersection's SE and northeast (NE) corners to accommodate trail
12F	Trail alignment to follow north side of Tualatin-Sherwood Road; vegetation removal potentially necessary between Oregon Street and Wildrose Place

Table 14 - Tile 13: Cipole Road (Southern Portion)

Reference # (see Tile 13 map)	Recommended Improvements and Opportunities
13A	Tualatin's <i>Transportation System Plan</i> proposes widening Cipole Road to three vehicle travel lanes, plus bike lanes and sidewalks; trail alignment to follow Cipole Road's west side between Tualatin-Sherwood Road and Pacific Highway/Oregon 99W; trail should be constructed in lieu of a sidewalk on the roadway's west side
13B	Vegetation removal and utility pole/mailbox relocation necessary in several locations to accommodate future Cipole Road widening and trail development between Tualatin-Sherwood Road and Herman Road
13C	Fence relocation necessary on Cipole Road's west side (immediately north and south of railroad) to accommodate future road widening and trail development
13D	Use existing at-grade railroad/roadway crossing; upgrade crossing treatments on roadway's west side (in tandem with future roadway widening) to accommodate trail
13E	Utility pole and fence relocation necessary immediately west/north of Cipole Road/Herman Road intersection to accommodate future road widening and trail development
13F	Vegetation removal necessary in several locations on Cipole Road's west side to accommodate future road widening and trail development between Herman Road and Pacific Highway/Oregon 99W
13G	Potential creekside art, educational, or interpretive opportunity
13H	Retaining wall potentially necessary in vicinity of creek crossing to accommodate future road widening and trail development



Map 20: Tile 14 - Cipole Road (Northern Portion) to Tualatin River

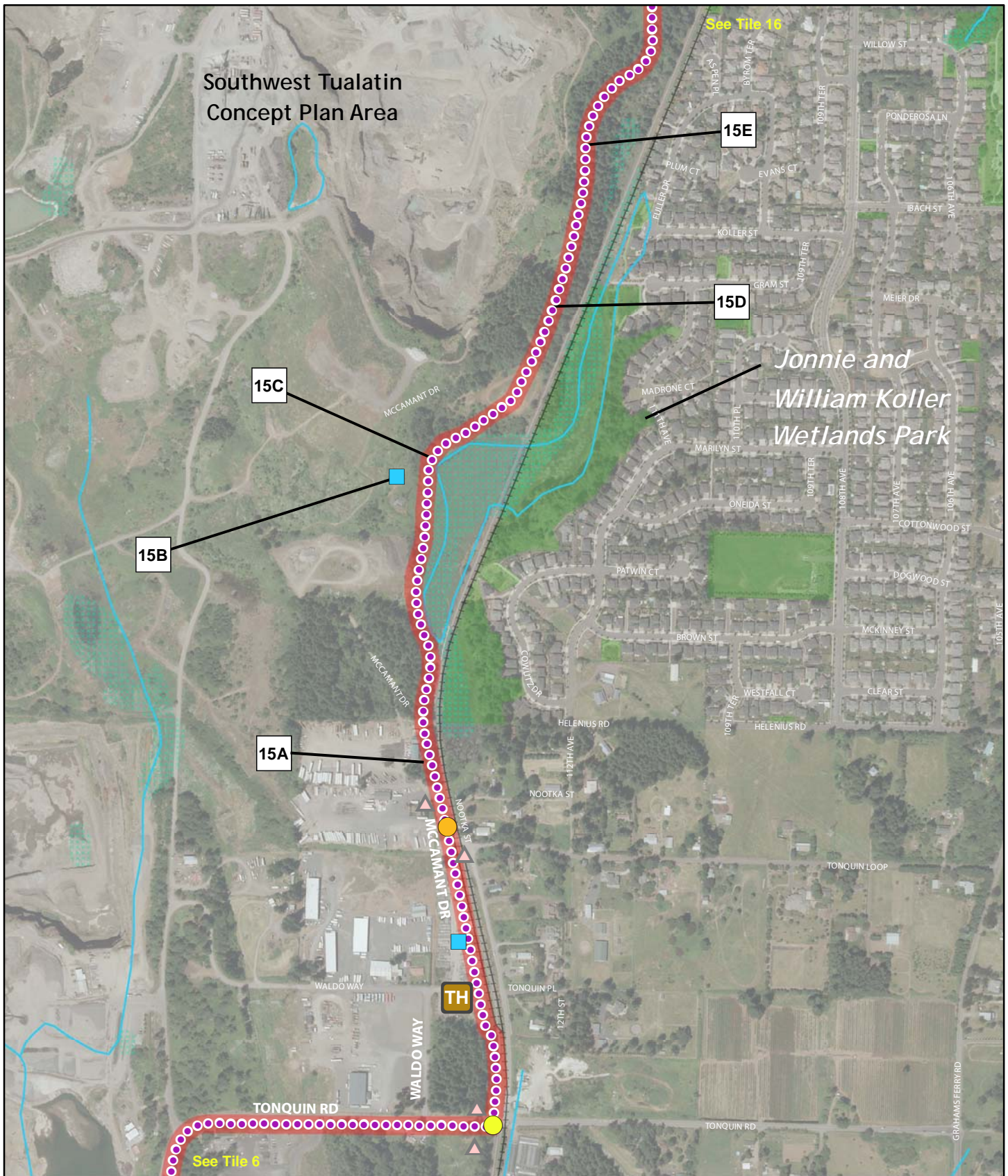
Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center



Table 15 - Tile 14: Cipole Road (Northern Portion) to Tualatin River

Reference # (see Tile 14 map)	Recommended Improvements and Opportunities
14A	Tualatin's <i>Transportation System Plan</i> proposes widening Cipole Road to three vehicle travel lanes, plus bike lanes and sidewalks; trail alignment to follow Cipole Road's west side between Tualatin-Sherwood Road and Pacific Highway/Oregon 99W; trail should be constructed in lieu of a sidewalk on the roadway's west side
14B	Vegetation removal and mailbox relocation necessary in several locations to accommodate future Cipole Road widening and trail development
14C	Construct overcrossing of Pacific Highway/Oregon 99W; alternative/interim treatments may include using existing signalized intersection (including pedestrian-activated push buttons) and crosswalk on intersection's west leg
14D	Vegetation removal necessary to accommodate future Cipole Road widening and trail development
14E	Trail alignment to follow north side of Pacific Drive
14F	Potential future connection to Tualatin River National Wildlife Refuge Visitors Center
14G	Final trail alignment to be determined when future site planning occurs; trail may follow power line corridor through Metro Natural Area; new trailhead planned
14H	Potential future connection to Tualatin River Greenway Trail
14I	Potential Tualatin River art, educational or interpretive opportunity
14J	Connection to future bicycle/pedestrian bridge and Westside Regional Trail



Map 21: Tile 15 - SW Tualatin Concept Plan Area (Southern Portion)

Ice Age Tonquin Trail Master Plan
Preferred Alignment

Source: Metro Data Resource Center

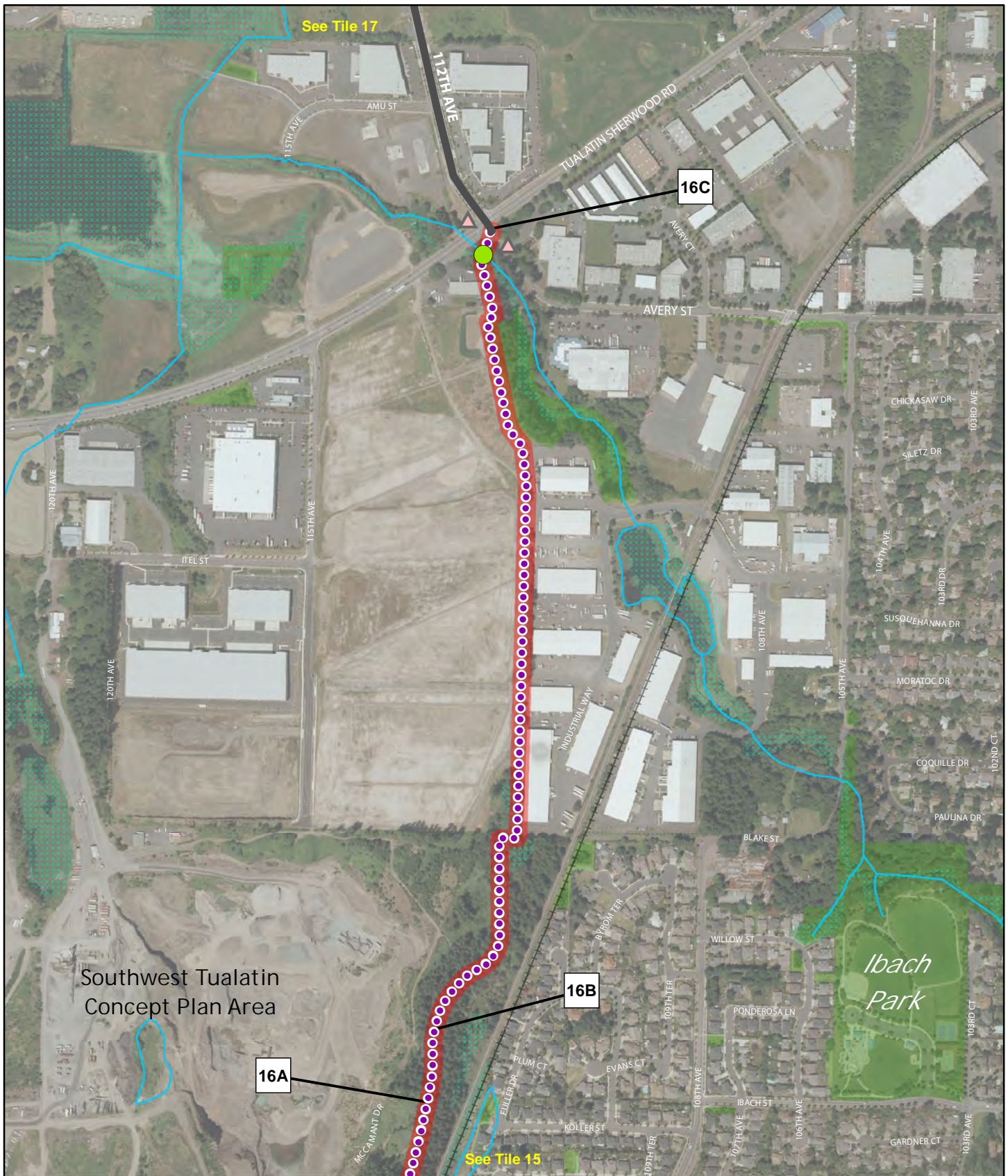
0 500 1,000 2,000 Feet



- | | | | |
|-------------------------------|--|---|--|
| Ice Age Tonquin Trail | Alignment Undetermined | Proposed Grade-Separated Crossing | Art, Educational or Interpretive Opportunity |
| Existing Trail | Potential Easement or Acquisition Needed | Proposed At-Grade Crossing (Signalized) | Proposed Trailhead |
| Proposed Bike Lanes/Sidewalks | Existing Neighborhood Connection | Proposed At-Grade Crossing (Unsignalized) | Existing Parking or Trailhead |
| Proposed Boardwalk | Potential Future Connection | Potential Wayfinding Sign Location | |
| Proposed Shared Roadway | Wetland | | |
| Proposed Shared Use Path | Park or Natural Area | | |
| | River/Stream/Drainage Ditch | | |

**Table 16 - Tile 15: Southwest Tualatin Concept Plan Area
(Southern Portion)**

Reference # (see Tile 15 map)	Recommended Improvements and Opportunities
15A	The goal of the Ice Age Tonquin Trail in the Southwest Tualatin Concept Plan area is to have a north/south orientation through and adjacent to the areas of highest desirability for interpretation of the Ice Age floods and the associated natural and geologic features. The exact alignment and proposed trailhead location have yet to be determined and will be developed in the future in consultation with the industrial land owners in this area, adjacent property owners, the general public and other stakeholders, no later than the time of annexation. Any property acquired by Metro for the trail will be acquired via a willing seller program.
15B	Potential kolk ponds art, educational or interpretive opportunity
15C	The Ice Age Tonquin Trail will follow an alignment shown in the Southwest Tualatin Concept Plan in this area; trail alignment to avoid steep slopes to the greatest extent possible.
15D	Vegetation removal and mitigation necessary to accommodate trail throughout the Southwest Tualatin Concept Plan area
15E	Trail alignment to follow ridge between quarry and railroad through Southwest Tualatin Concept Plan area



Map 22: Tile 16 - SW Tualatin Concept Plan Area (Northern Portion)

Ice Age Tonquin Trail Master Plan Preferred Alignment

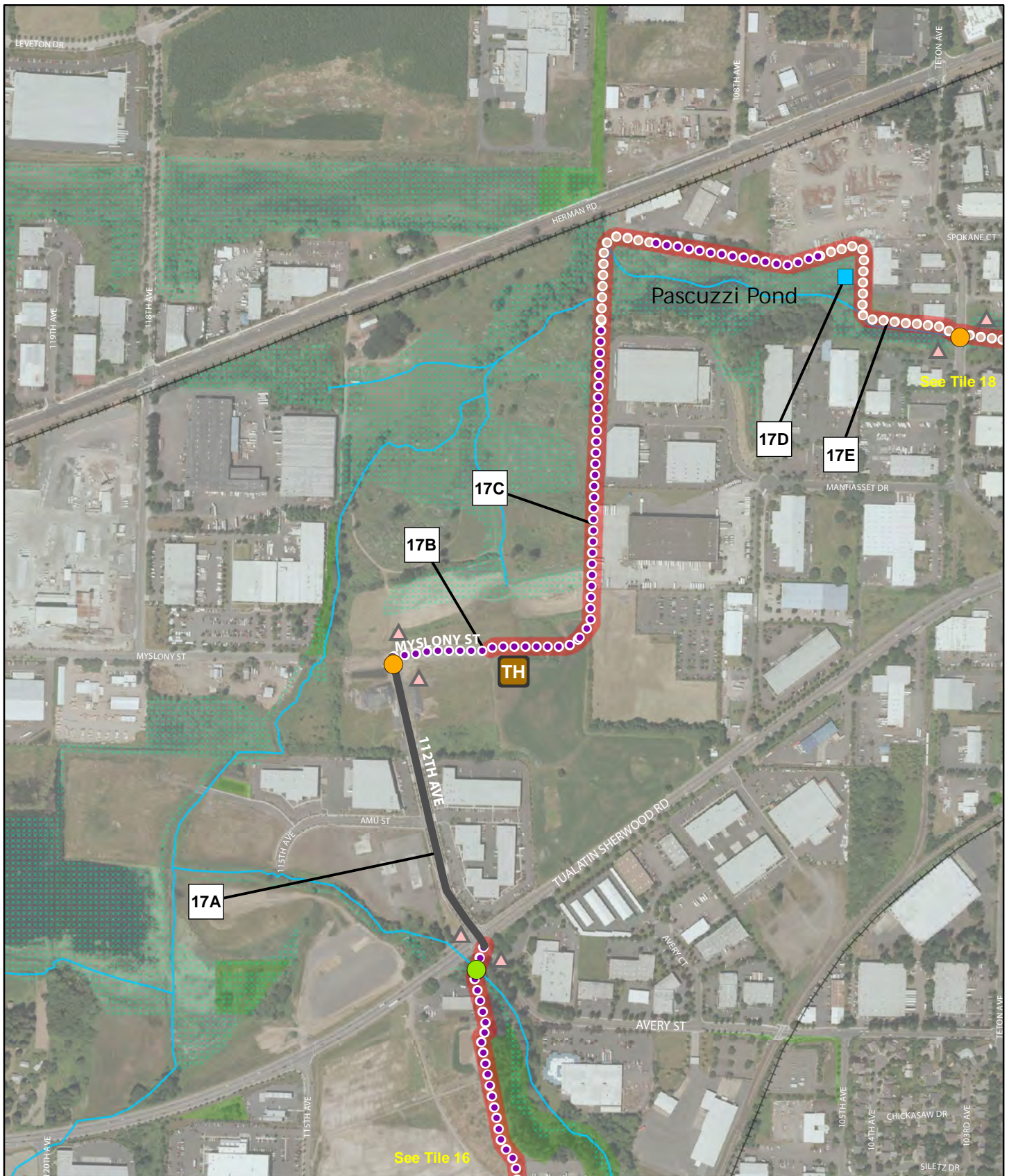
Source: Metro Data Resource Center



- | | | | |
|-------------------------------|--|---|--|
| Ice Age Tonquin Trail | Alignment Undetermined | Proposed Grade-Separated Crossing | Art, Educational or Interpretive Opportunity |
| Existing Trail | Potential Easement or Acquisition Needed | Proposed At-Grade Crossing (Signalized) | Proposed Trailhead |
| Proposed Bike Lanes/Sidewalks | Existing Neighborhood Connection | Proposed At-Grade Crossing (Unsignalized) | Existing Parking or Trailhead |
| Proposed Boardwalk | Potential Future Connection | Potential Wayfinding Sign Location | |
| Proposed Shared Roadway | Wetland | | |
| Proposed Shared Use Path | Park or Natural Area | | |
| | River/Stream/Drainage Ditch | | |

**Table 17 - Tile 16: Southwest Tualatin Concept Plan Area
(Northern Portion)**

Reference # (see Tile 16 map)	Recommended Improvements and Opportunities
16A	Ice Age Tonquin Trail is identified in Southwest Tualatin Concept Plan; trail alignment to follow ridge between quarry and railroad through Southwest Tualatin Concept Plan area
16B	Vegetation removal and mitigation necessary to accommodate trail throughout the Southwest Tualatin Concept Plan area
16C	Use existing signalized intersection of Tualatin-Sherwood Road and 112 th Avenue/Avery Street; install bicycle detection on southbound approach



Map 23: Tile 17 - Hedges Creek Greenway (Western Portion)

Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center



Table 18 - Tile 17: Hedges Creek Greenway (Western Portion)

Reference # (see Tile 17 map)	Recommended Improvements and Opportunities
17A	Use existing 112 th Avenue bike lanes and sidewalks
17B	Trail alignment to follow north side of Myslony Street; new trailhead in this area
17C	Partial reconfiguration of truck storage area necessary to accommodate trail
17D	Potential Hedges Creek Greenway art, educational or interpretive opportunity
17E	Trail alignment to be sited on top of buried trunk sewer line easement through Hedges Creek Greenway to the greatest extent possible; trail to be constructed of boardwalk, as needed, in wet areas



Map 24: Tile 18 - Hedges Creek Greenway (Central Portion)

Ice Age Tonquin Trail Master Plan Preferred Alignment

Source: Metro Data Resource Center

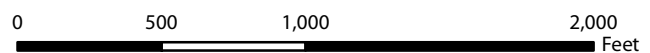


Table 19 - Tile 18: Hedges Creek Greenway (Central Portion)

Reference # (see Tile 18 map)	Recommended Improvements and Opportunities
18A	Opportunity to replace existing culvert beneath Teton Avenue to enhance wildlife crossing; potential pedestrian crossing enhancements include a marked crosswalk, warning signs, and pedestrian-activated flashing warning lights
18B	Trail alignment to be sited on top of buried trunk sewer line easement through Hedges Creek Greenway to the greatest extent possible; trail to be constructed of boardwalk, as needed, in wet areas
18C	Potential Hedges Creek Greenway art, educational or interpretive opportunity
18D	Potential pedestrian crossing enhancements include a refuge island, marked crosswalk, warning signs, and pedestrian-activated flashing warning lights
18E	Potential Hedges Creek Greenway art, educational or interpretive opportunity

Table 20 - Tile 19: Hedges Creek Greenway (Eastern Portion)

Reference # (see Tile 19 map)	Recommended Improvements and Opportunities
19A	Vegetation and wetland mitigation necessary to accommodate trail along Hedges Creek Greenway
19B	Trail alignment to be located atop berm above Hedges Creek Greenway
19C	Trail alignment to be located on 90 th Avenue's east side
19D	Trail alignment to be located at toe of slope; potential to incorporate themes of the "Tree Top Trail" as described in the Hedges Creek Greenway Wetlands Master Plan
19E	Existing bicycle/pedestrian bridge (providing access to nearby commercial center)
19F	Potential Hedges Creek Greenway art, educational or interpretive opportunity
19G	Use existing trail between Hedges Creek Greenway and Tualatin Road
19H	Potential civic art, educational or interpretive opportunity
19I	Widen existing sidewalk on Tualatin Road's south side to accommodate trail
19J	Potential civic art, educational or interpretive opportunity
19K	Use existing mid-block crossing
19L	Widen existing sidewalk on Tualatin Road's north side to accommodate trail (either acquire easement from adjacent properties or use adjacent bike lane for sidewalk widening)
19M	Use existing at-grade railroad/roadway crossing; widen short sidewalk segment immediately east of railroad crossing to accommodate trail
19N	Potential Tualatin Community Park art, educational or interpretive opportunity
19O	Potential Tualatin River art, educational or interpretive opportunity
19P	Potential future connection to Tualatin River Greenway Trail
19Q	Use existing trail in Tualatin Community Park, Ki-a-Kuts Bridge, and connection to Fanno Creek Regional Trail

Chapter 4: Trail Design Guidelines

Overview

Ice Age Tonquin Trail Design Guidelines

This section presents recommended design guidelines for the Ice Age Tonquin Trail. The guidelines are meant to cover a broad range of agency standards for shared use paths; bicycle lanes; shared lane markings; trail-roadway intersections; trail related facilities; signage and wayfinding; special design requirements; and environmentally sensitive trail design, including bridges and boardwalks. Trail design guidelines refer to the characteristics of a trail that provide varying levels of access, enhance the trail user

experience, and provide environmental protection and/or restoration. To select the appropriate trail guidelines, a number of factors such as the following should be considered.

- Corridor location and environmentally sensitive areas
- Anticipated trail traffic volumes and seasonal demands
- Trail user types
- Drainage needs
- Preservation of as many existing trees as possible
- Maintenance needs
- Maintenance costs and schedules

Site-specific treatments are shown and described in the maps and tables in Chapter 3.

While these guidelines provide recommendations for design of the Ice Age Tonquin Trail, it should be noted that each jurisdiction that the Ice Age Tonquin Trail passes through has different design standards that will need to be met. In addition, survey and preliminary engineering have not yet been completed for the trail. Therefore, grading, drainage, and retaining-wall design will be required at the time of Master Plan implementation.



Built section of the Ice Age Tonquin Trail in Graham Oaks Nature Park in Wilsonville.

Design with Active Transportation in Mind

One of the goals of the Intertwine Alliance is to increase opportunities for active transportation within the region. Active transportation as it applies to the Ice Age Tonquin Trail includes the following items:

- Expanding the regional trail network by connecting the Ice Age Tonquin Trail to nearby regional trails.
- Safely accommodating a mix of uses and trail users of all abilities.
- Providing access from neighborhoods to local destinations and venues.
- Providing high quality connections for all users to the goods and services needed for daily life.
- Increasing the number of bicycle and pedestrian trips, reducing the number of auto trips.
- Providing informational and wayfinding signs that help people reach their destination.

Trail Theme

A trail theme creates a cohesive and memorable trail, while establishing a distinct identity or “sense of place.” The theme brands a trail system with unifying materials, elements, images, and colors. These features define the system as a unique place and provide a reason for people to experience it. A unifying theme serves to inform subsequent design elements from site furnishings to interpretive information. The Ice Age Tonquin Trail should be a celebration of the Glacial Lake Missoula Ice Age flood events. As such, the design should tie together the natural features along the route that are evidence of the flood events. Material selections should be native, including rock, wood, and plant material. Placement of glacial erratics as mileage markers is a good example of celebrating the Ice Age Tonquin Trail. Consistency in the look and feel of the trail amenities will help to provide a seamless aesthetic experience for trail users. Examples include, but are not limited to, signage, site furnishings, and a planting palette.

Off-Street Facilities



Figure 1 – Typical cross-section for a shared use path

Shared Use Paths

The Ice Age Tonquin Trail will primarily be a shared use path where possible. Shared use paths are completely separated from motorized vehicular traffic and are constructed in their own corridor, often within an open-space area. The following list of trail design recommendations are also illustrated in Figure 1:

- Permeable asphalt is the recommended surface treatment, though concrete, asphalt, and permeable concrete may be acceptable.
- The typical cross section is 12 feet wide with 2-foot-wide compacted crushed stone shoulders.
- The constrained cross section is 10 feet wide with 2-foot-wide shoulders.
- The running slope (for example, the grade at which the trail travels) should be less than 5 percent.



Shared use paths are typically constructed in their own corridor, and are physically separated from motor vehicle traffic.

- The cross slope (for example, slope running perpendicular to the trail) should be 2 percent maximum.
- Use centerline and fog line striping in constrained areas or on sharp or blind curves.

Shared Use Paths Adjacent to Roadways

Shared use paths located within the roadway corridor right-of-way or adjacent to roads provide a comfortable walking space for pedestrians and enable children and recreational bicyclists to ride without the discomfort of riding in a busy street.

This configuration works best along roadways with limited driveway crossings and with services primarily located on one side of the roadway, or along a riverfront or other natural feature (see Figure 2). *Not recommended in areas with frequent driveways or cross streets.*



One cyclist passing another on shared use path.

- A minimum 10-foot width is necessary for bicyclists to pass one another safely (12 feet for areas expecting high use).
- A 5-foot-wide minimum vegetated buffer should be provided between the edge of the path and the edge of the roadway.
- Vegetated buffer can be used as a low impact water quality swale.
- The Ice Age Tonquin Trail shared use paths adjacent to the roadway will be within areas of future road right-of-way acquisition.
- Seek opportunities to close/decommission unused or wider than necessary driveways.



Figure 2 – Shared use path adjacent to roadway

On-Street Facilities

Bicycle Lanes

Sections of the trail will require on-street bicycle facilities such as bicycle lanes (see Figure 3). A bicycle lane is a portion of the roadway that has been designated by striping, signing, and pavement markings for the preferential and exclusive use of bicyclists. Bicycle lanes are located on both sides of the road, except on most one-way streets, and carry bicyclists in the same direction as adjacent motor vehicle traffic.

Recommended bicycle lane design features include the following:

- Without parking, 6 feet from curb face or edge of pavement
- With parking, 14.5 feet from curb face to edge of bike lane
- White 8-inch barrier line between bike lane and traffic lane
- Bike friendly catch basin grates shall be used for on-street segments
- Should be used on roadways with average daily traffic (ADT) counts of 3,000 or more
- Not suitable where there are a high number of commercial driveways
- Suitable for 2-lane or 3-lane facilities and 4-lane divided facilities

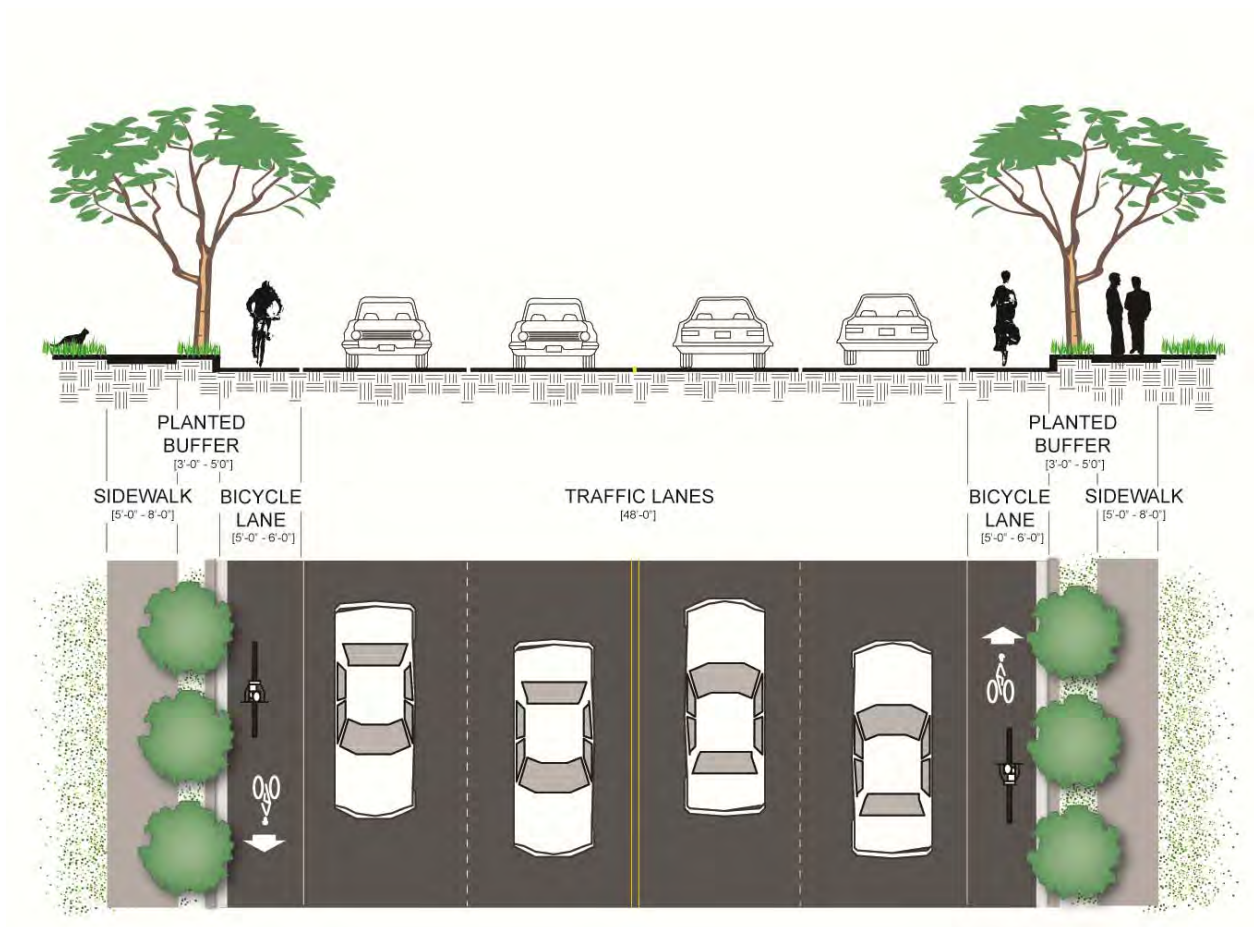


Figure 3 – On-street trail design includes bike lanes and sidewalks

Shared Lane Markings

Shared lane markings (or “sharrow”) can serve a number of purposes, such as making motorists aware of bicycles occupying the travel lane, showing bicyclists the appropriate direction of travel, and, with proper placement, reminding bicyclists to bike further from parked cars to prevent “dooring” collisions. As shown in Figure 4, shared lane markings are typically used in the following situations:

- Where lanes are too narrow for striping bike lanes
- Where the posted speed limit does not exceed 35 miles per hour
- With or without on-street parking (with on-street parking, the center of the shared lane marking should be placed a minimum of 11 feet from the curb face; without on-street parking, the center of the marking should be placed a minimum of 4 feet from the curb face or edge of pavement)

Cities throughout the United States have effectively used this treatment for many years; it is now officially part of the Federal Highway Administration’s (FHWA’s) 2009 *Manual on Uniform Traffic Control Devices* (MUTCD). Additional guidance is also available in the 2012 American Association of State Highway and Transportation Officials’ (AASHTO’s) *Guide for the Development of Bicycle Facilities*.

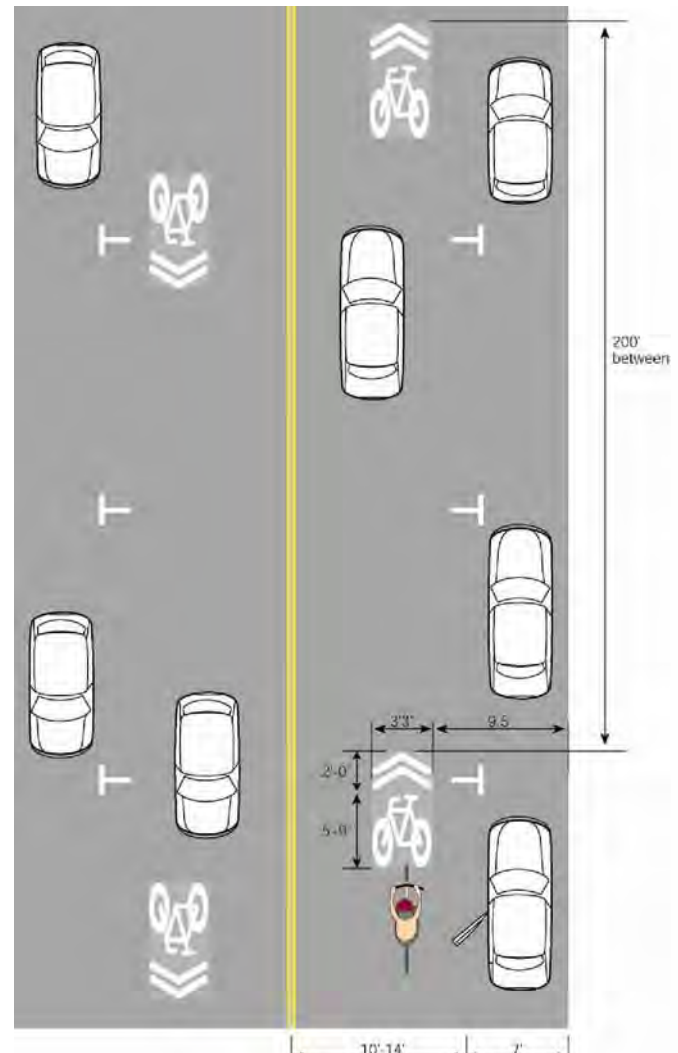


Figure 4 – Shared lane markings

Trail-Roadway Intersections

The following sections provide design guidance for trail/roadway intersections. The guidelines presented in this chapter represent conceptual recommendations. Specific trail/roadway intersection treatments should be determined on a case-by-case basis based on further engineering analysis conducted by each respective local agency.

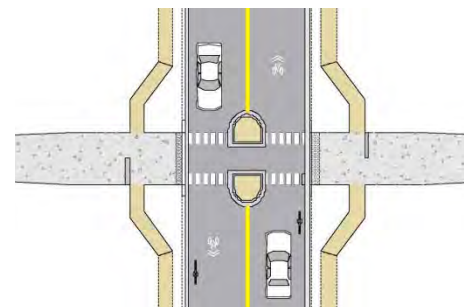


Figure 5 - Median refuge and shared use path with sidewalks

Non-Signalized Intersections

- Site the crossing area at a logical and visible location. The crossing should be a safe enough distance (based on travel speeds and sight lines) from neighboring intersections to not interfere (or be interfered) with traffic flow. Crossing at a roadway with flat topography is desirable to increase motorist visibility of the path crossing. The crossing should occur as close to perpendicular (90 degrees) to the roadway as possible.
- Warn motorists of the upcoming trail crossing and trail users of the upcoming intersections. Motorists and trail users can be warned with signage (including trail stop signs), changes in pavement texture, flashing beacons, raised crossings, striping, and so forth.
- Maintain visibility between trail users and motorists by clearing or trimming vegetation that obstructs the view between them.
- Intersection approaches should be made at relatively flat grades so that cyclists are not riding downhill into intersections.
- If the intersection is more than 75 feet from curb to curb, it is preferable to provide a center median refuge area (see Figures 5 and 6). A refuge is needed in conditions exhibiting high volumes/speeds and where the primary user group crossing the roadway requires additional time, such as schoolchildren and the elderly. Where possible, the refuge island should be angled so that crossing pedestrians are visually oriented to the leg of roadway in which they intend to cross.
- If possible, it may be desirable to bring the path crossing up to a nearby signalized crossing in situations with high speeds/average daily traffic and design and/or physical constraints.

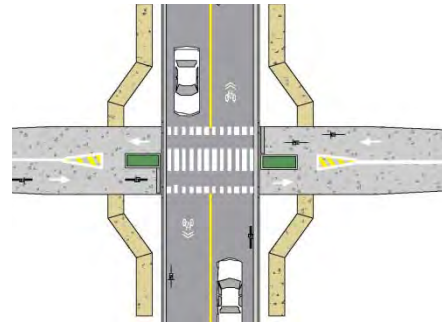


Figure 6 - Mid-block crossing and shared use path with sidewalks and medians



Bicyclist approaching a trail/roadway crossing.



Sample signage and pavement marking treatments at a trail/roadway crossing.

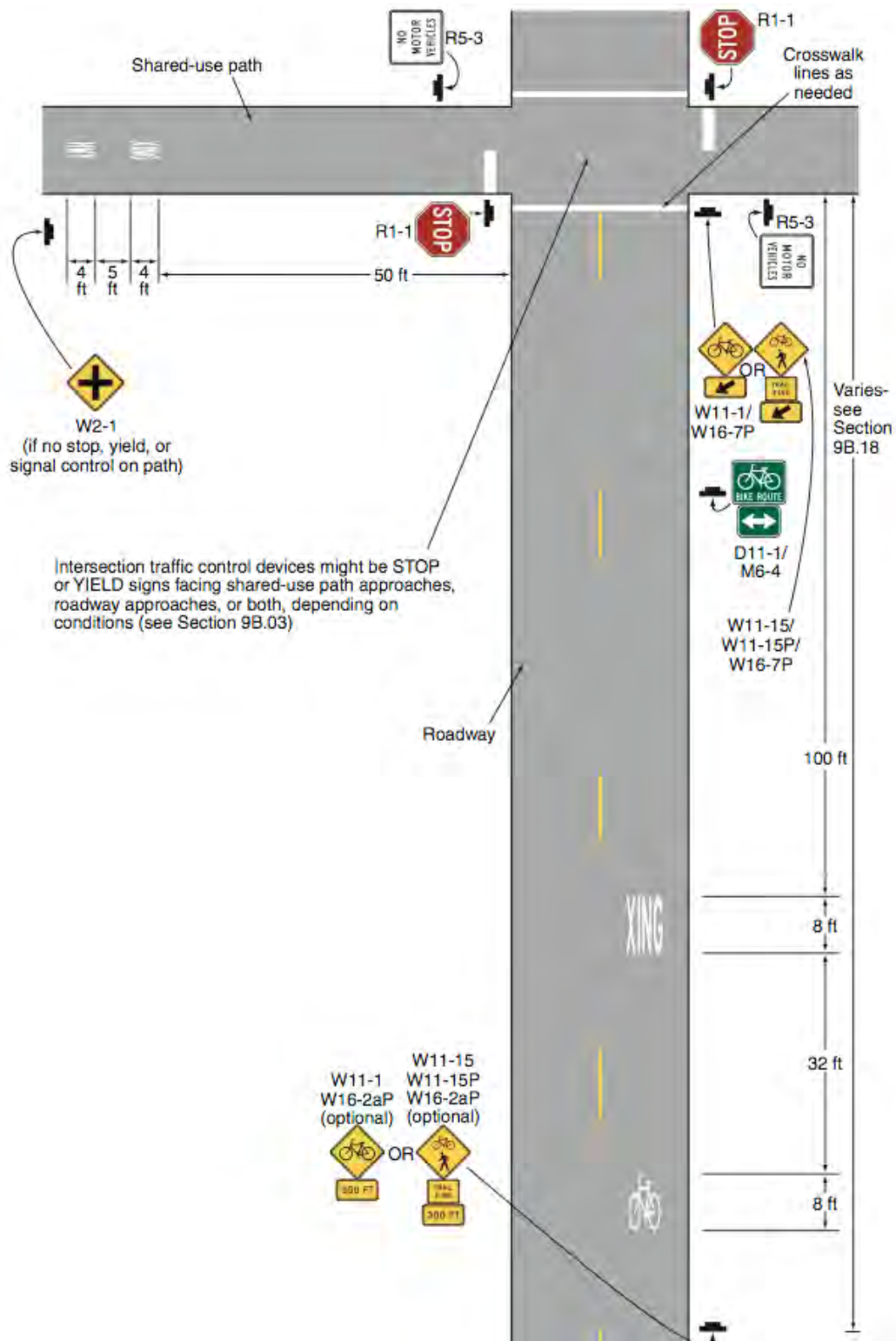


Figure 7 - Trail/roadway crossing design guidance
(Source: FHWA's 2009 Manual on Uniform Traffic Control Devices)

Signalized Intersections

- Signalized crossings may be necessary on high-volume trail segments that intersect with high-volume roadways, but the 2009 MUTCD warrants must be met for the installation of a signalized crossing. Consult the MUTCD or ODOT for signal, sign, and light placement.
- The FHWA issued an interim approval for the optional use of rectangular rapid flashing beacons as warning beacons supplementing pedestrian crossing or school-crossing warning signs at crossings across uncontrolled approaches. An analysis by the Center for Education and Research in Safety found them to have much higher levels of effectiveness in making drivers yield at crosswalks than the standard over-head and side-mount round flashing beacons.
- Pedestrian Hybrid Beacons (also known as HAWK signals) help alert motorists to stop for non-motorized users that are crossing mid-block, without the assistance of traffic signals or stop signs. When not activated, the signal is blanked out. The HAWK signal is typically activated by a pedestrian push button. The overhead signal begins flashing yellow, followed by solid yellow, advising motorists to prepare to stop. The signal then displays a solid red and shows the bicyclists/pedestrian a “Walk” indication. Finally, an alternating flashing red signal indicates that motorists may proceed when safe, after coming to a full stop. The bicyclist/pedestrian is shown a flashing “Don’t Walk” with a countdown indicating the time left to cross.
- Bicycle detection is recommended at signalized intersections, either in the form of loop, video or microwave detection.



Rectangular rapid flashing beacons at a trail/roadway crossing.

Grade-Separated Crossings

Grade-separated crossings can represent one of the most important elements of a community’s non-motorized transportation network, and can overcome major barriers hindering direct travel. Grade-separated crossings can address real or perceived safety and convenience issues by providing a formalized means for traversing these “problem areas.”

Grade-separated crossings work best when the trail user can pass over or under the barrier without changing speed, grade, or direction; in other words, make a seamless transition. In many cases, however, grade-separated crossings need to rise above or travel beneath the natural ground line to cross major barriers, thus requiring stairways, access ramps or other provisions. In these situations, it is important to provide crossing choices. Bicyclists, for instance, may choose to carry their bikes up stairways even if a ramp is provided.

Grade-separated crossings should include the components necessary to enhance user comfort, safety, and security. Wider structures not only facilitate easier travel by minimizing user conflicts, they could also minimize the perception of isolation (especially for tunnels or bridges with fully enclosed fencing). These crossings should also provide sufficient vertical clearances to accommodate various users including maintenance and emergency vehicles, as needed. Access ramps should be designed with appropriate grades, landings, railings, fences, and lighting to promote user safety and comfort.

Grade-separated crossings should also include provisions for mobility-impaired users (for example, elevators or ramps with level landings). Wider stairways and access ramps with broader turns (for example, avoiding switchbacks) facilitate easier maneuverability for all users, and can minimize potential conflicts between users traveling at varying speeds.

Special Design Requirements

Bonneville Power Administration (BPA) Design Requirements for Trails within Power Line Corridors

- Trail alignment
 - Preferably as close to the edge of power line corridor as possible, and away from power pole bases (recommended 50-foot clear zone from steel transmission towers; 25-foot clear zone from wood poles)
 - Trail crossings of power lines should be minimized; provide the shortest crossing distance as possible where crossings are needed (minimum 60-degree angle)
 - Should not inhibit maintenance vehicle access to power poles
- Trail surfacing. Must support Highway Standard 20-ton vehicle loading (BPA will use trail to access power poles)
- Lighting. Fixtures should be placed at least 25 feet away from conductors
- Structures. Prohibited within power line corridors
- Vegetation. Prohibited within power line corridors
- Future detailed trail design should involve BPA to expedite approval process

Westside Express Service (WES) Commuter Rail

A chain link fence (4 feet high minimum, 6 feet high maximum) and/or other separation techniques should be a part of the trail design in the area adjacent to the railroad tracks.

Maximize the setback between the trail and the railroad track used by WES. The setback distance between a track centerline and the closest edge of the trail should correlate to the type, speed, and frequency of train operations, as well as the topographic conditions and separation techniques.

The maximum setback is subject to railroad, regional, state, and federal guidelines and to the advice of engineering and safety experts. Exceptions to the recommended setbacks may include the following:

- Constrained areas (bridges, cut-and-fill areas)
- Low speed and low frequency train operations

In these cases, the minimum recommended setback is 8.5 feet from the track centerline or 9.5 feet on curves.

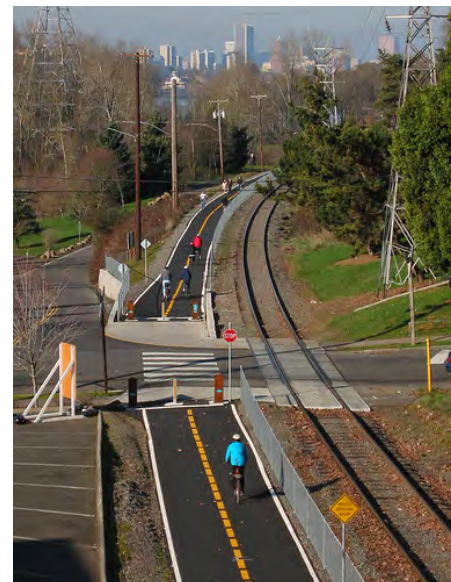


Photo of chain link fence used along a rail-with-trail within a constrained corridor (Springwater Trail).

Trail-Related Facilities

Fences

Fences, where needed, are important features along trails. They define the public space and protect trail users in areas where there may be a cliff or steep slope or hazardous adjacent land use or physical feature. Fencing may be necessary in some areas along the trail (such as adjacent to active rail lines and industrial areas).

- At a minimum, fences should consist of a horizontal top and bottom rail.
- Picket style fencing should be avoided because it presents a safety hazard for bicyclists.
- Maximum fence height should be 4 feet unless a taller fence is required for safety or privacy.
- Wildlife friendly fences should be used in sensitive natural resource areas to separate users from protected habitat and breeding areas.
- In rural areas, 4-foot-high split-rail style fencing should be used.
- Use a chain link fence to separate the trail users from active rail lines. The chain link fence may include vinyl coating if required by a local agency.



Wildlife friendly fence with 6-inch vertical gap at the bottom for small animal passage (Springwater Trail).

Trail Lighting

Pedestrian-scaled, low level lighting improves safety, enables the trail to be used year-round and can improve the aesthetic of the trail. Good pedestrian-scaled lighting provides high quality lighting without the glare and light pollution that is produced by typical cobra-type street fixtures. Each jurisdiction will determine trail lighting standards for their segment. Minimal or no lighting should be used in sensitive natural resource areas as it can have negative effects on wildlife. If lighting is required in these areas, full-cutoff fixtures should be used to minimize light pollution.

Bollards

Minimize the use of bollards to avoid creating obstacles for bicyclists. Bollards, particularly solid bollards, have caused serious injury to bicyclists. Instead, design the path entry and use signage to alert drivers that motor vehicles are prohibited. In cases where bollards must be used, a single post placed in the center of the path entry is preferred, and bollards should be installed to be removed or be flexible to allow passage of maintenance or emergency vehicles. They should also include reflective paint or tape so that they are visible in times of low light. Solid bollards that are secured to the base with a lock should use combination locks.

Public Art on Trails

Efforts should be made to include public art within the overall design of the trail system. Local artists may be commissioned to provide art for the trail system, making it uniquely distinct and memorable. Many trail art installations are functional as well as aesthetic, as they may provide places to sit and play on. According to American Trails,

“Art is one of the best ways to strengthen the connection between people and trails. Across America and elsewhere, artists are employing a remarkably wide range of creative strategies to support all phases of trail activities, from design and development to stewardship and interpretation. In particular, art can be an effective tool for telling a trail’s story compellingly and memorably.”

Examples of art programs for trails can be found at www.americantrails.org/resources/art/ArtfulWays.html.



Example of public art on trails.

Trailheads

Major access points should be established near commercial developments and transportation nodes, making them highly accessible to the surrounding communities. Minor trailheads should be simple pedestrian and bicycle entrances at locally known spots, such as parks and residential developments.

A minor trailhead could include facilities such as parking, drinking fountains, benches, a bicycle rack, trash receptacles, pet waste bag dispensers, and an information kiosk and/or signage. Major trailheads could include all of these facilities plus additional amenities, such as rest rooms, shelters, picnic areas, wayfinding, interpretive signs, a secure bike parking area, a bike maintenance station, a fitness course, an emergency telephone, and a larger parking area.

Partnerships could also be sought with owners of existing parking lots near trails. Benefits are threefold—businesses benefit from trail-user patronage; trail owners benefit from not having to buy more land to construct a parking facility; and the environment benefits from less development in the watershed.

Trailhead development will likely be opportunity driven. Site-specific amenities will be determined during the design process.



A major trailhead featuring concessions and bicycle, canoe, and kayak rentals.



A major trailhead with bike racks, air compressor (for bicycle tires), water fountain, restrooms, phone, and benches.

Trail Signage

A comprehensive system of signage provides information to trail users to ensure that they can travel safely, find their way easily, and have opportunities to learn about the trail's unique natural and cultural setting.

Signage is divided into the following categories:

- Identity/logo signs
- Directional/wayfinding signs
- Regulatory and warning signs
- Educational/interpretive signs

The *Intertwine Regional Trail Signage Guidelines* (see Appendix C) are recommended for new and retrofitted directional, wayfinding, and regulatory and warning signage throughout the Ice Age Tonquin Trail corridor. Using the Intertwine signage guidelines will create a consistent look and feel as the Ice Age Tonquin Trail travels through multiple jurisdictions. The Ice Age Tonquin Trail signage will also be consistent with the Intertwine signage used on other regional trails with which it connects. The Intertwine signage guidelines embrace local trail providers' existing branding and provide flexibility for jurisdictions that already have trail sign standards.

Metro's *Signage Manual* is recommended for new and retrofitted educational and interpretive signage. Using Metro's signage guidelines for these types of signs will create a consistent look throughout the trail corridor. Examples of existing educational and interpretive signage that currently follow these guidelines exist on the Ice Age Tonquin Trail at Graham Oaks Nature Park. The chapter on educational and interpretive signage from Metro's *Signage Manual* is included in Appendix C.

Ice Age Tonquin Trail Identity/Logo Signs

The Ice Age Tonquin Trail logo should be used to aid in reinforcing the trail's identity. Identity signs with the logo reflecting the trail's overall theme should be placed at each major and secondary entry point to the trail system. An identity sign is the first step in the trail visitor's way-finding experience. Images and text on the identity sign should be clear and legible from a roadway when oriented towards those arriving via motorized vehicle. Smaller scaled signs, legible from the pedestrian perspective, are recommended for neighborhood gateway points.

- Identity signs should be simple, direct, and easy to identify.
- A skilled professional graphic designer should be consulted when generating the design for the trail logo.
- Be consistent with the logo throughout the trail by using it as a stand-alone sign, on other signage, or incorporating it into trail furnishings, such as benches or waste receptacles.



Intertwine signage on the Fanno Creek Trail.

- The Ice Age Tonquin Trail logo will be designed as a separate effort following Master Plan completion.

Directional/Wayfinding Signs

The purpose of a directional sign is to direct trail users and motorists to the location of trailheads and other nearby destinations, provide incremental distances along the trail, and illustrate overall maps of the regional trail system to help orient visitors.

- Kiosks are a great facility for directional signage by providing a wealth of information at once, including other trail opportunities, regional maps, or local/seasonal events occurring along the trail.
- Locate trail access signs with overall trail maps at trail access points to help users entering the trail determine their next destination.
- Locate “you are here” signs at intervals along the trail to help users identify their destination or orient their position.
- The trail should be signed seamlessly with information on how to connect to other alternative transportation routes, such as bicycle routes to neighboring jurisdictions, other trails, historic and/or cultural walking tours, and where ever possible, local transit systems.
- Locate mile markers 3 feet from the edge of the paved trail surface and at one-mile intervals beginning at the northern and southern ends of the trail network to help users determine their location and the distance to their destination.



Various examples of wayfinding/directional signs for the trail include kiosks, regional maps, or mile markers.

Regulatory and Warning Signs

Regulatory and warning trail signs should conform to FHWA’s 2009 MUTCD and AASHTO’s *Guide for the Development of Bicycle Facilities*. Trail signage should also be coordinated with county as well as citywide networks. These signs typically address safety-related elements such as tight turns, intersection approaches and railroad crossings.

Educational Signs/Interpretive Elements

Educational and Interpretive signage provides trail users with information about the trail; native flora and fauna; history and culture; and significance of elements along the trail.

- There is a wide variety of interpretive signage styles and the amount/type of information they provide.
- Tie signage themes to the Ice Age Floods National Geologic Trail themes (see Appendix E).
- Consider the character of the trail and surrounding elements when designing educational signage.
- A skilled graphic designer should be used for sign design.
- The edge of the interpretive elements should maintain 3 feet clear from trail edge.

Possible interpretive sign themes for the Ice Age Tonquin Trail could include the following:

- Geology, natural history
- Wildlife, habitat
- Native plants, ecology
- Cultural History
- Glacial Lake Missoula Ice Age floods



Educational signage provides opportunities for gathering and learning about local environment.



Wayfinding signage along Tualatin's Hedges Creek Greenway.

Quick Response Codes

Quick Response (QR) Codes (images that Smartphone users can scan with free downloadable applications) can be added to any trail sign. QR codes typically send scanners to websites for more information including GPS coordinates, regional maps, agency websites, videos, additional interpretive information, and so forth.

An advantage of using the QR codes is that the information can easily be updated without replacing a sign, and more information can fit onto a website than your typical sign for those seeking a greater depth of knowledge.



Example of a QR Code

Environmentally Sensitive Trail Design

An overarching goal of the Ice Age Tonquin Trail design in natural resource areas is to site, design, build, and maintain the trail in a manner that minimizes, or if possible, avoids impacts to sensitive natural resource areas. Align the trail to avoid or minimize impacts to sensitive resources to the greatest extent practicable. When impacts are unavoidable, trail construction should leave the areas in better shape than the original condition. Low impact trail design standards include the following:

- Installing locally occurring native plant species between the trail and existing riparian vegetation. Plantings should consist of native species to increase the diversity and width of the riparian corridor, and may include species that discourage human access into the riparian area.
- Installing plant species that support local bird and wildlife habitat.
- Using permeable asphalt trail 10 feet wide with 2-foot shoulders in vegetated buffer areas to minimize stormwater runoff into nearby creeks.
- Minimizing creek crossings and improvement of existing barriers to wildlife passage.
- Including signs indicating the sensitive nature of all creek habitats and restricting entrance into the areas posted along the corridor fencing and on boardwalks.
- Avoiding cutting mature trees; replacing trees at a 1:1 ratio.
- Using vegetated buffers as a low impact water quality swale.
- Removing invasive plant species within the project limits.
- Seeking opportunities to align trails through degraded areas to minimize impact to higher quality areas and provide restoration.

Wetland, Stream and Creek Crossings (Typical)

Where the trail will be located near natural resource areas, including streams, wetlands, and sensitive wildlife habitat, special structures may need to be included in the design.

Different animals have different needs. Some species avoid edges and narrow corridors and prefer a landscape buffer for cover. Some species will cross bridges and boardwalks if planting is provided up to the edges of the structure. Other species are more reclusive and will prefer to use the stream or wetland to travel under the structure. It is important to provide connectivity by design through these areas.



Bridge design allows for wildlife to pass beneath it.

Trail Bridges

Shared use path bridges (also “bicycle/pedestrian bridges” or “footbridges”) are most often used to provide trail access over natural features such as streams and rivers, where a culvert is not an option. The type and size of bridges can vary widely depending on the trail type and specific site requirements (see Figure 8). Some bridges often used for shared use paths include suspension bridges, prefabricated span bridges and simple log bridges. When determining a bridge design for a shared use path, it is important to consider emergency and maintenance vehicle access.

- If a corridor already contains a bridge such as an abandoned rail bridge, an engineer should be consulted to assess the structural integrity before deciding to remove or reuse it.
- One advantage of bridges is that they typically span the floodway thereby not causing impacts to local flood levels.
- A trail bridge should support 6.25 tons; Information about the load-bearing capacity of bridges can be found in AASHTO’s *Standard Specifications for Highway Bridges*.
- There are many options in terms of high quality, prefabricated pedestrian bridges available. Prefabricated bridges are recommended because of their relative low cost, minimal disturbance to the project site, and usually, simple installation.
- All abutment design should be approved by a qualified structural engineer and all relevant permits should be filed.
- The bridge and path should be connected to the greatest extent possible to avoid creating a gap when settling of the ground occurs.

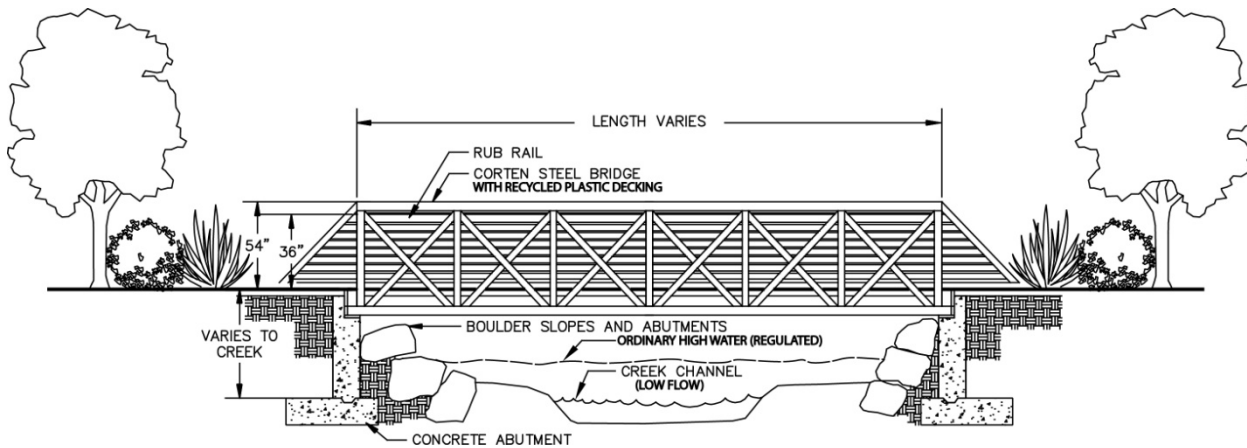


Figure 8 – Environmentally-friendly trail bridge design

Boardwalks

A boardwalk is typically required when crossing wetlands, other poorly drained areas or wildlife habitat. They are constructed of wood planks, recycled plastic material planks or steel grates (which offer light penetration below) that form the top layer of the boardwalk (see Figure 9). The recycled plastic material is preferred to wood because it lasts much longer, especially in wet conditions, although initial investment is greater. A variety of low-impact boardwalk support systems are also available that reduce the disturbance within wetland areas to the greatest extent possible.

- The boardwalk should be 2 feet wider than the trail approaching it and have at minimum a 6-inch-high wheel rail at the edge.
- If a boardwalk is needed in an environmentally sensitive area, the clear width of the boardwalk may be reduced to 10 feet.
- If the height of the boardwalk exceeds 30 inches above the finish grade, railings will be required.
- A pedestrian railing should be 42 inches above the surface.
- A bicyclist railing should be 54 inches above the surface.



Boardwalks are an appropriate trail design treatment in wetlands or sensitive wildlife habitat areas.

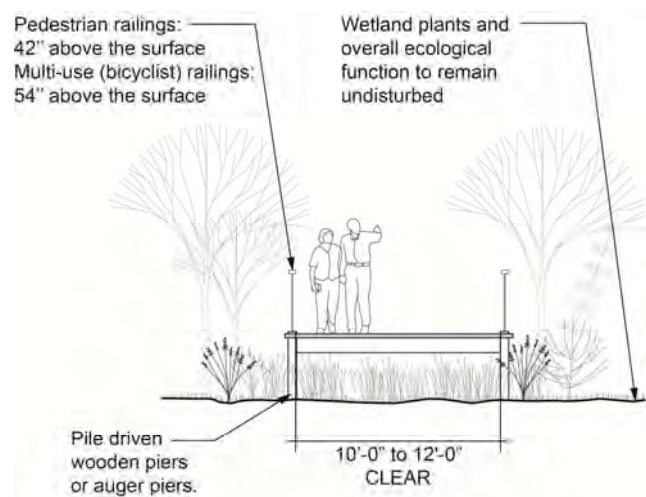


Figure 9 – Boardwalk design guidance

- The middle railing functions as a “rub rail” for bicyclists and should be located 33 inches and 36 inches above the surface.
- Provide a smooth transition between trail and boardwalk and flare the approach to minimize collision potential.

Culvert Improvements

There are some existing culverts in the trail corridor serving as partial or complete barriers to wildlife passage. Where trail crossings intersect with existing culverts at Edy Road, Roy Rogers Road, and Teton Avenue, culvert improvements will improve the function of the Cedar Creek and Hedges Creek Greenway corridors for wildlife passage.

In addition, a grade-separated crossing where the trail meets Oregon 99W is recommended. The existing culvert near the trail corridor at Oregon 99W contains Cedar Creek and is not adequate for a trail and creek. Replacement of the culvert would provide safety for trail users and improve the wildlife corridor function throughout that trail segment.

Cedar Creek Trail Segment – Trail Siting Guidelines

The Ice Age Tonquin Trail follows the same route as the Cedar Creek Trail in Sherwood. Design and construction for this trail segment will begin in the spring of 2013, and construction will be complete in 2015. The following are general goals regarding design of this segment:

- Consolidate and formalize the existing footpaths.
- Preserve the corridor’s width as much as possible.
- Preserve as many existing trees as possible.
- Minimize the amount of trail that is within the floodplain (except at pinch points, as necessary).
- Develop a trail on the floodplain’s edge to the greatest extent possible.
- Where crossing wetlands is unavoidable, use boardwalks.
- Mitigate and enhance the natural resource area that trail occupies as required by regulatory agencies.
- Design roads to accommodate trail users over creek crossings (for example, Edy Road and Roy Rogers Road).
- Maintain and, where possible, create wide uninterrupted “bands” of wildlife corridor.
- Consider on-street alignments that allow for efficient travel in areas with major constraints.
- Develop a trail that addresses the primary concerns of nearby property owners.
- Identify critical east/west and north/south connections to the trail and consolidate creek crossings where feasible.

- Provide environmental education and interpretation opportunities.

Hedges Creek Greenway Trail Segment – Trail Siting Guidelines

Another area that will require special attention as the project progresses further into design is the segment adjacent to Hedges Creek Greenway. The Hedges Creek Greenway Trail segment will require the following considerations during design:

- Increase the vegetated buffer and provide habitat areas through property acquisition from willing sellers.
- If possible, avoid locating the trail or boardwalk in the wetland and vegetated buffer.
- Purchase trail easement on the industrial properties north of The Wetlands Conservancy (TWC) where sellers are willing and when funding is available.
- To the extent possible, place the trail within the same easement as the buried sewer line through Hedges Creek Greenway; ensure trail design does not conflict with sewer maintenance.
- Improve degraded habitat and restore newly acquired habitat when funding is available.
- Preserve as many existing trees as possible.
- Improve wildlife crossings.
- Replace the culvert at Teton Road with a wildlife friendly crossing, when funding is available.
- Locate the trail to one side of the Greenway, unless unavoidable.
- Minimize impacts to the natural resource area as much as possible.
- Mitigate and enhance the natural resource area that trail occupies as required by regulatory agencies.
- Limit paved trails to the upland areas as much as possible and do not place them in wetland areas.
- Coordinate closely with landowners, regulatory agencies, and other stakeholders when designing the trail.
- Provide environmental education and interpretation opportunities.

Domesticated Animals on the Trail

Dogs

Local jurisdictions will decide whether to allow dogs on the trail, especially near natural areas. The Ice Age Tonquin Trail travels within close proximity to natural areas throughout its length, including the Graham Oaks Nature Park and Coffee Lake Creek wetlands in Wilsonville, Cedar Creek in Sherwood, and the Hedges Creek Greenway in Tualatin. Where dogs are permitted, it is recommended that they be on leash, as is the policy for the existing section of the Ice Age Tonquin Trail near Graham Oaks Nature Park.

Horses

The project team determined that horses were not a compatible use on the Ice Age Tonquin Trail based on feedback from the Oregon Equestrian Trails group. They indicated that riders desired more rural settings with longer stretches of trail uninterrupted by road crossings. In addition, Wilsonville and Tualatin do not have designated equestrian areas, and the trail in Sherwood will travel close to major roads (for example, Tonquin Road, Oregon Street) or along Cedar Creek, where steep slopes are prone to erosion. Census data also indicate a low number of households with horses in the study area.

Chapter 5: Implementation

Introduction

Given that the trail passes through multiple jurisdictions, the Ice Age Tonquin Trail partners (including the cities of Sherwood, Tualatin, and Wilsonville; Clackamas and Washington Counties; and Metro) will need to work together to implement this Master Plan. While built sections exist, the majority of the Ice Age Tonquin Trail has not yet been completed. Of the 22-mile long Ice Age Tonquin Trail, nearly 5 miles are complete, while approximately 17 miles remain to be built. The trail will be constructed in phases by the jurisdictions (cities and counties) through which the trail passes, as funding becomes available.

Jurisdictions will adopt the trail into their respective plans and policy documents (for example, concept plans, transportation system plans, comprehensive plans, and zoning codes). The three cities will be the primary jurisdictions responsible for operations and maintenance, while county maintenance will be less prominent and achieved through agreements with the cities. Property for the Ice Age Tonquin Trail will be acquired by Metro and local jurisdictions.

The following sections describe the jurisdictions' responsibilities; actions needed to implement the trail; land use and regulatory requirements; potential funding sources; funding strategies and phasing; and cost estimates.

Responsibilities and Partnerships

Implementation Actions

Table 21 presents a summary of actions needed to implement the Ice Age Tonquin Trail. The table is organized based on the segments illustrated on Map 26. In a few instances, a segment is listed more than once in the table to explain different areas of that particular segment. Specific information includes the lead implementing jurisdiction for each trail segment (including construction, operations, and maintenance); the current funding and completion status; and a summary of known issues. Later sections of this Master Plan discuss cost, maintenance, and operations in greater detail.

Cooperation

Most of the implementation actions described in Table 21 require one or more partners to work together, thereby making ongoing coordination critical for success. One potential method to ensure this coordination, which has proven successful elsewhere in the region, consists of partners entering into a Declaration of Cooperation agreement. Appendix F provides a sample Declaration of Cooperation agreement.

This agreement would represent a means for focusing the partners' shared goals and call for their voluntary efforts to seek opportunities to leverage funding and other resources to implement the Master Plan. One of the most important tasks will be to ensure that the trail alignment is incorporated into key local planning efforts such as concept plans and transportation system plans.

Table 21 - Ice Age Tonquin Trail Implementation

Segment description		Who will construct?	What stages are funded?	Who will operate/maintain?	Unresolved issues and why?	Needed action	Who is responsible for actions?
1	Willamette River to immediately south of Wilsonville Road	Wilsonville	None	Morey’s Landing Home Owners Association will maintain the portion of the trail in that area. The city of Wilsonville will maintain the rest of the trail.	Trail design uncertain along Boones Ferry Rd. and other future roads in this segment. Need to determine whether trail will connect from Boones Ferry Road to 5 th St. or Bailey St. Trail easements or right-of-way needed.	Coordinate trail design/development with future improvements to Boones Ferry Rd. and other potential new roads in this segment. Fund and construct improvements.	Wilsonville
2	Immediately south of Wilsonville Road to immediately south of Costa Circle	Constructed	Constructed	Metro	None	None	None
3	Intersection of trail at north end of Graham Oaks Nature Park with south side of Costa Circle to immediately north of Boeckman Road (includes both trail segments in Villebois)	Wilsonville	Private developers will fund.	Wilsonville	Trail right-of-way needed as parks develop.	Implement Villebois Master Plan with private development partners.	Wilsonville
4	Immediately north of Boeckman Road to immediately north of Grahams Ferry Road	Undetermined – Metro owns this segment; the northern portion of segment is located in unincorporated Clackamas County.	None	Undetermined – Metro owns this segment; the northern portion of segment is located in unincorporated Clackamas County.	No trail provider in unincorporated county.	Include trail in Clackamas County’s Transportation System Plan (TSP) update and amend Clackamas County Bike/Pedestrian plan to include trail. Update trail description in Metro’s 2035 Regional Transportation Plan (RTP) including the Financially Constrained list. Clackamas County, Wilsonville and Metro identify strategy for trail development and operation/maintenance.	Clackamas County, Wilsonville and Metro
5	Immediately north of Grahams Ferry Road to southern terminus of Morgan Road at Metro Natural Area	Undetermined – Small area immediately north of Grahams Ferry Rd. located in unincorporated Clackamas County, and remainder located in unincorporated Washington County. Metro owns northern portion of this segment.	None	Undetermined – Small area immediately north of Grahams Ferry Rd. located in unincorporated Clackamas County, and remainder located in unincorporated Washington County. Metro owns northern portion of this segment, but not sure who will maintain.	No trail provider in unincorporated county. Basalt Creek and West Railroad concept planning will determine how this area will be annexed. After annexations, jurisdiction can be identified to develop/maintain trail. Need to acquire land for trail from 3 land owners in this area.	Include trail in Clackamas and Washington County TSP updates. Update trail description in Metro’s 2035 RTP, including the Financially Constrained list. Incorporate trail as component of Basalt Creek and West Railroad concept plans. Wilsonville, Clackamas County, Metro, Washington County identify strategy for trail development and operation/maintenance. Prioritize Metro bond funds for trail acquisition.	Wilsonville, Clackamas County, Metro, Washington County

Table 21 - Ice Age Tonquin Trail Implementation, cont'd

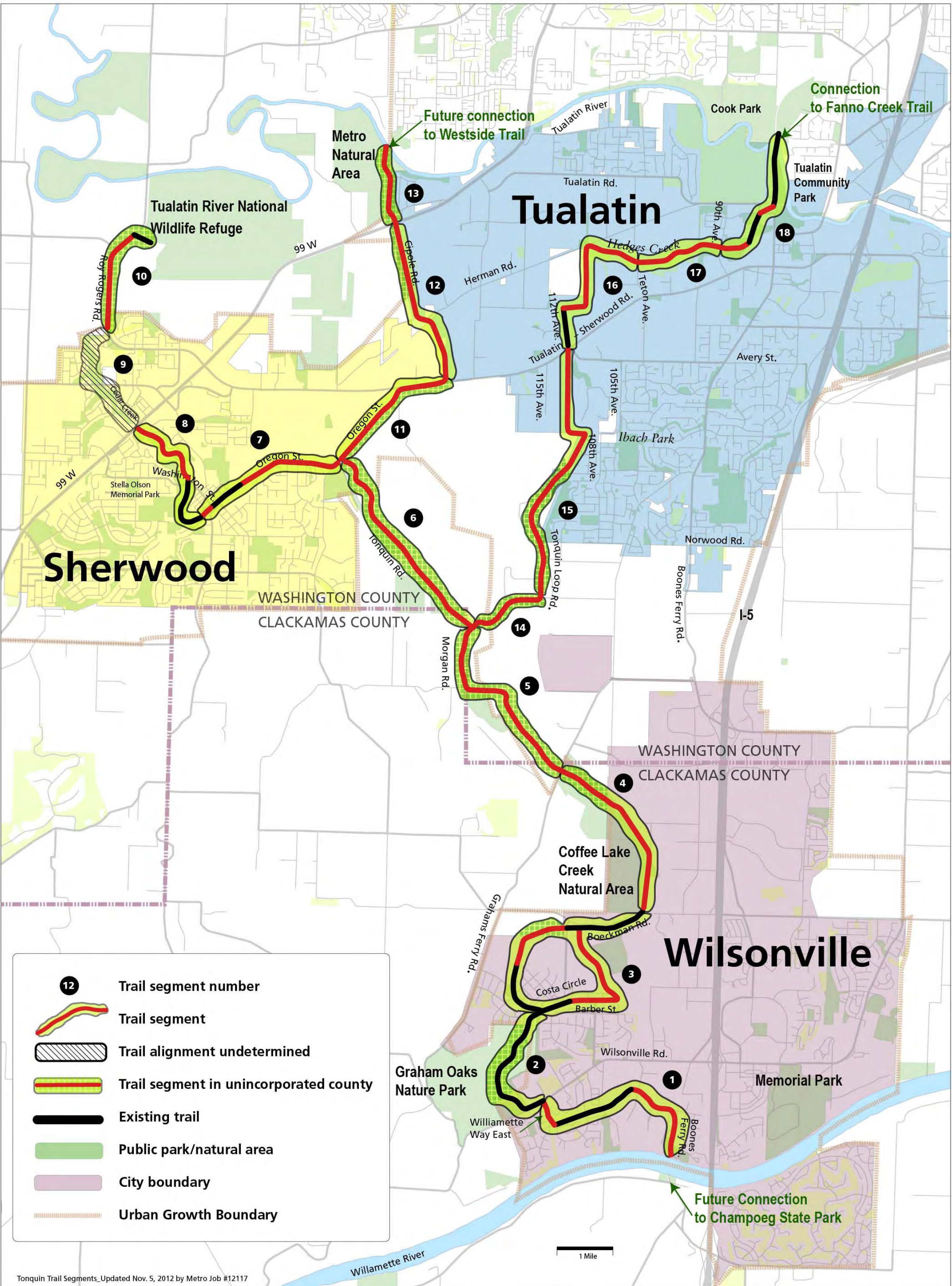
	Segment description	Who will construct?	What stages are funded?	Who will operate/maintain?	Unresolved issues and why?	Needed action	Who is responsible for actions?
5	Southern terminus of Morgan Road at Metro Natural Area to immediately north of Morgan Rd./Tonquin Rd. intersection	Undetermined – outside urban growth boundary in unincorporated Clackamas County.	None	Undetermined – outside urban growth boundary in unincorporated Clackamas County.	<p>No trail provider in unincorporated county. Basalt Creek concept planning will determine future annexations and then jurisdiction can be identified to develop and maintain trail.</p> <p>Quarry property in appeal process. If appeal holds, condition requiring trail will no longer apply.</p> <p>Need to acquire land from 2-3 land owners.</p>	<p>Include trail in Clackamas County TSP update, and amend Clackamas County Bike/Pedestrian plan to include trail. Incorporate trail as component of Basalt Creek and West Railroad concept plans.</p> <p>Wilsonville, Clackamas County, Metro, Washington County identify strategy for trail development and operation/maintenance.</p> <p>Prioritize Metro bond funds for trail acquisition.</p>	Wilsonville, Tualatin, Clackamas County, Washington County, Metro
6	Immediately west of Tonquin Road/Morgan Road intersection to intersection of Tonquin Road and Oregon Street (including Tonquin Rd./Oregon St. intersection)	Undetermined (segment located in unincorporated Washington County)	None	Undetermined (segment located in unincorporated Washington County).	<p>Need to acquire land for trail from 5-6 land owners on east side of Tonquin Road.</p> <p>Washington County TSP recommends widening Tonquin Road in this area. If county moves forward with this plan, there may be room to construct trail within right-of-way on west side of Tonquin Rd.</p> <p>Sherwood's approved Tonquin Employment Area concept plan overlaps with northern portion of this segment; plan implementation needs to address the trail.</p>	<p>Prioritize Metro bond funds for trail acquisition.</p> <p>Trail partners should coordinate with Washington County on county's plans to improve Tonquin Rd. but move forward with acquisition of land on east side of Tonquin Road.</p> <p>Trail partners need to coordinate with Sherwood to implement trail in Tonquin Employment Area.</p> <p>Update trail description in Metro's 2035 RTP, including the Financially Constrained list.</p>	Metro, Sherwood, Washington County, Tualatin, Wilsonville, Clackamas County
7	Immediately west of Tonquin Road/Oregon Street intersection to immediately north of Park Street (downtown Sherwood)	Sherwood	To be determined in coordination with Metro and ODOT.	Sherwood	<p>Sherwood will work with Metro and ODOT to determine if 2014-15 Regional Flex Funds award for Cedar Creek trail will include design and construction of this segment.</p> <p>Need to acquire easement/land for trail from 2 land owners.</p>	<p>Refine cost estimates for Cedar Creek trail project to see if the award amount will cover proposed improvements.</p> <p>Sherwood and Metro to determine acquisition strategy.</p>	Sherwood, Metro, ODOT
8	Immediately north of Park Street to immediately south of Hwy 99	Sherwood	Design and construct.	Sherwood	None	Sherwood will design and construct this segment by 2016.	Sherwood with involvement of Metro and partners as needed.
9	Immediately south of Highway 99 to Roy Rogers Road, including Roy Rogers intersection)	Sherwood	To be determined in coordination with Metro and ODOT.	Sherwood	<p>Sherwood to work with Metro and ODOT to determine scope of work for this segment pursuant to 2014-15 Regional Flex Funds award for Cedar Creek trail.</p> <p>Hwy 99 undercrossing not included in 2014-15 Regional Flex Funds award.</p>	<p>Public involvement needed to determine alignment in this area.</p> <p>Sherwood may need to acquire land for trail.</p> <p>Sherwood will apply in 2012 for ODOT/ STIP Enhance funds to design/construct Hwy 99 undercrossing.</p>	<p>Sherwood</p> <p>Sherwood, ODOT</p> <p>Sherwood, ODOT with support of Metro and partners.</p>
10	Roy Rogers Road north to Tualatin River National Wildlife Refuge trailhead	Sherwood or Washington County	None	Sherwood may consider role in owning/building/operating and maintaining once the Cedar Creek portion of the trail is built.	<p>Segment is in unincorporated Washington County, no obvious trail provider.</p> <p>Need to acquire land from one land owner.</p>	Sherwood and Washington County determine ownership and O&M agreements.	Sherwood, Washington County
11	Immediately east of Tonquin Road/Oregon	Sherwood	None	Sherwood	Funding not identified for design/construction	Sherwood to identify funding strategy.	City of Sherwood

Table 21 - Ice Age Tonquin Trail Implementation, cont’d

Segment description		Who will construct?	What stages are funded?	Who will operate/maintain?	Unresolved issues and why?	Needed action	Who is responsible for actions?
Street intersection to immediately north of Tualatin-Sherwood Road.						Include trail in Sherwood’s TSP update. Update trail description in Metro’s 2035 RTP, including the Financially Constrained list. Sherwood to acquire trail.	
11	Immediately north of Tualatin Sherwood Road to immediately west of Cipole Road	Sherwood	None	Sherwood	Need to acquire land from 8 land owners between Tonquin Rd. and Oregon St. Trail is recommended on north side of road in Right of Way. Funding not identified for design/construction	Include trail in Sherwood and Washington County TSP updates. Update trail description in Metro’s 2035 RTP, including the Financially Constrained list. Sherwood to identify funding strategy	Sherwood, Tualatin, Washington County, Metro
12	Immediately west of Cipole Road to immediately north of Highway 99	Undetermined. Trail route is in Sherwood up to railroad; north of the railroad portions of the trail are outside urban growth boundary in unincorporated Washington County. Construction likely to occur by special agreement between Sherwood and Tualatin.	None	Operation and maintenance likely to occur by special agreement between Sherwood and Tualatin.	Part of segment is in Sherwood, part is outside the urban growth boundary in unincorporated Washington County. Need to work identify who will acquire/develop/operate/maintain. Need to acquire land from 5 land owners on west side of road.	Include trail in Tualatin and Sherwood TSP updates. Update trail description in Metro’s 2035 RTP, including the Financially Constrained list. Sherwood, Tualatin and Washington County need to develop strategy for trail acquisition/development.	Sherwood, Tualatin, Washington County, Metro
13	Immediately north of Highway 99 to south side of Tualatin River.	Trail crosses Metro land north of Pacific Drive to Tualatin River. Tualatin may develop trail in this area. Tualatin and King City likely partners to develop bridge over Tualatin River at this location.	None	Metro owns portion north of Pacific Drive; Tualatin may operate/maintain trail in this area.	Need to identify who will build / maintain trail and bridge.	Westside Trail master planning process (ongoing) will determine responsible party to build/maintain trail and bridge.	Tualatin, Metro, King City
14	Immediately east of Tonquin Road/Morgan Road intersection to intersection of Tonquin Road and Tonquin Loop (including Tonquin Road/Tonquin Loop intersection)	Tualatin or Wilsonville. Future annexations in this area will determine which jurisdiction will construct.	None	Tualatin or Wilsonville. Future annexations in this area will determine who will operate / maintain trail.	Basalt Creek concept planning efforts are underway. Trail alignment in this area subject to change based on that work. Easements or right-of-way will be needed for the trail.	Trail partners to coordinate with Washington County during development of Basalt Creek Concept Plan to determine whether to integrate the trail in to the east-west arterial planned just south of Tonquin Rd., and/or as improvements are made along Tonquin Rd. in this area, including how trail relates to intersection of 124 th Ave. extension and Tonquin Road. Acquire land for trail right-of-way when land acquired for east-west arterial between Morgan Road and Tonquin Rd./Tonquin Loop Rd. intersection.	Tualatin, Metro, Washington County, Wilsonville, Clackamas County, Sherwood
15	Immediately north of Tonquin Road/Tonquin Loop intersection to immediately south of Tualatin-Sherwood Road	Tualatin (once it is annexed into the city).	None	Tualatin (once it is annexed into the City).	S.W. concept plan area may not develop for years, delaying trail in this area. Every effort should be made to avoid developing disconnected segments of trail. Need to acquire land for trail from 9 landowners in this segment.	Include trail in Tualatin TSP update. Update trail description in Metro’s 2035 RTP, including the Financially Constrained list. Tualatin and Metro to develop strategy for trail in this area. Include trail in Basalt Creek Concept Plan recommendations. Prioritize Metro bond funds for trail acquisition.	Tualatin, Metro, Washington County

Table 21 - Ice Age Tonquin Trail Implementation, cont’d

	Segment description	Who will construct?	What stages are funded?	Who will operate/maintain?	Unresolved issues and why?	Needed action	Who is responsible for actions?
16	Immediately south of Tualatin-Sherwood Road to immediately east of Teton Avenue	Tualatin	None	Tualatin	Need funding to design and construct trail.	Include trail in Tualatin TSP update. Update trail description in Metro’s 2035 RTP, including the Financially Constrained list.	Tualatin, Washington County , Metro
					Need to acquire land for trail from 8 land owners.	Tualatin to identify funding strategy.	
17	Immediately east of Teton Avenue to immediately east of 90 th Avenue	Tualatin	None	Tualatin	Need funding to design and construct trail.	Prioritize Metro bond funds for trail acquisition. Tualatin to identify funding strategy.	Tualatin, Metro
					Need to acquire land for trail from 3 land owners.	Include in Tualatin TSP update. Update trail description in Metro’s 2035 RTP, including the Financially Constrained list.	
						Prioritize Metro bond funds for trail acquisition.	
18	Immediately east of 90 th Avenue to Tualatin River	Tualatin Northern section in Tualatin Community Park is complete.	None	Tualatin Northern section in Tualatin Community Park is complete.	May need to acquire land for trail from 2 owners.	Prioritize Metro bond funds for trail acquisition.	Tualatin, Metro
						Include in Tualatin TSP update. Update trail description in Metro’s 2035 RTP, including the Financially Constrained list.	



Map 26: Ice Age Tonquin Trail Segments

Ice Age Tonquin Trail Master Plan

Source: Metro Data Resource Center



Land Use Approvals and Regulatory Requirements

Though the Master Plan has not identified any regulatory fatal flaws, a detailed analysis of required permits will need to be developed by jurisdictions as the trail is implemented. Local jurisdictions will need to obtain required permits and regulatory approvals. Table 22 provides an overview of permits that may be required. Additional permits and approvals may be identified during the design phase.

Table 22 - Potential Permits, Approvals and Coordination Needed

Agency	Potential Permit, Approval or Coordination
Federal	
Federal Highway Administration	<ul style="list-style-type: none"> National Environmental Policy Act (NEPA) Approval Executive Order 11988 Floodplain Management Compliance Executive Order 11990 Protection of Wetlands Compliance Executive Order 12898 Environmental Justice Compliance
National Marine Fisheries	<ul style="list-style-type: none"> Section 7 of the Endangered Species Act Consultation Magnuson-Stevens Fishery Conservation and Management Act Consultation Fish and Wildlife Coordination Act Coordination
United States Fish and Wildlife Service	<ul style="list-style-type: none"> Section 7 of the Endangered Species Act Consultation Migratory Bird Treaty Act Compliance Fish and Wildlife Coordination Act Compliance
U.S. Army Corps of Engineers	<ul style="list-style-type: none"> Section 404 Permit: Clean Water Act of 1977 Compliance
State	
Oregon State Historic Preservation Office	<ul style="list-style-type: none"> Section 106 of the National Historic Preservation Act of 1966 Consultation
Oregon Department of Environmental Quality	<ul style="list-style-type: none"> Clean Water Act Section 401: Water Quality Certification Clean Water Act Section 404 Permit Review National Pollutant Discharge Elimination System (NPDES) Program Construction Stormwater Discharge Permit
Oregon Department of State Lands	<ul style="list-style-type: none"> Wetland Delineation Clearance Removal-Fill Permit or General Authorization Pre-Construction Assessment Permit for In-water Work
Oregon Department of Fish and Wildlife	<ul style="list-style-type: none"> Oregon Fish Passage Law Compliance Oregon Endangered Species Act Compliance
Oregon Department of Transportation	Permit to occupy or Perform Operations upon a state highway
Local	
Washington County, Clackamas County, Wilsonville, Tualatin, Sherwood	<ul style="list-style-type: none"> Floodplain Development Permits Land Use Permits (Conditional Use, Development, and/or Environmental Permits)
Clean Water Services	<ul style="list-style-type: none"> Environmental Review, Development Review, Stormwater, and/or Erosion Control Permit

Cost Estimates, Phasing, and Funding

Cost Estimates

Table 23 summarizes cost estimates by trail segment and describes key general improvements for each segment, while Map 26 illustrates the corresponding trail segments. Specific improvements are shown on the tile maps (and described in Tables 2 through 20) in Chapter 3. The Ice Age Tonquin Trail Segments map and the tile maps do not share corresponding boundaries because the cost estimates needed to be divided at logical breaks along the trail corridor to aid in funding and implementation efforts.

The cost estimates represent planning-level construction and easement/acquisition estimates, and are intended to provide local jurisdictions an order-of-magnitude opinion, so that further steps can be taken (including soliciting funding; preliminary and final design; and so forth). A planning-level range of potential costs is appropriate given a level of uncertainty in the design at this point in the process. Many factors can affect final construction costs, including the following:

- Revisions to facility design as required by local, state, and federal agencies, and/or in response to public input
- More detailed understanding of constraints such as drainage and utilities
- Fluctuations in commodity and labor prices during the design and permitting phases
- Selected construction materials

As each trail segment progresses through preliminary, semi-final, and final design phases, these uncertainties will begin to diminish. With each round of refinement, the range of expected construction costs will become more accurately known. The following should be noted regarding cost estimates:

- The cost estimates were based on input from local and regional agency staff, and on recent experience in comparable communities
- A fully burdened cost estimate was developed for each trail segment by increasing the construction cost by multipliers to account for engineering, design, construction administration, and mobilization; the likelihood of receiving federal funding to develop the trail; and unexpected contingency costs.
- Cost estimates include the cost to acquire land and trail easements, as needed, at fair market value
- Costs are provided in 2012 dollars, inflation factors must be applied
- Cost estimates do not include information for built portions of the trail

Appendix D provides a more detailed breakdown of the cost estimates by trail segment.

Table 23 - Ice Age Tonquin Trail Estimated Costs

Segment #	Approx. Length (miles)	Segment Beginning and Endpoint Description	General Improvements	Property Easement or Acquisition Needed?	Estimated Cost
1	1.48	Willamette River to immediately south of Wilsonville Road	Bike lanes; sidewalks; new paved path; creek bridge; road crossings; fencing; signage	Yes	\$2,440,000
2	1.13	Immediately south of Wilsonville Road to immediately south of Costa Circle	Signage	No	\$2,000
3	2.83	Intersection of trail at north end of Graham Oaks Nature Park with south side of Costa Circle to immediately north of Boeckman Road (includes both trail segments in Villebois)	Widen existing sidewalks; new paved path; road crossings; signage	Yes	\$2,700,000
4	1.36	Immediately north of Boeckman Road to immediately north of Grahams Ferry Road	Boardwalk; new paved path; road crossings; creek bridge; fencing; signage; wetland mitigation	No	\$9,079,000
5	1.52	Immediately north of Grahams Ferry Road to intersection of Morgan Road and Tonquin Road (including Tonquin/Morgan intersection)	New paved path; creek bridge; road crossings; trailhead; handrail/retaining wall; fencing; signage	Yes	\$7,483,000
6	1.49	Immediately west of Tonquin Road/Morgan Road intersection to intersection of Tonquin Road and Oregon Street (including Tonquin/Oregon intersection)	New paved path; road crossing; fencing; signage	Yes	\$7,005,000
7	1.14	Immediately west of Tonquin Road/Oregon Street intersection to immediately north of Park Street (downtown Sherwood)	Widen existing sidewalks; new paved path; road crossings; fencing; signage	Yes	\$1,770,000
8	1.20	Immediately north of Park Street (downtown Sherwood) to immediately south of Pacific Highway/Oregon 99W	Boardwalk; new paved path; retaining wall; signage; wetland mitigation	No	\$4,677,000
9	1.05	Immediately south of Pacific Highway/Oregon 99W to Roy Rogers Road (including Roy Rogers intersection)	Boardwalk; Oregon 99W undercrossing; new paved path; road crossing; signalized road crossing; handrail/retaining wall; fencing; signage; wetland mitigation	Possibly	\$25,400,000
10	0.81	Roy Rogers Road north to Tualatin River National Wildlife Refuge trailhead	Widen existing sidewalks; new paved path; creek bridge; trailhead; handrail/retaining wall; signage	Yes	\$4,216,000

Segment #	Approx. Length (miles)	Segment Beginning and Endpoint Description	General Improvements	Property Easement or Acquisition Needed?	Estimated Cost
11	1.00	Immediately east of Tonquin Road/Oregon Street intersection to immediately west of Cipole Road	New paved path; road crossing; hand rail/retaining wall; fencing; signage	Yes	\$2,738,000
12	1.27	Immediately west of Cipole Road to immediately north of Pacific Highway/Oregon 99W	Widen existing sidewalk; new paved path; creek bridge; road crossing; Oregon 99W overcrossing; fencing; signage	Yes	\$11,697,000
13	0.67	Immediately north of Pacific Highway/Oregon 99W to south side of Tualatin River	New paved path; road crossing; trailhead; signage	Yes	\$2,917,000
14	0.95	Immediately east of Tonquin Road/Morgan Road intersection to intersection of Tonquin Road and Tonquin Loop (including Tonquin Road/Tonquin Loop intersection)	New paved path; road crossing; signalized road crossing; handrail/retaining wall; fencing; signage	Yes	\$4,501,000
15	1.53	Immediately north of Tonquin Road/Tonquin Loop intersection to immediately south of Tualatin-Sherwood Road	New paved path; road crossing; creek crossing; trailhead; signage	Yes	\$5,702,000
16	1.26	Immediately south of Tualatin-Sherwood Road to immediately east of Teton Avenue	Boardwalk; paved path; road crossings; trailhead; signage; wetland mitigation	Yes	\$7,060,000
17	0.66	Immediately east of Teton Avenue to immediately east of 90 th Avenue	Boardwalk; paved path; road crossing; handrail/retaining wall; signage; wetland mitigation	Yes	\$7,357,000
18	1.01	Immediately east of 90 th Avenue to Tualatin River	Widen existing sidewalk; new sidewalk; new paved path; handrail/retaining wall; signage	Yes	\$1,925,000
<i>Subtotal (all segments combined)</i>					<i>\$108,669,000</i>
<i>Property easements (all segments combined)</i>					<i>\$5,792,000</i>
<i>Total estimated costs (all segments combined)</i>					<i>\$114,461,000</i>

Cost Qualifications:

- Trail/roadway crossings are at-grade and unsignalized unless otherwise noted.
- Shared use path surface consists of asphalt, permeable asphalt, or concrete depending on location.
- Shared use paths and boardwalks are assumed to measure 12 feet in width.
- Table does not include information for built portions of the trail.

Phasing

Regional trail projects can take years to grow from concept to reality. As with the Ice Age Tonquin Trail, such projects are often quite complex, involving many landowners and crossing multiple jurisdictions. The Ice Age Tonquin Trail will be completed in phases as funding becomes available for design and construction, and as trail easements are secured. It is important to avoid sections of the trail being built that do not connect to anything. This is a phenomenon that often results when developers are required to make public improvements as a condition of development approval (when development occurs incrementally over a long period of time). The following sections present a proposed phasing plan for implementing the trail. References to segment numbers in the following sections pertain to the segments shown on Map 26.

Phase 1 – Present to 2015

Cedar Creek Corridor (Portions of Segments 7 through 10)

The City of Sherwood secured funding for design and construction of approximately 1.5 miles of the Cedar Creek corridor section of the Ice Age Tonquin Trail. The City may need to purchase easements prior to design and construction. Construction is expected to be complete by 2015. The City, in partnership with Metro, will submit a funding application to ODOT in winter 2013 for design and construction of a pedestrian/bicycle/wildlife undercrossing of Oregon 99W. If awarded, the project will link Sherwood residents who live close to Cedar Creek to downtown Sherwood.

Purchase Trail Easements (Portions of Segments 1 through 5, and Portions of Segments 15 through 18)

- The city of Wilsonville has completed approximately 50 percent of the Ice Age Tonquin Trail passing through its jurisdiction; in a few remaining areas, easements are needed to complete the remaining trail segments.
- Secure land for the trail in the unincorporated area between Grahams Ferry Road and Morgan Road.
- Secure trail easements in the Hedges Creek Greenway area of Tualatin.

Metro and partner jurisdictions should develop an acquisition strategy for land to be acquired in this implementation phase. Metro follows “willing seller” guidelines, meaning that eminent domain, or property condemnation, is never used to acquire land. Metro’s 2006 Open Spaces, Parks and Trails bond measure provides acquisition guidance that must be followed when acquiring land for the trail.

On-Going Concept Planning, Transportation System Planning, and Other Land Use Planning (All Trail Segments)

The Ice Age Tonquin Trail needs to be incorporated into ongoing concept planning, updates to transportation system plans and other relevant transportation and land use planning processes and decisions. In particular, there are three projects being planned in a corridor between the Tonquin Road/Morgan Road intersection and the Tonquin Road/Tonquin Loop intersection that directly overlap with the recommended trail alignment. These projects, which are shown on Map 27, include the following:

- The design for how the 124th Avenue Extension will tie into Tonquin Road

- The design for the westernmost portion of the new east-west connector (that will extend the 124th Avenue Extension project east toward Interstate 5)
- Improvements to Tonquin Road

Project partners need to work closely with Washington County to be sure that trail design is a component of these projects and that trail right-of-way is preserved for future development in this area. In addition, Metro's *2035 Regional Transportation Plan* (especially the Financially Constrained project list in that plan) needs to be updated to include the Ice Age Tonquin Trail recommended alignment.

Partners Apply for Funding in Fall 2012/Winter 2013 (Portions of Segments 1 and 3, and Portions of Segments 16 through 18)

Three programs that provide funding for bicycle and pedestrian improvements are soliciting applications in fall 2012/winter 2013. It is highly recommended that project partners pursue these funding opportunities to implement trail segments that are within their respective jurisdictions. The Hedges Creek Greenway should be a high priority.

Phase 2 – 2015 to 2020

The concept planning and transportation system plan updates occurring in Phase 1 will inform the actions needed for trail development in Phase 2. Likely actions include securing funding; right-of-way acquisition; and trail design and construction in vicinity of the Coffee Lake Creek Natural Area, Morgan Road, Tonquin Road, Tonquin Loop, McCamant Road, and Oregon Street. Where necessary, agreements should be established between partner jurisdictions that will be involved in trail development. Other Phase 2 actions include the following:

- Implementing the trail in concept planning areas (portions of Segments 4, 5, 6, 14, 11, and 15)
- Acquiring easements along Roy Rogers Road (Segment 10), and subsequently constructing the trail
- Implementing trail segments along Cipole Road (Segments 12 and 13)

Phase 3 – 2020 to 2030

Phase 3 consists of acquiring easements, designing, and completing Ice Age Tonquin Trail gaps where needed.



Map 27: Trail alignment in relation to land use planning efforts

Ice Age Tonquin Trail Master Plan

Source: Metro Data Resource Center

Potential Funding Sources

The Ice Age Tonquin Trail received special dedicated funding for property acquisition from Metro's 2006 Open Spaces, Parks and Trails bond measure. Metro's bond funds can only be used for lands that were prioritized in the 2007 Refinement Plan for the Tonquin Geologic Area. It is highly unlikely that the Metro funds will be adequate to purchase all land that is needed for the trail, and local jurisdictions will need to purchase some of those lands.

The National Park Service is responsible for preparing the management plan for the recently created Ice Age Floods National Geologic Trail (which may overlap with all or portions of the Ice Age Tonquin Trail). The act of Congress that created the trail in 2009 mentions a fund of \$12 million for grants to implement the trail, but that funding has not yet been appropriated. The local chapter of the National Ice Age Floods Institute is an official partner with the National Park Service to implement the project. Project partners should stay in close communication with the Institute to learn about future funding opportunities, especially for interpretive signage that includes themes related to the Ice Age Floods.

Table 24 provides a list of other potential funding sources that should be sought for Ice Age Tonquin Trail implementation.

Table 24 – Potential Funding Sources

Funding Source	Funding Cycle
Oregon Department of Transportation – Statewide Transportation Improvement Program – Enhance and Fix It	Annual cycle; applications for the 2015-2018 funding cycle due November 27, 2012
Oregon Department of Transportation – Flexible Funds	Annual cycle; applications due late fall
Oregon Department of Transportation – Discretionary Funds	Annual cycle
Oregon Department of Transportation – Gas tax funds for bike/ped improvements in the public right-of-way	Annual cycle
Oregon Department of Transportation – Transportation Enhancement/Oregon Bicycle and Pedestrian Projects	Application due December 13, 2012 (only for applicants who were invited to apply after submitting a successful Notice of Intent)
Oregon State Parks – Recreational Trails Grants	Annual cycle
Oregon State Parks – Land and Water Conservation Fund (LWCF)	Biannual funding cycle
Oregon State Parks – Measure 66 lottery funds for parks and trails	Biannual funding cycle
Oregon State Parks – County Opportunity Grant Program	Annual funding cycle
Governor's Watershed Enhancement Board	Annual cycle
Metro – Metropolitan Transportation Improvement Program – Regional Flexible Funds	Annual cycle; applications due February 2013

Chapter 6: Maintenance, Management, and Operations

Proposed Management Responsibilities

Trail segments traveling through incorporated areas of Wilsonville, Sherwood, and Tualatin will be managed and maintained by those jurisdictions, except where other arrangements exist (for example, Morey's Landing in Wilsonville). A critical next step in the trail implementation process is to clarify and formalize partner responsibilities for segments passing through unincorporated Clackamas and Washington Counties, which do not have an identified agency or jurisdiction to build, manage or maintain the trail. It is expected that these areas will eventually be annexed by the three city jurisdictions, but that may not happen before funding is identified to construct the trail. The solution for these segments may involve one of several approaches discussed in Table 21 in the Implementation chapter.

Trail Maintenance

Consistent management practices between multiple jurisdictions managing the trail will be critical to create a seamless and safe experience for the trail users. Among the factors determining maintenance requirements are the existing landscape character and the quality of capital improvements. The Ice Age Tonquin Trail travels through a diverse landscape including rural and urban settings, creek corridors, natural areas, on-street sections, and basalt substrate among others.

Maintenance activities typically include trail surface repair; landscape maintenance; trailhead and other amenities upkeep; sign replacement; mowing; litter removal; and painting. Successful maintenance programs involve a high level of citizen participation, and coordination of volunteer efforts will be important given the multiple jurisdictions through which the Ice Age Tonquin Trail passes. Routine maintenance on a year-round basis will not only improve trail safety, but will also prolong the life of the trail. The benefits of a good maintenance program are far-reaching. These benefits include the following items:

- A high standard of maintenance is an effective advertisement to promote the trail as a regional recreation resource.
- Good maintenance can be an effective deterrent to vandalism, litter, and encroachments.
- Good maintenance can make enforcement of regulations on the trail more efficient. Local clubs and interest groups will take pride in "their" trail and be more apt to assist in protection of the trail.
- A proactive maintenance policy will help improve safety along the trail.

On-going trail maintenance will likely include some, if not all, of the activities described in the following sections.

Vegetation

In general, visibility between plantings at trailsides should be maintained to avoid creating the feeling of an enclosed space. This will give trail users good, clear views of their surroundings, thereby enhancing

the aesthetic experience. Understory vegetation near the trail should not be allowed to grow higher than 36 inches. Tree species selection and placement should minimize vegetative litter on the trail and root uplifting of pavement. Vertical clearance along the trail should be periodically checked, and any overhanging branches should be pruned to a minimum vertical clearance of 10 feet.

Trail corridors can act as highways to transport seeds of invasive plants brought in by trail users (for example, from shoes or bike tires) and the wind. Invasive plants along the corridor should be monitored and controlled on a regular basis to avoid the spread of invasive plants.

Surfacing

Permeable asphalt is the preferred trail surface material, though additional maintenance may be needed (for example, a deeper trail section, a fabric barrier to deter weed growth, removal of adjacent trees to avoid root damage to trail). Asphalt and concrete are also acceptable surfaces. A combination of all three of these trail surfaces will likely be used by the individual jurisdictions developing the trail.

Asphalt has a shorter life span than concrete and needs more maintenance over its lifetime. Cracks, ruts, and water damage to both surfaces will need periodic repair. The trail surface should be kept free of debris, especially broken glass and other sharp objects; loose gravel; leaves; and stray branches. Trail surfaces should be swept periodically. Soft shoulders should be well maintained to maximize their usability.

Where drainage problems exist along the trail, ditches and drainage structures should be kept clear of debris to prevent washouts along the trail and maintain positive drainage flow. Checks for erosion along the trail should be made during the wet season and immediately after any storm that brings flooding to the local area.

Pest and Vegetation Management

Some basic measures should be taken to protect the trail investment. This includes a bi-annual mowing along both sides of the trail to prevent invasion of plants into the gravel shoulders and pavement area. The recommended time of year for mowing is fall and spring. Vegetation management in boardwalk areas typically occurs bi-annually and after major flooding events.

Wherever possible, vegetation control should be accomplished by mechanical means or hand labor. Some species may require spot application of state-approved herbicide. Metro's *Integrated Pest Management Policies* (recently updated) should be followed when using herbicides. If local jurisdictions already have an approved Integrated Pest Management Plan, they can be used instead.

Litter and Illegal Dumping

Staff from responsible jurisdictions or volunteers should remove litter along the trail. Litter receptacles should be placed at access points such as trailheads by the managing agencies.

Illegal dumping should be controlled by vehicle barriers, regulatory signage, and enforcement to the greatest extent possible. When illegal dumping does occur, it should be removed immediately to discourage further dumping. Neighborhood volunteers, friends groups, alternative community service crews, and inmate labor should be considered in addition to maintenance staff.

Signage

It is recommended that Metro's Intertwine signage guidelines be used by all jurisdictions so that a consistent and uniform signage system is installed throughout the Ice Age Tonquin Trail corridor. The Intertwine signage materials are sturdy, vandal-proof, low maintenance, and relatively inexpensive to create and replace.

Since the Ice Age Tonquin Trail will be completed in phases, it should be stated clearly at all trail accesses and in any printed /electronic material that portions of the trail are not yet fully developed or open to the public, and that users must exercise the necessary caution when using the trail.

Flooding

Portions of the trail in the Cedar Creek and Hedges Creek Greenway areas are subject to flooding. Debris accumulated on the trail surface should be removed after each recession of water. Trail/creek crossings should also be inspected periodically, with debris removal from beneath waterway bridges occurring, as needed.

Table 25 summarizes maintenance recommendations for the Ice Age Tonquin Trail.

Table 25 – Trail Maintenance Recommendations

Item	Suggested Frequency
Sign inspection/repair	1-3 years
Trail logo/markings inspection/replacement if needed	1-3 years
Planted tree, shrub, trimming/fertilization	5 months-1 year
Pavement sealing/potholes	5-15 years
Clean drainage system, clean inlets, keep swales clear	Annually before winter rains
Remove debris from beneath bridges and boardwalks	Bi-annually and after flood events
Bridge inspection	1-2 years
Pavement sweeping	Monthly
Shoulder mowing*	Bi-annually (early summer and fall)
Trash disposal	As needed depending on trail section
Graffiti removal	As needed
Maintain benches, site amenities	Annually
Pruning to maintain vertical clearance	1-4 years
Remove fallen trees	As needed
Weed control	Monthly
Water Plants	As needed

*Additional maintenance may be required.

Typical maintenance vehicles for the trail will consist of light trucks and, occasionally, heavy dump trucks and tractors. A mechanical sweeper is recommended to keep the trail clear of loose gravel and other debris. Care should also be taken when operating heavier equipment on the trail to avoid damaging the trail surface (particularly the edges).

Hours of Operation

Regional trails are open 24 hours a day, 7 days a week. Because this will be their first regional trail, some jurisdictions may need to revise their policies and procedures to be sure that access to the trail is available 24 hours a day, 7 days a week, throughout its entire length.

Maintenance Costs

The total estimated annual maintenance cost for the off-street segments of the Tonquin Trail is approximately \$147,000. This estimate is based on an industry standard of approximately \$7,000 per mile of asphalt path annually, which is the approximate maintenance cost per mile on Portland's Springwater Corridor Trail. Maintenance costs generally include labor, supplies, and amortized equipment costs for trash removal; sweeping; resurfacing; repairs to crossings; cleaning drainage systems and clearing debris from beneath bridges; landscaping; and underbrush and weed abatement. Some of the off-street Ice Age Tonquin Trail segments will be constructed of concrete or plastic lumber where boardwalks are proposed, and these surfaces typically cost less to maintain.

Maintenance costs for on-street segments are not included, based on the assumption that maintenance of those segments would occur as part of each jurisdiction's routine street maintenance activities.

Friends Groups

Forming a *Friends of the Ice Age Tonquin Trail* group would be a great way to help the various jurisdictions maintain and operate the trail. It also taps into latent support for these community assets, and builds a sense of ownership and shared responsibility. Friends groups are often part of a city's Adopt-A-Trail program or they can be an independent non-profit organization. The purpose of a friends group is as varied as the citizens who take part in them. At its core, a well-run friends group will engage volunteer citizens in a variety of activities and events that build community pride for the trail, help defer trail maintenance and operation costs, and improve safety for trail users. Programs such as Trail Work, Trail Education Days, Trail Watch, Trail Patrol, Community Outreach and Resource Stewardship are often part of a friends group. They can also hold fun event days or even run community facilities along a trail (such as a coffee shop or event space). There are many good examples of existing successful friends groups in the region and nationally from which to draw on.

The cities of Wilsonville and Tualatin each have long-standing Adopt-A-Trail programs where interested citizens can participate in maintaining, cleaning, monitoring, or otherwise helping to keep the trail in good working order for the community's enjoyment. These existing programs could serve as the foundation for a *Friends of the Ice Age Tonquin Trail* group, potentially administered through a partnership consisting of the jurisdictions through which the trail passes. Alternately, a friends group could form on its own and create its own mission and identity. Often, these groups are very influential in building support for funding. Sometimes such a group just needs an "incubator" type kick-start from a jurisdiction (or group of jurisdictions) initially to become established.

Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ADT	average daily traffic
BPA	Bonneville Power Administration
FHWA	Federal Highway Administration
HAWK signal	Pedestrian Hybrid Beacon
HOA	Home Owners Association
LWCF	Land and Water Conservation Fund
MUTCD	FHWA's 2009 <i>Manual on Uniform Traffic Control Devices</i>
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
ODOT	Oregon Department of Transportation
QR	Quick Response
RFF	Regional Flexible Funds
RTP	Regional Transportation Plan
STIP	Statewide Transportation Improvement Program
TSP	Transportation System Plan
TWC	The Wetlands Conservancy
WES	Westside Express Service

Terms

Concept Plan	A concept plan is the first step in planning for urban development in areas that have been brought into the urban growth boundary. Concept plans are followed by more detailed comprehensive planning by the cities before any new urban development can occur in those areas.
Intertwine Alliance	The Intertwine is an ever-growing network of integrated parks, trails and natural areas in the Portland metropolitan region. The Intertwine Alliance is a coalition of public, private and nonprofit groups that are interested in working together to create a vibrant and healthy region, including completing the regional trail system.
Metro 2035 Regional Transportation Plan	The RTP presents the overarching policies and goals, system concepts for all modes of travel, funding strategies and local implementation requirements. The plan recommends how to invest more than \$20 billion in anticipated federal, state and local transportation funding in the Portland metropolitan area during the next 25 years.
ODOT STIP Enhance Funds	Oregon Department of Transportation Statewide Transportation Improvement Program funds allocated through a grant program for activities that enhance, expand or improve the region's transportation system, including bicycle and pedestrian improvements.
Project Team	Metro project staff and consultant team members that managed the master planning process.
Project Steering Committee	11-member advisory group made up of representatives from jurisdictions, citizens, trail advocates, and agencies that advised the project team.
Trail Partners	Local jurisdictions responsible for implementing the Master Plan.
Transportation System Plan	Long-range guide to transportation investments in a community. These plans are required by the State of Oregon and Metro and are implemented by cities, private developers, and regional, state and federal agencies.
Urban Growth Boundary	Under Oregon law, each city or metropolitan area in the state has an urban growth boundary that separates urban land from rural land. Metro is responsible for managing the Portland metropolitan region's urban growth boundary.



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Portland, OR 97232

503-797-1700

Appendices

Ice Age Tonquin Trail

Connecting the cities of Wilsonville, Tualatin,
and Sherwood in Oregon



February 2013

Project partners:

Metro, City of Wilsonville, City of Tualatin, City of Sherwood,
Clackamas County, and Washington County

Appendix A: Public Involvement Summary

Project Steering Committee Meeting Agendas and Meeting Minutes

Open Houses

Media Coverage

Metro Webpage

Process to Change the Trail Name

Master Plan Approvals (Content to be included at a future time.)

PROJECT STEERING COMMITTEE AGENDAS AND MEETING MINUTES

TO: Tonquin Trail Master Plan Project Steering Committee Members
and Project Team members

FROM: Jane Hart, Metro Project Manager
Kristin Hull, CH2M HILL Project Manager

SUBJECT: Kick-off meeting and tour

MEETING DATE: Tuesday, July 28, 2009

MEETING TIME: 8:30 a.m.-5 p.m.

VENUE: Tualatin Heritage Center, Tualatin OR (directions on back)

8:30 a.m.	Welcome and introductions <ul style="list-style-type: none"> • Self introductions • Plan for the day • Project goals and desired outcomes 	Jane Hart, Metro
8:50 a.m.	Study Area Overview <ul style="list-style-type: none"> • Study area • Work complete to date 	George Hudson
9:10 a.m.	Project schedule and work plan	Kristin Hull
9:30 a.m.	Project team and committee roles and responsibilities <ul style="list-style-type: none"> • Roles, responsibilities • Decision-making authority • Team communication 	Jane Hart
9:50 a.m.	Existing conditions information request	George Hudson
10 a.m.	Adjourn and next steps <ul style="list-style-type: none"> • 1st PSC meeting: September • Tour logistics 	Kristin Hull

- Breakfast goodies, coffee and tea will be available at kick-off meeting.
- Immediately following the kick-off meeting the group will depart for the tour of the project area.
- Box lunches will be provided during tour. We will return to the Tualatin Heritage Center by 5 p.m.

Tualatin Heritage Center
8700 SW Sweek Drive
Tualatin , OR 97062

Two 12-person vans will be leaving Metro at 7:40 am. to drive people to the kick-off meeting and to transport the group on the tour afterwards. Those same vans will be returning to Metro at the end of the day (approx. 5:30pm).

If you would like to ride in one of the vans to the kick-off meeting, please RSVP to Carrie Belding at 503-797-1545 no later than Monday, July 27 at 3 pm.

If it is more convenient for you to arrange your own transportation to the kick-off meeting, here are the directions:

1. Take Tualatin-Sherwood Road Exit off I-5 (Exit 289)
2. Take T-S Road west (past the Fred Meyers/K-Mart) for a little over 0.5 mile
3. Take a right on Boones Ferry Road - continue north through two traffic lights (BF Road Turns into Tualatin
4. Road past the second light). Continue past Tualatin Community Park and around the road bend. Immediately past the road bend the Tualatin Police Department building will be on your left. Take a left at the light into the parking lot.
5. The Heritage Center and Police Department share a driveway. If the small Heritage Center lot is full it's ok to park in the Police Station lot.

If you get lost call Carl Switzer's cell phone 503-519-3271

Memorandum



To: Jane Hart

CC: Kristin Hull, CH2M HILL, and Leslie Howell

From: Rory Renfro and George Hudson, Alta Planning + Design

Date: July 30, 2009

Re: Tonquin Trail Master Plan – July 28, 2009 Site Tour Summary

INTRODUCTION

This memorandum summarizes issues discussed at the July 28, 2009 Tonquin Trail Master Plan site tour. Attendees included representatives of the Project Steering Committee, the consultant team, and other agencies and organizations. The tour was intended to familiarize participants with previous and current planning efforts that may impact trail alignment, design and development.

The tour included visits at ten pre-determined locations. The summary below does not capture all potential issues associated with each site; rather it discusses potential issues raised by tour participants.

SITE #1: TUALATIN COMMUNITY PARK

- Recently constructed bicycle/pedestrian bridge over Tualatin River
 - Bridge serves as an existing northern segment of the Tonquin Trail
 - Constructed as a result of a multi-agency effort (ODOT, Clean Water Services, and cities of Tualatin and Durham)
 - Connects Tualatin Community Park with Durham City Park, Cook Park, and the Fanno Creek Greenway Trail (the three parks combine to form roughly 250 acres of open space)
 - Is the only river crossing between Oregon 99W and Interstate 5
 - Cost: Approximately \$3 million
 - Width: 16 feet (rail to rail)
- Trail immediately south of the bridge
 - Represents a good example of a trail situated adjacent to an active freight and commuter railroad
 - Concrete surface
 - Will eventually link directly with Boones Ferry Road to the south.
- Connection to the potential Tualatin River Greenway Trail (which would be located on the river's south side within Tualatin's city limits)

SITE #2: BOONES FERRY PARK

- Existing sidewalk and bike lane segments on Boones Ferry Road's west side north of the park
- Park contains several concrete structures dating back to ferry service operated by Alfonso Boone
- Today bicyclists are forced to use the Interstate 5 bridge to cross the Willamette River
- Wilsonville's Bicycle/Pedestrian Plan describes several options for developing a non-motorized Willamette River crossing in this area
 - An independent bicycle/pedestrian bridge gained the most traction among the options evaluated
 - Non-motorized bridge could also be designed to provide emergency vehicle access
 - City of Wilsonville has secured \$1.2 million for preliminary engineering of the bridge
 - Numerous bicycle/pedestrian destinations on the Willamette River's south side including Champoeg Park and rural Marion County roads popular among cyclists
- Two privately-owned riverfront properties exist immediately west of the existing railroad bridge, with a City-owned property located farther west
- Separate planning effort depicts "water trails" on the Willamette and Tualatin rivers

SITE #3: VILLEBOIS AND GRAHAM OAKS NATURAL AREA

- Villebois
 - Villebois Master Plan calls for 2,500 dwelling units and 135 acres of open space
 - Tonquin Trail would pass through all Villebois parks
 - Portions of existing trail segments throughout the community
- Graham Oaks Natural Area
 - Over 200 acres in size
 - Contains 800 year old trees and wetland areas
 - Metro currently working to restore prairie habitat
 - The Tonquin Trail alignment follows an existing utility corridor that meanders along the eastern edge of the natural area, connecting with two schools and an environmental learning center close to Wilsonville Road.

SITE #4: BOECKMAN ROAD

- Recently-constructed trail segment along Boeckman Road's south side
 - Permeable concrete surface
 - Bridge over Coffee Creek includes a wildlife undercrossing
- Pedestrian crossing with overhead signage, warning lights, and in-pavement flashing lights located on Boeckman Road east of the Coffee Creek bridge
- Tonquin Trail would head north along the existing powerline corridor east of Coffee Creek

SITE #5: COFFEE LAKE

- Tonquin Trail would likely follow an existing powerline corridor south of the lake on the railroad's west side
- Railroad issues
 - Recent railroad conversion from single- to double-track places additional constraints on trail development in this general area

- Industrial development north of Coffee Lake creates additional physical constraints
- Sensitive environmental area in the forest north of Coffee Lake
- Topographic issues between Coffee Lake and the railroad
- Potential to utilize powerline corridor on railroad's east side (paralleling Kinsman Road), however this corridor ends at Ridder Road, creating additional trail routing issues

SITE #6: KOLK POND

- Kolk pond partially publicly owned
- Paved trail segments north of the ponds constructed as part of nearby residential development
 - On-street trail segments through residential area will need visual cues to promote system continuity
- Railroad structure recently upgraded in conjunction with Westside Express Service commuter rail project
 - 2004 Tonquin Trail Feasibility Study recommended development of a boardwalk to pass beneath the railroad structure near the pond's southern end

SITE #7: DOWNTOWN SHERWOOD

- Recently-constructed bicycle/pedestrian promenade along Oregon Street would likely serve as a portion of the Tonquin Trail in downtown Sherwood
- Public plaza to be developed south of Sherwood City Hall
- City has developed several “woonerf” streets throughout the downtown area
- Bicyclists continue to ride on sidewalks in the downtown core even with recent streetscape improvements

SITE #8: STELLA OLSON PARK AND CEDAR CREEK GREENWAY TRAIL

- Existing boardwalk segments in Stella Olson Park, with trail segments extending to Roy Rogers Road
- City of Sherwood in process of developing a Cedar Creek Trail Feasibility Study
- Crossing Oregon 99W (west of the park) represents a major challenge

SITE #9: TUALATIN RIVER NATIONAL WILDLIFE REFUGE

- Property acquired in 1997
- Refuge opened in 2006
- Refuge currently includes a one-mile long soft surface walking trail system supplemented by observation points and interpretive sites
 - Seasonal pedestrian trail access provided between May and September
 - Bicycling, jogging, and pets not allowed
 - Tonquin Trail not allowed in refuge

SITE #10: TUALATIN RIVER AND METRO PROPERTY

- Property purchased with funds provided by Metro's 1995 Parks and Open Spaces bond measure

- Connection to the potential Tualatin River Greenway Trail (which would be located on the river's south side within Tualatin's city limits)
- This area would serve as a northern Tonquin Trail terminus; a bridge crossing the Tualatin River would connect trail users with the proposed Westside Trail and the communities of King City and Tigard

OTHER CONVERSATION TOPICS

- Trail segments along ODOT right-of-way (e.g., segments of Boones Ferry Road and Interstate 5) will require coordination with regional maintenance manager Ron Kroop
- Tualatin River National Wildlife Refuge land holdings and restricted areas extend beyond the developed refuge area; these areas also carry restrictions for bicycle/pedestrian paths

TO: Tonquin Trail Master Plan PSC members
FROM: Kristin Hull, CH2M HILL
SUBJECT: PSC meeting #1
MEETING DATE: Wednesday, September 16
MEETING TIME: 2-4 p.m.
VENUE: Room 501, Metro, 600 NE Grand Ave., Portland

- | | | |
|-----------|--|-------------------------|
| 2 p.m. | Welcome and introductions | Jane Hart, Metro |
| | <ul style="list-style-type: none">• Self introductions• Meeting agenda | |
| 2:10 p.m. | Project team and committee roles and responsibilities | Kristin Hull, CH2M HILL |
| | <ul style="list-style-type: none">• Roles, responsibilities• Decision-making authority• Team communication | |
| 2:35 p.m. | Project schedule and work plan | Kristin Hull, CH2M HILL |
| | <ul style="list-style-type: none">• Technical work• Public involvement plan | |
| 2:50 p.m. | Updated existing conditions | George Hudson, Alta |
| 3:55 p.m. | Adjourn and next steps | Kristin Hull, CH2M HILL |
| | <ul style="list-style-type: none">• Actions• Next meeting | |

Tonquin Trail Master Plan PSC Meeting #1

Attendees

Project Steering Committee Members

Hal Ballard, WashCo BTC

Ron Kroop, ODOT

Lori Mastrantonio, Clackamas County

Michelle Miller, City of Sherwood

Chris Neamtzu, City of Wilsonville

Damon Reische, Clean Water Services

Carl Switzer, City of Tualatin

Aisha Willits, Washington County

Project Team Members

Anthony Butzek, Metro

Heather Coston, Metro

Jane Hart, Metro

Leslie Howell, Howell Consulting Inc.

George Hudson, Alta Planning and Design

Kristin Hull, CH2MHill

Fritz Paulus, Metro

Patty Unfred

Meeting agenda

1. Welcome and introductions – Hart
2. Project team and committee roles and responsibilities – Hull
3. Project schedule and work plan – Hull
4. Updated existing conditions – Hudson
5. Adjourn and next steps – Hull

Summary of discussion and actions

Welcome and introductions – Hart

Jane led the group in self introductions and reviewed the meeting agenda. Jane introduced the group's two new members: Hal Ballard from the Washington County BTC and Ron Kroop from ODOT.

Project team and committee roles and responsibilities – Hull

Kristin reviewed the group's charge noting that this a working committee and that the work of committee members (e.g. providing information to the technical team, supporting public involvement and agency adoption) would be critical to the success of the project.

The committee discussed the draft protocols and asked for more than one week to review deliverables. The group agreed to revise the protocols to allow for ten days to review deliverables. The group also discussed the need for time to discuss recommendations with others in their jurisdiction before providing input to the project team. Jane committed to providing information before meetings with adequate time for members to get internal input before meetings. Committee members agreed to flag issues that might need more internal discussion early in the process.

The group approved the updated protocols.

Project schedule and work plan – Hull

Kristin reminded the group that George had reviewed the technical work plan at the kick-off meeting. Kristin asked the group if there were comments on the public involvement plan. The group discussed the key messages and revised the message about the “willing seller” nature of trail property acquisition noting that parts of the trail may be built along with transportation projects or by local jurisdictions and that the willing-seller only rule that applies to properties acquired with bond measure funds may not apply. The group also asked Kristin to revise the message about the trail being constructed in phases.

Jane asked for written comments on the public involvement plan by September 23. Metro staff will present the draft Public Involvement Plan to the Metro Committee for Citizen Involvement for their approval on Oct. 7, 2009.

Updated existing conditions – Hudson

George asked each jurisdiction to review changes in the existing conditions that could affect the development of trail segments or where trail segments may be fatally flawed. George identified three potential fatal flaws:

- Changes in land use that preclude trail development (e.g. new subdivision where a potential trail segment was identified)
- Agency policy (e.g. Tualatin River National Wildlife Refuge prohibits bikes on refuge trails and seasonally closes trails to protect wildlife therefore a regional trail would not be allowed within the refuge boundary)
- Known planned development projects that would impede trail development (e.g. site plan for shopping center is in development where a potential trail segment was identified)

Project Steering Committee members shared updates on the existing conditions in the project area. George noted those changes on maps that will become part of the existing conditions report.

Adjourn and next steps

Kristin thanked the committee for their time and reviewed the meeting’s action items:

- Ron agreed to provide construction plans for ramp widening and new sound walls along I-5 south of the I-205 on ramp to George.
- Jane asked for comments on the PI plan by September 23.
- Heather agreed to provide language for a web site link to all partners when the Metro web site launches.

TO: Project Steering Committee members
FROM: Kristin Hull, CH2M HILL
SUBJECT: Tonquin Trail Master Plan PSC meeting #2
MEETING DATE: 9:30-11:30 a.m. Wednesday, October 21
VENUE: Tualatin Heritage Center, 8700 SW Sweek Drive,
Tualatin, OR 97062

9:30 a.m.	Welcome and introductions	Jane Hart
	<ul style="list-style-type: none">• Self introductions• Meeting agenda	
9:40 a.m.	Evaluation criteria and approach	George Hudson
	<ul style="list-style-type: none">• Approach to evaluation• Proposed goals and criteria	
10:45 a.m.	Public Involvement Activities	Kristin Hull, Patty Unfred
	<ul style="list-style-type: none">• MCCI update• New PSC members• December Open Houses	
11:30 a.m.	Adjourn and next steps	Kristin Hull
	<ul style="list-style-type: none">• Actions• Next meeting	

Coffee and tea will be provided

Tonquin Trail Master Plan PSC Meeting #2

Attendees

Project Steering Committee Members

Hal Ballard, WashCo BTC
Ron Kroop, ODOT
Connie Ledbetter, Tualatin Citizen
Lori Mastrantonio, Clackamas County
Michelle Miller, City of Sherwood
Damon Reische, Clean Water Services
Brian Stecher, Sherwood Citizen
Carl Switzer, City of Tualatin
Aisha Willits, Washington County

Project Team Members

Heather Coston, Metro
Jane Hart, Metro
George Hudson, Alta Planning and Design
Mel Huie, Metro
Kristin Hull, CH2MHill
Fritz Paulus, Metro
Mike Porcellli, Metro intern
Patty Unfred, Metro

Meeting agenda

1. Welcome and introductions – Hart
2. Evaluation criteria and approach – Hudson/Hull
3. Public involvement activities – Hull
4. Adjourn and next steps – Hull

Summary of discussion and actions

Welcome and introductions – Hart

Jane led the group in self introductions and reviewed the meeting agenda. Jane introduced the group's two new members: Mike Stecher (Sherwood citizen rep) and Connie Ledbetter (Tualatin citizen rep). Both are involved with parks activities in their respective cities. Jane reported that the team is still working on identifying a Wilsonville representative.

Jane thanked PSC members for help identifying locations for the December open houses and told the group that there will be open house announcements in the Sherwood Archer and Gazette and Wilsonville's Boones Ferry Messenger in both November and December, and an announcement in the Tualatin city newsletter in December.

Evaluation criteria and approach – Hudson

Kristin introduced the evaluation approach and told the group that the evaluation framework will be used to help the team compare trail segments in specific area that will be combined into a preferred alternative. The group discussed the value of a PSC site visit during the evaluation process to see the trade-offs between segment options. Mel suggested asking BPA for permission to walk the BPA easement during the tour.

Jane also offered to host a site visit for PSC members who have joined since the summer tour.

Ron raised a concern about the ability of the group to make decisions without a numeric rating of each segment. George and Kristin told the group that we can revisit the scoring system but suggested that the group first try the more simple approach and only revert to the numeric system if the group has trouble moving forward. Ron asked if Metro has a tried and true method of evaluating trail alternatives and Jane noted that Metro's accepted method for trail segment analysis uses a plus/minus/neutral ranking approach. Mel noted that a plus/minus/neutral methodology was used during the 2004 Feasibility Study. Hal added that THPRD and Washington Co. Land Use and Transportation Committee both used a numerical ranking method but proposed moving forward with this rating system. The group agreed.

The group discussed if the goals were related to the overall project or the segments. George clarified that the goals were for the overall project, but that the evaluation framework would be used to identify the best segment choices. The group requested that the project team clarify terminology related to segments, segment options, and alignments.

George reviewed the goals and criteria and asked the group to ask questions about anything that does not make sense and to raise any issues that are not reflected in the draft evaluation framework.

Discussion of Goal 1 (safety)

Connie asked about speed limits on the trail. George noted that this set of criteria is not going to be used to guide design, but that those kinds of questions could be examined during project design. George agreed to consider how to minimize trail user conflicts and to determine how to reflect that idea in the evaluation framework.

Carl raised a concern about the language "deters trespassers" as a measure under Goal 1. He suggested moving toward language that would be more positive rather than suggesting a negative impact of the trail.

George added that a safety audit would be conducted for the preferred alignment in association with a law enforcement officer, the results of which will be included in the master plan.

Discussion of Goal 2 (natural and cultural resources)

Damon suggested adding measures that reflect the quality (e.g. function and value) of natural and cultural resources. Michelle asked about how we can reflect the opportunities for enhancement to natural and cultural resources. George agreed to add a criteria or measure to reflect this.

Discussion of Goal 3 (user experience)

Hal raised a concern about the goal statement because it refers to all users regardless of mode, but the entire trail may not be able to meet ADA standards. George explained that the team will work to find a trail that will be ADA accessible for the entire length, but that the trail may be bifurcated in some places to allow for ADA standards in one route but not in another or there may be some areas that are not ADA accessible. The group agreed that this is an appropriate goal even if it cannot be met in its entirety.

Hal also asked about hours of access for trail. Mel explained that any parts of the trail built with federal funding would likely be required to be open 24 hours a day but that trail segments built with local funds might be more flexible.

Carl raised the point that we should value trails that are separate from roadways altogether or at a minimum parallel to slower speed, lower volume roadway in the evaluation framework. George agreed to consider this point and find a way to reflect it.

Connie asked if equestrian users would be accommodated on this trail. Jane responded that equestrians would not be accommodated and agreed to provide more information on the basis for that decision at the next PSC meeting. The group also noted the need to determine how hybrid (pedal/motor) bikes would be treated on the trail.

Discussion of Goal 4 (implementation)

Mel was concerned that “minimal acquisition requirements” de-emphasized the importance of acquisition. Fritz commented that acquisitions should be prioritized, since the funding was limited. . Fritz also suggested recognizing the possibility of trail dedications through planning processes.

Connie suggested rephrasing all measures to be more positive. George agreed to review the entire set of measures and apply this idea where appropriate.

Damon suggested a new measure that ranks a segment on its ability to build towards a total alignment. Carl suggested reflecting the importance of some “vital” connections in the evaluation framework.

Discussion of Goal 5 (connectivity)

Connie suggested a new criterion related to access in all of its facets (opportunities for parking, transit access, etc.). Mel suggested defining active transportation in the criterion since the current definition doesn’t explain what the term really means.. The group also agreed to reword the goal statement.

Discussion of Goal 6 (process)

The group raised the question of whether or not this goal should have measures and criteria.

The group discussed an overall need to make clearer within each goal and criterion that the framework will be used to evaluate segments. The team will determine how to best address this concern..

Public involvement activities update – Hull

Patty reviewed the comments on the PI plan from MCCI. MCCI provided some additional stakeholder groups that should be added to the project contact list. MCCI was supportive of the PI plan and was pleased to have the opportunity provide input before the public involvement process begins. Hal echoed the appreciation of MCCI to have input early on.

Kristin reviewed the open house plan. Patty asked the group to think about any other methods for sharing information about the open house. Carl suggested providing information to the new CPO (Tualatin/Sherwood). Carl also suggested making it very clear that the 2004 map of study segments was an outcome from the previous feasibility study.

Adjourn and next steps

Kristin thanked the committee for their time and reviewed the meeting's action items:

- Jane will send revised evaluation framework by email
- Jane will work on scheduling a tour for those who missed the first tour
- Jane will send an email to committee members and project team to determine attendance at the open houses. This will help in scheduling volunteer assignments at the open houses.

TO: Tonquin Trail Master Plan PSC members
FROM: Kristin Hull, CH2M HILL
SUBJECT: PSC meeting #3
MEETING DATE: 2-4 p.m. Wednesday, Nov. 18
VENUE: Tualatin Heritage Center, 8700 SW Sweek Drive

2 p.m.	Welcome and introductions	Jane Hart
	<ul style="list-style-type: none">• New member introduction• Meeting agenda	
2:05 p.m.	Finalize draft goals/evaluation criteria	Rory Renfro (Alta)
2:15 p.m.	Update on Fatal flaw analysis	Rory Renfro
2:20 p.m.	Review trail segments to share at open houses	Rory Renfro
3:15 p.m.	Open house sneak preview	Kristin Hull/Heather Coston
	<ul style="list-style-type: none">• Power point presentation• Stations/banners/ presentation boards• Questionnaire• Volunteer assignments• Open House outreach update	
3:50 p.m.	Adjourn and next steps	Kristin Hull
	<ul style="list-style-type: none">• November 20 Tour• Follow Up Actions• Next meeting	

Coffee, tea and cookies will be provided.

Open house dates:

6:30-8:30 p.m. Tuesday, Dec. 8
Tualatin Council Chambers
18880 SW Martinazzi Ave., Tualatin

5:30-7:30 p.m. Thursday, Dec. 10
Community Room, Sherwood City Hall
22560 SW Pine St., Sherwood

6-8 p.m. Wednesday, Dec. 9
Council Chambers, Wilsonville City Hall
29799 SW Town Center Loop E, Wilsonville

Tonquin Trail Master Plan PSC Meeting #3

Attendees

Project Steering Committee Members

Aisha Willits, Washington County
Lori Mastrantonio, Clackamas County
Hal Ballard, Washington County BTC
Connie Ledbetter, Tualatin Citizen
Michelle Miller, City of Sherwood
Al Levit, Wilsonville Citizen
Chris Neamtzu, City of Wilsonville
Brian Stecher, Sherwood Citizen
Damon Reische, Clean Water Services

Project Team Members

Heather Coston, Metro
Jane Hart, Metro
Rory Renfro, Alta Planning and Design
Mel Huie, Metro
Kristin Hull, CH2MHill
Fritz Paulus, Metro
Mike Porcellli, Metro intern

Meeting agenda

1. Welcome and introductions – Hart
2. Revised evaluation criteria – Renfro
3. Fatal flaw evaluation status – Renfro
4. Proposed segments to share at open house – Renfro
5. Open house sneak preview – Hull
6. Adjourn and next steps – Hull

Summary of discussion and actions

Welcome and introductions – Hart

Jane welcomed Al Levit to the Project Steering Committee as the citizen representative for Wilsonville. She noted that the committee membership was final now that citizen representatives for Sherwood, Tualatin and Wilsonville were on board. Jane reviewed the agenda and emphasized that the goal of the meeting was to prepare for the upcoming open houses.

Revised evaluation framework – Renfro

Rory reviewed the updated Evaluation Framework memo (Oct. 28, 2009) that was emailed to the committee after the October PSC meeting. Rory noted that we plan to share the project goals in the memo with the public at the open houses. The group agreed to revise the criteria related to acquisitions to be clear that the Metro Natural Areas Acquisition program is a willing sellers only program.

Jane noted that she will report back to the PSC at their next meeting to propose a process to determine if equestrian use should be considered in the master planning process. Brian Stecher noted that equestrian use may be important in Sherwood because he has seen many people riding horses in and around Sherwood.

Fatal flaw evaluation status– Hull

Rory provided an update about the status of the fatal flaw evaluation. He noted that the task is primarily focused on reviewing 2004 study segments for changes that make any of those segments infeasible. The consultant team is contacting key stakeholders including BPA, TriMet and Portland and Western Railroad to explore the likelihood of these property owners allowing trails on or near their properties.

George Hudson contacted TriMet officials about the possibility of using the WES (commuter rail) right-of-way for the trail alignment and TriMet said that they have a long-term vision for an extension of the commuter rail to Salem and are interested in maintaining the right-of-way for that additional capacity. TriMet suggested that George contact Portland and Western, which George will do. Mel suggested interviewing Kelly Taylor, the ODOT rail manager.

Hal asked if any segments have been taken off the table yet and Rory explained they had not. Mel noted that putting the trail through the wetlands on the west side of Tonquin Road might be fatally flawed due to the Refuge's no multi-use trail policy, but suggested inquiring into the possibility of a boardwalk in that area.

Fritz Paulus (Metro trail negotiator) and George Hudson will coordinate on when to bring Metro legal staff in for review of utility easements on the Metro-owned properties.

Proposed trail segments to share at open house – Renfro

Rory explained that the maps are not ready yet, but that Alta will have updated 2004 maps ready for the open houses. Rory agreed to share those segment maps before the open house. Chris asked if the maps would use the 2008 aerial, and Rory agreed that the 2008 aerial was preferable.

Open house sneak preview – Hull

The group discussed the PowerPoint, display boards and questionnaire and suggested specific revisions. Suggestions included:

PowerPoint

- Add a message about the length of the PowerPoint presentation and frequency of “loops” to the station banner and add the slide number (e.g 1 of 12) to each slide. Rory agreed to revise the power point based on comments.

Display Boards

- Add a “you are here” arrow to the process timeline board to give people a reference point.
- Edit and re-order the project goals.
- Revise the regional trail standards board for clarity.

Hal asked if the regional trail standards board should address the hours that the trail will be open and made the case that the trail should be open for 24/7 access. The group agreed that this topic should not be addressed at this meeting, but at a later time. Aisha asked how lighting will be addressed. Kristin and Rory agreed to start a list of trail design issues to keep track of for future task work, including Hal and Aisha’s comments.

- Add ‘citizens’ to the Decision Making board to distinguish between agency staff and citizen representatives on the Project Steering committee.
- Have an aerial photo map of the entire project area at each open house and invite guests to put a dot where they live and a dot on a destination they want trail to serve. This is a way of getting people engaged in the segment map station.
- Chris Neamtzu suggested adding the Regional Trails map as a display board and highlight the Tonquin Trail to show how it fits in to the larger system of trails, and show connection with Champoege Park to south via future French Prairie bridge.

Questionnaire

- Clarify the question that asks participants to indicate how important each goal is and to select the most important goal.
- Refinements to the “tell us about yourself” questions including adding where people work and asking how often people use trails currently.

Other methods to collect comments will be used including sticky notes and flip chart stations.

Kristin asked for final revisions by Friday, November 20.

Kristin told the group that the comment form and open house displays will be posted to the Metro web page from December 7 through December 21.

Heather Coston offered to provide any of the project materials electronically and she handed out posters for PSC members to distribute in their communities.

Chris Neamtzu suggested that we should think about how to engage the open house “hosts” in the meetings. Kristin and Jane agreed to think about how to best accomplish this and Jane will follow up with Chris and Carl Switzer.

Adjourn and next steps

Jane reminded the group that a trail tour for new PSC members and other team members who were not able to attend the July 2009 tour would be happening on November 20. She also noted that the next PSC meeting was tentatively planned for January.

TO: Tonquin Trail Master Plan PSC members
FROM: Kristin Hull, CH2M HILL
SUBJECT: PSC meeting #4
MEETING DATE: 3-5 p.m. Tuesday, March 9
VENUE: Tualatin Heritage Center, 8700 SW Sweek Drive

3 p.m.	Welcome	Jane Hart
	<ul style="list-style-type: none">• Project and PSC updates• Review agenda	
3:10 p.m.	December Open Houses Debrief	Jane Hart / George Hudson
3:20 p.m.	Fatal flaw evaluation	George Hudson / Rory Renfro
3:50 p.m.	Proposed segments for evaluation	George Hudson / Rory Renfro
	<ul style="list-style-type: none">• Proposed segments• Identification of additional segments	
4:40 p.m.	Equestrian use update	Jane Hart
4:50 p.m.	Next steps	Jane Hart
5:00 p.m.	Adjourn	

Tonquin Trail Master Plan PSC Meeting #4

Attendees

Project Steering Committee Members

Aisha Willits, Washington County
 Connie Ledbetter, Tualatin Citizen
 Michelle Miller, City of Wilsonville
 Al Levit, Wilsonville citizen
 Chris Neamtzu, City of Wlsonville
 Carl Switzer, City of Tualatin
 Brian Stecher, Sherwood Citizen
 Ron Kroop, ODOT

Guests

Jeff Owen, Bicycle & Pedestrian Coordinator, City of Wilsonville

Project Team Members

Jane Hart, Metro
 George Hudson, Alta Planning + Design
 Fritz Paulus, Metro
 Mike Porcelli, Metro Intern
 Rory Renfro, Alta Plannin + Design
 Patty Unfred, Metro

Meeting agenda

1. Welcome / Introductions / Updates – Hart
2. December Open Houses Debrief – Hudson/Hart
3. Fatal Flaw Evaluation – Renfro
4. Proposed Segments for Evaluation – Hudson/Renfro
5. Equestrian Use Update - Hart
6. Next Steps and adjourn – Hart

Summary of discussion and actions

Welcome/Introductions/Updates - Hart

Chris Neamtzu introduced Jeff Owens, Wilsonville's new Bicycle and Pedestrian Coordinator to the committee. Jeff was invited to attend future meetings.

Jane reminded the committee that Kristin Hull and George Hudson were sharing the role of meeting facilitator throughout the project and that George would be facilitating the March meeting.

Mel Huie will no longer be an official member of the committee due to other work responsibilities related to the Westside Trail and other projects. However, Mel will continue to receive all communications that the committee receives and will become a technical advisor to the project and be available as needed to weigh in on project issues.

Jane reviewed the agenda and emphasized that the main goal of the meeting was to obtain PSC feedback on trail segment alternatives to be evaluated.

December 2009 Open Houses Debrief – Hudson

George summarized comments received at the three December 2009 Tonquin Trail Master Plan open houses. In addition to site-specific issues (displayed on annotated maps at the PSC meeting), general comments and issues included the following:

- Participants were supportive of the general concept of the trail linking the Willamette and Tualatin Rivers and the cities of Wilsonville, Sherwood and Tualatin.
- Most people knew about trail and knew alignments and came with ideas for alternate routes.
- No one was outright opposed to trail. A few folks raised concerns about the trail's proximity to their businesses under or near BPA powerlines. Some affected property owners suggested alternative trail segment routes. Have received a few follow up letters from these people and Alta and Fritz Paulus are following up with phone calls/site visits when needed.
- Many attendees stressed the importance of a quality trail user experience. The desire for a trail separated from roadway traffic (possibly within a separate right-of-way) was consistently noted as a preferred treatment. Several participants cited Portland's Springwater Corridor Trail as an example.

Patti Unfred noted that the Kids Art from the open houses is up on website and can be used for promotional activities later.

Fatal Flaw Evaluation – Hudson/Renfro

Rory reviewed the criteria below that was developed to determine fatal flaws:

- Development that occurred since 2004 study has eliminated segment option

- Planned development in vicinity of 2004 study segment precludes development of segment
- Agency policy precludes development of a 2004 study segment

Rory mentioned that there were two fatally flawed segments in Wilsonville:

- Segment 1L near the Willamette River that crosses Metro owned property - the segment does not have connectivity to the river and is being dropped from further study at this time.
- Segment 1G runs through an existing rock quarry east of the existing Water Treatment Facility.

Other fatally flawed segments:

- Segment 3F that follows an off-street alignment in the Portland and Western Railroad right-of-way between the Coffee Creek Correctional Facility and Koller Wetlands Park. RR is double tracked now and RR wants to reserve the right to double track and increase capacity in future (commuter rail to Eugene), so leaves no space for a trail in the row. This is a key piece and we hope to find an alternative solution.
- Segment 4I in Sherwood vicinity that starts at SW Oregon St. and travels northwest along on and off- street alignments to the Wildlife Refuge. Existing development in several locations.

The PSC offered the following comments:

- Segment 1B includes the same physical constraints (the segment passes through an existing active rock quarry) that serve as a fatal flaw for nearby Segment 1G. For consistency purposes, Segment 1B should also be classified as fatally flawed.
- Carl Switzer noted that a Federal Wildlife Refuge in the Columbia River Gorge has a gravel path for bicycles and wondering if a similar bicycle path might be allowed in the Tualatin River National Wildlife Refuge (TRNWR).
- George Hudson said that he was told by the management of the TRNWR that there was a policy prohibiting bicycles. But there are foot paths in the refuge. National Wildlife Refuges are mission specific and planned around specific species.
- Connie Ledbetter noted that she met with the deputy director of the TRNWR and he echoed same, no bikes in the refuge.

- It would be nice to have the future Tualatin River greenway trail access the Wildlife Refuge.
- The proposed Cedar Creek trail will end at a trailhead within the Refuge.

Proposed Segments for Evaluation – Hudson/Renfro

George and Rory described the proposed trail segments to be considered for a more-detailed evaluation, with the discussion emphasizing new segments not included in the 2004 Feasibility Study. The new segments were developed based on a variety of inputs including a review of background planning documents from each community, stakeholder interviews, comments received at the December 2009 open houses, site visits, and discussions with PSC members. It was also noted that new trail segments were developed to provide alternatives to fatally flawed segments (described above). The PSC offered the following comments:

- Segment 1E: The City of Wilsonville has a public-access easement through the Morey's Landing Open Space, through which an existing east-west trail passes.
- Grading for a trail has been completed in vicinity of the Wilsonville Water Treatment Plant (north of Segment 1G), providing a good trail segment option.
- Wilsonville bike and pedestrian plan lays out future bike pedestrian improvements and new study segments piggy back on those (e.g., Bailey Street extension and 5th Street extension). These new routes could link directly with the existing trail near the Water Treatment Plant and the Morrey's Landing Trail.
- It was suggested that the trail segment along I-5 be extended south from its current terminus, turn west on SW Norwood Road, then proceed south on SW Boones Ferry Road to the Willamette River. An existing County-maintained roadway (SW 84th Avenue) exists along a portion of this segment.
- Advantages to I-5 segment is I-5 crossing at Norwood is least trafficked crossing of 1-5. Most portions of the I-5 alignment would be off street with minimal easements or property acquisition needed. Looks likely that Tualatin urban renewal will get support and that it will pay for substantial part of the connection of the trail along the river. City owns the north part of the river.
- Connecting west from I-5 along the river is problematic at this time; it is tight and apartment buildings are right on the trail alignment.
- Concern about how to build a trail hugging Nyberg off ramp that would be appealing.
- It was noted that the City of Sherwood may own a property adjacent to SW Tonquin Road's west side, providing potential opportunities to establish a trail link between SW

Tonquin Road and SW Murdock Road. This potential connection could provide greater separation between trail users and motorists on SW Tonquin Road.

- Michelle Miller asked if public viewing areas influenced the decision to add new alternatives to be studied.
- George Hudson said that opportunities for view points will be weighed during the criteria evaluation. It would be nice to have the trail connect to views of the scablands and there are good examples in the study area.
- Brian Stecher asked for an update on communications with the Gun Club.
- Fritz and George met with Gun Club owners and had a productive tour. Deer were grazing on site. Realized that there are two power lines. Westerly one is owned by gun club, easterly power line is not and the trail alignment is on the easterly alignment (3E). Gun Club is concerned that trail users on the easterly power line would still try and trespass. Concern is that trail users will find the berms inviting and go up on them. This will require specific design treatments, split rail fence and signage. Will need to go back to gun club to address their concerns if we want to pursue this segment.
- When the gun club went in for permits, the county said they had to get 10 foot row on Tonquin Road, but nothing was ever built, there might be room for separated trail in this section.
- Need to research if BPA power line in vicinity of gun club is fee owned or not. Not sure if there are any remnant agricultural rights. BPA said they would help us out with the research. BPA was quite supportive of trail going in corridor, but there have planting limitations.
- Powerline (3E) heads up to kolk pond and remnant feature of bretz floods. Continues to Sherwood, primarily horses under this power line in Sherwood. Need to study further to determine physical constraints.
- Rory commented that a consistent comment heard at open houses is that Boones Ferry Rd. isn't a good option, so we looked at alternate routes going through the neighborhood on street.
- If use on-street alignment near kolk pond then would have connection to kolk ponds if other connections don't work out.
- May add portions of Tooze Rd and Baker Rd. to Sherwood given the numerous constraints identified as "Fatal Flaws" on the Segment 3 map.

- Would the TRW Refuge allow trail on west side of Tonquin Rd. on their property? No.

Equestrian Use Update – Hart

Jane updated the PSC regarding the approach to determine if equestrian use will be considered for the Tonquin Trail.

Metro Data Resource Center will use 2000 census to determine how many people have horses that live within 2 miles of a trail segment.

Contact members of the Oregon Equestrian Trails Association residing in project area to determine the type of trail experience they seek, describe type of experience they may expect on Tonquin and see if there is overlap.

Brian Stecher mentioned he has seen residences with horses on Parrott Mtn. and Krueger and that there are some equestrian stables in the area.

Adjourn and Next Steps – Hart

Next steps for the Tonquin Trail Master Plan include the following:

- Project Team to conduct additional property research for selected trail segments where necessary
- City of Sherwood (Michelle Miller) to provide information to the Project Team on potential City-owned property along SW Tonquin Road
- Project Team to refine and evaluate proposed trail study segments
- Project Team to present evaluation findings to the PSC; the next PSC meeting is tentatively scheduled for early May
- Jane Hart to provide update on feedback regarding equestrian research.
- Project Team and PSC to conduct field visit to narrowed-down list of alignments (or preliminary “preferred alignment”)
- Project Team to update project schedule

TO: Tonquin Trail Master Plan PSC members
FROM: Kristin Hull, CH2M HILL
SUBJECT: PSC meeting #5
MEETING DATE: 1-4 p.m. Thursday, July 29, 2010
VENUE: Tualatin Heritage Center, 8700 SW Sweek Drive

1 p.m.	Welcome and project updates	Jane Hart/Kristin Hull
	<ul style="list-style-type: none">• Project and PSC update• Review agenda	
1:10 p.m.	Evaluation and recommendation process	Kristin Hull
1:20 p.m.	Segment evaluation and discussion	George Hudson / Rory Renfro
	<ul style="list-style-type: none">• Segments evaluated and assumed (not evaluated)• Evaluation of segments to connect to Tualatin• Evaluation of segments to connect to Sherwood	
3:40 p.m.	Public involvement and review of evaluation	Heather Coston
3:50 p.m.	Next steps	Jane Hart
4:00	Adjourn	

Metro will provide treats and beverages

Tonquin Trail Master Plan PSC Meeting #5

Attendees

Project Steering Committee Members

Aisha Willits, Washington County
Lori Mastrantonio, Clackamas County
Connie Ledbetter, Tualatin Citizen
Michelle Miller, City of Sherwood
Chris Neamtzu, City of Wilsonville
Brian Stecher, Sherwood Citizen
Ron Kroop, ODOT
Stephen Shane, Washington County
Jeffery Owen, SMART/City of Wilsonville
Carl Switzer, City of Tualatin

Project Team Members

Jane Hart, Metro
George Hudson, Alta Planning and Design
Rory Renfro, Alta Planning and Design
Kristin Hull, CH2MHill
Heather Coston, Metro
Fritz Paulus, Metro

Guests

Paul Hennon, Tualatin Director of Community Services
Aquilla Hurd-Ravich, Senior Planner City of Tualatin
Mike Porcelli, Metro Intern
CH2MHill Intern

Meeting agenda

1. Welcome and introductions – Hart/Hull
2. Evaluation and recommendation process – Hull
3. Segment and evaluation discussion – Renfro/Hudson
4. Public involvement and review of evaluation – Coston
5. Adjourn and next steps – Hull

Summary of discussion and actions

Welcome and introductions – Hart

Jane welcomed the group and introduced Stephen Shane who will be replacing Aisha as Washington County's representative.

Jane reported to the group that she had followed up on a question raised earlier about whether or not the Tonquin Trail would accommodate equestrian users. She said that she talked to a board member for the Oregon Equestrian Trails and that he believed that most of the Tonquin Trail would not be appropriate for equestrian use, as riders are really looking for at least a 2 mile continuous section of soft surface trail. He thought a more productive dialogue with Metro would be to discuss equestrian use on the recently purchased 1,000 acre Chehalem Ridge natural area. Jane suggested that equestrian use be dropped from further discussion and there was no opposition from the PSC.

Evaluation and recommendation process – Hull

Kristin told the group that the purpose of today's meeting was to review the evaluation of the trail segments, answer questions about the evaluation process and begin to discuss which segments perform best. She encouraged the group to stay focused on the broad evaluation of each alternative and not to focus too much on individual ratings.

Segment evaluation and discussion – Renfro / Hudson

Rory reviewed the way the segments were developed, how the list of segments was reduced from the larger set shared with the PSC at the last meeting, and the evaluation of each segment.

Rory reminded the group that the project team initially developed segments by reviewing the 2004 feasibility study, reviewing other trail plans and talking with PSC members. The team then removed those segments that were judged to be fatally flawed. He explained that the fatal flaw analysis was informed by property ownership research and stakeholder interviews as well as PSC input and a review of background documents and data.

Rory told the group that the segment evaluation to be presented today would focus on the trail's main spine – not the spurs that might connect to important community or natural features because these connections will be addressed once the main spine is identified. A few trail segments that are already built, under construction or acquired and planned by a local jurisdiction (Cedar Creek) were not put through the evaluation matrix, since they were farther along in their development and were considered “givens”. These “given” segments will need further evaluation to determine design, and in some cases their location within a corridor (Cedar Creek).

Rory explained that the team then combined the study segments into 12 super segments. The alignment from Wilsonville to Coffee Lake was assumed as a “given” segment and not put through the evaluation matrix. This was because the Wilsonville segment is largely constructed, or planned and funded. The team evaluated five segments from Coffee Lake to Sherwood and four segments for Coffee Lake to Tualatin. The team also assumed the trail route on Oregon Street and Cipole Road would be part of the Tonquin Trail, since it is the only feasible alignment in that area to connect with the Tualatin River and Westside Trail.

Rory told the group that the team applied about 30 quantitative and qualitative evaluation measures to the remaining alignment choices - ranking each alignment as high, medium or low for how well it performed on each measure. Rory also explained why some criteria and measures were not applicable at this level of analysis, and would be better to address

once a preferred alignment is identified. The group discussed the evaluation of each alignment. The group's comments are captured here.

The group had a brief discussion about the possibility of integrating the trail with a project to extend 124th Avenue. Jane explained that the team is tracking that issue and is planning to meet with Washington County transportation staff to learn more before the next PSC meeting.

Michelle asked the team if there was documentation as to why segments that were still on the table at the March PSC meeting are not on the table now, such as the BPA powerline corridor. She suggested that a table be prepared that provides that documentation.

Jane said that the rationale for why segments were judged to be fatally flawed (like the BPA powerline) is captured in the individual stakeholder interview notes prepared by the consultant and Fritz Paulus, and are part of the project records. A table will be prepared for the final report that summarizes the highlights of the stakeholder notes. We can also discuss this further at the next PSC meeting.

Carl observed that some shorter segments of a mega-segment can bring the overall score for the mega-segment down.

Jane reminded the PSC that the high, medium, low ratings were used to characterize the alignments so that they could be compared against each other, and should not be interpreted as a 'score'.

The group also discussed which user group the trail is being designed to serve. They agreed that regional trails should serve both recreational users and commuters through good design choices.

Segment A (Wilsonville, given)

A member asked if the Kinsman Road extension project would conflict with this plan. Chris said that it would not conflict and that there is not currently funding to construct that project.

Wilsonville to Sherwood Segments

Segment B

- Too much on-street alignment
- Major grade changes – too steep
- Bypasses refuge
- Only route that connects to Snyder Park

Segment C

- More off-street alignment
- Does not connect to Snyder Park – could this be accomplished with a “spur” connection?
- Could a connection be made through the Snyder “beak” property?

Segment D

- Oregon Street segments could be funded with development

- Passes through industrial areas which could create conflicts
- Less on-street
- Would cross fewer driveways and access points
- Provides a direct route to the Oregon Street/Cipole Road segment (H)

Segment E

- Is more out-of-direction or circuitous
- Expensive (requires relocation of parts of Grahams Ferry Road)
- Trail should avoid Grahams Ferry Road

Segment F

- Trail should avoid Grahams Ferry Road

Summary of Wilsonville-to-Sherwood Segments

The group generally agreed that they preferred routes that did not run along Grahams Ferry Road. They also thought it was important to connect to the Tualatin National Wildlife Refuge.

Wilsonville to Tualatin Segments

Segment I

- Neighbors are likely to be concerned about trail running through residential area in Tualatin
- Trail segment is either adjacent to residential or industrial uses
- Serves towncenter
- Better crossing of Tualatin-Sherwood Road than segment K.
- Can segments K and I be combined in to a hybrid segment?

Segment J

- Trail segment is either adjacent to residential or industrial uses
- Fewer roadway crossings is a benefit
- Many of the same problems as segment I

Segment K

- Uses Grahams Ferry Road which is busy and steep
- Connects built trail segments
- Route on Boones Ferry Road is fatally flawed
- Serves destinations in town center

Segment L

- Connects to Nyberg Creek Wetland
- Too near I-5
- Route along I-5 is in Tualatin's bike master plan

- Possible to connect to the east side of Tualatin under I-5
- Parallel to neighborhoods – can make connections to neighborhoods without running through them
- Provides connection to greenway at Tualatin River

Summary of Wilsonville-to-Tualatin Segments

The group generally had concerns about using Boones Ferry Road. Tualatin representatives were concerned about routes that constructed a trail through residential neighborhoods.

Public involvement and review of evaluation – Coston

Heather reviewed the public event schedule and explained that all materials would also be on the web site. The group asked that the team not prepare a summary matrix, but instead present a summary of the key attributes of each segment. Ron suggested that the team frame the trade-offs in terms of community values rather than technical issues.

Adjourn and next steps

Jane told the group that their next meeting would be in mid-fall and that the PSC would begin to discuss the preferred alternative.

TO: Tonquin Trail Master Plan PSC members
FROM: Kristin Hull, CH2M HILL
SUBJECT: PSC meeting #6
MEETING DATE: 1:30-3:30 p.m. Thursday, October 14, 2010
VENUE: Tualatin Heritage Center, 8700 SW Sweek Drive

Meeting purpose:

- Select preferred segments to Tualatin and to Sherwood and an overall preliminary preferred alignment for the Tonquin Trail

1:30 p.m.	Welcome and project updates	Jane Hart/Kristin Hull
	<ul style="list-style-type: none">• Project and PSC update• Review agenda• Process for confirming a preferred alignment	
1:40 p.m.	Work since last meeting and public input	Kristin Hull/Jane Hart
1:50 p.m.	Routes proposed for elimination	George Hudson
2:10 p.m.	Hybrid evaluation and discussion	George Hudson
	<ul style="list-style-type: none">• Routes to Sherwood/Westside Trail• Routes to Tualatin Community Park• Confirm preliminary preferred alignment	
3:20 p.m.	Alignment refinement	George Hudson
3:25 p.m.	Next steps	Jane Hart
3:30 p.m.	Adjourn	

Metro will provide treats and beverages

Tonquin Trail Master Plan PSC Meeting #6

Attendees

Project Steering Committee Members

Connie Ledbetter, Tualatin Citizen
Damon Reische, Clean Water Services
Chris Neamtzu, City of Wilsonville
Carl Switzer, City of Tualatin
Lori Mastrantonio, Clackamas County
Hal Ballard, Washington County BTC
Stephen Shane, Washington County
Brian Stetcher, Sherwood Citizen
Michelle Miller, City of Sherwood

Guest

Jeff Owen, City of Wilsonville

Project Team Members

Jane Hart, Metro
George Hudson, Alta Planning and Design
Rory Renfro, Alta Planning and Design
Kristin Hull, CH2MHill
Heather Coston, Metro
Fritz Paulus, Metro
Leslie Howell, Howell Consulting

Agenda

1. Welcome/Project Updates – Hart
2. Work since last meeting – Hull/Hart
3. Proposed routes for evaluation – Hudson
4. Hybrid evaluation and discussion – Hudson
5. Alignment refinement – Hudson
6. Next steps – Hart

Welcome and project update

Jane welcomed the group. She reminded them that, even with recent local government contributions (approx. \$20,000), the project is still approximately \$19,000 short of meeting the contracted budget needed to complete the project work. This is because the project started off with a budget shortfall of approximately \$40,000 (MTIP and cash match totaled \$209,000; project budget approx. \$249,000). Jane said that once a preferred alignment had been selected, the next task for the project steering committee would be to determine priorities for the remaining project work, including having PSC members take on some of the project work.

Jane also walked through the process for selecting a preferred alignment (graphic attached). She reminded the committee that their role was advisory and that their recommendation for a preferred alignment will need to be confirmed by individual jurisdictions before we move forward.

Work since last meeting and public input

Kristin explained that the project team had held three hybrid development workshops in September that resulted in both identifying new hybrid alignments and eliminating others from further consideration. She told the group that this would be the focus of today's meeting.

Jane reviewed the input from the summer public events. She noted that, while staff talked to hundreds of people, only 29 comment forms were completed. Overall, people were interested in and supportive of the Tonquin Trail. Those who did provide written input were very specific and expressed a desire for an off-street trail and wanted the trail to be close to homes, but not on neighborhood streets. Stephen asked if we were planning to go out to the public with the refined alignments. Jane explained that the scope of work identifies the final round of public involvement activities to focus on the trail design, once a preferred alignment has been blessed by the elected boards of partner jurisdictions.

Hal asked if the public commented on 24 hour a day access on trails. Hal noted that there have been problems with this issue for commuters because of rules that specify sunup to sundown use of parks. Jane noted that this trail would be operated by local governments and this would be determined with local jurisdictions during design.

Routes proposed for elimination

George reviewed the routes proposed for elimination based on further property owner research and local jurisdiction input. The team proposed to eliminate the following routes:

- Route B: The on-street segments on Baker and Morgan roads should not be advanced because they would not provide an adequate user experience.

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- Route C: The segment on the “Beak” property (owned by Snyders) should not be advanced because the Snyder family will not accommodate a trail on their property.
 - Route E: The segment on the “Beak” property (owned by Snyders) should not be advanced because the Snyder family will not accommodate a trail on their property.
 - Route F: The Graham’s Ferry Road portion (the difference between D and F) should not be advanced because the right-of-way is too narrow to provide an adequate user experience.
 - Route K: Boones Ferry Road as a regional trail should not be advanced because the on-street portions would not provide an adequate user experience.
 - Route J: The Graham’s Ferry Road portion (the difference between J and I) should not be advanced because the right-of-way is too narrow to provide an adequate user experience.
 - Route L: This alignment should not advance because it would require using property owned by the Nyberg family to reach Tualatin Community Park and the Nyberg family indicated their opposition to the trail.

Kristin asked the group if they supported removing these routes from further consideration. Chris asked if there were plans to improve Tonquin Road. George responded that there were not plans for major changes to Tonquin Road. The group indicated general support for removing these routes.

Hybrid evaluation and discussion

George reviewed the four new alignments. He began with routes to Sherwood:

- Route M: Advance route D as defined in the first round of alternatives analysis with the following modifications:
 - Eliminate segment along Tonquin Road.
 - Replace with a new segment that follows a new SW 124th Avenue to the BPA powerline corridor and connects to an alignment parallel to a new roadway in the Tonquin employment area. The route would then connect to Oregon Street and follow the original “D” to downtown Sherwood.
- Route N: Advance route D as defined in the first round of alternatives analysis with the following modifications:
 - Eliminate segment along Tonquin Road.
 - Replace with a new segment that follows a new SW 124th Avenue to the north side of Tualatin Sherwood Road and connects to Cipole Road and continues to Oregon Street to connect to downtown Sherwood. The alignment west of 124th Avenue would be completely separated from the roadway.

Michelle noted that with route M, the trail could still connect to the Westside Trail with a small segment on Oregon Street.

The group reminded the project team that the Blake Street pedestrian and bike connection was a concept at this point.

In response to a question, Fritz explained that BPA has been favorable toward a trail, but that BPA can't agree formally until they are presented with drawings. He said that the only opposition was from the gun club, but that the gun club does not own rights to the property under the powerline.

Carl asked why the BPA powerline corridor north of Tualatin-Sherwood Road was eliminated. George noted the corridor was developed in that area and the corridor would require an infeasible rail crossing.

Kristin asked the group provide their feedback.

- Michelle noted that Route M would serve Sherwood residents best because it is the most direct route to the City and provides a connection to the Westside Trail.
- Brian said that from a recreational perspective he prefers M because it is off-street on the BPA corridor.
- Hal clarified that Tualatin-Sherwood Road is a difficult place for cyclists. Hal prefers M with the additional connection to Cipole Road via Oregon Street.
- Stephen prefers M. Option N has more street crossings and option M has fewer resource impacts.
- Lori prefers M because the BPA portion is off-street.
- Carl noted that if the Blake Street connection is made, N makes more sense because it connects more directly to the Westside Trail. He also noted that M maybe more enjoyable even though it is out of direction.
- Chris said that the 124th alignment is planned, but there is no way of knowing if it will actually be built. Also, the user experience would not be as enjoyable as some of the alternatives to 124th, since 124th is planned as a 5 lane arteria in an industrial setting. Chris expressed concern that the team eliminated Baker/Morgan without looking at acquiring right-of-way along those roadways.
- Jeff said that the powerline corridor is slightly better than the 124th Avenue alignment.
- Damon prefers M to N because it would be a more enjoyable route. M would have fewer impacts to environmental resources.
- Connie prefers M.
- Stephen noted that 124th is a planned route and that a full build-out of the route may be far in the future.

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- Jane noted that Washington County had retained consultants to prepare 30% design of 124th extension project, and that work is moving forward.
 - Brian asked if an off-street trail could be constructed along Morgan and Baker roads. George responded that there is not adequate right-of-way on Morgan and Baker roads for an off-street trail.
 - Chris stated that Wilsonville should have been included in the Sept. workshops that occurred since the July PSC meeting.
 - The group agreed that they prefer M compared to N, but would like more information before the Morgan Road/Baker Road segment is set aside.
 - The project team agreed to evaluate the Morgan Road/Baker Road segment again for fatal flaws before determining if the route should be eliminated.

George reviewed the routes to Tualatin:

- Route O: Advance route I as defined in the first round of alternatives analysis with the following modifications:
 - Replace segment on 105th Avenue/108th Avenue/112th Avenue with a route that uses the Southwest Concept Plan trail alignment near west of the railroad tracks.
 - Connect to 105th/Avery segments via Blake Street connection.
- Route P: Advance route I as defined in the first round of alternatives analysis with the following modifications:
 - Replace segment on 105th Avenue/108th Avenue/112th Avenue with a route that uses the Southwest Concept Plan trail alignment near west of the railroad tracks.
 - Connect north through private property and the Hedges Creek Marsh to the Tualatin Community Park.

Kristin asked all committee members to share their viewpoints.

- Damon noted that permitting for Route P would be very difficult and mitigation would be costly.
- Carl noted that P might be more difficult, but it might be a superior route. Route O would be on a narrow road with industrial on one side and residential on the other.
- Chris prefers P.
- Jeff prefers P but defers to Tualatin.
- Damon appreciates interest in being along Hedges Creek Marsh but would like to avoid the section between Pascuzzi Pond and Hedges Creek Marsh. Damon prefers O as currently defined. P could be acceptable with modifications in the most constrained resource areas.
- Connie said P would be expensive but that Hedges Creek Marsh would be a nice experience.

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- Michelle said that she would defer to the City of Tualatin.
 - Brian prefers P strongly.
 - Hal prefers P strongly and that there are mitigation and restoration opportunities to advance it.
 - Stephen likes P but shares Damon's concern about the constrained area between Pascuzzi Pond and Hedges Creek Marsh.
 - Lori echoed Stephen's comments.

The group agreed to advance Route P but to try to refine Route P to avoid the most constrained area of the wetlands. Damon, Stephen, Connie and Carl want to be involved in this discussion. If a satisfactory option for avoiding the constrained natural resource area cannot be identified, the group may consider Route O.

Next steps

Kristin reiterated the following next steps:

- Set aside Route N.
- Reconsider routes on Baker/Morgan for possible off-street alignments and compare to route M.
- Consider design modifications to Route P to avoid most constrained natural resource area.

TO: Tonquin Trail Master Plan PSC members
FROM: Kristin Hull, CH2M HILL
SUBJECT: PSC meeting #7
MEETING DATE: 1:30-3:30 p.m. Tuesday, September 20, 2011
VENUE: Tualatin Heritage Center, 8700 SW Sweek Drive
(extra parking behind Police Station)

Meeting purpose:

- Reach agreement on preferred alignment recommendation and understand each jurisdiction's process to get endorsement of the preferred alignment.

1:30 p.m.	Welcome and project updates	Jane Hart/Kristin Hull
	<ul style="list-style-type: none">• Project and PSC update• Review agenda and meeting purpose	
1:45 p.m.	Recap process	Jane Hart/Carl Switzer
	<ul style="list-style-type: none">• Recent meeting with PSC members• Tualatin alignment refinement process	
2:10 p.m.	Preferred alignment	George Hudson/Kristin Hull
	<ul style="list-style-type: none">• Google Earth tour of alignment• Recommendation discussion	
3:00 p.m.	Alignment endorsement process	Jurisdiction representatives
	<ul style="list-style-type: none">• What do you need to do to get to endorsement?	
3:20 p.m.	Next steps for the master planning process	Kristin Hull/George Hudson / Heather Coston
	<ul style="list-style-type: none">• Schedule• Public outreach	
3:25 p.m.	Funding Request for Cedar Creek segment	Michelle Miller
3:30 p.m.	Adjourn	

Metro will provide treats and beverages

Tonquin Trail Master Plan PSC Meeting #7

Attendees

Project Steering Committee Members

Connie Ledbetter, Tualatin Citizen
Damon Reische, Clean Water Services
Chris Neamtzu, City of Wilsonville
Carl Switzer, City of Tualatin
Lori Mastrantonio, Clackamas County
Hal Ballard, Washington County BTC
Stephen Shane, Washington County
Heather Coston, Metro
Brian Stetcher, Sherwood Citizen
Michelle Miller, City of Sherwood
Jeff Owen, City of Wilsonville
Al Levitt, Wilsonville Citizen

Project Team Members

Jane Hart, Metro
George Hudson, Alta Planning and Design
Kristin Hull, CH2MHILL
Heather Coston, Metro

Agenda

1. Welcome and project update – Hull/Hart
2. Recap process – Hart/Switzer
3. Preferred alignment – Hudson
4. Endorsement process – All
5. Next steps for process – Hull
6. Close and next meeting – Hull

1. Welcome and updates

Kristin welcomed the group and reviewed the agenda. She told the group that the purpose of the meeting was to recommend a preferred alignment for the Tonquin Trail. Jane told the group that Ron Kroop is no longer with ODOT, so he will not be serving on the committee and that ODOT will not participate in the PSC going forward. Instead, ODOT will participate in design discussions as it

relates to the trail crossing highway 99. Jane also acknowledged the jurisdictions for their generous contributions to help with the funding shortfall for the master planning work. Finally, Jane told the group that she met with Damon and Carrie Pak at Clean Water Services and they decided that his role would be more suitable as a technical advisor versus weighing in on an alignment since Clean Water Services will be asked to issue permits for the project.

2. Recap process

Jane said that she had met with all committee members to talk about the process in the last week, so she didn't need to recap the process since everyone is up to speed. Carl told the other PSC members that Tualatin has been working with property owners immediately west of 115th Avenue to see if they are willing to consider a trail on the western edge of their properties. This would be an alternative to an on-street segment on 115th Avenue.

3. Review alignment

Kristin introduced George and said that he would walk through the alignment that the jurisdictional staff agreed on in their workshop in December 2010 and then she would ask the full committee if they were ready to recommend this alignment. George reviewed the alignment using Google Earth to illustrate each segment. At the conclusion of the presentation, the PSC unanimously endorsed this alignment.

4. Endorsement process

Kristin then asked jurisdictional representatives to describe the process that they need to go through to get endorsement on the preferred alignment from their elected officials. Wilsonville plans to brief their planning commission and city council in October on the recommended alignment but would not ask for official action until the master plan is complete. Tualatin similarly plans to brief TPARK, TPAC and the city council in October. Carl mentioned that the Tualatin City Council will expect one more round of public involvement before they are asked to adopt the master plan. Washington County has a work session with their board of commissioners scheduled for November. Sherwood will brief their city council in October. Michelle said that the Sherwood City Council is up to speed on the Cedar Creek portion of the alignment. Lori said that she will schedule a briefing for the Clackamas County Commission. She noted that Clackamas County does not have a clear place for trails to live in their organization, particularly because this trail is outside of the North Clackamas Parks and Recreation District. Chris said that all of the jurisdictions are currently working on transportation system plans (TSPs) and that it is likely that formal adoption of the trail will happen through the TSP process.

The group discussed materials that they would like to have for briefings. They requested the following:

- A map of the recommended alignment that includes jurisdictional boundaries.
- A map that shows existing bike routes, trails and constructed portions of the Tonquin Trail.

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- Materials that show the regional significance and benefits of the Tonquin Trail.
 - Information about what is left to do after the preferred alignment is endorsed.

Stephen suggested being prepared to respond to questions about whether the trail would accommodate equestrian use. Connie asked how the preferred alignment met the PSC's goals and criteria. George said that this evaluation was not an exact science, but that the recommended alignment represents the best balance between different goals and criteria. Jane noted that this alignment did a good job of meeting most goals, but did not avoid natural areas as well as other options. Chris raised a concern about the lack of property owner contact in Wilsonville. Kristin suggested that he and Jane talk after the meeting about any needed property owner contacts in Wilsonville.

5. Next steps

Kristin reviewed the schedule and told the group that the team expected to complete the master plan in April 2012. She reviewed a graphic that showed next steps including developing agreements about who would operate, construct and maintain segments of the trail and that generalized project designs would be developed during this process.

Hal noted that operations was an important topic because many local jurisdictions do not allow access after sunset to their parks and trails and that 24 hour access is important to many cyclists. The group also discussed the need for consistent signage and branding for the trail. Kristin told the group that Metro may convene some meetings of jurisdictional staff to work on issues related to trail maintenance, construction, operations and funding between PSC meetings.

Connie suggested that the trail include GPS wayfinding. She also highlighted that local businesses or residents might be willing to donate building supplies and sponsor maintenance of the trail.

Michelle told the group that Washington County had submitted a grant application to Metro for \$5.1 million in regional flexible funds to construct the Tonquin Trail from Oregon Street to Roy Rogers Road in Sherwood. Metro has not approved the funding requests yet, but the city is hopeful that they will receive this grant.

The group briefly discussed the Metro led Southwest Corridor Plan process. Jane said that she is coordinating with Metro staff to be sure the Tonquin Trail is considered in the project. Michelle is on one of Metro's planning committees for the project.

6. Close and next meeting

Jane told the group that their next meeting would likely happen in November. She also said that she would be in touch with jurisdictional committee members regarding the tasks and schedule for aspects of the scope that they will be assisting in to complete the master plan. These include but not limited to operations and maintenance recommendations and a funding strategy.

Tonquin Trail: Jurisdictions workshop

TO: Julia Hajduk, City of Sherwood
Michelle Miller, City of Sherwood
Lori Mastrantonio, Clackamas County
Carl Switzer, City of Tualatin
Stephen Shane, Washington County
Russ Knoeble, Washington County
Jeffery Owen, City of Wilsonville
Chris Neamtzu, City of Wilsonville
Community Development Office, City of Wilsonville
Ron Kroop, ODOT
Mary Anne Cassin, Metro Sustainability Center

FROM: Jane Hart, George Hudson and Kristin Hull

MEETING DATE: December 14, 2010

MEETING TIME: 1-5pm

VENUE: Metro, 600 NE Grand Ave, Room 270 (on-street or paid parking in attached structure (guest parking is no longer validated)).

Meeting purpose:

- Reach consensus on trail purpose and goal
- Review feasible segments and understand each jurisdiction's preferences
- Move toward consensus on preliminary alignment recommendation
- Brainstorm strategy for local approvals of preferred alignment

Agenda:

1. Welcome - Hart
2. Review agenda - Hull
3. Prioritize evaluation criteria and trail purpose - Hull/ All
4. Review and discuss segments - Hudson/ All
 - Routes to Tualatin
 - Routes to Sherwood
5. Preliminary alignment recommendation - All
 - Which alignment meets our goals best?
6. Brainstorm strategy/identify follow-up actions needed to receive local approval of preferred alignment
7. Presentation to PSC - All
 - Jurisdiction members' help in presenting outcomes to PSC
8. Next steps and adjourn - Hull

Holiday treats and beverages provided by Metro

December 14, 2010 Tonquin Trail Jurisdictions Workshop – Meeting Notes

Meeting Participants

Project Steering Committee Members

Lori Mastrantonio, Clackamas County
Michelle Miller, City of Sherwood
Chris Neamtzu, City of Wilsonville
Carl Switzer, City of Tualatin
Stephan Shane, Washington County
Ron Kroop, ODOT

Invited Guests

Mary Anne Cassin, Metro
Julia Hadjuk, City of Sherwood
Russell Knoebel, Washington County
Stephan Lashbrook, City of Wilsonville
Jeff Owen, City of Wilsonville

Project Team Members

Jane Hart, Metro
George Hudson, Alta Planning + Design
Kristin Hull, CH2MHill
Rory Renfro, Alta Planning + Design

Exercise to Prioritize Evaluation Criteria

Using dot voting, participants indicated which criteria were most important in the selection of a trail route. The criteria receiving the majority of the dots in descending order are listed below:

Goal 3: Develop a trail that is convenient, pleasant and accessible to a range of users regardless of ability or mode.

The following two criteria were added together since they go hand in hand:

Segment provides a positive user experience with respect to views, scenic quality, wildlife viewing, noise and grades (7 dots)

Segment provides opportunities for interpretive and environmental education and access to unique natural features. (2 dots)

Goal 5: Develop a trail that encourages and enhances bicycle and pedestrian connectivity throughout the region:

The following two criteria were added together since they both address connectivity:

Segment provides linkages to other trails, parks and natural areas (3dots)

Segment provides seamless connections linkages between residential areas, schools, employment areas, shopping, transit facilities, and other designated bikeways and walkways (e.g. trails, bike lanes, bicycle boulevards, etc.) (3 dots)

Goal 1: Develop a trail that addresses crime prevention through design to provide safety for trail users and security for adjacent property owners.

Provide a safe experience for trail users. (4 dots)

Goal 4

Develop a trail that can be implemented

Segment can be developed with a reasonable cost and minimize expensive elements. (3 dots)

Priority Criteria

- Positive user experience; access to interpretive and education opportunities
- Linkages to other trails, parks, open spaces, urban destinations, etc, (seamless connections)
- Safety
- Reasonable cost

Group comments on criteria:

- Summer public involvement results showed that safety is important for families using the trail.
- Washington County is very concerned about mid-block crossings, and the sense of false security that bicyclists and pedestrians have at them; accidents still happen.
- Having the trail follow existing trail plans (board or council approved plans) helps maximize the investment already made by jurisdictions.
- Most trails are funded by state or federal grants which reduces the burden on jurisdictions to come up with the funding to design/build the trail. Wouldn't that fact affect how cost criterion is applied?
- We can probably assume that any of the involved jurisdictions will be fiscally responsible in designing their section of trail. It doesn't have to be a Cadillac and it should be better than the 'bottom of the line' model.
- The least expensive trail may not be the right one; we should look for the right solution.
- Assuming that most of the trail will be funded by grants, most grants need match and most local jurisdictions don't have a lot of cash match on hand and trails might not be as popular a funding item as other needs.

Jurisdictions were asked to describe concerns/fears they have about potential undesirable outcomes for the future trail alignment

- Too many on-street segments; next to too many busy streets.
- Trail is not easily accessible and does not offer a good user experience; isolated.
- Choosing segments that may take up to 20 years to implement; timeliness of implementation.

- Too many compromises (e.g., trail only following the "path of least resistance"). The trail will end up being located in the place of least resistance (to avoid physical and political constraints), instead of the best place for the trail.

Tualatin Alignments

George Hudson reviewed the Tualatin route options still on the table (using presentation maps and google earth).

Carl Switzer was invited to present his comments on the alignment options in Tualatin; they are summarized below:

- SW Concept Plan segment: Uncertainty as to when Tigard Sand & Gravel would be willing to sell their land; may have 20 more years of operational capacity.
- Blake Street extension might be politically sensitive.
- Willow Street and Ibach Park segment may be a tough sell to the neighborhood.
- Boones Ferry future widening would likely use available ROW and preclude new path.
- Political sensitivity to upgrading Indian Meadows Greenway' neighbors may oppose.
- 115th Avenue (segment P) very removed from "the population".
- Tualatin City Council may be more receptive to an I-5 to Avery Street route than an I-5 to Blake Street route since Avery is a collector, and Blake isn't.
- School District may be resistant to the use of their sidewalk on 95th.
- Hedges Creek Marsh: the north side option (east of 90th Avenue) may be more desirable.
- Tualatin City Council and staff were more receptive toward the I-5 alignment option.

Other comments from group:

- A \$2 million upgrade is proposed for Boones Ferry Road between Day Road and Norwood, and could accommodate trail; no timeline for those improvements.
- The section of I-5 between Day Road and Norwood Road is not likely to expand and ODOT typically only constructs soundwalls when capacity is added, so the stretch of trail in the forested section of ODOT ROW that parallels highway won't have advantage of being protected by a soundwall.
- An expansion of Grahams Ferry Road to three lanes is in the financially constrained RTP which means it could be very challenging to accommodate a trail in the right-of-way.
- The Tonquin Trail experience will be a very enjoyable user experience and highlight Tonquin geologic features between Wilsonville and Tonquin Road and along east side of Tonquin Road, and Cedar Creek, but concerned that that experience is not available on I-5, as it is along some of the more western alignment options through Tualatin.
- The I-5 alignment doesn't seem to match up with the criteria seen as most important
- Concerns about the user experience along I-5 alignment.
- ODOT staff expressed concern for user safety along the stretch of I-5 between Norwood Road and Blake Road where the trail would be sandwiched between the soundwall and fences that back up to the trail, creating a sense of being trapped; no way out. There are fiber optic cables across the highway that could perhaps be tapped in to for security cameras in that section.
- If people don't feel safe on the trail then they won't use it, even if it is built.

- It would be good if the trail could connect to Browns Ferry Park on east side of I-5 eventually.

Carl Switzer asked Metro and the Consultant team to provide their input on the Tualatin options

George Hudson stated that we need to think of this trail in the larger context of the region and what it means to be the “Tonquin Trail”. This trail is about the Ice Age Floods. The remnants of that today are water, rock, and landform. As we look at alignments, we should be capturing as many of those features as we can. We talk about multiple goals of the project and the matrix of evaluation criteria, and maybe that has gotten us away from the overarching purpose of this project – which is to bring the trail users in close proximity to the unique resource areas that speak to the Tonquin Geologic area and the Bretz Flood events.

When we look at the alignment in Wilsonville, it is not a commuter route, it meanders to capture the geologic features that remain. As the trail heads northward from the Willamette River, it travels through the Graham Oak Nature Park, by the wetlands along Boeckman Road, and continues north by the Metro owned Coffee Lake Creek area.

As the trail head towards Sherwood, we want users to experience the basalt cliffs along Tonquin Road with overlooks of the Tualatin Wildlife Refuge lands. And once in Sherwood, the prominent unique feature will be Cedar Creek. All of these features are important because they get at what this trail should be weaving together.

Tualatin is challenging because it is more built out. But the key feature and perhaps the best Tonquin Geologic features in the entire study area is the Kolk Ponds and the Indian Meadows Greenway. The best choice would be to capture that with a trail alignment. I-5 is an option, but the landscape there are remnant pieces within the highway right-of-way. The I-5 alignment does not speak to the Tonquin Geologic area and at best, it becomes a pass through space. If we don’t push the envelope on the Kolk Pond option, and see what the Tualatin citizens think, we will never know if this option is viable, and the project could be compromised in Tualatin. I-5 could work, but it is not ideal. If I-5 is selected, Avery Street must be converted into a bike boulevard and every tool will need to be used to transform this street into a pleasant bicycle and pedestrian environment.

Mary Anne Cassin said that she was not familiar with the details of the routes but that judging by the body language in the room and lack of enthusiasm by the majority of the group for the I-5 option, she said it seems like people were settling for less, and that it is important to feel very positive and excited about a trail if it is going to move forward.

Consensus Query

Consensus of the group (with the exception of one participant) that the I-5 alignment options do not meet the criteria for the Tonquin Trail. Carl Switzer stated that the I-5 alignment was the preferred alignment for City of Tualatin

Consensus not solicited for other Tualatin alignment options, but general support (not including Carl Switzer/Tualatin) for those that traveled through SW Concept Plan greenspace, Blake Street Extension and existing Indian Meadow Greenway.

Kristin Hull noted that the group decision-making protocols call for involving elected officials when the PSC cannot come to consensus and thought that a worksession meeting with the Tualatin City Council might be the right thing at this time.

Sherwood Alignments

George Hudson reviewed the Sherwood options still on the table (using presentation maps and google earth).

- No clear political preference yet from the Sherwood City Council.
- East side of Tonquin Road alignment would provide a good user experience.
- Concerns about feasibility of a trail in vicinity of the Gun Club.
- Stakeholder interviews revealed that Gun Club is open to discussing the idea of trail across their property.
- Trail within 124th Avenue extension corridor would be a more direct route to the Tualatin River.
- 124th/Tualatin-Sherwood Road route would be circuitous for users traveling to Downtown Sherwood.
- The future 124th corridor will ultimately be built as a 5-lane cross-section.
- Tonquin Road corridor: High priority for Washington County to pursue funding for upgrades (which would likely include rebuilding the road to a 3-lane cross-section). Washington County would like to use any remaining ROW along Tonquin Road for future widening.
- Tonquin Road alignment would maximize viewing opportunities.
- Tonquin Road alignment would avoid future industrial development along the future 124th corridor.
- Washington County is not a parks and trails provider and would not be maintaining off-street trails near county roads (124th, or Tonquin Rd.).

Consensus query

Washington County: Off-street on east side of Tonquin Road or 124th for the trail would be ok.

Clackamas County, Wilsonville and Sherwood prefer off-street on east side of Tonquin Road for the trail.

Tualatin: undecided between east side of Tonquin Road and 124th Ave. extension.

Next Steps

The meeting participants agreed that it would be a good next step to have George Hudson present to the Tualatin City Council prior to the next Project Steering Committee meeting and requested Carl Switzer's help with scheduling. The group agreed to adjourn the meeting a little earlier than

planned and agenda items #7 and 8 will be addressed through e-mail correspondence from Jane Hart.

Tonquin Trail Master Plan

Jurisdictional Partner Workshop on Trail Development

PREPARED FOR:	Chris Neamtzu Carl Switzer Michelle Miller	Lori Mastrantonio Stephen Shane Jeff Owen
PREPARED BY:	Jane Hart and Kristin Hull	
MEETING DATE:	Monday, December 12, 2011	
MEETING TIME:	1-3 p.m.	
LOCATION:	Tualatin Heritage Center, Tualatin	

Meeting Purpose:

- Where clear, match jurisdictional development responsibilities (own/fund/build/operate/maintain) with trail segments
- Establish a process for resolving trail segments that lack clear jurisdictional development responsibilities
- Agree on process for outlining implementation steps for each trail segment

Agenda

1-1:10 p.m.	Welcome, meeting purpose	Kristin
1:10-1:30 p.m.	Trail segments where jurisdictional responsibilities are clear <ul style="list-style-type: none"> • Review segments with identified ownership from pre-work by participants • Discuss any questions/concerns 	Kristin/All
1:30-2:30 p.m.	Identify trail segments where development responsibilities need to be clarified (TBD based on results of map input)	Kristin/All
2:30-2:50 p.m.	Process for resolving remaining segments	Kristin/All
2:50-3 p.m.	Process for outlining implementation steps	Jane
3 p.m.	Actions	Kristin

TO: Tonquin Trail Master Plan PSC members

FROM: Jane Hart – Metro; George Hudson – Alta Planning + Design

SUBJECT: PSC meeting #8

MEETING DATE: 3:00-5:00 p.m. Wednesday, January 4, 2012

VENUE: Wilsonville City Hall
Willamette River Rooms One and Two (upstairs)
29799 SW Town Center Loop E, Wilsonville, OR 97070

Meeting purpose:

- Review/discuss trail design guidelines and site specific maps and tables describing trail design components.
- Confirm completeness and accuracy of information

3:00 p.m.	Welcome	Jane Hart
	<ul style="list-style-type: none">• Review agenda and meeting purpose• Summary of Dec. 12 meeting with PSC members on O&M	
3:15 p.m.	Review/discuss trail design guidelines	George Hudson
	<ul style="list-style-type: none">• Questions / concerns / clarifications	
3:35 p.m.	Review / discuss trail design maps & tables	George Hudson
	<ul style="list-style-type: none">• Google Earth tour of alignment• Questions / concerns / clarifications	
4:45 p.m.	Next steps for the master planning process	Jane Hart
	<ul style="list-style-type: none">• Review project partner's work tasks• Review consultant work tasks• Public outreach• Schedule	
5:00 p.m.	Adjourn	

Metro will provide treats and beverages



Metro | *Meeting notes*

Tonquin Trail Project Steering Committee January 4, 2012 meeting

Attendees

Project Steering Committee Members

Connie Ledbetter, Tualatin Citizen
Damon Reische, Clean Water Services
Chris Neamtzu, City of Wilsonville
Carl Switzer, City of Tualatin
Lori Mastrantonio, Clackamas County
Hal Ballard, Washington County BTC
Stephen Shane, Washington County
Brian Stetcher, Sherwood Citizen
Michelle Miller, City of Sherwood
Jeff Owen, City of Wilsonville
Al Levit, Wilsonville Citizen

Project Team Members

Jane Hart, Metro
George Hudson, Alta Planning + Design

Agenda

1. Welcome – Jane Hart
2. Review/discuss trail design guidelines – George Hudson
3. Review / discuss trail design maps & tables – George Hudson
4. Next steps for the master planning process – Jane Hart

The following notes are presented in a comment (C) and response(R) format, with the response being provided by George Hudson (unless otherwise noted).

Notes

1. C. Should the trail be striped down the middle throughout the alignment?
R. Only in areas where there is a safety hazard that warrants a higher level of caution.
Examples: Tight turning radius, narrow section of trail.

2. C. What is the recommended trail surface?
R. Permeable asphalt .

C. What is the difference in cost between asphalt/concrete?
R.. Concrete is more expensive but lasts longer than asphalt.

C. Can jurisdictions use other surfaces such as concrete?
R. Runners want asphalt not concrete

Conclusion: Consensus was not reached on trail surface and further discussion is needed.

3. C. Should dogs be allowed on the trail. If not, Remove photos with dogs from the Master Plan
R. Whether dogs should be allowed or not is driven by environmental sensitivity of the surrounding landscape.

Conclusion: dogs or no dogs needs further discussion.

4. C. Can the trail be 8' wide in some areas, such as pinch points?
R. Not recommended for a regional trail except in extremely environmentally constrained sections of the alignment. 8' should be an exception. Signage should be used to warn trail users of narrow width. Examples of where narrow width may be considered, Cedar creek segment and Hedges creek segment .

C. Can the trail be divided in two paths when there is an obstacle to get around, such as a tree?
R. Not typically recommended, especially in sensitive areas, as it uses a larger footprint to split the trail.

C. Does ODOT require 2' wide shoulder?
R. Width criteria to be eligible for federal funding issued from ODOT is 10-12' minimum trail width, with minimum of 2" shoulders .

C. Would 8' trail require ODOT variance?
R. Yes.

Conclusion: Trail width guideline needs further discussion.

5. C. Clean Water Services (CWS) allows up to 12' wide trail with 1' wide shoulders in the regulated buffer area next to a designated resource area. (Damon Reische)
R. May be easier to permit if paved area is 1' less wide (Damon Reische)

C. CSW allows a total of 14' wide trail if pervious asphalt, is used. This means trail section options might be 10' paved with 2' shoulders, or 12' paved with 1' shoulders. (Damon Reische)

C. If federal money is used to build the trail, ODOT standards require 2' minimum width on the shoulders. Narrowing the shoulders below 2' will require a variance. (George Hudson)

C. CWS requests that planter between road and trail be used for storm water treatment. It was also noted that planter should be wide enough to allow trees to grow in them as shown in the graphic on page A-5 of Trail Design Guidelines memo, 6' is desired; 3' is too narrow for planter. (Damon Reische)

6. C. What is the design for a Shared Use Path?
R. The designation for Shared use path (adjacent to road) implies a physically separated trail with a shoulder on the non-road side and a planter on the road side of the trail, all within the road right of way. (George Hudson)
7. C. Were Washington and Clackamas county road standards illustrated in the cross-sections drawings in the design chapter?
R. The cross-sections are guidelines and are meant to be flexible to meet county road standards. Consultant will review county roadway standards when finalizing the guidelines .
8. C. For the shared use path adjacent to a roadway design, is a sloping curb possible in some sections, to allow for mid-block crossing? The question was asked from the perspective of a bicyclist wanting to cross the street absent a mid-block crossing , either to change directions, or access a destination on the other side of the street.
R. Each county has standards for mid-block crossings and when and where they are allowed, Will need to meet county standards. This type of informal crossing is not recommended by county standards because of safety reasons.

C. If a segment of the trail is a bike lane, would a rolled curb be recommended ?
R. No, again, it is a serious safety hazard to invite bicyclists to cross the road, other than at intersections designed for safe crossings.

C. Not allowing the bicyclists to cross where they want to doesn't seem like an equitable way to design the road, it is more focused for the automobile convenience
9. C. Can metal or concrete be used for boardwalks.
R. Yes, and metal or concrete piers to support boardwalk are ok too. Boardwalks allow water to pass and allow hydrology connection.
10. C. Make sure there are no grade changes between trail surface and boardwalk surface.
R. Interface will be smooth between trail and boardwalk.
11. C. Would like to see the standard for planted buffers next to bike lane and sidewalks always be 5', not 3-5' range.
R. These are guidelines and allow flexibility for physically constrained areas,.County and city road standards may vary for this design as well.

14. C. For the Shared Lane Markings shown on page A-8 of the Trail design guidelines memo, please remove on-street parking in graphic since there are no conditions where this exists on the alignment.
R. Parking will be removed on the graphic.
15. C. Intersections – need guidelines for visibility and recommend engineer to do sight lines
R. All trail/roadway crossings should meet local roadway crossing standards for sight distance visibility and all final trail/roadway crossings will need to be developed and reviewed by a roadway engineer.
- 16 C. Please label (DSL ordinary high water) on graphic of bridge (see pg. A-16 of memo) to show 1½ - 2 year event.
R. The graphic will be revised as recommended, in order to show that the trail is up above the frequent flood plain elevation.
- 17 C. Fencing height and materials adjacent to the railroad will be dictated by the rail agency. Fencing height elsewhere along the trail should be low (suggested 4' height) and recommended split rail, typically used to protect sensitive environmental areas. We are assuming local agencies are not providing private, backyard fencing between residences and the trail. (George Hudson)

Conclusion: Fencing needs further discussion

18. C. Create S&D for art (what does this mean?)
R. I believe the comment refers to wanting art opportunities identified with specific themes recommended.
19. C. Can you include a guideline under signage to place occasional regional maps in strategic places to show regional trail system connections?
R. Comment noted. Good idea. Will address at next PSC meeting.

C. As a way to encourage economic development along the trail, suggest that intertwine directional signs identify business locations that can be accessed by the trail

R. Comment noted, Good idea. Will address at next PSC meeting.

C. Overriding logo needed for Tonquin Trail

R. Noted consensus of group to resolve logo issue during the master planning process. Need to seek additional funding to cover this task in master planning timeframe.

C. Can GPS function be added to signage?

R. Comment noted. Good idea. Will address at next PSC meeting.

Conclusion: Signage topic needs further discussion

23. C. Does trail go in both directions through Villebois? Do both meet standards, or is it best to pick just one trail, in light of funding?
R. City of Wilsonville's Bike and Pedestrian Plan and Comprehensive plan have adopted the alignment shown through Wilsonville as preferred alignment.

24. C. Provide economic benefits discussion in master plan.
R. This will be included in master plan.

PSC members requested up to two additional meetings dedicated to the design recommendations. Metro will work on finding funding for additional meetings and coordinating this.

TO: Tonquin Trail Project Steering Committee members

FROM: Jane Hart, Metro and Kristin Hull, CH2M HILL

SUBJECT: PSC meeting #9

MEETING DATE: 1-5 p.m. Wednesday, February 29, 2012

VENUE: Wilsonville City Hall
Willamette River Rooms One and Two (same rooms as Jan. Mtg.)
29799 SW Town Center Loop E, Wilsonville, OR 97070

Meeting purpose:

- Discuss / resolve substantive comments received from PSC members related to trail design guidelines and site specific maps and tables describing trail improvements.

Desired Meeting Outcomes:

- Reach consensus on recommended changes to trail design guidelines. Identify where jurisdictions need flexibility and range of acceptable design solutions.
- Reach consensus on recommended changes to tile maps (based on PSC comments received).
- Determine which issues can be resolved with individual follow-up prior to finalizing design chapter.

1:00 p.m.	<p>Welcome</p> <ul style="list-style-type: none"> • Review agenda and meeting purpose • Recap January 4 meeting • Project Updates 	Jane Hart/Kristin Hull
1:15 p.m.	<p>Trail design guidelines</p> <p style="color: red;">Content comes from common themes that emerged in reviewer comments. Some comments do not apply to entire alignment and may be able to be addressed with relevant jurisdiction outside of meeting. These will be identified.</p> <p style="color: red;"><u>Props</u></p> <ul style="list-style-type: none"> • List of discussion topics on flip chart • Power point slide for each discussion topic <p style="color: red;"><u>Purpose for discussion:</u></p> <ul style="list-style-type: none"> • resolve trail design issues that apply to entire alignment; • identify places where jurisdictions need flexibility and range of acceptable design solutions. 	George Hudson/Kristin Hull

- Ground rules (5 min.)
- Review process for discussion (10 min.)
- Topics for discussion
 - Trail surface type
 - Trail width
 - Trail lighting
 - Wayfinding signage
 - Fencing/barrier separation for rail-with-trail segments
 - Dogs policy
 - Other issues?
- Work through topics to resolution (one hour)

2:30 p.m. Break

2:45 p.m. Review trail improvements on tile maps George Hudson/Kristin Hull

Review proposed changes to maps based on PSC comments received. As we work through the tile maps, consultants will flag additional comments or issues that need more time to resolve, and group will come back to them after going through all of the tile maps.

Props

- Power point slide for each discussion topic
- Review process for discussion (5 min.)
- Review tile maps and resolve outstanding issues where possible

3:45 p.m. Outstanding Trail Improvement issues Kristin Hull

- Revisit issues needing further discussion

4:45 p.m. Next steps for the master planning process Jane Hart

- Trail logo
- Jurisdictions Implementation workshop
- Public Involvement
- Next PSC meeting

5:00 p.m. Adjourn

Metro will provide afternoon treats and beverages



Metro | Meeting minutes

Meeting: Tonquin Trail Project Steering Committee
Date/time: Wednesday February 29, 2011; 1-5pm
Place: Wilsonville City Hall, Council Chambers
Purpose: Reach consensus on recommended changes to design guidelines and tile maps

Attendees

Project Steering Committee Members

Damon Reische, Clean Water Services
Chris Neamtzu, City of Wilsonville
Jeff Owen, City of Wilsonville
Al Levit, Wilsonville Citizen
Connie Ledbetter, Tualatin Citizen
Carl Switzer, City of Tualatin
Hal Ballard, Washington County BTC
Stephen Shane, Washington County
Michelle Miller, City of Sherwood

Project Team Members

Kristin Hull, CH2MHill
George Hudson, Alta Planning + Design
Jane Hart, Metro

Absent

Lori Mastrantonio
Brian Stecher

Agenda

Welcome – Jane Hart/Kristin Hull
Trail Design Guidelines – George Hudson/Kristin Hull
Review Trail Improvements on Tile Maps – George Hudson/Kristin Hull
Outstanding Trail Improvement Issues – Kristin Hull
Next Steps for Master Planning Process – Jane Hart

Meeting Notes

Design Guidelines

Trail Surface

- List surface options in order of preference (permeable asphalt first choice)
- Can permeable asphalt /concrete be used by skateboards and scooters
- Note permeable concrete is least desirable

- Preferred boardwalk surface is recycled lumber with no organic content. That way it doesn't absorb water and is skid resistant. Guidelines should allow flexibility for new materials with similar functionality.

Trail width

- Spur trail for local pedestrian and bicycle access - Local jurisdictions will decide width
- Broaden language under environmentally sensitive design section that local jurisdictions will need to meet guidelines of City of Wilsonville, Clackamas Co or CWS guidelines depending on where trail segment is located.
- Preferred minimum bike lane width is 6'
- Recommend bike friendly catch basins for on-street trail segments
- Need to find out if existing built sections of multi use trail are 8' wide or less, will MTIP funding for future segments be contingent on old sections being widened? (needs follow up)

Trail lighting

- Jurisdictions will determine if trail will be lit and where.

Signage and wayfinding

- Intertwine signage guidelines are recommended for new and retrofitted wayfinding signage throughout the trail alignment. Due to be finalized in spring 2012.
- Jane will send PSC link to Metro website where they can provide public comments on draft guidelines.
- Intertwine signage does not address interpretive signage.
- Metro has completed a comprehensive signage guidelines booklet (prior to intertwine plan) that provides guidance for interpretive signage.
- Jurisdictions are encouraged to review Metro's interpretive signage guidelines, view interpretive signage at Graham Oaks Nature Park and consider adopting Metro's interpretive signage guidelines to provide consistency throughout the entire trail alignment.
- Tonquin Trail logo work will be completed and included in master plan recommendation.
- Jurisdiction can use intertwine logo if desired, can be retrofitted easily to existing signs.

Trailheads

- In addition to showing proposed new trailheads, tile maps should show existing trailheads and access points that could serve the trail.
- Show existing trail head at Graham Oaks Nature Park
- Trailhead criteria
 - Opportunity driven
 - Can be small or large
 - Determine site specific amenities during design process.
- Note other existing trailheads/access points during title map discussion.

Fencing/barriers

- Fencing will be needed in *some* areas, but not *most* places
- Guidelines do not address local property line fences

Dogs

- Master Plan will provide scientific data regarding negative impacts to wildlife and habitat that results when dogs are present in sensitive natural resources but stop short of a recommendation to prohibit dogs in sensitive areas throughout the trail alignment.
- Whether to allow dogs and where will be a local decision during design process
- Recommend dog waste bags and collection stations at trailheads

Grade crossings

- Cipole/99W – discuss further during tile map discussion.
- Include 'hawk signal' as a treatment - makes everyone else stop for a moment
- Cedar Creek/99 – Show this as an undercrossing
- Grahams Ferry – Show as an overcrossing
- Oregon/TS – Show as at-grade crossing
- Tonquin Rd. – Basalt Creek concept planning will decide design for crossing at Waldo Way
- Recommend bike activated detection device where appropriate – recognizes all bike types at intersections

Hours of operations

- MTIP funding requires trail be open 24/7
- Confirm if there is flexibility to close a segment of a trail through a local park at sunset, when the regional trail travels through multiple jurisdictions; or would entire trail be ineligible for funding if one section closes(needs follow up) ?

Maintenance

- Consistency of maintenance throughout entire trail is important
- Jurisdictions should coordinate to agree on one set of maintenance standards
- Design should specify root barrier along edge of trail where needed.

Tile maps

- Request made to update aerial photo background of tile maps. Consultant will determine if budget allows this request.
- Consultant will look at using different colors for legend; purple and blue too similar.
- Consultant will add new legend icon to differentiate existing neighborhood access from planned access
- Maps will not differentiate design types for built sections of trail.

Tile Map #1

- Boones Ferry Park – show existing trailhead/access point, don't call out new one

Tile Map #2

- Add existing trailhead at Graham Oaks Nature Park
- Show Crest Trail and other trails
- Recommend partnering with school district for parking at school during non-school times
- Label street as Willamette Way East
- Show Willamette Way West as an existing neighborhood connection

Tile Map #3

- Show 3A and 3B as bike and ped
- Remove T.H.

Tile Map #4

- Do not show boardwalk north of where railroad tracks and trail diverge
- Check if elevation is conducive to grade separated crossing at Graham Ferry Road
- Wa. Co. TSP calls for making Grahams Ferry Rd. lower elevation under railroad bridge to improve clearance under bridge.

Tile Maps #5 and #6

- Finalize trailheads specifics as site planning occurs
- Add trailhead at old rail station (6) Needs follow up.
- Make sure causeway section (5C) doesn't feel like gap in trail since proposed treatment is to use in its existing condition.
- Check ownership of entire causeway (5C)

Tile Maps #7 and #8

- Change name on Adams Ave. (Jane to follow up with Michelle)
- Sherwood 'public alley' (8J) has different character from sections north and south – need signage to alert people of different design treatment

Tile Maps #9, 10, 11

- Show existing trailhead at Stella Olsen Park (9B)
- 9B to 9C – City already acquired this section, so remove easement overlay.
- Show neighborhood access at the Senior center (map 9)
- Show Washington St. as existing trail undercrossing (map 9)
- East side of Roy Rodgers Rd is in Sherwood City limits (map 10)
- Identify trailhead during design in this portion (map 10)
- Jane to work with Michelle to show trail alignment more conceptually in area 10A
- Show 10F as existing neighborhood access, not proposed.
- Consider a proposed trailhead at 10E?
- Show existing trailhead at wildlife refuge (11D)

Tile Maps #12 and 13

- When reviewing for additional new trailheads, note overlap on maps 12, 7, 8
- Add proposed at-grade signalized crossing on 12E where Oregon St. meets TS Rd.
- Oregon Street has existing bike lanes in places – Show them (map 12)
- Show existing bike lanes on Tualatin-Sherwood Rd. (map 12)
- Tonquin Trail is a separated path next to T-S Rd. in this area (map 12)
- Consider south side of TS Rd. instead of north side for trail (design refinement). Carl Switzer to follow up with Pacific Foods to see if they would be interested in being partner if trail on south side of road.

- Recommend segment on tile map 13 for later phase of trail development. Different ownership on two sides of the road but should move trail to one side and one jurisdiction should operate and maintain trail, perhaps through an IGA.
- Locate interpretive/art options along trail near Cipole Rd. to improve user experience given close proximity to the road (TM #13)

Tile Map #14

- Check that maps show existing crossing and trailheads
- Show option for both at-grade and grade-separated over crossing at Cipole/99.
- Add Tualatin River Greenway trail east of Morand,
- Show revised alignment to avoid groundwater monitoring wells on Metro property
- Show connection to Westside Trail and future bridge (in both text and map)
- T.H. could be combined to meet water trail needs at Tualatin River. Move T.H. Closer to river

Tile Map #15

- Add trailhead at blue dot near Waldo Way – follow up
- Show trail crossing at Tonquin Rd. and Waldo as signalized

Tile Map #16

- Not enough room for grade-separated overcrossing of Avery/TS intersection
- Alta will recommend additional safety treatments in guidelines

Tile Map #17, 18, 19

- Check creek crossings on 17 and 18 and show accurately
- 18A crossing on Teton needs to show as pedestrian activated mid-block crossing. Note in text that there is heavy truck usage at this constrained location.
- Add trailhead at Tualatin Community Park 19J
- Show WES station connection on 19A

Tonquin Trail Master Plan:

Jurisdictional Partner Workshop on Trail Implementation and Future Coordination

PREPARED FOR: Chris Neamtzu
Carl Switzer
Michelle Miller

Lori Mastrantonio
Stephen Shane
Jeff Owen

PREPARED BY: Jane Hart and Kristin Hull

MEETING DATE: Tuesday, April 3, 2012

MEETING TIME: 3-5 p.m.

LOCATION: Van Raden Community Center inside Tualatin Community Park

Meeting Outcome:

- Complete the implementation matrix
- Agreed-upon strategy for coordinating in the future to support trail implementation

Agenda

3-3:10 p.m.	Welcome, meeting purpose	Kristin
3:10-4:10 p.m.	Complete implementation matrix <ul style="list-style-type: none">• Review draft matrix from December workshop• Identify steps, processes, external decisions that will define alignment decisions, funding, construction and O&M in the future	Kristin/All
4:10-4:55 p.m.	Areas requiring future coordination <ul style="list-style-type: none">• Identify areas for future coordination that will be required to successfully implement the trail• Identify responsibilities and actions for needed coordination	Kristin/All
4:55 p.m.	Follow-Up Actions	Kristin

Metro will provide snacks

TO: Tonquin Trail Project Steering Committee members
FROM: Jane Hart, Metro and Kristin Hull, CH2M HILL
SUBJECT: PSC meeting #10
MEETING DATE: 1-2:30 p.m. Tuesday, October 9, 2012
VENUE: Tualatin Heritage Center

Meeting purpose:

- Resolve substantive issues raised by PSC in their comments on the master plan
- Discuss master plan approval/adoption process and steps

1:00 p.m.	Welcome	Jane Hart
	<ul style="list-style-type: none">• Review agenda and meeting purpose	
1:10 p.m.	Resolve substantive issues with master plan	Kristin Hull
	<ul style="list-style-type: none">• Local flexibility• Dog policy wording• Do we add 'no horse' policy• Other	
2:00 p.m.	Plan approval/adoption process	Jane Hart
2:15 p.m.	Updates on trail implementation meetings	Jane Hart
2:30 p.m.	Adjourn	

Metro will provide treats and beverages

Tonquin Trail Master Plan PSC Meeting #10

1-2:30 p.m. October 9, 2012

Attendees

Project Steering Committee Members

Connie Ledbetter, Tualatin Citizen
Al Levitt, Wilsonville Citizen
Hal Ballard, Washington County cycle advocate
Lori Mastrantonio, Clackamas County
Michelle Miller, City of Sherwood
Chris Neamtzu, City of Wilsonville
Carl Switzer, City of Tualatin
Stephen Shane, Washington County
Brian Stetcher, Sherwood Citizen

Project Team Members

Jane Hart, Metro
Kristin Hull, CH2MHILL

Agenda

1. Welcome– Hull
2. Master plan review – Hull/Hart
3. Adoption process – Hart
4. Ongoing trail implementation meetings -- Hart
5. Close and next meeting – Hull

Summary

1. Welcome and updates

Kristin welcomed the group and reviewed the agenda. She told the group that the purpose of today's meeting is to review the draft master plan and discuss a few comments that needed committee resolution.

2. Master plan review

Jane began by thanking the PSC for their review of the document and their comments. She said that she was working through all the comments and had categorized them as 1) changes to make; 2) items requiring individual follow up; and 3) items for discussion. The items that required discussion comprise the agenda for today. The group had some discussion about comments that they had made. Jane reiterated that if the comment wasn't a topic of discussion for today, then either the requested changes will be made or the person who submitted the comment will get a follow-up phone call.

Local flexibility

The committee discussed the need to strengthen the message about local flexibility that is discussed in the design chapter. They agreed to add a sub-header in chapter 1 (page 9) that states that:

- The plan makes recommendations
- The plan recognizes that local jurisdictions are responsible for implementation and may need some flexibility to successfully implement the plan

The group agreed that signage will be consistent throughout the trail corridor and will be the unifying element but stopped short of requiring particular signage.

Dog policy

The group discussed the dog policy expressed in the plan. They recommended reversing the order of the paragraphs in this section and reducing the level of detail in the current first paragraph. The current first paragraph should be rewritten to reduce the references to scientific data and simplified. They also agreed that the "why no dogs" signage should not be included in the master plan.

Horse policy

The group agreed that a sentence should be added to page 65 that states that the trail is not designed to accommodate equestrian use.

Friends groups

The PSC agreed to add language to page 102/operations and maintenance discussing the benefits of friends groups to trails. The group also agreed to mention the existing adopt-a-trail programs in Tualatin and Wilsonville.

Crossing at Grahams Ferry Road

The PSC discussed a refinement to the trail alignment near Grahams Ferry Road. Jane explained that the change occurred due to conversations with a willing seller. The new recommendation includes an at-grade crossing. The group was concerned about the at-grade crossing and asked the

consultant team to consider what kind of signalization would be required to make that crossing safe. They also discussed the need for signage above the railroad tracks to slow traffic.

Other topics

A PSC member asked if the operations and maintenance costs could be broken down into more detail. Kristin and Jane said that the scope did not include that level of detail.

A link to the Intertwine website will be added in the text and the Intertwine Signage Guidelines will be added to the appendix.

Request to round the cost estimates in Table 23 to the nearest \$500.

3. Adoption process

The group discussed that most jurisdictions will be adopting the master plan as part of their TSPs. They agreed to review and possibly ask their elected bodies to adopt a declaration of cooperation. Jane also agreed to send everyone a shape file of the trail alignment.

4. Trail implementation

Jane told the group that she was still very active in the Basalt Creek planning work and is advocating for the trail's inclusion in the 124th design. The current 124th design includes an 8-foot separated trail.

The group talked about funding applications. Michelle reported that Sherwood has funding for Cedar Creek pieces and applied for funding to construct crossing of Highway 99. Chris reported that another 1,000 feet of trail in Villebois has been completed.

5. Adjourn and next meeting

The group agreed to meet after the public comment period if needed. Jane also agreed to share a draft scope of work and budget for developing a logo for the group to consider.

OPEN HOUSES



Tualatin

December 2009

today

Tonquin Trail Open House

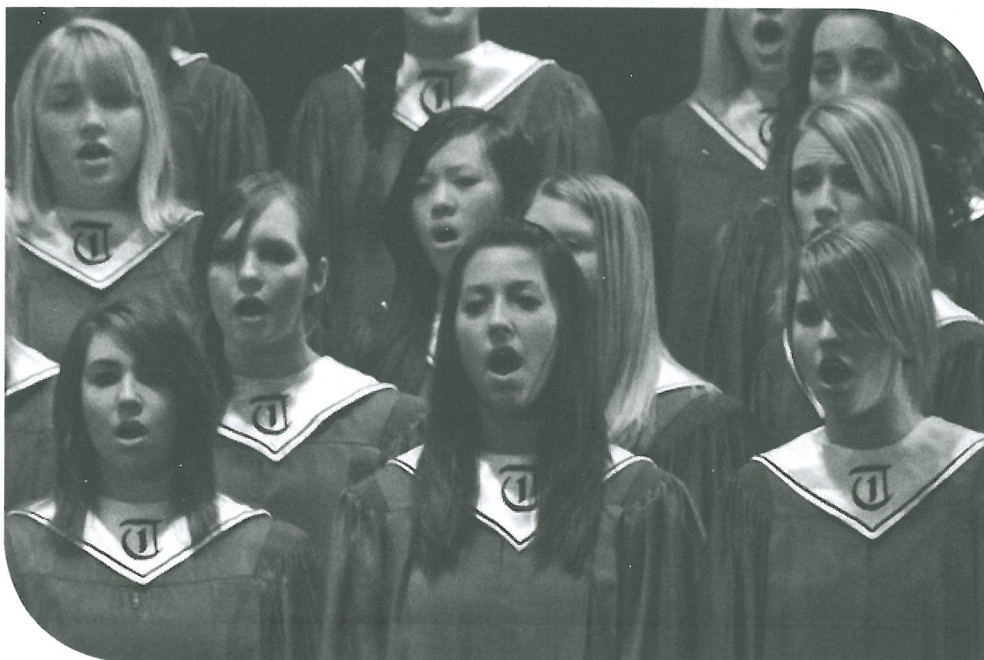
The Tonquin Trail will someday be a multi-use regional trail that will connect natural areas, neighborhoods, schools, jobs, shopping centers and transit stops between Tualatin, Sherwood and Wilsonville.

Metro and local cities are leading the development of the Tonquin Trail Master Plan. In order to make important decisions about where the trail should be located, we need your input.

Help shape the future of the Tonquin Trail by attending this open house. Metro staff, City of Tualatin staff, and other partners will be available to provide background information about the project, discuss proposed trail alignments and potential connections in your community and listen to your ideas and feedback. This is a family friendly event – refreshments and children's activities will be available.

Tuesday, December 8, 6:30 to 8:30 pm
Council Building
18880 SW Martinazzi Avenue
Co-hosted with Tualatin Parks Advisory Committee

For more information about the Tonquin Trail Master Plan, visit www.oregonmetro.gov/tonquintrail. If you are unable to attend the open house but would like to share your thoughts and ideas, an online questionnaire will be available beginning December 7.



Tualatin High School Crimsonnairs sing at the 2008 event.

Starry Nights and Holiday Lights

Tree Lighting Ceremony at the Tualatin Commons
Friday, December 4, 2009, 6:00 p.m. to 9:00 p.m.
Free!

The holidays are a chance to spend time with family and friends and celebrate many things including community. The Starry Nights and Holiday Lights event is a perennial favorite for Tualatin residents to kick off the holiday season. Bring your family and friends down to the Lake at Tualatin Commons (8325 SW Nyberg Street) to slip into the holiday spirit while marveling at

the holiday lights around the lake. Stay for the celebration of community and the season with the lighting of the floating tree, children's choirs and music, free children's crafts, letter writing to the Troops, delicious refreshments and Santa's arrival!

In the spirit of the season please bring non-perishable food items to donate to the Tualatin School House Food Pantry.

Holiday Hours

December 24, Thursday
Library will close early at 6:00 pm.

December 25, Friday
City offices and the library will be closed.

December 31, Thursday
Library will close early at 6:00 pm.

January 1, Friday
City Offices and the library will be closed.

**don't
forget!**

Employee Spotlight

Jennifer Nelson Nutrition Coordinator

Ask Jennifer Nelson what's cooking at the Community Center and she can tell you first hand.

Her job is preparing delicious meals, constantly researching new menu ideas, and providing quality food service for Wilsonville's senior population.

Jennifer has worked as Nutrition Coordinator at the Community Center for five years.

"I provide seniors with a healthy, nutritious meal four days a week," said Jennifer. "Some of my favorite dishes are the ones the seniors enjoy the most, such as taco salads, salmon Caesar salads, and jalapeno yam and green onion cornbread muffins I recently created."

Cooking is a big part of Jennifer's life, whether at work or at home. She prepares meals and coordinates family events, and

at times puts on a dinner for 30 to 40 people. Jennifer stays up on all of the new techniques by watching cooking shows and the food network, while also experimenting with new dishes and improving her skills.

"At the Community Center we are constantly trying to be creative and in addition fiscally responsible," said Jennifer. "Eve and I both get our rewards each day from all the positive feedback we get from the seniors."

When Jennifer is not preparing a meal she enjoys running, biking and reading. She has been married to her husband Roger for 27 years and they have 3 children, Richard 24, Alyssa 22 and Mariah 18.



Jennifer Nelson

Chief's Corner with Lt. Nick Watt

We are fast approaching the holiday season with Christmas and New Years just around the corner.



Here at the Police Department we are expecting the usual surge of car prowls and shoplifting that occurs this time of year. With that said, here are a few ideas for all to maintain a Happy Holiday season:

1. Always lock your car when you are out shopping, an unlocked door is an open invitation to car prowlers.
2. Do not leave your gifts left out in the open where others can see when walking by, it is very easy to break a window and take those items.
3. Put your gifts in the trunk of your car, where they are more secure.
4. Park in lighted areas if at all possible.
5. Be aware of your surroundings and those around you.
6. When you shop, try and take all your items out with you at one time and go home after that.
7. It only takes seconds for someone to break into your car and take what you have bought.
8. Be sure and report any suspicious activity to the local police department.
9. Request a report be taken if anything is missing from your vehicle and it has been broken into.

The Wilsonville Police Department wishes all of you a safe and sane holiday season.

Tonquin Trail Open House

Your input is needed to make important decisions about where the trail should be located. Help shape the future of the Tonquin Trail by attending an open house in December. Metro staff and partners will be available to provide background information about the project, discuss proposed trail alignments and potential connections in your community, and listen to your ideas and feedback. This is a family friendly event – refreshments and children's activities will be available.

**Wednesday, Dec. 9
6 to 8 p.m.**

**Wilsonville City Hall, Council Chambers
29799 SW Town Center Loop E, Wilsonville
Co-hosted with Wilsonville
Planning Commission**



CPO #5 NEWSLETTER



Citizen Participation Organization #5

Serving: Sherwood & Tualatin Areas

CPO Newsletters available on the web at <http://extension.oregonstate.edu/washington/cpo-5-sherwoodtualatin>

CPO 5 Map: http://extension.oregonstate.edu/washington/sites/default/files/CPO5_0.pdf

Washington County

December 2009



Oregon State University Extension Service supports CPOs through an intergovernmental agreement with Washington County, the sole funder of the CPO program. Extension CPO coordinators provide information on land use and livability issues, resource referrals, and work with CPO members to increase understanding of public policy and decision-making processes.

This newsletter material was developed by representatives of your local CPO and is forwarded to you as part of the Extension Service's support to citizen involvement in local government. Washington County administration, departments, and/or officials claim no responsibility, expressed or implied, for the content of this document.

CPO 5 STEERING COMMITTEE

Co-chairs: Terri Wilson
Eugene Stewart
Vice Chair: Joe Lipscomb
CCI Rep: Marsha Brown
Members at Large: Joe Bany
Marsha Brown
Craig Hopkins
George Pitts

CPO COORDINATOR

Margot Barnett, OSU Faculty
Phone: 503-821-1114
Fax: 503-690-3142
Email: margot.barnett@oregonstate.edu
OSU Washington County Office
18640 NW Walker Road, #1400
Beaverton, OR 97006-8927

To review copies of the Sherwood

Community Plan, go to

www.co.washington.or.us/deptmts/lut/planning/publicat.htm

Citizen Participation Organization 5 No December 2009 Meeting

**Instead please go to a Tonquin Trail Open House,
December 8th or 10th**

Michelle Miller was to be our speaker on Dec. 10th at our scheduled meeting, to talk about the Tonquin Trail. In the interest of making it easier for folks to learn about the Tonquin Trail, we at CPO 5 have decided to cancel our meeting and encourage everyone to attend an Open House that week. *See the article on page 2 of this newsletter.*

CPO Updates

We're hoping to get our committees formed, giving folks with strong interest in specific issues (e.g. landuse, transportation, parks and recreation) an opportunity to keep our CPO updated monthly. Remember, if you'd like more information on your CPO 5, our newsletters can be found at

<http://extension.oregonstate.edu/washington/cpo-5-sherwoodtualatin>

Mark your calendar for 2010

January 14, 2010

Juanita Pohl Center, 8513 SW Tualatin Rd, Tualatin

February 11, 2010

Guest speaker: Mayor Lou Ogden

March 11, 2010

Sherwood TVF&R, 15440 SW Oregon St, Sherwood

April 8, 2010

Juanita Pohl Center, 8513 SW Tualatin Rd, Tualatin

Sherwood TVF&R, 15440 SW Oregon St, Sherwood



Tonquin Trail Master Plan

The future Tonquin Trail will offer bicyclists and pedestrians safe, new connections between Wilsonville, Sherwood and Tualatin.

Stay in touch with the Tonquin Trail master plan by joining the e-mail list. Attend an open house or share your views online between Dec. 7 and Dec. 21. Email Heather Coston at heather.coston@oregonmetro.gov to join the email list.

You have a stake in the Tonquin Trail master plan.

Imagine a bicycle outing with family or friends that begins at the Tualatin River National Wildlife Refuge, follows Cedar Creek through Sherwood and brings you to Metro's 250-acre Graham Oaks Nature Park in Wilsonville (opening September 2010). Leaving your bike at the trailhead you take a leisurely hike through the restored Oregon white oak woodland where you can glimpse Mount Hood and hear the cry of red-tailed hawks nesting in the park's conifer forest.



This is one of many adventures promised by the future Tonquin Trail, a multi-use regional trail that will connect natural areas, neighborhoods, schools, jobs, shopping centers and transit stops between Sherwood, Tualatin and Wilsonville.

Project timeline: The 18-month master planning process is being led by Metro in partnership with the cities of Wilsonville, Sherwood and Tualatin, along with Washington and Clackamas counties. Throughout the process, Metro and project partners will gather community and stakeholders' input and consider environmental and land use information to determine the preferred trail alignment.

The Tonquin Trail master plan will build on a feasibility study completed in 2004. The study examined existing conditions in the area and identified, evaluated and ranked potential trail segments to consider for the trail.

The trail will be built in phases. Funding to purchase the trail corridor was approved by voters in Metro's 2006 natural areas bond measure. A few segments of the trail have already been constructed or have been planned by local jurisdictions. A portion of the trail has been constructed through the Villebois area in Wilsonville and over the Tualatin River in Tualatin. More of the trail will be built next year as part of Metro's new Graham Oaks Nature Park. As funding becomes available, other trail segments will be built.

Attend an open house in December: Your input is needed to make important decisions about where the trail should be located. Help shape the future of the Tonquin Trail by attending one of three open houses in December. Metro staff and partners will be available to provide background information about the project, discuss proposed trail alignments and potential connections in your community and listen to your ideas and feedback. This is a family friendly event – refreshments and children's activities will be available.

Tuesday, Dec.8, 6:30 to 8:30 p.m.

Tualatin Council Chambers Building, 18880 SW Martinazzi Ave., Tualatin

Co-hosted with Tualatin Parks Advisory Committee

Wednesday, Dec.9, 6 to 8 p.m.

Wilsonville City Hall, Council Chambers, 29799 SW Town Center Loop E, Wilsonville

Co-hosted with Wilsonville Planning Commission

Thursday, Dec.10, 5:30 to 7:30 p.m.

Sherwood Community Room, Sherwood City Hall, 22560 SW Pine St., Sherwood

Co-hosted with the City of Sherwood



GO GREEN, SAVE A TREE! The CPO program coordinators are looking at ways to reduce printing and postage costs and to make the program more sustainable. To do that we need your help by signing up to receive the newsletter electronically. We call this the **CPO NewsAlert**.

It's simple, just send an email to Sally Yackley cpo.wash.co@oregonstate.edu with your name, street address, zipcode and email address to make the necessary changes. You will receive an email with a link to the CPO website with your current newsletter. Thank you for helping out!

CITY NEWS, UPDATES & EVENTS

LONG RANGE PLANNING

The Planning Department is working on several long range planning projects. One is the Tonquin Employment Area Concept Plan which is approximately 300 acres adjacent to the City's northeast boundary that was brought into the urban growth boundary for industrial uses. City staff and consultants are developing a preferred concept plan alternative. The City is also revising standards for appointing a Hearings Officer. City staff will present proposed changes to the Zoning and Community Development Code at the Planning Commission meeting on December 8th, 2009 at 7:00pm at City Hall. City staff will also present proposed code changes to implement industrial design standards at the Planning Commission meeting on January 12th, 2010 at 7:00pm at City Hall. For more information on these and other planning projects, please visit the City's website at www.ci.sherwood.or.us



TONQUIN TRAIL UPDATE

Help shape the future of the Tonquin Trail, a seventeen-mile bike and pedestrian pathway that will extend from the Tualatin River National Wildlife Refuge through Sherwood to Metro's 250-acre Graham Oaks Nature Park in Wilsonville (opening September 2010). The Tonquin Regional Trail will connect Tualatin, Sherwood and Wilsonville with other trails throughout the Portland metropolitan region. Share ideas, discuss connections, and learn about the project's beginnings! The Tonquin Trail Open House will be held in the Community Room at City Hall on December 10th from 5:30pm-7:30pm. Refreshment and activities for children will be provided. For more information, contact Michelle Miller, Associate Planner at 503-625-4242 or visit www.oregonmetro.gov/tonquin-trail.

SHERWOOD CERT PROGRAM MOVING FORWARD

With its November 21st, 2009, Fall class final exercise, The Sherwood CERT (Community Emergency Response Team) program will have a small but enthusiastic cadre upon which to build future growth. The next step will be another 8-week class starting January 14th, 2010 to train new volunteers.

An Orientation Meeting to answer questions about CERT will be held December 10th, 2009 at 7:00pm in the Sherwood Police Station Community Room.

While one of the goals of the CERT program is to train citizens so they can assist first responders and other emergency workers in dealing with a major emergency, a primary goal is training people to be better prepared in their own homes to respond to an emergency. Another goal is to encourage team members to get to know their neighbors better so that in an emergency situation, like last December's snowstorms, they can assist those who have been hard hit. After they have taken care of their own families and assisted neighbors, some CERT members will want to assist the greater community.

To learn more about the Sherwood CERT program, contact Skip Booren, Sherwood Emergency Management Coordinator at boorens@ci.sherwood.or.us or call 503-925-7110.

TUALATIN RIVER PHOTOGRAPHIC SOCIETY



A group of local photographers have recently established the Tualatin River Photographic Society under the sponsorship of the Friends of the Refuge. The Society meets at 7:00pm, the first Thursday of the month in the Riparian Room at the Refuge. Anyone interested in nature photography (or learning about nature photography) is welcome. For more information please visit www.friendsoftualatinrefuge.org.

Whether you are looking for a safe connection to bike or walk to work, new opportunities for recreation and exercise or increased access to nature, you have a stake in the future of the Tonquin Trail. Metro, along with the cities of Tualatin, Sherwood and Wilsonville, Clackamas and Washington counties and local partners, is leading the development of the Tonquin Trail master plan.

In order to make important decisions about where the trail should be located, we need your input. Attend an open house in December to discuss potential connections in your community and share your ideas and feedback. This is a family-friendly event – children are welcome.



Help shape the future of the Tonquin Trail



Metro | *People places. Open spaces.*

Attend an open house to shape the future of the Tonquin Trail

6:30 to 8:30 p.m. Tuesday, Dec. 8

Tualatin Council Chambers Building
18880 SW Martinazzi Ave., Tualatin
Co-hosted with Tualatin Parks Advisory Committee

6 to 8 p.m. Wednesday, Dec. 9

Wilsonville City Hall, Council Chambers
29799 SW Town Center Loop E, Wilsonville
Co-hosted with Wilsonville Planning Commission

5:30 to 7:30 p.m. Thursday, Dec. 10

Sherwood Community Room, Sherwood City Hall
22560 SW Pine St., Sherwood
Co-hosted with the City of Sherwood

For more information about the Tonquin Trail master plan, visit www.oregonmetro.gov/tonquintrail. If you are unable to attend one of the open houses, but would like to share your thoughts and ideas, an online questionnaire will be available between Dec. 7 and Dec. 21, 2009.



Metro

600 NE Grand Ave.
Portland, OR 97232

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Portland, OR
Permit No. 1246



The Tonquin Trail is part of The Intertwine, our connected network of parks, trails and natural areas in the Portland, Oregon and Vancouver, Washington region. To learn how you can help us plan, protect and promote The Intertwine visit www.theintertwine.org

Help shape the future of the Tonquin Trail

In order to make important decisions about the trail, we need your input. Information from this questionnaire will be used to inform the planning process. **Thank you for sharing your ideas and feedback.**

Contact information (optional):

Name

Address

Phone

E-mail

How do you prefer to be contacted?

(Check one)

☐ E-mail ☐ Phone ☐ Mail

Do you want to be added to the project mailing list?

(Check one) ☐ Yes ☐ No

1. Which community do you live/work in?

	Live	Work
Sherwood	<input type="radio"/>	<input type="radio"/>
Tualatin	<input type="radio"/>	<input type="radio"/>
Wilsonville	<input type="radio"/>	<input type="radio"/>
Unincorporated Washington County	<input type="radio"/>	<input type="radio"/>
Unincorporated Clackamas County	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>

2. How do you commute to work or school most of the time? (Check all that apply)

- ☐ Ride transit (e.g. TriMet or SMART bus, MAX, WES, streetcar)
☐ Bike
☐ Walk
☐ Carpool
☐ Drive alone

3. Do you use trails in your neighborhood or in other areas of our region? (Check one)

☐ Yes ☐ No

If yes, how often? (check one)

- ☐ Daily ☐ A few times a week
☐ A few times a month ☐ A few times a year

4. How would you use the Tonquin Trail if it was constructed? (Check all that apply)

- ☐ Walking/jogging ☐ For recreation
☐ Biking ☐ To reach schools
☐ In-line skating ☐ For commuting
☐ To reach shopping or other community destinations ☐ To experience nature
☐ Other _____

5. Do you have any concerns or ideas about the proposed trail segments? Please be as specific as possible in describing the segment's location.

Continued on other side

Help shape the future of the Tonquin Trail

6. Preliminary project goals

How important are each of the following project goals to you?

(Check all that apply)

Goals	Very important	Important	Neutral/important	Somewhat important	Not important
The trail is convenient, pleasant and accessible to a range of users regardless of ability or mode.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The trail encourages and enhances bicycle and pedestrian connectivity throughout the region.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The trail is supported by the community and local jurisdictions and is informed by input from the public, project partners and elected officials.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The trail avoids or minimizes impacts to natural and cultural resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The trail is safe and secure for trail users and adjacent property owners.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The trail can be implemented.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In the table above, please circle the goal that is most important to you.

7. Other comments

Please share any other comments about the trail that you'd like us to consider.


[illegible]



For more information

visit www.oregonmetro.gov/tonquintrail.

If you are unable to attend one of the open houses, but would like to share your thoughts and ideas, an online questionnaire will be available between **Dec. 7 and Dec. 21, 2009.**

 Metro | *People places. Open spaces.*

Tonquin Trail master plan December 2009 open house summary

The Tonquin Trail master plan project team and project steering committee members hosted three open houses in December. The open houses were held at the following locations:

- Tualatin Library on December 8 from 6:30 to 8:30 p.m.
- Wilsonville City Hall on December 9 from 6 to 8 p.m.
- Sherwood City Hall on December 10 from 5:30 to 7:30 p.m.

The Tualatin Parks Advisory Board and the Wilsonville Planning Commission co-hosted the open houses in their respective cities. Over the three evenings, approximately 100 people attended and offered feedback on potential trail segments, project goals and trail design preferences. Open house materials and an online questionnaire were posted on Metro's Tonquin Trail master plan web site for those unable to attend one of the meetings but interested in providing feedback.

Open house outreach

Fifteen thousand postcards announcing the open houses were mailed to neighbors and local businesses within one half-mile of the trail study segments as well as to an interested stakeholder mailing list of 1,500 people. An e-mail blast went out to 4,400 people. The open houses were also listed in Metro's GreenScene along with an article about the project. Articles about the project and the open houses appeared in the Sherwood Archer, the Sherwood Gazette, The Boones Ferry Messenger and the Tualatin City newsletter.

An announcement about the open houses was posted on Metro's web site and the web pages of the cities of Sherwood, Wilsonville and Tualatin. The open houses were also posted on Metro's Planning Department newsfeed. Posters were distributed to project steering committee members to post at government buildings, libraries and community centers. A media release was issued to local newspapers the Thursday prior to the first open house.

Open House Format

Metro staff, project consultants and members of the project steering committee staffed the three open houses. An informal format was used allowing members of the public to attend at their convenience and to visit different stations to review displays and discuss the project with team members. There were six stations at each open house:

- Station 1 – welcome/sign-in. Staff at this station welcomed participants and made sure they signed in. Participants were given a questionnaire and asked to fill it out before they left. Greeters also oriented attendees to the station flow and pointed out the children's activity area and refreshments.
- Station 2 – PowerPoint slide show. This station consisted of a looped PowerPoint presentation providing an overview of the project.
- Station 3 – project orientation. Attendees placed dots on an aerial photo map to indicate where they lived and destinations they wanted the trail to serve. Other display boards at this station

included a map of the trail study segments, a project timeline, a decision-making flowchart and regional trail design standards.

- Station 4 – master plan goals. This station had information about the draft project goals.
- Station 5 – trail segments. This station had eight aerial maps showing proposed trail segments for the public to review and provide comments.
- Station 6 – children’s activity table. This station provided art supplies for children to create their vision of what the Tonquin Trail might look like.

Upon signing in, attendees were encouraged to begin by viewing the eight-minute PowerPoint presentation to become familiar with the project. Attendees moved freely between the stations and submitted feedback directly to staff at the open houses by writing on sticky pads, flip charts or by completing a questionnaire.

Open House Feedback

Forty-nine questionnaires were completed at the meetings or on the project web site. The feedback received from the open houses and the questionnaires will be part of the public record and considered during the trail segment analysis work which is due to start in March. Most of the respondents were frequent trail users; many said that they used trails in their neighborhood or in the region and more than half said that they used trails several times a week, mostly for biking. The respondents noted a high interest in trail connectivity, safety and convenience.

Some key areas of concern and comments noted from discussions at the open houses and questionnaires include:

- questions about funding and the construction timeline
- expressions of general support for the project
- concerns about safety and security of the trail users and the adjacent residents and business owners
- request that the trail be designed to accommodate multiple uses (e.g., transportation, recreation, exercise) for a variety of users (e.g., cyclists, joggers, walkers, roller bladers, etc.) and built to accommodate future demand
- preference for the trail to be completely separate from the roadway and – where possible – near creeks, through natural areas and under powerlines
- the appeal of a tie-in of the trail with the Tonquin geologic natural history
- the suggestion that 124th Avenue be extended to the south and incorporate the trail in the right-of-way
- concern about the Boones Ferry Road right-of-way and the area around the Tualatin WES station being tight, with most (if not all) of the railroad right-of-way now used for the commuter rail
- suggestion that cyclists and pedestrians have an alternative off of Tonquin Road because it is too narrow with large trucks traveling at high speeds.

Metro news release

August 4, 2010

Contact: Heather Coston 503-813-7552, heather.coston@oregonmetro.gov

Review potential routes for the Tonquin Trail at community events in Sherwood, Tualatin and Wilsonville or online by visiting Metro's project website

Metro is seeking input on the route of the future Tonquin Trail that will connect the cities of Wilsonville, Tualatin and Sherwood. The Tonquin Trail will provide new opportunities for residents to bike or walk to jobs, schools, transit and shopping, and to exercise or enjoy nature.

The project team will host an informational booth at community events in August to share background, compare possible routes and give community members an opportunity to choose which routes they like best. The same information along with a questionnaire will be available from Aug. 7 to Sept. 10 at www.oregonmetro.gov/tonquintrail.

Metro is leading the development of the Tonquin Trail in partnership with the cities of Tualatin, Wilsonville and Sherwood and Washington and Clackamas counties. Funding for acquisition of the Tonquin Trail corridor was approved by voters in Metro's 1995 and 2006 natural area bond measures. After community input on potential trail routes is received, the project team and partners will select a trail route and develop a plan to guide trail implementation.

Look for the Tonquin Trail booth, talk to project staff and get free animal tattoos for the kids at the following community events:

Wilsonville Fun in the Park
10 a.m. to 5 p.m. Saturday, Aug. 7
Wilsonville Town Center Park
29600 SW Park Place, Wilsonville
Co-hosted with the City of Wilsonville

Tualatin Crawfish Festival
10 a.m. to 7 p.m. Saturday, Aug. 14
Tualatin Community Park
8515 SW Tualatin Road, Tualatin
Co-hosted with the City of Tualatin

Sherwood Music on the Green
6:30 p.m. Wednesday, Aug. 18
Stella Olsen Park
22256 SW Washington St., Sherwood
Co-hosted with the City of Sherwood

Maps, a comparison of the routes and an electronic questionnaire will be posted to the project web site, www.oregonmetro.gov/tonquintrail, from August 7 through September 10, 2010.

Metro, the regional government that serves 1.4 million people who live in the 25 cities and three counties of the Portland metropolitan area, provides planning and other services that protect the nature and livability of our region.

Metro news release

Sept. 8, 2010

Graham Oaks Nature Park and a new section of the regional Tonquin Trail will open Sept. 18 in Wilsonville, marking milestone for Metro's voter-approved Natural Areas Program

The 250-acre park features restored oak woodlands, three miles of trails and a rich cultural history

REPORTING RESOURCES

- To photograph, film or report on students' ceremonial first walk through Graham Oaks on Friday, Sept. 17 – the day before the grand opening – meet at the Villebois trailhead on the north side of the park at 7 a.m. To report on students' outdoor assembly, meet outside Boones Ferry Primary School on the east side of the park shortly before 1 p.m. on Friday, Sept. 17.
- To watch videos about Graham Oaks and find up-to-date details about the grand opening, visit www.oregonmetro.gov/grahamoaks.
- A PDF of the grand opening postcard is attached, with event details.
- A low-resolution PDF of the new park brochure is attached as background information.
- Two photos are attached; additional photos are available by request. Photo credit: Metro Natural Areas Program.
- A map comparing Graham Oaks with similar-sized regional parks is attached.
- To learn about the Tonquin Trail and the ongoing effort to choose its route north from Wilsonville, visit www.oregonmetro.gov/tonquintrail.

INTERVIEW CONTACTS

- To ask general questions or schedule an interview with a **scientist or Metro Natural Areas Program director**, contact Laura Oppenheimer Odom at 503-797-1879 or laura.odom@oregonmetro.gov
- To schedule an interview with **Metro Councilor Carl Hosticka** or **Acting Metro Council President Carlotta Collette**, contact Ina Zucker at 503-797-1543 or ina.zucker@oregonmetro.gov.
- To learn about the City of Wilsonville's role at Graham Oaks, contact planning director Chris Neamtzu at 503-570-1574 or neamtzu@ci.wilsonville.or.us.
- To learn about Clackamas County Commissioner **Charlotte Lehan's family legacy** at Graham Oaks, contact her at 503-313-8040 or clehan@co.clackamas.or.us.

- To learn about Graham Oaks' role as an **outdoor classroom**, contact Bob Carlson, director of the West Linn-Wilsonville School District's CREST environmental education center (adjacent to the park) at 503-673-7349 or calrsonb@wlwv.k12.or.us; or Kathy Gregg, instructional coordinator at Inza Wood Middle School (also adjacent to the park) at greggk@wlwv.k12.or.us.
- To learn about **students who published a Graham Oaks book**, contact Boones Ferry Primary School third-grade teacher April Locke at 503-999-5686 or lockea@wlwv.k12.or.us.

When Graham Oaks Nature Park opens Sept. 18 in Wilsonville, three miles of trails will lead visitors through restored oak woodlands, wetlands and a conifer forest rich with wildlife – and a legacy of Native American tribes and farmers who once used this land.

Two voter-approved natural areas bond measures allowed Metro to purchase and restore the 250-acre site, and develop it as one of the region's most sustainable parks. Graham Oaks is the third major park opened by the Metro Natural Areas Program – and one of the region's largest new parks in several decades.

"At Graham Oaks, returning to the past is creating a better future for Wilsonville and the surrounding community," said District 3 Metro Councilor Carl Hosticka, who represents the area. "Visitors will experience the oak trees, wildlife and sense of serenity that defined this landscape centuries ago."

Before the land was logged and farmed, birds flocked, mammals prowled and camas lily bloomed. Kalapuyan tribes likely used this site to dry blackberries, salal berries and huckleberries, gather fresh strawberries and raspberries, and hunt deer and elk. Plentiful oak trees provided acorns, an important food staple that was soaked, ground and cooked.

During the 1880s, the land was purchased by Marion Young and his wife, Lily Ann – daughter of John Graham, who established Graham's Ferry and ran a mail delivery steamboat across the Willamette River. The family grew hops, filberts, corn, potatoes and grass crops.

The land was sold to the state during the 1950s. Over the years, development options included a National Guard maintenance facility and two women's prisons. A landfill proposal triggered the activism of descendent Dorothy Young Lehan, who passed along her ideals to daughter Charlotte Lehan. As mayor of Wilsonville from 1996 to 2008, Lehan advocated a different future for her ancestors' land.

Metro purchased most of Graham Oaks using funds from a 1995 bond measure designed to protect natural areas. In 2002-2004, the City of Wilsonville initiated and funded a master plan and natural resources management plan for the property. Meanwhile, the Metro Council increased the regional solid waste disposal tax to develop three nature parks, including Graham Oaks. The park received an additional \$300,000 from Wilsonville's "local share" portion of Metro's 2006 natural areas bond measure and a \$500,000 grant from Oregon State Parks and Recreation.

"The dedication of Graham Oaks Nature Park is the culmination of decades of work on the part of many people," said Lehan, who is now a Clackamas County commissioner. "For me personally, it is also an

important part of my family history. I know that many descendants of John Wallace Graham are excited about being here for the dedication.”

The park has changed dramatically since Metro acquired it. Wheat and clover were replanted with more than a hundred million seeds of wildflowers and grasses. Metro also worked with volunteers and contractors to plant 150,000 trees and shrubs historically found in the Willamette Valley, including thousands of oaks. Over time, the young trees will recreate historic oak and pine woodland and savanna, and replenish wetlands and conifer forests. The transformation will benefit species such as the Western bluebird, which rely on oaks and prairies.

Graham Oaks was designed and constructed with the environment in mind. Pervious pavement in the parking lot manages stormwater and removes pollutants; solar panels on the restroom feed into the City of Wilsonville’s electric grid; the picnic shelter features an eco-roof. And the Pacific Northwest economy received a boost from locally sourced materials, such as Columbia River Gorge basalt stonework at the plazas and a pre-fab restroom from Roseburg.

The park also showcases several trails, including an early section of the regional Tonquin Trail. It eventually will link Wilsonville with Sherwood and Tualatin – connecting natural areas, neighborhoods, schools, jobs, shopping centers and transit stops along the way. Metro is seeking public input through Sept. 20 on possible routes for future sections of the Tonquin, with questionnaires available online at www.oregonmetro.gov/tonquintrail.

Graham Oaks’ trails have at least one ready-made audience: children at Boones Ferry Primary School, Inza R. Wood Middle School and the CREST environmental education center, operated by the West Linn-Wilsonville School District. Students at this cluster of schools, next to the park, have studied the history and wildlife of Graham Oaks. They’ll walk to school on the Tonquin Trail on Friday, Sept. 17, and celebrate the new park a day before the public grand opening.

“The Graham Oaks Nature Park provides a multi-generational benefit to area residents and visitors now and in the future,” said Wilsonville Mayor Tim Knapp. “From wetlands to meadows and upland forests, Graham Oaks will offer nearby school students and those who study or enjoy nature an easily accessible park that highlights authentic elements of our Willamette Valley heritage.”

The public grand opening on Saturday, Sept. 18 will include guided tours, live music and entertainment, activities for children and families and a dedication ceremony. A community breakfast at Boones Ferry school and a cycling tour of the park start at 9 a.m., and the main festivities take place from 10 a.m. to 2 p.m.

“Grand opening festivities are very exciting, but their purpose goes beyond a single day of celebration,” said Acting Metro Council President Carlotta Collette. “I know the community will be inspired to return to Graham Oaks over the years to enjoy the park, help care for the landscape and watch the trees grow.”

Metro, the regional government that serves 1.5 million people who live in the 25 cities and three counties of the Portland metropolitan area, provides planning and other services that protect the nature and livability of our region. For more information, visit www.oregonmetro.gov.

Visiting the park



Directions From Interstate 5, take the Southwest Wilsonville Road exit (283); go west on Wilsonville Road. Graham Oaks Nature Park is approximately 1.5 miles west of Interstate 5, on the right. The nature park is adjacent to Inza R. Wood Middle School, Boones Ferry Primary School and CREST environmental educational center.

SMART regional transit provides service from Wilsonville Station to the park via the 4-Wilsonville Road line. The 2x Barbur provides service between Barbur Transit Center and Wilsonville Station.

Hours 6:30 a.m. to legal sunset

Parking There is limited parking at the park entrance. Parking is not allowed at any of the schools.

Bike parking There is a permanent bike parking structure at the entrance of the park, accommodating a total of six bikes. Bikes are permitted only on the Tonquin Trail.

Access Many of the park features are wheelchair accessible, although some trails offer a higher level of challenge.

Strict dog policy Typically, dogs are not allowed at Metro parks and natural areas in order to protect sensitive habitats, local wildlife and plants. Metro is making an exception by allowing dogs on the Tonquin Trail at Graham Oaks because it is a regional throughway. Dogs must be on-leash at all times, and are not allowed anywhere else in the park.

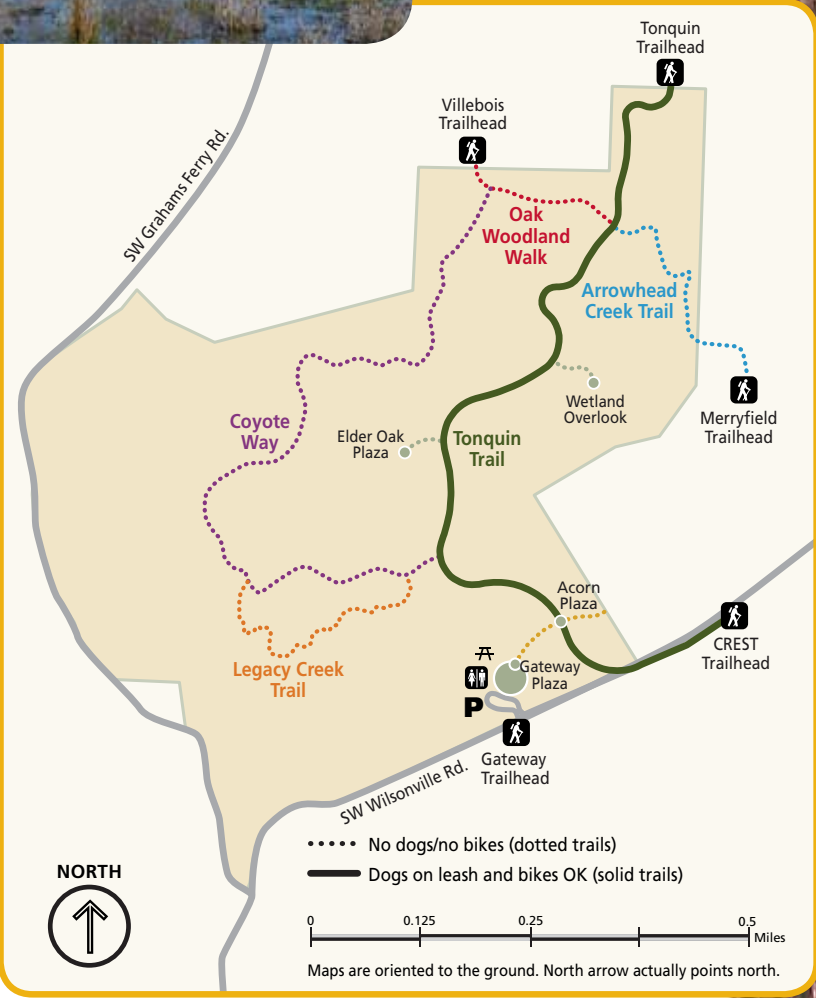
For more information about Metro parks, call 503-797-1850 or visit www.oregonmetro.gov/parks

Picnic shelter The shelter is available on a first-come, first-served basis and cannot be reserved. It is 620 square feet with five picnic tables, two of which are wheelchair accessible, accommodating a total of 36 people. The structure is made of wood, steel and stone support columns constructed with local, environmentally-friendly materials. The roof is planted with sedums and wildflowers that absorb rainfall and provide biodiversity.

Education Graham Oaks serves as a 250-acre outdoor classroom for Boones Ferry Primary and Inza R. Wood Middle schools and CREST environmental educational center, funded and operated by the West Linn-Wilsonville School District. Students study the rich wildlife habitat and cultural history of Graham Oaks from early inhabitants like the Kalapuya Indians to settlers such as Alphonso Boone, who established Boones Ferry.

The Tonquin Trail connects Graham Oaks Nature Park to The Intertwine. The Intertwine is a connected network of parks, trails and natural areas in the Portland, Ore. and Vancouver, Wash. area. To learn how you can help plan, protect and promote The Intertwine, visit www.theintertwine.org.

A special thanks to the partners that have supported the development of Graham Oaks Nature Park. The City of Wilsonville, Oregon State Parks and Recreation and you – the voters who protected this nature park and thousands of acres more by passing the 2006 natural areas bond measure.



Northern harrier
Jim Cruce photo

Western gray squirrel



Orange-crowned warbler



Belted kingfisher
Jim Cruce photo

Native yellow-faced bumble bee

Oregon sunshine
Heritage Seedlings, inc. photo

Graham Oaks Nature Park

Look, listen and discover the animals that live in and visit Graham Oaks Nature Park.

restore
relax
roam
reflect



A historical habitat renewed

Ride your bike on the Tonquin Trail, stroll through a conifer forest or spot birds from a wetland overlook at Metro's Graham Oaks Nature Park in Wilsonville. This 250-acre destination is a playground not just for people but also for wildlife. With restored oak woodlands growing bigger every year, Graham Oaks provides important habitat for native birds and mammals. Bring your family, your camera, a picnic and your curiosity and learn how voters helped renew this special landscape.



Watch the trees grow

Kalapuyan tribes gathered food from this terrain, including acorns from the plentiful oak trees. The land was later logged and farmed; for a time, its future was uncertain. Metro purchased and restored Graham Oaks using funds from two voter-approved natural areas bond measures. Metro staff, volunteers and contract crews planted more than a hundred million seeds of wildflowers and grasses and 150,000 native trees and shrubs – including 15,000 oaks. These young oaks will grow up to look like the lone oak tree visible at the center of the park. This tree is thought to be 150 to 200 years old.

Heritage Seedlings, inc. photo

A trail for every taste

Three miles of trails traverse Graham Oaks, allowing visitors to explore several habitats in a single park. Cyclists and joggers can take the paved Tonquin Trail, which eventually will connect Wilsonville, Tualatin and Sherwood. A spur trail leads to a wetland overlook that's perfect for bird-watchers, while Coyote Way meanders through young oak woodlands. For a bit of shade, follow the Legacy Creek Trail through a rich conifer forest where thousands of species thrive.

Stop, listen, learn

Be sure to visit Graham Oaks' five plazas – perfect spots to rest, reflect and learn about the park. Interpretive signs tell the story of tribes that lived on this land and the family that farmed it; oak habitats, a conifer forest and the wildlife they nourish; the water that flows beneath the soil, and the expansion of the park's wetlands.



Acorn statue

You can't miss the 6,000-pound acorn sculpture, at the appropriately named Acorn Plaza. Local artist Mauricio Saldana designed the piece as the park's contribution to Metro's One Percent for Art program. Saldana's stone carvings can be found in many prominent locations across the region, including Metro's Mount Talbert Nature Park and Smith and Bybee Wetlands.



Go green with Graham Oaks

Welcome to one of the region's greenest parks! The design, materials and construction at Graham Oaks promote environmental stewardship of natural resources in many ways. Pervious pavement in the parking lot and the ecoroof on the picnic shelter manage stormwater and remove pollutants. Solar panels on the restroom feed into Wilsonville's electric grid. And the Pacific Northwest economy gets a boost from locally sourced materials, including beautiful Columbia River Gorge basalt stonework at the plazas and hand-forged metal oak trees on the benches.



Thanks to two voter-approved bond measures, the Metro Natural Areas Program has protected more than 10,000 acres across the Portland metropolitan area. Caring for this land enhances water quality, wildlife habitat and recreation opportunities for future generations. To learn more, visit www.oregonmetro.gov/naturalareas.

About Metro

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy and good transportation choices for people and businesses in our region. Voters have asked Metro to help with the challenges that cross those lines and affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to protecting open space, caring for parks, planning for the best use of land, managing garbage disposal and increasing recycling. Metro oversees world-class facilities such as the Oregon Zoo, which contributes to conservation and education, and the Oregon Convention Center, which benefits the region's economy.

 Metro | *Making a great place*

Whether you are looking for a safe connection to bike or walk to work, new opportunities for recreation and exercise or increased access to nature, you have a stake in the future of the Tonquin Trail. Metro, along with the cities of Tualatin, Sherwood and Wilsonville, Clackamas and Washington counties and local partners, is leading the development of the Tonquin Trail master plan.

The project team needs your help to decide which route the trail should follow from Wilsonville to Sherwood and Tualatin. Visit the Tonquin Trail booth at a community event or go to the project's website to learn about the options and share your thoughts.



Help shape the route of the Tonquin Trail



Metro | *People places. Open spaces.*

Visit the Tonquin Trail booth at a community event and help shape the route of the Tonquin Trail.

Get free animal tattoos for the kids.

Fun in the Park

10 a.m. to 5 p.m. Saturday, Aug. 7

Town Center Park, 29600 SW Park Place, Wilsonville

Co-hosted with the City of Wilsonville

Tualatin Crawfish Festival

10 a.m. to 6 p.m. Saturday, Aug. 14

Tualatin Community Park, 8515 SW Tualatin Road, Tualatin

Co-hosted with the City of Tualatin

Sherwood Music on the Green

6:30 to 8:30 p.m. Wednesday, Aug. 18

Stella Olsen Park, 22256 SW Washington St., Sherwood

Co-hosted with the City of Sherwood

www.oregonmetro.gov/tonquintrail

For more information about the Tonquin Trail, visit the Metro website.

An online questionnaire will be available between Aug. 7 and Sept. 10 for you to share your views.

Voter-approved funds for trail acquisition were included in Metro's 2006 Natural Areas bond measure.



Metro

600 NE Grand Ave.
Portland, OR 97232

Rhino Digital
bulk mail
indicia here



The Tonquin Trail is part of The Intertwine, our connected network of parks, trails and natural areas in the Portland, Oregon and Vancouver, Washington region. To learn how you can help us plan, protect and promote The Intertwine visit www.theintertwine.org

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Metro

TONQUIN TRAIL MASTER PLAN Summer 2010 questionnaire

We want to hear from you! Please complete this questionnaire and leave it with a staff person; mail it to Metro, 600 NE Grand Avenue, Portland, OR 97232; fax it to 503-797-1799; e-mail it to heather.coston@oregonmetro.gov; or complete it online at www.oregonmetro.gov/tonquintrail. All of the information that you saw here is also available online.

Please provide contact information in case Metro staff have questions about your comments.

Name _____

Address _____

Email _____ Phone _____



Please add me to the project mailing list

Tonquin Trail Routes

Please circle the “grade” (A through F) that you would give each potential trail route. Like school, A is best and F is worst.

Connections to Sherwood

Grade (circle one)

B: Coffee Lake Creek/Morgan Road/Baker Road/Snyder Park	A	B	C	D	F	N/A
C: Coffee Lake Creek/Morgan Road/Tonquin Road/Willamette Street	A	B	C	D	F	N/A
D: Coffee Lake Creek/Morgan Road/Tonquin Road/Oregon Street	A	B	C	D	F	N/A
E: Grahams Ferry Road/Tonquin Road/Willamette Street	A	B	C	D	F	N/A
F: Grahams Ferry Road/Tonquin Road/Oregon Street	A	B	C	D	F	N/A
<i>Please note any aspects you like or are concerned about related to the Sherwood connections.</i>						

Connections to Tualatin

Grade (circle one)

I: Coffee Lake/Morgan Road/Tonquin Road/108th Avenue/Avery Street/Hedges Creek Marsh	A	B	C	D	F	N/A
J: Grahams Ferry Road/Tonquin Road/108th Avenue/Avery Street/Hedges Creek Marsh	A	B	C	D	F	N/A
K: Grahams Ferry Road/Ibach Park/Indian Meadows Greenway/Boones Ferry Road	A	B	C	D	F	N/A
L: Powerline corridor/Day Road/Boones Ferry Road/Norwood Road/I-5	A	B	C	D	F	N/A
<i>Please note any aspects you like or are concerned about related to the Tualatin connections.</i>						

(over)

Please share any other comments about the trail that you'd like Metro to consider.

Please tell us about yourself.

Which community do you live/work in?

	<u>Live</u>	<u>Work</u>
Sherwood	<input type="checkbox"/>	<input type="checkbox"/>
Tualatin	<input type="checkbox"/>	<input type="checkbox"/>
Wilsonville	<input type="checkbox"/>	<input type="checkbox"/>
Unincorporated Washington County	<input type="checkbox"/>	<input type="checkbox"/>
Unincorporated Clackamas County	<input type="checkbox"/>	<input type="checkbox"/>
Other	<hr/>	<hr/>

How would you use the Tonquin Trail if it was constructed (check all that apply)?

☐ Walking/jogging

☐ Biking

☐ In-line skating

☐ For commuting to work

☐ For recreation

☐ To reach schools

☐ To reach shopping or other community destinations

☐ To experience nature

☐ Other

Thank you. This questionnaire will be available online between Aug. 7 and Sept. 10.



Metro

600 NE Grand Ave. Portland, OR 97232
503-797-1700 www.oregonmetro.gov

Tonquin Trail master plan August 2010 public events summary

In August and September, the Tonquin Trail master plan project team and representatives from the cities of Sherwood, Tualatin and Wilsonville hosted a Tonquin Trail booth at four community events. The events included:

- Fun in the Park – Town Center Park, Wilsonville, Saturday, Aug. 7
- Tualatin Crawfish Festival – Tualatin Community Park, Tualatin, Saturday, Aug. 14
- Sherwood Music on the Green – Stella Olsen Park, Wednesday, Aug. 18
- Graham Oaks Nature Park grand opening – Saturday, Sept. 18

Approximately 1,000 people visited the Tonquin Trail booths to view maps of the route options and provide feedback about their preferences. Event materials and an online questionnaire were posted on Metro's Tonquin Trail Master Plan web page for those unable to attend an event and interested in weighing in on the route choices. The feedback received at the events and on line will be part of the public record and considered by the project steering committee prior to recommending a preferred trail alignment.

Event Outreach

Fifteen thousand postcards announcing the Tonquin Trail booth at the events were mailed to neighbors and local businesses within one half-mile of the trail study segments as well as to a stakeholder mailing list of 1,500 people. An e-mail blast went out to 4,400 people. Announcements about the events were posted on Metro's web site and the web pages at the cities of Sherwood, Tualatin and Wilsonville. The events were also posted on Metro's newsfeed. A media release was issued to local newspapers the Thursday prior to the first event.

Event Booth Format

Metro staff, project consultants and city representatives staffed the booth at the four events. The booth included large display maps showing route options from Wilsonville to Sherwood and Wilsonville to Tualatin. Staff asked for input on the pros and cons associated with the route options and recorded feedback on sticky notes. Visitors were given a small card with the project web site and encouraged to fill out a questionnaire on line. Free animal tattoos were handed out to children visiting the booth with their parents.

Summary of Public Feedback

29 questionnaires were completed, primarily online, but the majority of comments were received from visitors to the trail booth at the events. Questionnaire respondents ranked trail routes from Wilsonville to Sherwood and from Wilsonville to Tualatin by giving the route a grade (A through F, like school grades). Of those who provided specific input at the public events or online, most of the respondents preferred routes that were separated from traffic. People also stressed the importance of connectivity to other regional trails, transit and community destinations. Some community members also noted that the trail should be direct for commuters. Most of the respondents indicated that they will use the trail

for walking, running, biking and to experience nature. Event participants were also interested in when the trail would be constructed.

Representative comments from questionnaires include:

- Like direct connecting routes. Routes that connect things will be used more often.
- Off-street and safe for families. Direct connections for commuting.
- The trail should connect to the Tualatin River National Wildlife Refuge visitor's center and Trimet.
- It would also be good to connect with trails being considered by the West Bull Mountain plan.
- Bike path from Tualatin to Wilsonville is desperately needed. Like access to east of I-5. .
- It seems like Boones Ferry could use a little extra space on the shoulders between Day and the schools. If the trail is on Grahams Ferry Rd., have it connect to Ibach Park too.
- I like this because I can ride a long way without a lot of street crossings and much of it is on a designated bike path.
- Car noise and pollution is not enjoyable for bicyclists. Need route that connects to Portland. Currently I ride up to Hall then to Barbur daily. How about connecting to WES commuter rail?
- This trail system would be most useful if it felt safe (separate from roads) was easy to follow (good signage) and did not have very steep of hills. A great idea; looking forward to it.
- I am a marathon runner, live in Sherwood and work in Wilsonville. I would use this trail daily. We already take our kids to school by bike, and would love to bike to work in Wilsonville. Please, please make this happen. We need more trails and most runners I know hate running on Tualatin-Sherwood road and Roy Rogers. There's just too much traffic.
- I'm excited for it!
- Don't like Graham's Ferry Road.
- Tonquin Road is too dangerous, must have trail off-street.
- Don't like trails under power lines.
- Like connections to points north and Portland.
- Concern for safety of user and impacts to environment along 108/105 (death curve at Blake and 105th).
- Blend access to nature with access to community destinations.
- I-5 route is good for commuters, bad recreational experience.

Summary of Event Notes:

- Need safer route to Bryon Elementary school in vicinity of 103rd and Graham Ferry.
- Access to coffee shops and nature along the trail.
- Access from schools to library is important.
- Southern section of Grahams Ferry very dangerous for pedestrians and bicyclists.
- Like trail close to home, but don't have it go through neighborhood streets.
- Choose route that goes through most parks and is most scenic and away from cars – not Boones Ferry Rd.
- Connection to other regional trails important.
- Avid commuters don't mind on-street if safe and direct.
- Don't like to have to go slow on shared use paths.
- Trail should not conflict with transportation improvements to I-5 to 99W.
- Indian Meadows residents like that route.
- Chieftan Dakato residents ok with I-5 but needs to be well maintained.
- If it goes on Boones Ferry, need a bike path.

- 25 % of users would be ok with using shoulder of Morgan / Baker because they are out for exercise, but remaining 75% will not and would prefer off-street for families.
- Need to find a balance for those who want to go faster and those who are out for a stroll
- Walking and bikes on same trail is a conflict, dividing stripe can help.
- Looking for long distances for walking.
- Like routes that provide nature experience.
- Want more loop options in Tualatin routes.
- Need to educate the drivers about how to accommodate bicyclists.
- Need more direct route for commuters from Sherwood to Wilsonville.
- Less steep is better.

Get a Sneak Preview of the Tonquin Trail at May 23 Open House

Nature lovers, walkers, joggers and cyclists have helped shape the future Tonquin Trail, which will become one of the region's signature pathways. Now, a May 23 open house offers you a sneak preview of the route and design before project partners formally adopt the blueprint for this 22-mile trail.



When the Tonquin Trail is complete, it will connect the Willamette and Tualatin rivers, the cities of Wilsonville, Tualatin and Sherwood – and dozens of neighborhoods, businesses, schools and parks along the way. This paved regional trail will offer a wide variety of experiences, from a weekend stroll with the family to a headache-free commute to work. It also provides a window into a unique landscape shaped by ice-age floods.

People are already enjoying the trail at Metro's Graham Oaks Nature Park in Wilsonville, Stella Olsen Park in Sherwood and Tualatin Community Park. These early sections give a taste of what's to come, said Al Levit, a Wilsonville planning commissioner and member of the Tonquin Trail Steering Committee.

"It's a great opportunity for people to get out and walk and bicycle and jog," said Levit, an avid cyclist. "When the trail is complete, it will be an even better opportunity for people to not only commute to work, but to increase the length of their rides and walks – and maybe even connect up with other trails in the area. It's a key link in the regional system."

As funding becomes available,

additional sections of the Tonquin will be built. That process will take a major step forward later this year, when Metro, Clackamas and Washington counties and the three cities along the route consider the master plan for approval.

At the open house, you can see how your neighborhood connects to the Tonquin, check out the look and feel of the trail and offer feedback. There will also be snacks, children's activities and an opportunity to get involved with planning the Westside Trail, which will someday meet up with the Tonquin.

Tonquin Trail open house
5 to 8 p.m. Wednesday, May 23
Tualatin Valley Fire and Rescue,
12400 SW Tonquin Road
in Sherwood

Work Continues on TSP Project

Work on updating the Transportation System Plan (TSP) is heating up and Wilsonville residents still have many opportunities to provide input to help shape the Plan.

On March 14 the Planning Commission discussed the draft revised TSP goals and project evaluation criteria. The City Council discussed this issue at their work session on April 16.

On May 7, the City Council and Planning Commission are holding a joint work session to review the draft solutions memo. Based on input a revised memo will be produced and shared with the public. A second TSP open house where the public can provide input on the revised transportation solutions memo is scheduled for May 22 from 5:30 p.m. – 7:30 p.m. at City Hall. After the open house, the city's consultant DKS Associates will develop a final solution package with financial considerations and present it to the City Council and Planning Commission in late summer. There will be opportunities for public input throughout the process.

"It is going to get more interesting as we move forward and talk about

real solutions and the associated price tags," said Planning Director Chris Neamtzu. "We will have real lines on maps that show potential projects and priorities. The meat of the project is occurring over the next six months."

The public can still provide feedback or be added to the interested parties list by visiting the city's website at www.ci.wilsonville.or.us.

Watch for Community Survey - And Send Your Feedback

In the coming weeks, 3,000 Wilsonville residents in one of seven distinct neighborhoods can expect to receive a city survey in the mail. Old Town and Charbonneau are examples of distinct neighborhoods.

The city is using the National Citizen Survey that was developed by the International City/County Management Association (ICMA) and National Research Center Inc. Using a scientific approach, the survey that reaches 3,000 residents provides a 99% confidence level. The survey's method will cover certain neighborhoods as well as receive proportionate responses from apartment buildings.

The confidence level is a way to gauge the sample's effectiveness in representing the city's population. A sample can be compared to a pot of soup where a few servings will reveal what the soup tastes like. The validity of any survey depends on randomness. By choosing respondents randomly the results can be generalized to the whole population.

Information the city receives will help in creating policies, establishing Council goals, be incorporated into the city's communications plan, and give city leaders and idea how community members feel about a certain topic.

Answers to questions such as quality of life, city characteristics, and the value of city services will be invaluable in helping the city deliver services that are important to the community.



Tualatin

May 2012

today

Tualatin Volunteers Rock

The foundation of a humane and just society is the people's willingness to work together for the common good. This is evident in Tualatin by the service of 3,428 volunteers contributing 38,506 hours of their time in 2011!

Our Volunteers ROCK! was the theme for this year's volunteer appreciation barbecue honoring our volunteers. The awards are based on the volunteer addressing a critical need, their service resulting in significant improvements, leveraging community resources to solve problems, and a sustained commitment of time and effort.

Linda Hunsdon was presented with the 2011 Outstanding Adult Volunteer. Linda is a highly skilled finance volunteer. Other nominees were David Abbey, Pamala Erdman, and Connie Ledbetter.

For her work with the Friends of the Library, Tualatin Library Committee, and Tualatin Library Foundation, Marge Congress was awarded the 2011 Outstanding Senior Volunteer. Eleanore Mickus was also nominated.

The selection of Outstanding Volunteer is always difficult. This year we had a tie for Outstanding Youth Award. As two candidates were so well-deserving, the award was presented to both Sam Ford and Ryan Houlberg.



*Mayor Ogden Congratulates the 2011 Volunteer Award Winners (from top left, clockwise)
Outstanding Senior: Marge Congress, Outstanding Adult: Linda Hundston, and
Outstanding Youth: Ryan Houlberg and Sam Ford.*

Sam Ford was recognized for his service to the Youth Advisory Council as chair of the Haunted House committee. Ryan Houlberg was recognized for his service as a Crew Leader for Put Down Roots in Tualatin events and the Youth Advisory Council. Other nominees for Outstanding Youth Volunteer were Spencer Bateman and Janiel Santos.

City Manager Sherilyn Lombos wrote of the volunteers, "The Urban Dictionary says that

'You Rock' is an expression used to convey admiration and gratitude"; my favorite part of the Urban Dictionary definition is this: "You Rock" supersedes all other compliments! Thank You for your generosity and kindness at heart!"

For more information on how you can get involved contact Victoria Eggleston, 503.691.8105 veggleston@ci.tualatin.or.us, or visit our website www.ci.tualatin.or.us/community/volunteer/.



check it out!

Farmers Market Opens June 15

Opening day for the Tualatin Farmers Market is June 15! Enjoy farm-fresh produce, live music, have dinner and meet friends. Friday evenings 4:00-7:00 pm all summer. Fresh, local, easy and fun – come join us on the lake at the Tualatin Commons.

Visit www.tualatinfarmersmarket.com to sign up for our newsletter, and like us on Facebook to see what's going on at your market. We are feeding our community!

Online Utility Billing

We have heard from so many of you that you would like to pay your utility bill online, and we are in the final stages of offering this feature. We want to make sure everything works correctly before fully launching the program, so we will be testing the process in May. Look for a flyer with your June utility bill for more details about the program and how to sign up. Some of the features that will be available via this option are:

- The ability to set up “E-notification” of your bill in lieu of a paper bill. You will get an email to advise you that your bill is available to view and pay.
- Pay online with VISA or MasterCard
- Save your information for future use

Please contact Steve Clark at sclark@ci.tualatin.or.us or at 503.691.3056 if you have any questions.

Budget Meetings

Once again it's budget time and city staff is in the final stages of putting together the proposed Fiscal Year 2012/13 budget. The proposed budget will be presented to the City of Tualatin Budget Advisory Committee at its first meeting. The scheduled budget meetings are:

May 17 – 1st Budget Committee meeting, 6:00 pm, Tualatin Police Department

May 30 – 2nd Budget Committee meeting, 6:00 pm, Tualatin Public Library

May 31 – 3rd Budget Committee meeting (if necessary), 6:00 pm, Tualatin Public Library

June 25 – Public Hearing to adopt the budget, 7:00 pm, Council Building

The proposed budget will be available for viewing on our website on May 18. If you have any questions about the budget or budget process, please contact our Finance Department at 503.691.3054.

Memorial Day Observance

Memorial Day is not just another day off from work or school. Tualatin has an annual ceremony at Winona Cemetery (located west of Tualatin Country Club, on Tualatin Rd) at 11:00 am on Memorial Day, May 28. This is a good way to honor those who served our Country.

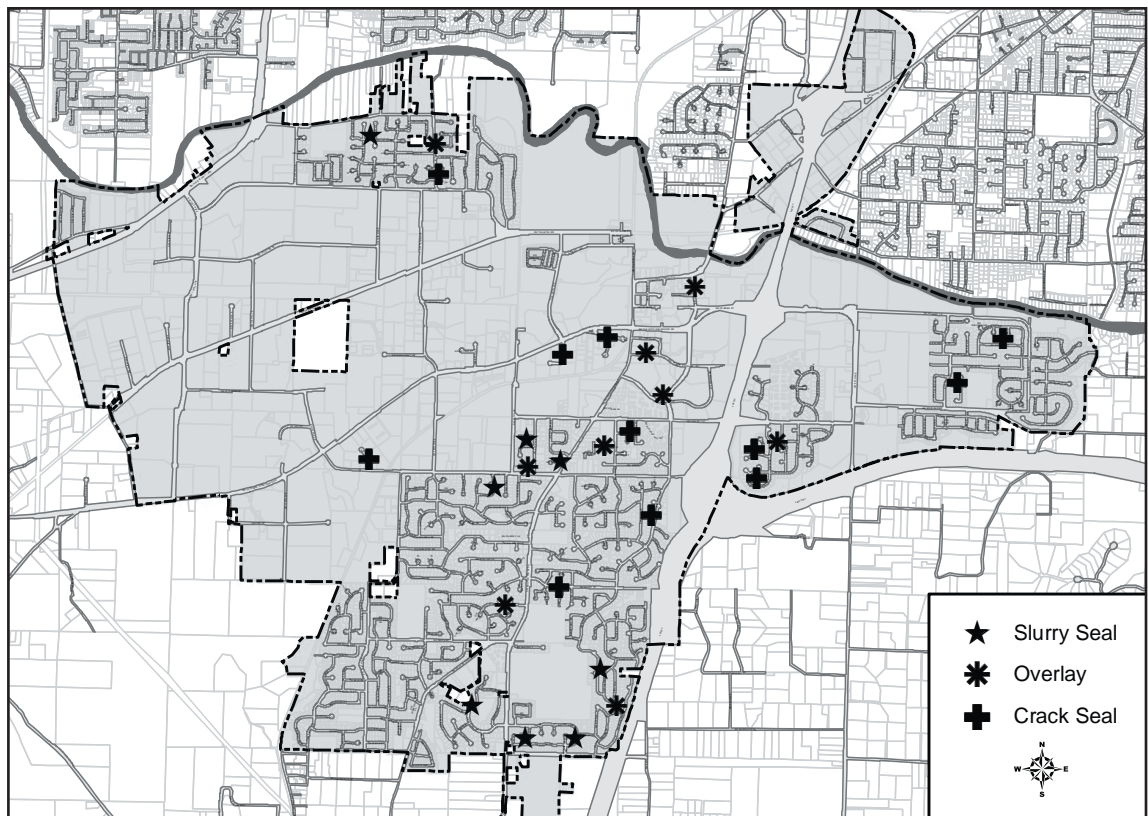


The event features the Tualatin Police Honor Guard and a WWII submarine veteran who will play taps on a bugle at the conclusion of the event and a special fly-over. Former City Councilor Bill Gleason will speak on “From the Farm to Navy Seaman in WWII.” State Senator Richard Devlin will lead the pledge of allegiance. For questions, contact Master of Ceremonies Dale Potts, 503.692.1832.

Pavement Maintenance - Summer 2012

The City's pavement maintenance is evaluated annually. Road evaluation is based upon a common government scoring system called the Pavement Condition Index, or PCI. PCI's use a scale of zero (awful) to 100 (perfect). We are proud to say that Tualatin's total system rating is currently above 90 PCI!

This year's projects include slurry seals, overlay, and crack sealing as noted in the adjacent map. For a larger view of the map, logon at www.ci.tualatin.or.us/departments/communitydevelopment/tualgis/maps/pavementimprovements.pdf. Projects will begin this summer; watch for the schedule. If you have questions regarding this year's project, contact Bert Olheiser, at bolheiser@ci.tualatin.or.us or 503.691.3096.



Spring Clean-Up Opportunities

FREE** BULKY WASTE DROP-OFF DAY – TUALATIN RESIDENTS ONLY

Saturday, May 19, 10:00 am - 2:00 pm
Allied Waste Services ,
10295 SW Ridder Road, Wilsonville
Acceptable bulky waste items include dishwashers, refrigerators, stoves, dryers, water heaters, couches, chairs, tables, and mattresses. You can also bring computer monitors and TV's for recycling. They DO NOT accept tires or hazardous waste such as propane bottles, paint, batteries, solvents, thinners, and garbage.

FREE** YARD DEBRIS DROP-OFF DAY TUALATIN RESIDENTS ONLY

Saturday, June 2 , 10:00 am - 2:00 pm
Grimm's Fuel
18850 SW Cipole Road at Highway 99, Tualatin
Yard debris consists of leaves, weeds, grass clippings, branches, and prunings no larger than 4 inches in diameter or 8 feet in length.

For questions call Kathy Kaatz at 503.691.3093. Both events are for Tualatin residents only - be prepared to show proof of residency. ****Don't forget: We will collect canned and non-perishable food donations for the Tualatin School House Pantry at both events.**

Backflow Device Tests Due

REMINDER - 30-DAY NOTICE - RESIDENTIAL BACKFLOW DEVICE TEST REPORTS DUE JUNE 1

It is very important to have your backflow device tested before turning on your irrigation system or any other system that is being protected by your backflow preventer.

The City requires that you submit a passing test report each year no later than June 1 to avoid receiving a 5-day shut-off notice or interruption of your water service. Residential properties with any of the following items are required to have an approved backflow prevention device installed and tested by June 1 of each year: (1) in-ground irrigation system; (2) active well; (3) in-ground swimming pool/spa; (4) ornamental fountain; (5) fish pond; or (6) solar heating system. If you have questions contact Ernie Castro at 503.691.3098.

Solar Panels on City Buildings

Investing in solar energy makes good business sense. With a solar electric or solar water-heating system, you can:

- Reduce your carbon footprint
- Reduce your operating costs
- Add value to your property

PGE supports customer-owned solar power projects through net-metering, which allows customers to generate their own solar power and tap into the PGE grid as needed. Environmental Protection Agency (EPA) defines green power as electricity produced from solar, wind, geothermal, biogas, biomass, and low-impact small hydroelectric sources. Green power sources produce electricity with an environmental profile superior to conventional power technologies and produce no anthropogenic (human caused) greenhouse gas emissions.

Solar modules are comprised of a number of solar cells that allows light to be conducted by the semi-conductors into the

solar cells and converted to energy. This process creates direct current (electricity) which is routed to an inverter that converts the electricity into AC current.

The City of Tualatin completed a solar project partnering with PGE as part of their Feed-in Tariff Program in January, 2012. The system was installed at the Operations site on Herman Road. This system will produce approximately 10,000 KWH of power annually or 5% of the power used at the Operations site.



Solar panels installed at the Operations site on Herman Road.

Street sweeping will occur May 7-18, weather permitting. For specific information on street sweeping in your area, check out our street sweeping map at www.ci.tualatin.or.us/departments/communitydevelopment/tualgis/maps/streetsweepingprogram.pdf

Tip-A-Cop Event



On Friday, May 11, 5:00-9:00 pm Buffalo Wild Wings Grill & Bar will host a "Tip-A-Cop."

"Tip-A-Cop" is an official Law Enforcement Torch Run Campaign (LETR) fundraising event. Tualatin Police Officers and department personnel will volunteer their time as "Celebrity Waiters" to collect tips at the Tualatin Buffalo Wild Wings Grill & Bar to support Special Olympics Oregon.

Special Olympics Oregon provides year-round sports training and competition for children and adults with intellectual disabilities. By participating in sports, physical fitness and healthcare education programs, Special Olympics Oregon athletes increase self-confidence and social skills, improve physical and motor skills, and have better success in leading more productive and independent lives. It is events like "Tip-A-Cop" that help us provide these programs at no cost to the athletes or their families.



Tonquin Trail Open House

Nature lovers, walkers, joggers and cyclists have helped shape the future Tonquin Trail, which will become one of the region's signature pathways. Now, a May 23 open house offers you a preview of the route and design before project partners formally adopt the blueprint for this 22-mile trail. At the open house, you can see the recommended alignment of the Tonquin Trail, check out the look and feel of the trail and offer feedback. There will also be snacks, children's activities and an opportunity to get involved with planning the Westside Trail, which will someday meet up with the Tonquin Trail.

When the Tonquin Trail is complete, it will connect the Willamette and Tualatin rivers, the cities of Tualatin, Sherwood and Wilsonville – and dozens of neighborhoods, businesses, schools and parks along the way. This paved regional trail will offer a wide variety of experiences, from a weekend stroll with the family to a headache-free commute to work. It also provides a window into a unique landscape shaped by ice-age floods.

Tonquin Trail Master Plan Open House
5:00 p.m. to 8:00 p.m., Wednesday, May 23
Tualatin Valley Fire and Rescue Campus
12400 SW Tonquin Road in Sherwood

mayor

Lou Ogden

council

Monique Beikman
 Wade Brooksby
 Frank Bubenik
 Joelle Davis
 Nancy Grimes
 Ed Truax

city manager

Sherilyn Lombos
 slombos@ci.tualatin.or.us

city information

18880 SW Martinazzi Avenue
 503.692.2000
 503.691.4800 (Police Department)
 503.629.0111 (Non-emergency dispatch)
 503.692.0574 (TDD line)

Contact Council via e-mail at council@ci.tualatin.or.us

For more information, visit our website at www.ci.tualatin.or.us



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Paddle the Tualatin!

Looking for a fun and exhilarating summer activity to do with your friends and family? Alder Creek Kayak and Canoe offers family-friendly, paddle-away kayak and canoe rentals on the Tualatin River from their rental center in Brown's Ferry Park. First time paddlers welcome. For more information on kayak and canoe rentals please contact the Community Services Department at **503.691.3061** or Alder Creek at Brown's Ferry Park during their hours of operation at **503.691.2405**.

Saturdays and Sundays
 May 24–September 14
 10:00am–7:00pm

Wednesday–Friday
 June 25–August 29
 12:00pm–7:00pm

Explore Your Parks

Nothing beats summer in a park. Strolling through tall trees, putting your kayak in the river, hitting fly balls to beginning fielders, shooting hoops, bird watching, jogging, having a family reunion, and walking the family dog are just a very few of the things you can do in your parks. For more information about Tualatin's parks or to reserve a picnic shelter, sports field, or community center visit www.tualatinparks.com or call 503.691.3061.



Watch on Live Channel 28

Watch City Council meetings on Tualatin Valley Community Television, Cable Channel 28 live, the 2nd and 4th Mondays of the month at 7:00 pm. Rebroadcasts are on Wednesdays at 7:00 am, Fridays at 6:30 am, Saturdays at 7:00 am, and Sundays at 8:00 pm.

All City Council and Advisory Committee meetings are open to the public and provide an opportunity for citizen comment. The community is encouraged to attend and provide input. The agenda and packet materials are available for review in the Library, City offices, and at www.ci.tualatin.or.us, generally seven calendar days prior to the Council meeting. Unless otherwise noted, all meetings are held in the Council Chambers, 18880 SW Martinazzi Ave.

Do you have questions or comments regarding the newsletter? Please contact Debra Bullard in Administration at 503.691.3022 or dbullard@ci.tualatin.or.us.

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Weigh in on Tonquin Trail plan

BY CHRISTINA LENT

The Times, May 17, 2012, Updated May 17, 2012 (1 Reader comment)

The public is invited to attend the final open house for the Tonquin Trail Master Plan on Wednesday, May 23 and weigh in on future connections between Tualatin, Wilsonville and Sherwood.

The event will be held from 5 to 8 p.m. at the Tualatin Valley Fire & Rescue Training Center, 12400 S.W. Tonquin Road in Sherwood.

When constructed, the 22-mile trail will connect the Willamette and Tualatin rivers and the cities of Wilsonville, Sherwood and Tualatin with safe pedestrian and bicycle paths. The proposed plan offers links to Tualatin Community Park, Tualatin River National Wildlife Refuge, Hedges Creek, the Tonquin Geologic Area and Grahams Oak Nature Park in Wilsonville. In addition, the trail provides routes connecting neighborhoods, schools, commercial and employment areas and town centers.

As part of the regional trail network, the Tonquin Trail will also connect to the Westside Trail and Fanno Creek Trail.

A feasibility study for the project was completed in 2005, and the Tonquin Trail Master Plan process began in July 2009. Metro, in partnership with the cities of Wilsonville, Sherwood and Tualatin, and Clackamas and Washington counties, expect to complete a final plan this summer. Each jurisdiction will then be asked to adopt the plan and include the Tonquin Trail in local land-use and transportation plans.

Over the past two years, more than 1,000 people have shared their ideas about the trail project. That feedback has helped guide the development of route options, preferred alignment and trail design ideas, said Carl Switzer, parks and recreation manager for the city of Tualatin.

For more information about the project, visit www.oregonmetro.gov/tonquintrail.



JAIME VALDEZ / THE TIMES
A path by the Tualatin Meadows apartments along the north side of Hedges Creek is a part of the Tonquin Trail Master Plan.

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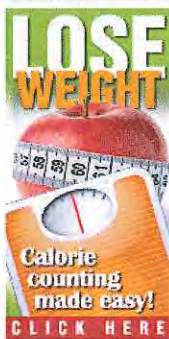
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ohsu.edu/orthopaedics

AdChoices

Reader comments

Re: Weigh in on Tonquin Trail plan

The trail should stay off private property and existing business property.
The trail should also not bisect private property.

"Mark Brown/Brown Transfer/McCammant Properties/Tonquin Industrial Group"
(email verified)

Mon, May 21, 2012 at 09:56 AM

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• Only a comment submitted with a valid e-mail address will be published online upon submission. Any comment submitted without a valid e-mail address will be held for review before it is published or rejected. We encourage readers to submit comments as "letters to the editor" in our print edition by using the "Letters" submission form.

• Comments are not edited. They are either displayed in their entirety or not displayed at all.

• Comments judged to be inappropriate for publication due to personal attacks, unsubstantiated allegations of criminal activity, libel or other objectionable content will be removed.

• Comments containing profanity will be rejected automatically.

• Comments containing the full text of articles or stories from other web sites will be removed as republication on this site would be a violation of copyright. Web addresses to those other sites are allowed, however.

• HTML, including style tags and hyperlinks, will be automatically removed.

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Re: Weigh in on Tonquin Trail plan

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May 2012 Issue
www.sherwoodoregon.gov

May 2012 MEETINGS

CITY OF SHERWOOD MEETINGS
Meetings at City Hall unless otherwise noted.

May 1st	City Council	7:00pm
May 3th	Cultural Arts Comm.	6:30pm
May 7th	Parks & Rec. Board	7:00pm
May 8th	Planning Comm.	7:00pm
May 10th	SURPAC	6:30pm
May 15th	City Council	7:00pm
May 22nd	Planning Comm.	7:00pm

City Council and Planning Commission meetings
broadcast on Comcast 23 and Frontier channel 24

PUBLIC MEETINGS

Budget Committee	6:30pm
4th Monday of every quarter	
City Council	7:00pm
1st & 3rd Tuesday of every month	
Cultural Arts Commission	6:30pm
1st Thursday of every month	
Library Advisory Board	6:30pm
3rd Wednesday of every other month	
Parks & Recreation Board	7:00pm
1st Monday of every month	
Planning Commission	7:00pm
2nd and 4th Tuesday of every month	
SURPAC	6:30pm
2nd Thursday of every quarter	

Get a sneak preview of the Tonquin Trail at the May 23 Open House

Nature lovers, walkers, joggers and cyclists have helped shape the future Tonquin Trail, which will become one of the region's signature pathways. Now, a May 23 open house offers you a sneak preview of the general route and design elements before project partners formally adopt the blueprint for this 22-mile trail.

The Metro Council recently set aside \$5.1 million in federal transportation funds to plan, design and build Sherwood's portion of the trail, known as the Cedar Creek Greenway. Sherwood residents will have an opportunity to take part in fine-tuning the alignment and design for this section of the trail in the upcoming year and this Open House will be a great opportunity for residents to learn more about how they can take part in this next phase of the project.

When the Tonquin trail is complete, it will connect the Willamette and Tualatin rivers, the cities of Sherwood, Tualatin and Wilsonville – and dozens of neighborhoods, businesses, schools and parks along the way. This paved regional trail will offer a wide variety of experiences, from a weekend stroll with the family to a headache-free commute to work. It also provides a window into a unique landscape shaped by post ice-age floods.

"It's exciting to envision," said Brian Stecher, Sherwood's citizen representative on the Tonquin Trail Steering Committee. "I hope it's a little woodsy, which I think it will be – especially our part, going down through Cedar Creek," he said. "The other thing is, it will connect the community. Sherwood is really divided by 99W."

People are already enjoying the trail at Stella Olsen Park in Sherwood, Tualatin Community Park and Metro's Graham Oaks Nature Park in Wilsonville. Completing other sections will take a major step forward later this year, when Metro, Washington and Clackamas counties and the three cities along the route consider the master plan for approval.

At the open house, you can see how your neighborhood connects to the Tonquin trail, check out the look and feel of the trail and offer feedback. There will also be snacks, children's activities and an opportunity to get involved with planning the Westside Trail, which will someday meet up with the Tonquin.

Tonquin Trail Open House -5:00pm to 8:00pm, Wednesday, May 23
Tualatin Valley Fire and Rescue, 12400 SW Tonquin Road in Sherwood.



Metro Newsfeed

For a sneak preview of the Tonquin Trail, make the trek to May 23 open house

Inspired by Ice Age floods that scoured the landscape, the Tonquin Trail plunges into the future this summer as Metro and its partners finalize the blueprint for a signature pathway that connects Tualatin, Sherwood and Wilsonville.

A master plan for the 22-mile trail will be adopted later this year, but you can get a sneak preview at a May 23 open house. Metro Councilor Carl Hosticka, who represents the southwest part of the region, predicts people will like what they see: a trail that links vibrant neighborhoods, schools, parks and business hubs, providing ways to enjoy nature, exercise and commute -- weaving together much of Metro's work.

"It brings all the kind of things we're trying to accomplish into play," Hosticka said. "It's the whole package."

Shaped like a pitchfork, the Tonquin will stretch northward from the Willamette River past the Washington-Clackamas county line, with three prongs extending toward the Tualatin River. Walkers, runners and cyclists will traverse unique geologic formations such as kolk ponds and channels, basalt hummocks and knolls, left behind by floods that swept through the Willamette Valley between 13,000 and 15,000 years ago.

A trail has been envisioned for a long time, but making it reality didn't come quickly or easily. In partnership with the three cities and two counties along the route, Metro launched the planning process three years ago. A steering committee helped analyze options for the route and design, and reach agreements about who would operate and maintain each section of the trail. More than 1,000 residents weighed in online, at open houses or at community festivals.

At the open house this month, visitors will have an opportunity to see how their neighborhood connects with the trail and check out the proposed design. They can also provide feedback before the plan is finalized and forwarded to regional, city and county elected officials in a few months.

Meanwhile, people are already enjoying small sections of the trail at Stella Olsen Park in Sherwood, Tualatin Community Park and Metro's Graham Oaks Nature Park in Wilsonville. These snippets offer a taste of what's to come, said Al Levit, a Wilsonville planning commissioner and member of the Tonquin steering committee.

"It's a great opportunity for people to get out and walk and bicycle and jog," said Levit, an avid cyclist. "When the trail is complete, it will be an even better opportunity for people to not only commute to work, but to increase the length of their rides and walks -- and maybe even connect up with other trails in the area. It's a key link in the regional system."

The rest of the trail, which is projected to cost **XXXX**, will be built piece by piece as resources are identified. First up: Sherwood's portion, known as the Cedar Creek Greenway. The Metro Council recently set aside \$5.1 million in federal transportation funds to plan, design and build this section, and Sherwood residents will have an opportunity to help fine-tune the route and design in the coming year.

“I hope it’s a little woodsy, which I think it will be – especially our part, going down through Cedar Creek,” said Brian Stecher, Sherwood’s citizen representative to the steering committee. “The other thing is, it will connect the community. Sherwood is really divided by 99W.” Trail advocates predict that the Tonquin will become popular quickly as it unfolds on the ground. It's exciting to envision a walk or ride on the completed trail, said Carl Switzer, Tualatin's parks and recreation manager and a member of the steering committee. “People in Tualatin love their parks and trails,” Switzer said. “I imagine the entire length of the trail will be swarmed with joggers, dog walkers, fitness clubs, stroller pushers – you name it.”

FACT BOX

Tonquin Trail open house

5 to 8 p.m. Wednesday, May 23

Tualatin Valley Fire and Rescue, 12400 SW Tonquin Road in Sherwood

See how your neighborhood connects to the Tonquin, check out the look and feel of the trail and offer feedback. There will also be snacks, children’s activities and an opportunity to get involved with planning the Westside Trail, which will someday meet up with the Tonquin.

For a trail map and more information, visit www.oregonmetro.gov/tonquintrail.

Tonquin Trail open house

5 to 8 p.m. Wednesday, May 23

Drop in to check out the look and feel of the trail and see how it connects to your neighborhood and other regional trails.

Thanks for helping shape the Tonquin Trail, which will someday link the Willamette and Tualatin rivers and the cities of Tualatin, Sherwood and Wilsonville. Hundreds of people have contributed to a master plan for the 22-mile trail, which will be approved this fall.

Perhaps you're already enjoying the Tonquin at Tualatin Community Park, Stella Olsen Park in Sherwood or Metro's Graham Oaks Nature Park in Wilsonville. Someday, you'll have many more places to experience this unique landscape by foot or bike.



**See you on the Tonquin Trail –
or at the open house!**



Metro | *Making a great place*

You're invited

Tonquin Trail open house

5 to 8 p.m. Wednesday, May 23

**Tualatin Valley Fire and Rescue training facility
12400 SW Tonquin Road, Sherwood**

See how your neighborhood connects to the Tonquin, check out the look and feel of the trail and offer feedback. There will be snacks, children's activities and a chance to get involved with planning the Westside Trail, which will someday meet the Tonquin at the Tualatin River and continue to Forest Park.

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Metro

600 NE Grand Ave.
Portland, OR 97232



Thanks to our open house co-hosts and project partners: Cities of Sherwood, Tualatin and Wilsonville; Washington and Clackamas counties.

For a map and more information about the Tonquin Trail master plan, **visit www.oregonmetro.gov/tonquintrail.**

To learn about the Westside Trail, including upcoming open houses, **visit www.oregonmetro.gov/westsidetrail.**

Thanks to voters, Metro's Natural Areas Program is protecting clean water, clean air and healthy habitats for animals – and curious humans. Over the course of 17 years and two bond measures, the region has preserved 12,000 acres of natural areas, protected 100 miles of river and stream banks, opened three major nature parks, planted nearly 2 million trees and shrubs and supported hundreds of community projects.



May 2012 Open House Comment Form

We want to hear from you! Please complete this comment form and submit it in one of the following ways:

- Mail it to Metro, 600 NE Grand Ave, Portland OR, 97232
- Fax it to 503-797-1799
- Email it to jane.hart@oregonmetro.gov
- Complete it online at www.oregonmetro.gov/tonquintrail

All the information that you saw here is also available online. *Your comments must be received by June 30, 2012 to be considered.*

Please provide contact information in case Metro staff have questions about your comments. Please print clearly.

Name _____

Address

Email	Phone
-------	-------

- ☐ Please add me to the project mailing list.
- ☐ Please notify me when the draft master plan is available for public review.
- ☐ Please notify me when public hearings are scheduled to adopt the master plan.
- ☐ Please notify me when funding is being sought or awarded for trail development.

Please tell the project team if you have anything to share about the plans for the trail in these areas. Please be as specific as possible in describing the segments' location:

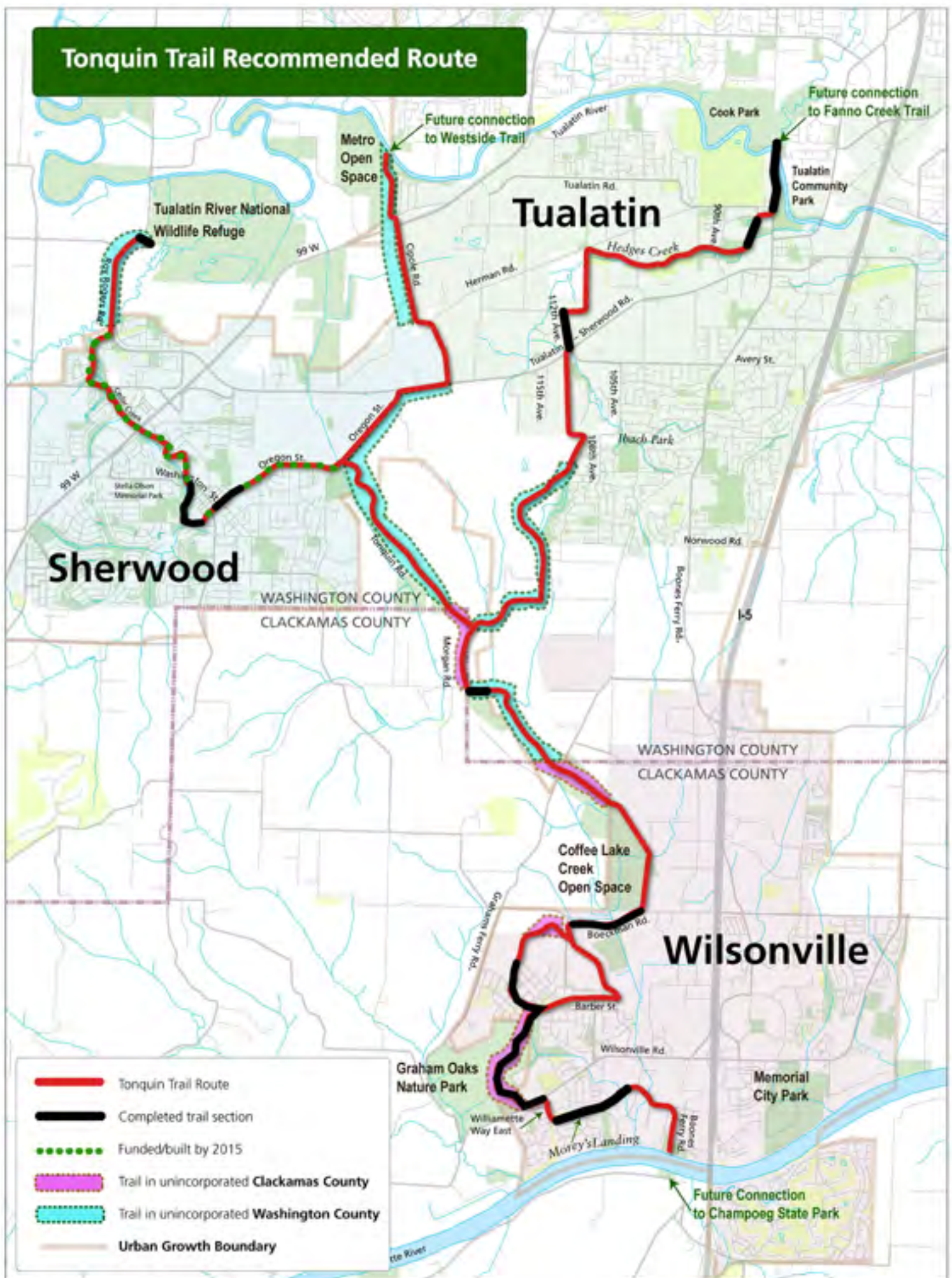
Wilsonville area
Sherwood area
Tualatin area

Which part of the trail is the highest priority to you to complete, and why?

Regional trails are typically built in phases as funding becomes available. It can take anywhere from five to 10 years or more to complete a regional trail. The map on the back side of this page shows sections of the trail that have been built, and sections that are funded and will be built by 2015. As the project team begins work on the phasing and implementation strategy for the rest of the trail, we'd like to know which part of the trail you think is most important to build next. Please circle the area of the trail on the map and tell us why in the box below.

Page 109 of 150

Tonquin Trail Recommended Route



Tonquin Trail Master Plan May- June 2012 Open House Summary

The Tonquin Trail Master plan project team and members of the Tonquin Trail project steering committee hosted the final open house for the project on May 23, 2012 at the Tualatin Valley Fire and Rescue facility at 12400 SW Tonquin Road in Sherwood. Metro also hosted a virtual open house on its project website, where many of the same project materials were available to review through July 2, 2012.

Approximately 70 people attended the May 23 open house and 232 people visited the virtual open house. 20 Surveys were completed at the open house and online and feedback was provided regarding the recommended trail route, trail design, and which part of the trail should be built next.

Open House Outreach

12,500 postcards announcing the open house were mailed to neighbors and local businesses within one-half mile of the recommended trail route. An e-mail blast went out to an 800 interested stakeholders e-mail list. Articles about the open house appeared in the Sherwood Archer, The Sherwood Gazette, the Boones Ferry Messenger and the Tualatin City newsletter.

An announcement about the open house was posted on Metro's web site and web pages of the cities of Sherwood, Wilsonville and Tualatin and Washington and Clackamas counties. The open house was also posted on Metro's newsfeed and a media release was issued to local newspapers prior to the open house. Metro twitter and facebook announcements went out a few days before the event.

Open House Format

Two versions of the open house were offered to engage the broadest audience possible; one at a central location in the project area and an online open house. Metro staff, project consultants, and members of the project steering committee staffed the open house. An informal format was used allowing members of the public to attend at their convenience and to visit different stations to review the displays and discuss the project with team members. There were six stations at the open house:

- Station 1 – Welcome /sign in. Staff at this station welcomed guests and asked them to sign in. Guests were given a questionnaire and asked to fill it out before they left. Greeters also oriented participants to the station flow and pointed out the children's activity area and refreshments.
- Station 2 - Project goals and timelines. This station had information about the purpose and goals of the trail and a project schedule showing important milestones and public involvement opportunities during the master planning process.
- Stations 3, 4, 5 – Trail route maps. There was a station for each of the jurisdictions the trail travels through; Wilsonville, Sherwood and Tualatin. The trail route was shown on several large scale color aerial maps, to help participants see how to access the trail from their neighborhoods or work place, and the destinations they will be able to visit.

- Station 6 – Trail design. Large displays with trail cross-sections and photos gave guests an idea of how the trail will look and feel depending on the landscapes and settings it will travel through.
- Station 7 – Children’s activity table. A school teacher helped children create pin-wheels while their parents attended the open house.
- Station 8 – Westside Trail. This station provided information about the kick-off of the Westside Trail master planning work. One day the Westside trail will meet the northern terminus of the Tonquin Trail at the Tualatin River and continue north to Forest Park in Portland.

The project consultant took guests on a virtual tour of the trail during a fifteen minute google earth fly-over of the trail starting in Wilsonville at the Willamette River and ending in Tualatin at the Tualatin River.

Open House Feedback

20 questionnaires were completed between the actual and virtual open houses. The questionnaire asked respondents to let the project team know if the project team missed anything and what part of the trail should be built next. Most of the respondents were very positive about the idea of Tonquin Trail being available to them in close proximity to where they live and work and as a safe way to travel between the communities the trail will connect. A few landowners did not think the trail should be located near their industrial properties. The feedback received from the open house and questionnaire will be part of the public record and considered during the master plan development, which is underway now.

A summary of comments noted from discussions at the open houses and questionnaires include:

- Majority of attendees support the trail.
- A few respondents do not think the trail would be safe within the right-of-way of McCamant Road, given that trucks use that road to serve nearby industrial uses.
- The trail should not try and compete for space near Tonquin or Morgan Road, since the primary purpose of those roads is to serve nearby mining activities.
- Would like a safe trail near Tonquin Road.
- Need safe route along Barber Street to get from Lowrie Primary School to the trail and to Graham Oaks Nature Park in Wilsonville.
- Very pleased to see mostly separated bikeways, was expecting more bike lanes.
- Tonquin road segment is too far west for commuters traveling north, keep the trail east of intersection of Morgan and Tonquin Road.
- Concerned about safety of trail users, privacy of nearby landowners and preserving trees along Cedar Creek when trail gets built.
- Wants local connection to trail from intersection of Meineke Rd. and Highway 99 in Sherwood.
- Preserve creeks and wetlands in Cedar Creek Corridor
- A few respondents would like to have parallel path made of bark chips for walkers.
- Provide as much off-road sections as possible in Tualatin, away from roads, closer to the river.
- Concerned where trail is shown under powerlines, hazardous to human health, avoid if possible.
- Support for boardwalk design in wetlands.
- Build the portions of the trail that go through wetlands last, to preserve them.

- Build the entire trail as soon as possible; open to paying \$100/yr. for 5 years to have it built.
- A lot of enthusiasm to complete un-built sections of the trail.
- Tualatin's Hedges Creek marsh should be built next since it will connect with other built section of the trail in Durham, Tualatin, and Cook Park (3 respondents).
- Finish the trail between Tualatin and Wilsonville (2 respondents).
- Build the trail north of Boeckman Road to Grahams Ferry Road next before completing other sections of the trail in Wilsonville.
- Build segment from Tonquin Road south to Boeckman Road.

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TUALATIN NEWS

Local news and events from the city of Tualatin, Oregon

TUALATIN RESOURCES

with The Oregonian

- Washington County News & Information
- Clackamas County News & Information
- Tualatin News
- Tigard News
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- Mayor and city council
- City manager
- Municipal Court
- Tualatin Public Library

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- Tigard-Tualatin School District
- Private Schools
- Tualatin High School sports
- Horizon Christian High School sports

Emergency services and hospitals

- Police
- Tualatin Valley Fire & Rescue
- Legacy Meridian Park Medical Center

Transportation

- TriMet bus route 36
- TriMet bus route 76
- TriMet bus route 96
- WES Commuter Rail
- Commuting speed map (color coded)
- ODOT traffic cams
- Traffic | Traffic Cams

Breaking news, Clackamas County, Cycling, Environment, Family, Outdoors, Tigard, Traffic, Washington County, West Linn »

Tonquin Trail will connect Wilsonville, Tualatin and Sherwood for bikers and hikers

By Joe Fitzgibbon, Special to The Oregonian
February 11, 2010, 8:45AM

WILSONVILLE -- To glimpse the future of trails in Washington and Clackamas counties, you need go no further than **Graham Oaks Nature Park**, where crews are constructing a decorative stone entranceway and shelter for the newest section of the **Tonquin Trail**.

When the meandering 12- to 16-mile pathway is completed over the next few years, it will connect the Tualatin and Willamette rivers and serve as the primary bike and pedestrian route between Wilsonville, Tualatin and Sherwood.

The mostly paved, 12-foot-wide trail also will offer residents a way to skirt busy highways and intersections, while opening up scenic vistas and natural spaces to view wildlife.

"We want this, not just for recreation, but as an important part of our entire transportation system," said Hal Ballard, project steering committee member representing the **Washington County Bicycle Transportation Coalition**.

"Right now, if you wanted to bike from one community to the next, you have to be fearless and, along some road sections, even that wouldn't be enough."

Using money from 1995 and 2006 open-space bond measures, **Metro** has been purchasing hundreds of acres of forests and natural areas in the two counties. In December, the regional agency invited the public to comment on two proposals for the Tonquin Trail, a Y-shaped, all-weather trail system with the Willamette River in Wilsonville as its base and branches extending northwest about four miles to Sherwood, and northeast to Tualatin and the Tualatin River.

A 2004 study placed costs for paving, grading and other construction at about \$9.5 million, with money expected to come from federal and state transportation grants, system development charges and lottery funds. Planners point out, however, that easements, designs, land acquisitions, realignments and crosswalk construction could increase expenses significantly.

"We're pleased that many of the communities have been thinking ahead and have even started applying for federal grants," said Jane Hart, project director with Metro. "Conceptually, we think that most of this can be paid for with federal dollars."



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Metro

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A potential sticking point, Hart added, is the level of commitment from each of the connected city and county jurisdictions for maintaining the trail system once it's completed.

"It's a little too early for us to do much planning in that area," said Michelle Miller, associate planner for Sherwood. "But, we know that if it's safe and attractive, we'll be there to support it."

Sherwood advocates said that they expect the Tonquin Trail to offer improved access along the **Cedar Creek Trail**, from Old Town to the 1,300-acre **Tualatin River National Wildlife Refuge**, just outside the city.

Tualatin and Tigard residents can look forward to more direct connections with **Ibach**, **Tualatin Community**, **Cook** and **Durham** parks, while Wilsonville hikers and bikers will find smoother links between **Boones Ferry Park** and the Graham Oaks Nature Park.

"There will be sections that go through downtowns, and near schools and businesses, to provide easy and safe access to many of these sites," Hart said. "We'd like to see as many people out using the trail as possible."

As a bonus, the Tonquin will join a regional trail network that includes the **Westside** and **Fanno Creek Greenway** trails.

Meanwhile, negotiations are under way between Metro and **Bonneville Power Administration**, **Oregon Department of Transportation**, **Portland & Western Railroad**, private landowners and several businesses to gain access or right-of-way through their properties that border sections of the trail.

"We won't know the exact alignment, until some of those negotiations are complete," Hart said. "If we can't reach an agreement, then we'll reroute the trail."

The 11-member steering committee that oversees the project -- and includes representatives from Sherwood, Wilsonville and Tualatin and the two counties -- will meet next month to review recommendations made at a public hearing in December.

A second open house is set for summer with planners expecting to have a nearly complete alignment by early 2011. Construction will be completed in stages as funding becomes available, Hart added.

-- Joe Fitzgibbon

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Posted by **Senator_Hugo_Chavez**

February 10, 2010, 4:04PM

TheTimes

TIGARD | TUALATIN | SHERWOOD

Dream suburban bike trail in works

Excursions Tonquin Trail links southern communities with scenic route

BY JASON VONDERSMITH

Pamplin Media Group, Jun 10, 2010

Portland bicyclist Tim Davis is so jazzed about the Tonquin Trail that he'll consider moving to the 'burbs once it's completed – just so he can pedal to work on it.

The 12-to-18-mile bike and footpath proposed by Metro will provide a scenic new way to travel between Wilsonville, Tualatin, Tigard and Sherwood – without a car.

The trail, mostly paved, would go from the Willamette River in Wilsonville and end on the north side of the Tualatin River, with a second fork ending near Durham. Attractions will include city parks, Metro-owned open spaces and the Tualatin River National Wildlife Refuge.

Bicycle routes on city streets don't appeal to many people, says Davis, 43, who works for the Environmental Protection Agency in Portland. "With something like the Tonquin Trail, now we're talking. It's the type of thing that would get suburbanites out on their bikes."

Bicyclists, joggers, roller-bladers and others see the Tonquin Trail as the start of something big – part of a network of linked pathways ultimately including a Sullivan's Gulch trail north of the Banfield Freeway, a greenway from downtown Portland to St. Johns, and a Portland-to-Lake Oswego trail. Those would connect to existing trails such as the Springwater Corridor the Fanno Creek Greenway.

"People would come from all over the world to see that trail network," Davis says.

It's a "whole new paradigm" for the area, he says. "These will be safe, off-road, integrated bike networks that are critical for our transportation."

But we're getting ahead of ourselves.

Metro has discussed the Tonquin Trail for years, but is still working with citizens and local governments to finalize the pathway's alignment and acquire land or right of way.

Currently, bicyclists in Portland's southern suburbs must be the hardy type, willing to navigate narrow and sometimes busy roads.

"For us to leave and bike north, it's convoluted," says Al Levit, an avid bicyclist from Wilsonville who serves on the Tonquin Trail steering committee. "It'll be a good alternative, no doubt about it."

Metro identified the Tonquin Trail as a desirable project back in 1992, before bicycling exploded in Portland. Metro used voter-approved open-space bond measures in 1995 and 2006 to start buying property in Washington and Clackamas counties. A 2004 feasibility study pegged the total cost at \$9.5 million.

The trail will be built as state and federal transportation funding becomes available, says Metro project manager Jane Hart.

Parts of the trail have been determined, and some sections have been built, including a stretch in Tualatin. A stone entranceway has been erected in Wilsonville, and a circular driveway, bathrooms and pavilion are under construction at Graham Oaks Nature Park.

Carl Switzer, parks and recreation manager for the city of Tualatin, sees the trail as an alternative transportation option, enabling residents to bike to work, shopping, school or civic destinations like the library.

"Also, one of the primary benefits is to provide people opportunities to recreate . . . families going for bicycle rides to destinations with beautiful vistas, an opportunity to look at the Tualatin River and get

Regional transportation officials have long fretted about the lack of north-south roadways in the area, which causes many Wilsonville motorists to use I-5 just to get from one part of the city to another.

This will help provide another north-south route, says Hal Ballard, executive director of the Washington County Bicycle Transportation Alliance. If it's built, people will discover and use it, he predicts.

"I've noticed in the past few months that bicycling in Washington County has skyrocketed," Ballard says. "The economy is one factor, and people want to get back in the saddle and improve their health and slow down a bit."

It won't be a Metro trail. It'll be partly purchased and built and managed by local jurisdictions. "They're owning this," Hart says. "Each of these communities are unique and proud, and this is an opportunity to give something that adds quality of life and to bring them together."

Another benefit of the trail is to highlight the area's geologic history. The Missoula Floods that carved out the Columbia Gorge also left a smattering of geologic debris. Those traversing the Tonquin Trail can see some of the scour holes and erratic granite.

"There's a real interpretive component to it," says George Hudson, a landscape architect and principal with Alta Planning and Design, which has been subcontracted to do master planning on Tonquin Trail. "There's a real wildlife benefit to it, as well."

Hudson is uniquely qualified for the job. He was a master planner for the city of Portland and designed the Springwater Corridor and Eastbank Esplanade.

Planners and the project steering committee expect to finalize a preferred Tonquin Trail alignment soon and seek public review on the route in June and July. Then plans could go before Metro and other jurisdictions next year.

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**Portland bicyclist
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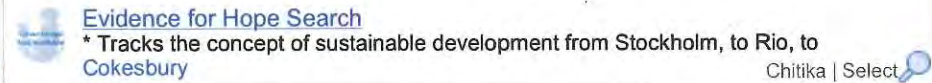
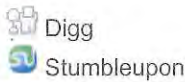
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12400 S.W. Tonquin Road.
■ WILSONVILLE CITY COUNCIL, 5 p.m. Monday, Dec. 19, Wilsonville City Hall.

TONQUIN TRAIL MARKER

■ Tonquin Trail moves forward with proposed trail alignment

By KALLEN DEWEY
KENTNER

WILSONVILLE SPOKESMAN

Excitement is growing as planning continues on the Tonquin Trail, a 16-mile path that one day will connect the cities of Wilsonville, Tualatin and Sherwood.

Proposed trail alignments and a vision for the project were presented to all three cities this fall. In Wilsonville, a presentation was heard by the city council last month. The Tonquin Trail Master plan is expected to be completed in Spring 2012. After that, those involved will be asked to approve the plan.

"It's exciting and we've hit a milestone," said Jane Hart, Metro senior regional planner.

Once they know the trail alignment, Hart said, "We can move into trail design and build."

It's already been almost 20 years since the idea for the trail was first conceived.

"Back in the early '90s, there was a vision established for regional green-spaces and regional trails," said Chris Neamtzu, planning director for the City of Wilsonville.

The trail was mentioned in the 1992 Metropolitan Greenspace Master Plan. However, moving forward with the project takes time. Hart says it is sometimes



COURTESY OF METRO

The proposed Tonquin Trail will connect the Tualatin River National Wildlife Refuge with the Willamette River.

challenging uniting three different jurisdictions together to reach a common goal.

"Each jurisdiction has its own environment and own politics," said Hart. "Everyone wants to do the same thing, but might want it to happen differently and in a different way, so we have to focus on the importance of the trail and keep an eye on the prize."

The trail is intended not to recognize political boundaries, but focus on the natural area and provide a link for communities, said Neamtzu, who is also a member of the Tonquin Trail Project steering committee.

More than 50 percent of the proposed trail alignment already has been built in Wilsonville. The proposed alignment closely follows the route that was adopted as part of the 2006 Bicycle and Pedestrian Master Plan.

Portions of the built trail include segments in Graham Oaks Nature Park, which opened in September 2010, and trails in the Villebois community.

"The concept for the Tonquin trail, in the beginning, was to connect the Tualatin River National Wildlife Refuge with the Willamette River," said Neamtzu, "and it was always envisioned to be this river to river connection where you could ride on a series of bike lanes, and pathways, primarily off the

streets."

Along with connection wildlife and natural areas, the trail is planned to provide safe bicycle and pedestrian transportation routes between Portland Metro area communities and to places of work or shopping areas.

HISTORICAL VIEW

Tonquin Trail was named after the unique geologic features found along the trail—landforms that were created when the cataclysmic Missoula floods sent waves of water washing over Eastern Washington and down through the Columbia River Gorge, scouring out the geography.

"The idea is to celebrate all of these local treasures and provide safe off-street connectivity to these communities," said Neamtzu.

Part of the design of the trail will interpret these geologic features for people using the path.

The trail, which starts at the Willamette River, splits at a fork. One fork leads through Sherwood to the Tualatin National Wildlife Refuge. The other fork links to the Fanno and Greenway trails in Tualatin, which will allow the trail to connect into the greater Metro area.

A conceptual future connection would link the trail to Champoeg Park, using the proposed bike and pedestrian French Prairie Bridge to

cross the Willamette River.

The three cities involved also are responsible for building and maintaining trail sections within their jurisdiction. However, some sections of the trail will be outside their boundaries in unincorporated Washington and Clackamas counties.

Hart expects those sections of the trail, primarily on land acquired by Metro, will be the ones discussed by different cities. Metro may own the land, but Hart said that Metro simply does not have the funding to maintain or operate the trails.

"Metro has made significant investments in the community through their open space bond measures," said Neamtzu. "They've acquired literally hundreds of acres of land for permanently protected open space and the trail goes through those areas."

The next step is to complete the Tonquin Trail Master Plan, have it approved by local governments and have it adopted into their planning documents. The trail route "needs to be one that they all embrace" said Hart, because it goes to elected officials for approval.

"I'm extremely excited about this trail becoming a reality," said Hart. "It will connect three cities with very different personalities, and foster a greater sense of community." ■



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By **KAILLEN DEWEY KENTNER**
WILSONVILLE SPOKESMAN

There is a treasure in the city of Wilsonville where people come to visit, travel and exercise. From the elderly couple strolling down Coyote Trail to the young jogger, caribuds in, running down the asphalt, Graham Oaks Nature Park sees all kinds of use.

"People find it very restorative, to step out of the urban hustle and bustle," said Metro Landscape Architect Ron Wojtanik, who was the project manager for Graham Oaks Nature Park.

Those who step out of the city and into the park are immersed in the park's natural wilderness. In the park, wildlife and plants fill the area.

While walking along a path in the more forested section, small, startled rabbit darts back into the protective low-lying shrubs on either side of the gravel path.

A red-tailed hawk wheels over the grassy open area. As it soars on warm air, the sun shines through the tail feathers, exhibiting the reddish-orange color they are named for.

"We're on the edge of the urban growth boundary, right next to the heart of the city, and all I can hear are the birds," said Wojtanik on a walk through the park.

Graham Oaks Nature Park is part of the larger regional Tonquin Trail, a 16-mile trail that will connect the cities of Wilsonville, Tualatin and Sherwood. In Wilsonville, more than 50 percent of the proposed trail has already been built, including the part that winds through Graham Oaks.

Along with connecting wildlife and natural areas, the trail is planned to provide safe bi-

cycle and pedestrian transportation routes between Portland Metro area communities and to places of work or shopping areas.

The community continues to show interest in the Tonquin Trail project. Over 70 people attended a May 23 open house on the project.

Attending informative sessions is useful, but perhaps a better measure of community involvement and interest is how the current trails and parks are used.

According to Metro Senior Regional Planner Jane Hart, trail count data has shown that Graham Oaks is one of the most popular trails in its category, just one step down from Metro's highest demand trails, such as the Eastbank Esplanade in Portland and Springwater Corridor.

According to that trail count data, "an average of 100 people are walking or biking on the trail daily, and that translates to about 350,000 annually," said Hart.

The citizens of Wilsonville have been involved from the very start. Wojtanik said that as soon as the contractor mowed the grass into a pathway, people started using the trail, even though it was an active con-



RON WOJTANIK
Project manager for Graham Oaks park.

struction site. The contractor also reported no theft or vandalism during the project, a rarity.

"It's nice to see the community embrace it at the very beginning," said Wojtanik. "There are more people [on the trail] than I expected."

Perhaps for the community, it isn't unexpected to want to use the trail at Graham Oaks.

"My husband and I just walked there last night. It's great to be able to walk a nature area instead of on sidewalks," said Carrie Viking Funk. "It's relaxing and enjoyable."

The people aren't the only ones who use the park. From the hawks to the squirrels, a variety of wildlife call Graham Oaks their home.

The wildlife embraced the park almost as soon as the people did in some cases. Wojtanik reported that when the area was under construction, coyotes were using the gravel piles as look-out spots while hunting.

The 250-acre preserved natural area is still changing and growing into a

better habitat for the native flora and fauna. A lone Oregon white oak hints at the past of the area as well as the future. The "elder oak," as it is now called, is an important habitat and a remnant of the oak savannah.

Wojtanik said that working in such a special area is "the highlight of my career." Restoring the area, based on an 1851 vegetation mapping and current conditions, is a rewarding challenge.

As the area is converted from a grassy agricultural use back into a natural area, it may become again an oak savannah, spotted with mature and maturing white oaks and ponderosa pines. It takes at least 100 years for an oak to mature.

"I'd hope that one day, my son or my grandchildren will wheel me out here in a wheelchair so I can see the area," said Wojtanik, looking around. "This is a landscape in its infancy. I'll be long gone by then, but it would be nice to come back in 150 years to see how the area has changed." ■

AN OASIS OF NATURE

■ Graham Oaks has a little something for everyone

EXPLORE GRAHAM OAKS THROUGHOUT THE SUMMER THROUGH THESE EVENTS:

June 10, 1-3 p.m. - Pioneer rattle-making

Learn to make rattle-making with the traditional rattle, learn the technique, and then make your own rattle to use at home. Children 12 and under must be accompanied by a responsible adult. Space is limited, so advance registration is required.

July 22, 10 a.m. to 1 p.m. Bug Bonanza

Learn to identify common invertebrates and complete a Graham Oaks Nature Park scavenger hunt. Activities will focus on safety and identifying examples for identification. Free release bags provided. Reservations required.

For more information, visit www.grahamoaks.org or call 503-261-1111.

Aug. 21, 1-3 p.m. Papermaking for beginners

Learn to make paper from local fibers and learn the history of papermaking and how to make your own decorative paper for cards and other projects. All ages are welcome. No experience necessary. Space is limited, so advance registration is required.

Sept. 23, 1-3 p.m. Moss Hunt, Big Land

Using and Preserving Oregon's Natural

RESOURCES

Veronica Korte, assistant professor at Eastern State University, studies the relationship between humans and plants. She is a frequent speaker at local events. It's a great resource for anyone interested in Native American and indigenous plants and their uses. She is also a frequent speaker at local events.

To register for the rattle-making and papermaking events, visit Metro's online calendar at www.metroinfo.com/calendar, and you can also find information on other events.

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Tonquin Trail master plan

PLANNING AND CONSERVATION › NATURAL AREAS, PARKS AND TRAILS › PLANNING PARKS AND TRAILS › REGIONAL TRAILS AND GREENWAYS › TONQUIN TRAIL MASTER PLAN

The future Tonquin Trail will offer bicyclists and pedestrians safe, new connections between Wilsonville, Sherwood and Tualatin.

You have a stake in the Tonquin Trail master plan

Imagine a bicycle outing with family or friends that begins at the Tualatin River National Wildlife Refuge, follows Cedar Creek through Sherwood and brings you to Metro's 250-acre Graham Oaks Nature Park in Wilsonville. Leaving your bike at the trailhead you take a leisurely hike through the restored Oregon white oak woodland where you can glimpse Mount Hood and hear the cry of red-tailed hawks nesting in the park's conifer forest.

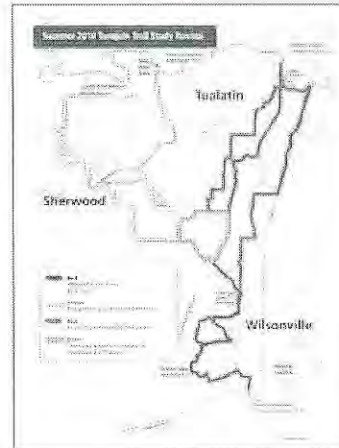
This is one of many adventures available on the future Tonquin Trail, a multiuse regional trail that will connect natural areas, neighborhoods, schools, jobs, shopping centers and transit stops between Sherwood, Tualatin and Wilsonville.

Public input will help determine the route from Wilsonville to Sherwood and Tualatin

Metro, in partnership with the cities of Wilsonville, Sherwood and Tualatin, and Clackamas and Washington counties, is leading the development of the Tonquin Trail master plan. While some segments of the trail are already constructed or planned, routes need to be finalized from Metro's Coffee Lake Creek Wetland in Wilsonville north to both Tualatin and Sherwood. Potential routes were developed with the help of feedback from the December 2009 public open houses and questionnaires and with input from the project steering committee.

In August and September, the project team participated in community events in Sherwood, Tualatin and Wilsonville. The public reviewed maps, compared potential routes and completed a questionnaire about their preferences. This public feedback will inform the project steering committee's recommendation for a preferred route.

[Download a summary of public comments](#)



Learn more about the Tonquin Trail

[Download a summary of public comments](#)
[View route maps and a project timeline](#)
[Download an article about a bike tour](#)

Project background

The 20-month Tonquin Trail master planning process kicked off in July 2009. That December, the project team hosted three open houses to present route choices and segments identified in 2004 and new information that could affect their feasibility. The team also presented goals and measures to evaluate the possibilities. More than 100 community members identified concerns with the routes, suggested alternatives and weighed in on the goals.

Since then, the project team has honed the route options. Some were ruled out due to lack of available land or incompatible uses nearby. Others were identified as "givens" because they were already partially constructed, in public ownership for trail development, partially planned by a local government or the only feasible option to fill a trail gap.

Where there were multiple options between Wilsonville and the other two cities, the project team evaluated each option. Five options were evaluated from Wilsonville to Sherwood and four options from Wilsonville to Tualatin.

The project team has created two sets of maps showing the possible segments: two general maps showing routes to Tualatin and to Sherwood and a set of detailed maps showing all the segments including the givens. The seven detailed aerial photo maps, or tile maps, show the routes as they travel through the study area. These maps also show which portions of the route are proposed as "on-street" versus "off-street." To see an entire route, you may need to view several maps. A key map shows the geographic boundaries of each aerial map "tile" and

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will help you to decide which map will show the area that you are interested in.

The trail will be built in phases. Funding to purchase the trail corridor was approved by voters in Metro's 2006 natural areas bond measure. A portion of the trail has already been constructed through the Villebois area in Wilsonville and over the Tualatin River in Tualatin. Another portion of the trail through Metro's new Graham Oaks Nature Park will be complete in September 2010. As funding becomes available, other trail segments will be built.

View project documents
Learn more about the Natural Areas Program
Learn more about Graham Oaks Nature Park

Tonquin Trail master plan steering committee

A project steering committee made up of representatives from the participating jurisdictions, project partners, residents and technical advisors will help shape the master plan. The committee will review project information and make recommendations on the trail alignment, design, funding and phasing. Committee members will also serve as project liaisons representing the interests and perspectives of their respective organizations and constituents.

Steering committee members

- Hal Ballard, Washington County Bicycle Transportation Coalition
- Ron Kroop, district maintenance engineer, Oregon Department of Transportation
- Connie Ledbetter, citizen representative, City of Tualatin
- Al Levit, citizen representative, City of Wilsonville
- Lori Mastrantonio, senior planner, Clackamas County
- Michelle Miller, associate planner, City of Sherwood
- Chris Neamtzu, planning director, City of Wilsonville
- Damon Reische, Clean Water Services
- Stephen Shane, long range planning, Washington County
- Brian Stecher, citizen representative, City of Sherwood
- Carl Switzer, parks and recreation coordinator, City of Tualatin

PROJECT INFORMATION

- Tonquin Trail overview map
4.1M Adobe Acrobat PDF | Published December 8, 2010
- Tonquin Trail project timeline
223K Adobe Acrobat PDF
- Tonquin Trail map - routes to Sherwood
6.8M Adobe Acrobat PDF
- Tonquin Trail map - routes to Tualatin
7.2M Adobe Acrobat PDF
- Detailed route descriptions
53K Adobe Acrobat PDF
- Tonquin Trail tile maps
5.4M Adobe Acrobat PDF
- Summary of December 2009 open houses and online questionnaire
85K Adobe Acrobat PDF
- Summary of public comment at August 2010 events
279K Adobe Acrobat PDF | Published November 3, 2010
- Fall 2010 ToGo newsletter featuring a Tonquin Trail bike tour
264K Adobe Acrobat PDF | Published November 3, 2010

To view PDF files, download free Adobe Reader. To translate PDF files into text to assist visually-impaired users, visit Access.Adobe.com.

NEED ASSISTANCE?

Heather Coston
503-813-7552
heather.coston@oregonmetro.gov

RELATED LINKS

Acquiring natural areas

Find out more about the 27 target areas where Metro is acquiring natural areas and trails to safeguard water quality, protect fish and wildlife habitat, and ensure access to nature for future generations.

Graham Oaks Nature Park

Explore trails, restored oak woodlands, a conifer forest and rich wildlife at Metro's new Graham Oaks Nature Park in Wilsonville.

Tonquin Geologic Area

Oaks and kolks are two of the unique features found in this valuable wildlife corridor stretching

PROCESS TO CHANGE THE TRAIL NAME

Tualatin Historical Society
8700 S.W. Sweek Drive
Tualatin, Oregon 97062
November 12, 2012

Media Information Release
“Ice Age Tonquin Trail” Name Change

Contact: Yvonne Addington, Past President
503-625-2704; email: yaddington@gmail.com

The Tualatin Historical Society has been notified by Metro Regional Governments that the official name of the planned 22 mile long bicycle/walking Tonquin Trail, has been changed to the “Ice Age Tonquin Trail”. The Society requested the change to better identify the area historically, culturally and economically as part of the Ice Age Floods National Geological Trail and to show citizens and visitors the evidence of the ice age floods that remain today. An Ice Age Visitor’s Plan was proposed by an economic “branding” consultant for the Tualatin area as a result of the floods and by several separate discoveries of many bones of ice age animals such as the mastodon, mammoths, ground sloth and bison which became extinct near the end of the Ice Age.

At least 40-90 times between 15,000-18,000 years ago, a huge ice dam broke which held back Glacial Lake Missoula near the Montana/Canadian border. Each time it broke, it sent an estimated 250 cubic miles of water, icebergs, glacial ice and debris, cascading at speeds up to 60 miles per hour through Montana, Idaho, Washington and Oregon down the Columbia River to the Pacific Ocean.

The waters and debris were constricted at the Kalama Gap on the Columbia River and backed into the Willamette River Valley and its tributaries as far south as Eugene, into the Tualatin and Chehalem Valleys as far west as Gaston and Sheridan. The periodic floods dramatically sculpted 16,000 square miles of the northwesterly United States and as much of the Pacific Ocean floor.

Evidence of the floods can still be seen locally by scoured scablands in the Tonquin area near Wilsonville, Sherwood, Tualatin and rich wetlands and kolk ponds such as Oswego Lake and Cipole Lake. The Willamette Meteorite was transported by an iceberg and was found on the high banks of the Tualatin River near the community of Willamette. A replica can be seen as well as Tualatin granite flood erratics at Fields Park in West Linn. Giant erratic rocks from melting icebergs were left on hillsides such as the Bellevue erratic near Sheridan and as far as Gaston and Eugene. Huge flood boulders can be seen in local neighborhoods. Rich deposits of soils left by the flood waters still support the agriculturally rich Willamette Valley.

It is suggested that many other historical, cultural, educational, environmental and economic benefits can result from identifying the trail as the Ice Age Tonquin Trail in the near future. # # #



Tualatin Historical Society

P.O. BOX 1055, TUALATIN, OR 97062

November 8, 2012

Honorable Tom Hughes, Chairman, Councilors
Metro Regional Government
600 NE Grand Ave.
Portland, Oregon 97232-2736

Re: Proposed "Ice Age Tonquin Trail" Name

Honorable Councilors:

The purpose of this letter is to request formal Metro acknowledgement that the Tonquin Trail will be renamed the Ice Age Tonquin Trail. We have been notified by Metro project management staff that renaming the trail will be incorporated into the master plan to be published later this fall.

In response to our request to rename the 22 mile long Tonquin Trail to be identified as the Ice Age Tonquin Trail, we were notified early this year by Councilor Carl Hosticka, to first obtain the support and written approval of Clackamas and Washington County Commissions and the City Councils of the partner cities of Sherwood, Tualatin and Wilsonville.

Enclosed are copies of letters and resolutions from all of the above plus generous support letters from the City of Tigard, the Chambers of Commerce of the three partner cities, the Washington County Visitor's Association, the national Ice Age Floods Institute, and the Washington County Museum.

There may be funding opportunities by tying the regional trail to the Ice Age Floods National Geological Trail that will cover vast areas from Montana, Idaho, Washington, and Oregon (including the Willamette Valley) to the Pacific Ocean through a network of marked touring routes. A copy of the National Park Service's Foundation Document for the Ice Age Floods National Geologic Trail is attached.

Linking the regional trail to the national trail may result in economic development by bringing more tourists and scientific research to the communities the regional trail will serve, as well as many other possible cultural, educational, and historical benefits.

Thank you for your consideration of this request.

Very truly yours,

Yvonne Addington, Past President
Tualatin Historical Society

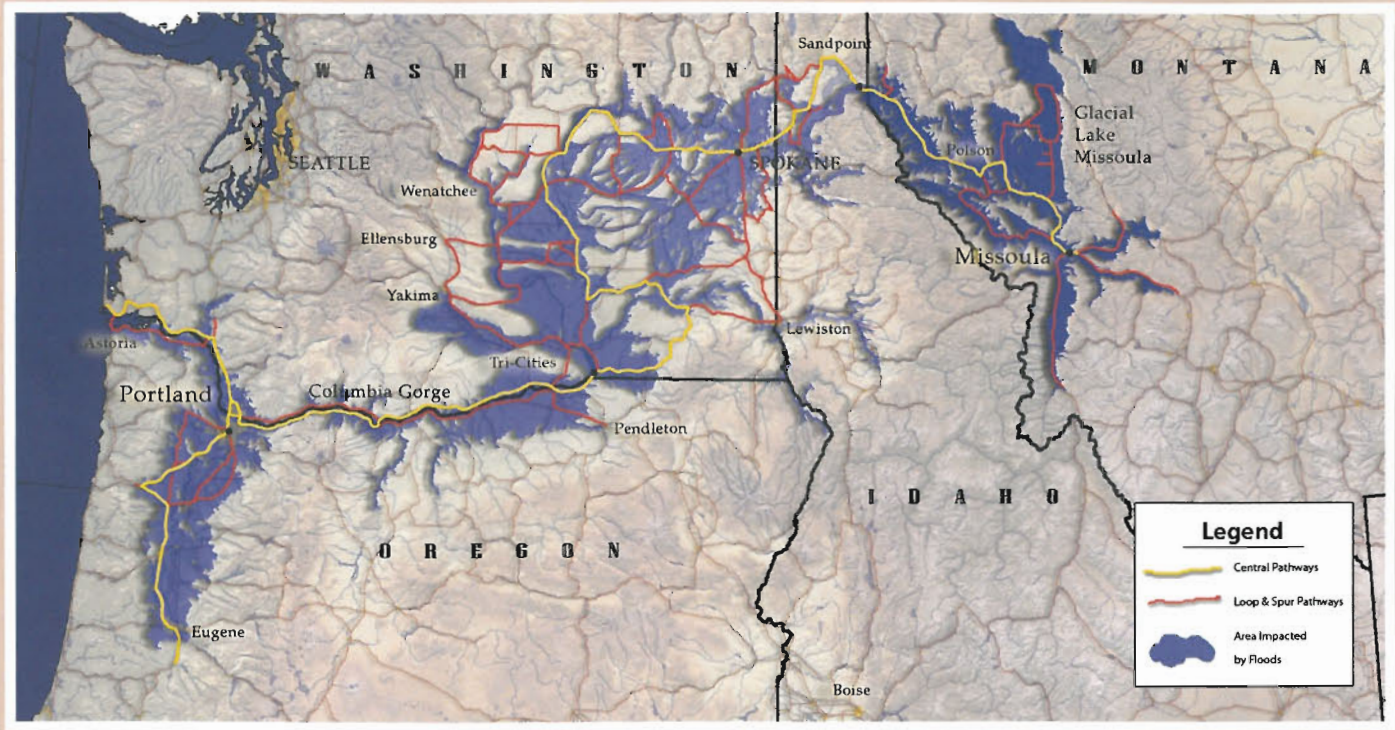
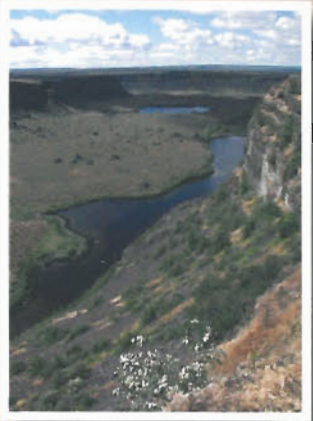
DESCRIPTION OF ICE AGE FLOODS NATIONAL GEOLOGIC TRAIL

“At the end of the last Ice Age, some 12,000 to 17,000 years ago, a series of cataclysmic floods occurred in what is now the northwest region of the United States, leaving a lasting mark of dramatic and distinguishing features on the landscape of parts of the States of Montana, Idaho, Washington, and Oregon.”

Public Law 111-11, March 30, 2009

Today, evidence of the immense floods remains in many forms including high water lines, huge current dunes, boulders transported hundreds of miles, giant coulees and dry falls, and enormous gravel bars. These reminders of the floods exist on public and private lands across the four states of Montana, Idaho, Washington, and Oregon. Many of the most dramatic features are managed by federal, tribal, state, and local governments.

The national geologic trail will consist of a network of marked touring routes with interpretive opportunities distributed across this vast area. Existing roadways will link many of the region’s superb geologic resources by way of a long, central pathway and designated loops and spurs. In places, other types of foot and vehicle trails may also be a part of this network.



Map adapted from *Ice Age Floods Study of Alternatives and Environmental Assessment*, February 2011, prepared for the National Park Service by Jones & Jones Architects and Landscape Architects.

National Park Service
U.S. Department of the Interior

Ice Age Floods National Geologic Trail
Montana, Idaho, Washington, and Oregon



Foundation Document Ice Age Floods National Geologic Trail



Purpose

The Ice Age Floods National Geologic Trail tells the stories of the cataclysmic Ice Age floods and invites people to discover and explore the resulting extraordinary landscapes and distinctive features. Interpretation, research, and stewardship are achieved through collaboration between public and private partners.

Interpretive Themes

Interpretive themes are the key concepts to be communicated to visitors to help them understand and appreciate the significance of the trail.

Geologic Setting. A remarkable alignment of past geologic forces, resulting terrain, and Ice Age conditions produced a series of some of the greatest floods on earth, dramatically sculpting 16,000 square miles of the northwestern United States and as much of the Pacific Ocean floor.

Cataclysmic versus Incremental. The Ice Age floods remind us that the slow, incremental processes shaping our earth can be punctuated by sudden, epic, cataclysmic events, and that such events are possible in our lifetimes.

Evidence that Remains. In the wake of the floods, a wide array of floods-formed features remained, just waiting for human curiosity to discover. Some features are gigantic—readily visible from space; others are subtle—only revealed and appreciated through close observation.

In Search of the Truth. Unraveling the mysteries of the Ice Age floods reveals the human, often subjective and sometimes contentious, side of the scientific method that arises when new evidence challenges prevailing paradigms.

Lives and Livelihoods. Just as the Ice Age floods left an enduring mark on the landscape of the northwestern United States, so too has that landscape profoundly shaped human history and culture across the region. The impact of the floods continues to this day.

Significance

Significance statements define what is most important about the trail's resources and values. They express why the trail and its resources are significant within a regional, national, and global context—focusing attention on those exceptional qualities that Congress felt were important to preserve and interpret.

Cataclysmic Ice Age Floods. Ice Age Floods National Geologic Trail represents the greatest floods on earth. Repeated cataclysmic releases of water exploding from glacially dammed Lake Missoula thundered across the landscape to the Pacific Ocean, carrying water, debris, rock, and ice with a discharge equal to 10 times the flow from all of today's rivers worldwide.

Distinctive Geologic Resources. The Ice Age floods sculpted extraordinary landscapes and left behind a variety of distinctive geologic features across a vast area of the northwestern United States. Gigantic basalt coulees, enormous dry falls, and flood ripples of immense proportion are just a few examples of the evidence that survives to illustrate the scale and power of the floods.

Science and Research. The discovery and investigation of the Channeled Scabland led to an understanding of cataclysmic origin that challenged prevailing geologic thought. Ongoing research has established the Ice Age floods as the quintessential example of megaflood landscapes throughout the world.

Human Settlement. The Ice Age floods transformed the environment of the northwestern United States, greatly influencing the use of the land and its resources from early native peoples to contemporary society.



Photo: Tom Foster

Fundamental Resources and Values

Fundamental resources and values are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes that are critical to achieving purpose and maintaining significance. That which is most important about the trail could be jeopardized if these resources and values are allowed to degrade.

Outstanding Floods-Related Geologic Resources. Numerous floods-related geologic features exist within this four-state area, but not all have been inventoried. Resources are categorized into seven types, including bedrock features, terrain features pre-existent to the floods, erosional landforms created by Ice Age floods, depositional landforms created by Ice Age floods, glacial features, lake features, and features deposited by wind.

Exceptional Scenery and Views. Vast landscapes and stunning scenery created by the floods are present at many places along the proposed trail routes. Views of natural and human-influenced scenery enable visitors to comprehend the scale of the floods, to appreciate the grandeur that the floods created, and to understand the impact of the floods on human settlement and on the natural world.

Scientific Knowledge and Research. Investigation of the Ice Age floods has greatly contributed—and continues to contribute—to the body of scientific knowledge. In bringing to light the story of the floods, J Harlen Bretz, Joseph Pardee, and other geologists yielded a new theory for the origin of many landforms in the northwest. Aided by new technologies, subsequent researchers built upon these early discoveries and further advanced our knowledge of the floods and landform features.



Photo: John Clement



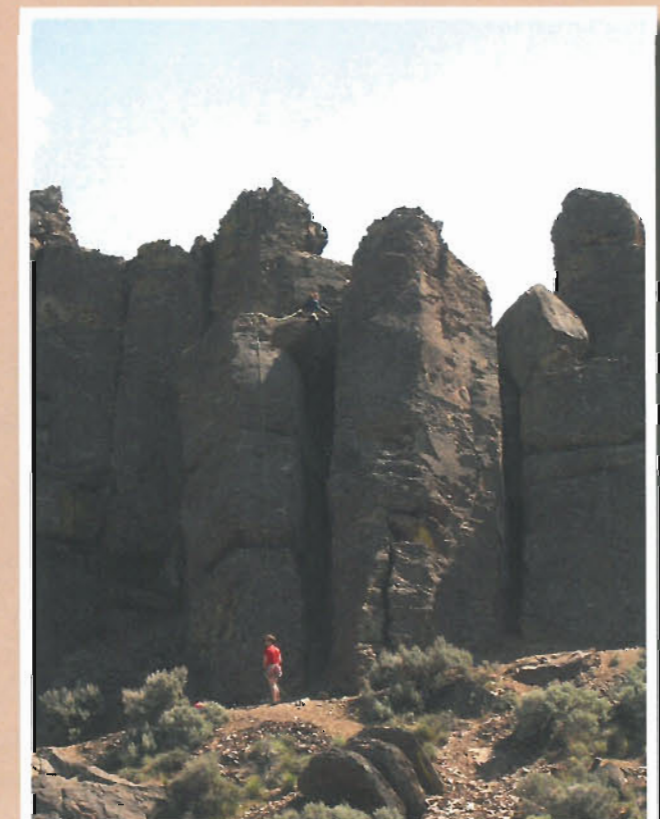
Photo: Tom Foster

Other Important Resources and Values

The identification of certain resources and values as fundamental is not meant to imply that other resources are not important. The National Park Service draws this distinction because it can help trails and other national park system units set priorities among competing management concerns.

Floods-Related Cultural Resources. Although geological resources are the primary focus of the national geologic trail, the human history of the region adds another dimension to the floods' story. The federal and state partners responsible for managing the trail also manage cultural resources in accordance with laws and regulations that mandate their protection. Cultural resources along the trail corridor convey thousands of years of human history and patterns of settlement across the numerous, varied landscapes shaped by Ice Age floods.

Access to Diverse Recreational and Educational Opportunities. Providing for enjoyment and understanding of resources is central to the mission of the National Park Service and to every park unit or trail that the agency administers. Through partnerships, the national geologic trail offers access to a variety of recreational and educational opportunities that enable visitors to learn about, appreciate, and experience the floods features.



SUPPORT FOR RENAMING THE TONQUIN TRAIL THE ICE AGE TONQUIN TRAIL

COUNTY GOVERNMENTS

1. Clackamas County Board of Commissioners
2. Washington County Board of Commissioners

CITY GOVERNMENTS

3. City of Sherwood
4. City of Tigard
5. City of Tualatin
6. City of Wilsonville

AFFILIATED ORGANIZATIONS

7. Ice Age Floods Institute
8. Sherwood Chamber of Commerce
9. Tualatin Chamber of Commerce
10. Tualatin Historical Society
11. Washington County Museum
12. Washington County Visitors Association
13. Wilsonville Chamber of Commerce



BOARD OF COUNTY COMMISSIONERS

PUBLIC SERVICES BUILDING

2051 KAEN ROAD | OREGON CITY, OR 97045

September 4, 2012

Tualatin Historical Society
c/o Yvonne Addington
8700 SW Sweek Drive
PO Box 1055
Tualatin, Oregon 97062

Re: Ice Age Tonquin Trail

Dear Ms. Addington:

Thank you for the letter regarding the proposal to add "Ice Age" to the name of the "Tonquin Trail" which is planned to travel through Clackamas County and become part of the existing Tonquin Geological Area.

We are very fortunate to have this significant natural resource in our community. The request from the Tualatin Historical Society to have the name of the trail reflect the origins of this geological treasure seems very strategic and well thought-out. It would provide visitors and County residents with a greater awareness of the opportunity to hike the trail and witness the fascinating history and unique geological features associated with the ice age floods.

The Clackamas County Board of Commissioners is in full support of this effort to attract visitors and positive attention to the region and highlight yet another reason why people should visit Clackamas County. This will be a productive and meaningful partnership of the communities, the National Parks Service, Metro and Oregon Tourism.

We support naming the trail the "Ice Age Tonquin Trail" and thank you for your efforts.

Sincerely,

Charlotte Lehan, Chair
On behalf of the Clackamas County Board of Commissioners



August 10, 2012

Tualatin Historical Society
P. O. Box 1055, 8700 S. W. Sweek Drive
Tualatin, Oregon 97062

Re: Ice Age Tonquin Trail

Dear Ms. Addington,

Thank you for the letter regarding the proposal to add "Ice Age" to the name of the "Tonquin Trail" which is planned to travel through Washington County and become part of the existing Tonquin Geological Area.

We are very fortunate to have this significant natural resource in our community. The request from the Tualatin Historical Society to have the name of the trail reflect the origins of this geological treasure seems very strategic and well thought out. It would provide greater awareness to visitors and county residents alike about the opportunity to hike the trail and witness the fascinating history associated with the ice age floods that gave us fertile soil and many of our unique geological features.

The Washington County Board of Commissioners is in full support of this effort to attract visitors and positive attention to the region and highlight yet another reason why people should visit Washington County. We support naming the trail the "Ice Age Tonquin Trail" and thank you for your efforts.

Sincerely,

Andy Duyck, Chairman
Washington County Board of Commissioners

Board of County Commissioners

155 North First Avenue, Suite 300, MS 22, Hillsboro, OR 97124-3072
phone: (503) 846-8681 • fax: (503) 846-4545



RESOLUTION 2012-051

A RESOLUTION IN SUPPORT OF CHANGING THE NAME OF THE TONQUIN TRAIL TO ICE AGE TONQUIN TRAIL

WHEREAS, in 2009 Congress established the Ice Age Floods National Geologic Trail in the states of Montana, Idaho, Washington, and Oregon enabling the public to view, experience, and learn about the features and story of the Ice Age floods through the collaborative efforts of public and private entities; and

WHEREAS, the National Geologic Trail is in its earliest stages of planning through the leadership of the National Park Service and the Ice Age Floods Interagency Coordination Committee to collaborate and oversee the activities that will enhance interpretation of the Ice Age Floods story; and

WHEREAS, the National Geologic Trail will consist of a network of marked touring routes with interpretive opportunities distributed across the area and existing roadways that will link many of the region's geologic resources by way of a long, central pathway and designated loops and spurs; and

WHEREAS, Metro, in partnership with Clackamas and Washington counties, and the cities of Sherwood, Tualatin, and Wilsonville are now in the process of completing the Tonquin Trail Master Plan and will fund and operate the proposed 22-mile regional trail. Renaming the conceptual Tonquin Trail to Ice Age Tonquin Trail would require consensus from the partner jurisdictions.

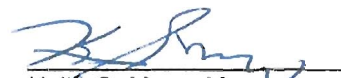
WHEREAS, there may be funding opportunities by tying the Regional Trail to the National Trail, and linking the two trails may result in economic development by bringing more tourists and scientific research to the communities the regional trail will serve.

NOW, THEREFORE, THE CITY OF SHERWOOD RESOLVES AS FOLLOWS:

Section 1. We support adding the word Ice Age somewhere in the trail name, including the possibility of using those words as a byline or tagline that would follow the existing Tonquin Trail name.

Section 2. This Resolution shall be effective upon its approval and adoption.

Duly passed by the City Council this 18th day of September 2012.


Keith S. Mays, Mayor

Attest:


Sylvia Murphy, CMC, City Recorder

CITY OF TIGARD, OREGON
TIGARD CITY COUNCIL
RESOLUTION NO. 12-39

A RESOLUTION IN SUPPORT OF CHANGING THE NAME OF THE TONQUIN TRAIL TO THE ICE AGE TONQUIN TRAIL TO PROMOTE PUBLIC AWARENESS, AND ENHANCE FUNDING OPPORTUNITIES AND ECONOMIC DEVELOPMENT THROUGH TOURISM AND SCIENTIFIC RESEARCH

WHEREAS, toward the end of the last Ice Age, some 12,000 to 17,000 years ago, a series of cataclysmic floods, representing the greatest floods on earth, occurred in what is now the northwest region of the United States, leaving a lasting mark of dramatic and distinguishing features on the landscape of Montana, Idaho, Washington and Oregon, including the Willamette Valley; and

WHEREAS, in 2009 Congress established the Ice Age Floods National Geologic Trail in the states of Montana, Idaho, Washington and Oregon enabling the public to view, experience, and learn about the features and story of the Ice Age floods through the collaborative efforts of public and private entities; and

WHEREAS, the national geologic trail is in its earliest stages of planning through the leadership of the National Park Service and the Ice Age Floods Interagency Coordination Committee to collaborate and oversee the activities that will enhance interpretation of the Ice Age floods story and features along the flood pathways of the Ice Age Floods National Geologic Trail pursuant to the attached Foundation Document (Exhibit A) for the Ice Age Floods National Geologic Trail; and

WHEREAS, the national geologic trail will consist of a network of marked touring routes with interpretive opportunities distributed across this vast area and existing roadways will link many of the region's geologic resources by way of a long, central pathway and designated loops and spurs, and where in places foot and bicycle trails that enable access and provide interpretive opportunities of fundamental and other important resources and values will also be a part of this network; and

WHEREAS, Metro, in partnership with Clackamas and Washington Counties, and the cities of Sherwood, Tualatin, and Wilsonville are now in the process of completing the Tonquin Trail Master Plan and will fund and operate the proposed 22-mile regional trail that will travel through landscape and unique geological features that were formed by the Ice Age Floods within and near the Tonquin Geologic Area in order to interpret the natural resources and tell the story of the Ice Age Floods; and

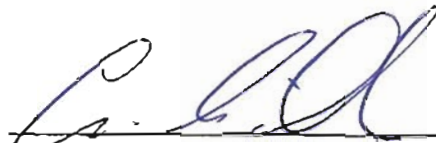
WHEREAS, there may be funding opportunities by tying the regional trail to the national trail, and linking the two trails may result in economic development by bringing more tourists and scientific research to the communities the regional trail will serve.

NOW, THEREFORE, BE IT RESOLVED by the Tigard City Council that:

SECTION 1: The City of Tigard supports changing the name of the Tonquin Trail to the Ice Age Tonquin Trail.

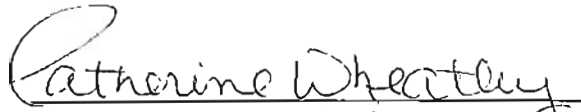
SECTION 2: This resolution is effective immediately upon passage.

PASSED: This 23rd day of October 2011.



Mayor - City of Tigard

ATTEST:



City Recorder - City of Tigard

RESOLUTION NO. 5120-12

RESOLUTION OF SUPPORT OF CHANGING THE NAME OF THE TONQUIN TRAIL TO ICE AGE TONQUIN TRAIL TO PROMOTE PUBLIC AWARENESS, AND ENHANCE FUNDING OPPORTUNITIES AND ECONOMIC DEVELOPMENT THROUGH TOURISM AND SCIENTIFIC RESEARCH

WHEREAS toward the end of the last Ice Age, some 12,000 to 17,000 years ago, a series of cataclysmic floods representing the greatest floods on earth, occurred in what is now the northwest region of the United States, leaving a lasting mark of dramatic and distinguishing features on the landscape of parts of the states of Montana, Idaho, Washington and Oregon, including the Willamette Valley; and

WHEREAS in 2009 Congress established the Ice Age Floods National Geologic Trail in the states of Montana, Idaho, Washington, and Oregon enabling the public to view, experience, and learn about the features and story of the Ice Age floods through the collaborative efforts of public and private entities; and

WHEREAS the national geologic trail is in its earliest stages of planning through the leadership of the National Park Service and the Ice Age Floods Interagency Coordination Committee to collaborate and oversee the activities that will enhance interpretation of the Ice Age Floods story and features along the flood pathways of the Ice Age Floods National Geologic Trail pursuant to the attached Foundation Document for the Ice Age Floods National Geologic Trail; and

WHEREAS the national geologic trail will consist of a network of marked touring routes with interpretive opportunities distributed across this vast area and existing roadways will link many of the region's superb geologic resources by way of a long, central pathway and designated loops and spurs, and where in places foot and bicycle trails that enable access and provide interpretive opportunities of fundamental and other important resources and values will also be a part of this network; and

WHEREAS Metro, in partnership with Clackamas and Washington counties, and the cities of Sherwood, Tualatin, and Wilsonville are now in the process of completing the Tonquin Trail Master Plan and will fund and operate the proposed 22-mile regional trail that will travel through landscape and unique geological features that were formed by the Ice Age Floods within and near the Tonquin Geologic Area in order to interpret the natural resources and tell the incredible story of the Ice Age Floods; and

WHEREAS there may be funding opportunities by tying the regional trail to the national, trail, and linking the two trails may result in economic development by bringing more tourists and scientific research to the communities the regional trail will serve; and

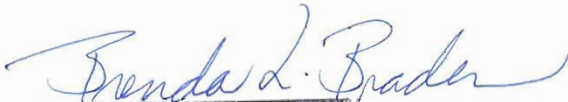
WHEREAS renaming the conceptual Tonquin Trail to Ice Age Tonquin Trail would require consensus from the partner jurisdictions.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF TUALATIN, OREGON, that:

A. The City of Tualatin supports renaming the Tonquin Trail to Ice Age Tonquin Trail.

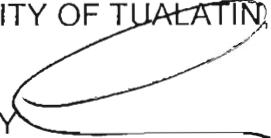
INTRODUCED AND ADOPTED this 27th day of August, 2012.

APPROVED AS TO LEGAL FORM


CITY ATTORNEY

CITY OF TUALATIN, OREGON

BY


Mayor

ATTEST:

BY


City Recorder

RESOLUTION NO. 2381

A RESOLUTION OF THE CITY OF WILSONVILLE IN SUPPORT OF CHANGING THE NAME OF THE TONQUIN TRAIL TO “ICE AGE TONQUIN TRAIL” TO PROMOTE PUBLIC AWARENESS, AND ENHANCE FUNDING OPPORTUNITIES AND ECONOMIC DEVELOPMENT THROUGH TOURISM AND SCIENTIFIC RESEARCH.

WHEREAS, toward the end of the last Ice Age, some 12,000 to 17,000 years ago, a series of cataclysmic floods representing the greatest floods on earth, occurred in what is now the northwest region of the United States, leaving a lasting mark of dramatic and distinguishing features on the landscape of parts of the states of Montana, Idaho, Washington, and Oregon, including the Willamette Valley; and

WHEREAS, in 2009 Congress established the Ice Age Floods National Geologic Trail in the states of Montana, Idaho, Washington, and Oregon enabling the public to view, experience, and learn about the features and story of the Ice Age floods through the collaborative efforts of public and private entities; and

WHEREAS, the national geologic trail is in its earliest stages of planning through the leadership of the National Park Service and the Ice Age Floods Interagency Coordination Committee to collaborate and oversee the activities that will enhance interpretation of the Ice Age Floods story and features along the flood pathways of the ice Age Floods National Geologic Trail pursuant to the attached Foundation Document for the Ice Age Floods National Geologic Trail; and

WHEREAS, the national geologic trail will consist of a network of marked touring routes with interpretive opportunities distributed across this vast area and existing roadways will link many of the region’s superb geologic resources by way of a long, central pathway and designated loops and spurs, and where n places foot and bicycle trails that enable access and provide interpretive opportunities of fundamental and other important resources and values will also be a part of this network; and

WHEREAS, Metro, in partnership with Clackamas and Washington counties, and the cities of Sherwood, Tualatin, and Wilsonville are now in the process of completing the Tonquin Trail Master Plan and will fund and operate the proposed 22-mile regional trail that will travel through landscape and unique geological features that were formed by the Ice Age Floods within

and near the Tonquin Geologic Area in order to interpret the natural resources and tell the incredible story of the Ice Age Floods; and

WHEREAS, there may be funding opportunities by tying the regional trail to the national, trail, and linking the two trails may result in economic development by bring more tourists and scientific research to the communities the regional trail will serve; and

WHEREAS, renaming the conceptual Tonquin Trail to "Ice Age Tonquin Trail" would require consensus from the partner jurisdictions.

NOW, THEREFORE, THE CITY OF WILSONVILLE RESOLVES AS FOLLOWS:

1. The City Council supports adding the words "Ice Age" somewhere in the trail name, including the possibility of using those words as a byline or tagline that would follow the existing Tonquin Trail name.
2. This resolution is effective upon adoption.

ADOPTED by the Wilsonville City Council at a regular meeting thereof this 5th day of November, 2012, and filed with the Wilsonville City Recorder this date.


TIM KNAPP, MAYOR

Attest:


Sandra C. King, MMC

SUMMARY OF VOTES:

Mayor Knapp - Yes
Council President Núñez - Yes
Councilor Goddard - Yes
Councilor Starr - Yes

Attachment: National Park Service Foundation Document *Ice Age Floods National Geologic Trail*.



Tuesday, October 02, 2012

Metro Regional Government
Metro Council Tom Hughes and Council Members
600 Northeast Grand Avenue
Portland, OR 97232

Dear Council President Tom Hughes and Members of the Metro Council:

For several years, the Ice Age Floods Institute (IAFI) has been working in conjunction with the Federal Interagency Coordination Committee (FICC) to complete the management plan for the congressionally authorized Ice Age Floods National Geologic trail (IAFNGT) across parts of Oregon, Washington, Idaho and Montana.

The Ice Age Floods National Geologic Trail tells the stories of the cataclysmic Ice Age Floods and invites people to discover and explore the resulting extraordinary landscapes and distinctive features. Interpretation, research, and stewardship are achieved through collaboration between public and private partners. There are many important Ice Age floods features along the proposed "Tonquin Trail" including: Glacial Erratics, Scablands, Kolk Ponds, Flood Channels, Ripple Marks, and Gravel Bars.

Renaming the "Tonquin Trail" the "Ice Age Tonquin Trail" will align the interests of local stakeholders (Washington and Clackamas Counties, Sherwood, Wilsonville and Tualatin) with the National Park Service, its Federal and State partners, and tribal agencies in the development of the IAFNGT.

The benefits of the name change are significant. It will elevate the twenty two mile pedestrian and bicycle route to an internationally significant trail; in part depicting an earth science story woven across four states. The trail will draw Geo-tourists, a desirable segment of the tourism trade that will advance tourism and economic development initiatives currently being pursued by trail stakeholders.

The FICC and IAFI considers METRO an essential partner in the development of the IAFNGT. We strongly urge METRO to change the name of the "Tonquin Trail" to the "Ice Age Tonquin Trail".

Sincerely,

Mark Buser, President



August 17, 2012

Mr. Carl Hosticka,
Councilor, Dist. 3
Metro
600 N. E. Grand Ave.
Portland, Oregon 97232-2736

Dear Mr. Hosticka:

As the organization dedicated to Sherwood, Oregon's economic opportunity and to a positive business climate in the region, we encourage adoption and inclusion of the word "Tonquin" to the official description of our geographic area. It would thus become the Tonquin Ice Age National Geologic Trail. The closer identification of the area in the National Park Service designation of the "Ice Age Floods National Geologic Trail" will provide significant local economic impact to educational, scientific and tourism communications regarding this unique resource.

The Sherwood, Tualatin and Wilsonville communities are part of the 21 miles of trails which follow much of the ice age flood trajectory. This will be a productive and meaningful partnership of the communities, the National Park Service, Metro and Oregon tourism.

Thank you for your consideration.

Leanna Knutson,
President
Sherwood Chamber of Commerce

Cc: Jane Hart, Metro Senior Regional Planner



August 27, 2012

Metro Regional Government
Metro Council Tom Hughes and Council Members
600 Northeast Grand Avenue
Portland, OR. 97232
Subject: Changing the Name of the Tonquin Trail to the "Ice Age" Tonquin Trail

Dear Council President Tom Hughes and Members of the Metro Council:

For the past several years, the Tualatin Chamber of Commerce, the Tualatin Historical Society and the City of Tualatin have been working in conjunction with the Washington County Visitors Association to create a Tourism initiative based on the geologic history of the Missoula Ice Age Floods some 12,000 to 17,000 years ago. As the Ice Age ended, Tualatin was carved by gigantic floods bursting down from today's Montana and Canada. The waters moved icebergs carrying unusual boulders called "glacial erratics". These monoliths were strangers to our region and are still being discovered today. The result makes up our beautiful community parks and trails including the "Ice Age" Tonquin Trail. The bones of giant mastodons, sloths and other mega-fauna have been discovered and are on display now in Tualatin.

In 2009, Congress established the Ice Age Floods National Geologic Trail in the states of Montana, Idaho, Washington and Oregon enabling the public to view, experience, and learn about the features and story of the Ice Age floods through the collaborative efforts of public and private entities. The national geologic trail will consist of a network of marked touring routes with interpretive opportunities distributed across this vast area.

The Metro Region has a very time sensitive and unique opportunity to connect itself with the creation of the National Park Service Ice Age Floods National Geologic Trail through a simple but descriptive name change. By adding "Ice Age" to the Tonquin Trail we will then be permanently linked to the master trail system and with the potential economic impact by bringing more tourists and scientific research to the communities that the regional trail will serve.

We want to thank the Metro Council in advance for your consideration to amend the name of the Tonquin Trail to the "Ice Age" Tonquin Trail. If you have further questions or comments, please do not hesitate to give us a call.

Sincerely,

Linda Moholt
CEO

Kevin Ferrasci O'Malley
Tualatin Chamber Board Chair

PO Box 701
18791 SW Martinazzi Ave.
Tualatin, OR. 97062

Phone: 503-692-0780
Chamber@tualatinchamber.com
www.TualatinChamber.com



Tualatin Historical Society

Tualatin Heritage Center

July 28, 2012

Established in 1986 to preserve, promote and interpret the rich and colorful history of Tualatin.

Clackamas County Commission
Washington County Commission

City of Sherwood City Council
City of Tualatin City Council
City of Wilsonville City Council

Re: Proposed "Tonquin Trail" Name

Honorable Officials:

Metro's Regional Government has asked the Tualatin Historical Society to seek the approval of the above Commissions and Councils regarding adding just two words—"Ice Age"—to the proposed name of the "Tonquin Trail". This 22 mile trail is planned to go through the above jurisdictions, all of which were affected by the worldly unique cataclysmic Ice Age floods over 12,000 years ago. Much of the local area was covered up to the 400' elevation with icy flood waters which backed up into the Willamette River and its tributaries. The agriculturally rich valleys, the Tonquin Scablands, Cipole swamps, and local wetlands were created or affected by these floods.

There are many positive possibilities by further identifying this area on international mapping systems with the ice age words. One possibility, already included in Metro's Tonquin Trail plan, would enhance job creating possibilities by visitors and businesses, thus bringing new money into the area. The words "Ice Age" on international satellite mapping, GIS, GPS, visitor information and related media could better guide the public to the area. Many public and private organizations are just becoming aware of the economic possibilities and want to pursue them. The central location along I-5, I-205, highways to the Pacific Ocean, and the rapidly emerging wine industry enhance efforts.

The local area is generally included in maps in the 2009 federal legislation creating the Ice Age Floods National Geologic Trail from Montana, through Idaho, Washington and Oregon to the Pacific Ocean via the Columbia River. (explained further in accompanying documents). However, current planning of the national trail has not yet included our local area for detailed information or enhancements because the national and state planning officials are just learning of our interests. This would definitely show local interest.

Our request to add the words "Ice Age" to the Tonquin Trail name was first submitted to Metro's Tonquin Trail Steering Committee over two years ago, and again to Metro on May 29, 2012, (copy sent to you). However, no formal action has been taken to consider it in their master plan and they now advise they need signed consent of all of the above governments by mid-August in order to incorporate it into the master plan. Therefore, we ask your earliest consideration and cooperation. Thank you so much.

Yvonne Addington, Past President



17677 NW Springville Rd. Portland, OR 97229

Phone: 503-645-5353

Fax: 503-645-5650

www.washingtoncountymuseum.org

October 17, 2012

Metro Regional Government

Metro Council Tom Hughes and Council Members

600 NE Grand Avenue

Portland OR 97232

Re: Name: Name change of the Tonquin Trail to the "Ice Age Tonquin Trail"

Dear Tom and Members of the Council

The Washington County Museum supports this name change, there is a time sensitive and unique opportunity for the Metro Region to connect itself with the National Parks Service Ice Age Floods National Geologic Trail through this simple but descriptive name change. By adding "Ice Age" to the Tonquin Trail, the area will be permanently linked to the master trail system. There is potential economic impact, bringing more tourists and scientific researchers to the communities that the trail serves.

Thank you for your consideration to amend the name of the Tonquin Trail to the "Ice Age Tonquin Trail".

Sincerely

Sam Shogren

Executive Director

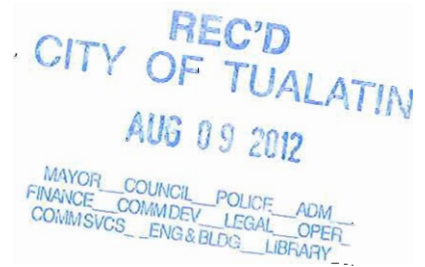
Virginia Ohler

Board President

Washington County Museum ignites the imagination and brings to life the diverse cultures that so richly define this remarkable region.



WASHINGTON COUNTY
OREGON
VISITORS ASSOCIATION



August 6, 2012

Metro Regional Government
Metro Council President Tom Hughes and Council Members
600 Northeast Grand Avenue
Portland, OR 97232

Subject: ***Ice Age Tonquin Trail***

Dear Council President Tom Hughes and Members of the Metro Council:

On behalf of the Washington County Visitors Association, I would like to encourage the Metro Council to consider the addition of ***Ice Age*** to the **Tonquin Trail** official name. It has come to my attention that there is a small window of opportunity to present the value of the association with the Department of Interior's project to create a national ice age floods trail and the Tonquin Trail. It appears the opportunity is presently upon us.

It is incumbent for us to work together in sustaining the history, culture and social importance of elevating awareness of the geological events that have led to the creation of what makes Oregon a dynamic place to visit and live. The Metro Council has a wonderful opportunity to include our area in the recent federally created Ice Age Floods National Geologic Trail currently planned from Lake Missoula, Montana/Canada border through Idaho, Washington, down to the Columbia River to the Pacific Ocean.

I thank the Metro Board for your sincere consideration. Please do not hesitate to contact me directly at 503-644-5555 ext 103 or via email at Carolyn@wcva.org for any questions or comments you may have pertaining to this very important project.

With warm regards,

Carolyn E. McCormick

cc: Yvonne L. Addington, Past President Tualatin Historical Society
Linda Moholt, CEO Tualatin Chamber of Commerce
Washington County Commissioners
Clackamas County Commissioners
Tualatin, Sherwood, Wilsonville City Council

August 27, 2012

Metro Regional Government
Metro Council President Tom Hughes and Council Members
600 Northeast Grand Avenue
Portland, OR 97232

Subject: **Tonquin Trail rebranding**

Dear Council President Tom Hughes and Members of the Metro Council:

On behalf of the Wilsonville Area Chamber of Commerce, I would like to encourage the Metro Council to consider the addition of *Ice Age* to the **Tonquin Trail** official name. It has come to my attention that there is a small window of opportunity to present the value of the association with the Department of Interior's project to create a national ice age floods trail and the Tonquin Trail. I think we should take advantage of that opportunity.

Wilsonville is rich with history, from Boone's Crossing to our agricultural roots, so we understand the importance of celebrating the past. With the Graham Oaks Nature Park having sections of the Tonquin Trail, we would welcome the name change and advocate that information be put in Graham Oaks, if appropriate. We believe that elevating the awareness of geological events will only add to the heritage of the area. The Metro Council has an opportunity to include our area in the recent federally created Ice Age Floods National Geologic Trail currently planned from Lake Missoula, Montana/Canada border through Idaho, Washington, down to the Columbia River to the Pacific Ocean.

I thank the Metro Board for your consideration. Please do not hesitate to contact me at 503-682-0411 or via email at Steve@wilsonvillechamber.com for any questions or comments you may have.

Thank you,

A handwritten signature in black ink, appearing to read "Steve Gilmore". The signature is fluid and cursive, with the first name "Steve" written in a larger, more prominent script than the last name "Gilmore".

Steve Gilmore, CEO
Wilsonville Area Chamber of Commerce



Metro | *Making a great place*

COUNCILOR CARL HOSTICKA, DISTRICT 3

July 19, 2012

Yvonne Addington
C/O Tualatin Historical Society
P.O. Box 1055
Tualatin, Oregon 97062

Dear Yvonne:

Thank you for your letter explaining your interest in renaming the future Tonquin Trail to include the words 'Ice Age.' Given my personal interest in the trail project and in the Ice Age floods geological history, I am writing to you as one member of the Metro Council, not on behalf of the Metro Council as a whole.

As you know, a primary goal of the Tonquin Trail is to travel in close proximity to landscape and geological features that were formed by the Ice Age floods in order to better tell that incredible story through signage, views and experiences of the trail users. Your letter makes several important points about the value of associating the Tonquin Trail project with the National Park Services' project to create a national ice age floods trail. In particular, there may be funding opportunities to tie the regional trail in to the national trail project through interpretive signs, kiosks, and waysides, and linking the two trails may even result in economic development by bringing more tourists to the communities the regional trail will serve.

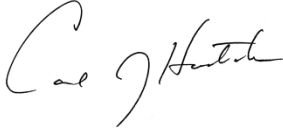
I appreciate that you have reached out to the elected officials of the partner jurisdictions because a decision to change the name of the trail needs to be made in partnership with them.

While a few sections of the Tonquin Trail will cross land owned by Metro, the majority of the trail will be owned by the cities of Wilsonville, Sherwood, and Tualatin and in a few cases perhaps Washington and Clackamas counties.

In closing, I encourage you to continue coordinating with the other jurisdictions. If consensus can be reached on a new name or a new byline, and there is agreement from all jurisdictions about what that name is, I expect that Metro would be supportive, as well. For it to become official, we would want a signed document that includes all involved jurisdictions. We would need to know the change by mid- August for it to be incorporated into the master plan. If that isn't possible, then the naming work could continue until it is resolved, regardless of the name used in the master plan.

Thank you again for your letter. Please contact Katie Shriver, my policy coordinator, at (503) 797-1550 if you have questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Carl Hosticka". The signature is fluid and cursive, with the first name "Carl" and last name "Hosticka" clearly distinguishable.

Carl Hosticka
Metro Councilor

cc: Metro Council
Tualatin, Sherwood, Wilsonville City Councils
Washington and Clackamas County Commissioners
Tonquin Trail Steering Committee
Paul Hennon, City of Tualatin
Jane Hart, Metro

MASTER PLAN APPROVALS

(Content to be included at a future time.)

Appendix B: Alignment Options Development and Evaluation

Tonquin Trail Master Plan – Draft Fatal Flaws Analysis

March 2, 2010

INTRODUCTION

This memorandum serves as the Tonquin Trail Master Plan Fatal Flaws Analysis. The purpose of the analysis is to screen trail “study segments” proposed in the 2004 Tonquin Trail Feasibility Study with the purpose of removing segments that are no longer feasible, enabling the Project Team to focus greater attention on a realistic set of trail segment options. The memo first describes the Project Team’s evaluation methodology, including fatal flaw criteria and other assumptions used to screen each study segment. A discussion of fatally flawed study segments follows, including route and facility type descriptions, and reasons for which the segments were identified as fatally flawed. The memo concludes with maps depicting the fatally flawed study segments within the context of other segments proposed in the 2004 Feasibility Study.

EVALUATION METHODOLOGY

The Project Team employed several approaches to screen the 2004 study segments for fatal flaws, including:

- An extensive review of relevant background documents, plans and studies
- Input from the Tonquin Trail Master Plan Project Steering Committee regarding recent and planned development within the study area
- Stakeholder interviews with various agencies and organizations
- Site visits to confirm the findings listed above

The following sections provide greater detail regarding the evaluation methodology.

Fatal Flaw Criteria

The Project Team developed the following fatal flaw criteria for use in evaluating the 2004 study segments:

- Existing physical development that would impede trail development on a 2004 study segment
- Known planned development that would impede trail development on a 2004 study segment
- Agency policy precluding trail development on a 2004 study segment

Study Segment Screening

The Project Team used the following assumptions when categorizing study segments as “fatally flawed”:

- A study segment was determined to be fatally flawed if it met one or more of the criteria listed above.
- The evaluation of each study segment was based on how the segment is specifically shown in the 2004 Tonquin Trail Feasibility Study. It should be noted that alignment adjustments could potentially render a segment feasible in some instances (if the fatal flaw condition is thereby avoided). The Project Team will consider these scenarios in the Master Plan’s Alignment Alternatives Development phase, scheduled to take place upon finalization of this analysis.
- A study segment was considered fatally flawed regardless of the flaw’s existence on a portion of the segment or throughout the entire segment. Where possible, the Project Team will incorporate feasible sections of fatally flawed study segments during the Master Plan’s Alignment Alternatives Development phase.

STUDY SEGMENTS IDENTIFIED AS FATALLY FLAWED

Described below and illustrated on the attached maps, the Project Team identified four study segments (as shown in the 2004 Tonquin Trail Feasibility Study) as fatally flawed.

Segment 1G

As shown in the 2004 Feasibility Study, Segment 1G would follow an on-street alignment on portions of SW Boones Ferry Road and SW 5th Street in Wilsonville. From SW 5th Street’s western terminus, the segment would continue as an off-street alignment through rural lands before connecting with another proposed study segment near the Wilsonville Water Treatment Facility. Segment 1G was identified as fatally flawed due to its routing through an existing rock quarry immediately east of the Water Treatment Facility. It should be noted that the remaining sections of Segment 1G are potentially feasible, and opportunities may exist to utilize nearby proposed transportation corridors identified in Wilsonville’s Bicycle and Pedestrian Master Plan to address constraints near the rock quarry.

Segment 1I

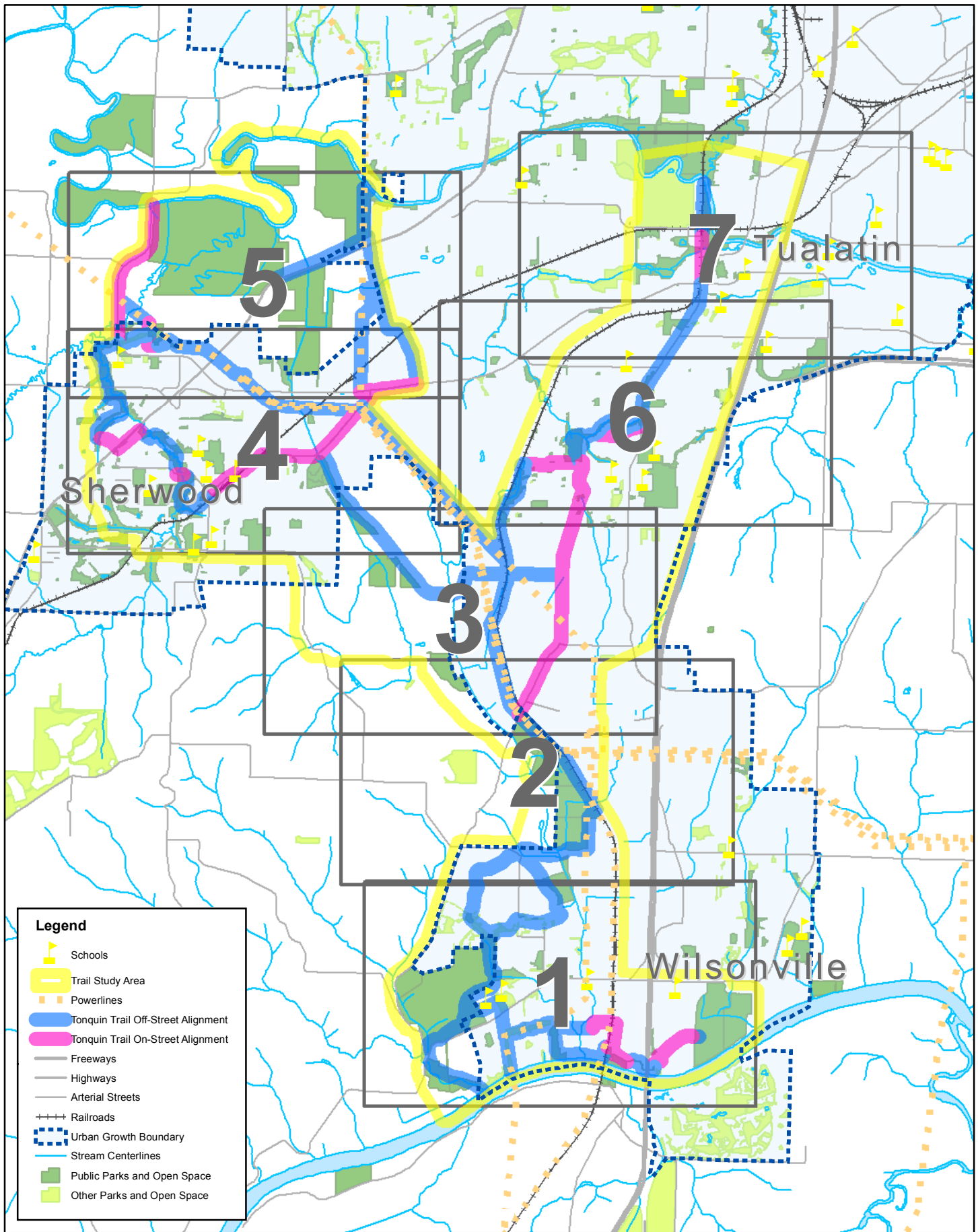
As shown in the 2004 Feasibility Study, Segment 1I would follow an off-street alignment in vicinity of Corral Creek between SW Wilsonville Road and the Willamette River. While portions of this segment are publicly owned, a privately-owned developed property adjacent to the Willamette River inhibits direct river access at this time. This segment would also require construction in steep slopes and in the Corral Creek floodplain. Due to these reasons, Segment 1I was identified as infeasible at this time.

Segment 3F

As shown in the 2004 Feasibility Study, Segment 3F would follow an off-street alignment in the Portland & Western Railroad right-of-way between the Coffee Creek Correctional Facility and William Koller Wetlands Park. This segment was identified as fatally flawed due to recent and planned railroad capacity expansions. Recent expansions have included “double tracking” some railroad sections as part of the Wilsonville-Beaverton commuter rail project, consequently leaving insufficient space for trail development within the railroad right-of-way. Additionally, the Oregon Department of Transportation’s Rail Division staff have indicated plans to eventually utilize all remaining rail right-of-way in this area to accommodate future capacity needs (including potentially increased commuter rail service).

Segment 4I

As shown in the 2004 Feasibility Study, Segment 4I would consist of on- and off-street trail alignments in Sherwood. From its eastern terminus at SW Oregon Street, the segment would follow a Bonneville Power Administration (BPA) powerline corridor roughly paralleling SW Tualatin-Sherwood Road and SW Roy Rogers Road, before utilizing on-street alignments on SW Reghetto Street and SW Seely Lane. From SW Seely Lane’s northern terminus, the segment would follow a BPA powerline corridor northwest to SW Roy Rogers Road. Segment 4I was identified as fatally flawed due to existing development in several locations, including several properties on SW Tualatin-Sherwood Road’s south side, as well as properties between SW Reghetto Street and the BPA powerline corridor (near SW Roy Rogers Road). It should be noted that some sections of Segment 4I are potentially feasible, and opportunities may exist to utilize nearby proposed transportation corridors identified in Sherwood’s Adams Avenue North Concept Plan and the I-5/Highway 99W Connector Project to address constraints in this area.



Segment Map Key

Tonquin Trail Master Plan Fatal Flaws Analysis

Source: Metro Data Resource Center

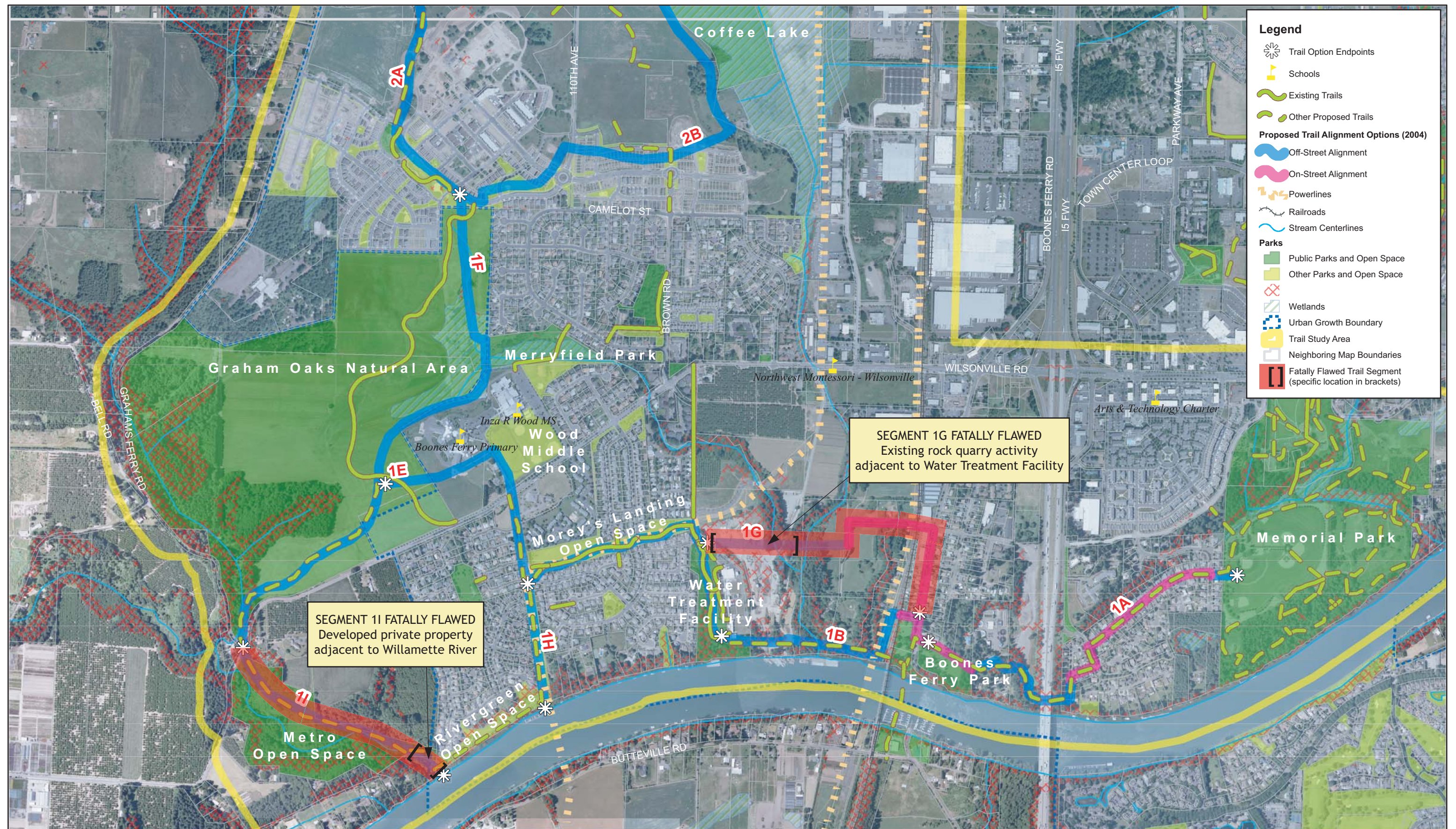
Author: ES

Date: January 2010



0 0.5 1 Miles
(1 inch = 1 mile)





Segment 1

Tonquin Trail Master Plan

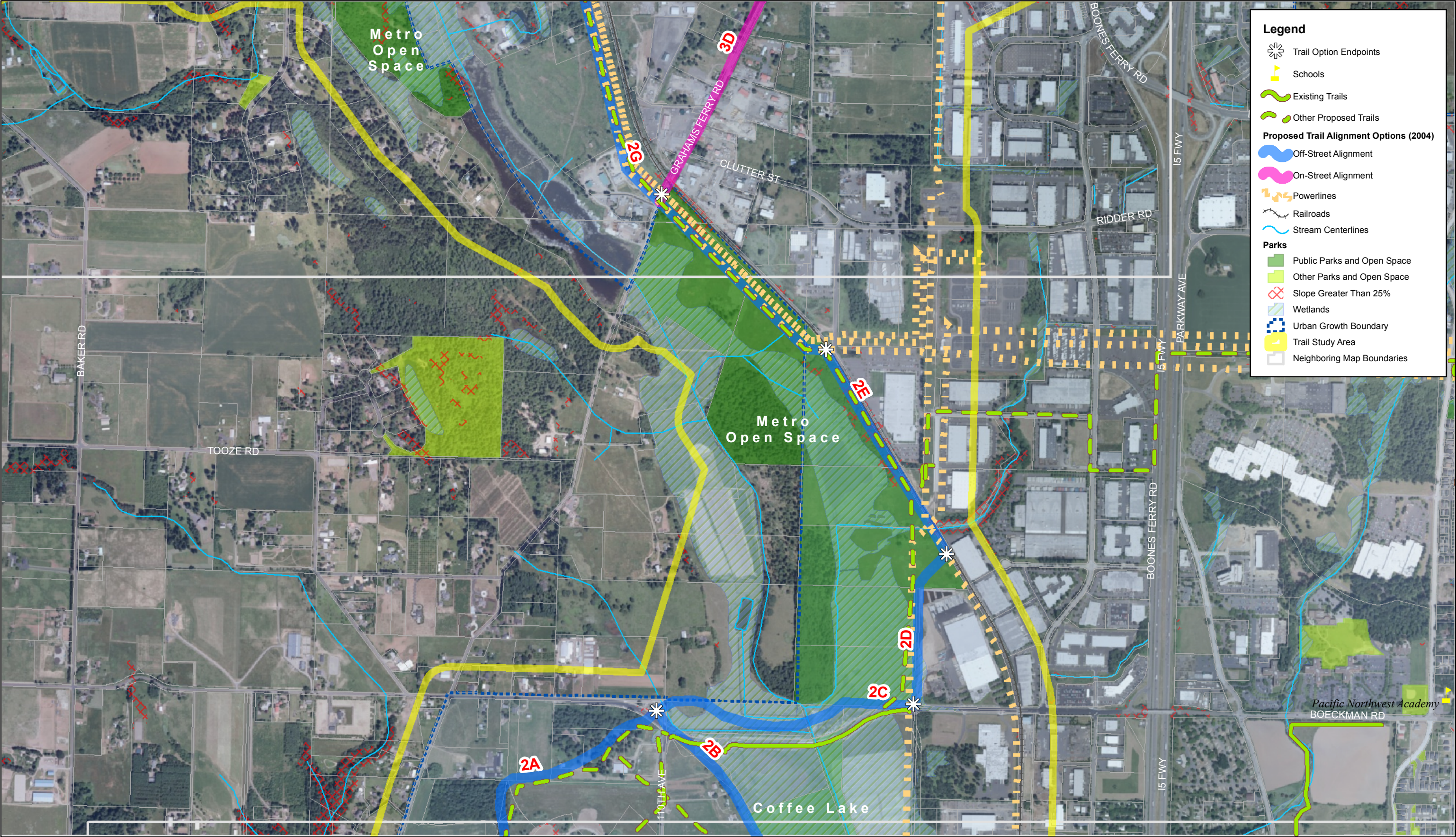
Fatal Flaws Analysis

Source: Metro Data Resource Center

Author: ES

Date: February 2010

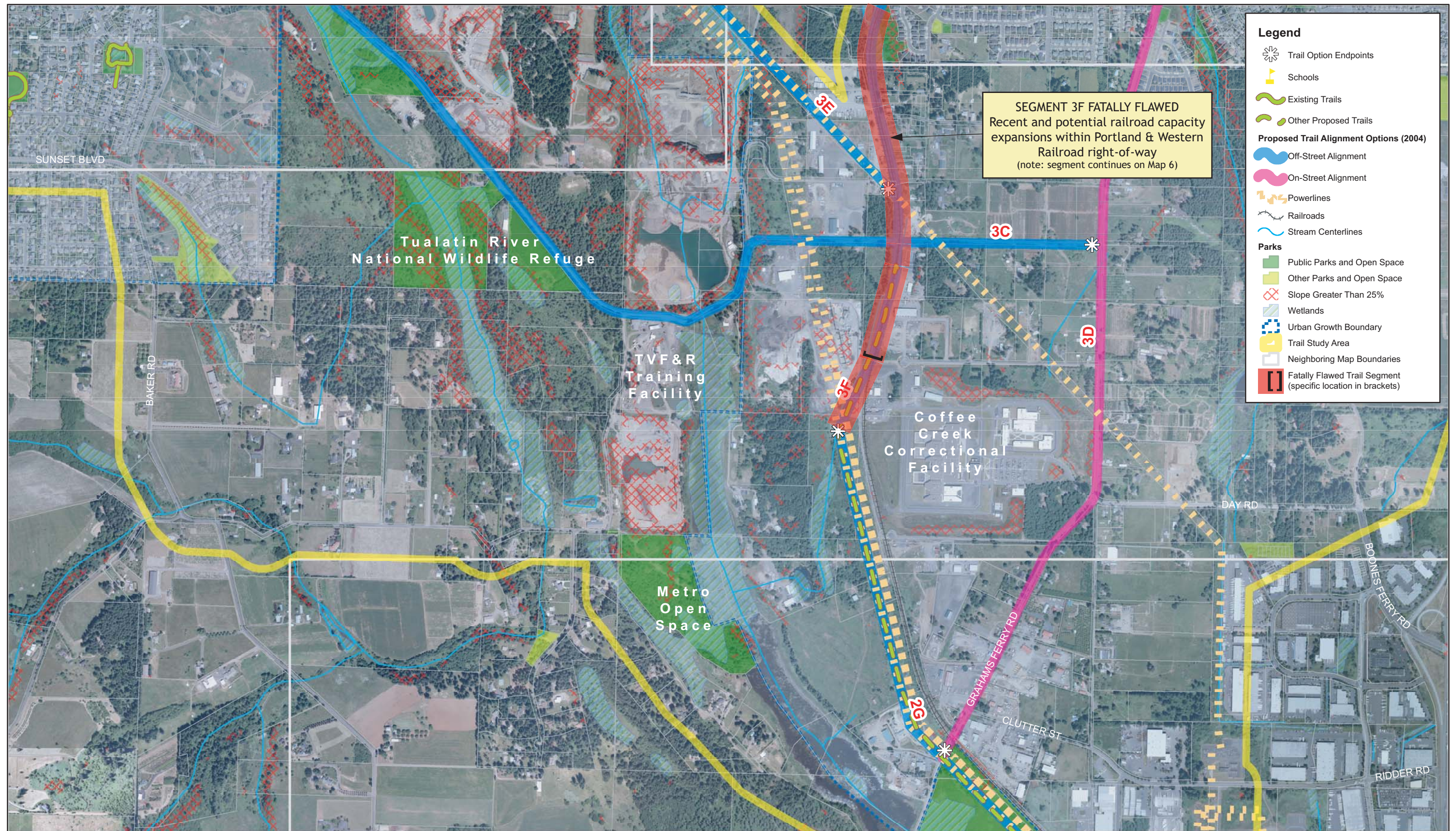




Segment 2

Tonquin Trail Master Plan
Fatal Flaws Analysis
Source: Metro Data Resource Center
Author: ES
Date: February 2010





Segment 3

Tonquin Trail Master Plan

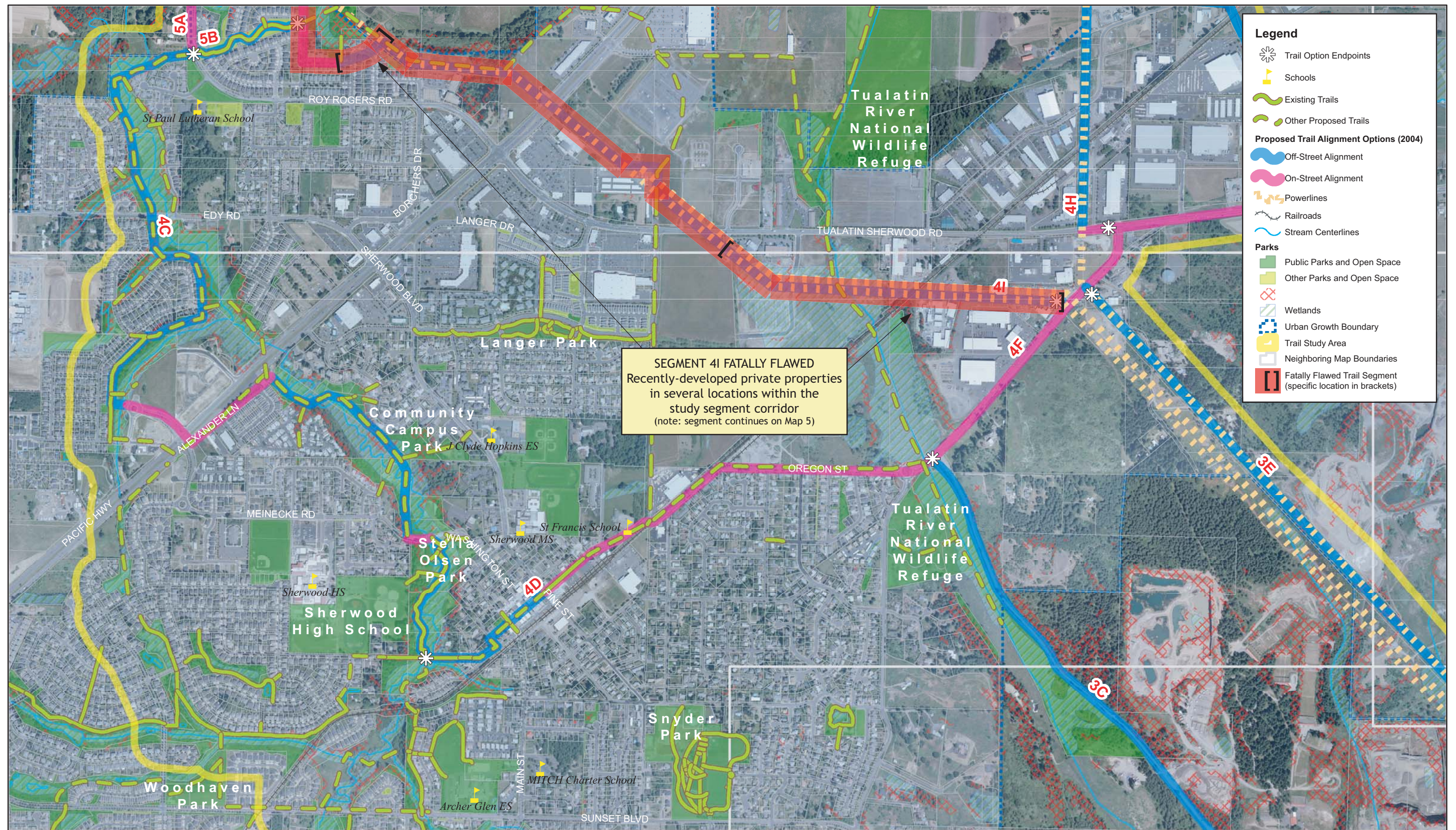
Fatal Flaws Analysis

Source: Metro Data Resource Center

Author: ES

Date: February 2010





Segment 4

Tonquin Trail Master Plan

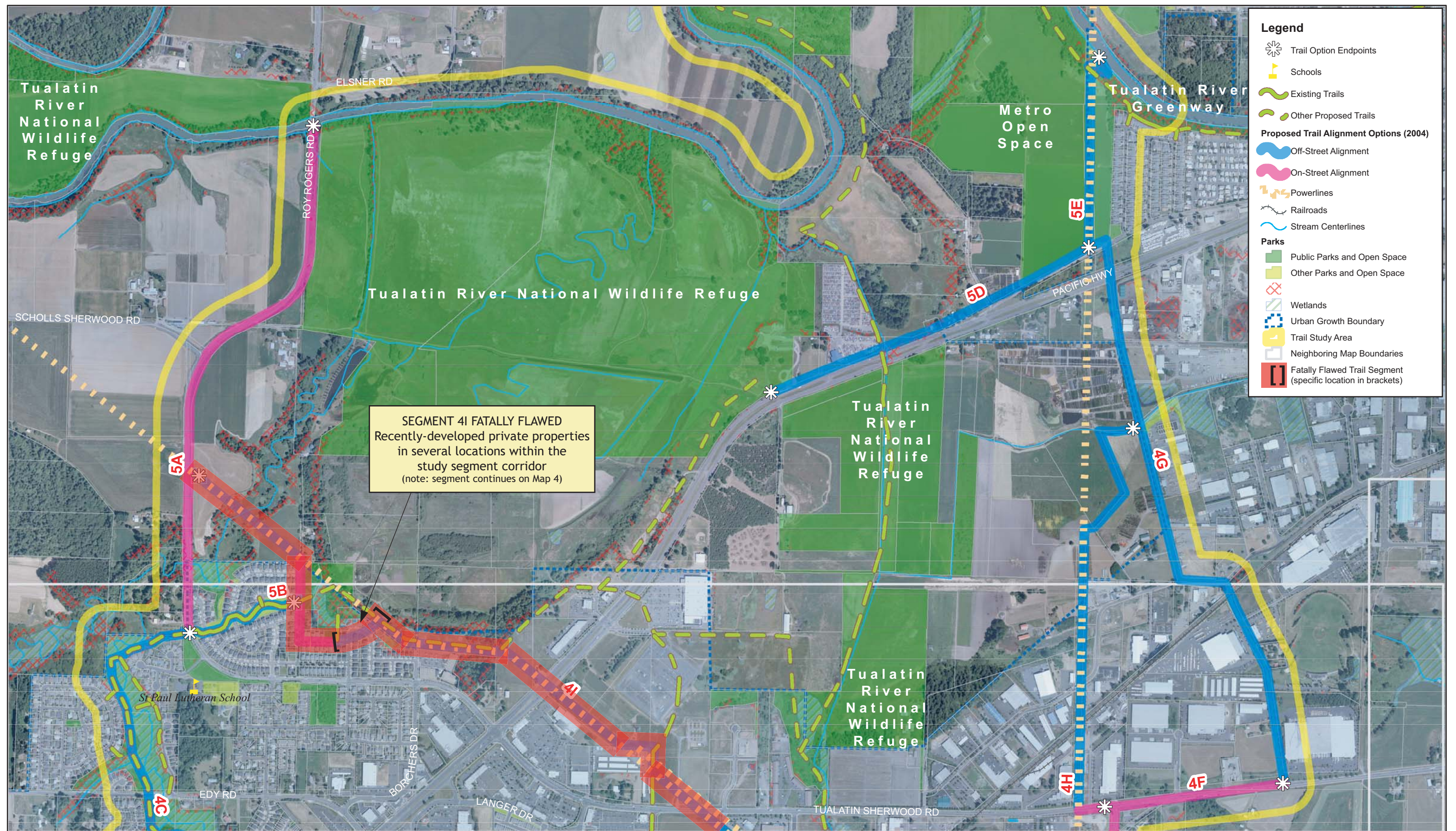
Fatal Flaws Analysis

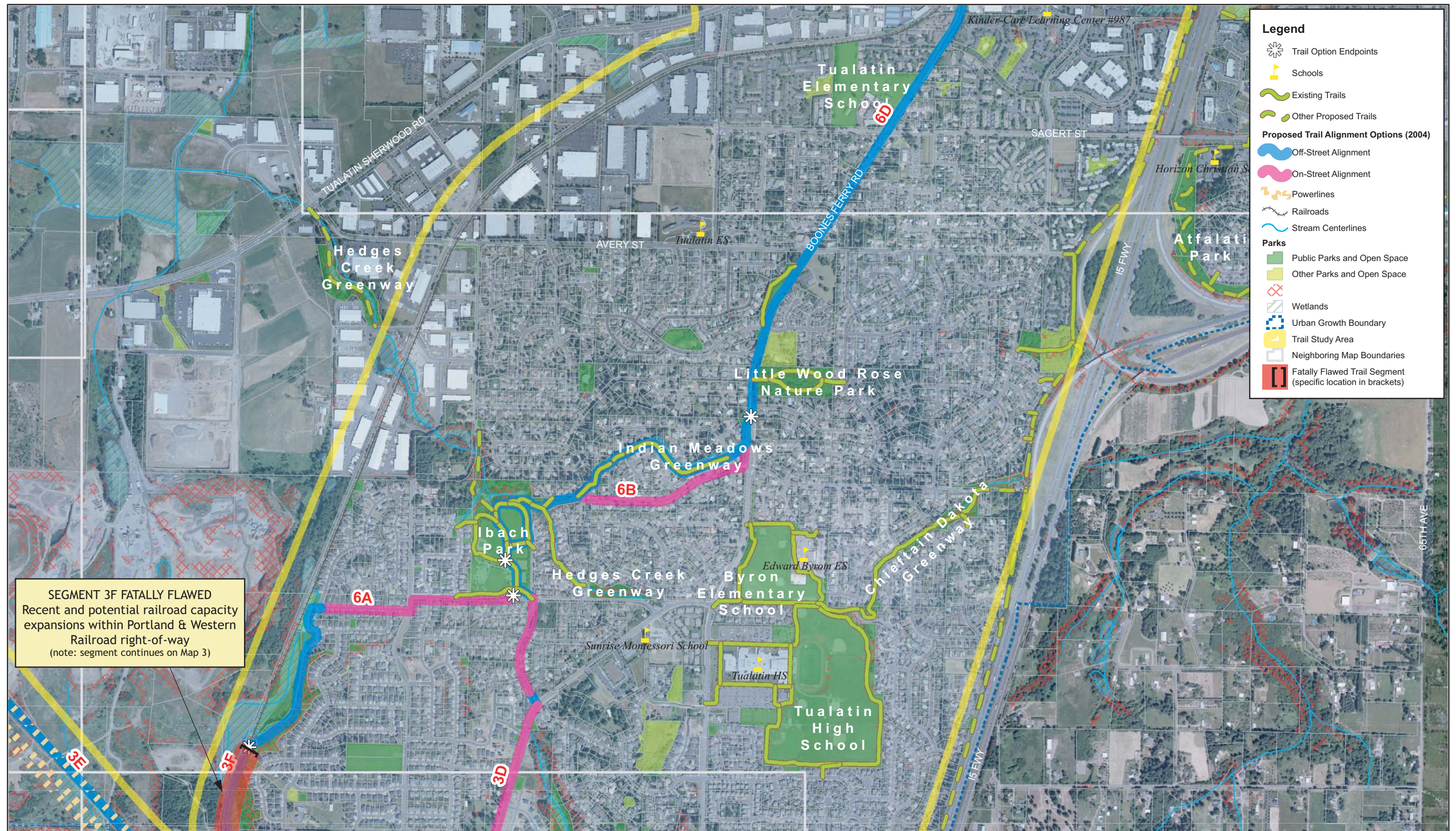
Source: Metro Data Resource Center

Author: ES

Date: February 2010







Segment 6

Tonquin Trail Master Plan

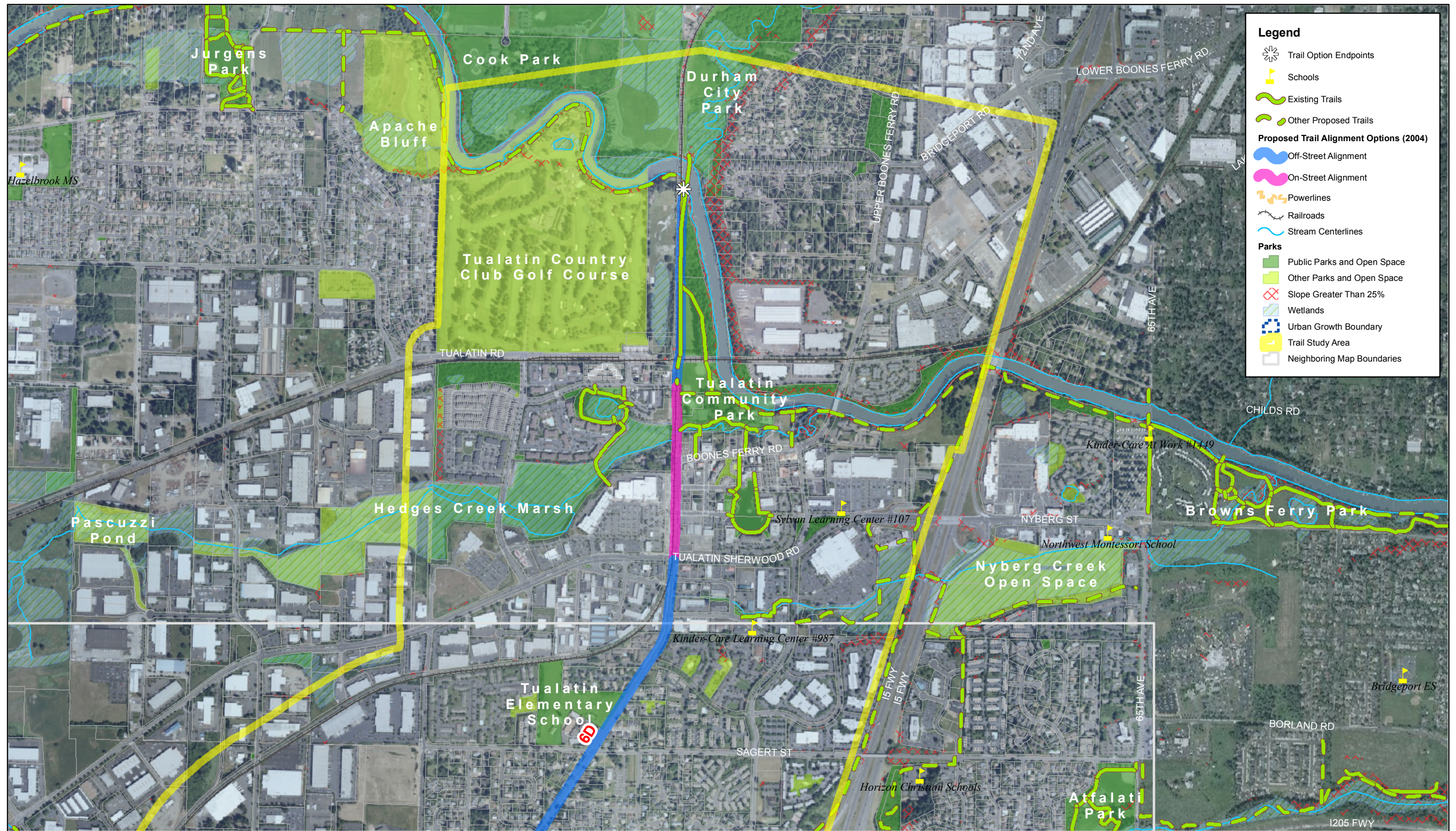
Fatal Flaws Analysis

Source: Metro Data Resource Center

Author: ES

Date: February 2010





Segment 7

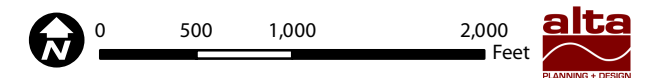
Tonquin Trail Master Plan

Fatal Flaws Analysis

Source: Metro Data Resource Center

Author: ES

Date: February 2010



Tonquin Trail Master Plan – Segment Options Evaluation

June 30, 2010

INTRODUCTION

This memorandum describes the Tonquin Trail segment options and preliminary options evaluation results. The memo begins with a description of each segment option and its function relative to other potential trail segments. The text then describes the segment evaluation process, including ratings methodology, list of segments for which the evaluation was focused, and preliminary results.

The purpose of this memo is to help members of the Tonquin Trail Project Steering Committee (PSC) prepare for the July 29 committee meeting, where you will be asked to provide feedback regarding the trail segment options evaluation and preliminary results. This document does not draw conclusions from the evaluation findings, nor is a preferred trail alignment recommended at this time.

Two sets of maps were prepared to graphically illustrate the segment options. These maps are being sent to you in the mail, and are also available on Alta's FTP site. To access Alta's FTP site you can click on the direct link below. This will open the FTP folder for your account in your default internet browser. You can then click the files to open or download them.

Direct Link: <ftp://TTMP:20bikes@ftp.altaplanning.com>

The maps are described in more detail below. The segment naming protocol used in the 2004 Tonquin Trail Feasibility Study has been "retired," and we are using a new naming format to reduce confusion. A completed evaluation matrix summarizing the preliminary evaluation results will also be sent to you (as well as electronically when you receive this memo).

TONQUIN TRAIL SEGMENT OPTIONS

Based on field visits, background documents and data research, property ownership research, stakeholder outreach, and input from the Project Steering Committee, the Project Team (consultant team and Metro staff) developed 12 potential Tonquin Trail "segment options." These segments are named "A" through "L" and incorporate a variety of routing options for linking Wilsonville with Sherwood and Tualatin. A set of 12 segment option maps depict each segment (in hot pink color) within context of the remaining segments (shown in dark gray). A set of seven aerial photo "tile" maps (and a tile key map) replace earlier versions of maps presented at the March 2010 PSC meeting. The scale and geographic boundaries of the tile maps are the same as the previous maps, but now show the updated segment options as they travel through the study area, while also showing

which portions are proposed as “on-street” versus “off-street.” On-street facilities may consist of roadway shoulders, striped bike lanes, or signed shared roadways; while off-street facilities may include shared use paths or boardwalks. It should be noted that numerous segments overlap in several locations. The overlapping of segments enabled the Project Team to combine trail routing portions that are interdependent, thus enabling a broader, holistic comparison of segment options against one another.

It should be noted that in developing trail segment options, the Project Team focused its efforts on un-built segments serving as part of the Tonquin Trail’s main spine. This was accomplished by:

- Removing alternatives to trail segments that are built, under construction or funded
- Removing segments passing through private properties where Metro does not expect to be able to acquire from willing sellers
- Removing segments passing through private properties where known regulatory issues or policies would preclude trail development
- Removing segments that would serve as trail “spurs” rather than the main “spine” (note: these segments will be highlighted as key trail connections in the Master Plan document)

The sections below describe the 12 trail segment options in greater detail. Please note that to minimize visual “clutter,” the tile maps do not show all street names. Given your familiarity with the project area and the fact that the segments are easy to follow on the related tile maps, we hope this does not pose an inconvenience.

Segment A (see “tile” maps 1 and 2)

This segment would travel between Wilsonville's proposed French Prairie Bridge and SW Grahams Ferry Road near Metro's Coffee Lake Creek Wetlands Open Space. From its southern terminus, the segment would follow an on-street alignment along SW Boones Ferry Road and on a portion of SW 5th Street in Southern Wilsonville. The segment would then follow an off-street alignment across Coffee Lake Creek and link with an existing shared use path along Arrowhead Creek Lane near the Wilsonville Water Treatment Plant. The segment would transition to an existing shared use path traversing Morey's Landing Open Space, and follow an off-street alignment along the east side of SW Willamette Way East. The trail segment would then follow a short off-street alignment along SW Wilsonville Road's north side before connecting with a shared use path (under construction) passing through Graham Oaks Natural Area. In Villebois, the segment would split into two off-street alignments (one circumventing Villebois's west side, and the second following Villebois's east side). The two alignments would reconnect near the intersection of SW Boeckman Road and SW 110th Avenue, where the trail would follow an existing shared use path on SW Boeckman Road's south side. This segment would then turn north and follow a powerline corridor as an off-street alignment, and pass through Metro's Coffee Lake Creek Wetlands Open Space. The segment within this open space would also consist of an off-street alignment (boardwalk) and follow the open space's far eastern edge near the Portland

& Western Railroad. This segment would terminate at SW Grahams Ferry Road immediately north of the Coffee Lake Creek Wetlands Open Space.

Connections to Sherwood

Segment B (see “tile” maps 2, 3 and 4)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Downtown Sherwood. From its southern terminus at SW Grahams Ferry Road, the segment would follow an off-street alignment in a northwesterly direction through several properties near Coffee Lake before crossing the lake via an existing causeway. The segment would travel west on SW Morgan Road and north on SW Baker Road toward Sherwood as on-street alignments, then transition to an off-street alignment along SW Sunset Boulevard's south side. The final connection to Downtown Sherwood would include an off-street alignment following an existing shared use path through Snyder Park, and on-street alignments via SW Division and SW Pine streets. This segment would serve as an alternative to Segments C, D, E and F.

Segment C (see “tile” maps 2, 3 and 4)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Downtown Sherwood. From its southern terminus at SW Grahams Ferry Road, the segment would follow an off-street alignment in a northwesterly direction through several properties near Coffee Lake before crossing the lake via an existing causeway. The segment would travel north on SW Morgan Road as an on-street alignment, and west along SW Tonquin Road's south side as an off-street alignment. The segment would then depart from SW Tonquin Road (near the Tri-County Gun Club entrance) and follow an off-street alignment through a property linking with SW Murdock Road in Sherwood. The segment would follow a short off-street alignment on SW Murdock Road's east side, before connecting with on-street alignments leading to Downtown Sherwood via SW Willamette and SW Pine streets. This segment would serve as an alternative to Segments B, D, E and F.

Segment D (see “tile” maps 2, 3 and 4)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Downtown Sherwood. From its southern terminus at SW Grahams Ferry Road, the segment would follow an off-street alignment in a northwesterly direction through several properties near Coffee Lake before crossing the lake via an existing causeway. The segment would travel north on SW Morgan Road as an on-street alignment, and west along SW Tonquin Road's south side as an off-street alignment. The segment would then travel west on SW Oregon Street (as an off-street alignment on the road's north side) to Downtown Sherwood's northern edge. The segment's final leg would follow the existing shared use path between SW Ash and SW Pine streets in Downtown Sherwood. This segment would serve as an alternative to Segments B, C, E and F.

Segment E (see “tile” maps 2, 3 and 4)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Downtown Sherwood. From its southern terminus, the segment would follow an off-street alignment northward along the west side of SW Grahams Ferry Road. The segment would then travel west on SW Tonquin Road as an off-street alignment

(along the roadway's south side). The segment would then depart from SW Tonquin Road (near the Tri-County Gun Club entrance) and follow an off-street alignment through a property linking with SW Murdock Road in Sherwood. The segment would follow a short off-street alignment on SW Murdock Road's east side, before connecting with on-street alignments leading to Downtown Sherwood via SW Willamette and SW Pine streets. This segment would serve as an alternative to Segments B, C, D and F.

Segment F (see "tile" maps 2, 3 and 4)

This segment would travel between the northern extent of Metro's Coffee Lake Creek Wetlands Open Space and Downtown Sherwood. From its southern terminus, the segment would travel northward as an off-street alignment along the west side of SW Grahams Ferry Road, then travel west on SW Tonquin Road as an off-street alignment (along the roadway's south side). The segment would then travel west on SW Oregon Street (as an off-street alignment on the road's north side) to Downtown Sherwood's northern edge. The segment's final leg would follow the existing shared use path between SW Ash and SW Pine streets in Downtown Sherwood. This segment would serve as an alternative to Segments B, C, D and E.

Segment G (see "tile" maps 4 and 5)

This segment would travel between Downtown Sherwood and the Tualatin River National Wildlife Refuge trailhead near SW Roy Rogers Road. From its southern terminus, this segment would follow an off-street alignment via existing alleys in Downtown Sherwood between SW Pine and NW Park streets. The segment would follow short on-street alignments via NW Park Street and SW Villa Road, before transitioning to the existing Cedar Creek Trail in Stella Olsen Park. From the existing Cedar Creek Trail's northern terminus at NW Washington Street, this segment would continue north along a proposed Cedar Creek Trail extension to SW Roy Rogers Road near St. Paul Lutheran Cemetery. The segment's final leg would follow an off-street alignment along the east side of SW Roy Rogers Road to the Tualatin River National Wildlife Refuge trailhead.

Segment H (see "tile" maps 4 and 5)

This segment would travel between the SW Tonquin Road/SW Oregon Street intersection and a Metro-owned open space adjacent to the Tualatin River. From its southern terminus, the segment would follow an on-street alignment on SW Oregon Street between SW Tonquin Road and SW Tualatin-Sherwood Road. The segment would then follow an off-street alignment on SW Tualatin-Sherwood Road's north side before connecting with off-street alignments along SW Cipole Road. The SW Cipole Road portion of this segment would include a path on the roadway's west side between SW Tualatin-Sherwood Road and SW Herman Road, transitioning to a path on the roadway's east side between SW Herman Road and SW Pacific Drive (near Oregon 99W). The segment's final leg would consist of an off-street alignment following a powerline corridor through a Metro-owned open space, cross the Tualatin River over a future bicycle/pedestrian bridge, and connect with the proposed Westside Trail.

Connections to Tualatin

Segment I (see “tile” maps 2, 3, 6 and 7)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Tualatin Community Park. From its southern terminus at SW Grahams Ferry Road, the segment would follow an off-street alignment through several properties near Coffee Lake before crossing the lake via an existing causeway. The segment would travel north on SW Morgan Road as an on-street alignment, and east along SW Tonquin Road's south side as an off-street alignment. The segment would follow the west side of SW Tonquin Loop as an off-street alignment, and transition to on-street alignments via SW 112th Avenue, SW Brown Street, SW 108th/105th avenues and SW Avery Street. The segment would follow an off-street alignment along the west side of SW 95th Place, and short off-street alignments along SW Tualatin-Sherwood Road and SW 90th Avenue near the Kaiser Permanente campus. The segment would then travel east along the south side of Hedge's Creek Marsh (mostly as an off-street alignment) before connecting with existing shared use paths leading to SW Tualatin Road near the Tualatin Heritage Center. The segment would follow a short on-street alignment on SW Tualatin Road before connecting with an existing path in Tualatin Community Park leading to the Tualatin River bicycle/pedestrian bridge. This segment would serve as an alternative to Segments J, K and L.

Segment J (see “tile” maps 2, 3, 6 and 7)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Tualatin Community Park. From its southern terminus, the segment would travel northward as an off-street alignment along the west side of SW Grahams Ferry Road. The segment would then travel west on SW Tonquin Road as an off-street alignment (along the roadway's south side). The segment would follow the west side of SW Tonquin Loop as an off-street alignment, and transition to on-street alignments via SW 112th Avenue, SW Brown Street, SW 108th/105th avenues and SW Avery Street. The segment would follow an off-street alignment along the west side of SW 95th Place, and short off-street alignments along SW Tualatin-Sherwood Road and SW 90th Avenue near the Kaiser Permanente campus. The segment would then travel east along the south side of Hedge's Creek Marsh (mostly as an off-street alignment) before connecting with existing shared use paths leading to SW Tualatin Road near the Tualatin Heritage Center. The segment would follow a short on-street alignment on SW Tualatin Road before connecting with an existing path in Tualatin Community Park leading to the Tualatin River bicycle/pedestrian bridge. This segment would serve as an alternative to Segments I, K and L.

Segment K (see “tile” maps 2, 3, 6 and 7)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Tualatin Community Park. From its southern terminus, the segment would travel northward as an off-street alignment along SW Grahams Ferry Road's west side between the Portland & Western Railroad and SW Tonquin Road. The segment would continue northward as an on-street alignment before transitioning to SW 103rd Avenue and SW Ibach Street (also on-street alignments). The segment would follow existing

shared use paths through Ibach Park before connecting with SW Alsea Court via an off-street alignment (on an existing soft surface trail which would be upgraded). The segment would travel east along the existing Indian Meadows Greenway, then on SW Boones Ferry Road as an on-street alignment through Tualatin. The on-street portion would terminate at an existing shared use path in Tualatin Community Park leading to the Tualatin River bicycle/pedestrian bridge. This segment would serve as an alternative to Segments I, J and L.

Segment L (see “tile” maps 2, 3, 6 and 7)

This segment would travel between Metro’s Coffee Lake Creek Wetlands Open Space and Tualatin Community Park. From its southern terminus at the open space's south end, the segment would cross the Portland & Western Railroad (via a grade-separated crossing) and travel directly north via an off-street alignment along an existing powerline corridor. The segment would travel east on SW Day Road as an on-street alignment, then north along SW Boones Ferry Road (as an off-street alignment on the roadway's west side). The segment would proceed east on SW Norwood Road as an off-street alignment on the roadway's north side, then transition to an on-street alignment on SW 84th Avenue immediately west of I-5. From SW 84th Avenue's northern terminus, the segment would continue northward as an off-street alignment adjacent to I-5 to the SW Nyberg Street interchange. The segment would pass through the interchange via grade-separated crossings of SW Nyberg Street and the I-5 on-/off-ramps. The segment would continue north adjacent to I-5 (as an off-street alignment) before turning west along the Tualatin River. Between I-5 and Tualatin Community Park, the segment would pass through several properties along the Tualatin River's south side, and cross SW Boones Ferry Road via a grade-separated crossing. The segment would connect with existing shared use paths in Tualatin Community Park leading to the Tualatin River bicycle/pedestrian bridge. This segment would serve as an alternative to Segments I, J and K.

SEGMENTS EVALUATION PROCESS

The previously agreed-upon evaluation measures (falling within the project’s six goals and 19 criteria) served as the basis for the trail segment options evaluation. The Project Team reviewed the roughly 30 evaluation measures to determine whether a reasonably accurate assessment could be achieved at this level of analysis, and determined that most measures are applicable at this stage. While the majority of the evaluation measures are qualitative in nature, some measures were quantitative in nature. For the quantitative measures, Metro’s Data Resource Center performed the analysis using Metro’s Regional Land Information System (RLIS) GIS data.

The Project Team assessed each trail segment option to the extent to which it meets each evaluation measure, and assigned a corresponding “low,” “medium,” or “high” rating. The following table describes the rating scale in greater detail. This ratings scale replaces the +, √, 0 and – ratings previously described in the February 2010 Final Draft Evaluation Framework memo, but the definitions generally remain the same.

Rating	Description
High	The segment addresses the criterion and/or makes substantial improvements

Rating	in the criteria category
Medium Rating	The segment partially addresses the criterion and/or makes some improvements in the criteria category
Low Rating	The segment does not support the intent of and/or negatively impacts the criteria category
Segment not Evaluated	The segment was not evaluated (see next section for description of these segments)

Segments Not Evaluated

Of the 12 Tonquin Trail segments described above, it was determined that three segments would ultimately serve as part of the preferred alignment regardless of the evaluation outcome for other potential segments. This is due in part to local planning efforts which have solidified portions of the Tonquin Trail route since completion of the 2004 Feasibility Study, portions of the trail that have been built (or are currently under construction), and areas where one feasible alignment option exists for a key segment. Informally referred to as “given” or “assumed” segments, the three trail segments not taken through the detailed evaluation process include:

- Segment A – Wilsonville/Graham Oaks/Villebois
- Segment G – Cedar Creek/Roy Rogers Road
- Segment H – Oregon Street/Cipole Road

Preliminary Evaluation Results

The evaluation matrix presents the preliminary Tonquin Trail segment options evaluation results. Stated earlier, the evaluation’s intent is to assess potential trail segments against one another. Viewing the study area from a broader perspective indicates that selection of two preferred segment options is necessary: One segment linking Wilsonville with Sherwood, and another segment linking Wilsonville with Tualatin. With this in mind, the evaluation process measured the following segments against one another:

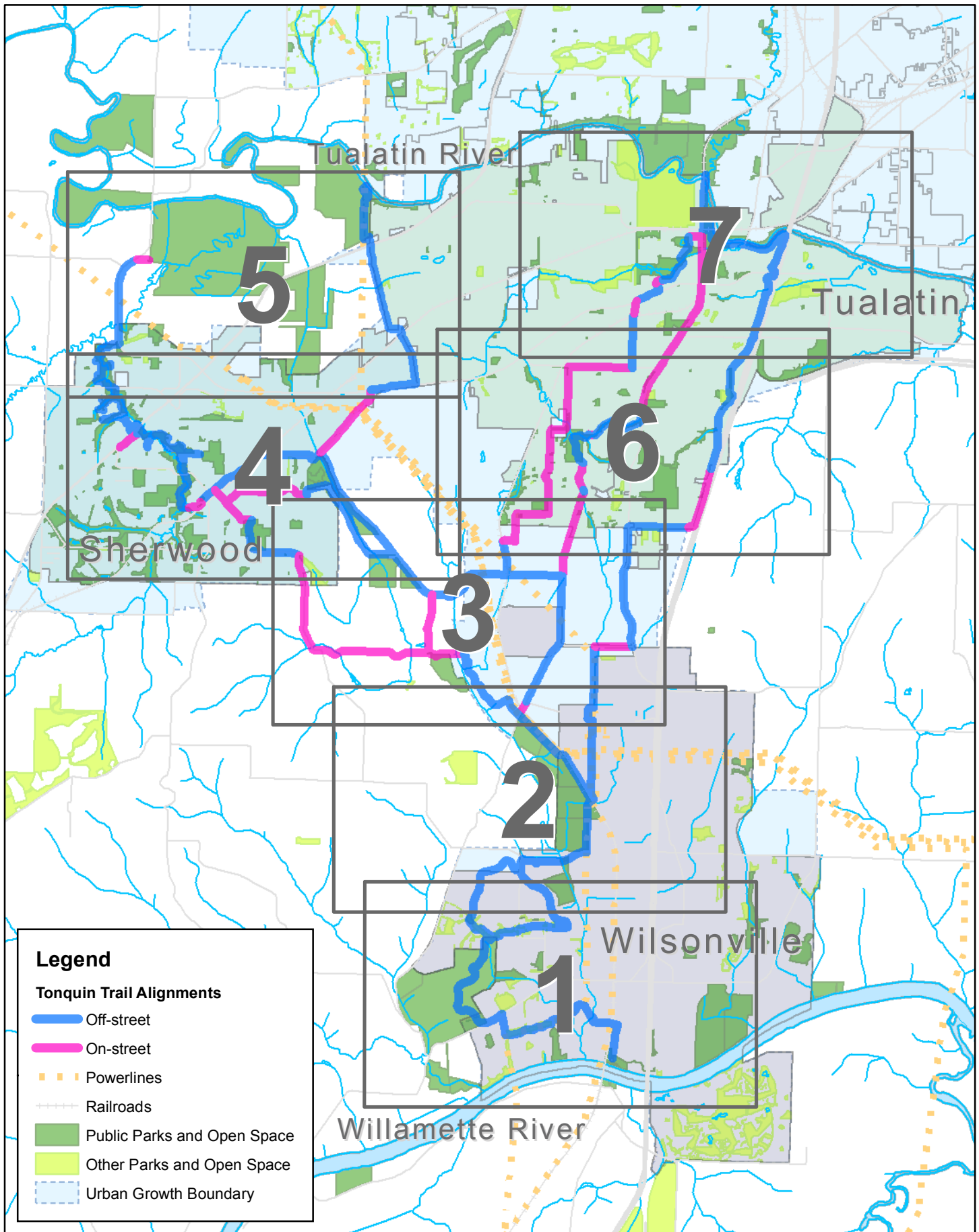
- Wilsonville-to-Sherwood segments: Segments B, C, D, E and F
- Wilsonville-to-Tualatin segments: Segments I, J, K and L

In addition to the “assumed” segments described earlier, the preferred Tonquin Trail alignment will ultimately incorporate a segment from each of the two groups listed above.

The Project Team will review the trail segments evaluation with the Project Steering Committee and discuss the preliminary findings. The Team will revise ratings based on PSC input if a major issue was overlooked in the initial evaluation. Because the evaluation is not using a total score or weighted score to dictate the outcome, individual ratings will not be the focus of the meeting discussion. Rather we will use the ratings to inform a discussion on

trade-offs between the segment options in hopes of narrowing down the number of segment options to bring to the public for their input.

The evaluation matrix is printed on two 11x17-sized pages. For review purposes, you may want to tape the two pages together end-to-end, so that you can view an entire segment at a glance. For reference, the overall goal belonging with a specific evaluation measure is noted above the measure on the matrix, and the goal definitions can be found at the lower right corner of the page. When reviewing the matrix, it would be helpful to have the February 17, 2010 Evaluation Framework memo handy so you can review the associated criteria for each evaluation measure.



Legend

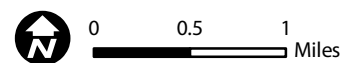
Tonquin Trail Alignments

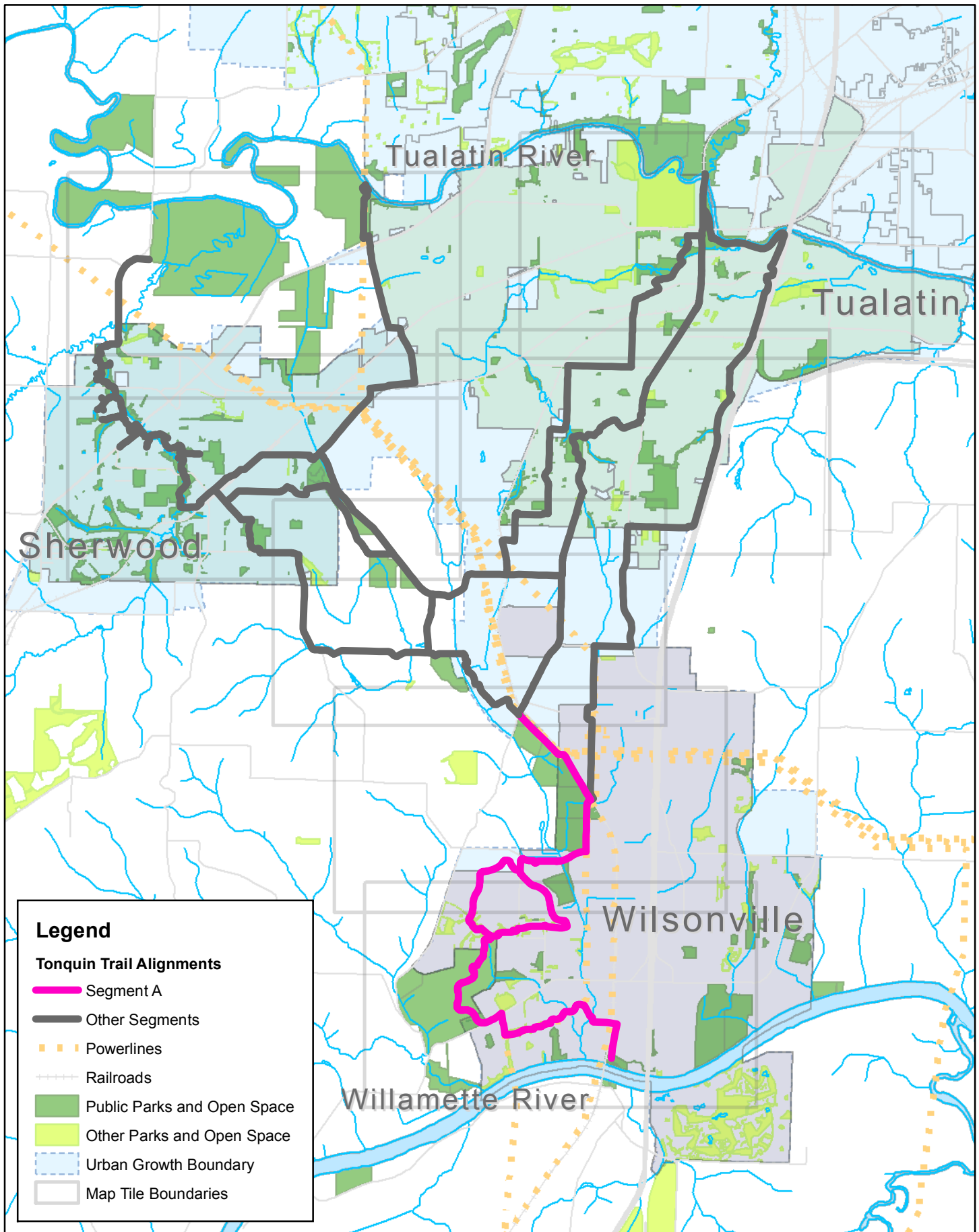
- Off-street
- On-street
- Powerlines
- Railroads
- Public Parks and Open Space
- Other Parks and Open Space
- Urban Growth Boundary

Tile Key Map

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center
Author: EAS
Date: May 2010





Segment A

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

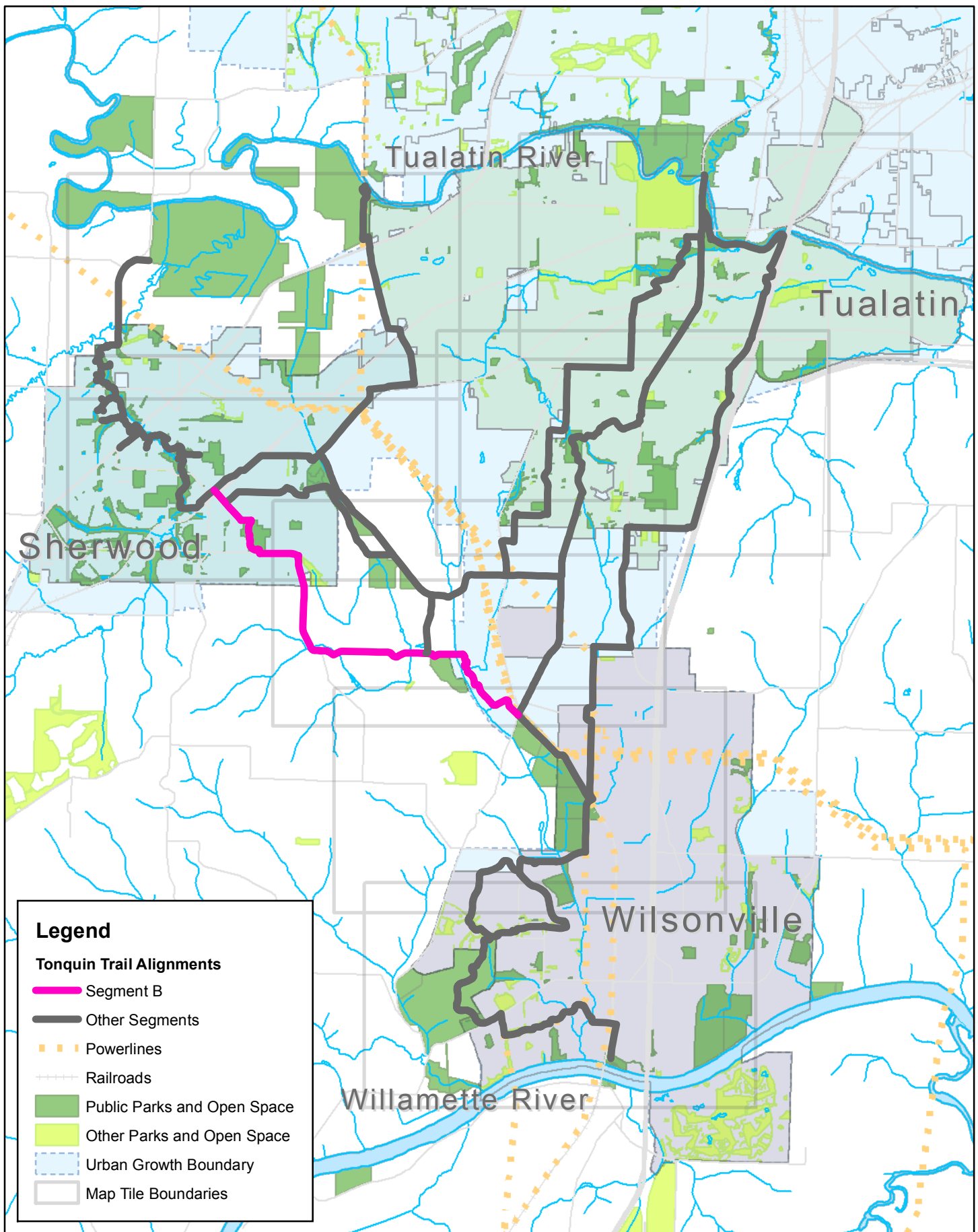
Author: EAS

Date: May 2010



0 0.5 1 Miles





Segment B

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

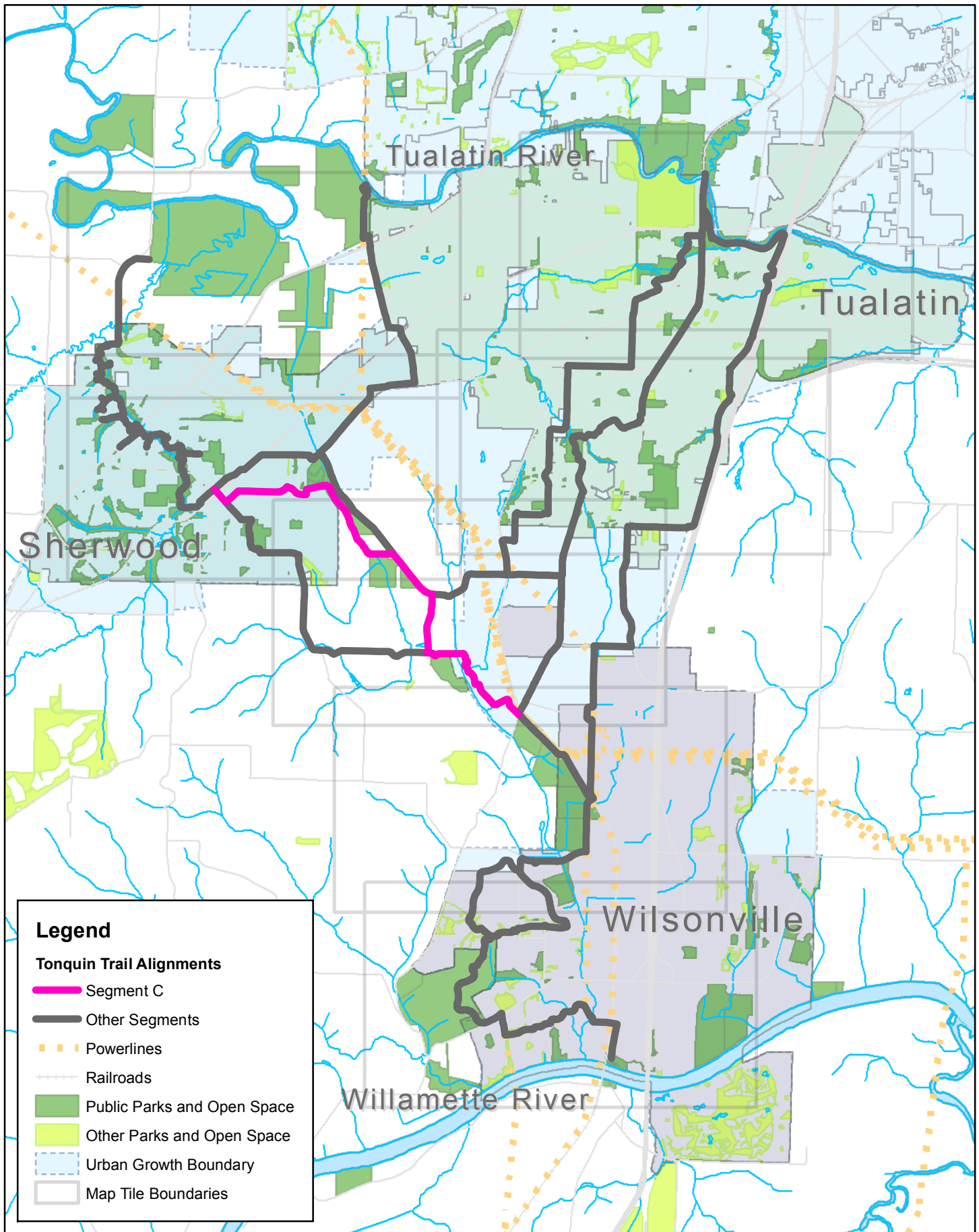
Author: EAS

Date: May 2010



0 0.5 1 Miles





Segment C

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

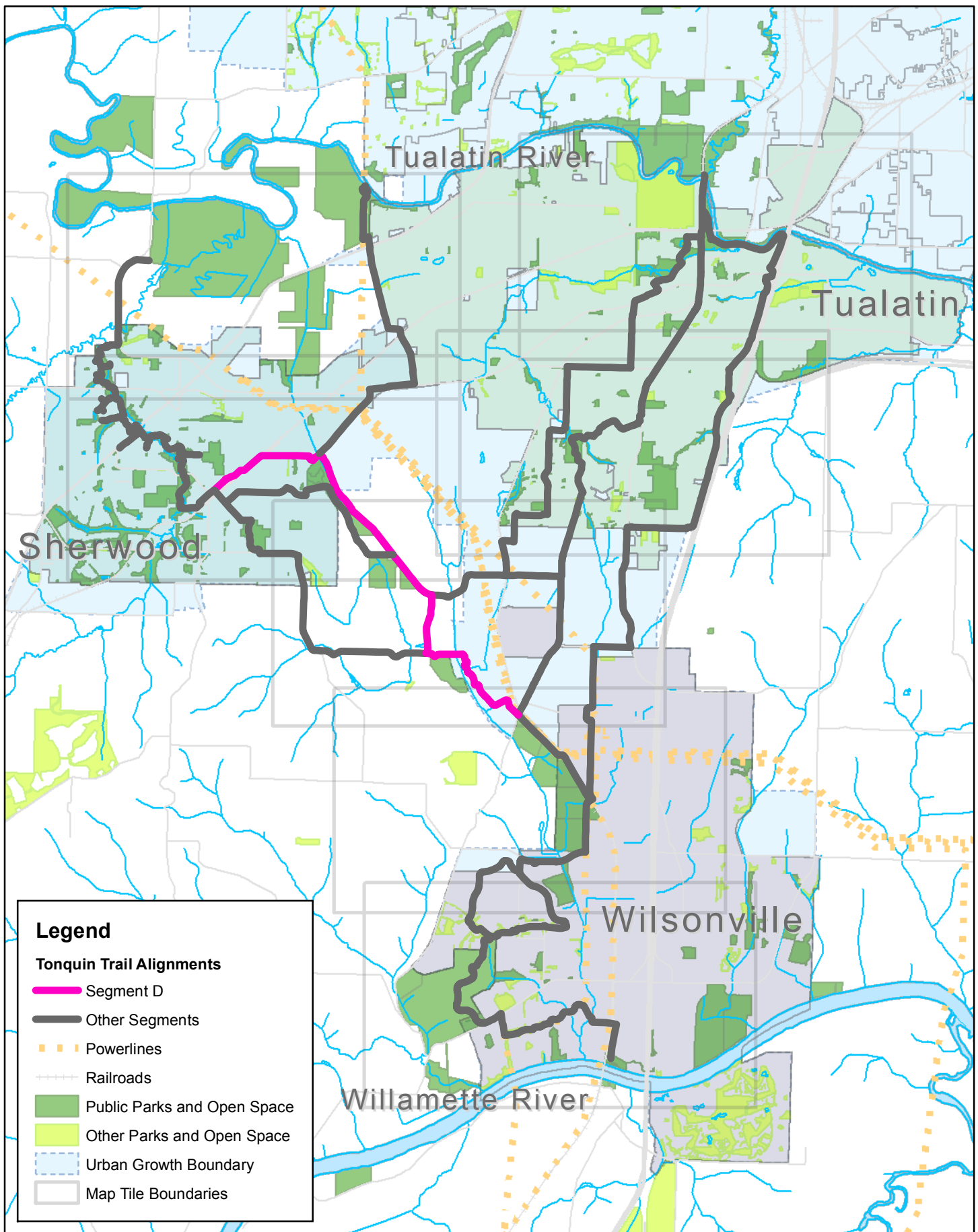
Author: EAS

Date: May 2010



0 0.5 1 Miles





Segment D

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

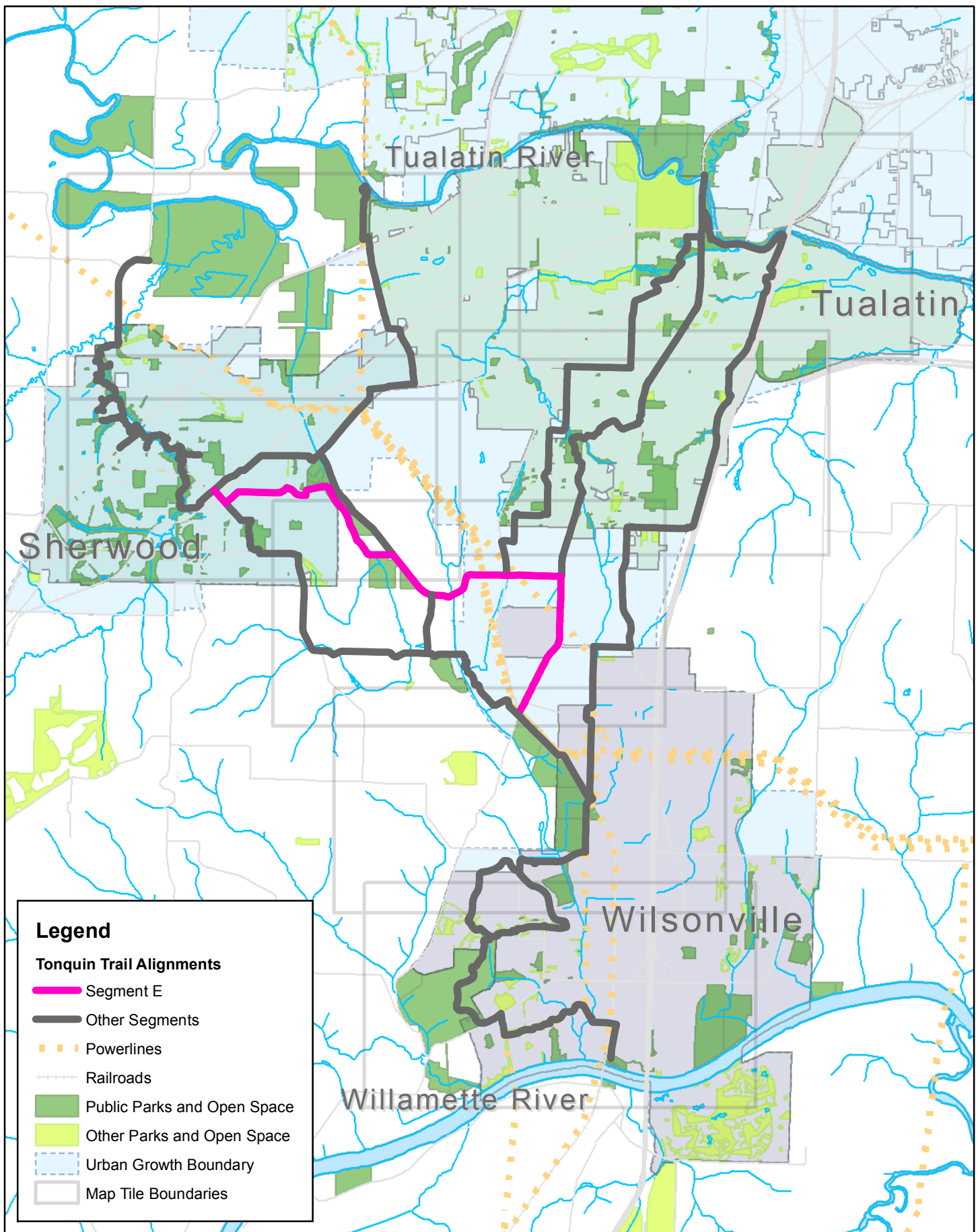
Author: EAS

Date: May 2010



0 0.5 1 Miles





Segment E

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

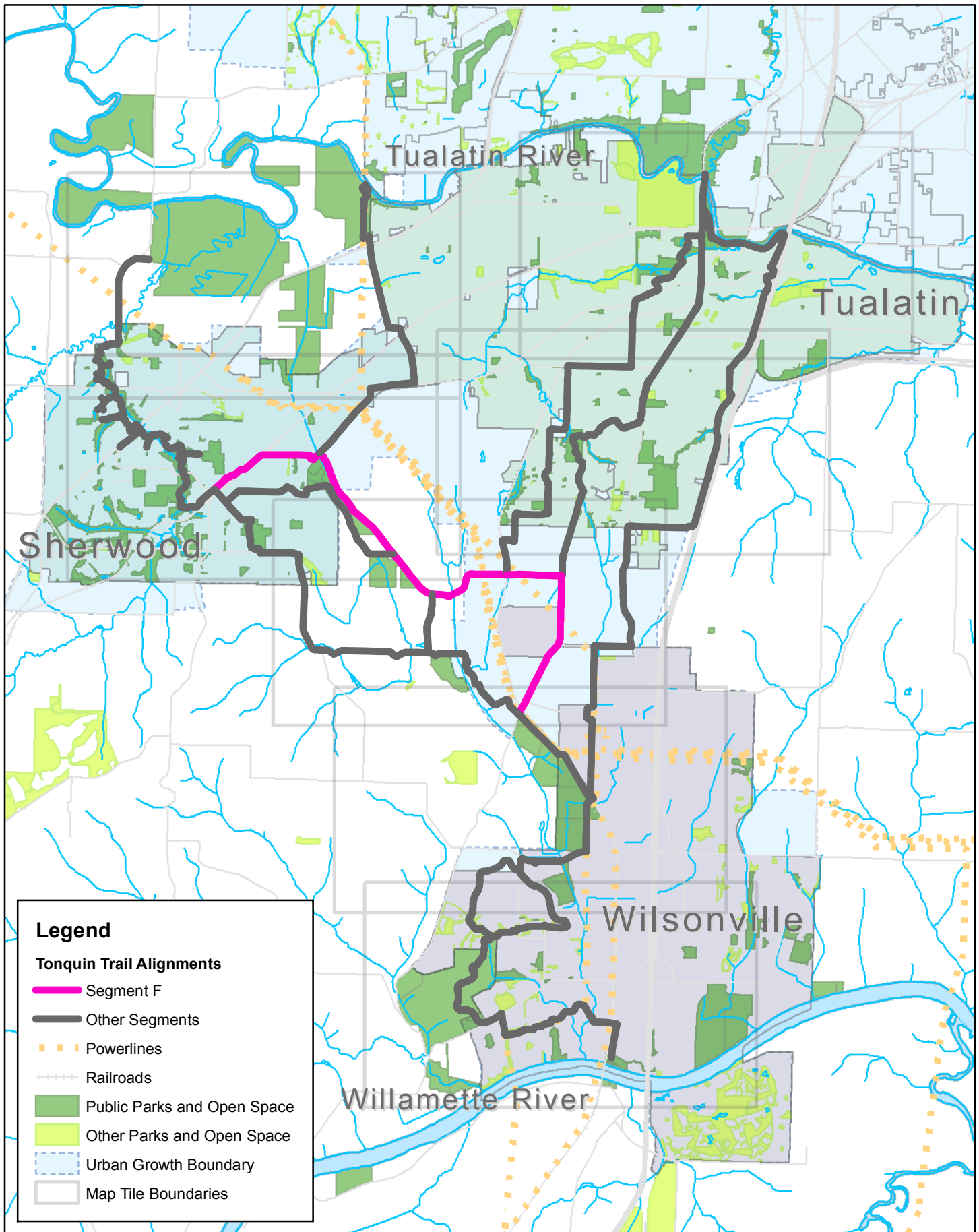
Author: EAS

Date: May 2010



0 0.5 1 Miles





Segment F

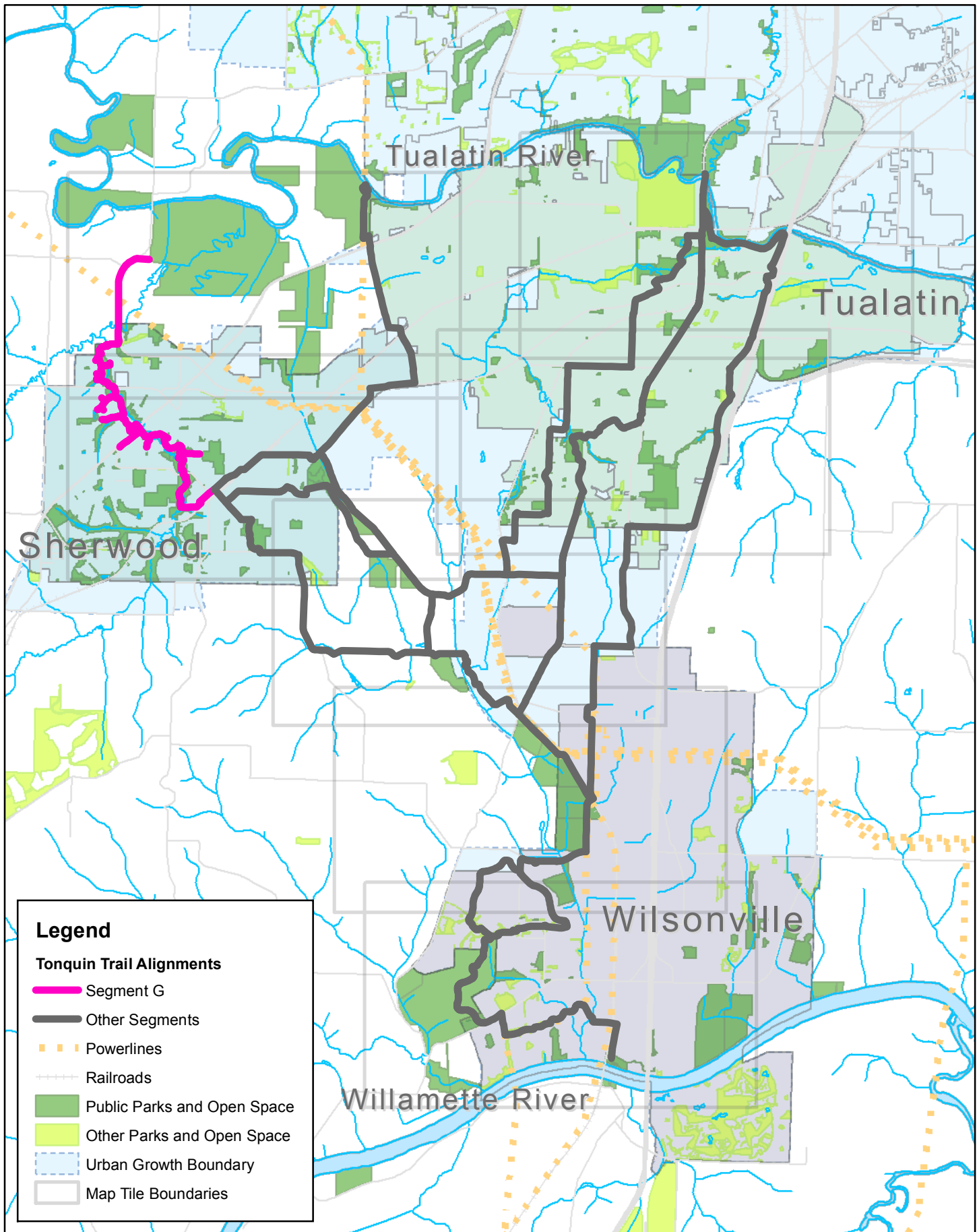
Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

Author: EAS

Date: May 2010





Legend

Tonquin Trail Alignments

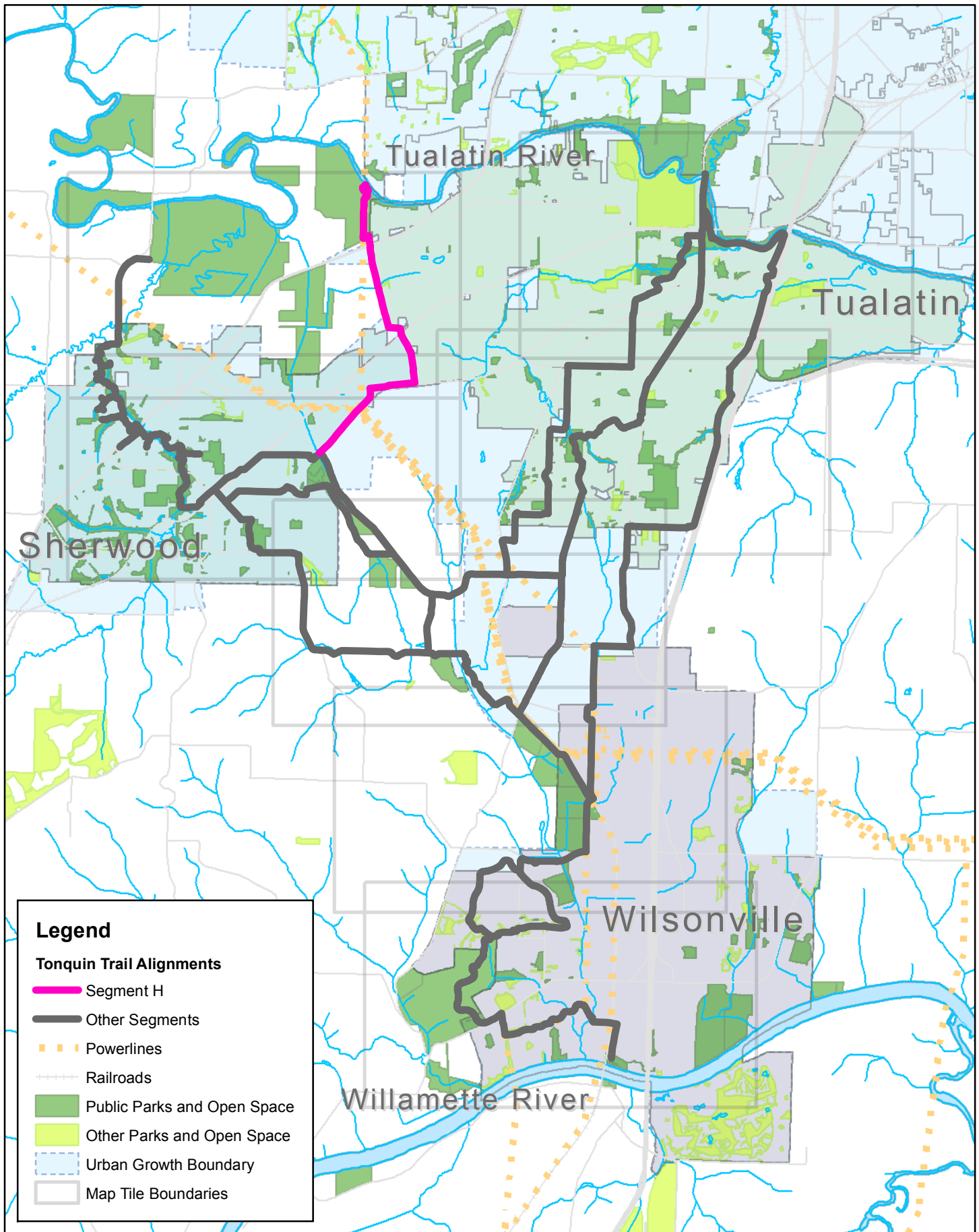
- Segment G
- Other Segments
- - - Powerlines
- - - Railroads
- Public Parks and Open Space
- Other Parks and Open Space
- - - Urban Growth Boundary
- Map Tile Boundaries

Segment G

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center
Author: EAS
Date: May 2010





Segment H

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

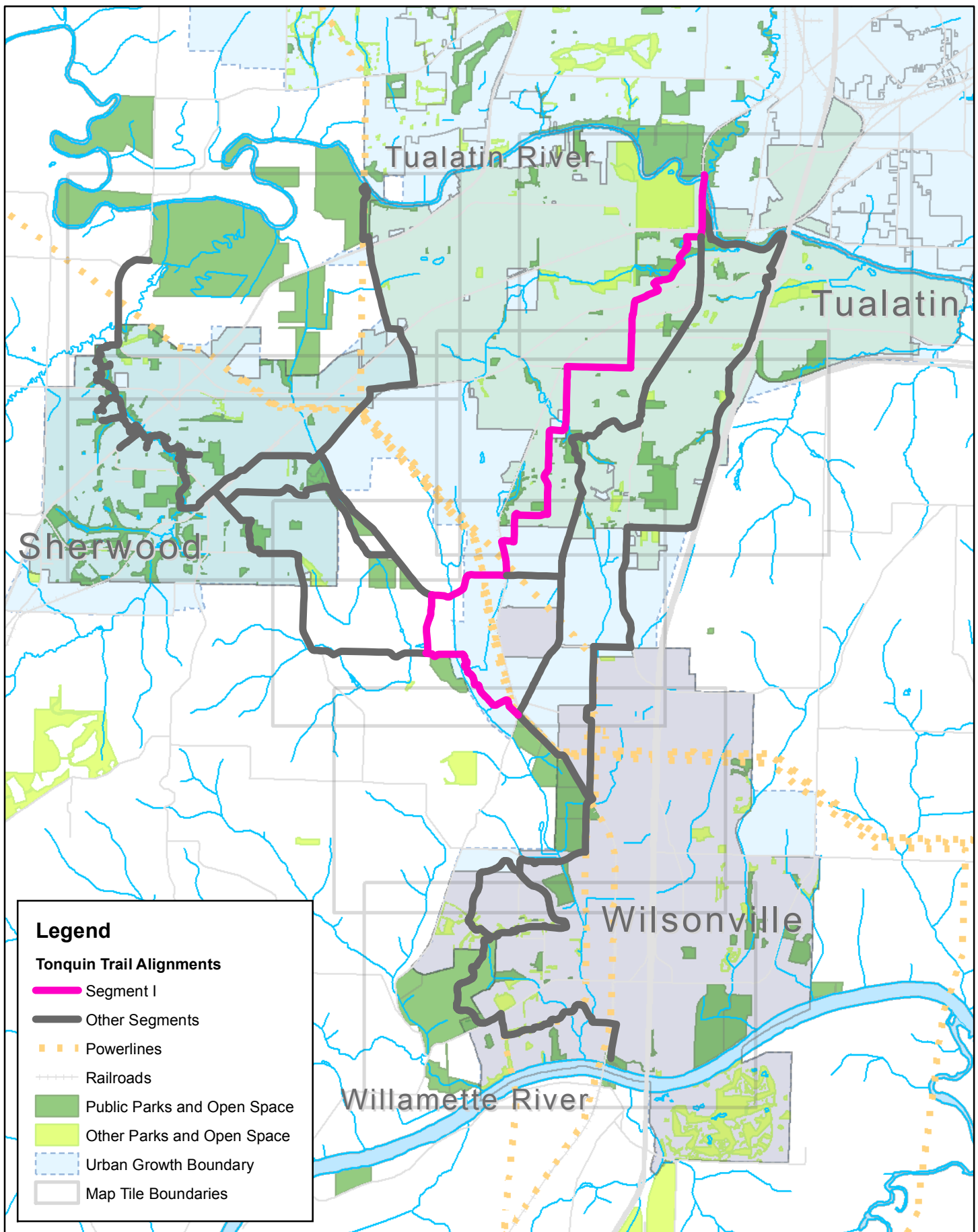
Author: EAS

Date: May 2010



0 0.5 1 Miles





Segment I

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

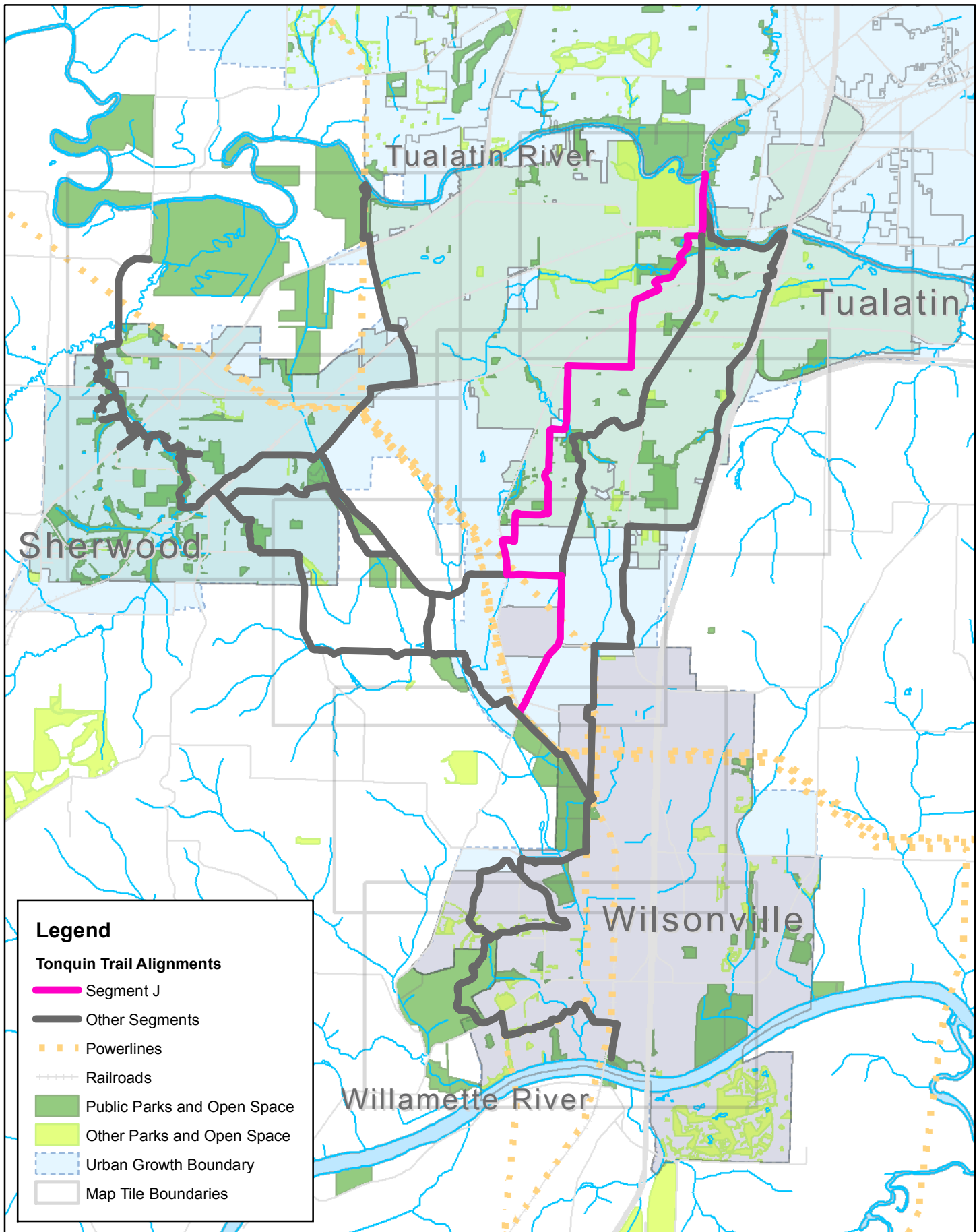
Author: EAS

Date: May 2010



0 0.5 1 Miles



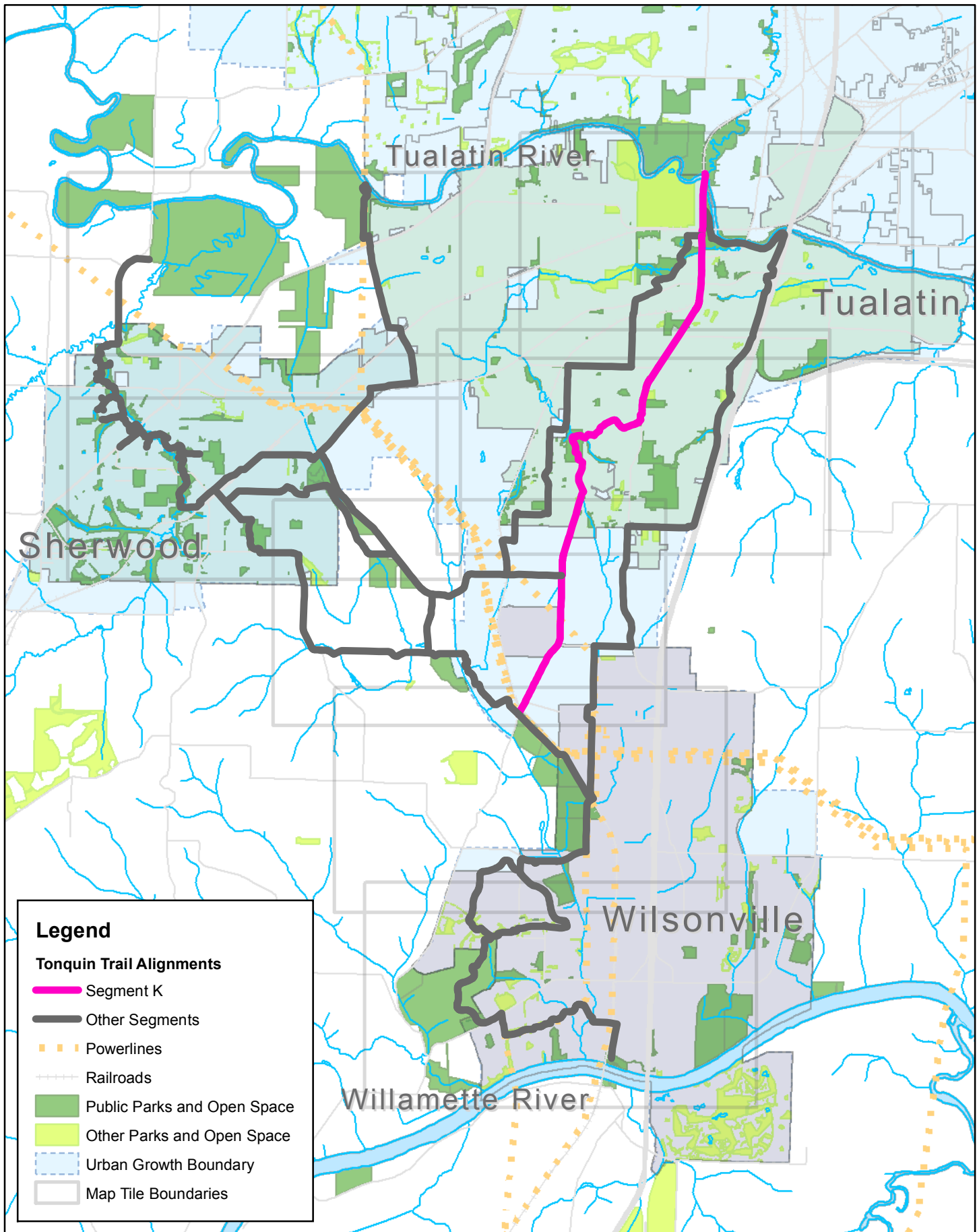


Segment J

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center
 Author: EAS
 Date: May 2010





Legend

Tonquin Trail Alignments

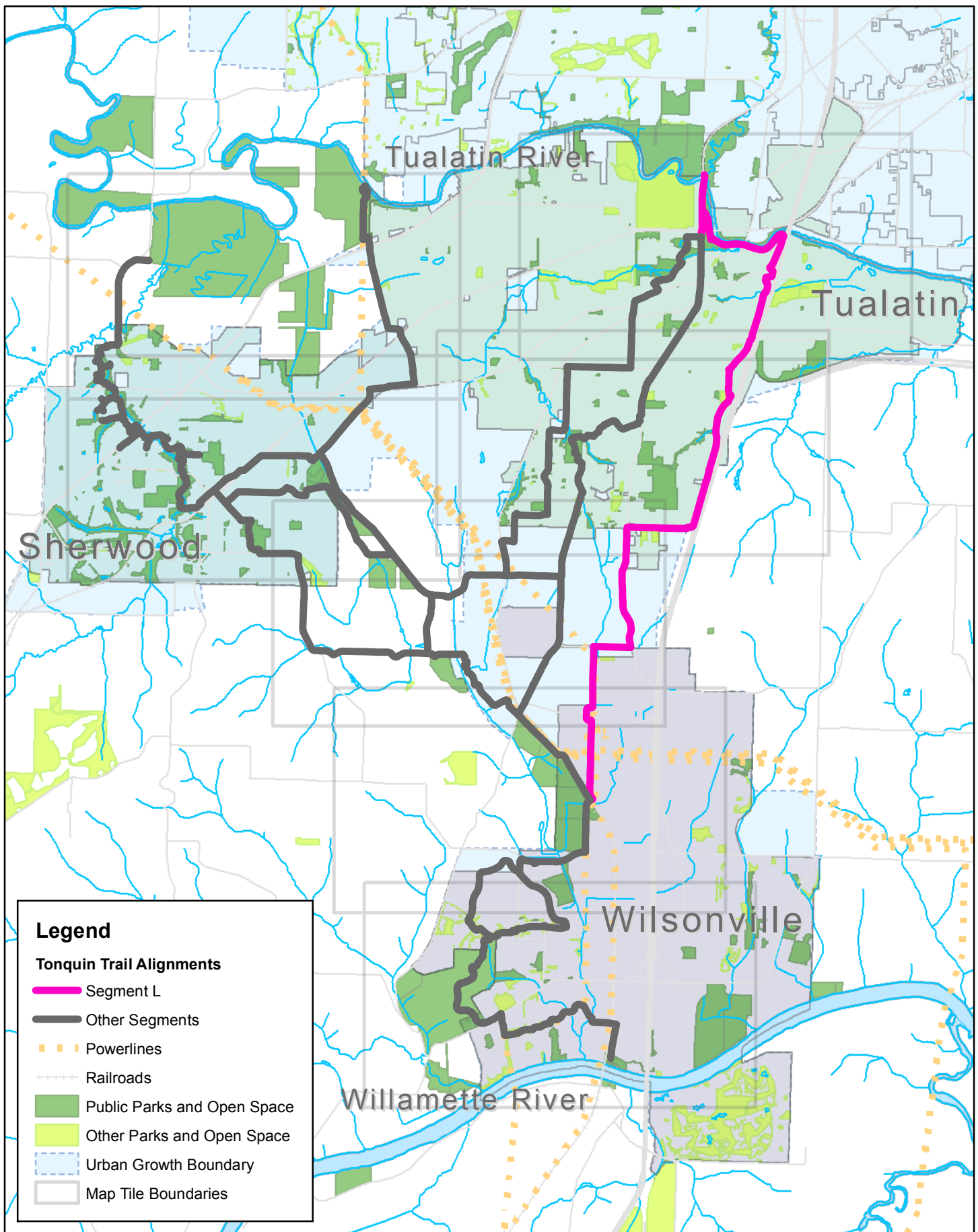
- Segment K
- Other Segments
- Powerlines
- Railroads
- Public Parks and Open Space
- Other Parks and Open Space
- Urban Growth Boundary
- Map Tile Boundaries

Segment K

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center
Author: EAS
Date: May 2010





Segment L

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

Author: EAS

Date: May 2010



0 0.5 1 Miles



TONQUIN TRAIL MASTER PLAN - SEGMENT OPTIONS EVALUATION MATRIX

SEGMENT #	SEGMENT NAME	GOAL 1					GOAL 2					
		Number of at-grade crossings of roadways classified as arterial or higher	Number of at-grade crossings of roadways classified as collector or lower	Qualitative assessment of user safety or perception of safety (e.g., feeling of isolation, connections to surrounding land uses)	Qualitative assessment of opportunities for eyes on the trail (e.g., location within proximity of neighbors who “watch the trail”)	Qualitative assessment of the amount of surrounding open space or right-of-way to provide separation from private properties (e.g., fencing) to deter theft, vandalism, etc.	Assessment of the extent to which the segment passes through regionally significant fish and wildlife habitat (# of acres impacted)	Assessment of the extent to which the segment passes through designated wetlands (# of acres impacted)	Assessment of the extent to which the segment passes through Class I and II riparian areas (combined # of crossings and acres impacted)	Number of crossings of Class I and II riparian areas	Acres of Class I and II riparian areas impacted	Assessment of the extent to which the segment causes indirect impacts to the function of a wildlife corridor (linear feet)
A	Wilsonville/Graham Oaks/Villebois	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated
B	Coffee Lake Creek/Morgan Road/Baker Road/Snyder Park											
C	Coffee Lake Creek/Morgan Road/Tonquin Road/Snyder Property/Willamette Street											
D	Coffee Lake Creek/Morgan Road/Tonquin Road/Oregon Street											
E	Grahams Ferry Road/Tonquin Road/Snyder Property/Willamette Street											
F	Grahams Ferry Road/Tonquin Road/Oregon Street											
G	Cedar Creek/Roy Rogers Road	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated
H	Oregon Street/Cipole Road	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated
I	Coffee Lake/Morgan Road/Tonquin Road/108th Avenue/Avery St./Hedges Creek Marsh											
J	Grahams Ferry Road/Tonquin Road/108th Avenue/Avery Street/Hedges Creek Marsh											
K	Grahams Ferry Road/Ibach Park/Indian Meadows Greenway/Boones Ferry Road											
L	Powerline corridor/Day Road/Boones Ferry Road/Norwood Road/Interstate 5											
	RATING NOTES	High: 1-2 crossings Medium: 3-5 crossings Low: more than 5 crossings	High: 3 or fewer crossings Medium: 5-8 crossings Low: more than 8 crossings	High: few off-street segments and relatively-minimal isolation Medium: some off-street segments with moderate isolation Low: mostly off-street with relatively higher isolation	High: few off-street segments and relatively-minimal isolation Medium: some off-street segments with moderate isolation Low: mostly off-street with relatively higher isolation	High: for off-street segments in narrow public right-of-way, few locations where trail is adjacent to private properties (particularly businesses and rural residences) Medium: moderate length of off-street segment is adjacent to private properties Low: off-street segment is predominantly adjacent to private properties	High: fewer than 4 acres Medium: 4 to 5.5 acres Low: over 5.5 acres	High: 0 acres Medium : greater than zero to 0.5 acres Low: greater than 0.5 acres	Combined evaluation of the # of acres impacted and # of crossings (each are rated individually in the two columns to the right	High: 5 or fewer crossings Medium: 6-7 crossings Low: greater than 7 crossings	High: fewer than 2 acres Medium: 2-3 acres Low: greater than 3 acres	High: less than 3,043 feet Medium: 3,043 to 6,084 feet Low: more than 6,084 feet

- HIGH

- Segment addresses criterion and/or makes substantial improvements in the criteria category.
- MEDIUM

- Segment partially addresses criterion and/or makes some improvement in the criteria category.
- LOW

- Segment does not support the intent of and/or negatively impacts criteria category.

GOAL 1 - Trail addresses crime prevention through design.

GOAL 2 - Trail avoids or minimizes impacts to natural and cultural resource

TONQUIN TRAIL MASTER PLAN - SEGMENT OPTIONS EVALUATION MATRIX

SEGMENT #	SEGMENT NAME	GOAL 3						GOAL 4					GOAL 5		
		Qualitative assessment of opportunities for views, scenic experiences, wildlife viewing	Percent of trail segment adjacent to roadways classified as collectors or higher	Qualitative assessment of grade changes	Qualitative assessment of opportunity to provide opportunities for environmental interpretation along various features associated with Tonquin Geologic Area, Tualatin River National Wildlife Refuge, Willamette River and Tualatin River	Qualitative assessment of directness of route	Qualitative assessment of established uses adjacent to the trail that may pose a conflict	Qualitative assessment of the compatibility/conflict of the proposed segment with local, regional and state transportation and bikeway plans and policies	Qualitative assessment of a segment's potential need for higher-cost elements (e.g., bridges, major crossing improvements, fencing, trailheads, retaining walls, boardwalks)	Qualitative assessment of the degree to which the segment could be developed in conjunction with future public or private development	Qualitative assessment of private property owners' support for the trail	Qualitative assessment of regulatory fatal flaws or difficult to obtain permits	Number of parks within ½ mile of trail segment	Assessment of direct connections to existing local and regional trails (# of direct connections)	Number of active transportation corridor resources (schools, park-and-ride lots, transit stops, transit centers, regional centers, town centers) within ½ mile of trail segment
A	Wilsonville/Graham Oaks/Villebois	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated
B	Coffee Lake Creek/Morgan Road/Baker Road/Snyder Park														
C	Coffee Lake Creek/Morgan Road/Tonquin Road/Snyder Property/Willamette Street														
D	Coffee Lake Creek/Morgan Road/Tonquin Road/Oregon Street														
E	Grahams Ferry Road/Tonquin Road/Snyder Property/Willamette Street														
F	Grahams Ferry Road/Tonquin Road/Oregon Street														
G	Cedar Creek/Roy Rogers Road	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated
H	Oregon Street/Cipole Road	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated	Segment not evaluated
I	Coffee Lake/Morgan Road/Tonquin Road/108th Avenue/Avery St./Hedges Creek Marsh														
J	Grahams Ferry Road/Tonquin Road/108th Avenue/Avery Street/Hedges Creek Marsh														
K	Grahams Ferry Road/Ibach Park/Indian Meadows Greenway/Boones Ferry Road														
L	Powerline corridor/Day Road/Boones Ferry Road/Norwood Road/Interstate 5														
	RATING NOTES	High: most segment portions provide scenic/viewing opportunities Medium: some segment portions provide scenic/viewing opportunities Low: few segment portions provide scenic/viewing opportunities	High: less than 70% Medium: 70-90% Low: greater than 90%	High: relatively flat with few steep slopes Medium: some steep slopes Low: several steep slopes	High: provides direct access to Coffee Lake area and several other educational opportunities Medium: provides direct access to Coffee Lake area and few or no other educational opportunities Low rating = does not provide access to Coffee Lake area or other educational opportunities	High: segment follows a direct route Medium: segment follows a moderately direct route Low: segment follows circuitous routing	High: segment adjacent to minimal or no industrial/similar land uses that may generate high truck traffic or other potential conflicts for trail users Medium: segment adjacent to some industrial/similar land uses Low: segment adjacent to several industrial/similar land uses	High: segment (or portion of segment) is in the planning or design stage, or has been identified as a high priority project in a local/regional plan Medium: segment (or portion of segment) is shown or listed in a local/regional plan, but not explicitly identified as a high priority project	High: segment would require few or no higher-cost elements Medium: segment would require some higher cost elements Low: would require numerous higher-cost elements	High: segment is primarily located on public lands or within public right-of-way Medium: segment is located on a mix of public right-of-way, public lands, and private properties	High: likely support among nearby private property owners Medium: potential support among nearby private property owners Low: potential or likely opposition among nearby property owners; (Note: ratings based on property ownership research and stakeholder contacts conducted by Metro)	High: No regulatory fatal flaws or difficult-to-obtain permits anticipated Medium: potential for some regulatory fatal flaws or difficult-to-obtain permits Low: several difficult-to-obtain permits anticipated and potential for regulatory fatal flaws	High: 38 or more parks within 1/2 mile Medium: 29-37 parks within 1/2 mile	High: 10 or more direct connections Medium: 5-9 direct connections Low: 1 direct connection	High: 60 or more resources Medium: 21-59 resources Low: 20 or fewer resources

- HIGH

- Segment addresses criterion and/or makes substantial improvements in the criteria category.
- MEDIUM

- Segment partially addresses criterion and/or makes some improvement in the criteria category.
- LOW

- Segment does not support the intent of and/or negatively impacts criteria category.

GOAL 3 - Trail is convenient, pleasant and accessible to a range of users.

GOAL 4 - Trail can be implemented.

GOAL 5 - Trail encourages and enhances bicycle and pedestrian connectivity in region.

Tonquin Trail Master Plan – Hybrid Segments

Descriptions and Tradeoffs

October 8, 2010

Overview

Since the last Project Steering Committee meeting, the project team held three workshops to develop hybrid segments that combine the positive attributes of the segments presented in July with changes that better respond to opportunities. The workshops resulted in the two possible routes to Sherwood (M and N below) and two possible routes to Tualatin (O and P below). Descriptions of the routes and key tradeoffs are detailed below.

Connections to Sherwood

Segment M (see “tile” maps 2, 3 and 4)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Downtown Sherwood. From its southern terminus at SW Grahams Ferry Road, the segment would follow an off-street alignment in a northwesterly direction through several undeveloped properties before crossing a wetland via an existing causeway to link up with a Metro open space. From Metro’s open space the segment would travel north on the west side of SW Morgan Road as an off-street alignment toward SW Tonquin Road. North of SW Tonquin Road, the segment would continue northward (as an off-street alignment) along the future SW 124th Avenue corridor. The segment would depart SW 124th Avenue near the Tri-County Gun Club property, and travel in a northwesterly direction along a Bonneville Power Administration (BPA) powerline corridor as an off-street alignment. The segment would then travel directly west (as an off-street alignment) along a future roadway shown in the Tonquin Employment Area Concept Plan between the BPA powerline corridor and SW Oregon Street. The segment would proceed west along SW Oregon Street (on the street’s south side as an off-street alignment), then transition to the street’s north side at SW Murdock Road before continuing to Downtown Sherwood’s northern edge. The segment’s final leg would follow the existing shared use path between SW Ash and SW Pine streets in Downtown Sherwood. This segment would serve as an alternative to Segment N.

Key Elements of Segment M (compared with Segment N)

- Has the greatest potential to generate user safety/security concerns by passing through more “isolated” areas
- Impacts the fewest acres of regionally-significant fish and wildlife habitat, and the fewest acres of wetlands
- Impacts the fewest acres of Class I and II riparian areas
- Provides the greatest opportunities for views, scenic experiences and wildlife viewing

- Provides the smallest percentage of trail along major roads
- Provides the greatest opportunities for environmental education opportunities
- Provides the most direct route between Wilsonville and Downtown Sherwood

Segment N (see “tile” maps 2, 3 and 4)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Downtown Sherwood. From its southern terminus at SW Grahams Ferry Road, the segment would follow an off-street alignment in a northwesterly direction through several undeveloped properties before crossing a wetland lake via an existing causeway, to link up with a Metro open space. From Metro’s open space, the segment would travel north along the west side of SW Morgan Road as an off-street alignment toward SW Tonquin Road. North of SW Tonquin Road, the segment would continue northward (as an off-street alignment) along the future SW 124th Avenue corridor up to Tualatin-Sherwood Road. The segment would then travel west along SW Tualatin-Sherwood Road as an off-street alignment, and proceed west along SW Oregon Street (on the street’s south side as an off-street alignment). The segment would transition to SW Oregon Street’s north side at SW Murdock Road, then continue as an off-street alignment to Downtown Sherwood’s northern edge. The segment’s final leg would follow the existing shared use path between SW Ash and SW Pine streets in Downtown Sherwood. This segment would serve as an alternative to Segment M.

Key Elements of Segment N (compared with Segment M)

- Has the greatest total number of arterial/collector crossings
- Provides the fewest number of crossings of Class I and II riparian areas
- Provides the most direct route between Wilsonville and the proposed Westside Trail
- Has the least potential for regulatory fatal flaws or difficult-to-obtain permits

CONNECTIONS TO TUALATIN

Segment O (see “tile” maps 2, 3, 6 and 7)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Tualatin Community Park. From its southern terminus at SW Grahams Ferry Road, the segment would follow an off-street alignment through several undeveloped properties before crossing a wetland via an existing causeway, to link up with a Metro open space. The segment would travel north on the west side of SW Morgan Road as an off-street alignment, and east along SW Tonquin Road’s south side as an off-street alignment. The segment would cross Tonquin Road and follow the west side of the Portland & Western Railroad as an off-street alignment, and continue northward along a proposed trail corridor shown in the Southwest Tualatin Concept Plan (west of William Koller Wetlands Park). The segment would then travel east and cross the Portland & Western Railroad via a grade-separated crossing, then continue north and east as on-street alignments via SW Blake Street, SW 105th Avenue and SW Avery Street. The segment would follow an off-street alignment along the west side of SW 95th Place, and short off-street alignments along SW Tualatin-Sherwood Road and SW 90th Avenue near the Kaiser Permanente campus. The segment would then travel northeast along the south side of

Hedges Creek Marsh (mostly as an off-street alignment) before connecting with an existing shared use path leading to the Tualatin Heritage Center. The segment would follow short on-street alignments via SW Tualatin Road and SW Cherokee Street, before connecting with an existing shared use path west of Tualatin Community Park. The segment would cross the Portland & Western Railroad via a grade-separated crossing, then follow an existing shared use path in Tualatin Community Park to the Tualatin River bicycle/pedestrian bridge. This segment would serve as an alternative to Segment P.

Key Elements of Segment O (compared with Segment P)

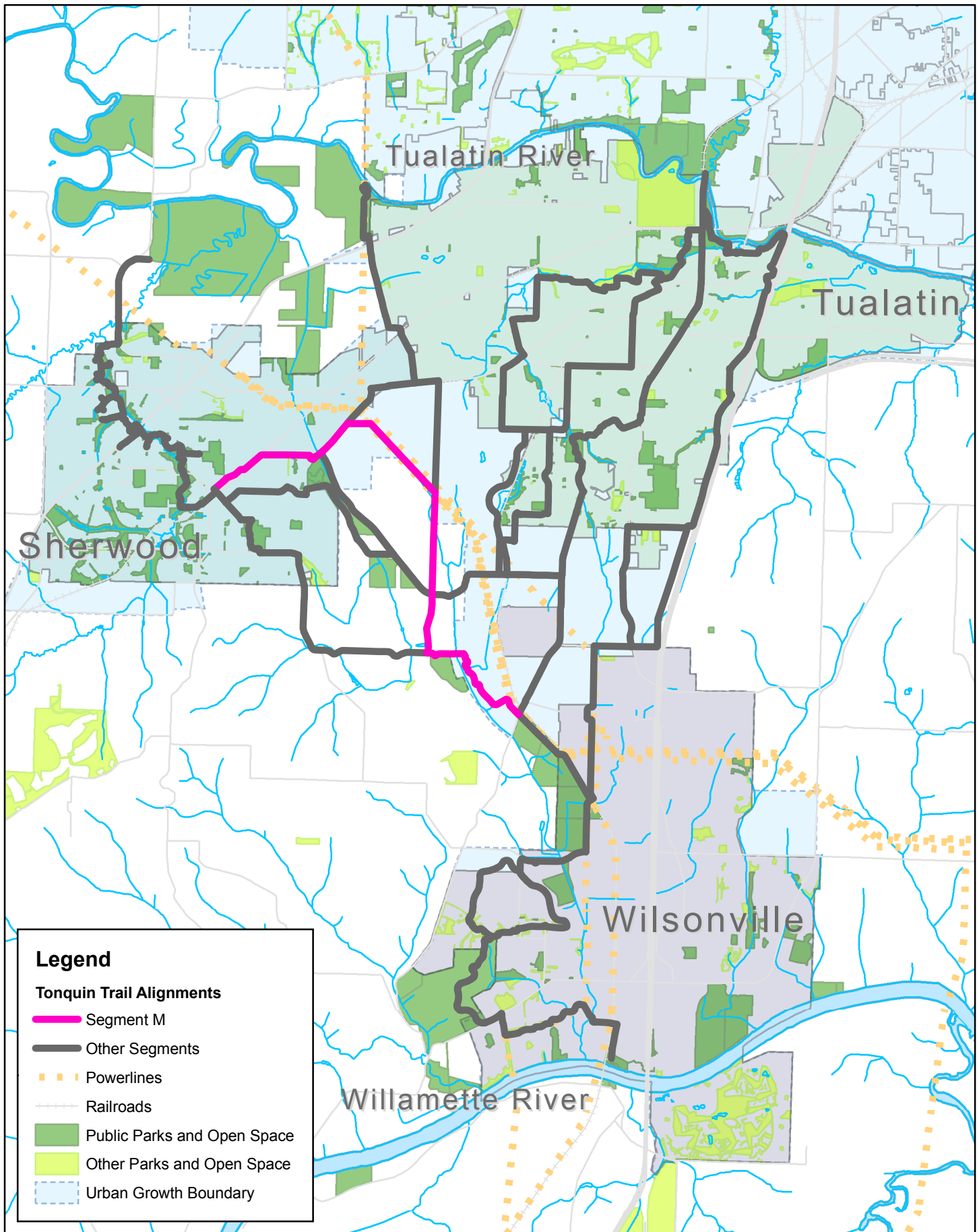
- Has the greatest total number of arterial/collector crossings
- Impacts the fewest acres of regionally-significant fish and wildlife habitat, and the fewest acres of wetlands
- Impacts the fewest acres of Class I and II riparian areas
- Has the least potential for regulatory fatal flaws or difficult-to-obtain permits

Segment P (see “tile” maps 2, 3, 6 and 7)

This segment would travel between the northern extent of Metro’s Coffee Lake Creek Wetlands Open Space and Tualatin Community Park. From its southern terminus at SW Grahams Ferry Road, the segment would follow an off-street alignment through several properties before crossing a wetland via an existing causeway to link up to a Metro Open Space. From Metro’s open space the segment would travel north along the west side of SW Morgan Road as an off-street alignment, and east along SW Tonquin Road's south side as an off-street alignment. The segment would cross Tonquin Road and follow the west side of the Portland & Western Railroad as an off-street alignment, and continue northward along a proposed trail corridor shown in the Southwest Tualatin Concept Plan (west of William Koller Wetlands Park). The segment would then follow the future SW 115th Avenue corridor (also shown in the Concept Plan) as an off-street alignment, then parallel a short segment of SW Tualatin-Sherwood Road (also as an off-street alignment). The segment would then follow SW 112th Avenue to its existing northern terminus as an on-street alignment, then transition to a boardwalk along the south side of Pascuzzi Pond and Hedges Creek Marsh. The segment would then utilize an existing shared use path near the Tualatin Heritage Center, follow short on-street alignments via SW Tualatin Road and SW Cherokee Street, then transition to an existing shared use path west of Tualatin Community Park. The segment would cross the Portland & Western Railroad via a grade-separated crossing, then follow an existing shared use path in Tualatin Community Park to the Tualatin River bicycle/pedestrian bridge. This segment would serve as an alternative to Segment O.

Key Elements of Segment P (compared with Segment O)

- Has the greatest potential to generate user safety/security concerns by passing through more “isolated” areas
- Provides the greatest opportunities for views, scenic experiences and wildlife viewing
- Provides the smallest percentage of trail along major roads
- Provides the greatest opportunities for environmental education opportunities
- Would require more higher-cost elements (e.g., boardwalks, bridges, etc.)



Legend

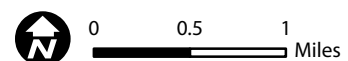
Tonquin Trail Alignments

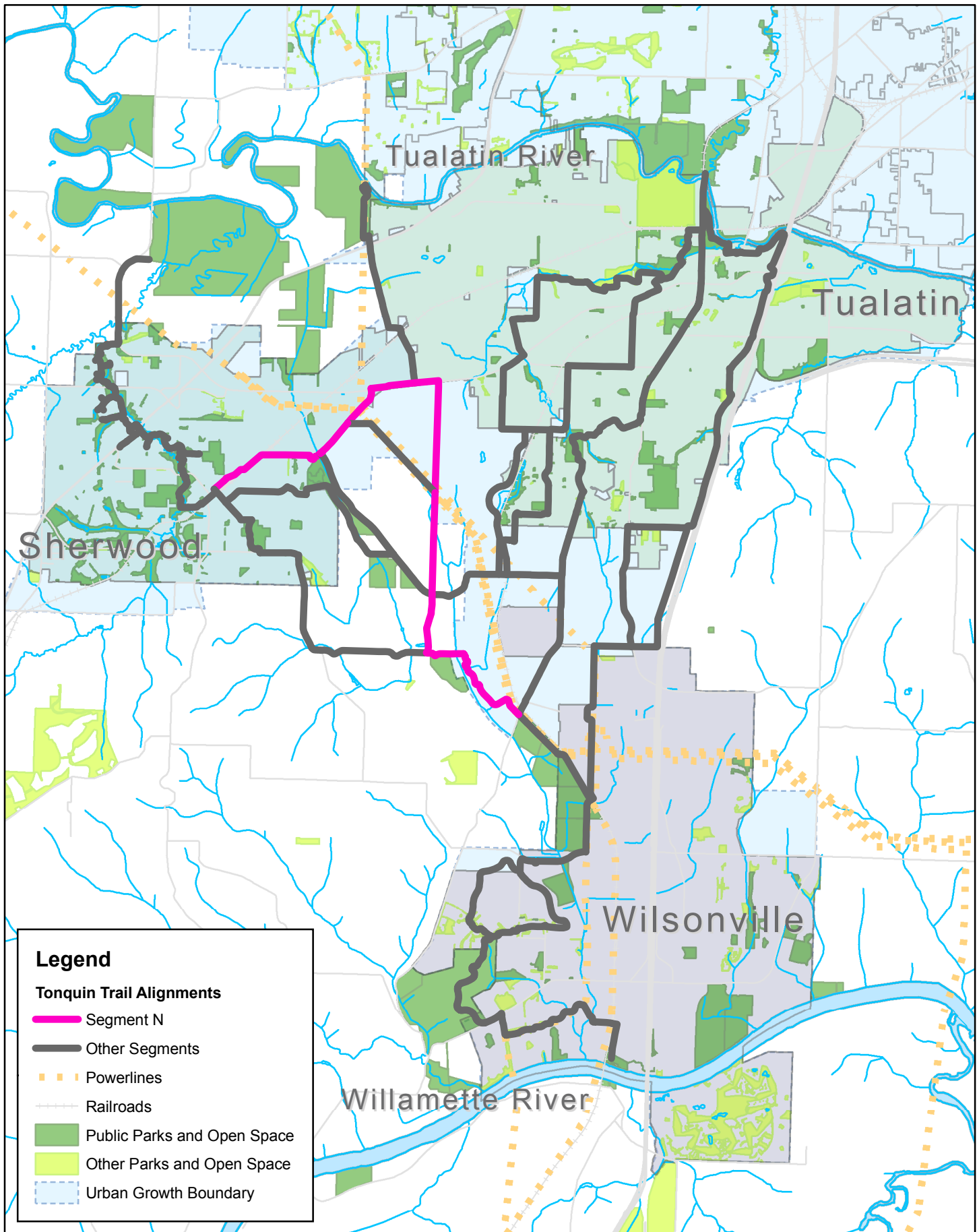
- Segment M
- Other Segments
- Powerlines
- Railroads
- Public Parks and Open Space
- Other Parks and Open Space
- Urban Growth Boundary

Segment M

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center
 Author: EAS
 Date: October 2010





Legend

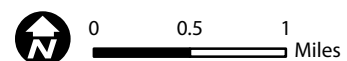
Tonquin Trail Alignments

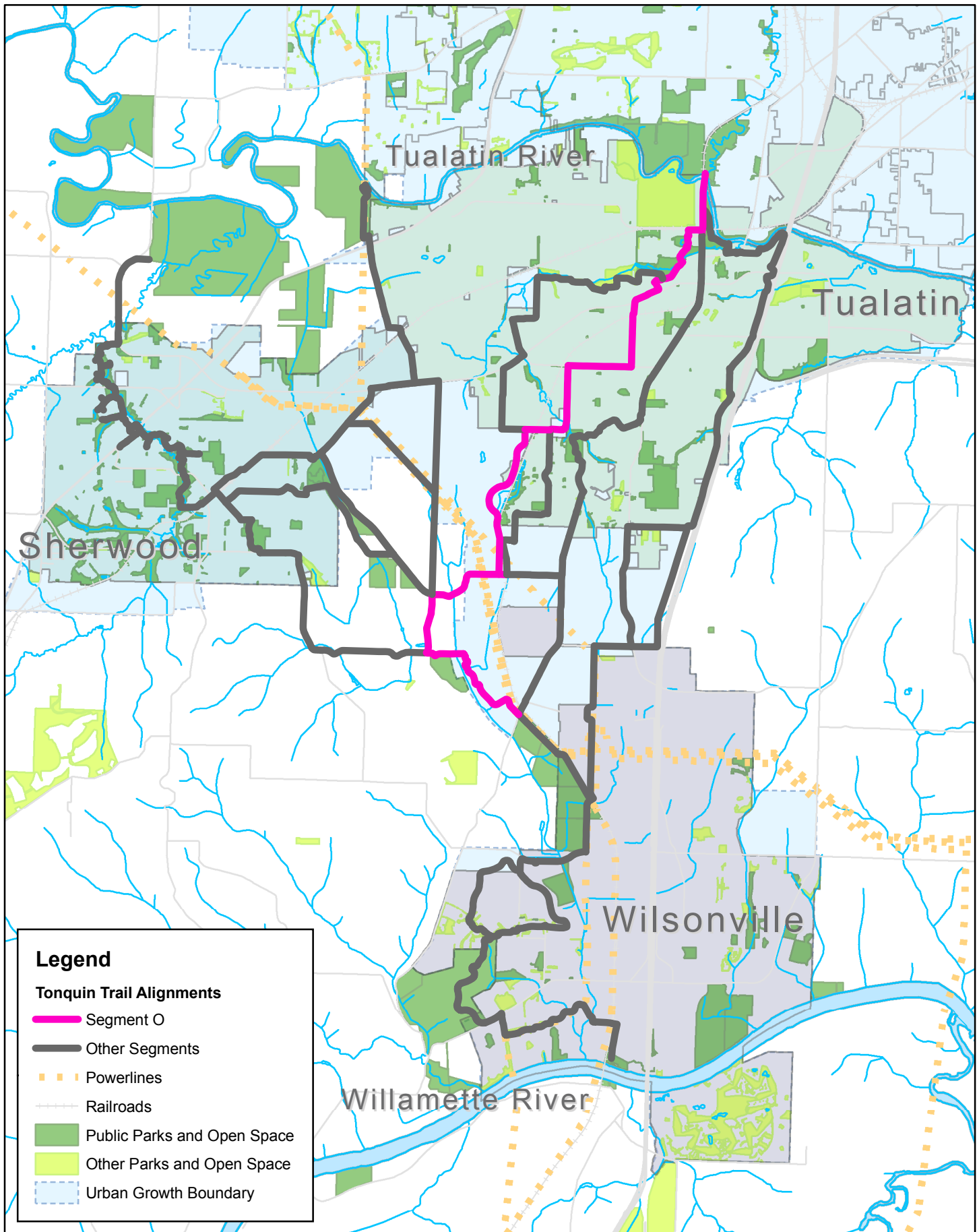
- Segment N
- Other Segments
- Powerlines
- Railroads
- Public Parks and Open Space
- Other Parks and Open Space
- Urban Growth Boundary

Segment N

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center
Author: EAS
Date: October 2010





Segment O

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

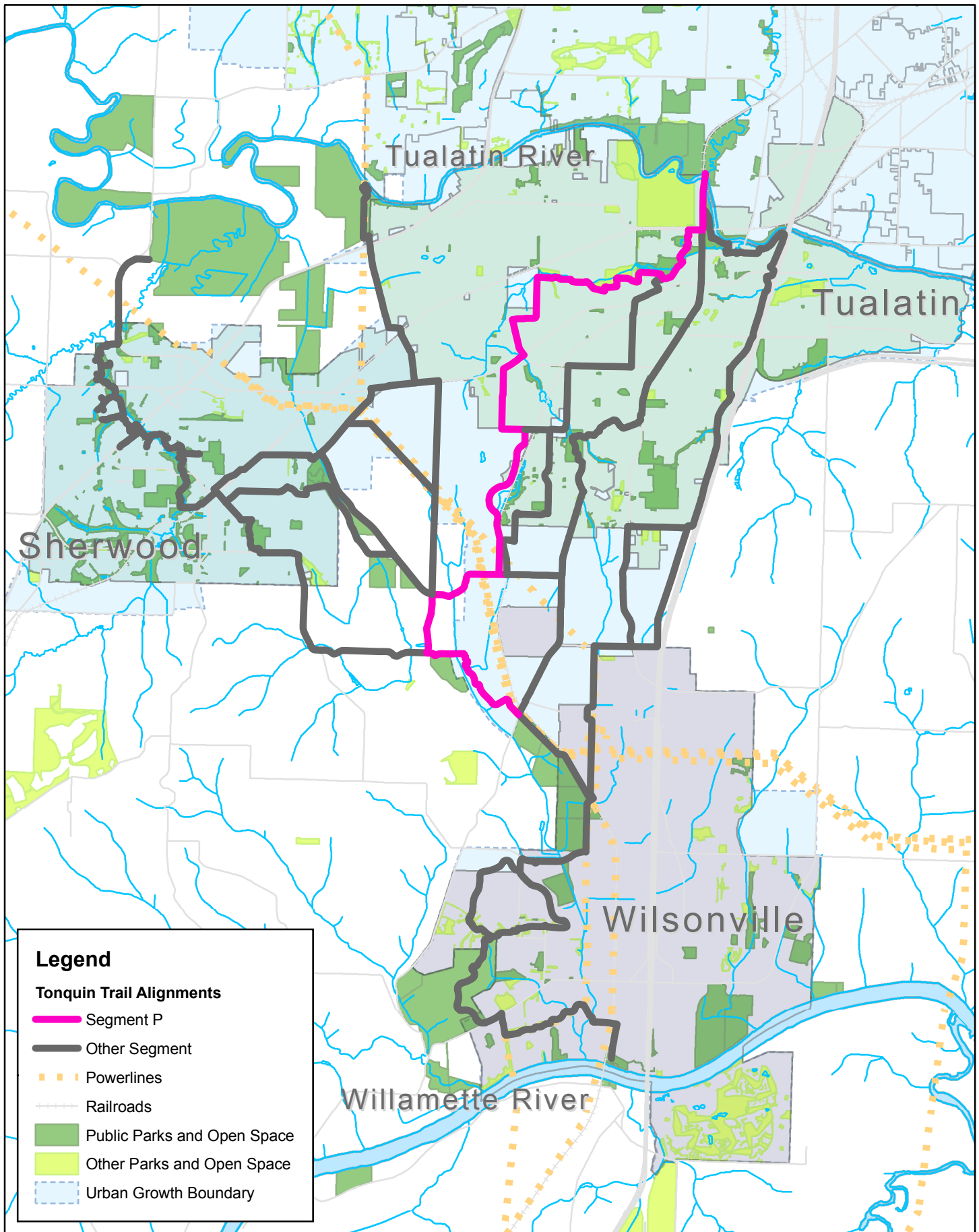
Author: EAS

Date: October 2010



0 0.5 1 Miles





Segment P

Tonquin Trail Master Plan Alignment Alternatives

Source: Metro Data Resource Center

Author: EAS

Date: October 2010



0 0.5 1 Miles



Tonquin Trail Master Plan – Segment Options Evaluation Summary and Draft Preferred Trail Alignment

September 9, 2011

INTRODUCTION

This memorandum summarizes the Tonquin Trail's segment options evaluation process and the resulting draft preferred trail alignment. The memo first summarizes trail segment identification and evaluation milestones. A description of the spine of the draft preferred trail alignment follows, accompanied by maps illustrating segment options studied and the draft preferred alignment within the broader study area context. Connections from the trail spine to destinations within each jurisdiction will be identified in the trail design section of the Master Plan.

SEGMENT OPTIONS IDENTIFICATION AND EVALUATION SUMMARY

Identification and analysis of trail segment options (depicted on maps near the end of this memo) occurred at several phases of this master planning effort, including:

- An initial set of trail segments were identified in late 2009, based on a review of background information, a “fatal flaw” analysis of segments proposed in the 2004 Tonquin Trail Feasibility Study, property research, and extensive input from stakeholders and the public. These segments were named “A” through “L” and are shown on a series of GIS aerial photo maps (see Alta’s FTP site).
- A preliminary series of additional (“hybrid”) segments were identified in mid-2010 incorporating the future SW 124th Avenue corridor, the Southwest Tualatin Concept Plan area, and Hedges Creek Marsh. These segments were named “M” through “Q,” also shown on a series of GIS aerial photo maps (see Alta’s FTP site).
- A secondary series of hybrid segments (in late 2010) within Tualatin neighborhoods near Ibach Park. These segments were hand-drawn on the aerial photo maps (see Alta’s FTP site).
- Alignment adjustments to the Tualatin route were identified between February and August 2011 based on property research, additional discussions with stakeholders, and input from local agency staff and elected officials.

Evaluation of the trail segment options was primarily based on the Evaluation Framework jointly developed by the Project Team and Project Steering Committee (PSC) at the planning process’s outset (see February 17, 2010 PSC memo). Six goals, nearly 20 criteria and over 30 evaluative measures comprise the Framework. The Project Team performed a detailed evaluation of Segments “A” through “Q” based on each measure within the Evaluation

Framework. This approach provided an objective means to compare the segments against one another but stopped short of weighting the goals and criteria.

Members of the Project Team and local agency representatives of the PSC met in December 2010 with the goal of reaching consensus on a draft preferred alignment that would be supported by their respective jurisdictions' decision-makers. The group prioritized the most important goals and criteria to use in selecting the draft preferred alignment and agreed that the overarching theme of the Tonquin Trail is to celebrate features of its geologic area namesake.

Attendees agreed that while all goals and criteria held great importance, the following should be considered "priority" for trail segment evaluation purposes:

- *Goal 1: Develop a trail that addresses crime prevention through design to provide safety for trail users and security for adjacent property owners.*
 - Priority criteria:
 - *Provide a safe experience for trail users.*
- *Goal 3: Develop a trail that is convenient, pleasant and accessible to a range of users regardless of ability or mode.*
 - Priority criteria:
 - *Segment provides a positive user experience with respect to views, scenic quality, wildlife viewing, noise and grades.*
 - *Segment provides opportunities for interpretive and environmental education and access to unique natural features.*
- *Goal 4: Develop a trail that can be implemented.*
 - Priority criteria:
 - *Segment can be developed with a reasonable cost and minimize expensive elements.*
- *Goal 5: Develop a trail that encourages and enhances bicycle and pedestrian connectivity throughout the region.*
 - Priority criteria:
 - *Segment provides linkages to other trails, parks and natural areas.*
 - *Segment provides seamless linkages between residential areas, schools, employment areas, shopping, transit facilities, and other designated bikeways and walkways (e.g., trails, bike lanes, bicycle boulevards, etc.).*

Based on the prioritized goals and criteria, a preliminary preferred trail alignment emerged from the December 2010 workshop. Despite general agreement on the Tonquin Trail alignments within Sherwood and Wilsonville, follow-up communications with Tualatin officials revealed the need for minor refinements, particularly in the Hedges Creek Marsh

area. The Project Team subsequently addressed these refinements to update the draft preferred Tonquin Trail alignment, described in the next section of this memo.

DRAFT PREFERRED TONQUIN TRAIL ALIGNMENT

Illustrated on a series of maps at the end of this memo, the sections below describe the draft preferred Tonquin Trail alignment.

Wilsonville Alignment

This alignment would travel between Wilsonville's proposed French Prairie Bridge and the intersection of SW Tonquin and SW Morgan roads. From its southern terminus, the trail would follow an on-street alignment along SW Boones Ferry Road and on a portion of SW 5th Street in Southern Wilsonville. The trail would then follow an off-street alignment across Coffee Lake Creek and link with an existing shared use path along Arrowhead Creek Lane near the Wilsonville Water Treatment Plant. The trail would transition to an existing shared use path traversing Morey's Landing Open Space, and follow an off-street alignment along the east side of SW Willamette Way East. The trail would then follow a short off-street alignment along SW Wilsonville Road's north side before connecting with an existing shared use path passing through Graham Oaks Natural Area. In Villebois, the trail would split into two off-street alignments (one circumventing Villebois's west side, and the second following Villebois's east side). The two alignments would reconnect near the intersection of SW Boeckman Road and SW 110th Avenue, where the trail would follow an existing shared use path on SW Boeckman Road's south side. The trail would then turn north and follow a powerline corridor as an off-street alignment, and pass through Metro's Coffee Lake Creek Wetlands Open Space. The trail within this open space would also consist of an off-street alignment (boardwalk) and follow the open space's far eastern edge near the Portland & Western Railroad. Upon crossing SW Grahams Ferry Road, the trail would continue as an off-street alignment in a northwesterly direction through several properties near Coffee Lake before crossing the lake via an existing causeway. The trail would then proceed north along SW Morgan Road's west side (as an off-street alignment) before terminating at SW Tonquin Road.

Sherwood Alignment

The Tonquin Trail's Sherwood alignment would travel between the SW Tonquin Road/SW Morgan Road intersection, the Tualatin River National Wildlife Refuge, and a Metro-owned open space adjacent to the Tualatin River. From the Tonquin Road/Morgan Road intersection, the trail would proceed west as an off-street alignment on SW Tonquin Road's north side. The trail would then ascend a hillside near the Tri-County Gun Club entrance before traveling along a bluff paralleling SW Tonquin Road. The trail would then descend the hillside toward the SW Tonquin Road/SW Oregon Street intersection. From this intersection, the trail would split into two separate routes, resembling a "Y" shape.

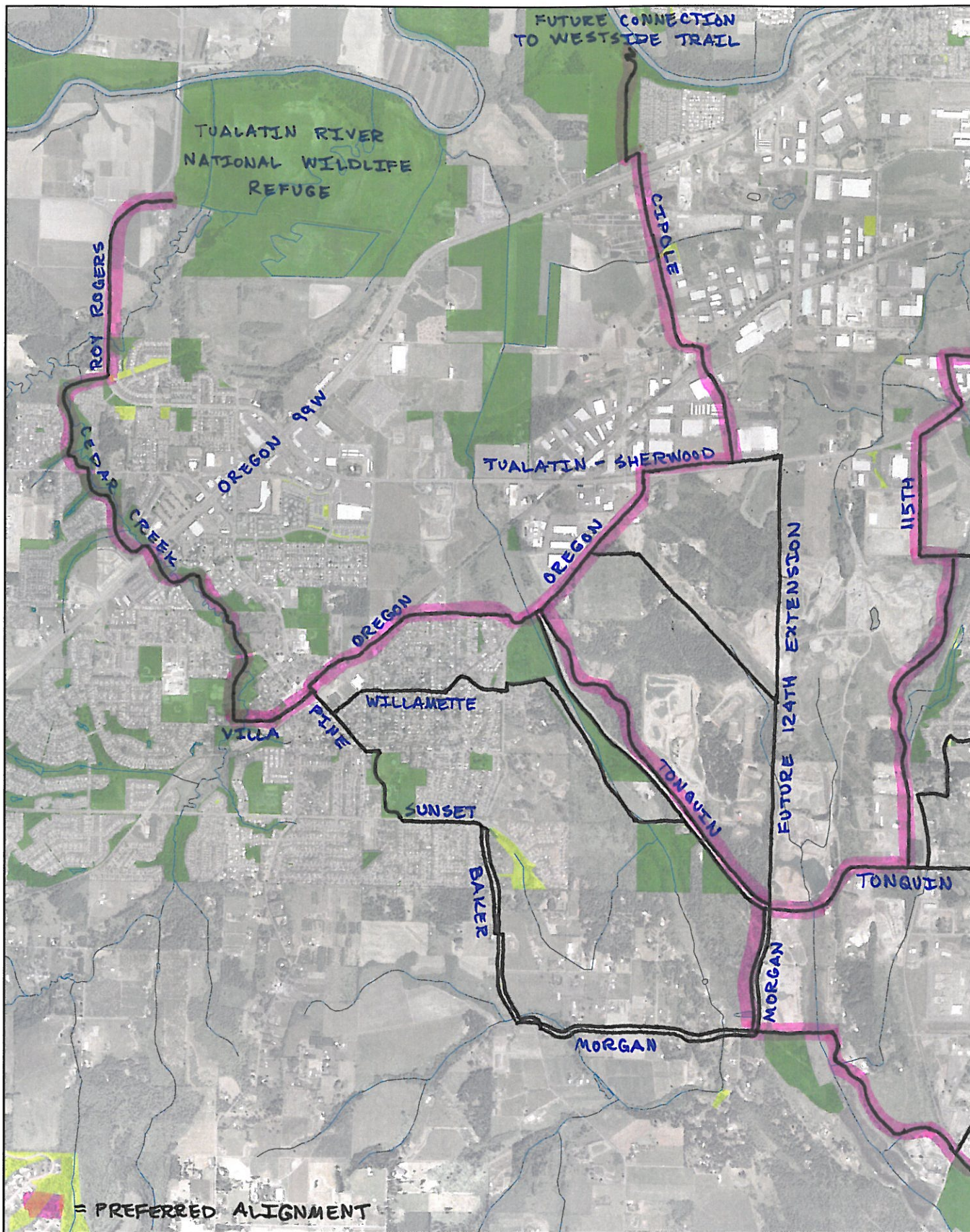
The western route would travel between the SW Tonquin Road/SW Oregon Street intersection and the Tualatin River National Wildlife Refuge trailhead near SW Roy Rogers Road. From the Tonquin Road/Oregon Street intersection, the trail would travel west on SW Oregon Street (as an off-street alignment on the road's north side) to Downtown Sherwood's northern edge, and follow an existing shared use path between SW Ash and SW

Pine streets in the downtown core. The trail would continue as an off-street alignment via existing alleys between SW Pine and NW Park streets. The trail would follow short on-street alignments via NW Park Street and SW Villa Road, before transitioning to the existing Cedar Creek Trail in Stella Olsen Park. From the existing Cedar Creek Trail's northern terminus at NW Washington Street, the trail would continue north along a planned Cedar Creek Trail extension to SW Roy Rogers Road near St. Paul Lutheran Cemetery. The trail's final leg would follow an off-street alignment along the east side of SW Roy Rogers Road to the Tualatin River National Wildlife Refuge trailhead.

The eastern route would travel between the SW Tonquin Road/SW Oregon Street intersection and a Metro-owned open space adjacent to the Tualatin River. The trail would follow an off-street alignment on SW Oregon Street's south side between SW Tonquin Road and SW Tualatin-Sherwood Road. The trail would then follow an off-street alignment on SW Tualatin-Sherwood Road's north side before connecting with off-street alignments along SW Cipole Road. The SW Cipole Road portion of this route would include a shared use path on the roadway's west side between SW Tualatin-Sherwood Road and SW Herman Road, transitioning to a path on the roadway's east side between SW Herman Road and SW Pacific Drive (near Oregon 99W). The Trail's final leg would consist of an off-street alignment following a powerline corridor through a Metro-owned open space, cross the Tualatin River over a future bicycle/pedestrian bridge, and connect with the proposed Westside Regional Trail.

Tualatin Alignment

This alignment would travel between the SW Tonquin Road/SW Morgan Road intersection and Tualatin Community Park. From its southern terminus, the trail would travel east along SW Tonquin Road's south side as an off-street alignment. The trail would then follow the west side of the Portland & Western Railroad as an off-street alignment, and continue northward along a proposed trail corridor shown in the Southwest Tualatin Concept Plan (west of William Koller Wetlands Park). The trail would then proceed west (as an off-street alignment) along the undeveloped Blake Street corridor, and then north along the tree-lined eastern boundary of parcels fronting SW 115th Avenue to the SW Tualatin-Sherwood Road/SW 112th Avenue intersection. The trail would then cross SW Tualatin-Sherwood Road and follow SW 112th Avenue to its existing northern terminus as an on-street alignment. From there the trail would follow the south side of SW Myslony Street before heading north toward Pascuzzi Pond as an off-street alignment. The trail would then follow a boardwalk along the north side of Pascuzzi Pond and Hedges Creek Marsh. The segment would then utilize an existing shared use path near the Tualatin Heritage Center, follow short off-street alignments via SW Tualatin Road, then transition to an existing shared use path in Tualatin Community Park to the Tualatin River bicycle/pedestrian bridge.



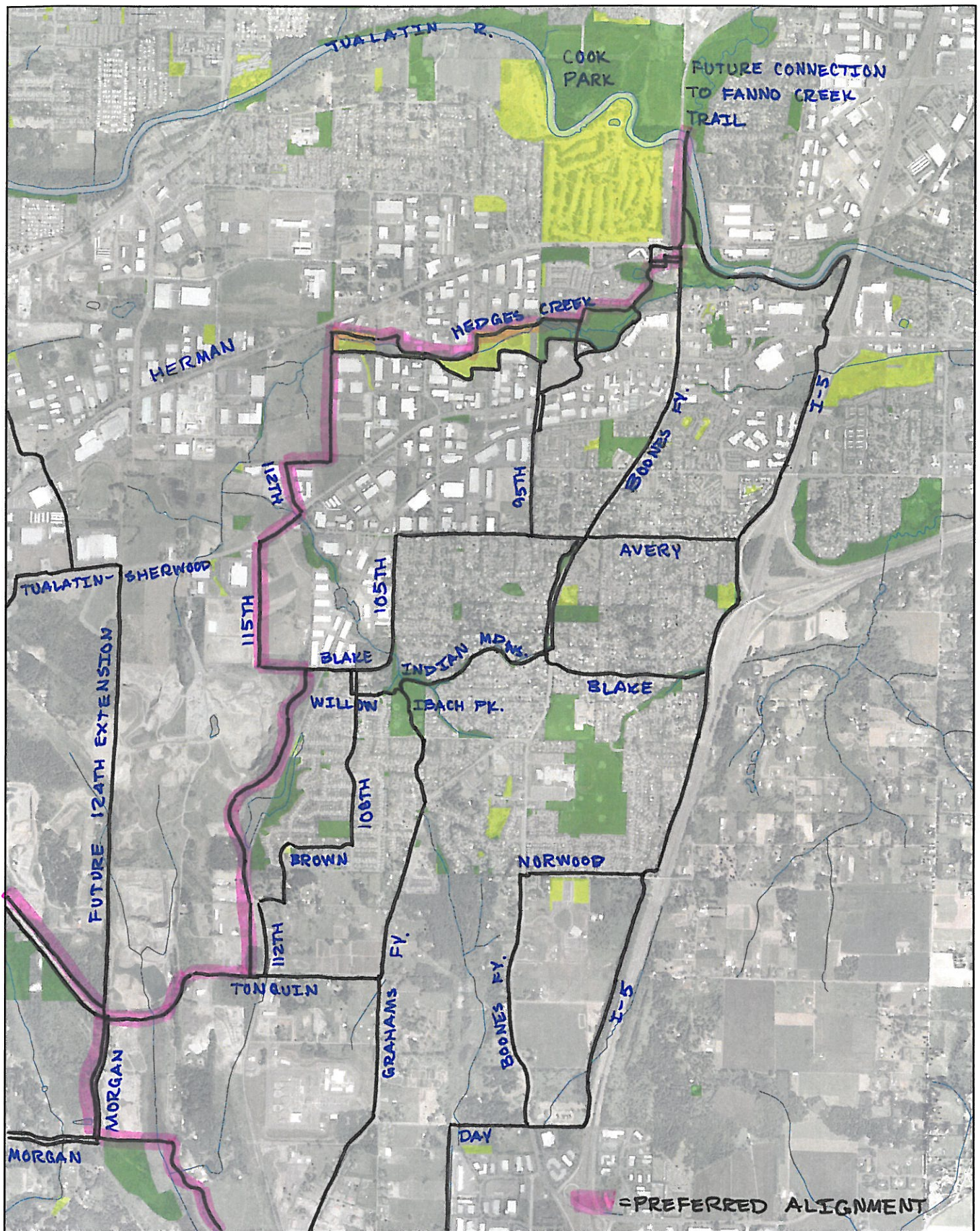
Tonquin Trail Master Plan - Trail Segment Options (Sherwood Area)

Tonquin Trail Master Plan

Source: Data obtained from Metro Data Resource Center
Date: September 2011

0 1,000 2,000 4,000
Feet





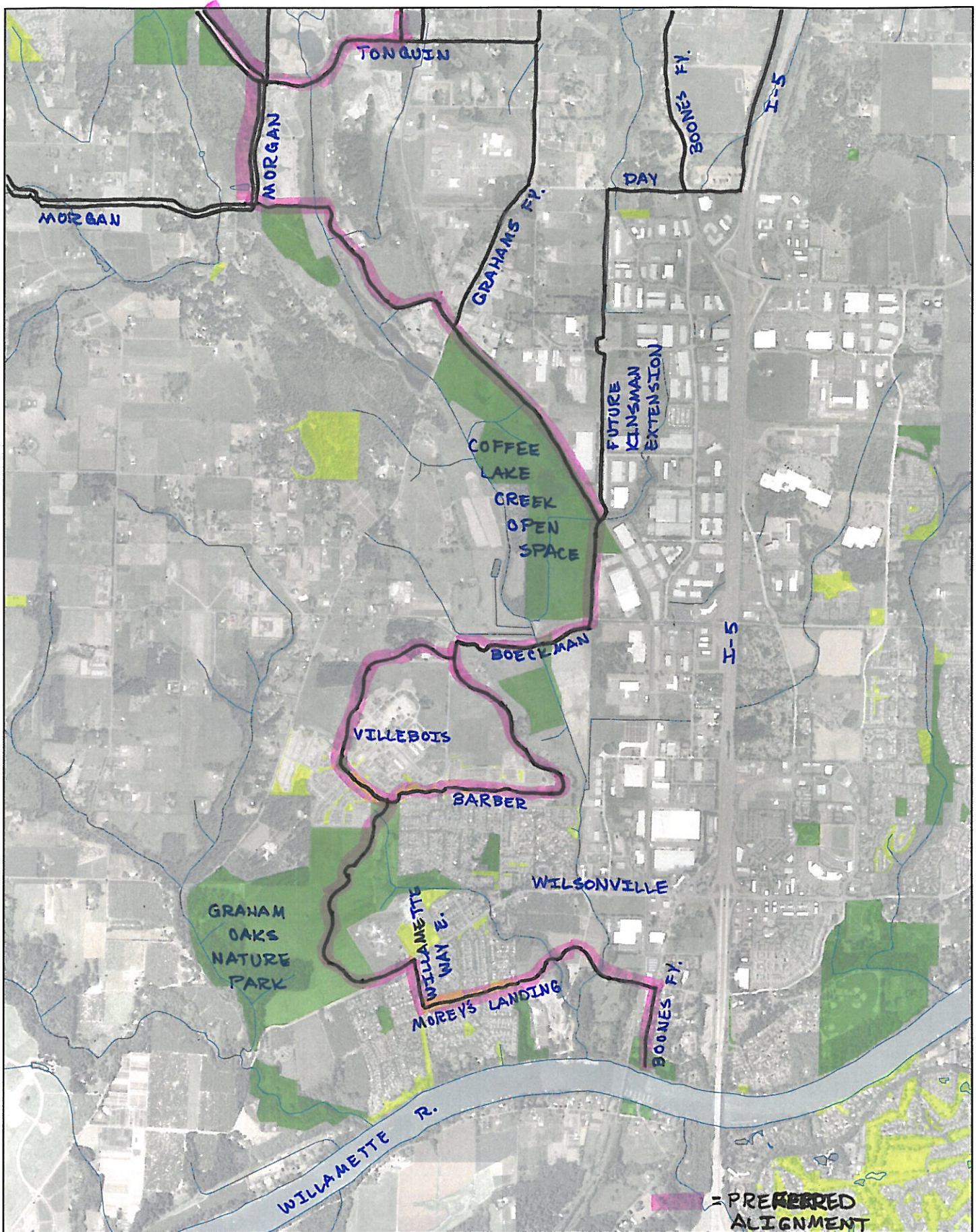
Tonquin Trail Master Plan - Trail Segment Options (Tualatin Area)

Tonquin Trail Master Plan

Source: Data obtained from Metro Data Resource Center
Date: September 2011

0 1,000 2,000 4,000 Feet





Tonquin Trail Master Plan - Trail Segment Options (Wilsonville Area)

Tonquin Trail Master Plan

Source: Data obtained from Metro Data Resource Center
Date: September 2011

0 1,000 2,000 4,000 Feet



Appendix C: Trail Signage Guidelines

Intertwine Regional Trail Signage Guidelines

Metro Signage Manual Excerpt (Full Document Available Upon Request from Metro)

INTERTWINE REGIONAL TRAIL SIGNAGE GUIDELINES



THE INTERTWINE

Regional Trails Signage Guidelines

June 20, 2012
Signage Guidelines

About Metro

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy, and sustainable transportation and living choices for people and businesses in the region. Voters have asked Metro to help with the challenges and opportunities that affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to providing services, operation venues and making decisions about how the region grows. Metro works with communities to support a resilient economy, keep nature close by and respond to a changing climate. Together we're making a great place, now and for generations to come.

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Shirley Craddick, District 1

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Carl Hosticka, District 3

Kathryn Harrington, District 4

Rex Burkholder, District 5

Barbara Roberts, District 6

Auditor:

Suzanne Flynn

THE INTERTWINE

Regional Trails Signage Guidelines

Prepared for:
Metro Sustainability Center
600 NE Grand Ave.
Portland, OR 97232-2736
T 503.797.1700
www.oregonmetro.gov

Mayer/Reed
319 SW Washington Street
Suite 820
Portland, Oregon 97204
T 503.223.5953
www.mayerreed.com

Metro:
Robert Spurlock, *Regional Trails Planner*

Tim Richard, *Principal Regional Planner*

Mary Anne Cassin,
Parks Planning & Development Manager

Advisory Committee Stakeholders:

Tammy Abbot, *State Parks Sign Coordinator*
Oregon Parks & Recreation Dept.

Jean Akers, *Planner*
Vancouver-Clark Parks & Recreation

Kris Schamp
Northwest Trail Alliance

Katherine Kelly, *Transportation Planning Manager*
City of Gresham

Laurie DeVos, *Landscape Architect*
City of Hillsboro Parks & Recreation

Bruce Barbarasch, *Natural Resources Manager*
Tualatin Hills Parks & Recreation

Sarah Coates-Huggins, *Planner*
Portland Parks & Recreation

Katie Dunham & Michelle Healy
North Clackamas Parks & Recreation

Anthony Buztek, *Transportation Engineer*
Metro

Shelly Oylear, *Bike & Pedestrian Coordinator*
Washington County

Basil Christopher, *Bike & Pedestrian Coordinator*
Oregon Department of Transportation - Region 1

Joe Marek, *Transportation Engineer*
Clackamas County

Roger Geller & Denver Igarta
Portland Bureau of Transportation

Greg Stout & Jeff Peck
City of Tigard

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- 5.05** Jurisdictional Signage Documents

Forward

This manual serves as a technical resource to guide parks and transportation agencies as they plan, design, and fabricate wayfinding signage along regional trails in the Portland-Vancouver metropolitan area. Metro and its partners developed the manual in response to requests from the public for better uniformity and consistency of signage along regional trails. Additional impetus came with the advent of The Intertwine brand and the opportunity to give the regional trail system a unifying identity.

The guidelines are intended to be followed when signing off-street regional trails and on-street bicycle and pedestrian facilities that serve as the primary routes connecting one trail segment to the next. The manual gives guidance for sign placement, messaging and content, color, size, and font. It should be used when signing new trails for the first time or when replacing or retrofitting signs along existing trails.

Since it is primarily local parks and transportation agencies that will implement the signs, Metro and its partners felt that guidelines were more appropriate than standards. The guidelines are designed to offer flexibility to agencies that already have trail sign standards in place while also providing solutions for certain conditions where existing standards may fall short. For example, these guidelines embrace the increasing ubiquity and popularity of Oregon's standard green bicycle directional sign and recommends its use along on-street bicycle connections, while acknowledging that the sign is not ideal for use along off-street trails since it is not intended for pedestrians and does not generate intrigue about The Intertwine.

With these guidelines, parks and transportation agencies can provide regional trail users an attractive, consistent sign system.

The Intertwine Park Providers:

City of Battle Ground	Oregon Parks & Recreation Dept.
City of Camas	Portland Parks & Recreation
City of Cornelius	City of Ridgefield
City of Durham	City of Sherwood
City of Fairview	City of Tigard
City of Forest Grove	City of Troutdale
Forest Park Conservancy	City of Tualatin
City of Gladstone	Tualatin Hills Parks & Recreation District
City of Gresham	Vancouver-Clark Parks & Recreation
City of Hillsboro Parks & Recreation	Washington County
Lake Oswego Parks & Recreation	City of Washougal
Metro	City of West Linn Parks & Recreation
North Clackamas Parks & Recreation Dept.	City of Wilsonville
Oregon City Parks & Recreation Dept.	City of Wood Village

How to use these Guidelines

This document is organized into sections that relate to sign types, information content, function and location planning. These are described below in a brief overview.

Section 1: Introduction

This section provides background information for understanding the intent and purpose of the Regional Trail Network, how to use the guidelines and frequently asked questions.

Section 2: Sign Family Overview

This section provides a detailed description and illustration of each sign type showing content and message variations for pedestrian-only and multi-use trails, roadway connections and Intertwine identity.

Section 3: Sign Location Planning

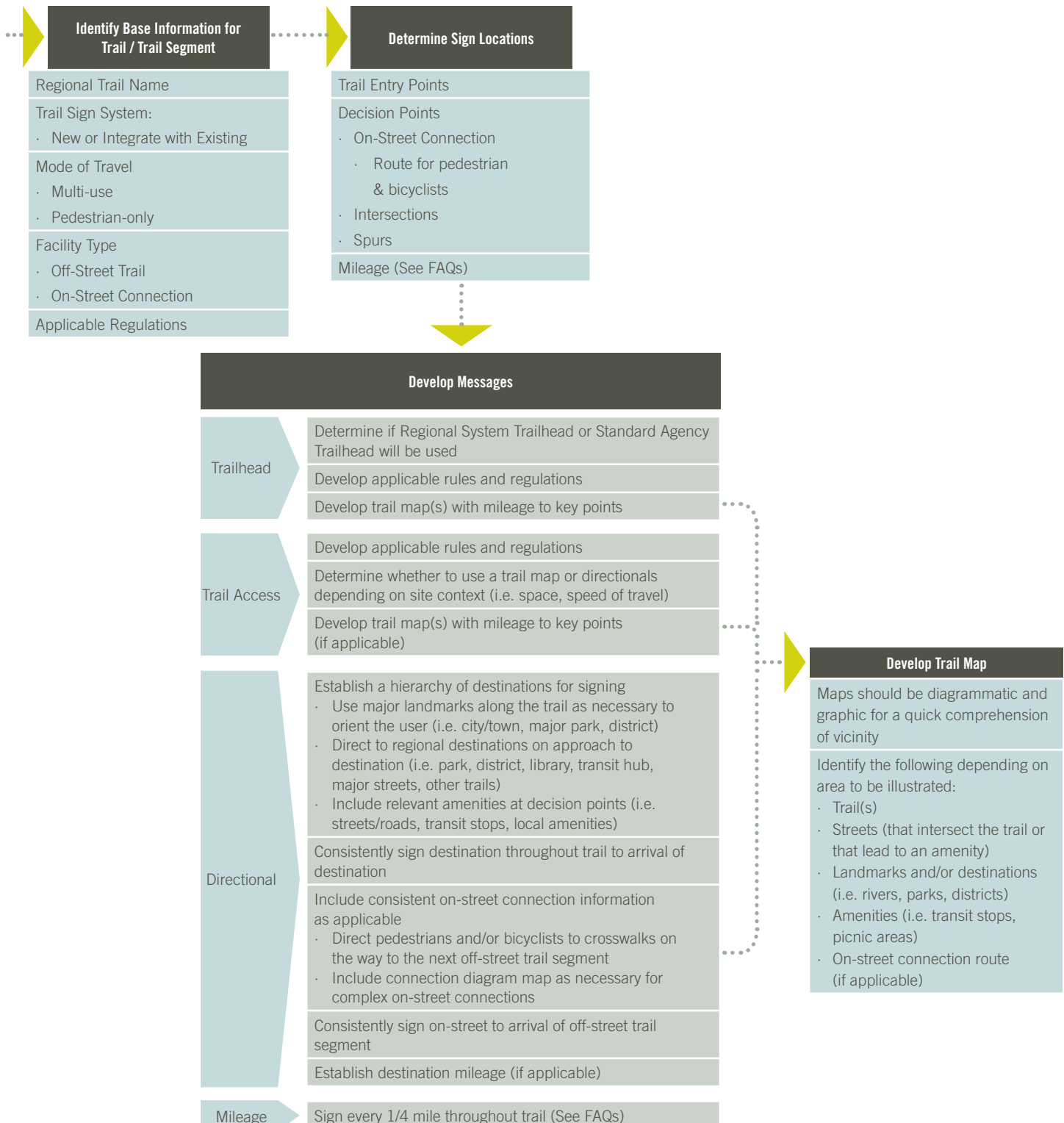
This section provides illustrated examples of various trail and roadway connection scenarios as a guide for sign location planning and selection of appropriate sign types and sign message.

The examples provided in these guidelines should not be taken as an exhaustive list of every possible scenario. The intention is to provide enough guidance for a planner or designer to create consistent solutions for any scenario they may encounter.

Section 4: Fabrication

This section provides detailed information and dimensioned drawings for the fabrication of each sign type including materials, colors, sizes, message layouts and imaging techniques. The fabrication details create a standard for sign appearance throughout the regional trails network based on commonly available materials and processes. Sign post options are included to accommodate various jurisdictional requirements and preferences, however, specifications for the installation of sign posts will vary by jurisdiction and therefore are not provided in this document.

Process Flow Chart for Signing a Regional Trail



FAQs

What do I use if my regional trail already has signage?

While some regional trails currently maintain signage from an adopted Sign Manual, these guidelines provide sign types that can be integrated into existing sign systems. In Section 3, the methodology for sign placement and content can be used by a jurisdiction with existing signage to add to their system as necessary.

How should I determine mileage for my regional trail?

Check with Metro to determine the "zero point" or benchmark for each trail's mileage numbering system. For riparian trails, the general rule is to use river miles, with zero located at the mouth of the stream. Non-riparian trails should be numbered south to north and west to east, modeled after the Interstate Highway System. The Wildwood Trail's mile markers are south to north as well.

We are already using ODOT's standard bicycle signs on our off-street multi-use trail, why should we use signage from these Guidelines?

Because of the popularity of Portland's Bicycle Signage, which have been adopted by ODOT (sign number OBD1-3), some agencies in the region have implemented these signs along off-street multi-use trails. While that signage is highly effective, it is designed primarily for bicyclists traveling at an average roadway speed. Borrowing from that system, these guidelines accommodate both bicyclist and pedestrian trail users. The width of the off-street signs has been reduced for use primarily along narrower off-street trails allowing the mounting height to be lower.

I need a sign that isn't in these Guidelines. How do I resolve that?

The examples provided in these guidelines should not be taken as an exhaustive list of every possible scenario. The intention is to provide enough guidance for a planner or designer to create consistent solutions for any scenario they may encounter. Strive for consistency and clarity.

Can I use abbreviations when signing my regional trail?

Follow the guidance on abbreviations found in Section 1A.15 of the 2009 MUTCD.

Will these Guidelines be updated?

Yes. Metro considers this a "living" document. If your experience designing and installing signs from this document generates new information about what works and what doesn't work, please provide that information to Metro for consideration in future updates.

What is The Intertwine?

The Intertwine is the Portland metropolitan region's network of parks, trails and natural areas. More information about The Intertwine is available at www.theintertwine.org.

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Section 2: Sign Family

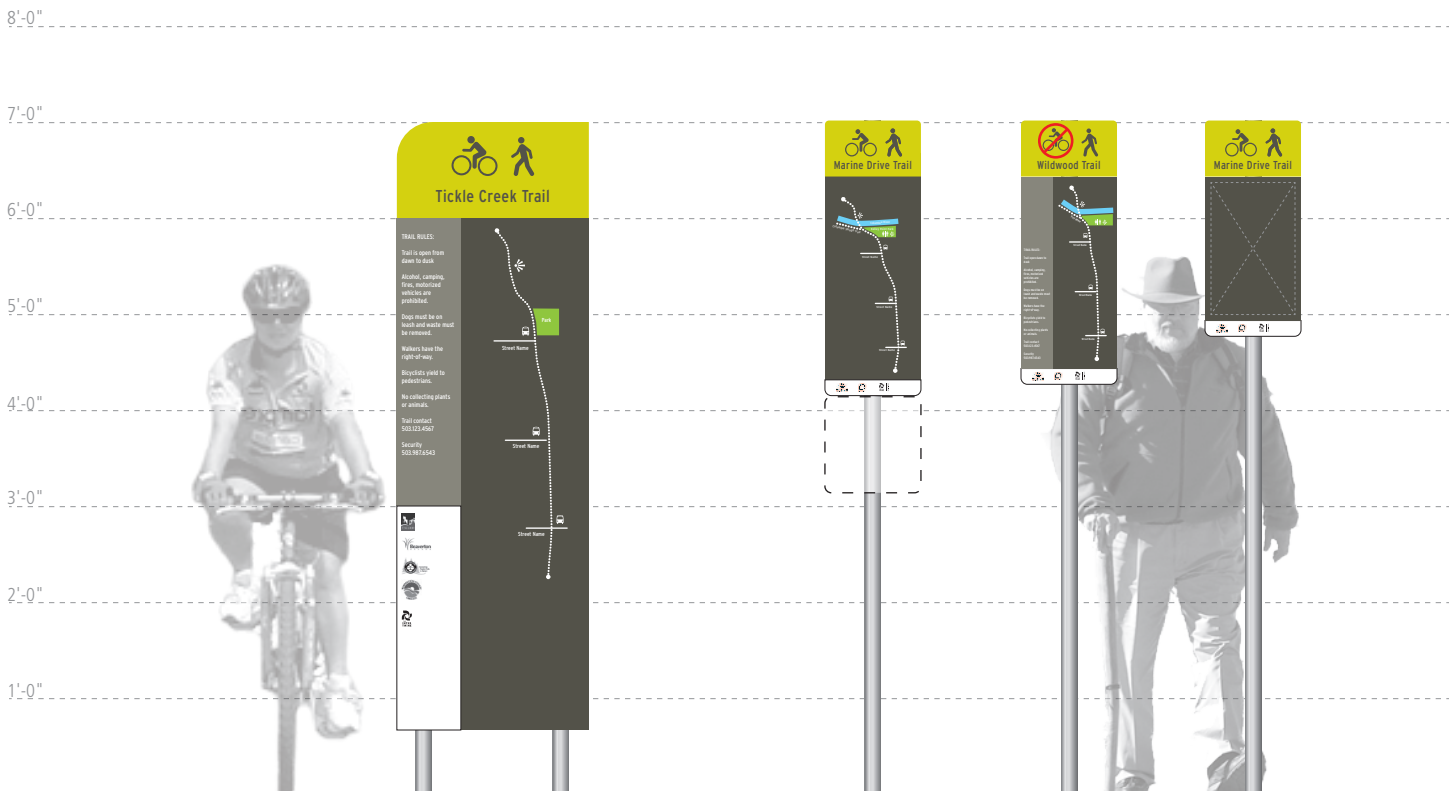
- 2.02** Off-Street Trail Signs
- 2.04** On-Street Connection Signs
- 2.05** The Intertwine Logo Components

2.02 Sign Family

Off-Street Trail Signs

THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Off-Street Trail Signs



SIGN TYPE A: Trailhead

Trailhead Signs are located at major trail access points which are distinguished by vehicle parking, restrooms, staging areas or other features. This sign type includes a map of the entire trail and the surrounding amenities as well as provides space for jurisdiction/partner logos and trail regulations. This sign type is compatible with The Intertwine Branding Signage.

Layouts on page 4.07
Trail map guidelines on page 4.50

SIGN TYPE B: Trail Access

Trail Access signs are located at trail access points where the trail typically meets the street right of way. This sign type identifies the trail and mode of travel and may include a trail map, directions or other information.

Layouts on page 4.11
Trail map guidelines on page 4.50



SIGN TYPE C: Off-Street Pedestrian Directional

This sign type is located along an off-street pedestrian-only regional trail to provide directional information.

Layouts on page 4.17

SIGN TYPE D: Off-Street Multi-Use Directional

This sign type is located along an off-street multi-use regional trail to provide directional information.

Layouts on page 4.23

SIGN TYPE E: Mile Marker

This sign type is located at 1/4 mile increments along a regional trail.

Layouts on page 4.29

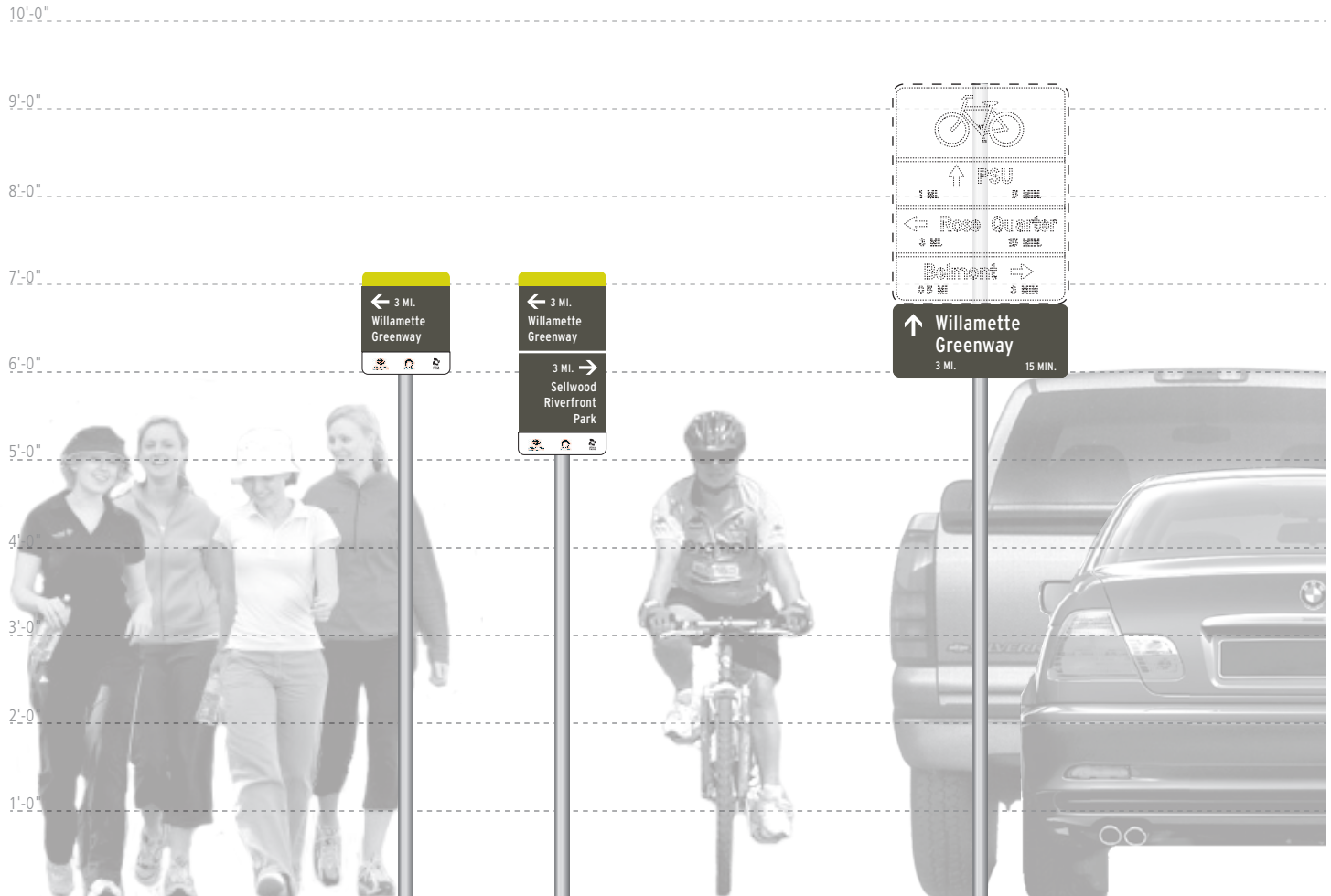
2.04 Sign Family

On-Street Connection Signs

THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

On-Street Connection Signs

Use these Sign Types along street rights-of-way that connect off-street trail segments.



SIGN TYPE F: On-Street Pedestrian Directional

This sign type is located in the street right-of-way to provide directions and continuity to off-street trail segments.

Layouts on page 4.33

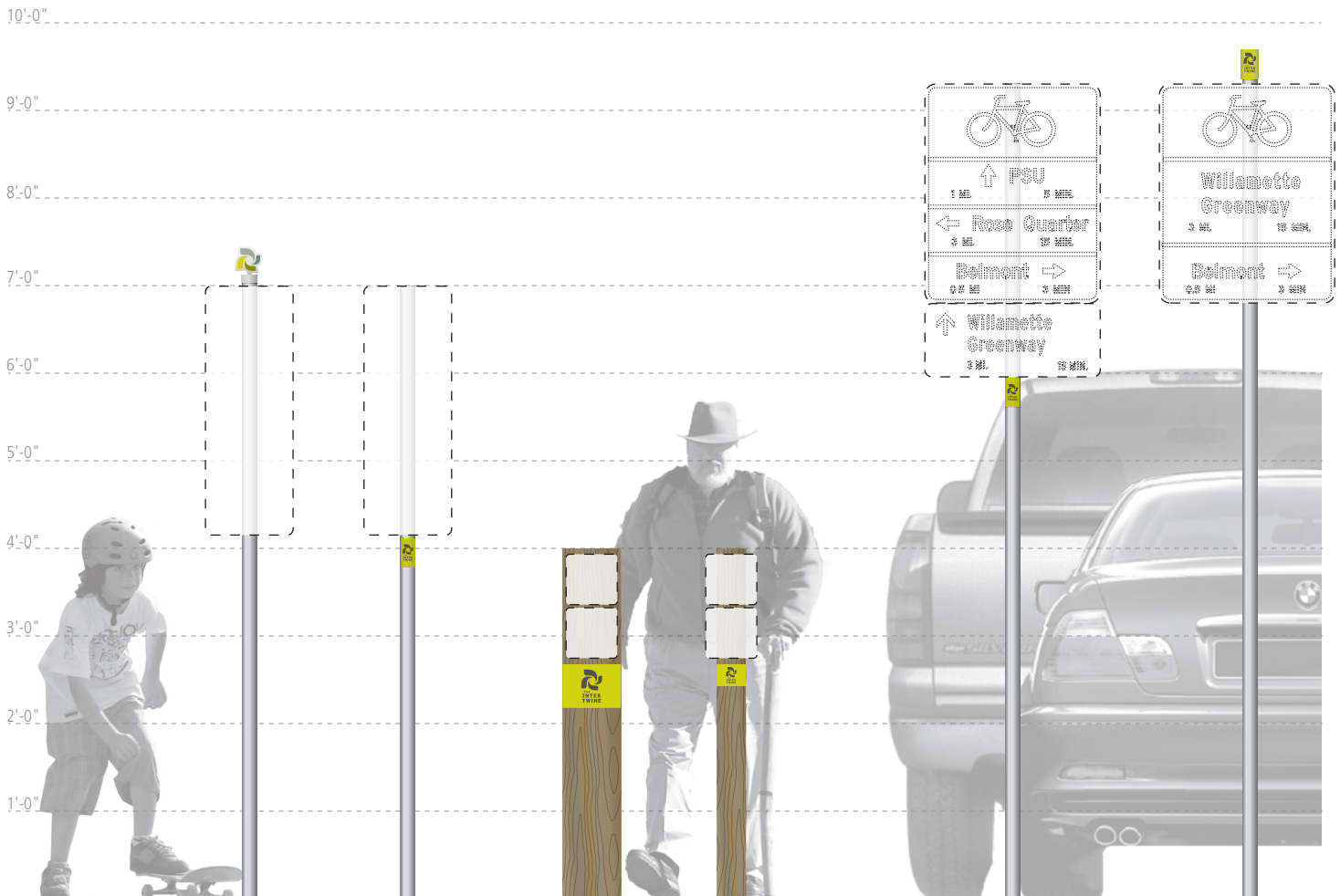
SIGN TYPE G: On-Street Bicycle Directional

This sign type is located in the street right-of-way to connect bicyclists between the off-street trail segments. The MUTCD allows The Intertwine sign on-street as long as they are oriented to bicyclists/pedestrians and not to traffic (9B.02). It will be up to the jurisdiction whether to allow this sign type.

Layouts on page 4.39

The Intertwine Logo Components

Use these components to identify the trail as part of the Regional Trail Network.



SIGN TYPE H: The Intertwine Logo

This sign type is used in combination with other off-street regional trail and on-street connection signs. Examples illustrate how to add The Intertwine logo to various types of existing and new signs.

Layouts on page 4.43

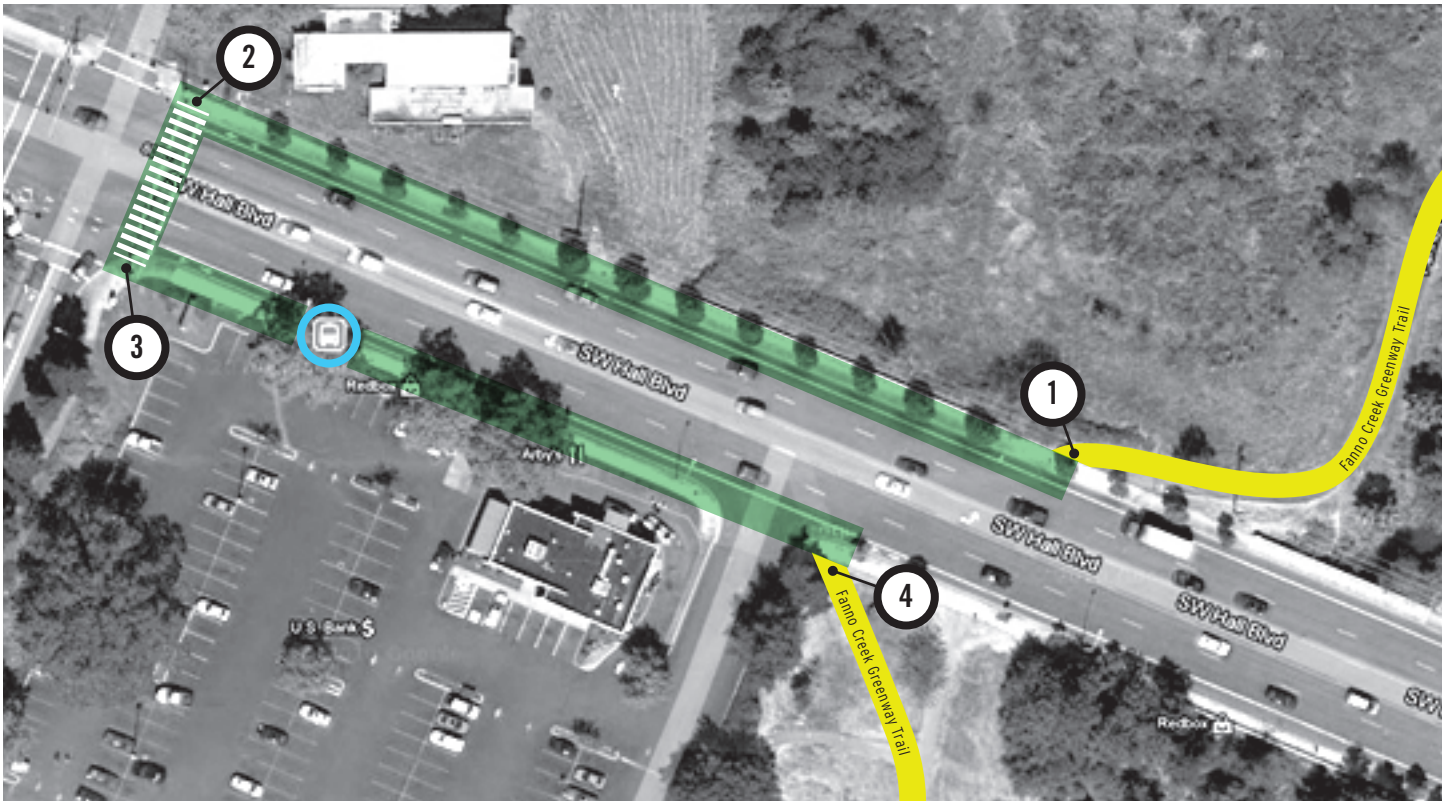
.....

Section 3: Sign Location and Planning

- 3.02** Trail Scenario 1: Trail Connections
- 3.04** Trail Scenario 2: Trail Intersections
- 3.06** Trail Scenario 3: Trail Spurs
- 3.08** Application of The Intertwine Logo to Existing Signs

Trail Scenario 1: Trail Connections

The following examples illustrate the types of signs and messages to consider when off-street trail segments are connected via an on-street route.



1
 This is an access point for the trail. **Sign Type B** can be used to provide the trail name as well as mode of travel.

This is also the point where the trail continues via an on-street connection. **Sign Type C** or **D** (depending on mode of travel) can be used to inform the user of the street name and how to connect to the next off-street trail segment using the nearest crosswalk. If there was a transit stop in the immediate vicinity, the symbol for it could be included in the message.

2 & 3
Sign Type F can be used at this location to direct and reinforce the path the user should take to connect to the off-street trail segment.

4
 This is an access point for the trail. **Sign Type B** can be used to provide the trail name as well as mode of travel.

This is also the point where the trail continues via an on-street connection. **Sign Type C** or **D** (depending on mode of travel) can be used to identify the street name and how to connect to the next off-street trail segment. Directions to transit in the immediate vicinity may be included.



1
Sign Type F can be used at this location to direct and reinforce the path the pedestrian should take to connect to the off-street trail segment.

2
This is an access point for the trail.
Sign Type B can be used to provide the trail name as well as mode of travel.

This is also the point where the trail continues via an on-street connection. Assuming this is a multi-use trail, **Sign Type D** can be used to inform the user of the street name and how to connect to the next off-street trail segment using the nearest crosswalk.

3
Sign Type D can be used at this location to direct to the on-street connection. Consider using a map to reinforce the route the user will take between off-street trail segments.

4
Consider using **Sign Type D** at this location to indicate "End of Trail".

5
In the vicinity of this location, consider using **Sign Type G** in the right-of-way to direct Bicyclists and **Sign Type F** out of the right-of-way for pedestrians to connect to the next on-street trail segment. **Sign Type H3** can be added

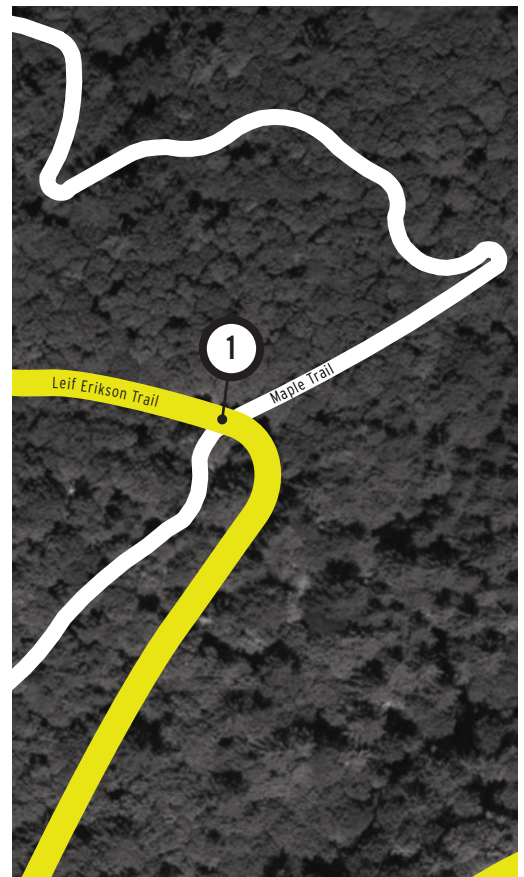
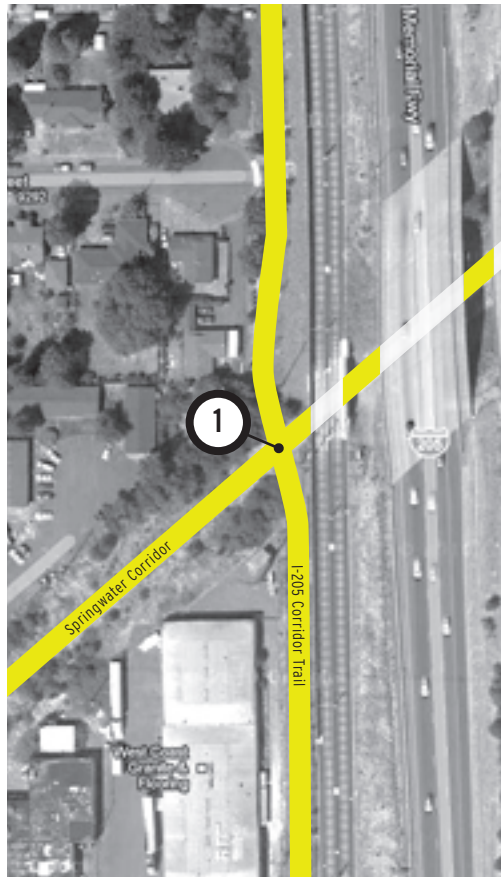
to the post of **Sign Type G** to identify the route as part of The Intertwine.

6 & 7
Consider using **Sign Type F** at this location to direct and reinforce the path the pedestrian should take to connect to the off-street trail segment. **Sign Type G** (with **H3**) can be used to reinforce the path for bicyclists but should be placed in the right-of-way.

8
This is an access point for the trail as well as the point where the trail meets the on-street connection, sign this location similar to location 2 using **Sign Types B** and **D**. Page 20 of 109

Trail Scenario 2: Trail Intersections

The following examples illustrate the types of signs and messages to consider when trails intersect off-street.

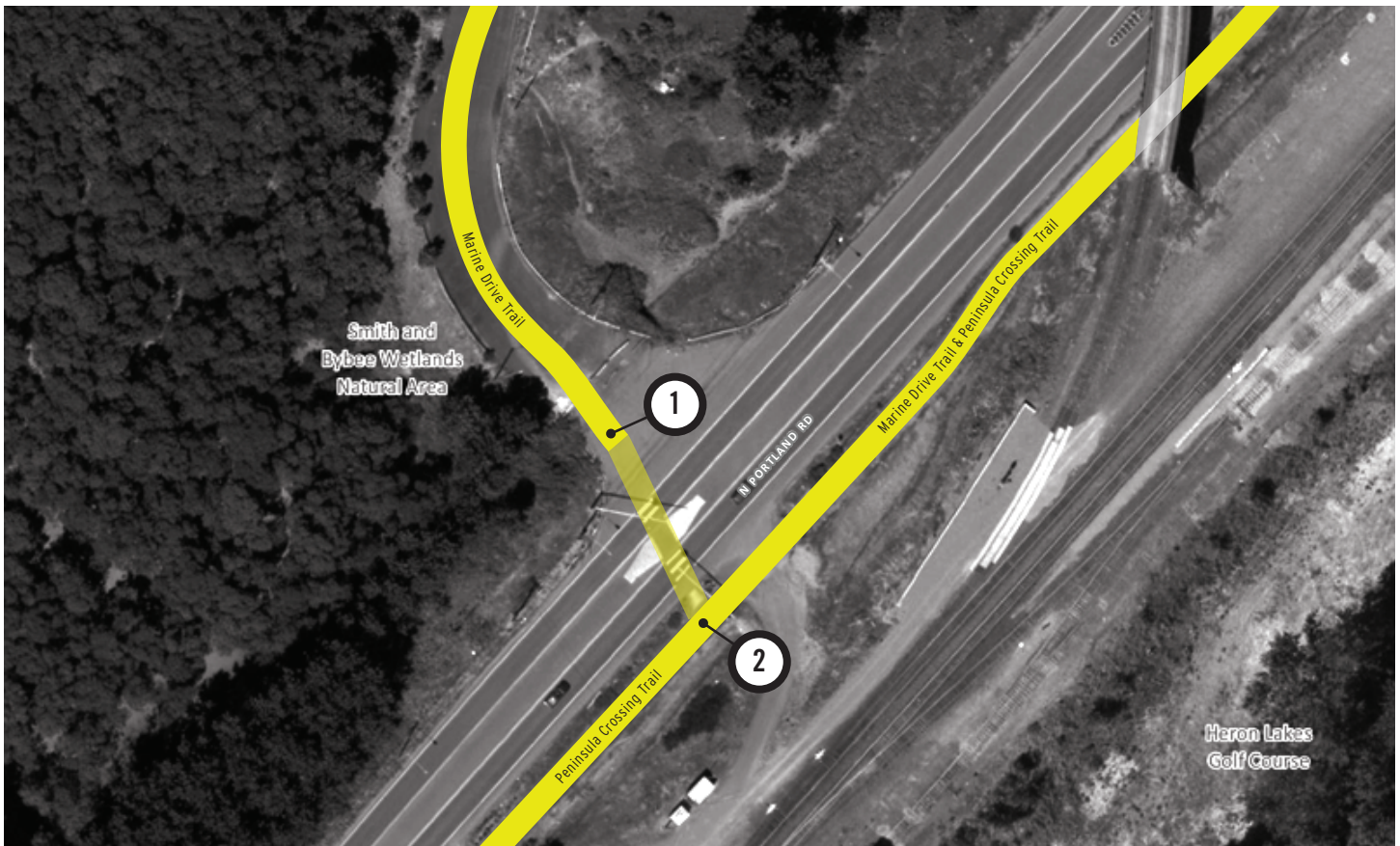


1

Depending on mode of travel, use **Sign Type C** or **D** to direct to the regional (or non-regional) intersecting trail. To orient the user, use cardinal directions (North, South, East, West) after the trail name. If there is an amenity along the trail or in the immediate vicinity, such as a transit stop, restrooms, etc., those symbols can be included in the destination message.

If the intersecting trail is non-regional, the signage installed along the regional trail should direct to the non-regional trail as a destination with orienting cardinal directions. Amenities should only be included with the destination if the local trail signage supports it or if the amenity is within the immediate vicinity.

Entering the regional trail, the jurisdiction should provide signage as necessary so that regional trail messages are available from all directions.



1

This is an access point for the trail. **Sign Type B** can be used to provide the trail name as well as mode of travel.

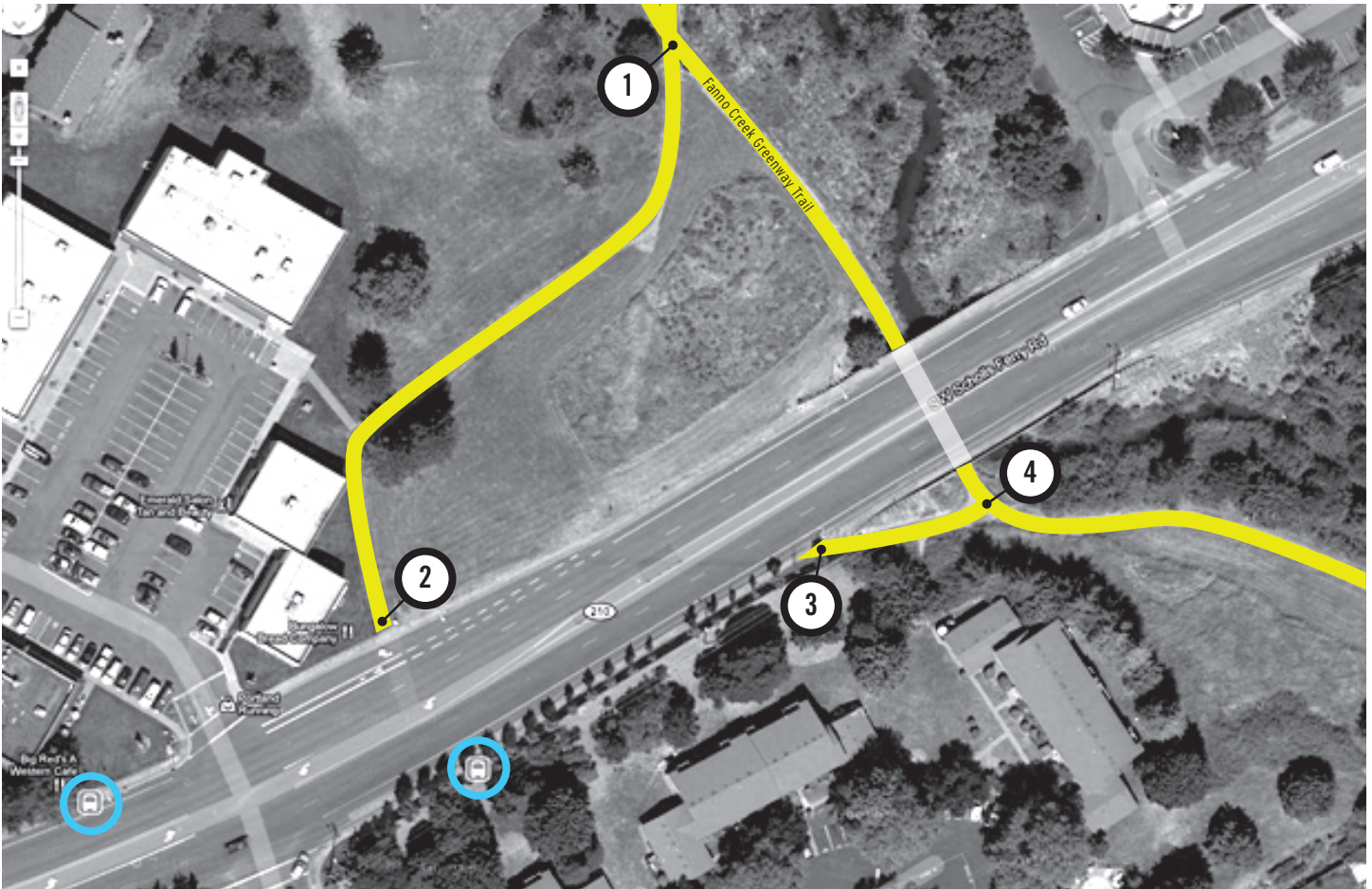
This is also the point where the trail intersects with another trail. Assuming this is a multi-use trail, **Sign Type D** can be used to direct to the intersecting trail. If there is transit or another amenity in the immediate vicinity, consider including the symbol for it in the directional message.

2

This location is also a trail access point. **Sign Type B** should be located facing the street. Directional panels should be included to direct to end destinations (Portland, Gresham) or cardinal directions (North, South, East, West) to orient the user.

Perpendicular to **Sign Type B**, use **Sign Type D** to direct to the intersecting trail as well as any destinations and amenities ahead.

Trail Scenario 3



1 & 4

At this location, **Sign Type C** or **D** (depending on mode of travel) can be used to inform the user of the amenities such as street name and transit located off the trail spur as well as any destinations ahead.

2 & 3

This is an access point for the trail. Entering the trail, **Sign Type B** can be used to provide the trail name as well as mode of travel.

Exiting the trail, **Sign Type C** or **D** (depending on mode of travel) can be used to inform the user of the street name, transit in the immediate vicinity as well as cardinal directions (North, South, East, West) or city destinations (Portland, Gresham) to orient the user.

Landmark destinations such as parks and districts should only be directed to if there is adequate bicycle and/or pedestrian on-street signage leading to that destination or if the destination is in the immediate vicinity.

In this example, signage at both locations 2 & 3 can direct to transit since the stop is on the same side of the street and within in the immediate vicinity.

3.08 Sign Location Planning

Application of The Intertwine Logo
to Existing Signs

THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Application of The Intertwine Logo to Existing Signs

In multiple cases, a sign program, apart from the designs shown in these guidelines, are in use along off-street regional trails and on-street connections. Multiple options can be used to integrate The Intertwine logo and identify the trail as a part of the Regional Trail Network and The Intertwine. The following examples give options on how to do so. Refer to **Sign Type H** in Section 4 for fabrication details.

Since The Intertwine is not a single trail but rather a network of trails, the logo is not used as a directional sign with an arrow.

1 & 3

These examples illustrate the option of applying an aluminum sign with The Intertwine logo to an existing wood sign post.

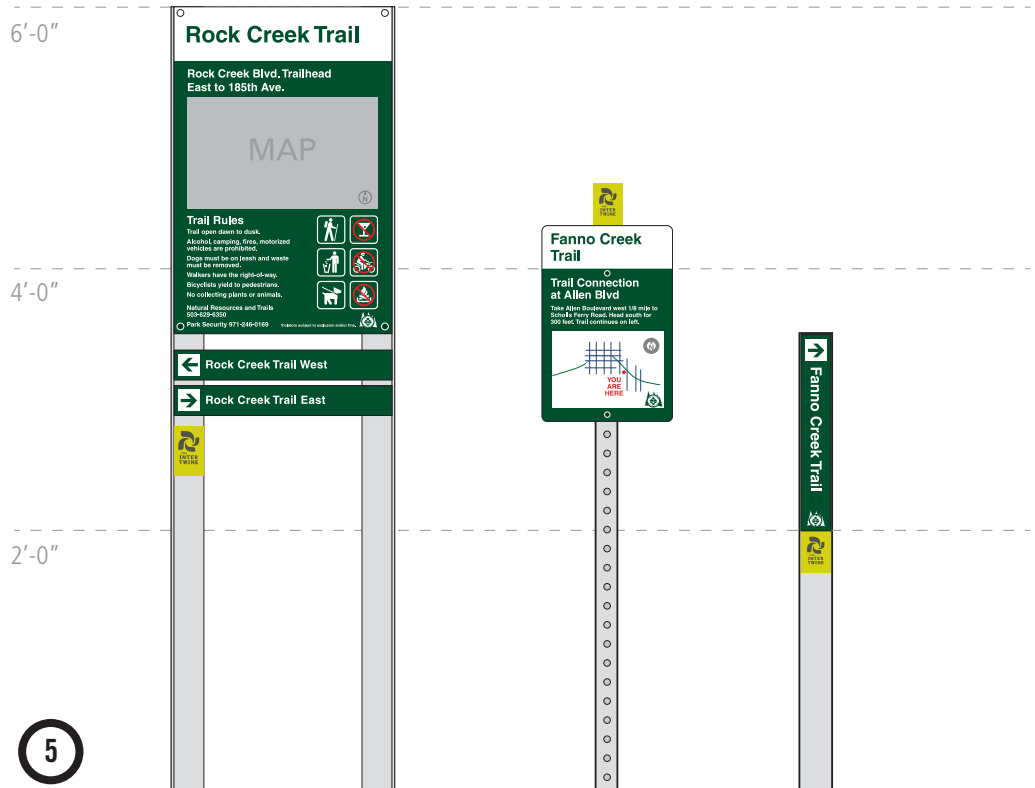
2

This example illustrates the option of applying a small vinyl wrap with The Intertwine logo to an existing wood or steel sign post.

4

This example illustrates the option of painting The Intertwine logo in a bike lane (or sidewalk) along an on-street trail connection as allowable by individual jurisdictions. (MUTCD 3B.20, pg 387, 2009 edition)





5

This example illustrates multiple options for applying The Intertwine logo to different types of signs in the same sign system. Examples shown include vinyl badges and a post cap.

6 & 7

These examples show The Intertwine logo integrated into the trail signage design and applied adjacent to the jurisdiction logo.



6



7

.....

Section 4: Fabrication Details

- 4.02** Sign Panel Fabrication: Option 1
- 4.03** Sign Panel Fabrication: Option 2
- 4.04** Sign Panel Fabrication: Option 3
- 4.05** Typical Sign Placement & Mounting Hardware
- 4.07** Sign Type A: Trailhead Sign Overview
- 4.11** Sign Type B: Trail Access Sign Overview
- 4.17** Sign Type C: Off-Street Pedestrian Directional Sign Overview
- 4.23** Sign Type D: Off-Street Multi-Use Directional Sign Overview
- 4.29** Sign Type E: Mile Marker Sign Overview
- 4.33** Sign Type F: On-Street Pedestrian Directional Sign Overview
- 4.39** Sign Type G: On-Street Bicycle Directional Sign Overview
- 4.43** Sign Type H: Intertwine Logo Components Overview
- 4.48** Symbols
- 4.50** Trail Map
- 4.51** Typography
- 4.52** Colors
- 4.53** Logos

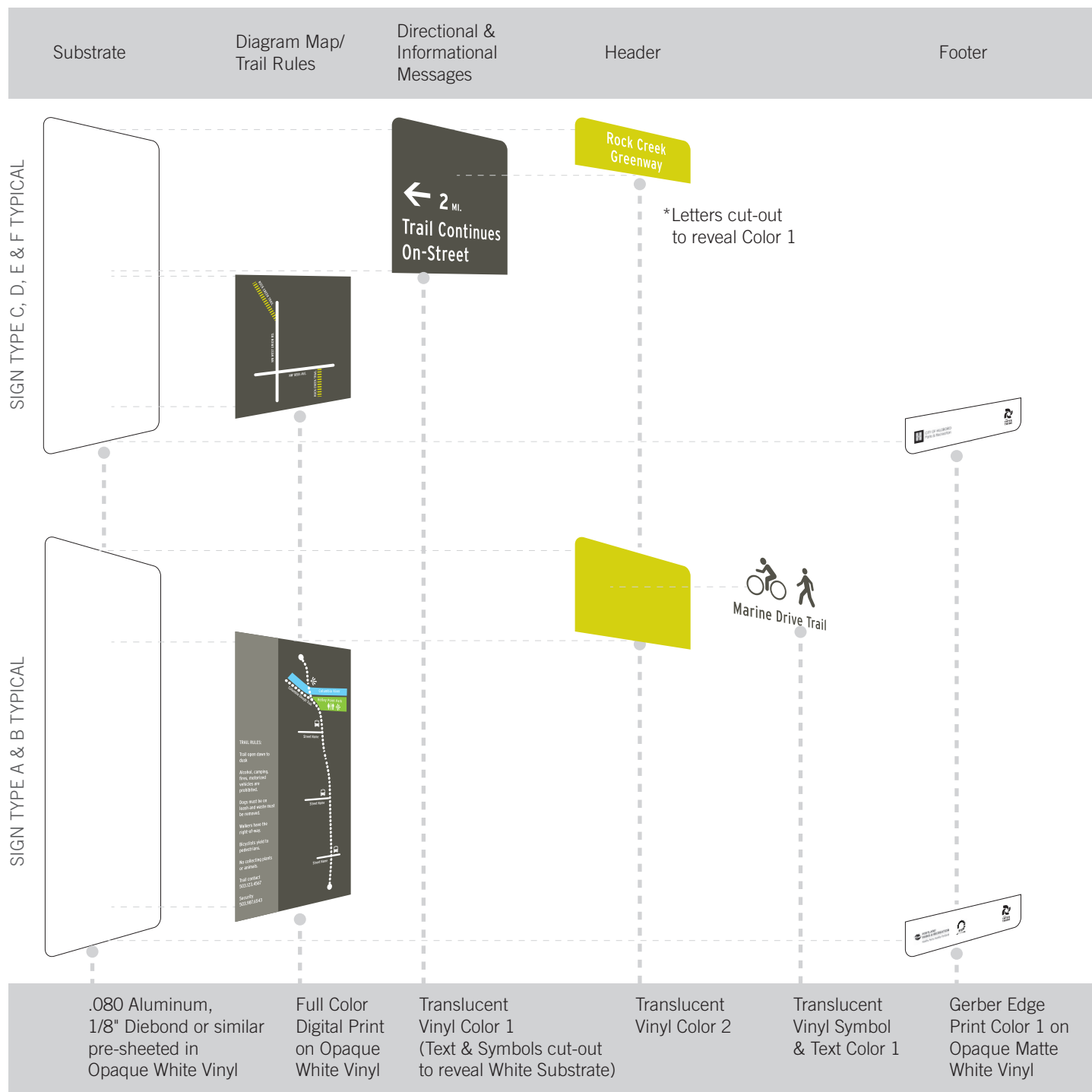
4.02 Fabrication Details

Sign Panel Fabrication

THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

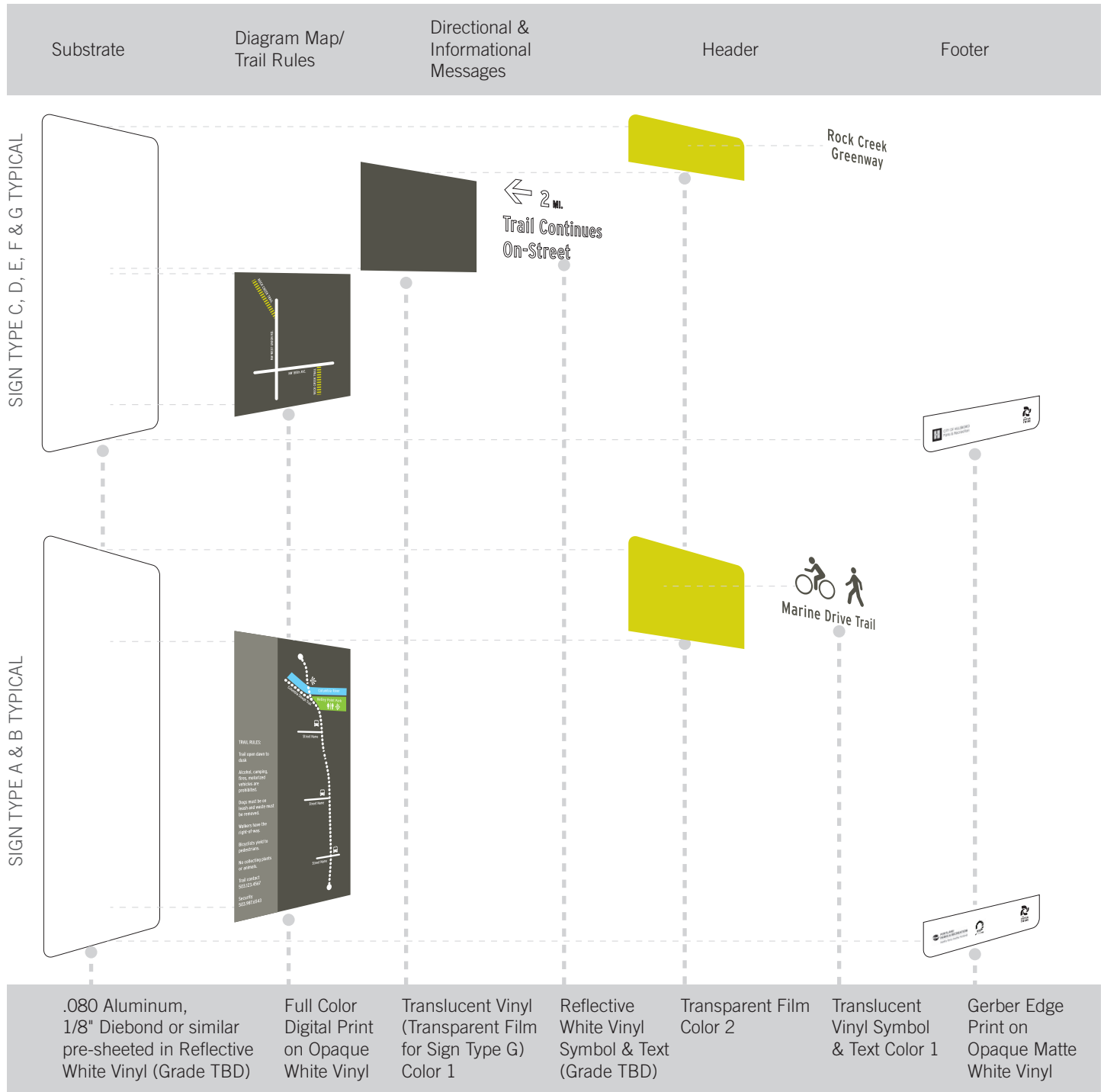
Sign Panel Fabrication: Option 1

This method describes the standard fabrication process for all sign types with the exception of Sign Type G. Refer to Fabrication Method 2 for Sign Type G.



Sign Panel Fabrication: Option 2

This method allows for night time reflectivity. As required for on-street signage, Sign Type G will have full panel reflectivity. For all other sign types, only the Header and Directional/Informational Message components will be reflective.



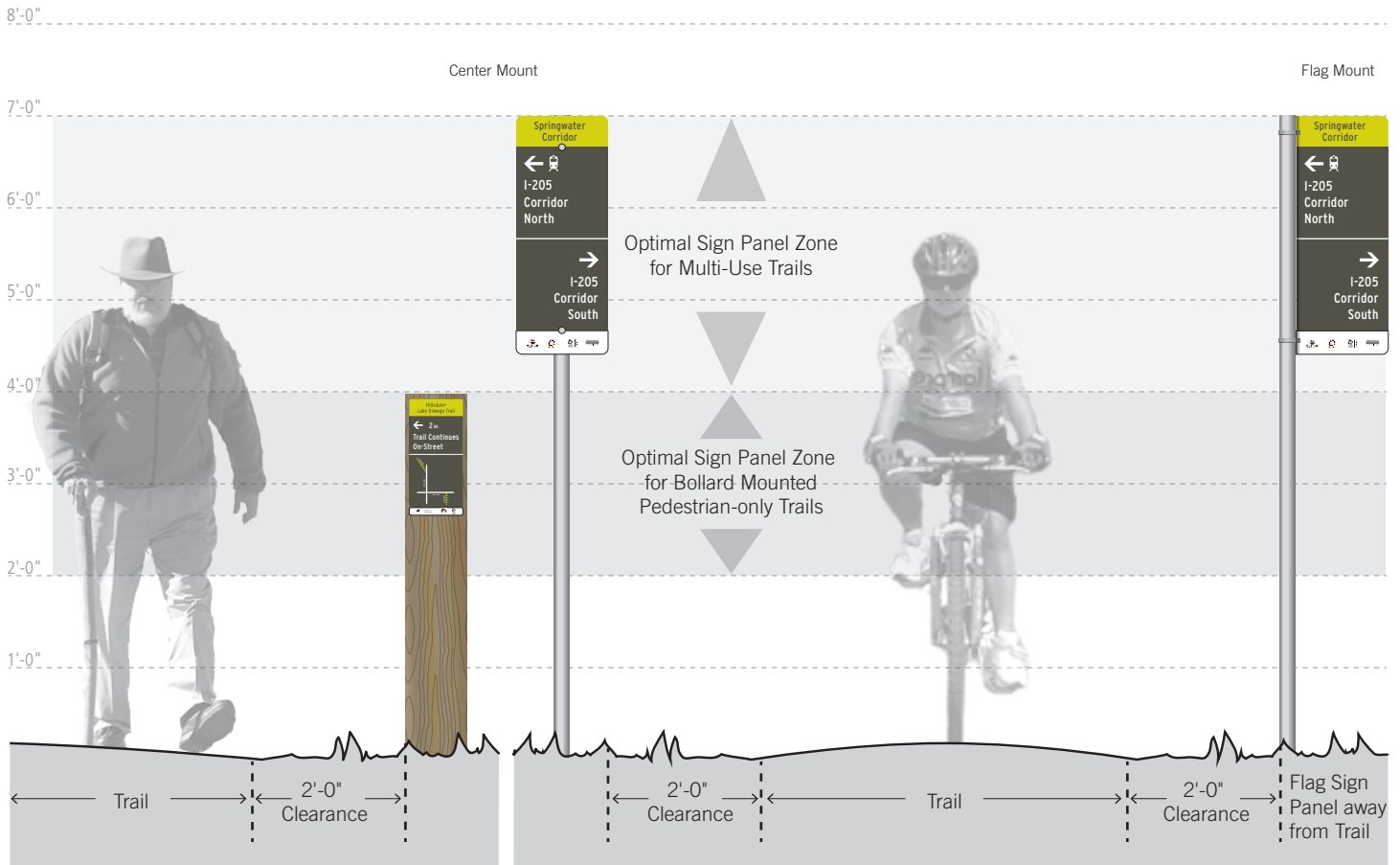
Sign Panel Fabrication: Option 3

While this fabrication method can be used for all sign types with the exception of Sign Type G, it is best suited for sign types with diagrammatic maps such as Sign Type B.



Typical Sign Placement & Mounting Hardware

For mounting on-street, please follow MUTCD standards



Hardware				
Center Mount		Post/Pole Options	Flag Mount	
	THDW-105 Single Bracket #16500800 or THDW-107 Double Bracket #16501000	2" Round Galvanized or Powder Coated Color 2		Wing Bracket #16503700
	3/8" Drive Rivet (Anti-Theft) Aluminum or Steel	2" Square Galvanized or Powder Coated Color 2		Flat Back Bracket w/ 3/8"x3" Bolt (Galvanized, Zinc Plated or Powder Coated Color 2)
	3/8" Lag Bolt, Galvanized with Stainless Steel Washer & Nylon washer	Wood		Flat Back Bracket w/ 3/8"x3" Bolt (Galvanized, Zinc Plated or Powder Coated Color 2)

Brackets available locally through Traffic Safety Supply Co. 503.235.8531

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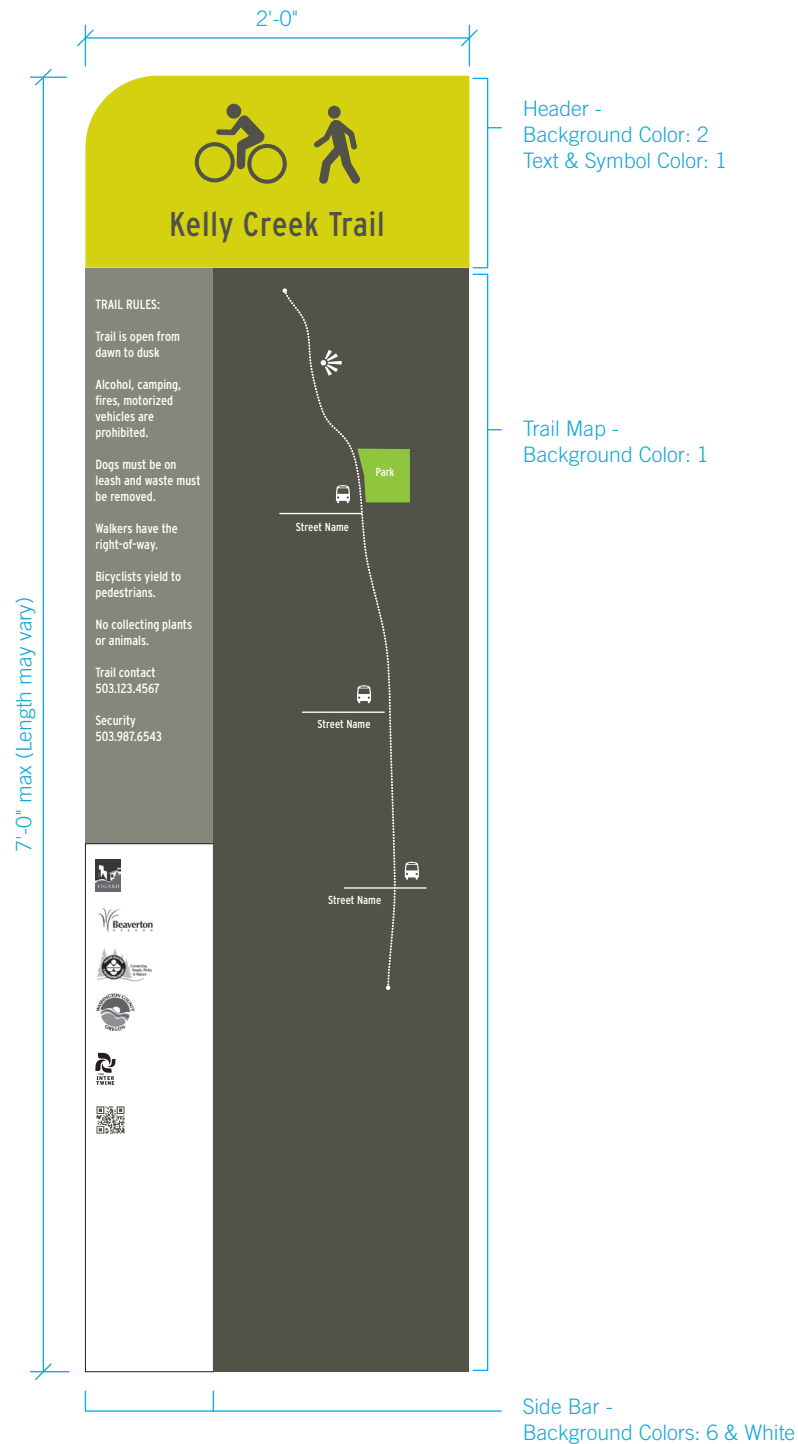
Sign Type A: Trailhead Sign Overview

Fabrication:

Single or double-sided pylon with internal framing, similar construction methods to the pylons in The Intertwine Branding Manual.

Layouts:

Refer to layout dimensions on the following pages.



4.08 Fabrication Details

Sign Type A Layouts

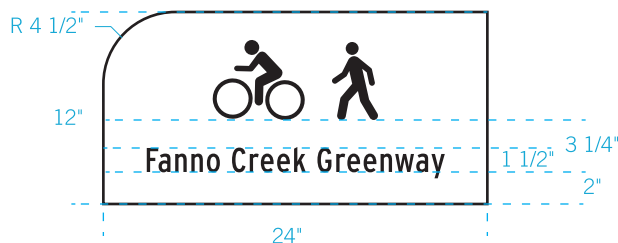
THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Sign Type A: Header Layouts

Single Line Header:

Use to identify the trail name and mode of travel. Trail logos should not appear in the Header but rather the Side Bar.

Refer to Symbols on page 4.48.



Double Line Header:

Use to identify the trail name and mode of travel. Trail logos should not appear in the Header but rather the Side Bar.

Refer to Symbols on page 4.48.



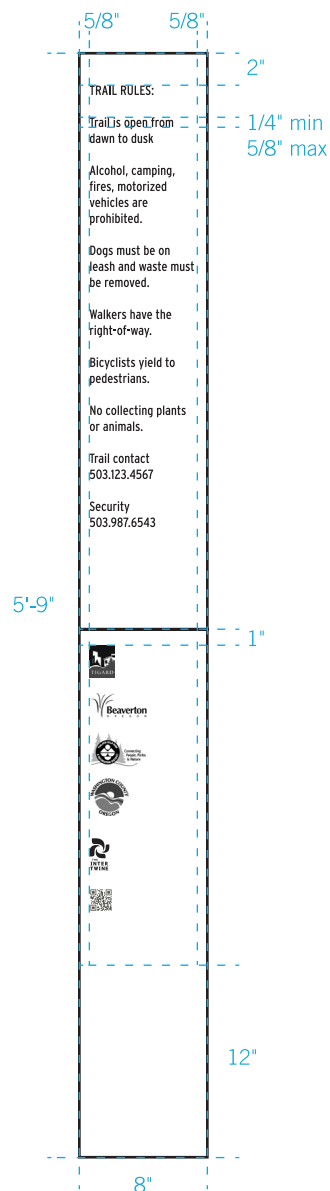
Sign Type A: Side Bar Layout

Side Bar:

This layout integrates all rules and regulations, contact information as well as Jurisdiction/Partner and applicable trail and trail system logos associated with the trail. Regulatory symbols can also be placed in this section as necessary. All Jurisdiction/ Partner logos should be separated from rules and regulatory section and should be placed in a white background.

Refer to Logos starting on page 4.53.

Refer to Symbols on page 4.48.



4.10 Fabrication Details

Sign Type A Layouts

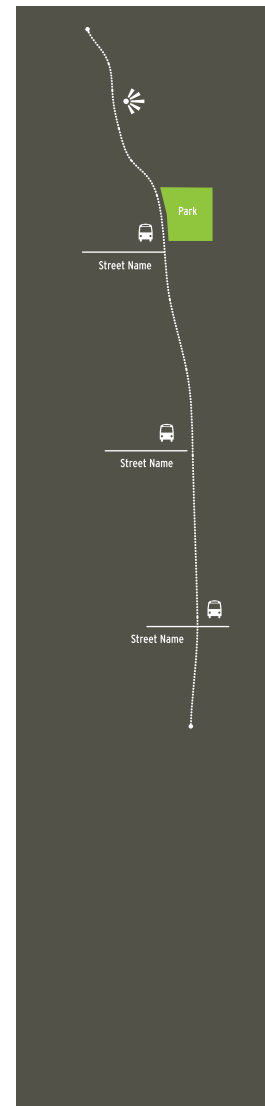
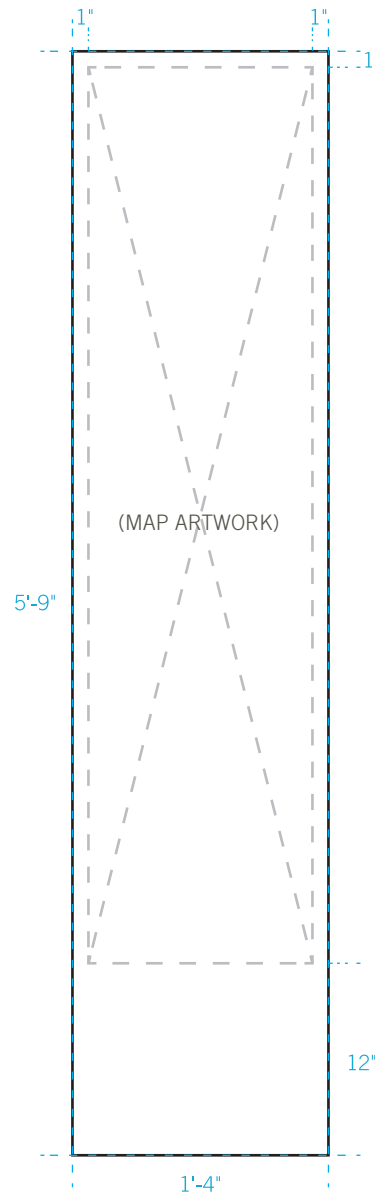
THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Sign Type A: Trail Map Layout

Trail Map:

Map artwork can be used at trailheads to illustrate distance, amenities, landmarks as well as other features in the environs of the trail. Map artwork should not exceed beyond the lower 12" portion of the panel.

Refer to page 4.50 for trail map artwork guidelines.



Sign Type B: Trail Access Sign Overview

Layouts:

Refer to layout dimensions on the following pages.



4.12 Fabrication Details

Sign Type B Layouts

THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Sign Type B: Header Layouts

Single Line Header:

Use to identify the trail name and mode of travel.

Trail logos should not appear in the Header but rather the Logo Footer.

Refer to Symbols on page 4.48.

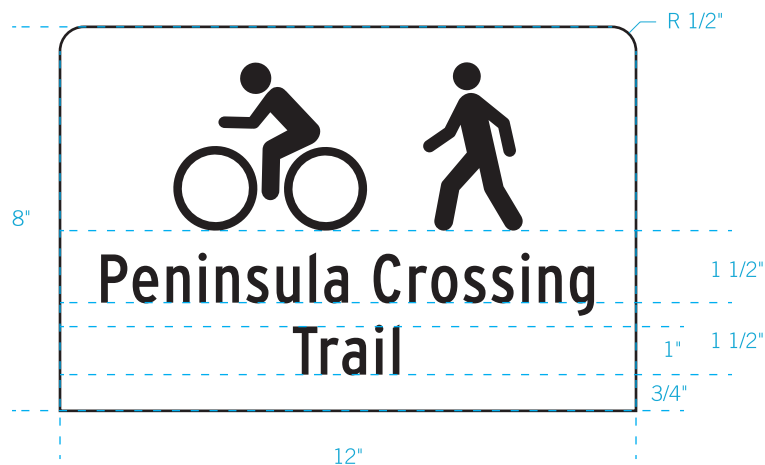


Double Line Header:

Use to identify the trail name and mode of travel.

Trail logos should not appear in the Header but rather the Logo Footer.

Refer to Symbols on page 4.48.



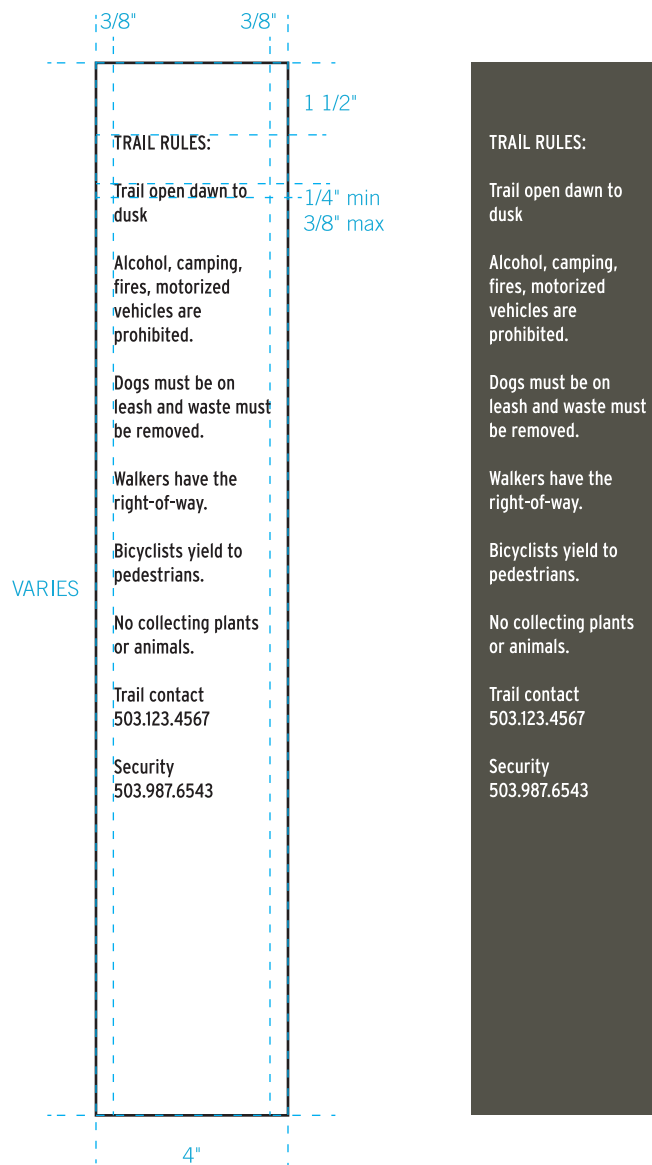
Sign Type B: Side Bar Layout

Side Bar:

This layout integrates the rules and regulations associated with the trail. Regulatory symbols can also be placed in this section as necessary. This layout is to be used adjacent the 8" Wide Trail Map Layout.

Refer to Symbols on page 4.48.

Refer to Logos on page 4.53.



4.14 Fabrication Details

Sign Type B Layouts

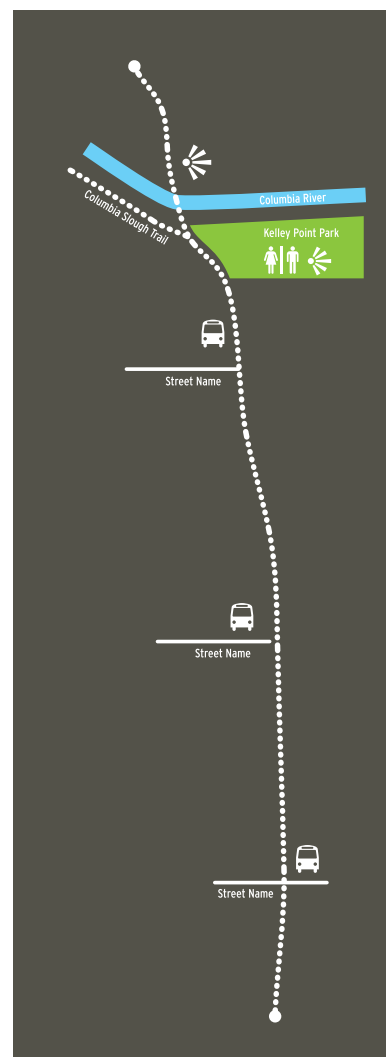
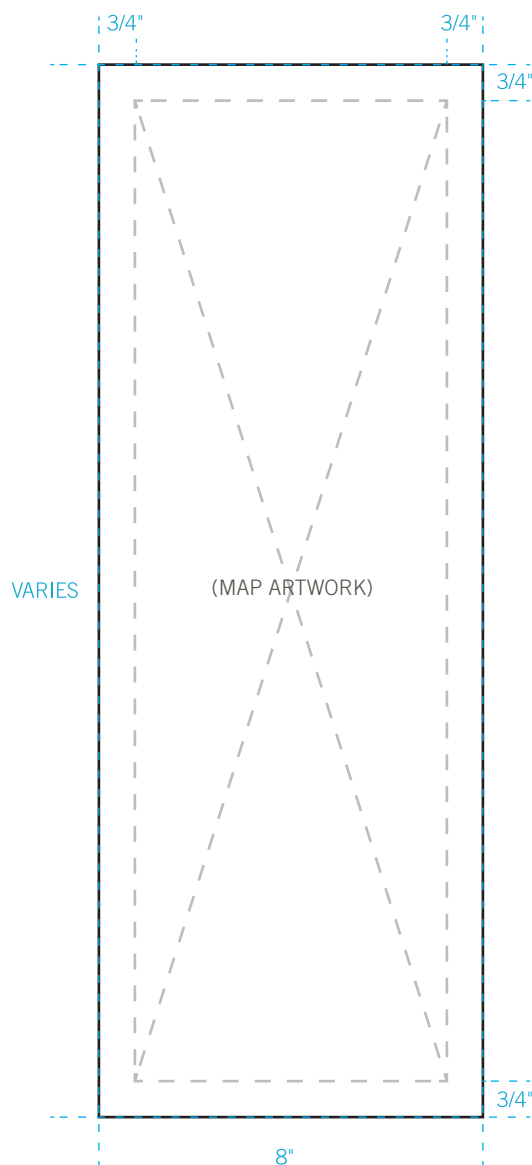
THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Sign Type B: Trail Map Layouts

8" Wide Trail Map:

This area can be used to display a trail map illustrating amenities, transit and landmarks within the vicinity. This layout is to be used adjacent to the Side Bar Layout.

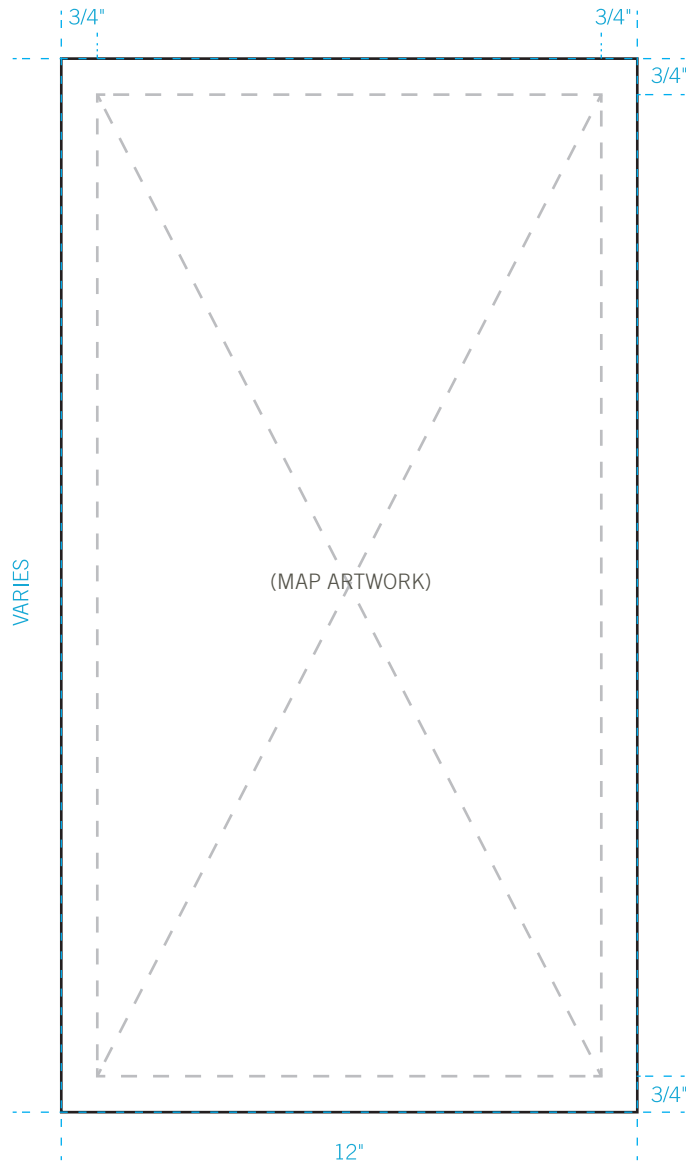
Refer to page 4.50 for trail map artwork guidelines.



12" Wide Trail Map:

When a combination of the Side Bar and 8" Wide Trail Map is not applicable, the 12" Wide Trail Map is an option. The trail map can illustrate amenities, transit and landmarks within a vicinity of the location.

Refer to page 4.50 for trail map artwork guidelines.



4.16 Fabrication Details

Sign Type B Layouts

THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Sign Type B: Logo Footer Layout

Logo Footer:

Use to display the Jurisdiction's logo and contact information, Partner's logo, the Trail or Trail System logo as well as The Intertwine logo.

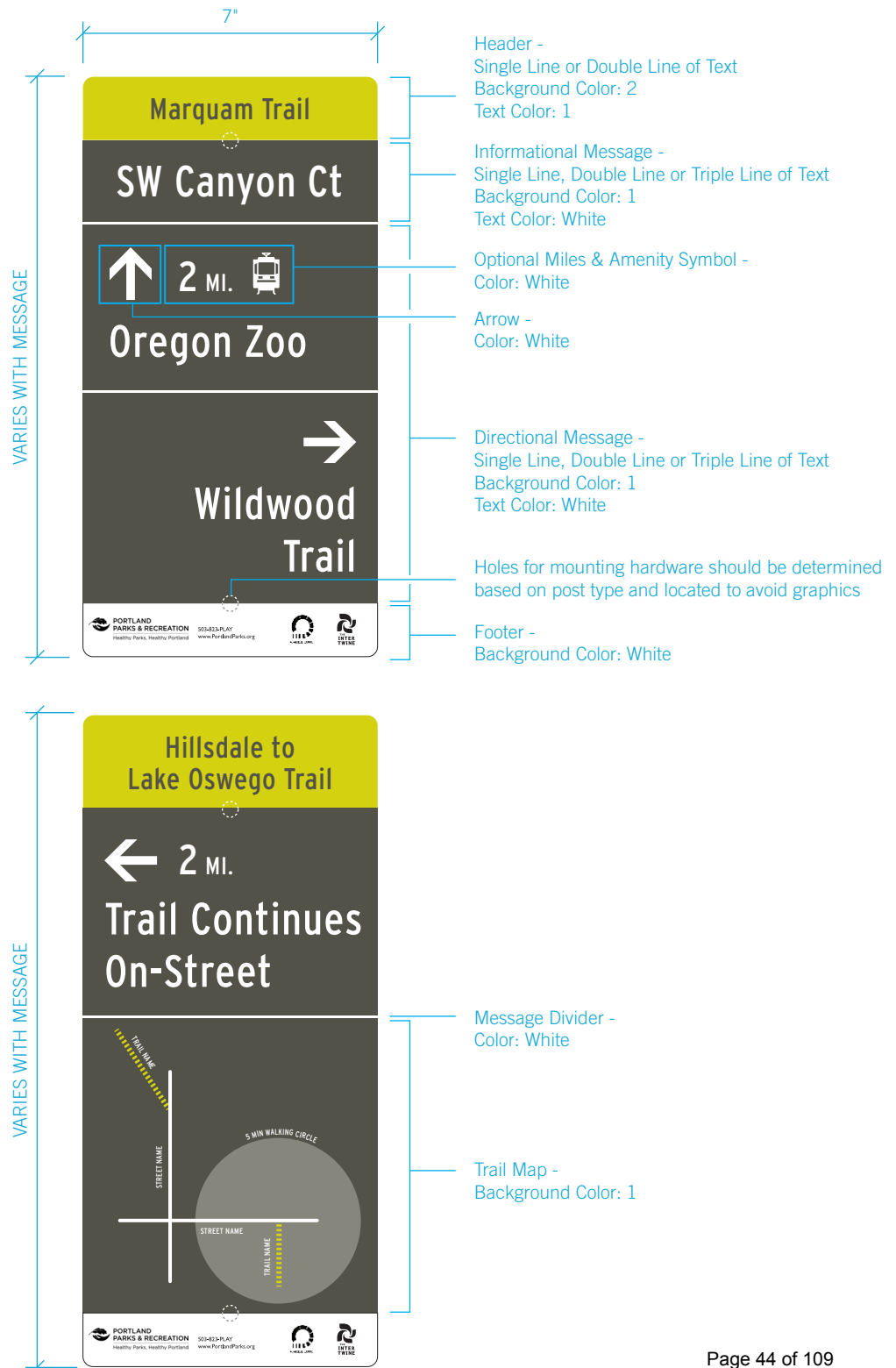
Refer to Logos starting on page 4.53.



Sign Type C: Off-Street Pedestrian Directional Sign Overview

Layouts:

Refer to layout dimensions on the following pages.



4.18

Fabrication Details

Sign Type C Layouts

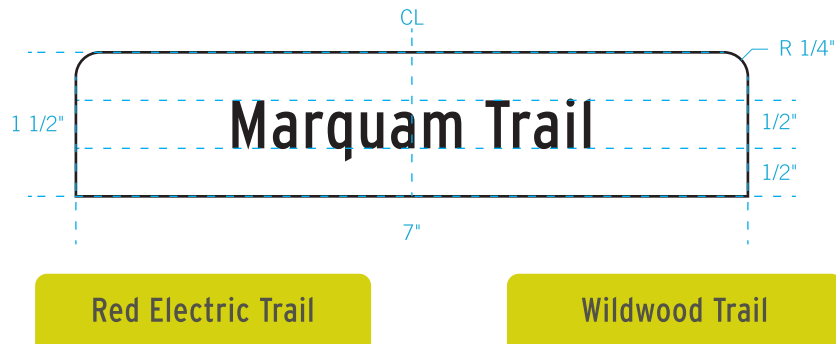
THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Sign Type C: Header Layouts

Single Line Header:

Use to identify the trail name.

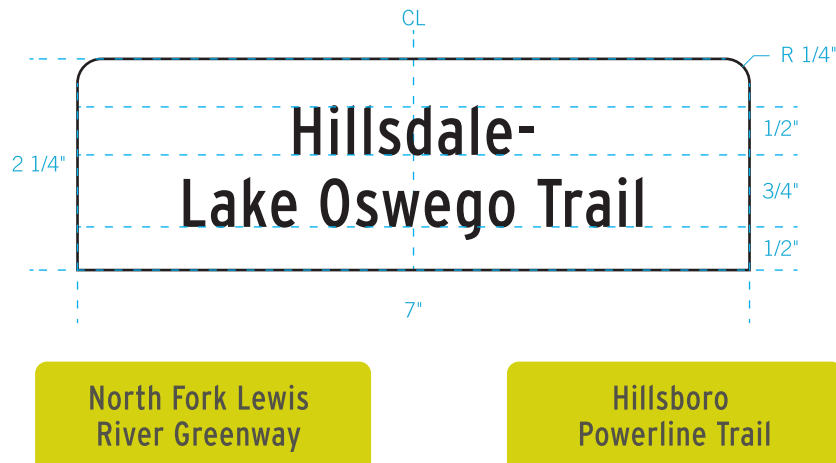
Trail logos should not appear in the Header but rather the Logo Footer.



Double Line Header:

Use to identify the trail name.

Trail logos should not appear in the Header but rather the Logo Footer.

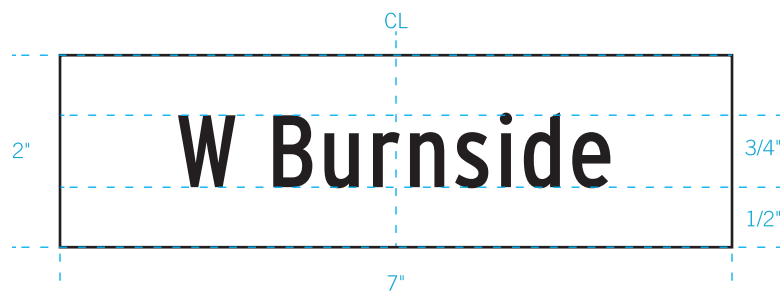


Sign Type C: Informational & Directional Layouts

Single Line Informational Message:

Use to identify the street name at a trail crossing.

This panel size can also be used to direct to an amenity within the vicinity that is not associated with a directional message.

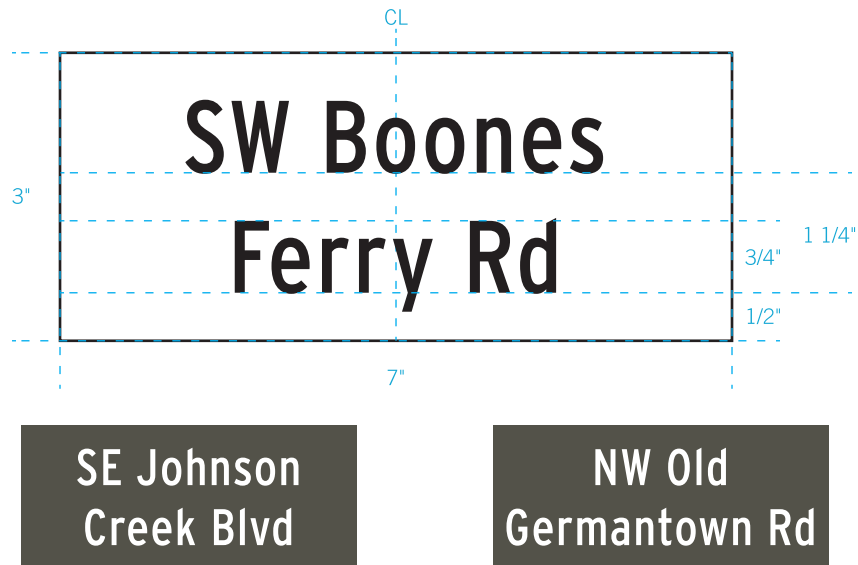


* Refer to following layouts for amenity dimensions.

Sign Type C: Informational & Directional Layouts

Double Line Informational Message:

Use to identify the street name at a trail crossing.



Message Divider:

Use the white divider to separate message layouts.



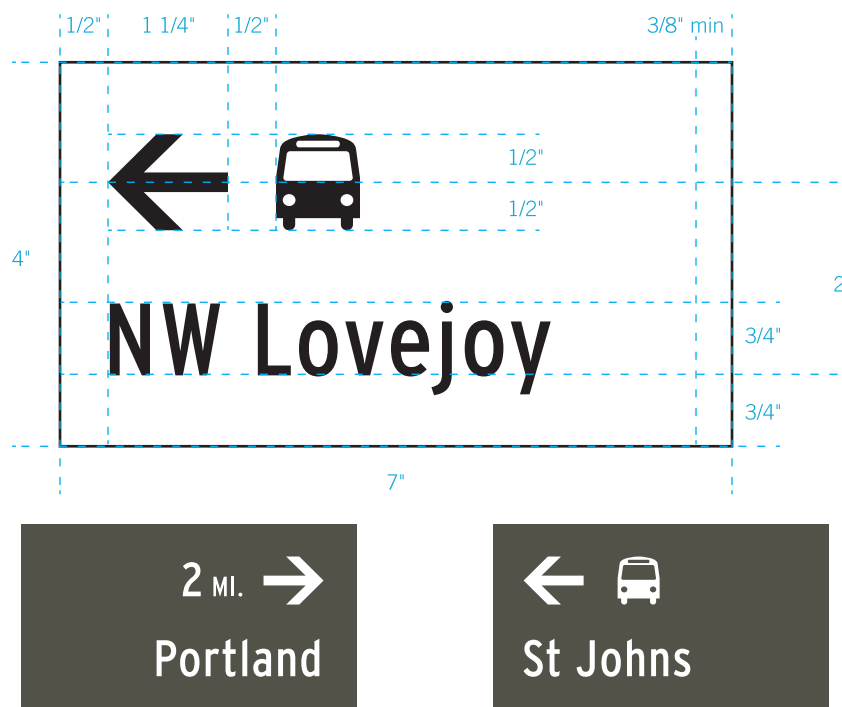
Do not use adjacent to the Header or the Logo Footer.

Single Line Directional Message:

Use to direct to a destination identified within a single line of text.

Layout and dimensions can be mirrored to example shown in order to correspond to direction. (*i.e. right justified for destinations to the right*)

Refer to Symbols on page 4.48.



4.20 Fabrication Details

Sign Type C Layouts

THE INTERTWINE: Regional Trails Signage Guidelines
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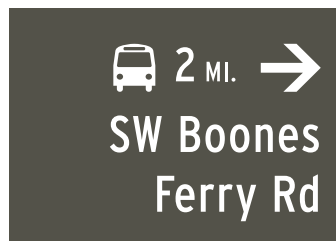
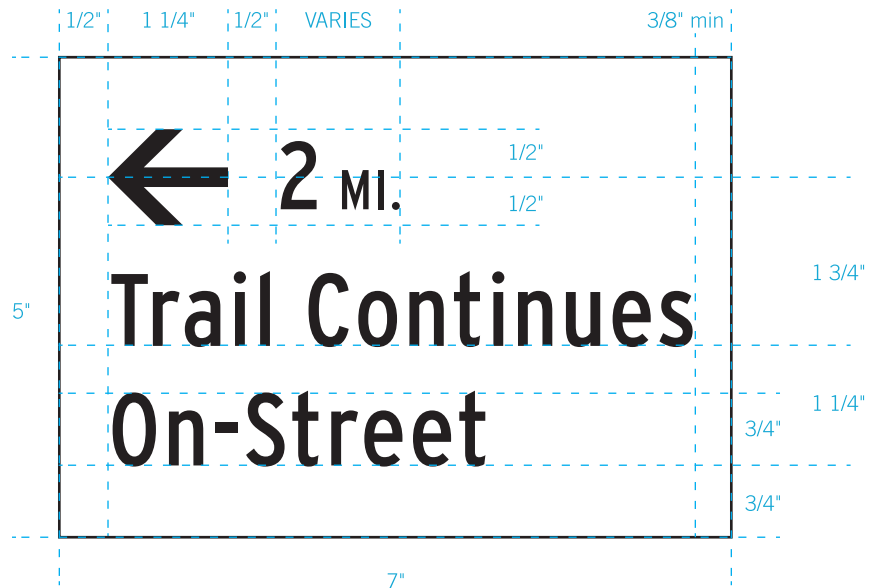
Sign Type C: Informational & Directional Layouts

Double Line Directional Message:

Use to direct to a destination identified within two lines of text.

Layout and dimensions can be mirrored to example shown in order to correspond to direction. (*i.e. right justified for destinations to the right*)

Refer to Symbols on page 4.48.



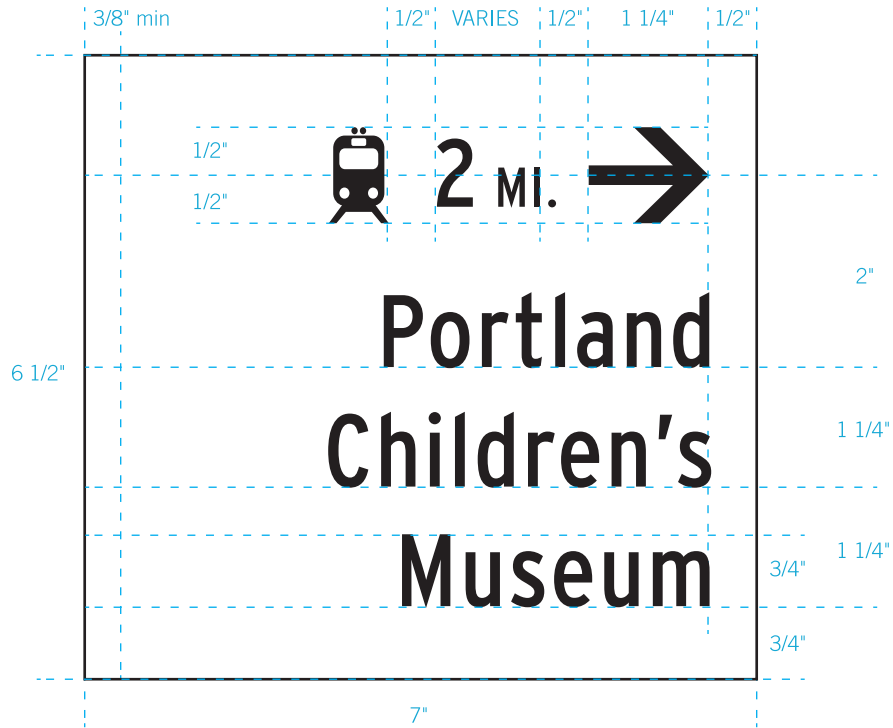
Sign Type C: Informational & Directional Layouts

Triple Line Directional Message:

Use to direct to a destination identified within three lines of text.

Layout and dimensions can be mirrored to example shown in order to correspond to direction. (*i.e. left justified for destinations to the left*)

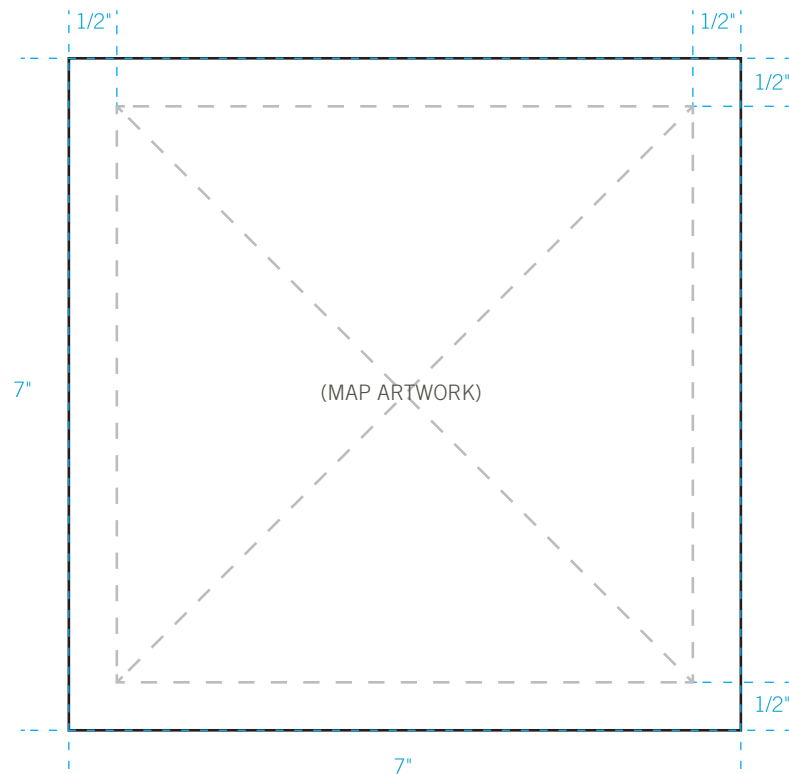
Refer to Symbols on page 4.48.



Trail Map:

Use as support to directionals to illustrate how to connect off-street trail segments via an on-street connection.

Refer to page 4.50 for trail map artwork guidelines.



4.22 Fabrication Details

Sign Type C Layouts

THE INTERTWINE: Regional Trails Signage Guidelines
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Sign Type C: Logo Footer Layout

Logo Footer:

Use to display the Jurisdiction's logo and contact information, Partner's logo, the Trail or Trail System logo as well as The Intertwine logo.

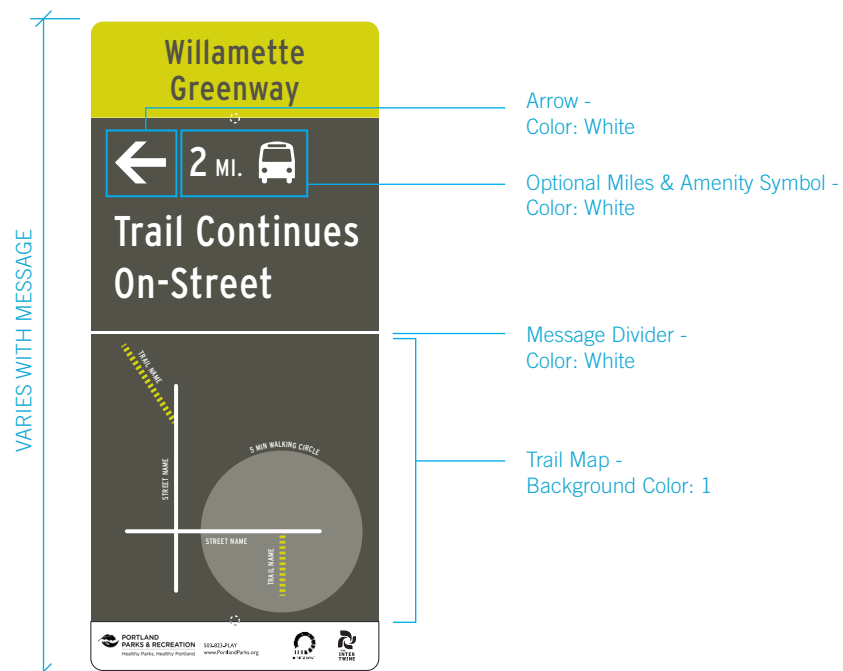
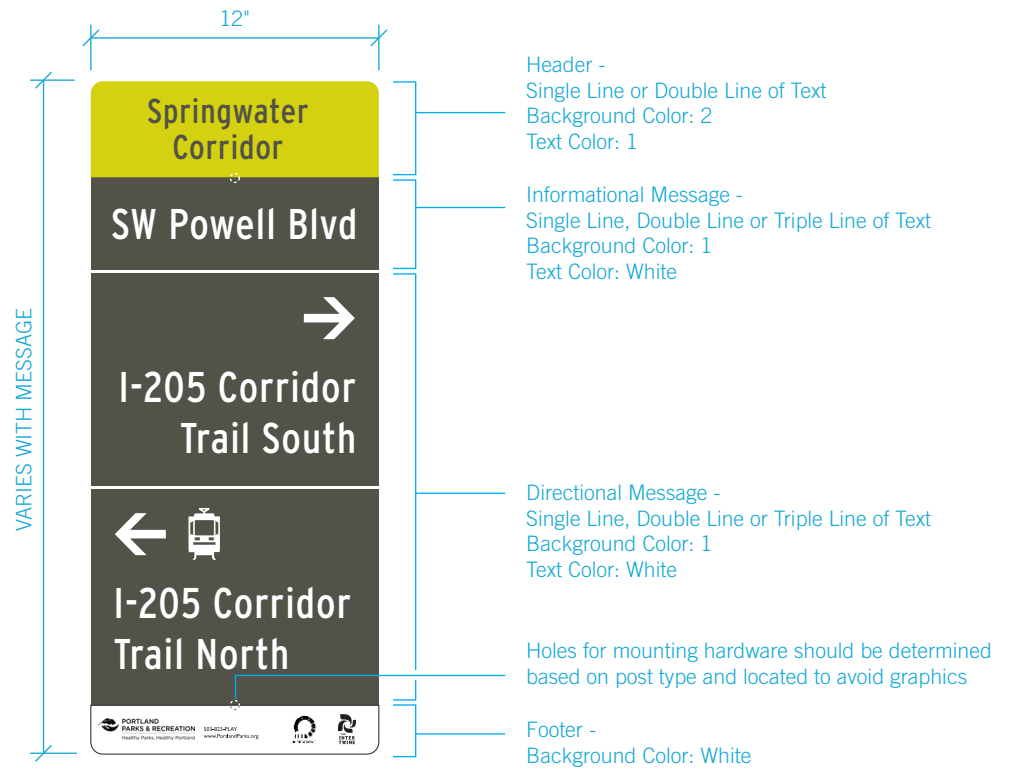
Refer to Logos starting on page 4.53.



Sign Type D: Off-Street Multi-Use Directional Sign Overview

Layouts:

Refer to layout dimensions on the following pages.



4.24 Fabrication Details

Sign Type D Layouts

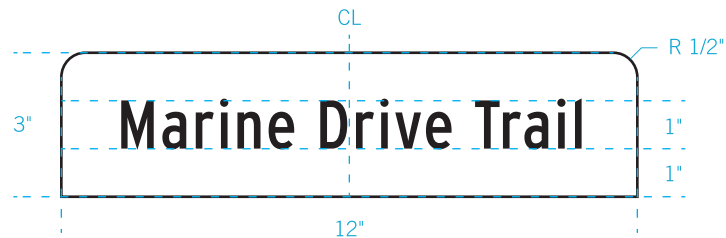
THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Sign Type D: Header Layouts

Single Line Header:

Use to identify the trail name.

Trail logos should not appear in the Header but rather the Logo Footer.



Red Electric Trail

Rock Creek Trail

Double Line Header:

Use to identify the trail name.

Trail logos should not appear in the Header but rather the Logo Footer.



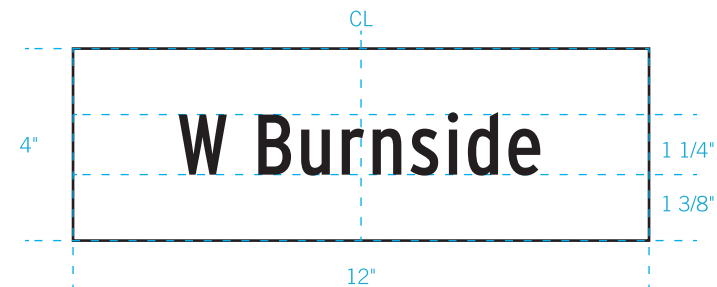
Willamette
Greenway

Chelatchie Prairie
Rail with Trail

Sign Type D: Informational & Directional Layouts

Single Line Informational Message:

Use to inform the user of the street name at a trail crossing. This panel size can also be used to direct to an amenity within an immediate vicinity that is not associated with a directional message.



SW Denney Rd



*

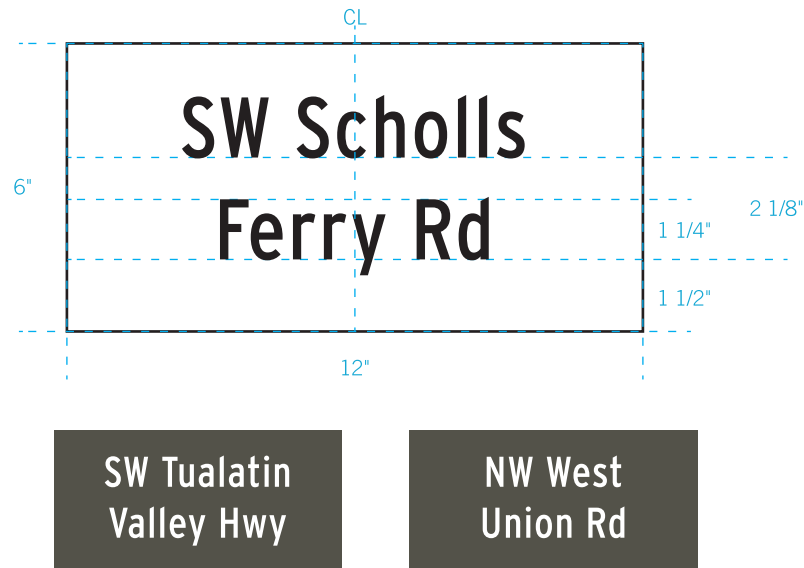
* For amenity directionals, refer to following directionals for typical layout dimensions.

Refer to Symbols on page 4.48.

Sign Type D: Informational & Directional Layouts

Double Line Informational Message:

Use to inform the user of the street name at a trail crossing.

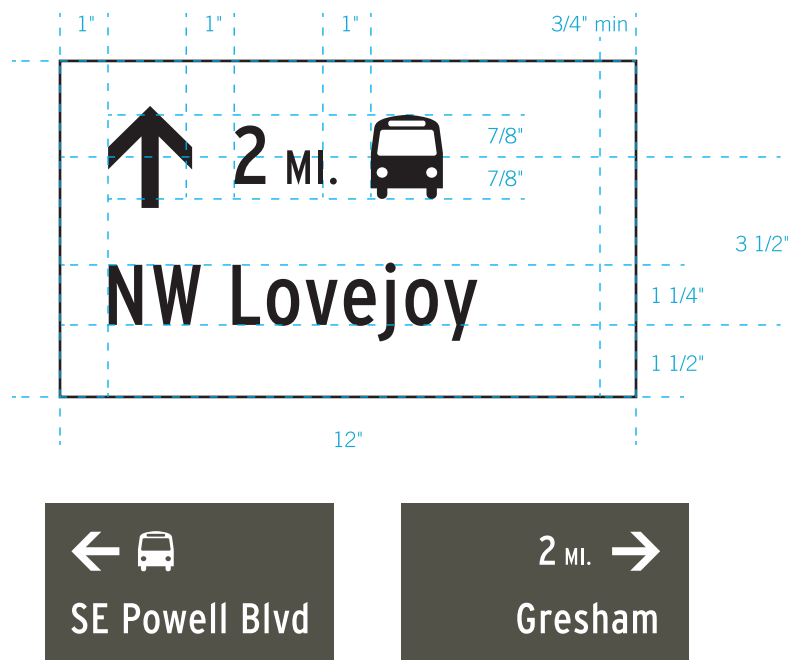


Single Line Directional Message:

Use to direct to a destination identified within a single line of text.

Layout and dimensions can be mirrored to example shown in order to correspond to direction. (*i.e. right justified for destinations to the right*)

Refer to Symbols on page 4.48.



4.26 Fabrication Details

Sign Type D Layouts

THE INTERTWINE: Regional Trails Signage Guidelines
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Sign Type D: Informational & Directional Layouts

Message Divider:

Use the white divider to separate message layouts.



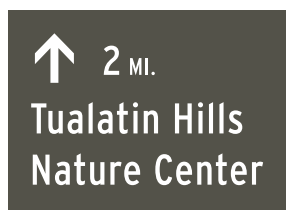
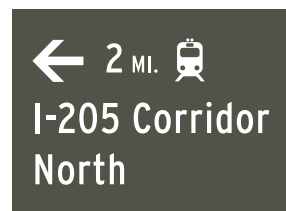
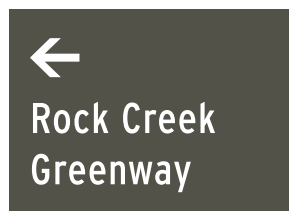
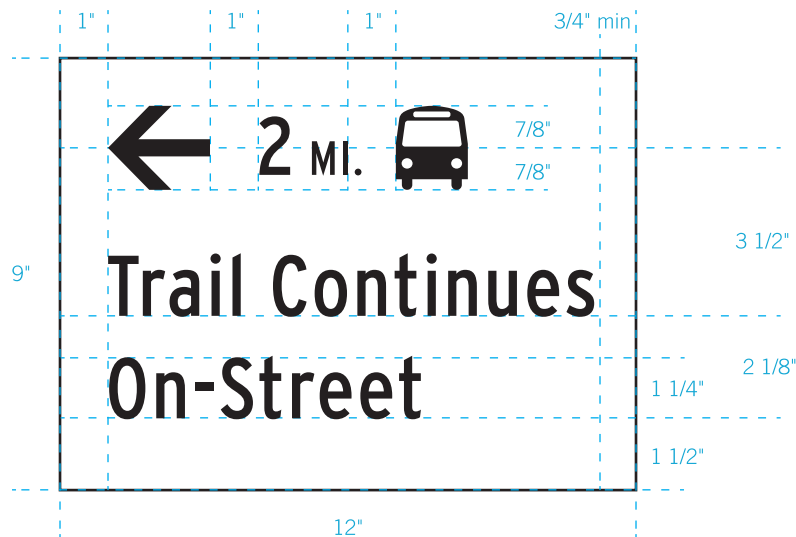
Do not use adjacent the Header or the Logo Footer.

Double Line Directional Message:

Use to direct to a destination identified within two lines of text.

Layout and dimensions can be mirrored to example shown in order to correspond to direction. (*i.e. right justified for destinations to the right*)

Refer to Symbols on page 4.48.



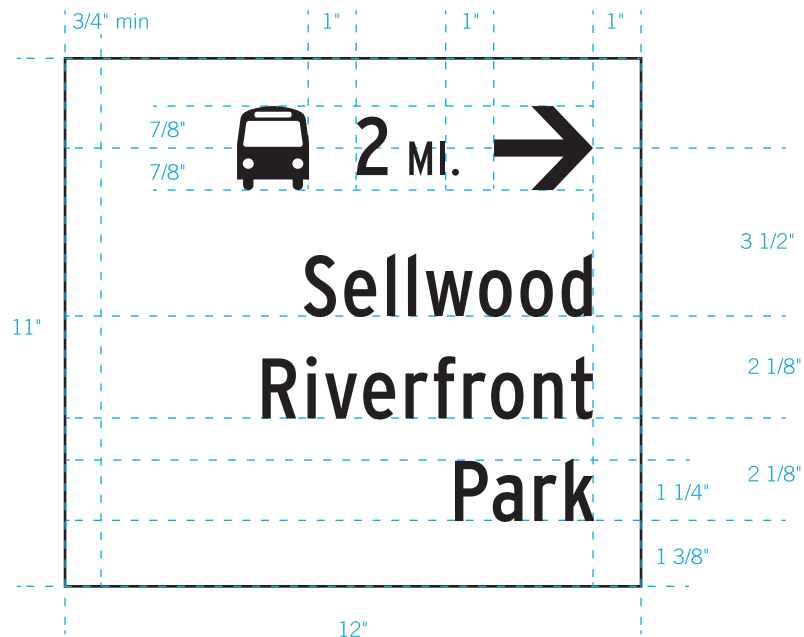
Sign Type D: Informational & Directional Layouts

Triple Line Directional Message:

Use to direct to a destination identified within three lines of text.

Layout and dimensions can be mirrored to example shown in order to correspond to direction. (*i.e. left justified for destinations to the left*)

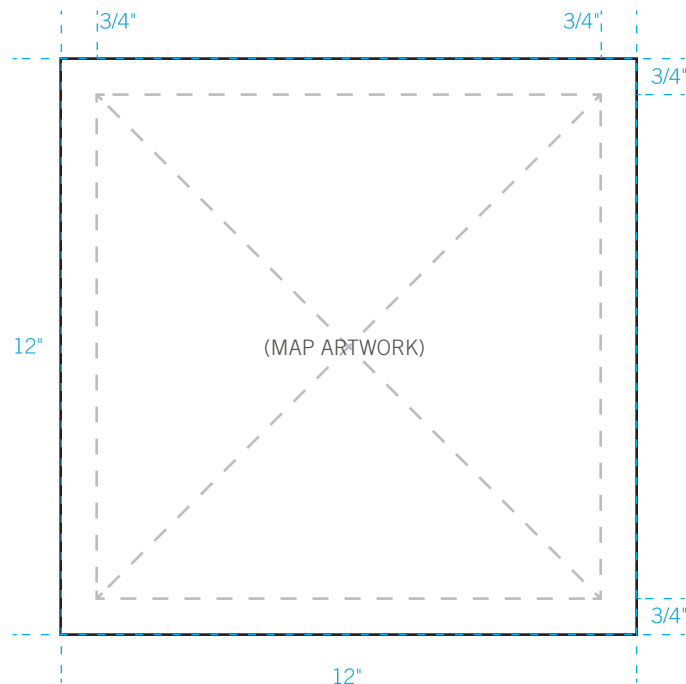
Refer to Symbols on page 4.48.



Trail Map:

Use as support to directionals to illustrate how to connect off-street trail segments via an on-street connection.

Refer to page 4.50 for trail map artwork guidelines.



Sign Type D: Logo Footer Layout

Logo Footer:

Use to display the Jurisdiction's logo and contact information, Partner's logo, the Trail or Trail System logo as well as The Intertwine logo.

Refer to Logos starting on page 4.53.



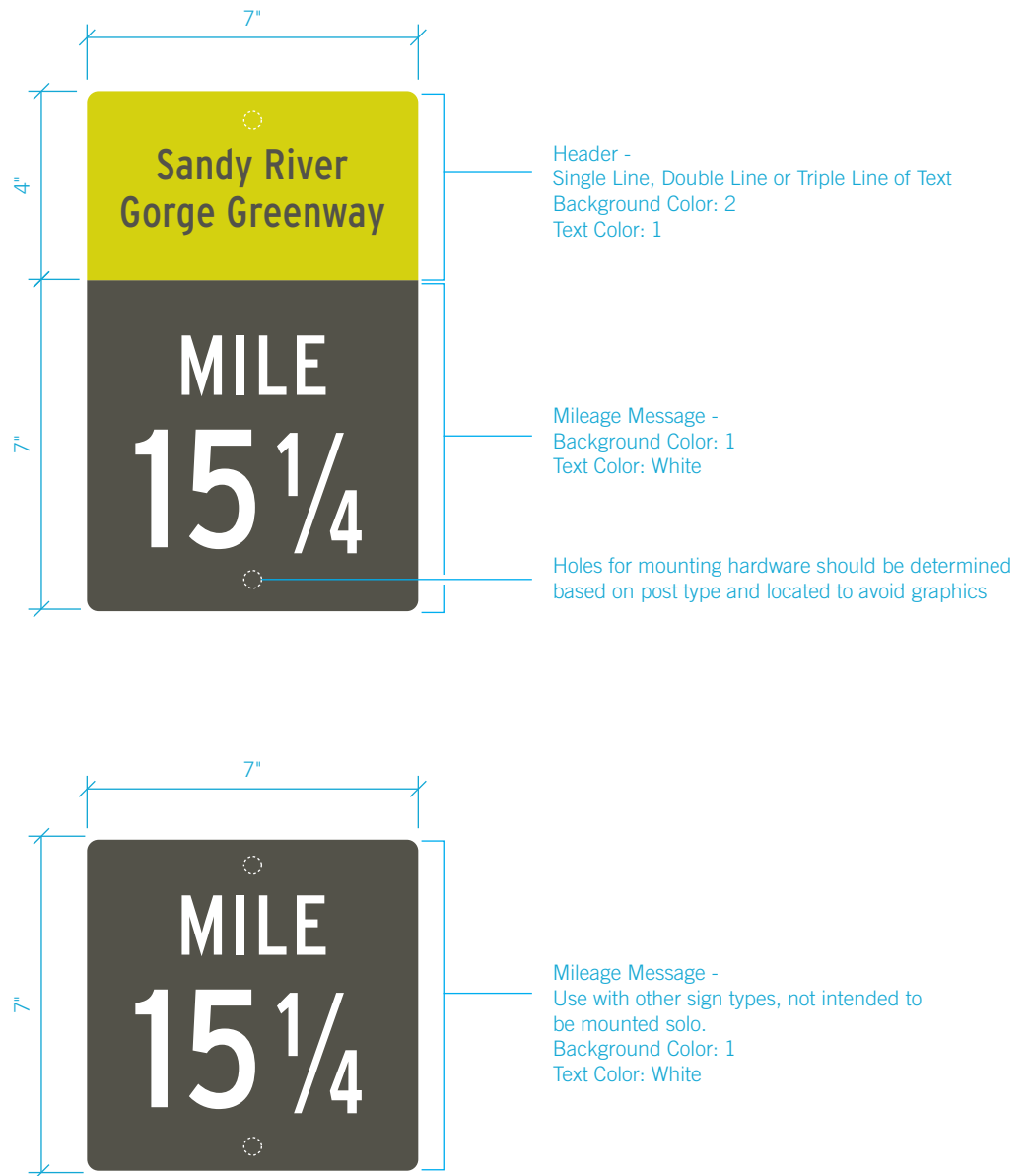
Sign Type E: Mile Marker Sign Overview

Layouts:

Refer to layout dimensions on the following pages.

Alternate Application:

The layouts for this sign type can be adapted for use as asphalt markings.



4.30 Fabrication Details

Sign Type E Layouts

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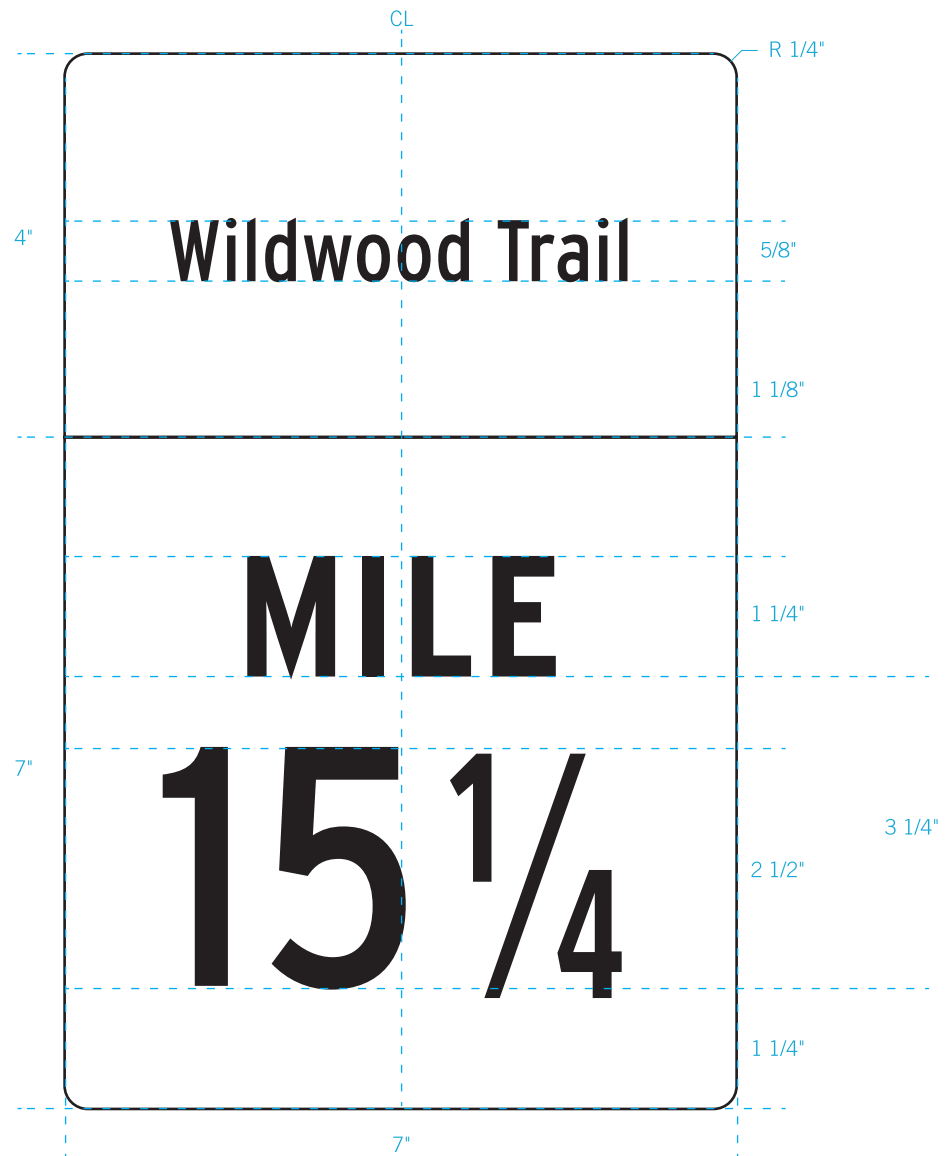
Sign Type E: Layouts

Single Line Header w/ Mile Message:

Use to identify the trail name and the mile along the trail.

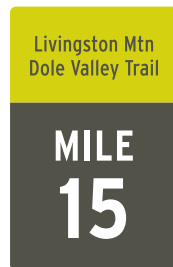
Layouts for double and triple line trail names are shown on the following page.

Logos do not appear on this sign type.



Sign Type E: Layouts

Double Line Header (w/ Mile Message):
Use with mile message layout shown in
Single Line Header w/ Mile Message.



Triple Line Header (w/ Mile Message):
Use with mile message layout shown in
Single Line Header w/ Mile Message.



4.32 Fabrication Details

Sign Type E Layouts

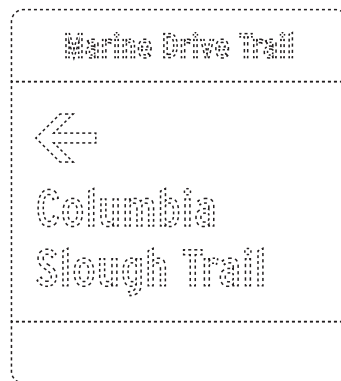
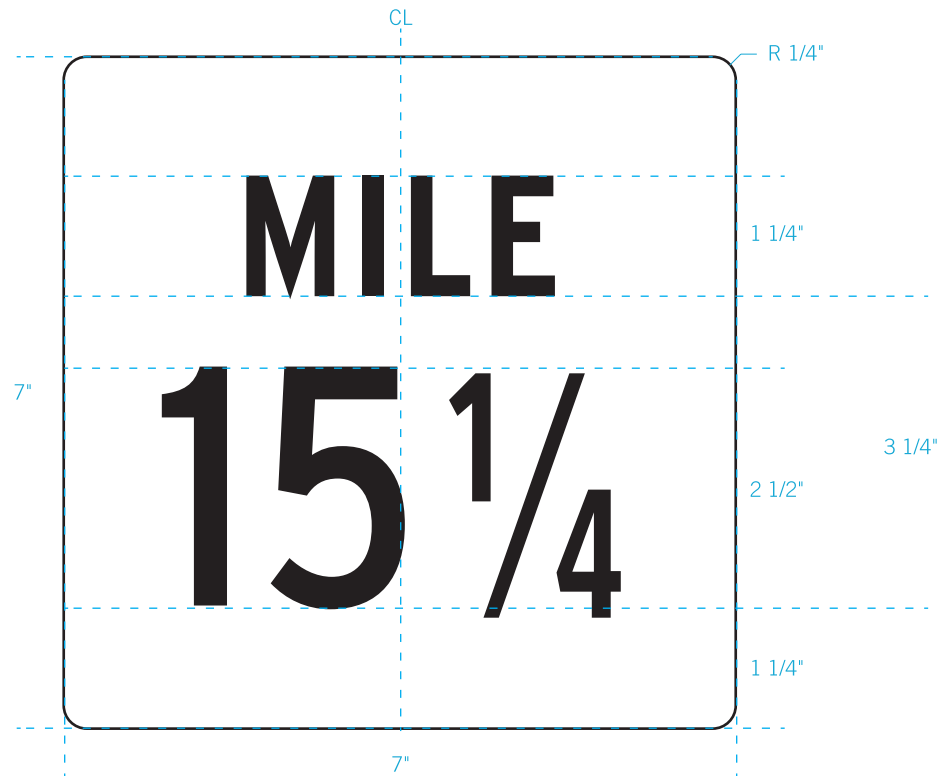
THE INTERTWINE: Regional Trails Signage Guidelines
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Sign Type E: Layouts

Mile Message Component:

Use to identify the mile along the trail.

Use this component when multiple signs appear on a post. This layout can also be used in conjunction with a Sign Type H of same size with The Intertwine logo.

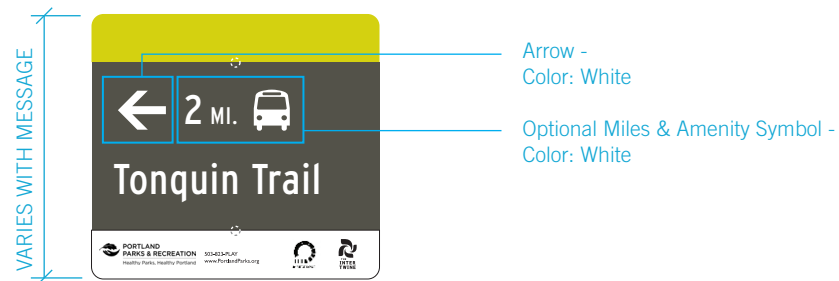
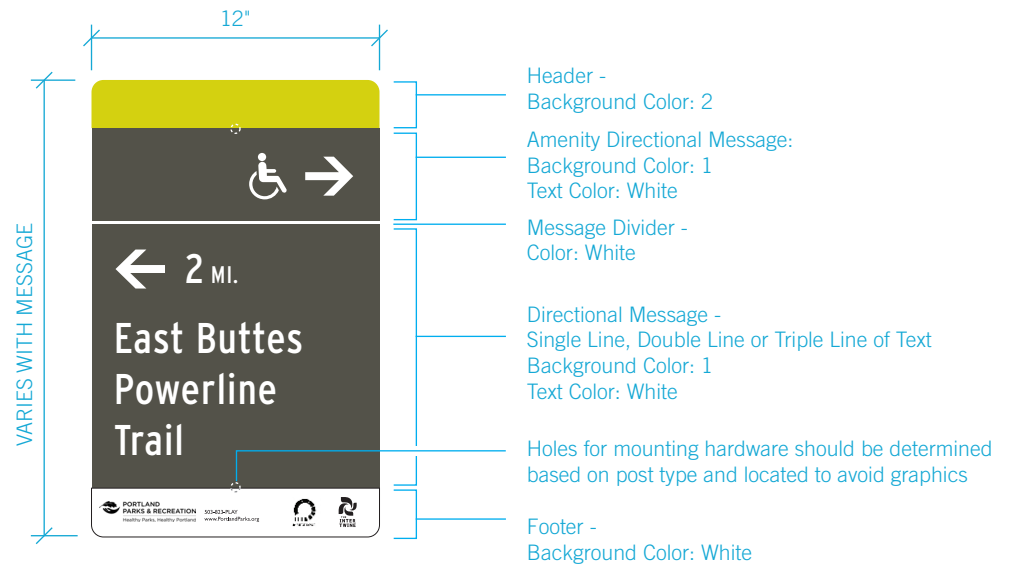


Sign Type F: On-Street Pedestrian Directional Sign Overview

Layouts:

Refer to layout dimensions on the following pages.

Text, logos and symbols are not be located in the Header.



4.34 Fabrication Details

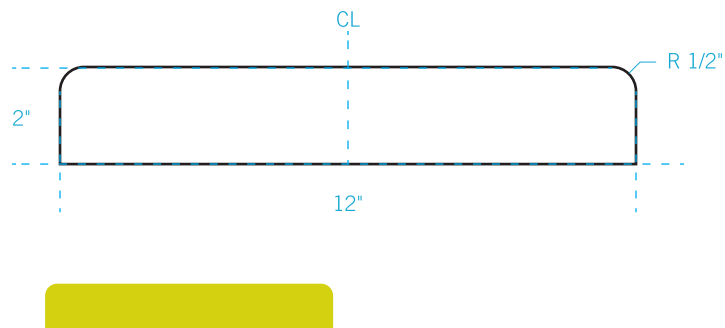
Sign Type F Layouts

THE INTERTWINE: Regional Trails Signage Guidelines
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Sign Type F: Header Layout

Header:

Use the color band only.

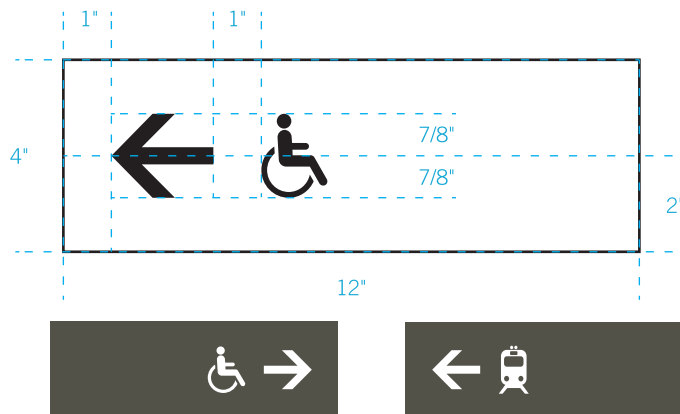


Sign Type F: Directional Layouts

Amenity Directional Message:

Use to direct to an amenity within the immediate vicinity. Use where only a symbol of the amenity will suffice.

Refer to Symbols on page 4.48.



Message Divider:

Use the white divider to separate message layouts.



Do not use adjacent to the Header or the Logo Footer.

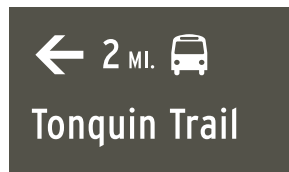
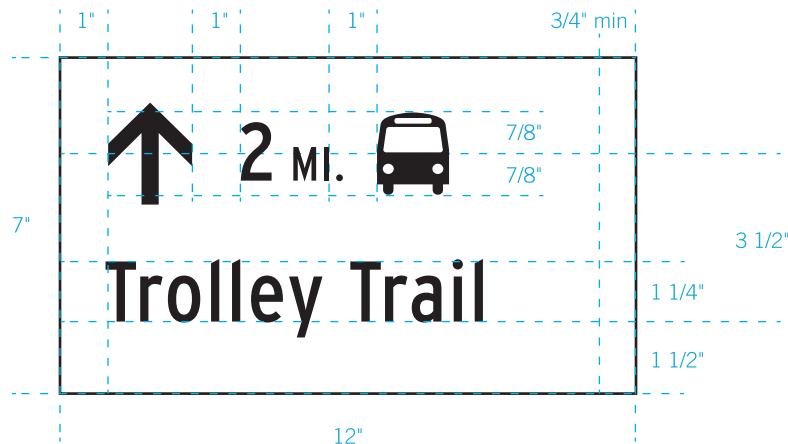
Sign Type F: Directional Layouts

Single Line Directional Message:

Use to direct to a destination identified within a single line of text.

Left-justify layout for destinations with a left arrow. Right-justify layout for destinations with a right arrow. (Layout example is shown as left-justified)

Refer to Symbols on page 4.48.

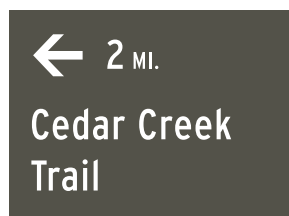
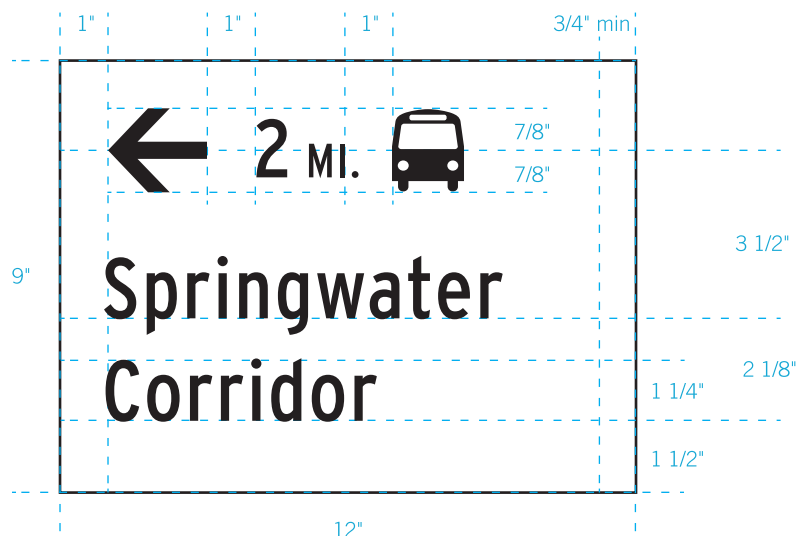


Double Line Directional Message:

Use to direct to a destination identified within two lines of text.

Layout and dimensions can be mirrored to example shown in order to correspond to direction. (i.e. right justified for destinations to the right)

Refer to Symbols on page 4.48.



4.36 Fabrication Details

Sign Type F Layouts

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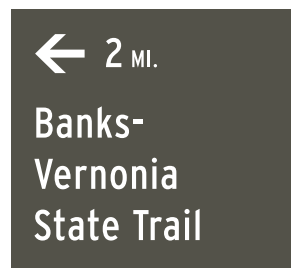
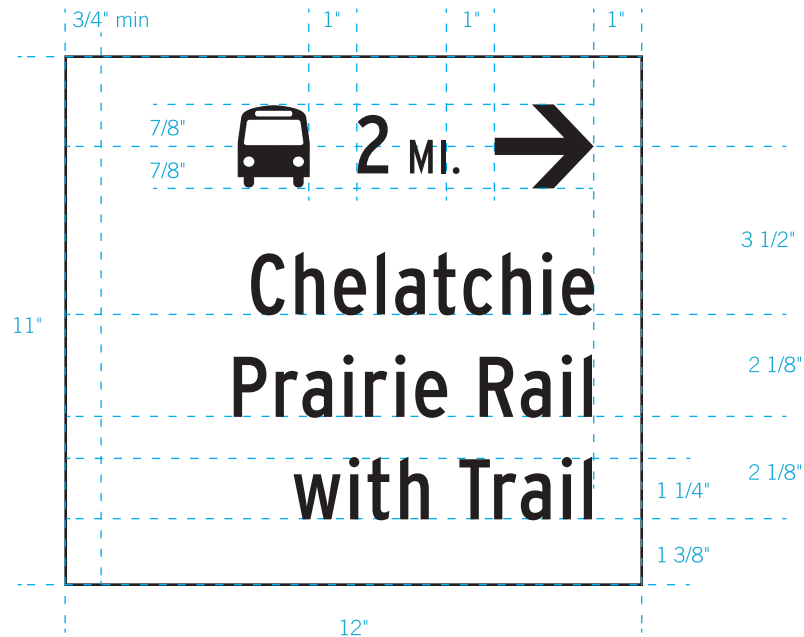
Sign Type F: Directional Layouts

Triple Line Directional Message:

Use to direct to a destination identified within three lines of text.

Layout and dimensions can be mirrored to example shown in order to correspond to direction. (*i.e. left justified for destinations to the left*)

Refer to Symbols on page 4.48.

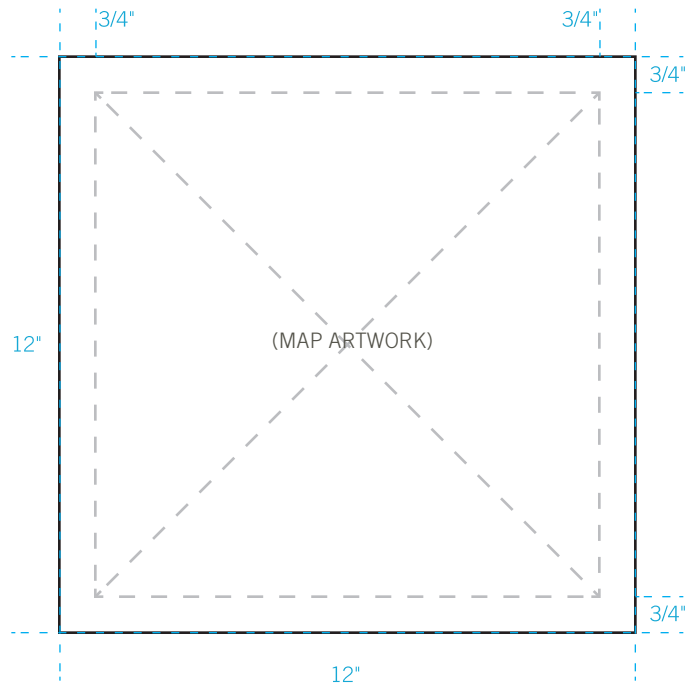


Sign Type F: Directional Layouts

Trail Map:

Trail maps can be used in addition to directionals to support connection information and instructions.

Refer to page 4.50 for trail map artwork guidelines.



Sign Type F: Logo Footer Layout

Logo Footer:

Use to display the Jurisdiction's logo and contact information, Partner's logo, the Trail or Trail System logo as well as The Intertwine logo.

Refer to Logos on page 4.53.



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Sign Type G: On-Street Bicycle Directional Sign Overview

Layouts:

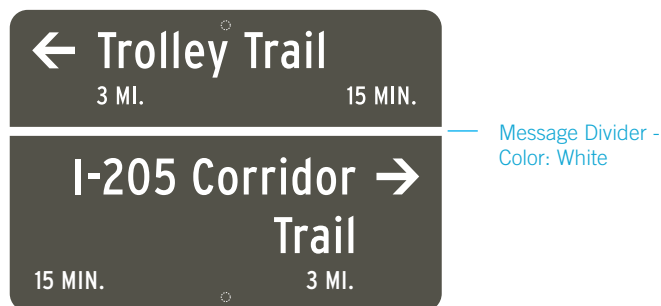
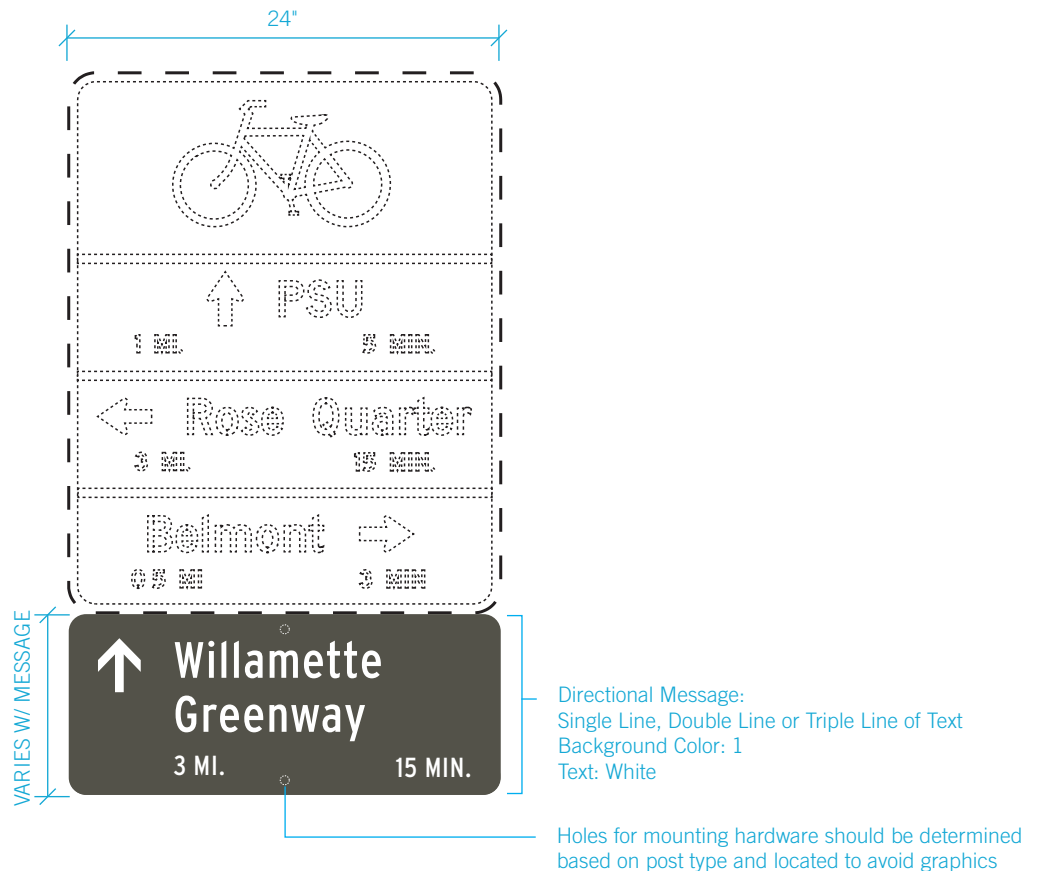
Refer to layout dimensions on the following pages.

Message Guidelines:

Messages on these signs are limited to the regional trail name along with the mileage and minutes and should be located as necessary to direct bicycle traffic to the next off-street trail segment.

Mounting:

These signs are intended to be used as riders under the ODOT Bicycle Signs.



4.40 Fabrication Details

Sign Type G Layouts

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Sign Type G: Layouts

Single Line On-Street Rider:

Use to direct to a destination identified within a single line of text.

Left-justify layout for destinations with a left arrow. Right-justify layout for destinations with a right arrow. (Layout example is shown as left-justified)



Double Line On-Street Rider:

Use to direct to a destination identified within two lines of text.

Layout and dimensions can be mirrored to example shown in order to correspond to direction. (i.e. right justified for destinations to the right)



Triple Line On-Street Rider:

Use to direct to a destination identified within three lines of text.

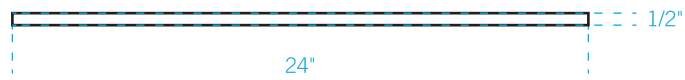
Layout and dimensions can be mirrored to example shown in order to correspond to direction. (i.e. left justified for destinations to the left)



Sign Type G: Layouts

Message Divider:

Use the white divider to separate directional messages if there are multiple directions on one sign panel.



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Sign Type H: Intertwine Logo Components Overview

Layouts:

Refer to layout dimensions on the following pages.



H1

Square badge -
.080 aluminum w/ applied vinyl;
or digital print on vinyl



H2

Vertical Badge -
Digital print on vinyl



H4

Sign Post Cap -
.080 aluminum;
can be used with signs
from an existing sign
system or with signs
from these Guidelines



H3

Post Wrap -
Square or round;
digital print on vinyl;
measure and cut to size
before applying



H5

QR Code Component -
(Single or Double Image)

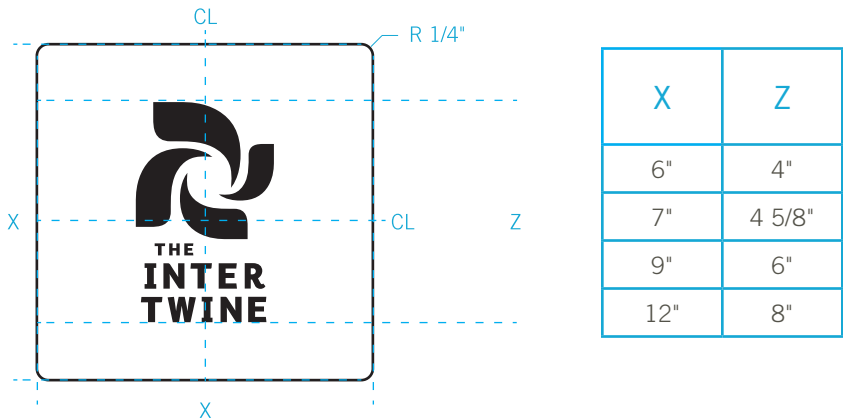


4.44
Fabrication Details

Sign Type H Layouts

Sign Type H: Layouts

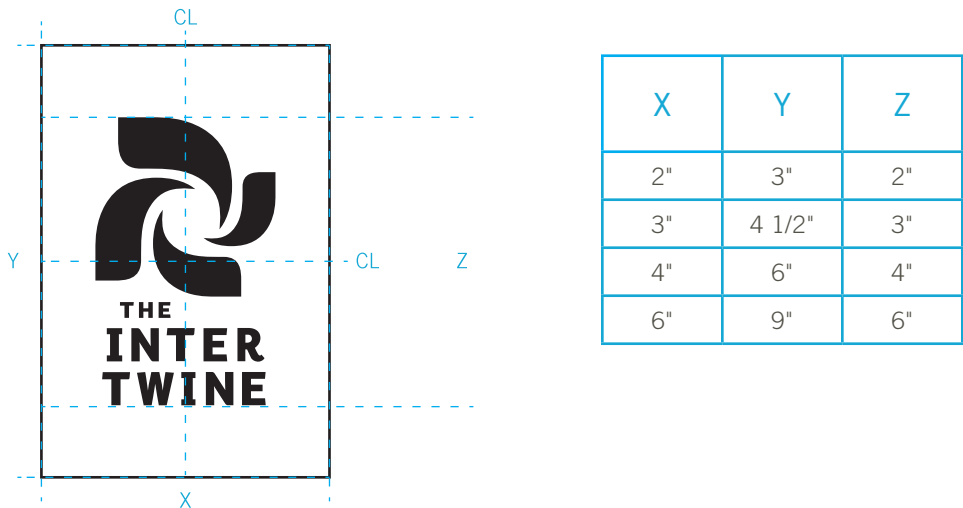
H1 Square Intertwine Badge:



For color specifications, refer to The Intertwine logo on page 4.53.



H2 Rectangular Intertwine Badge:



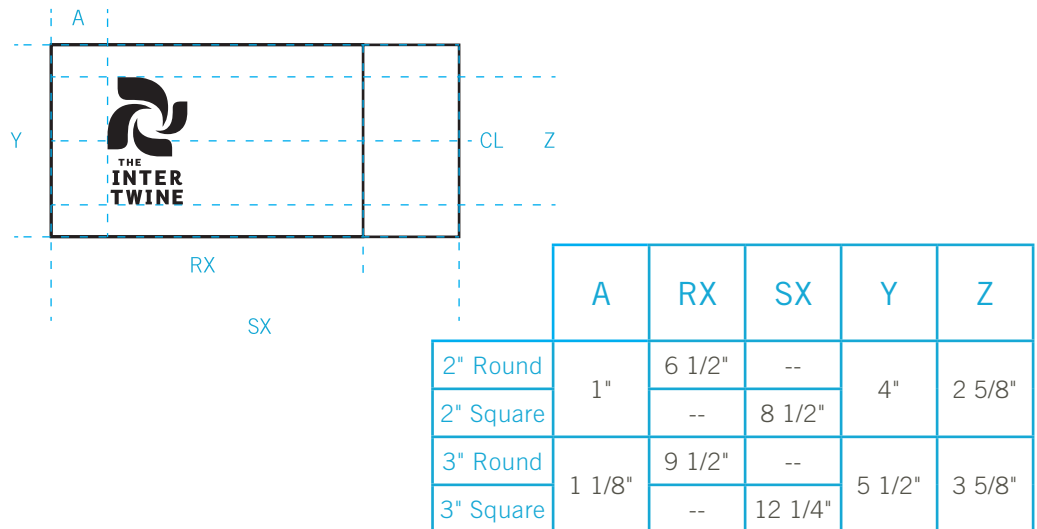
For color specifications, refer to The Intertwine logo on page 4.53.



Sign Type H: Layouts

H3 Sign Post Wrap (Round or Square):

For color specifications, refer to
The Intertwine logo on page 4.53.



H4 Sign Post Cap (Round, Square or U-Channel):

Logo Panel:
.080 Aluminum pre-sheeted in white
vinyl; routed corners/shapes

Graphic Imaging:

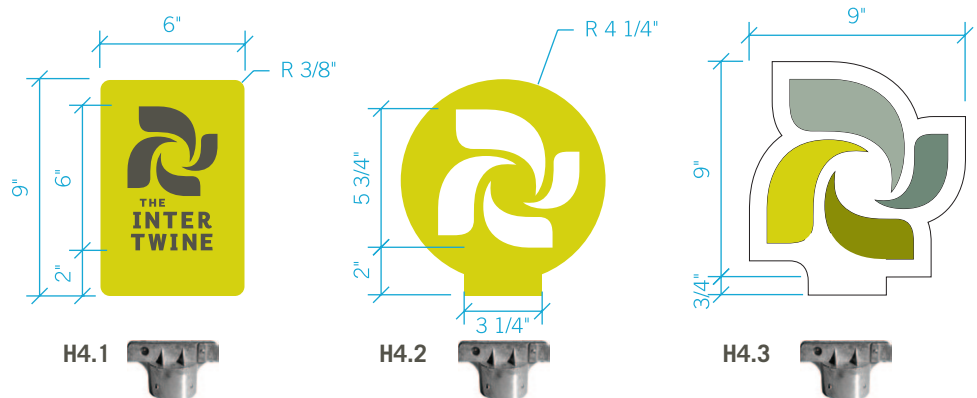
H4.1 - Translucent Vinyl background
color 2, Translucent Vinyl Logo color 1.

H4.2 - Translucent Vinyl color 2.

H4.3 - Digital Print on Opaque White
Vinyl applied to both sides, or Direct
Print with UV Clear Coat;
colors 2,3,4 & 5 on white background.
Refer to color matrix on page 4.52.

Hardware:

Standard Caps with 3.25" flat receiver.
Available locally through Traffic Safety
Supply Co. 503.235.8531



Round Pipe Cap
2-3/8" Cap
3.25" receiver
Flat #16504410

Square Post Cap
2" Cap
3.25" receiver
Flat #16504402

U-Channel Post Cap
180 Degree Cap
3.25" receiver
Flat #16504615

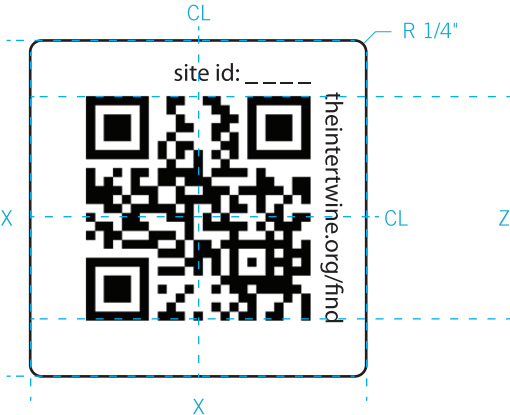
4" Wood Post Cap
4"X4" Cap
3.25" receiver
Flat #16503800

4.46
Fabrication Details

Sign Type H Layouts

Sign Type H: Layouts

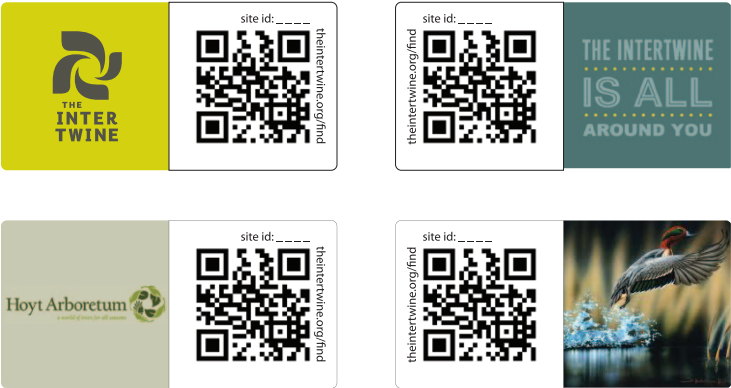
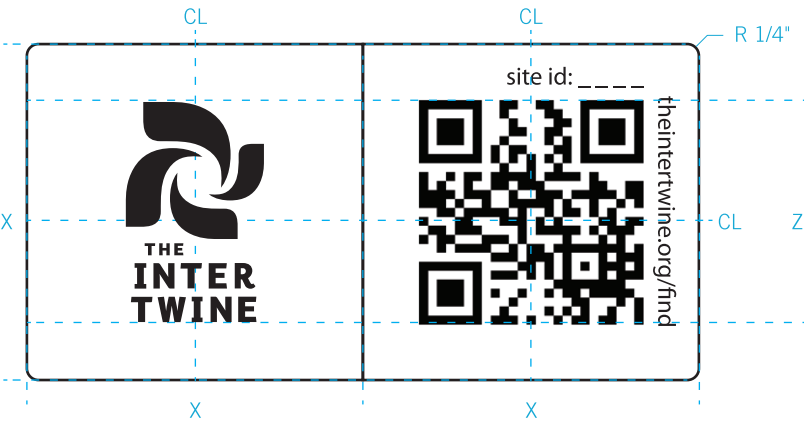
H5 QR Code Component (Single):



X	Z	TRAIL
3"	2"	Ped-only
6"	4"	Ped & Multi-use
7"	4 5/8"	Ped & Multi-use
12"	8"	Multi-use

H5 QR Code Component (Double):

The 2 panel configuration of this sign type allows an image to be displayed adjacent the QR Code. The image can be an advertisement for your facility featured on The Intertwine website if The Intertwine QR Code is used. The image could also be a sponsor logo with their QR Code or it could be imagery to support a QR Code that is interpretive (i.e. fish cam, wildlife seen along the trail, etc.) The QR Code should be applied to the panel side that is adjacent the trail to enable the user to scan the code with ease.

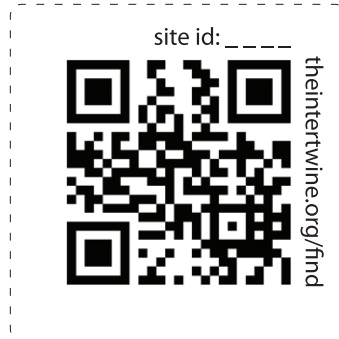


X	Z	TRAIL
3"	2"	Ped-only
6"	4"	Multi-use

Sign Type H: Layouts

The Intertwine QR Code Instructions:

Signs can use this QR Code that will take mobile device browsers to The Intertwine website mobile landing page where visitors will have the option to use a geolocation feature to explore parks around them or to enter a site id number that will take them directly to a specific park or trail webpage.



Unique QR Codes that route directly to a specific park or trail page can be generated and made available by The Intertwine.

In addition to the QR Code, signs should display the website's mobile address - theintertwine.org/find - shown in the example as well as the site ID number.

Site ID numbers can be made available for any given park, trail, or natural area by The Intertwine. Staff at The Intertwine will work with sign providers to create robust content for visitors to engage with on a given park or trail page that they are directed to.

The Intertwine QR Code must be displayed in black on a white background. A larger version of this QR code can be downloaded from theintertwine.org/QRcode.

Contact: info@theintertwine.org

4.48 Fabrication Details

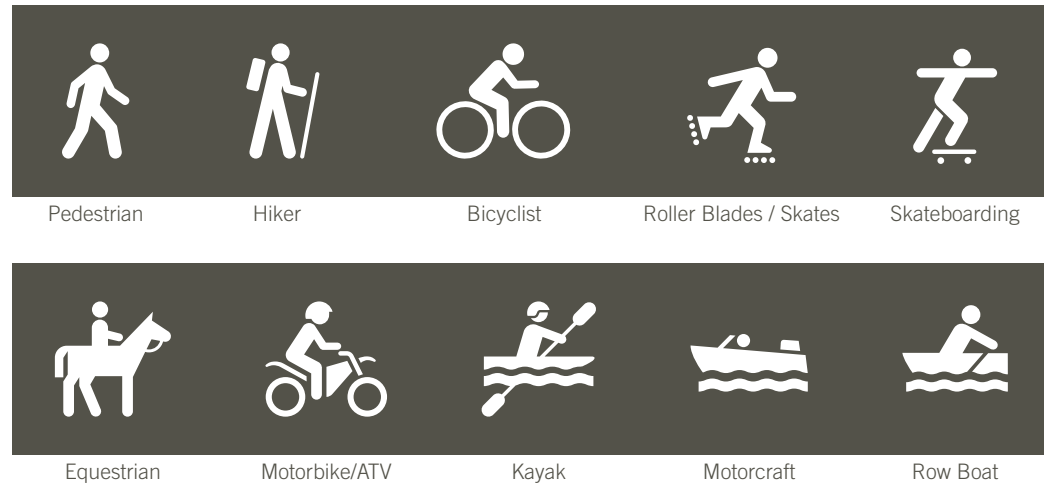
Symbols

THE INTERTWINE: Regional Trails Signage Guidelines
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Symbols

Mode of Travel Symbols:

Use these symbols, typically at trail access points, to indicate the types of use allowed on the trail.



Regulatory Symbols:

Use these symbols, typically at trail access points, to indicate the types of use not allowed on the trail. Regulatory symbols can be used along with or in place of the trail rules and regulations



Transit Symbols:

Use these symbols to direct to a transit stop either in the immediate vicinity or along the route of a destination.



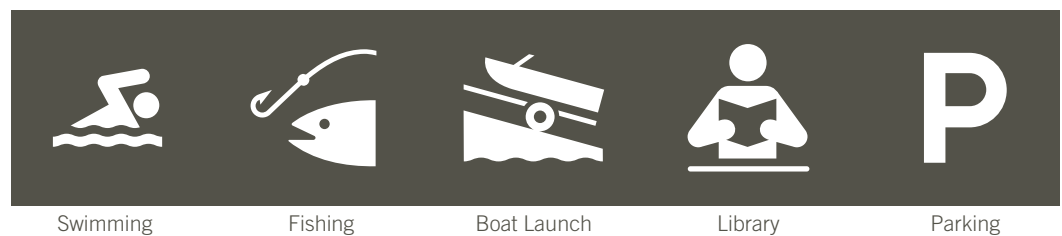
Other Symbols:

Use these symbols to direct to an amenity either in the immediate vicinity or along the route of a destination.



NOTE:

These universal symbols are taken from the National Park Service pictograph set. Visit www.nps.gov/hfc/map-symbols.htm for the entire symbol listing.



4.50 Fabrication Details

Trail Map

THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Trail Map

Destinations & Streets:

Destinations should be of regional significance and/or well defined and can include commercial areas, schools, libraries, parks, institutions, other bicycle routes, transit centers and MAX stations. Illustrate destinations with symbols or text. Follow similar guidelines for streets. Include only the streets that define boundaries, destinations or amenities.

Symbols:

Use symbols where possible in the map artwork to show amenities in relationship to the trail.

Use symbols in place of text where possible to illustrate the trail rules and regulations.

Orientation:

The map should always be oriented the "right direction" which is the direction one is facing. When locating these signs, make sure to orient them so that the actual trail and the illustrated trail are "straight ahead". Use a compass as shown to illustrate the cardinal directions. Include the "You Are Here" at appropriate location.

Map Style:

Use a hierarchy of simplified diagrammatic line quality for a quick read. Although the map should be based on a GIS map, the artwork should be diagrammatic. Simplify lines, intersections and boundaries in order to fit the information in the vertical format.

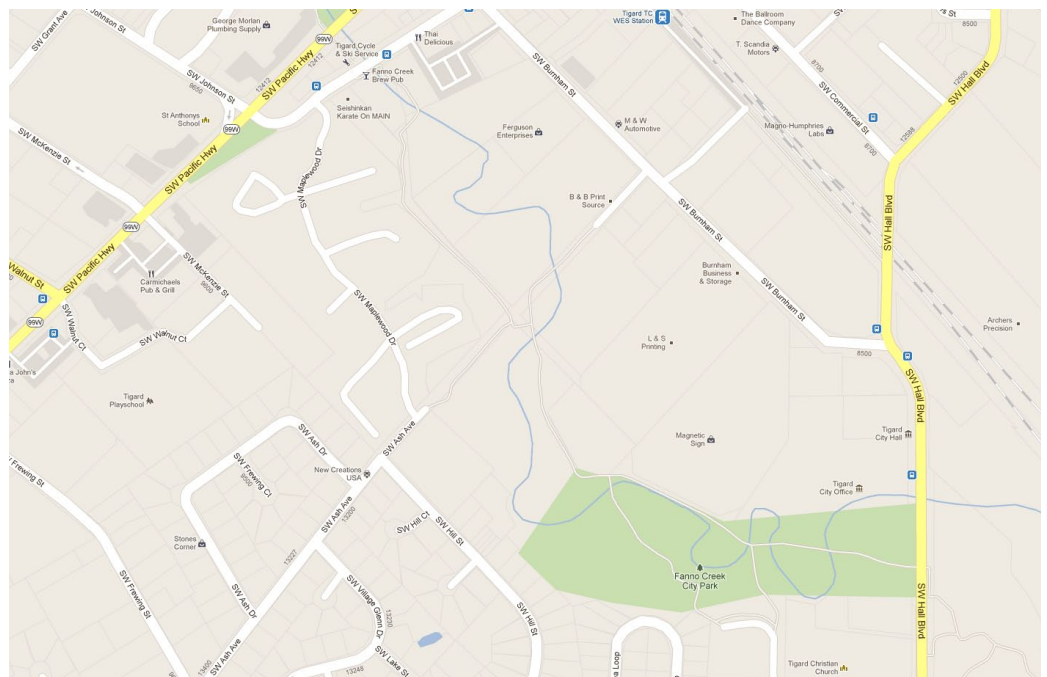


Left:

Sign Type B artwork developed for Fanno Creek Trail in Tigard, oriented in direction of travel on trail.

Below:

Google map of Fanno Creek Trail, used as base for artwork (oriented north).



Typography

Font Family 1: Interstate

Based on Federal Highway
Administration (FHWA) font used
in MUTCD.

Interstate Regular Condensed:

Use for all message content

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0

Interstate Bold Condensed:

Use for mileage on directional signs

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0

Font Family 2: Clearview Hwy

Newly adopted font for Portland
Bicycle Boulevard Signage.

Clearview Hwy 2-W:

If used, use for all message
content.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0

Clearview Hwy 3-W:

If used, use for mileage on
directional signs.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
1 2 3 4 5 6 7 8 9 0

Metro has licenses for the above fonts. Jurisdictions can contact Metro to acquire a copy of the font(s)
for The Intertwine Regional Trail Signage layouts.

4.52 Fabrication Details

Colors

THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Colors

Color Matrix:

This matrix provides color specifications across all materials referenced in these guidelines in order to maintain consistency across all regional trails.

Color	Digital & Direct Print	Translucent Vinyl	Transparent Film
	Trail Maps, Fabrication Method 3	Typical for all Sign Types	Sign Type G Fabrication Method 2
1 Charcoal	Pantone Black 7C 60c 50m 75y 70k	3M & Gerber Duranodic (-69) Oracal 080 Brown	Oracal 073 Dark Grey
2 Grass	Pantone 397C 15c 5m 100y 12k	3M & Gerber Light Lemon Yellow (-115) Oracal 025 Brimstone Yellow	Oracal 025 Brimstone Yellow
3 Sky	Pantone 5635C 35c 9m 20y 20k	--	--
4 Forest	Pantone 582C 35c 10m 100y 38k	--	--
5 Slate	Pantone 5625C 72c 40m 50y 15k	--	--
6 Light Gray	0c 0m 0y 30k	--	--

Logos

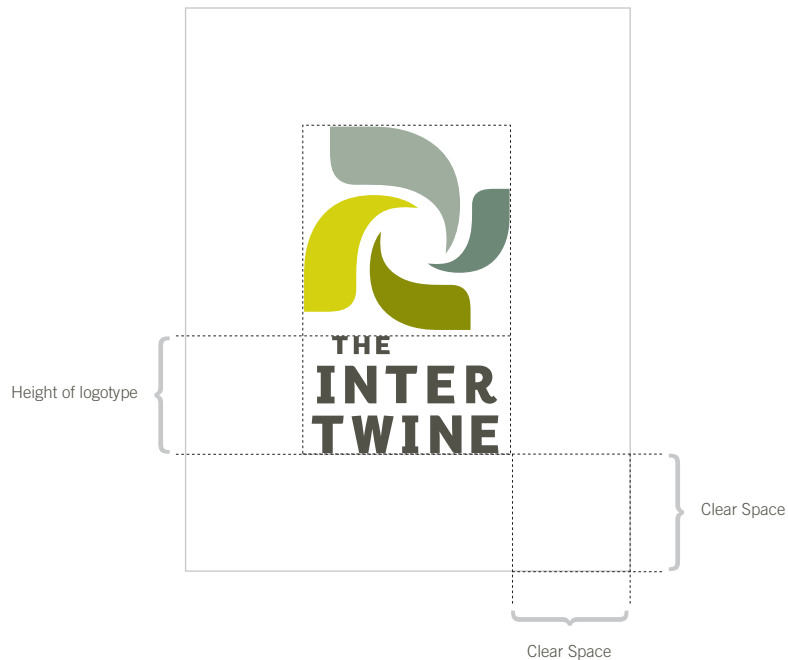
The Intertwine Logo:

To maintain a consistent presentation of the brand identity, use the configuration of the icon and type shown below.

To ensure its integrity and visibility, The Intertwine logo should be kept clear of competing text, images and other logos surrounded on all sides by an adequate clear space as shown. There can always be more space surrounding the logo.

When the color version of The Intertwine logo cannot be used, the following versions are available. Please note that The Intertwine logo should not be used in any colors or combinations of colors other than those presented in these standards.

Refer to layouts for **Sign Types H1 & H2** on page 4.44 for various sizing suggestions.



Logo in Colors 1-5
on White Background



Logo in Color 1
on White Background



Logo in Color 1
on Color 2 Background



Logo in White
on Color 1 Background

For color specifications, refer to Color Matrix on page 4.52.

4.54

Fabrication Details

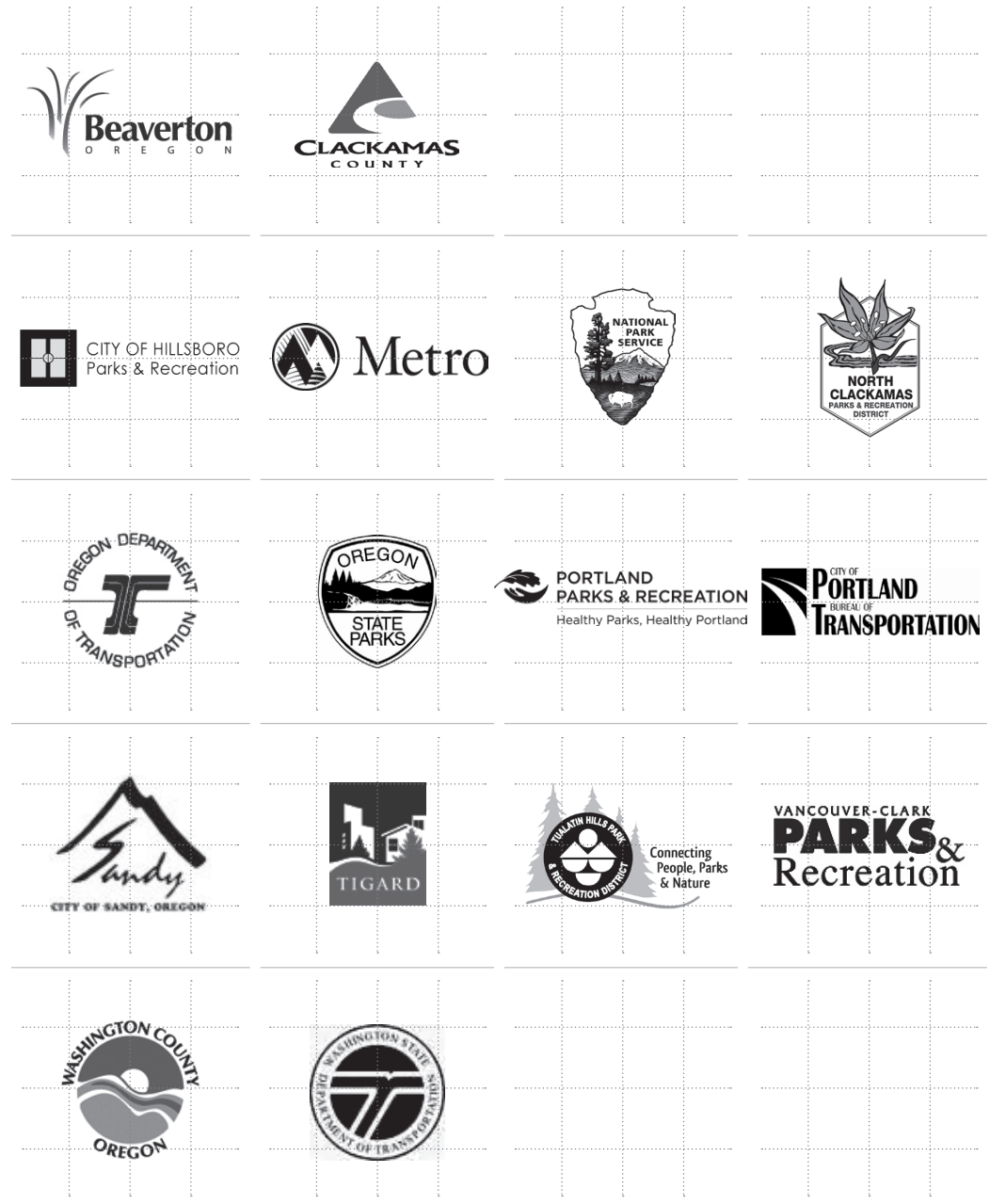
Trail Jurisdiction & Partner Logos

THE INTERTWINE: Regional Trails Signage Guidelines
May 17, 2012

Trail Jurisdiction & Partner Logos:

Each jurisdiction will be responsible for developing their own layout of the logos and contact information using the layout dimensions of each sign type illustrated in this section. Although the jurisdiction may choose to apply their logo and/or trail logo more prominently than the partner and/or network logos, this grid provides a guideline for the sizing and the placement of multiple logos on the signage, usually in the footer or side bar depending on sign type.

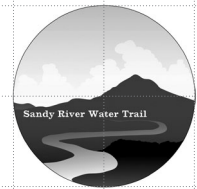
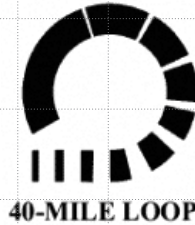
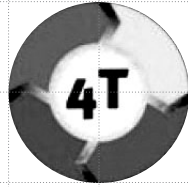
In order to maintain a clean appearance, logos should be displayed in black & white or grayscale as shown.



Trail Logos:

These guidelines advise that trail logos appear with the Jurisdiction/ Partner logos, usually in the footer or side bar depending on sign type.

In order to maintain a clean appearance, logos should be displayed in black & white or grayscale as shown.

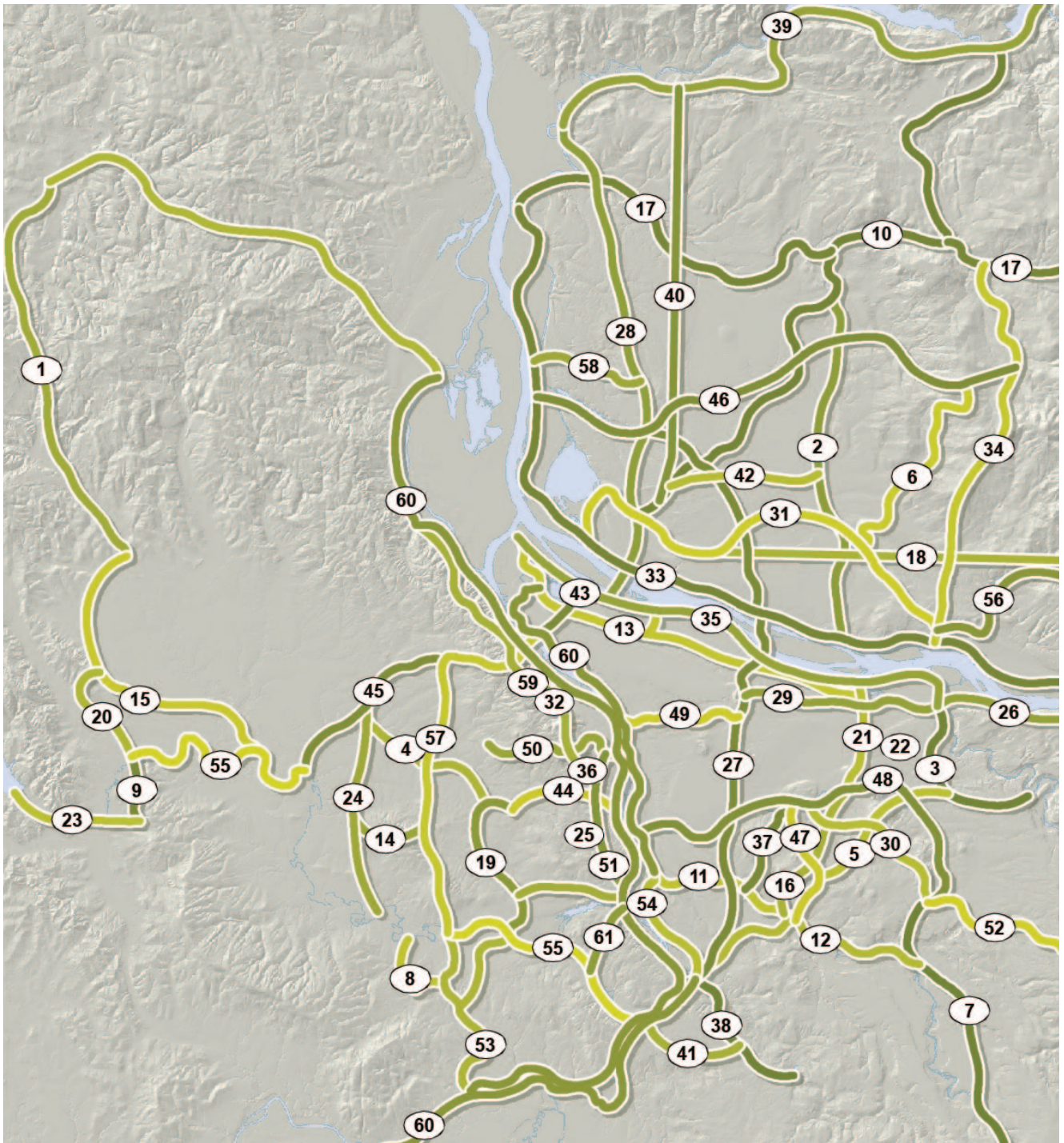


.....

Section 5: Appendix

- 5.02** Regional Trails Map
- 5.03** Regional Trails List
- 5.04** Definitions
- 5.05** Jurisdictional Signage Documents

Regional Trails Map



Regional Trails List

Trail names to be confirmed with Metro before fabrication.

1	Banks-Vernonia State Trail		32	Leif Erikson Trail	
2	Battle Ground Fisher's Landing Trail		33	Lewis & Clark Greenway	
3	Beaver Creek Trail		34	Livingston Mountain Dole Valley Trail	
4	Beaverton Creek Trail		35	Marine Drive Trail	(75%)
5	Butler Buttes Trail		36	Marquam Trail	
6	Camp Bonneville Trail		37	Mount Scott Trail	
7	Cazadero Trail	(50%)	38	Newell Creek Trail	
8	Cedar Creek Trail	(25%)	39	North Fork Lewis River Greenway	
9	Chehalem Ridge Trail		40	North South Powerline Trail	
10	Chelatchie Prairie Trail	(10%)	41	Oregon City Loop Trail	
11	Clackamas Bluffs Trail		42	Padden Parkway Trail	
12	Clackamas River Greenway		43	Peninsula Crossing Trail	
13	Columbia Slough Trail	(50%)	44	Red Electric Trail	
14	Cooper Mountain Trail		45	Rock Creek Trail	(50%)
15	Council Creek Trail		46	Salmon Creek Greenway	
16	East Butte Powerline Trail		47	Scouter Mountain Trail	
17	East Fork Lewis River Trail		48	Springwater Corridor	
18	East Powerline Trail		49	Sullivan's Gulch Trail	
19	Fanno Creek Greenway Trail	(75%)	50	Sunset Highway Trail	
20	Gales Creek Trail		51	Terwilliger Trail	
21	Gresham-Fairview Trail		52	Tickle Creek Trail	(25%)
22	Gresham Max Path		53	Tonquin Trail	(25%)
23	Hagg Lake Trail		54	Trolley Trail	
24	Hillsboro Powerline Trail		55	Tualatin River Greenway	(25%)
25	Hillsdale-Lake Oswego Trail		56	Washougal River Corridor Trail	
26	Historic Columbia Highway State Trail	(25%)	57	Westside Trail	(50%)
27	I-205 Corridor Trail		58	Whipple Creek Greenway	
28	I-5 Corridor Trail		59	Wildwood Trail	
29	I-84 Corridor Trail		60	Willamette Greenway	(50%)
30	Kelly Creek Trail	(25%)	61	Wilson Creek Trail	
31	Lake to Lake Trail				

Trail Status as of 2012

	Completed
(25%)	Under Construction (Percent Complete)
	Proposed

Definitions

The following are some of the typical terms used in conjunction with this document.

Corridor, Trail

The full dimensions of a route, including the tread and a zone on either side (usually three feet) and above the tread from which the brush will be removed.

Greenway

A linear open space established along a natural corridor, such as a river, stream, ridgeline, rail-trail, canal, or other route for conservation, recreation, or alternative transportation purposes. Greenways can connect parks, nature preserves, cultural facilities and historic sites with business and residential areas.

Loop Trails

Trail systems that form loops, giving users the option of not traveling the same section of trail more than once a trip.

Regional Trails †

Trails that connect across jurisdictions, are primarily off-street, and typically multi-modal. “Regional” is highest classification in a trail hierarchy that also includes “community” and “local” trails.

Trail

Linear route on land or water with protected status and public access for recreation or transportation purposes such as walking, jogging, motorcycling, hiking, bicycling, ATVing, horseback riding, mountain biking, canoeing, kayaking, and backpacking.

Trailhead

An access point to a trail often accompanied by various public facilities, parking areas, toilets, water, directional and informational signs.

<http://www.americantrails.org/resources/info/glossary.html>
† Metro
modified 02/01/12

Jurisdictional Signage Documents

40-Mile Loop Signing Guidelines

City of Sandy Park & Trail Signage

City of Gresham Trail Signage Guidelines

City of Gresham Bike Signage

Metro Sign Manual

MUTCD

Oregon Parks & Rec. Signage Guidelines

PBOT Bike Signage

Portland Parks & Rec Signage Standards

The Intertwine Branding Signage Manual

Tualatin Hills Park & Rec. Signage Guidelines

Vancouver, Washington Phase 1: Bike Trail Signing Plan

METRO SIGNAGE MANUAL EXCERPT
(FULL DOCUMENT AVAILABLE UPON REQUEST FROM METRO)

8

Interpretive signage design

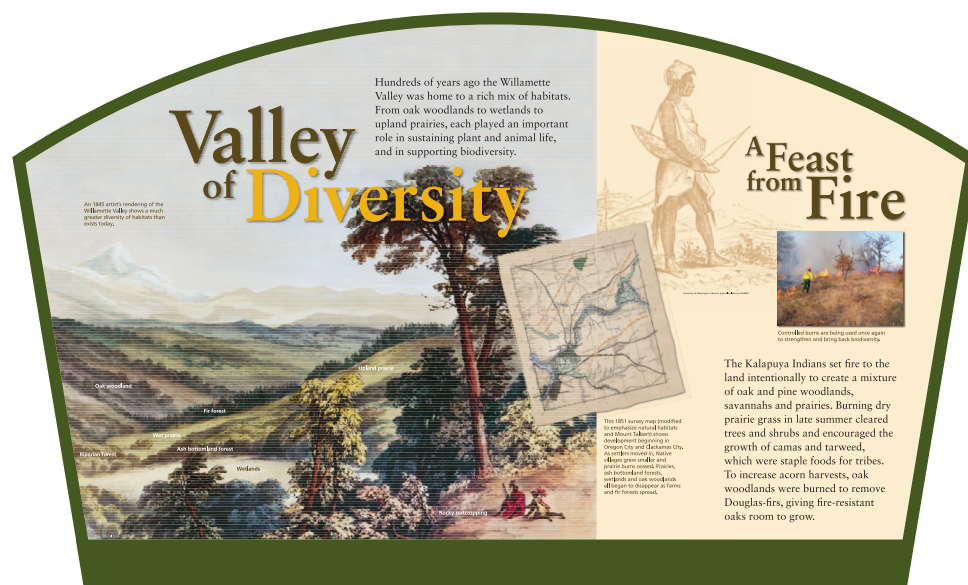


8.1 Interpretive signage overview



Typical interpretive sign 36" X 60".

Shown here at 1"=1'



8.1.1 Purpose

Interpretive signs inspire, engage and invite visitors to explore the natural environment by taking a closer look. These signs teach visitors about the plants, wildlife, processes and history that make each of Metro's parks and natural areas special and worth preserving. They also serve to orient visitors to sites and introduce them to important features or to explain projects or construction taking place.

Interpretation is not limited to signage—it can also occur through art, sculpture and architecture, although standards for these methods are not included in this manual. Consider non-verbal methods of interpretation in addition to signage to reach visitors who are more comfortable learning on that level.

There are four categories of interpretive signs, each with a different emphasis in content:

Interpretive labels identify plants, site features, seasonal occurrences and funding sources.

Interpretive signs enhance the visitor experience by providing educational messages about natural resources, management techniques or history. An interpretive sign may be an **orientation sign** that provides visitors with an introduction to the site and a map that shows them what is available.

Temporary interpretive signs about resource management describe projects that are short-term. They are displayed for a limited time only, while the occurrence or project is taking place.

Temporary construction signs inform visitors about construction projects on-site, and are displayed only while construction is taking place.

8.1 Interpretive signage overview

8.1.2 Process

Refer to the following *process and approval charts*:

- 2.4.3 Replace an existing interpretive sign exactly as it is and mount it in the same location, on the same base
- 2.4.8 Entrance label(s) or interpretive label(s)
- 2.4.9 Temporary interpretive sign about resource management
- 2.4.10 Temporary construction sign
- 2.4.11 Orientation or interpretive sign
- 2.4.13 Significant number of new signs

8.1.3 Location

Interpretive labels are located on or near the plant or feature that is being identified or interpreted. They can also be located at entrances or boundaries of the site.

Interpretive signs are intended to enhance the landscape, not to detract from or obscure views. Siting interpretive signs in an appropriate location will add to their value. Whenever possible, all interpretive signs are located where the following three conditions are met:

Easy access by pedestrians.

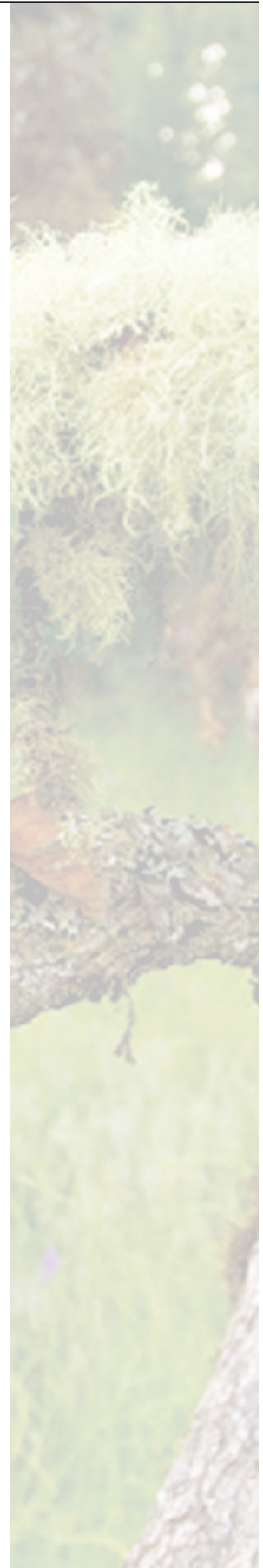
Strong connection to interpretive message.

Low impact on landscape beauty.

Orientation signs, in addition to following the above three guidelines, are located where visitors first become acquainted with a site—often near the parking lot, shelter or restrooms.

Temporary interpretive signs are located in the same types of locations as regular interpretive signs.

Temporary construction signs are located where visitors are first entering or becoming oriented to the site.



8.2 Interpretive content



8.2.1 Successful interpretive text

Successful interpretive text is clearly written and communicates messages that are in line with the educational goals of Metro and partners. Here are some things to consider when writing interpretive text:

Use themes to tell a story

Structure your text around a clear theme, a sentence that captures and unifies the essence of the story you want to tell. Then use that theme as the basis for heads and subheads. Use theme titles, not topic titles. This will help get the story across even to those who read only a small part of the text.

Brevity, brevity, brevity

Write bold, lively headlines that convey the key messages and words in 3 seconds or less to the majority of visitors. Use subheads, short sentences and paragraphs that tell more of the story in up to 30 seconds to a smaller percentage of visitors. Remember, most people will read only a small part of the text.

Sentences should be limited to ten to fifteen words. If a sentence exceeds twenty-two words, try two sentences instead. Use short paragraphs; two or three sentences is not too short. On average, visitors will read 225 words and then move on. Resist the urge to add more subject matter. Interpretive signs cannot, and should not, cover all aspects of your subject. Limit ideas in the message to 5 or less—the fewer, the better.

Keep it lively

Capture readers' attention with vivid nouns. Edit out passive tenses and substitute active verbs. Illustrate with real-world examples, intriguing and inspiring quotes, and striking analogies and metaphors. Use humor, games, clear organization, helpful subheads, comparison and contrast to keep visitors interested. Relate to the visitor directly by using personal pronouns, conversational style and familiar words in place of jargon.

Reveal meanings and relationships

Remember the words of Freeman Tilden, author of *Interpreting Our Heritage*, who wrote that the aim of interpretation is "to reveal meanings and relationships . . . rather than simply to communicate factual information."

Reference

For more information on developing interpretive text, please see the following references:

Ham, Sam H. (1992). *Environmental Interpretation A Practical Guide for People with Big Ideas and Small Budgets*. Golden, Colorado, USA: Fulcrum/North American Press.

Ham, Sam H. (Forthcoming). *Interpretation A Practical Guide for People with Big Ideas and Small Budgets* (2nd Edition). Golden, Colorado, USA: Fulcrum/North American Press.

8.2 Interpretive content

8.2.2 Successful interpretive graphics

Photographs and illustrations can capture a visitor's interest and strongly support interpretive text. Often the "wow" factor for signs comes from a vivid photo or illustration. Remember not to overcrowd panels with too many photos. A few good images can effectively communicate a message better than too many photos can. Too many photos may overwhelm or confuse the visitor.

Selecting graphics

When selecting images for an interpretive sign, ask yourself these questions:

Is a photograph available or will a custom illustration better communicate the idea?

Does the image support the interpretive text or introduce a new idea?

Will a different image better communicate the content?

Does the image require a caption?

Photographs

If available, photographs from the Metro photo library should be used. When not available, content and regionally appropriate images from other sources can be sought. Every effort should be made to obtain high quality photographs in order to maintain a high quality end product. Digital images should be no less than 300 dpi at the final size they appear on the sign.

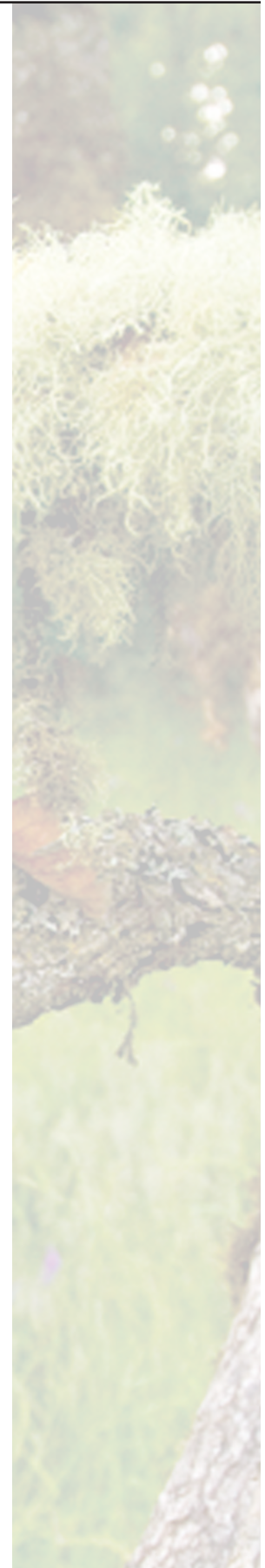
All images from sources other than the Metro photo library need to be licensed for display unless they are in the public domain. Research images thoroughly to determine the copyright owner. When licensing images, obtain permission for the life of the sign. Make sure that you obtain and include the correct credit for all licensed images that require one.

Illustrations

Original illustrations can depict views that aren't available to the eye, such as cross-sections or entire complex processes. They can also accurately depict habitats, landforms and wildlife in ways that are visually stunning and capture a visitor's attention. In selecting an illustration style and artist for interpretive panels, biological accuracy is most important, although aesthetics and appeal are also significant. Illustrations must be professional, attractive and completed with an accurate perspective.

Maps

Maps follow guidelines provided in section 10.5.1. Historic maps are considered illustrations and are not required to follow these guidelines.



8.2 Interpretive content



8.2.3 Content limit recommendations

Use the following as guidelines when planning content. While these are only recommendations, and more words or images may be used at times, keep in mind that too much content can overwhelm and confuse a visitor, and cause him or her to lose interest.

Interpretive text should be:

- Clearly written at an eighth grade reading level.

- Organized to display a clear hierarchy of information, such as headline, subhead, body copy, pull quote, caption, label, etc.

- Limited to a maximum of 45-60 words for each unit of body copy.

- Limited to a maximum of 15-20 words for each unit of caption copy.

Sign size	Total body copy	Total caption copy	Total graphics
18" x 24"	45-60 words	15-20	1-2
24" x 36"	45-100 words	15-40	1-5
36" x 60"	100-200 words	15-75	1-8

8.3 Interpretive label design

8.3.1 Content

Interpretive labels can be used for a variety of purposes, including identifying vegetation, marking site features, informing visitors of funding for sites and pointing out seasonal occurrences.

Labels that identify vegetation include the common name, scientific name and short interpretive information. A graphic (photo or illustration) may also be included.

Labels that mark site features include a headline, subhead and body copy.










8.3.2 Shape and size

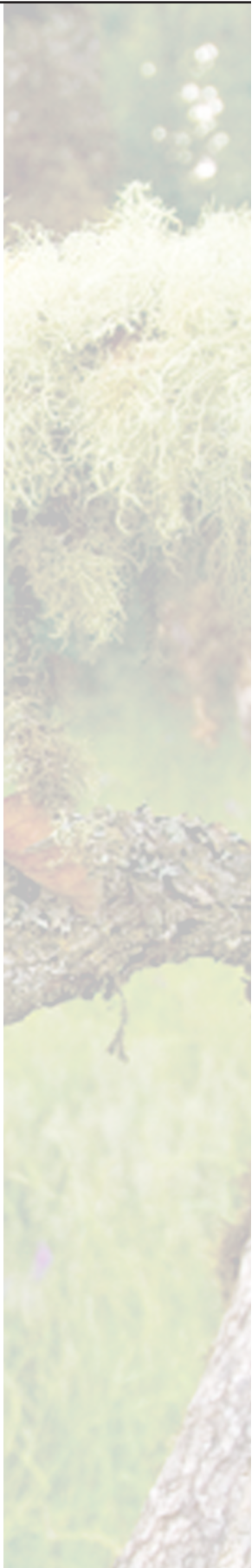
1/4" phenolic resin panel. There are 2 standard widths for interpretive labels. The height of the labels can be adjusted to accommodate content as needed.

Width	Maximum height
4"	4"
8"	8"

8.3.3 Colors

Phenolic resin graphics, paint and vinyl to match the following pantones, tints and shades:

	PMS 574C
	PMS 261C
	PMS 5405C
	PMS 152C
	PMS 187C
	PMS 124C
	PMS 4545C
	PMS 462C
	BLACK



8.3 Interpretive label design



8.3.4 Typography

For a 4" wide sign, the plant common name is set in 18 pt. Sabon Bold, uppercase/lowercase. The plant scientific name is set in 14 pt. Sabon Italic, uppercase/lowercase. Both are left aligned if a graphic is included and center aligned with no graphic.

For other 4" wide interpretive labels, the common name/scientific name relationship should be replaced with headline/subhead. (e.g. Summit, 758 feet).

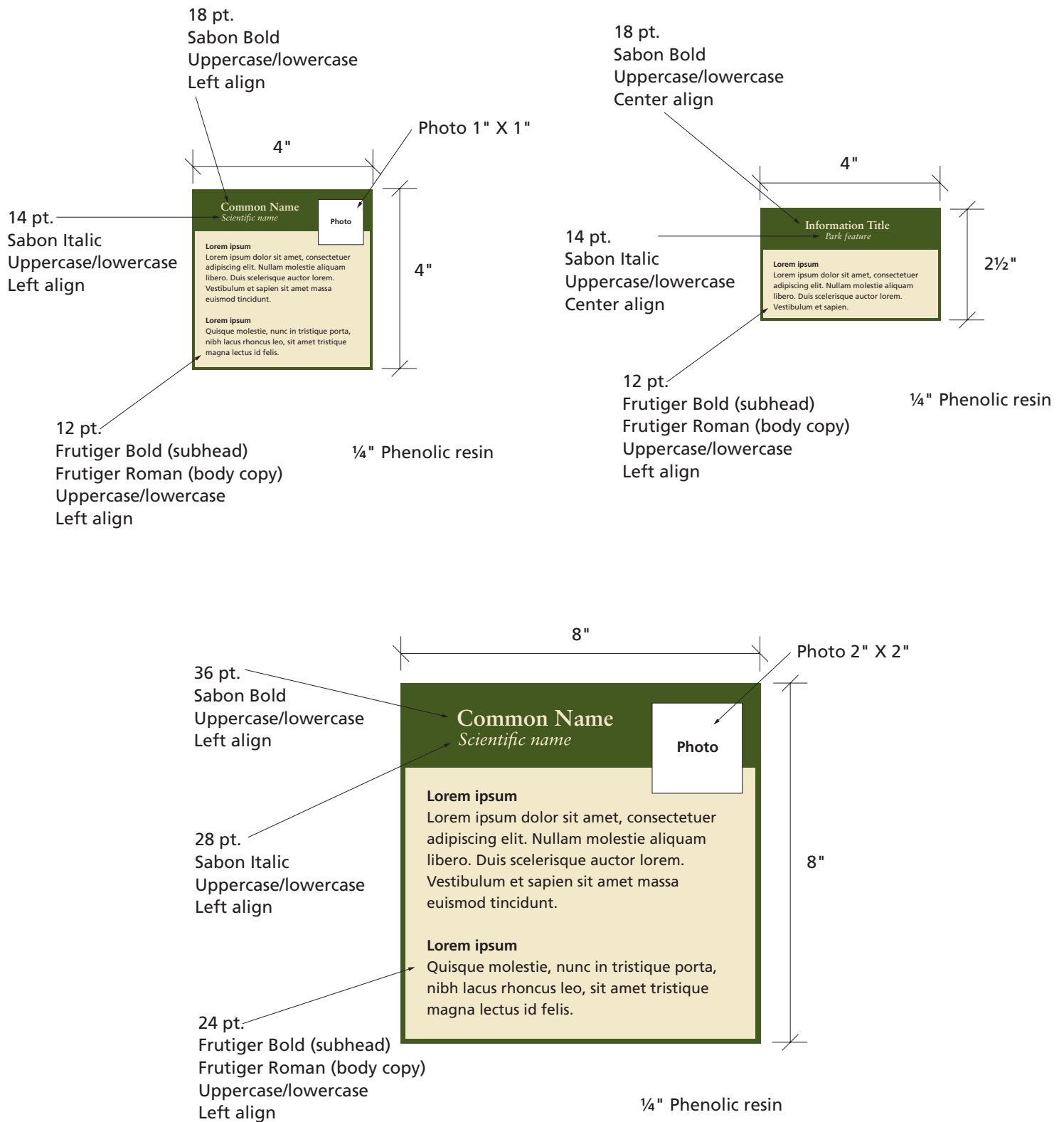
Body copy is set in 12 pt. Frutiger Roman, uppercase/lowercase with 17 pt. leading.

For an 8" wide sign, the plant common name is set in 36 pt. Sabon Bold, uppercase/lowercase. The plant scientific name is set in 28 pt. Sabon Italic, uppercase/lowercase. Both are left aligned if a graphic is included and center aligned with no graphic.

For other 8" wide interpretive labels, the common name/scientific name relationship should be replaced with headline/subhead. (e.g. Summit, 758 feet).

Body copy is set in 24 pt. Frutiger Roman, uppercase/lowercase with 34 pt. leading.

8.3 Interpretive label design



Interpretive label design A
Shown at 33%

See 8.7.1 for fabrication and
installation details

8.4 Interpretive sign design

Each interpretive sign should have a unique message and design. Although unique, each sign must also consistently apply these design elements to create a system of signs and strengthen recognition of Metro Regional Parks and Greenspaces.

8.4.1 Shape and size

A 3/4" phenolic resin panel mounted at a 35 degree angle to an aggregate concrete, pentagon-shaped post. Three sign sizes are provided for presenting different amounts of information.

18" high x 24" wide










2' high x 3' wide

3' high x 5' wide

All three sizes are the same shape with a radiused top, angled sides and straight bottom. The angles and radius should not be adjusted.

8.4.2 Colors

Phenolic resin graphics to match the following pantones, tints and shades:

	PMS 574C
	PMS 261C
	PMS 5405C
	PMS 152C
	PMS 187C
	PMS 124C
	PMS 4545C
	PMS 462C
	BLACK

Border in one of the above colors with white or black logos. Side bars in tints of these PMS colors. Interpretive signs within a site will all use same border color.

8.4 Interpretive sign design

8.4.3 Typography

18" x 24" layout

Caption	20 pt.	Frutiger Roman
Body copy	36 pt.	Frutiger Roman
Headlines	Varies	Sabon
Quotes	Varies	Sabon Italic

2' x 3' and 3' x 5' layout

Caption	24 pt.	Frutiger Roman
Body copy	48 pt.	Frutiger Roman
Headlines	Varies	Sabon
Quotes	Varies	Sabon Italic



8.5 Temporary interpretive sign design



8.5.1 Content

Temporary interpretive signs are interpretive panels that explain seasonal occurrences, maintenance projects or current resource management projects.

When possible, stock commonly used seasonal and resource management signs at your site to ensure proper signage throughout the year.

Temporary resource management signs are 18" x 24" .








8.5.2 Shape and size

A 3/4" MDO panel with a radiused top, angled sides and straight bottom.

A frame holds a laminated 11" x 17" (with 1/4" laminated border) print with interpretive information.

8.5.3 Colors

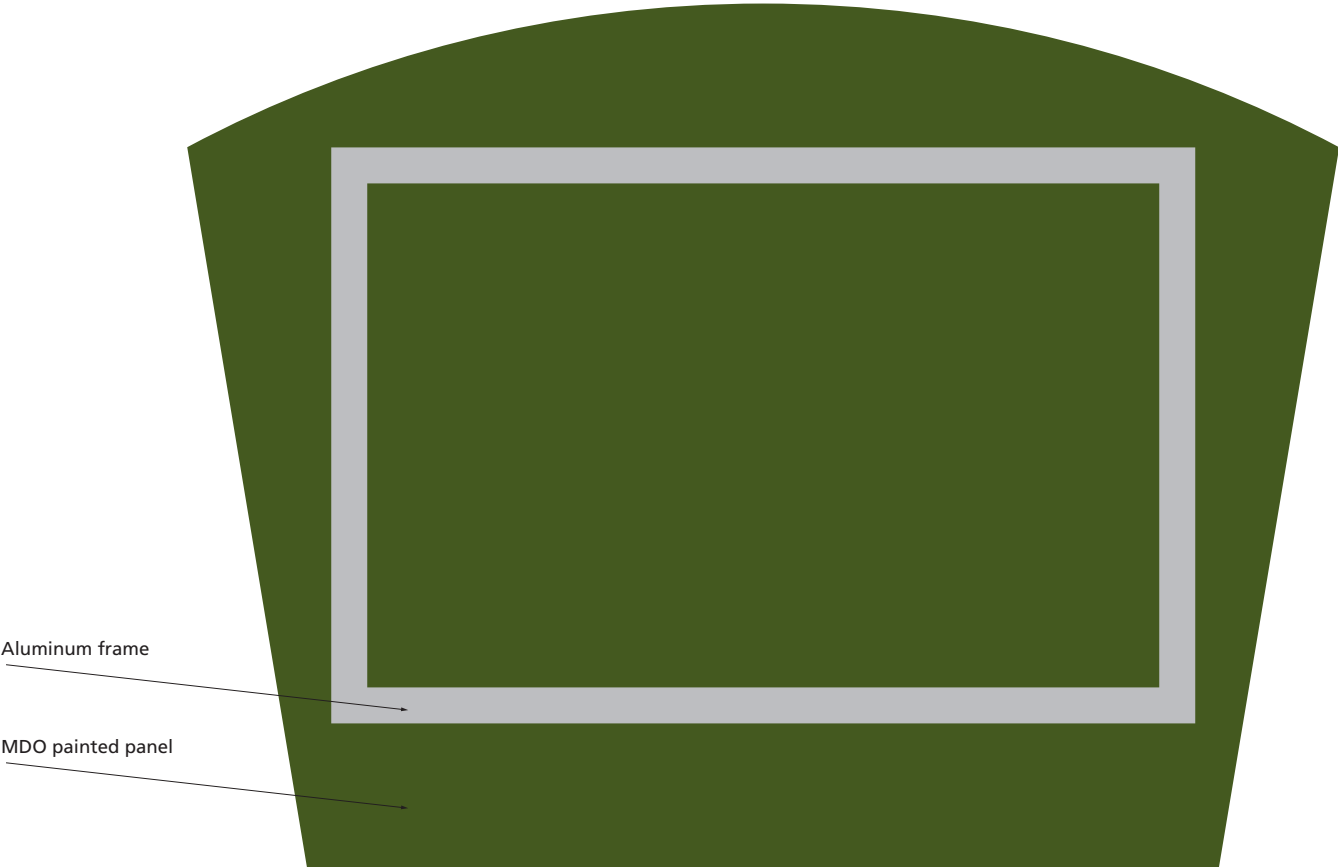
MDO panels are painted solid with epoxy paint to match one of the following pantones:

	PMS 574C
	PMS 261C
	PMS 5405C
	PMS 152C
	PMS 187C
	PMS 124C
	PMS 462C

8.5.4 Typography

Caption	20 pt.	Frutiger Roman
Body copy	36 pt.	Frutiger Roman
Headlines	Varies	Sabon
Quotes	Varies	Sabon Italic

8.5 Temporary interpretive sign design



Temporary interpretive sign
design
Shown at 25%

See 8.7.3 for fabrication and
installation details

8.6 Temporary construction sign design

8.6.1 Content






Temporary construction signs are interpretive panels that inform visitors about construction projects at Metro's parks and natural areas. Content includes a Metro logo, web address, a map and phone number to reach a Metro Planner or Park's main line. Additional content describes the construction project taking place.

8.6.2 Shape and size

4' X 8' 1/2" plywood rectangular panel.

8.6.3 Colors

Plywood signs are painted solid with outdoor grade paint to match one of the following pantones:

	PMS 574C
	PMS 261C
	PMS 5405C
	PMS 152C
	PMS 187C
	PMS 124C
	PMS 462C

8.6.4 Typography

Caption	Varies	Frutiger Roman
Body copy	Varies	Frutiger Roman
Headlines	Varies	Sabon
Quotes	Varies	Sabon Italic

8.6 Temporary construction sign design

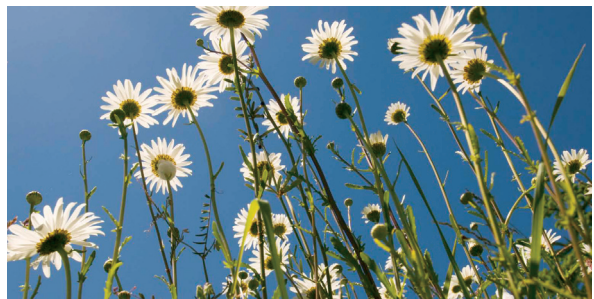
Coming Summer 2009!


Cooper Mountain Nature Park

Funding for park construction comes from metro area voters and a grant from the Oregon Parks and Recreation Department.

Construction company info

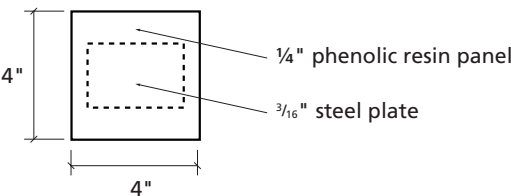
For more information, visit www.oregonmetro.gov/coopermountain or call 503-797-1850.



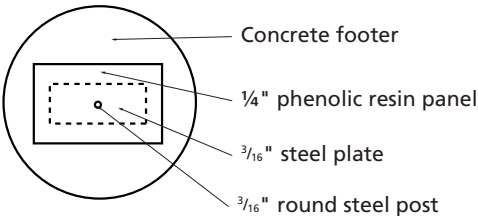
 Metro | *People places. Open spaces.*



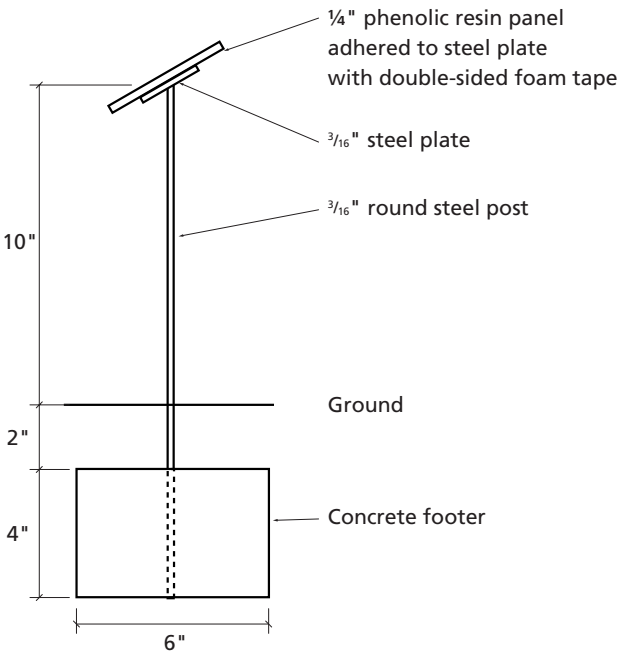
8.7 Interpretive fabrication and installation details



PLAN AT INTERPRETIVE LABEL DESIGN
Scale: 2" = 1' (shown flattened)

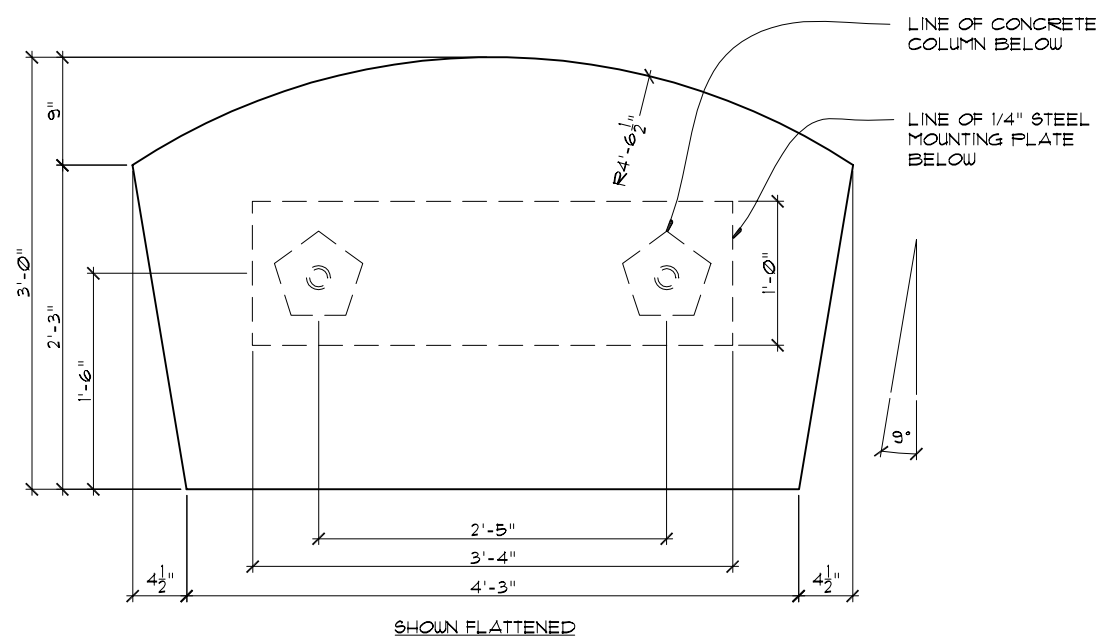


PLAN AT INTERPRETIVE LABEL DESIGN
Scale: 2" = 1'

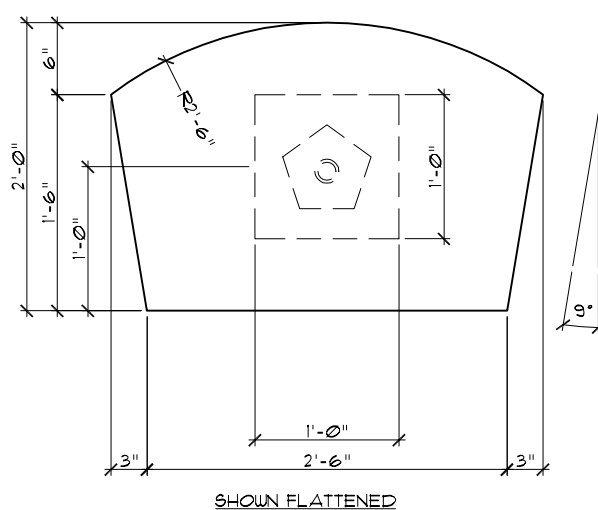


8.7.1 ELEVATION SECTION AT INTERPRETIVE LABEL DESIGN
Scale: 2" = 1'

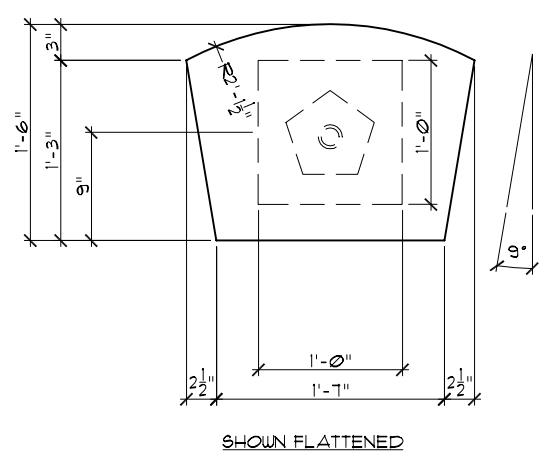
8.7 Interpretive fabrication and installation details



4 8.7.2 PLAN @ SLOPED PANEL "A"
SCALE: 3/4" = 1'-0"

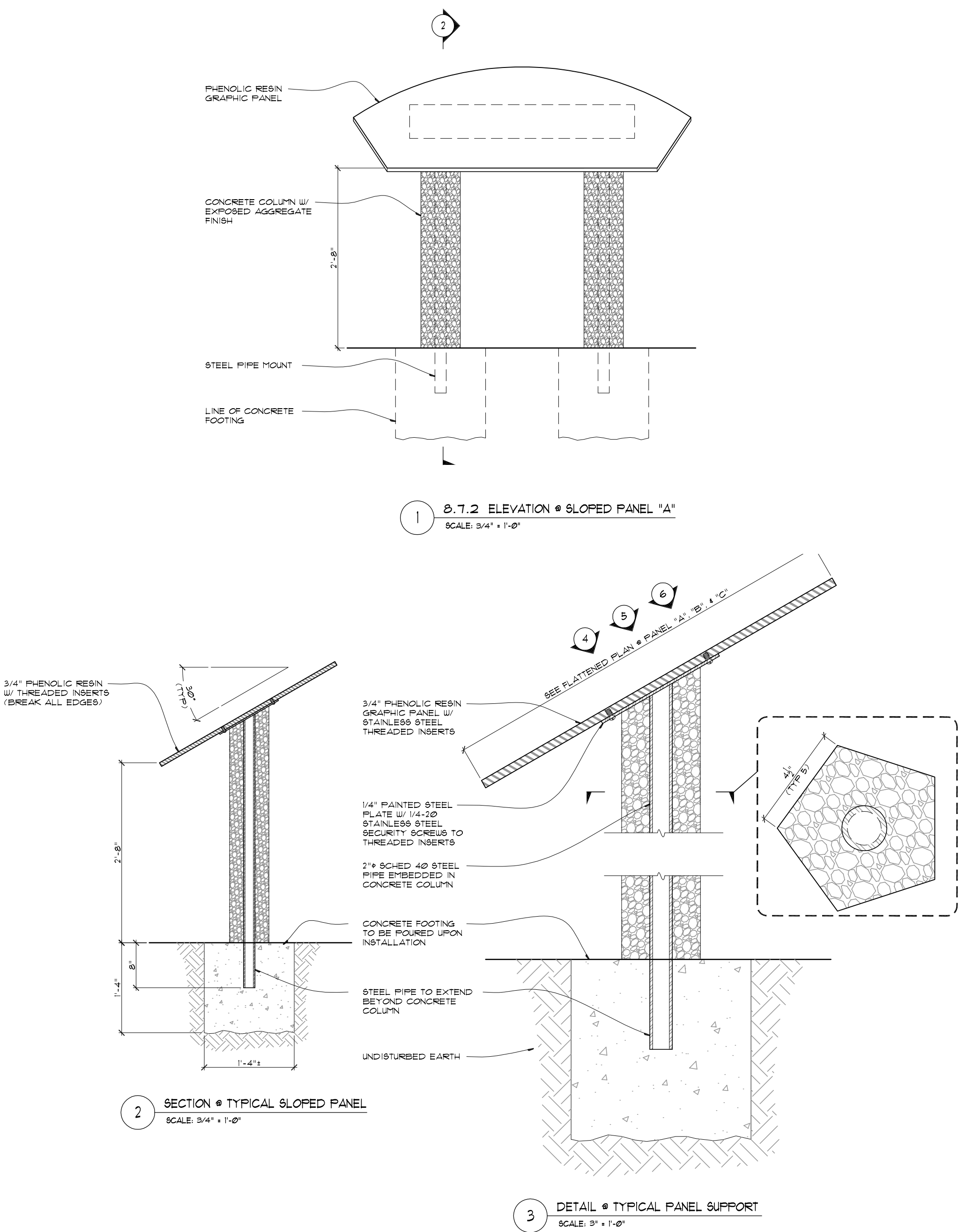


5 PLAN @ SLOPED PANEL "B"
SCALE: 3/4" = 1'-0"

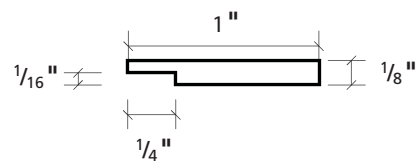


6 PLAN @ SLOPED PANEL "C"
SCALE: 3/4" = 1'-0"

8.7 Interpretive fabrication and installation details

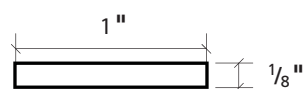


8.7 Interpretive fabrication and installation details

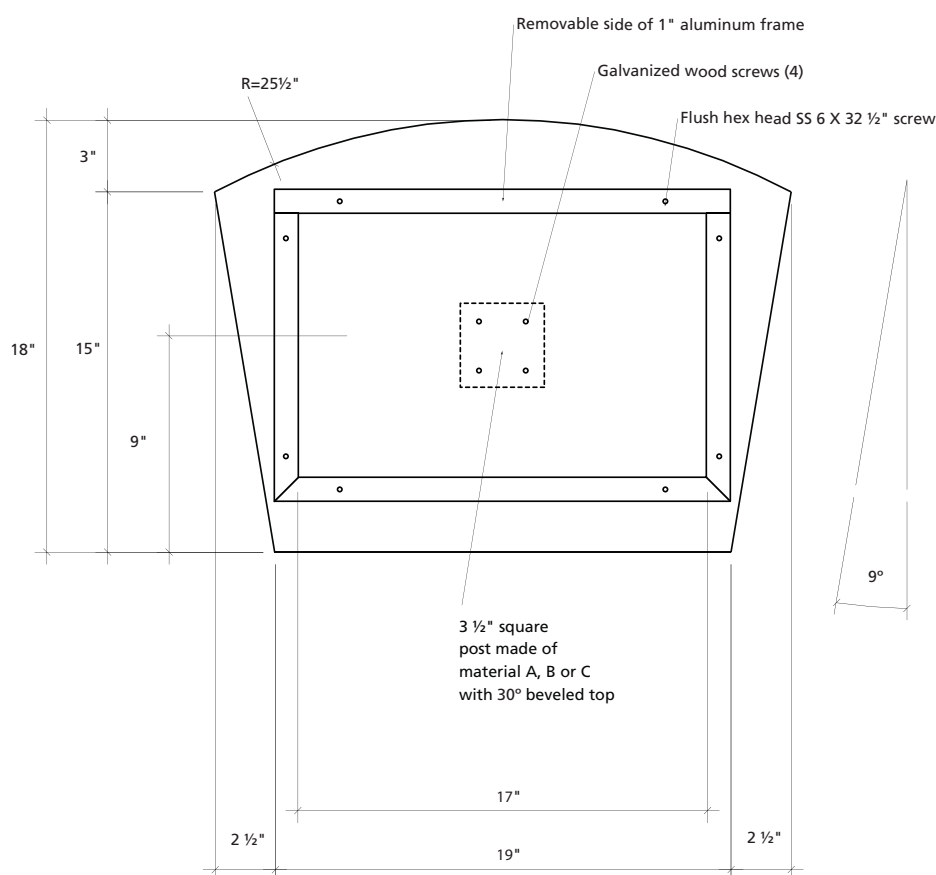


ELEVATION SECTION OF ALUMINUM FRAME

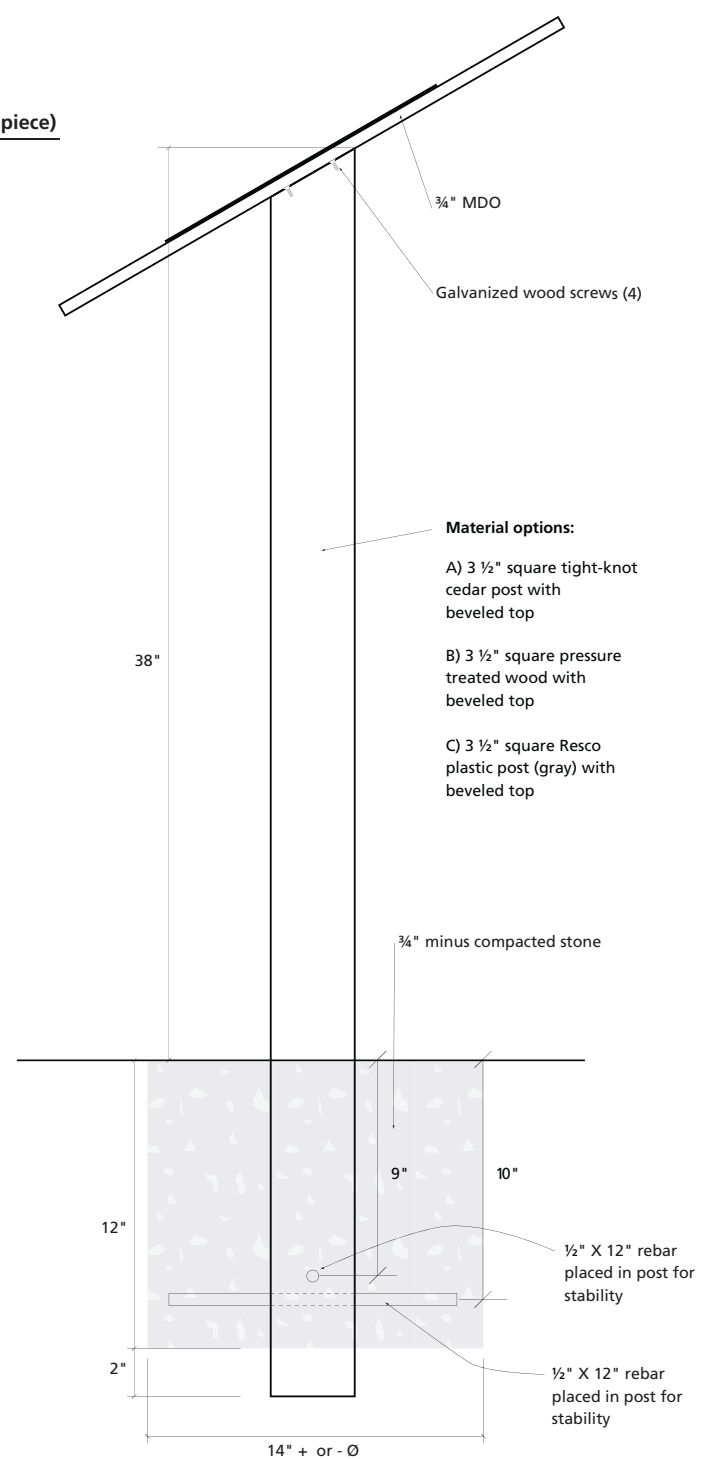
Scale: Shown at actual size



ELEVATION SECTION OF ALUMINUM FRAME (removable piece)
Scale: Shown at actual size



PLAN AT TEMPORARY INTERPRETIVE SIGN (SHOWN FLATTENED)
Scale: 1½" = 1'



8.7.3 ELEVATION SECTION AT TEMPORARY INTERPRETIVE SIGN
Scale: 1½" = 1'

Appendix D: Cost Estimates

TONQUIN TRAIL MASTER PLAN: ESTIMATE OF PROBABLE CONSTRUCTION COSTS

December 3, 2012

Segment #	1		2		3		4		5		6		7		8		9		10		11		12		13	
Segment beginning and ending description	Willamette River to immediately south of Wilsonville Road		Immediately south of Wilsonville Road to immediately south of Costa Circle		Intersection of trail at north end of Graham Oaks Nature Park with south side of Costa Circle to immediately north of Boeckman Road (includes both trail segments in Villebois)		Immediately north of Boeckman Road to immediately north of Grahams Ferry Road		Immediately north of Grahams Ferry Road to intersection of Morgan Road and Tonquin Road (including Tonquin / Morgan intersection)		Immediately west of Tonquin Road / Morgan Road intersection to intersection of Tonquin Road and Oregon Street (including Tonquin / Oregon intersection)		Immediately west of Tonquin Road / Oregon Street intersection to immediately north of Park Street (Downtown Sherwood)		Immediately north of Park Street (Downtown Sherwood) to immediately south of Pacific Highway / Oregon 99W		Immediately south of Pacific Highway / Oregon 99W to Roy Rogers Road (including Roy Rodgers intersection)		Roy Rogers Road north to Tualatin River National Wildlife Refuge trailhead		Immediately east of Tonquin Road / Oregon Street intersection to immediately west of Cipole Road		Immediately west of Cipole Road to immediately north of Pacific Highway / Oregon 99W		Immediately north of Pacific Highway / Oregon 99W to south side of Tualatin River	
Linear feet per segment	7,834 ft		5,981 ft		14,948 ft		7,172 ft		8,048 ft		7,891 ft		6,043 ft		6,337 ft		5,555 ft		4,254 ft		5,280 ft		6,701 ft		3,562 ft	
Shared roadway on ex. paved road	5.00	LF	402	\$ 2,010		\$ -		\$ -	504	\$ 2,520		\$ -	986	\$ 4,930	577	\$ 2,885		\$ -		\$ -		\$ -		\$ -		\$ -
Bike lanes on ex. paved road	15.00	LF	1,222	\$ 18,330		\$ -	2,332	\$ 34,980		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Sidewalk widening (concrete, 6' wide)	50.00	LF		\$ -		\$ -	2,332	\$ 116,600		\$ -		\$ -	270	\$ 13,500		\$ -		\$ -	660	\$ 33,000		\$ -	900	\$ 45,000		\$ -
Sidewalk (concrete, 6' wide with curb, gutter and drainage)	130.00	LF	1,222	\$ 158,860		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Shared use path, concrete, 12' wide	175.00	LF		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Shared use path, permeable asphalt, 12' wide	160.00	LF		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Shared use path, asphalt, 12' wide	140.00	LF	3,276	\$ 458,640		\$ -	5,807	\$ 812,980	3,477	\$ 486,780	6,875	\$ 962,500	7,891	\$ 1,104,740	3,414	\$ 546,240	2,570	\$ 411,200	2,936	\$ 469,760	5,280	\$ 844,800	5,691	\$ 910,560	3,562	\$ 569,920
Pile supported path, 12' wide	400.00	LF		\$ -		\$ -		\$ -	1,190	\$ 476,000		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Boardwalk, 12' wide	600.00	LF		\$ -		\$ -		\$ -	2,505	\$ 1,503,000		\$ -		\$ -		\$ -	1,133	\$ 679,800	2,580	\$ 1,548,000		\$ -		\$ -		\$ -
Bridge, 14' wide	3,500.00	LF	60	\$ 210,000		\$ -		\$ -		\$ -	80	\$ 280,000		\$ -		\$ -		\$ -		\$ -	160	\$ 560,000		\$ -	110	\$ 385,000
At-grade crossing, unsignalized	8,800.00	EA	2	\$ 17,600		\$ -	2	\$ 17,600		\$ -	1	\$ 8,800	1	\$ 8,800	3	\$ 26,400		\$ -	1	\$ 8,800		\$ -	2	\$ 17,600	1	\$ 8,800
At-grade crossing, signalized	137,600.00	EA		\$ -		\$ -		\$ -	1	\$ 137,600	1	\$ 137,600		\$ -		\$ -		\$ -	1	\$ 137,600		\$ -		\$ -		\$ -
99W bridge with trail/wildlife undercrossing and creek restoration	6,000,000.00	LS		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	1	\$ 6,000,000		\$ -		\$ -		\$ -
99W pedestrian overcrossing	3,000,000.00	LS		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	1	\$ 3,000,000
Wayfinding sign	500.00	EA	8	\$ 4,000	1	\$ 500	11	\$ 5,500	2	\$ 1,000	3	\$ 1,500	2	\$ 1,000	11	\$ 5,500	6	\$ 3,000		\$ -	3	\$ 1,500	5	\$ 2,500	2	\$ 1,000
Art or interpretive sign	5,000.00	EA		\$ -		\$ -	2	\$ 10,000	2	\$ 10,000	2	\$ 10,000	1	\$ 5,000	1	\$ 5,000	1	\$ 5,000		\$ -		\$ -		\$ -	1	\$ 5,000
Trailhead (20 parking spaces, minimal site furnishings)	502,000.00	EA		\$ -		\$ -		\$ -	2	\$ 1,004,000		\$ -		\$ -		\$ -		\$ -	1	\$ 502,000		\$ -		\$ -	1	\$ 502,000
Add for:																										
Wetland mitigation	275.00	LF		\$ -		\$ -	4,660	\$ 2,330	2,505	\$ 688,875		\$ -		\$ -	1,133	\$ 311,575	2,580	\$ 709,500		\$ -		\$ -		\$ -		\$ -
Irrigation modifications	0.50	SF	8,100	\$ 4,050		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -	1,300	\$ 650		\$ -	4,000	\$ 2,000		\$ -
Raised berm with hydroseeding	116,500.00	LS		\$ -		\$ -		\$ -		\$ -	1	\$ 116,500		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Tree removals	350.00	EA	10	\$ 3,500		\$ -	8	\$ 2,800	128	\$ 44,800	35	\$ 12,250	70	\$ 24,500	15	\$ 5,250	50	\$ 17,500	35	\$ 12,250	20	\$ 7,000	25	\$ 8,750	20	\$ 7,000
Pedestrian refuge island	20,000.00	EA		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Pedestrian push button signal added to ex. traffic signal (pair)	5,000.00	EA		\$ -		\$ -	1	\$ 5,000		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
RRFB	15,000.00	EA		\$ -		\$ -		\$ -		\$ -	1	\$ 15,000		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Curb ramp	2,000.00	EA		\$ -		\$ -		\$ -		\$ -	2	\$ 4,000		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Crosswalk	24.00	SF		\$ -		\$ -		\$ -		\$ -	60	\$ 1,440		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Bicycle loop detectors, pavement marking and sign	3,500.00	EA		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -		\$ -
Handrail	115.00	LF		\$ -		\$ -		\$ -	800	\$ 92,000	4,300	\$ 494,500		\$ -		\$ -	1,860	\$ 213,900		\$ -		\$ -	440	\$ 50,600		\$ -
Retaining wall	200.00	LF		\$ -		\$ -		\$ -	800	\$ 160,000	4,300	\$ 860,000		\$ -		\$ -	1,340	\$ 268,000	1,860	\$ 372,000		\$ -	440	\$ 88,000		\$ -
Fence (chainlink)	35.00	LF	970	\$ 33,950		\$ -		\$ -	1,190	\$ 41,650	2,920	\$ 102,200		\$ -	1,540	\$ 53,900	1,340	\$ 46,900		\$ -		\$ -	280	\$ 9,800	70	\$ 2,450
Direct Construction Costs incl O&P	\$ 910,940		\$ 500		\$ 1,007,790		\$ 3,389,705		\$ 2,793,810		\$ 2,615,040		\$ 660,720		\$ 1,745,860		\$ 9,483,050		\$ 1,573,910		\$ 1,022,050		\$ 4,366,810		\$ 1,088,770	
Contingency																										
Master Planned	35%		\$ 318,829		\$ 175	\$ 352,727	\$ 1,186,397	\$ 977,834	\$ 915,264	\$ 231,252	\$ 611,051	\$ 3,319,068	\$ 550,869	\$ 357,718	\$ 1,528,384	\$ 381,070										
Subtotal	\$ 1,229,769		\$ 675		\$ 1,360,517		\$ 4,576,102		\$ 3,771,644		\$ 3,530,304		\$ 891,972		\$ 2,356,911		\$ 12,802,118		\$ 2,124,779		\$ 1,379,768		\$ 5,895,194		\$ 1,469,840	
Multipliers																										
Design, Permitting & Engineering	12.5%		\$ 153,721	\$ 84	\$ 170,065	\$ 572,013	\$ 471,455	\$ 441,288	\$ 111,497	\$ 294,614	\$ 1,600,265	\$ 265,597	\$ 172,471	\$ 736,899	\$ 183,730											
Mobilization	8%		\$ 98,382	\$ 54	\$ 108,841	\$ 366,088	\$ 301,731	\$ 282,424	\$ 71,358	\$ 188,553	\$ 1,024,169	\$ 169,982	\$ 110,381	\$ 471,615	\$ 117,587											
Burdened Construction Cost			\$ 1,481,872	\$ 813	\$ 1,639,422	\$ 5,514,203	\$ 4,544,830	\$ 4,254,016	\$ 1,074,826	\$ 2,840,078	\$ 15,426,552	\$ 2,560,358	\$ 1,662,620	\$ 7,103,708	\$ 1,771,157											
Construction Management	12.5%		\$ 166,019	\$ 91	\$ 183,670	\$ 617,774	\$ 509,172	\$ 476,591	\$ 120,416	\$ 318,183	\$ 1,728,286	\$ 286,845	\$ 186,269	\$ 795,851	\$ 198,428											
Cost Opinion for Construction	\$ 1,647,890		\$ 905		\$ 1,823,092		\$ 6,131,976		\$ 5,054,002		\$ 4,730,607		\$ 1,195,242		\$ 3,158,261		\$ 17,154,837		\$ 2,847,203		\$ 1,848,888		\$ 7,899,559		\$ 1,969,585	
Federal Administrative Costs	40%		\$ 659,156	\$ 362	\$ 729,237	\$ 2,452,791	\$ 2,021,601	\$ 1,892,243	\$ 478,097	\$ 1,263,304	\$ 6,861,935	\$ 1,138,881	\$ 739,555	\$ 3,159,824	\$ 787,834											
Cost Opinion for Federalized Built Project	\$ 2,307,047		\$ 1,266		\$ 2,552,329		\$ 8,584,767		\$ 7,075,603		\$ 6,622,850		\$ 1,673,339		\$ 4,421,565		\$ 24,016,772		\$ 3,986,084		\$ 2,588,444		\$ 11,059,383		\$ 2,757,419	
Cost Opinion for Administration	10%		\$ 132,815	\$ 73	\$ 146,936	\$ 494,219	\$ 407,337	\$ 381,273	\$ 96,333	\$ 254,546	\$ 1,382,629	\$ 229,476	\$ 149,015	\$ 636,681	\$ 158,743											

TONQUIN TRAIL MASTER PLAN: ESTIMATE
December 3, 2012

Segment #	14	15	16	17	18	
	Immediately east of Tonquin Road / Morgan Road intersection to intersection of Tonquin Road and Tonquin Loop (including Tonquin Road / Tonquin Loop intersection)	Immediately north of Tonquin Road / Tonquin Loop intersection to intersection of Morgan Road and Tonquin Road (including Tonquin / Morgan intersection)	Immediately south of Tualatin-Sherwood Road to immediately east of Teton Avenue	Immediately east of Teton Avenue to immediately east of 90th Avenue	Immediately east of 90th Avenue to Tualatin River	
Segment beginning and ending description						
Linear feet per segment	4,997 ft	8,073 ft	6,661 ft	3,501 ft	5,349 ft	118,187 Feet 22.38 Miles
Shared roadway on ex. paved road	5.00 LF					\$ 12,345
Bike lanes on ex. paved road	15.00 LF					\$ 53,310
Sidewalk widening (concrete, 6' wide)	50.00 LF				520	\$ 26,000 \$ 234,100
Sidewalk (concrete, 6' wide with curb, gutter and drainage)	130.00 LF				250	\$ 32,500 \$ 191,360
Shared use path, concrete, 12' wide	175.00 LF	8,023	1,404,025	879	1,535	\$ 268,625 \$ 2,422,175
Shared use path, permeable asphalt, 12' wide	160.00 LF	4,947				\$ 5,020,000
Shared use path, asphalt, 12' wide	140.00 LF					\$ 3,825,640
Pile supported path, 12' wide	400.00 LF					\$ 476,000
Boardwalk, 12' wide	600.00 LF		1,717	2,622		\$ 6,334,200
Bridge, 14' wide	3,500.00 LF	50	175,000			\$ 1,785,000
At-grade crossing, unsignalized	8,800.00 EA	1	8,800	2	1	\$ 167,200
At-grade crossing, signalized	137,600.00 EA	1				\$ 550,400
99W bridge with trail/wildlife undercrossing and creek restoration	6,000,000.00 LS					\$ 6,000,000
99W pedestrian overcrossing	3,000,000.00 LS					\$ 3,000,000
Wayfinding sign	500.00 EA	2	1,000	2	11	\$ 5,500 \$ 40,000
Art or interpretive sign	5,000.00 EA		2	2	4	\$ 20,000 \$ 105,000
Trailhead (20 parking spaces, minimal site furnishings)	502,000.00 EA		1			\$ 3,012,000
Add for:						
Wetland mitigation	275.00 LF		1,717	2,622		\$ 2,903,175
Irrigation modifications	0.50 SF				700	\$ 350 \$ 9,380
Raised berm with hydroseeding	116,500.00 LS					\$ 116,500
Tree removals	350.00 EA	25	8,750	30		\$ 200,900
Pedestrian refuge island	20,000.00 EA			1		\$ 20,000
Pedestrian push button signal added to ex. traffic signal (pair)	5,000.00 EA					\$ 5,000
RRFB	15,000.00 EA			1		\$ 30,000
Curb ramp	2,000.00 EA					\$ 4,000
Crosswalk	24.00 SF					\$ 1,440
Bicycle loop detectors, pavement marking and sign	3,500.00 EA		1			\$ 3,500
Handrail	115.00 LF	1,770		740	1,160	\$ 133,400 \$ 1,273,050
Retaining wall	200.00 LF	1,770		740	1,160	\$ 232,000 \$ 2,482,000
Fence (chainlink)	35.00 LF					\$ 290,850
Direct Construction Costs incl O&P	\$ 1,680,220	\$ 2,128,825	\$ 2,635,675	\$ 2,746,475	\$ 718,375	\$40,568,525
Contingency						
Master Planned	35%	\$ 588,077	\$ 745,089	\$ 922,486	\$ 961,266	\$ 251,431 \$14,198,984
Subtotal	\$ 2,268,297	\$ 2,873,914	\$ 3,558,161	\$ 3,707,741	\$ 969,806	\$54,767,509
Multipliers						
Design, Permitting & Engineering	12.5%	\$ 283,537	\$ 359,239	\$ 444,770	\$ 463,468	\$ 121,226 \$ 6,845,939
Mobilization	8%	\$ 181,464	\$ 229,913	\$ 284,653	\$ 296,619	\$ 77,585 \$ 4,381,401
Burdened Construction Cost		\$ 2,733,298	\$ 3,463,066	\$ 4,287,584	\$ 4,467,828	\$ 1,168,617 \$ 65,994,848
Construction Management	12.5%	\$ 306,220	\$ 387,978	\$ 480,352	\$ 500,545	\$ 130,924 \$ 7,393,614
Cost Opinion for Construction		\$ 3,039,518	\$ 3,851,044	\$ 4,767,936	\$ 4,968,373	\$ 1,299,540 \$ 73,388,462
Federal Administrative Costs	40%	\$ 1,215,807	\$ 1,540,418	\$ 1,907,174	\$ 1,987,349	\$ 519,816 \$ 29,355,385
Cost Opinion for Federalized Built Project		\$ 4,255,325	\$ 5,391,462	\$ 6,675,111	\$ 6,955,723	\$ 1,819,357 \$ 102,743,846
Cost Opinion for Administration	10%	\$ 244,976	\$ 310,383	\$ 384,281	\$ 400,436	\$ 104,739 \$5,914,891
Land Acquisition						
Purchase Price						\$ 4,137,000
Contingency	40%					\$ 1,654,800
Cost Opinion for Trail Acquisition						\$ 5,791,800
Cost Opinion for Built Project						\$ 85,095,153
Cost Opinion for Federalized Built Project						\$ 114,450,537

Assumptions:

- 1) The above items, amounts, quantities, and related information quantities, costs and related factors affecting costs, and advises
- 2) Costs for utility relocations within the ROW will be paid for by
- 3) Private items built or placed within the public ROW shall be n
- 4) Costs are based on 2012 figures and should be increased 4%
- 5) Table does not include cost information for built portions of th
- 6) The cost estimate segments shown in this table coincide with

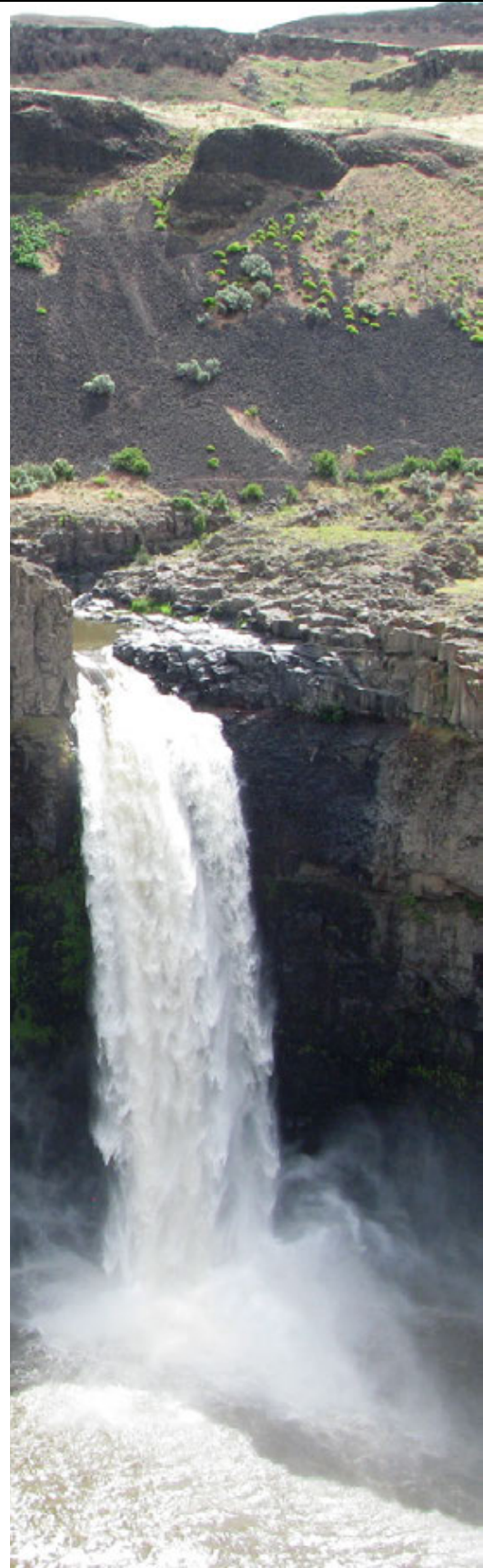
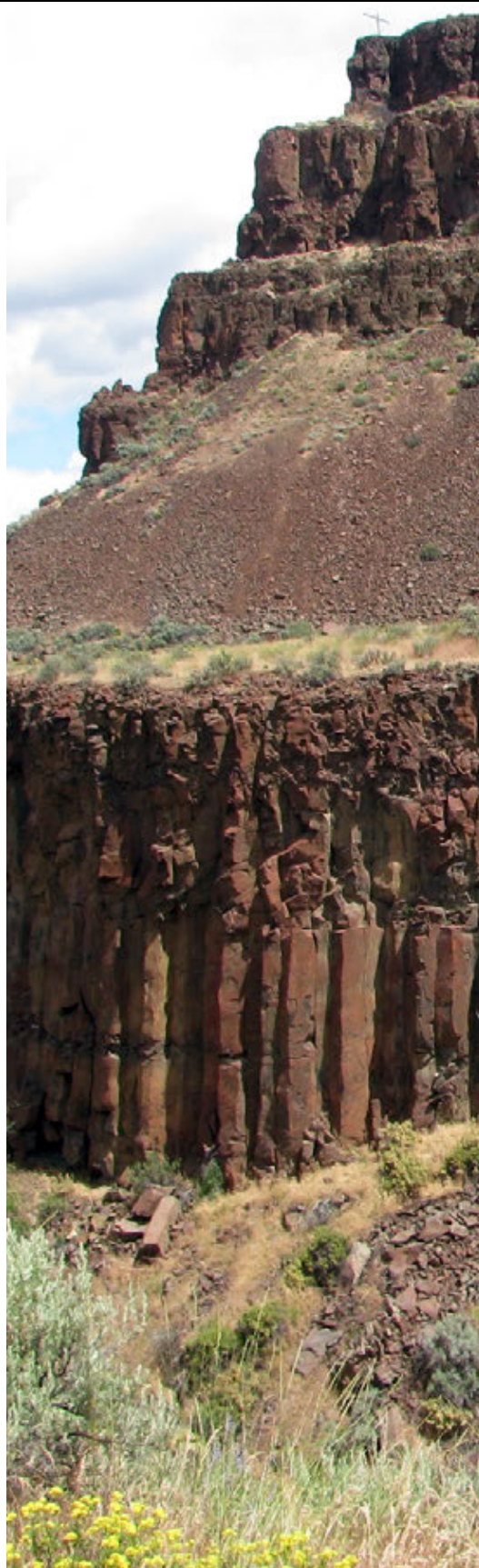


Appendix E: Ice Age Floods National Geologic Trail

Ice Age Floods National Geologic Trail

Draft Foundation Statement

September 2011





Cover (left to right):
Lake Pend Oreille, Farragut State Park, Idaho, *NPS Photo*
Moses Coulee, Washington, *NPS Photo*
Palouse Falls, Washington, *NPS Photo*

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Introduction

PURPOSE OF THIS FOUNDATION STATEMENT

Every national trail, similar to every national park system unit, needs a formal statement of its core mission to provide basic guidance for all the management decisions to be made—a “foundation for planning and management.” This type of document helps ensure that the most important objectives will be prioritized before other, less important tasks not directly related to the trail’s mission.

This draft foundation statement establishes a single, shared understanding of what is most important about Ice Age Floods National Geologic Trail. This understanding is grounded in the legislation that established the trail in 2009 and in the knowledge of floods features held by the public agencies and other organizations that manage the trail in partnership.

Managers and stakeholders need to know why Ice Age Floods National Geologic Trail was established, why the floods and associated resources are important within a wider context, and what legal and policy requirements apply to the trail’s management. This draft foundation statement offers this common understanding, from which all types and levels of planning and decision making can progress.

DEVELOPMENT OF THIS FOUNDATION STATEMENT

The National Park Service prepared this draft foundation statement in cooperation with partners including the Bureau of Land Management (BLM), Bureau of Reclamation (BOR), U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), U.S. Forest Service (USFS), U.S. Geological Survey (USGS), Washington State Parks, and the nonprofit Ice Age Floods Institute (IAFI). Initial input was gathered during a three-day workshop that took place during the spring of 2011. The foundation statement was developed through collaboration over the next several months. In the future, new legislation, public comment, or other new information may lead to revisions to the trail foundation statement.

ELEMENTS OF THE FOUNDATION STATEMENT

This foundation statement includes the following elements:

Trail Purpose

A statement of purpose identifies why Congress established the Ice Age Floods National Geologic Trail. It is based on the trail's enabling legislation.

Significance

Significance statements define what is most important about the trail's resources and values. They express why the trail and its resources are significant within a regional, national, and global context—focusing attention on those exceptional qualities that Congress felt were important to preserve and interpret.

Fundamental Resources and Values

Fundamental resources and values are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes that are *critical to achieving purpose and maintaining significance.* That which is most important about the trail could be jeopardized if these resources and values are allowed to degrade.

The national geologic trail also features *other resources and values* that are not fundamental to purpose and significance, but are nevertheless important considerations for planning and management.

Primary Interpretive Themes

Primary interpretive themes are the key stories or concepts to be communicated to visitors in order for them to understand and appreciate the purpose and significance of the national geologic trail. The primary interpretive themes are the basis for all future educational and interpretive efforts.

Special Mandates and Administrative Commitments

Special mandates are legal requirements that apply specifically to the national geologic trail. Administrative commitments are agreements that have been reached through a formal, documented process, such as a memorandum of understanding among agencies. This section summarizes applicable mandates and commitments to ensure their consideration in planning and decision making.

TRAIL DESCRIPTION

“At the end of the last Ice Age, some 12,000 to 17,000 years ago, a series of cataclysmic floods occurred in what is now the northwest region of the United States, leaving a lasting mark of dramatic and distinguishing features on the landscape of parts of the States of Montana, Idaho, Washington, and Oregon.”

Public Law 111-11, March 30, 2009

Congress established the Ice Age Floods National Geologic Trail with this opening paragraph. The federal trail system already includes national historic, recreational, and scenic trails; however, this national geologic trail is the first of its kind. While in some ways similar to a national historic trail, the geologic trail commemorates our nation’s natural history rather than historic people or events. In 2001, the National Park Service, in

collaboration with public landowners and the nonprofit Ice Age Floods Institute, completed a study recommending federal recognition of the area in order to tell the comprehensive story of the Ice Age floods. Since then, momentum has built within the communities of the floods region, culminating in Public Law 111-11, which designated the national geologic trail.

The national geologic trail commemorates a dramatic series of events. Toward the end of the last Ice Age, a lobe of the Cordilleran ice sheet formed a dam that blocked the Clark Fork River, creating a massive lake 200 miles long and up to 2,000 feet deep. The ice dam broke catastrophically, and Glacial Lake Missoula, which contained more than 500 cubic miles of water, drained within a matter of days. An enormous flood of water, ice, and



Grand Coulee, Washington, Photo by Joe Rocchio

debris charged westward along established drainages and across dry land, covering 16,000 square miles. Eventually, the flood waters reached the Pacific Ocean and continued hundreds of miles beyond the shoreline. This process happened many times, each time carving and reshaping the land.

Today, evidence of the immense floods remains in many forms including high water lines, huge current dunes, boulders transported hundreds of miles, giant coulees and dry falls, and enormous gravel bars. These reminders of the floods exist on public and private lands across the four states of Montana, Idaho, Washington, and Oregon. Many of the most dramatic features are managed by federal, tribal, state, and local governments.

The national geologic trail will consist of a network of marked touring routes with interpretive opportunities distributed across this vast area. Existing roadways will link many of the region's superb geologic resources by way of a long, central pathway and designated loops and spurs. In places, other types of foot and vehicle trails may also be a part of this network. Today, the trail is in its earliest stages of planning. Proposed routes are represented on the map included in this foundation statement. Development of the trail will take place in the future, following subsequent phases of planning.

The National Park Service will not manage Ice Age Floods National Geologic Trail as an independent unit of the National Park System.

Operational responsibilities will stay with the various land managers (public and private). The role of the National Park Service will be to coordinate planning and development of the trail and interpretation of the floods among the many public and private partners associated with the trail. In this way, the trail may be likened to a necklace, with the many public landowners continuing to manage the "gems" or geologic resources, and the National Park Service coordinating the string that holds the necklace together. In addition to public landowners, there are many other public and private organizations working to bring the story of the floods to visitors.

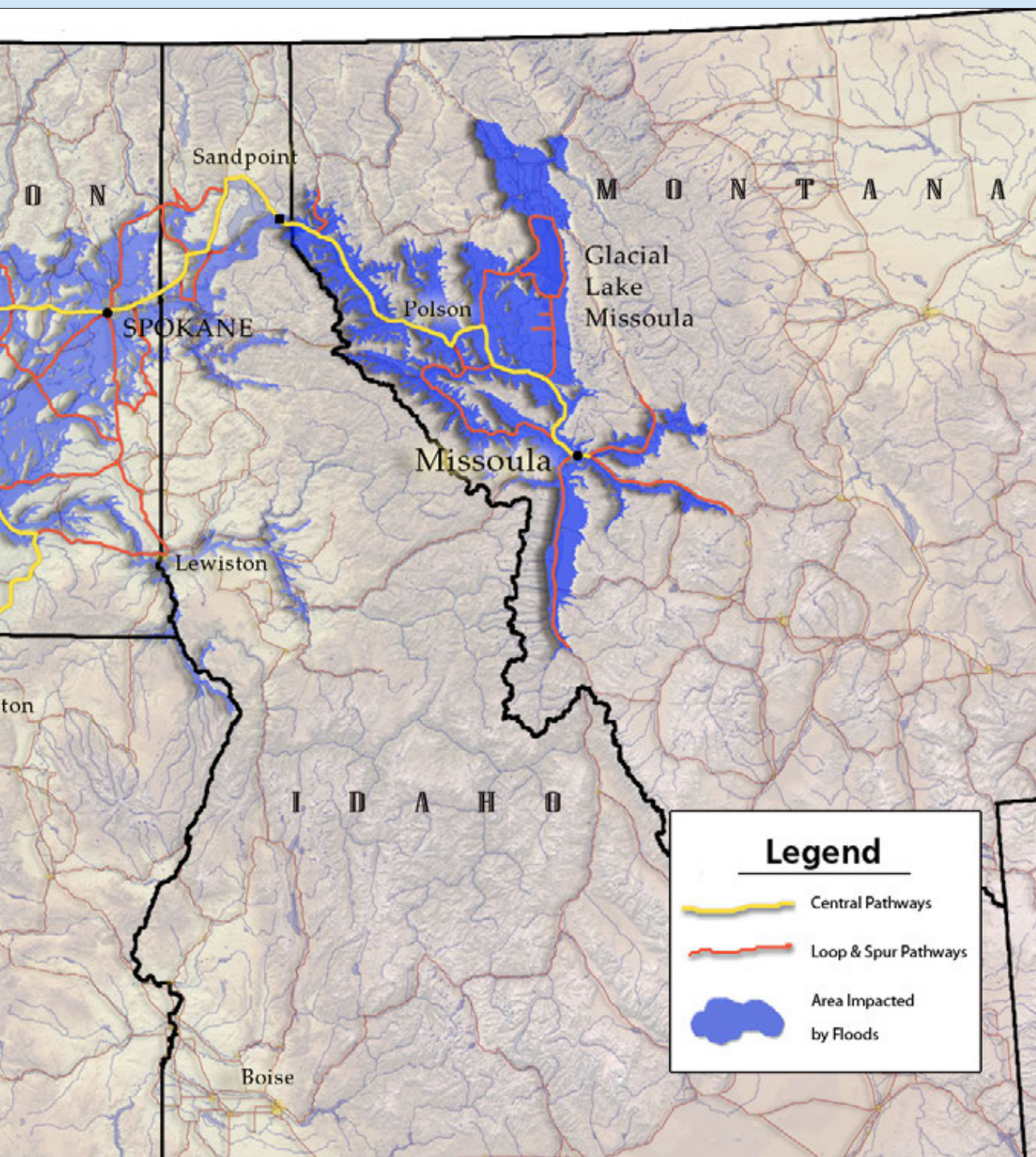
ONGOING COLLABORATION

Collaboration will be essential to planning and implementing the national geologic trail. **Congress has required that planning for the trail include consultation with state, local, and tribal governments, the Ice Age Floods Institute, private property owners, and other interested parties.** Partners will fulfill multiple roles, including:

- providing educational programs,
- preserving geologic resources,
- enabling access for visitors and for scientific research,
- developing interpretive sites and media,
- and otherwise offering diverse recreational opportunities for public enjoyment and appreciation of floods features.

MAP: ICE AGE FLOODS NATIONAL GEOLOGIC TRAIL





Map adapted from *Ice Age Floods Study of Alternatives and Environmental Assessment*, February 2001, prepared for the National Park Service by Jones & Jones Architects and Landscape Architects

Trail Purpose

The Ice Age Floods National Geologic Trail tells the stories of the cataclysmic Ice Age floods and invites people to discover and explore the resulting extraordinary landscapes and distinctive features. Interpretation, research, and stewardship are achieved through collaboration between public and private partners.



Palouse Falls, Washington, *NPS Photo*

Trail Significance

TRAIL SIGNIFICANCE

1 – Cataclysmic Ice Age Floods

Ice Age Floods National Geologic Trail represents the greatest floods on earth. Repeated cataclysmic releases of water exploding from glacially dammed Lake Missoula thundered across the landscape to the Pacific Ocean, carrying water, debris, rock, and ice with a discharge equal to 10 times the flow from all of today's rivers worldwide.

2 – Distinctive Geologic Resources

The Ice Age floods sculpted extraordinary landscapes and left behind a variety of distinctive geologic features across a vast area of the northwestern United States. Gigantic basalt coulees, enormous dry falls, and flood ripples of immense proportion are just a few examples of the evidence that survives to illustrate the scale and power of the floods.

3 – Science and Research

The discovery and investigation of the Channeled Scabland led to an understanding of cataclysmic origin that challenged prevailing geologic thought. Ongoing research has established the Ice Age floods as the quintessential example of megaflood landscapes throughout the world.

4 – Human Settlement and Use

The Ice Age floods transformed the environment of the northwestern United States, greatly influencing the use of the land and its resources from early native peoples to contemporary society.



Glacial erratic, Wallula Gap, Washington, *Photo by Tom Foster*

Fundamental Resources and Values

FUNDAMENTAL RESOURCES AND VALUES

The preeminent responsibility of trail managers is to ensure the conservation and public enjoyment of those qualities that are critical to achieving the trail's purpose and maintaining its significance. These qualities are called *fundamental resources and values*.

In addition, the trail pathway contains resources that are not critical to purpose and significance but are nonetheless important considerations for planning and management. These are referred to as *other important resources and values*.

A variety of geologic, cultural, scenic, and recreational resources are associated with the floods. Trail planners have identified obvious examples that directly support the trail's purpose and different aspects of significance and are therefore fundamental. Yet at this stage many resources have not been fully documented. Additional work would be required to fully inventory and catalog floods resources and definitively identify those that are fundamental versus those that are not.

The fundamental resources and values for the Ice Age Floods National Geologic Trail are:

1. Outstanding Floods-Related Geologic Resources
2. Exceptional Scenery and Views
3. Scientific Knowledge and Research

Other resources and values that are important for planning and management include:

- Floods-Related Cultural Resources
- Access to Diverse Recreational and Educational Opportunities

1 – Outstanding Floods-Related Geologic Resources

Numerous floods-related geologic features exist within this four-state area, but not all have been inventoried. Certain examples possess outstanding potential for interpretation and public enjoyment and may be considered fundamental resources in their own right. In other instances, individual features are not unique or rare, but nonetheless illustrate the extent and scale of floods events, especially in combination with other examples. It is important, therefore, that a large and diverse collection of floods-related geologic resources be highlighted and made available to the public. This collection should be representative of the entire spectrum of floods features and types found within this area.

Below is a list of such resources, organized by seven geologic feature types. Outstanding

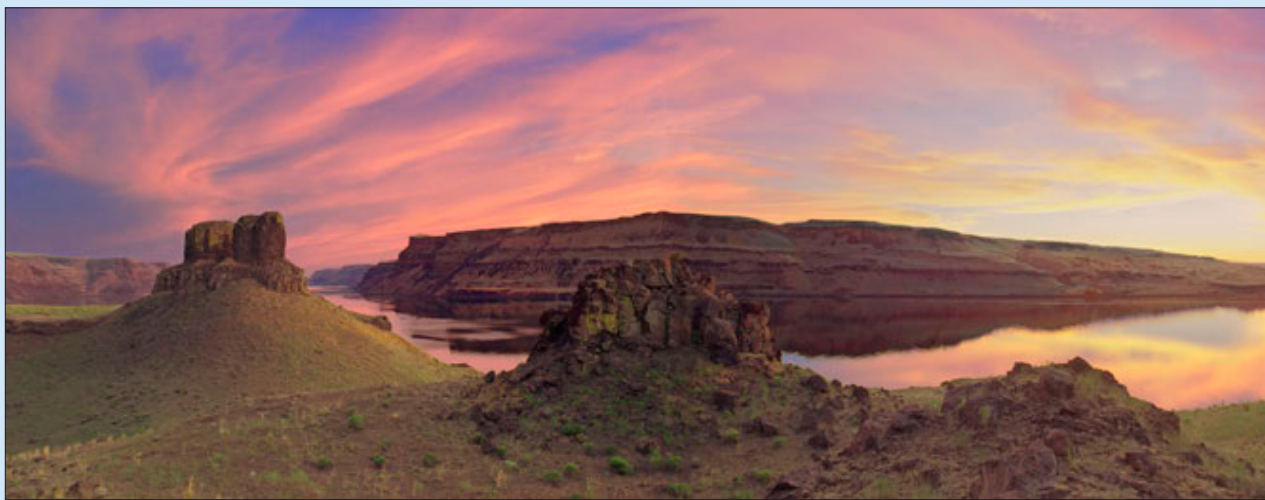
examples of these types are included, where known. This list will continue to be refined during future planning and management.

Bedrock features include basalt flows and dikes.

- *Colonnades and Entablatures:* Frenchman Coulee basalt columns, basalt at Palouse Falls and in Grand Coulee

Terrain features pre-existent to the floods include hydraulic constrictions such as water gaps through a ridge.

- *Hydraulic constrictions:* Sentinel Gap, the narrows at Grand Coulee dam, Wallula Gap, Columbia Gorge, Kalama Gap



Wallula Gap, Washington and Oregon, Photo by John Clement

Erosional landforms created by Ice Age floods include coulees, dry falls, and scablands, among others.

- *Scablands*: the Channeled Scabland, Cheney-Palouse Tract, Grand Coulee, Moses Coulee, Telford Tract, Drumheller Channels
- *Coulees*: Grand Coulee, Frenchman Coulee, Moses Coulee, Wilson Creek coulee
- *Cataracts*: Dry Falls, Potholes Cataract, Palouse Falls, Three Devils Cataract, Chain of Lakes Cataract (in Cheney-Palouse), Staircase Rapids

- Drumheller Channels
- *Streamline loess hills*: many parts of the Cheney-Palouse scabland

Depositional landforms created by Ice Age floods include current dunes and gravel bars, among others.

- *Gravel bars*: Pangborn-Wenatchee bar, Moses Coulee bar, great Athol bar, Midcanyon bar (Snake River)
- *Fan Deposits*: Near Ephrata, Washington
- *Current dunes*: Camas Prairie, Ramsey Road current dunes



Frenchman Coulee, Washington, NPS Photo



160-ton Bellevue Erratic, Oregon, Photo credit: unknown

- *Stratified deposits (“rhythmites”) in backflooded valleys:* Walla Walla Valley, Yakima Valley, Willamette Valley
- *Lake Rhythmite deposits:* Ninemile Creek
- *Submarine deposits in the Pacific Ocean*

Glacial features include moraines, eskers, erratics, and bergmounds.

- *Erratics:* Bellevue erratic, Frenchman Hills erratics (Quincy Basin), many others
- *Glaciated basin:* Lake Pend Oreille basin, Lake Chelan basin

Lake features include shorelines (or strandlines) and lake-bottom beds.

- *Strandlines:* Cabinet Gorge strandlines, strandlines on Mount Jumbo and Mount Sentinel

Features deposited by wind include dunes and dune fields (sand), and loess hills (silt).

- Sand dunes enclosing the “Potholes” of Moses Lake



Sediment layers from the bottom of Glacial Lake Missoula, Montana, NPS Photo



Wave-cut strandlines of Glacial Lake Missoula, Montana, NPS Photo

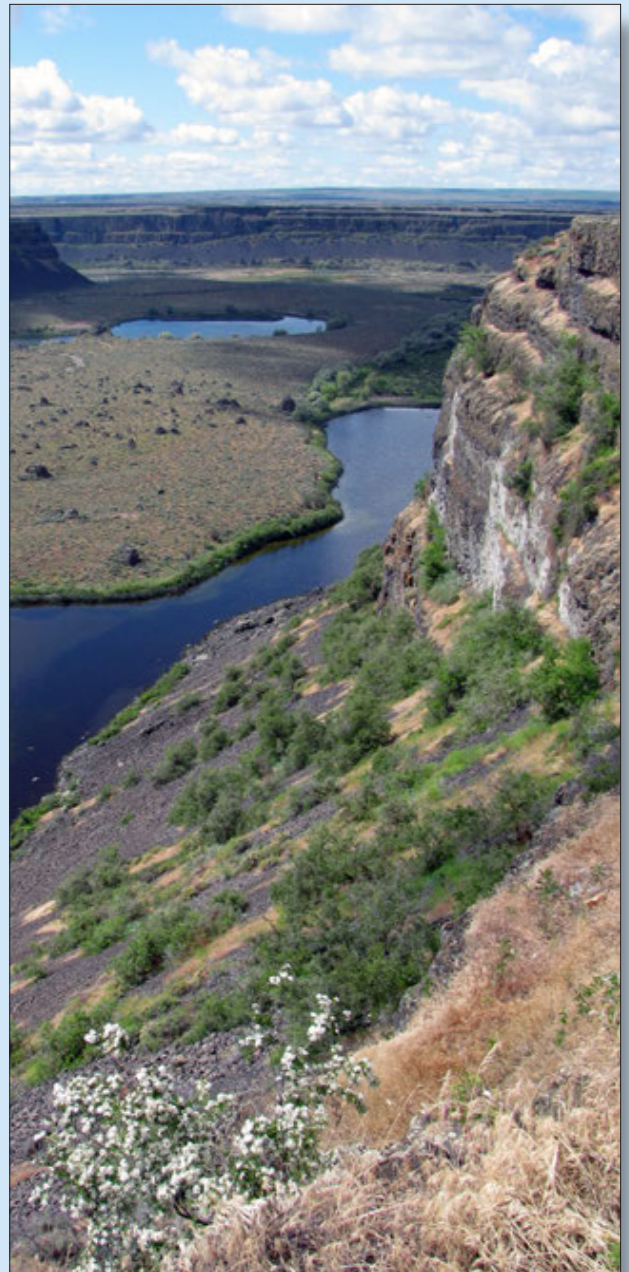
2 – Exceptional Scenery and Views

Vast landscapes and stunning scenery created by the floods are present at many places along the proposed trail routes. Views of natural and human-influenced scenery enable visitors to comprehend the scale of the floods, to appreciate the grandeur that the floods created, and to understand the impact of the floods on human settlement and on the natural world.

Scenery varies across the floods region. Local variations in topography, climate, vegetation, types and levels of use, and other factors combine to establish distinct landscapes that exhibit different qualities of visual character. In many places, the route offers dramatic views of natural areas scarcely touched by people. In other places, human activity is very noticeable, for instance in agricultural areas that exhibit a rural, pastoral character.

Portions of the trail route that are already federally recognized for exceptional scenic quality include the Coulee Corridor National Scenic Byway and the Columbia River Gorge National Scenic Area. Segments of state scenic byways also exist within the floods area.

Seven designated national natural landmarks (NNLs) feature floods resources as their primary component. In some cases, dramatic scenery was a factor in the listing of sites in this registry. One example is Crown Point in Oregon. Perched 700 feet above the Columbia River, Crown Point offers outstanding views of the surrounding Columbia River Gorge.



Sun Lakes-Dry Falls State Park, Washington, *NPS Photo*

Other important viewpoints and scenic corridors may be identified during future stages of planning.

Major Viewpoints include:

- Views to Green Monarch Mountains (evidence of glacial lobe), Idaho
- Steamboat Rock, Washington
- Dry Falls Interpretive Center, Sun Lakes State Park, Washington
- Drumheller Channels National Natural Area, Washington
- Rowena Crest, Mayer State Park, Oregon
- Crown Point State Scenic Corridor, Oregon

- Pacific Ocean from Lewis and Clark Interpretive Center, Cape Disappointment State Park, Washington

Scenic Corridors include:

- Pend Oreille Scenic Byway, Idaho
- Coulee Corridor National Scenic Byway, Washington
- Columbia River Gorge National Scenic Area, Washington and Oregon
- Historic Columbia River Highway, Oregon
- Lewis and Clark Trail State Scenic Byway, Washington



Crown Point, Oregon, Photo by Justin Miller

3 – Scientific Knowledge and Research

Investigation of the Ice Age Floods has greatly contributed—and continues to contribute—to the body of scientific knowledge. In bringing to light the story of the floods, J Harlen Bretz, Joseph Pardee, and other geologists yielded a new theory for the origin of many landforms in the northwest. Aided by new technologies, subsequent researchers built upon these early discoveries and further advanced our knowledge of the floods and its features.

Ongoing research, at home and abroad, continues to shape our understanding of our world. Contemporary scientists are now applying lessons that were acquired through investigation of the Ice Age floods to landscapes under study in other parts of the world—and even on other planets.

Within the trail corridor, sites and features directly associated with scientific discovery include: Dry Falls, the Camas Prairie current dunes, and rhythmites in the Walla Walla Valley, among many others. Documents,



Camas Prairie ripple marks, Montana, *Photo by Tom Foster*

observations, and other types of information that have contributed to scientific knowledge range from early accounts of floods-related geologic resources, to contemporary programs being conducted in the area by NASA and by other organizations, and ongoing geologic research in other countries.

Places and Features Associated with Science and Research Include:

- Dry Falls – tied to early investigation of the Ice Age floods
- Potholes Cataract – tied to early investigation of the Ice Age floods
- Camas Prairie current dunes – related to the discovery of the source of the floods
- Rhythmites – evidence for a repeated series of floods
- Willamette Valley – evidence for a repeated series of floods
- Area south of Soap Lake – site of NASA research

Other Values Associated with Science and Research:

- Historical research and writings
- Ongoing research – the continuing accumulation of scientific knowledge



Geologist Richard Waitt overlooks rhythmites in the Walla Walla Valley, Washington, Photo by Ted Wood

OTHER IMPORTANT RESOURCES AND VALUES

The identification of certain resources and values as fundamental is not meant to imply that other resources are not important. The National Park Service draws this distinction because it can help trails and other national park system units set priorities among competing management concerns.

Floods-Related Cultural Resources

Although geological resources are the primary focus of the national geologic trail, the human history of the region adds another dimension to the floods' story. The federal and state partners responsible for managing the trail also manage cultural resources in accordance with laws and regulations that mandate their protection.

Cultural resources along the trail corridor convey thousands of years of human history and patterns of settlement across the numerous, varied landscapes shaped by the Ice Age floods. These resources express the continuum of human adaptation to diverse landscapes and settings ranging from lush, fertile valleys well-suited for agriculture, to scoured, barren lands devoid of settlement. Although the entire trail corridor has not been surveyed for cultural resources; significant archeological sites, ethnographic resources, historic structures, and cultural landscapes that have been identified indicate that many more cultural resources are likely to be present.

Archeological and ethnographic resources associated with the Ice Age floods' landscape include prehistoric campsites, elaborately made stone and bone carvings, rock art, plant gathering areas, legends, traditional fisheries, and other sites important to American Indian cultures. Prehistoric and historic trade and travel routes weave throughout the region, often overlapping with geographical features that were created or shaped by the floods. Within this transportation network, natural cataracts were important nodes where fishing and trade activities were concentrated. Two such examples are Willamette Falls and Celilo Falls—the latter now submerged by a reservoir.

More recently, the Ice Age floods landscape became the backdrop for increased agriculture, transportation, and hydropower development. Valleys and basins once inundated by the floods have become productive farmlands. These conditions were made possible both by the Ice Age floods' depositing great quantities of soil in certain areas, and also by construction of huge dams and irrigation networks. Massive hydropower, irrigation, and navigation projects have become significant historic resources in their own right. One example is the Bonneville Lock and Dam on the Columbia River. Its designation as a national historic landmark recognizes the exceptional significance of this project.

Access to Diverse Recreational and Educational Opportunities

Providing for enjoyment and understanding of resources is central to the mission of the National Park Service and to every park unit or trail that the agency administers. Through partnerships, the national geologic trail offers access to a variety of recreational and educational opportunities that enable visitors to learn about, appreciate, and experience the floods features.

Owing to the diversity of landscapes and scenery created by the floods, and to the differing—but complementary—missions of its partners, visitors to the trail will find opportunities ranging from solitary to group activities, and from contemplative to inspirational experiences. Many such recreational and educational opportunities are already available on lands managed by trail partners. These run the gamut from organized tours to rock climbing at Frenchman Coulee to fishing, which is popular at various state parks. A variety of new opportunities may be envisioned for the future.

The national geologic trail will link together and facilitate these activities and experiences through a network of designated touring routes and a coordinated system of wayfinding and interpretation. Enhancing access to resources and to the opportunities they present will be a major consideration.



Tsagaglalal (She Who Watches) petroglyph and pictograph, Columbia Hills State Park, Washington, Photo by Angie Moore, Friends of the Columbia Gorge



Ice dam location, Clark Fork, Idaho, Photo by Bruce Bjornstad

Primary Interpretive Themes

PRIMARY INTERPRETIVE THEMES

1 – Geologic Setting

A remarkable alignment of past geologic forces, resulting terrain, and Ice Age conditions produced a series of some of the greatest floods on earth, dramatically sculpting 16,000 square miles of the northwestern United States and as much of the Pacific Ocean floor.

2 – Cataclysmic versus Incremental

The Ice Age floods remind us that the slow, incremental processes shaping our earth can be punctuated by sudden, epic, cataclysmic events, and that such events are possible in our lifetimes.



Beginning in 1922, J Harlen Bretz spent summers exploring central and eastern Washington with his family and students
Photo credit: unknown

3 – Evidence that Remains

In the wake of the floods, a wide array of floods-formed features remained, just waiting for human curiosity to discover. Some features are gigantic – readily visible from space; others are subtle—only revealed and appreciated through close observation.

4 - In Search of the Truth

Unraveling the mysteries of the Ice Age floods reveals the human, often subjective and sometimes contentious, side of the scientific method that arises when new evidence challenges prevailing paradigms.

5 – Lives and Livelihoods

Just as the Ice Age floods left an enduring mark on the landscape of the northwestern United States, so too has that landscape profoundly shaped human history and culture across the region. The impact of the floods continues to this day.



Camas Prairie current dunes, Montana, *Photo by Steve Corrick*

Special Mandates and Administrative Commitments

SPECIAL MANDATES AND ADMINISTRATIVE COMMITMENTS

The following text summarizes applicable requirements from two sources: the legislation establishing the Ice Age Floods National Geologic Trail (P.L. 111-11, Sec. 5203) and a memorandum of understanding (MOU) among the seven federal agency partners. These documents require the National Park Service to develop and manage the national geologic trail through collaboration with other parties.

Public Law 111-11, Sec. 5203

Section (f) (5) of the legislation requires the Secretary of the Interior to prepare a cooperative management and interpretive plan for the trail within three years of funding being made available for this purpose. The legislation mandates that the Secretary prepare this plan in consultation with:

- (i) state, local, and tribal governments
- (ii) the Ice Age Floods Institute
- (iii) private property owners
- (iv) other interested parties (Public Law 111-11, Section 5203, (f)(5))

It is noteworthy that the legislation specifically mentions the nonprofit Ice Age Floods Institute as one of the partners to engage. Subsequent lines in the legislation outline the primary objectives of the cooperative management and interpretive plan.

The enabling legislation also provides the Secretary of the Interior broad authority to enter into agreements with government officials, private entities, and with the general public for the purposes of trail development and management:

...the Secretary may enter into cooperative management agreements with appropriate officials in the States of Montana, Idaho, Washington, and Oregon in accordance with the authority provided for units of the national park system under section 3(l) of Public Law 91-383 (16 U.S.C. 1a-2(1))

COOPERATIVE AGREEMENTS.—The Secretary may enter into cooperative agreements with public or private entities to carry out this section.

National Park Service Agreement – IAFL # G9003-10-0001

National Park Service Agreement – IAFL # G9003-10-0001 is a memorandum of understanding among the following seven federal agency partners regarding planning, development, and management of the trail:

U.S. Department of the Interior

- National Park Service, Pacific West Region
- U.S. Geological Survey, Western Region
- Bureau of Land Management, Idaho, Montana, and Oregon/Washington State Offices
- Bureau of Reclamation, Pacific Northwest Region
- U.S. Fish and Wildlife Service, Region 1

U.S. Department of Defense

- U.S. Army Corps of Engineers, Northwestern Division

U.S. Department of Agriculture

- U.S. Forest Service, Northern and Pacific Northwest Regions

Agency officials signed the memorandum in 2010 and it remains in effect through August 23, 2020.

The purpose of the memorandum is “to develop a coordinated and scientifically accepted interpretation of the nationally significant values and features associated with the Ice Age Floods National Geologic Trail that are found on federal lands in the states of Idaho, Montana, Oregon, and Washington.” In signing this memorandum,

the agencies acknowledged that they “share a mutual interest in federal land management, scientific research, and a responsibility for providing the public with high quality, cohesive and educational interpretive programs.”

Partner agencies commit to responsibilities, including:

- representing and participating in an Interagency Coordination Committee to collaborate and oversee the activities that will enhance interpretation of the Ice Age floods story and features
- voluntarily consulting with the Coordination Committee to review site development plans and interpretive messages associated with the Ice Age Floods National Geologic Trail and the Ice Age floods story
- leveraging personnel, equipment, and services (at agency discretion) to carry out their respective responsibilities under the memorandum

Terms of the memorandum are subject to modification provided that all parties demonstrate mutual consent by signing. Any party may, at any time before the memorandum’s expiration, terminate their participation in the memorandum in writing.

Appendix A: Enabling Legislation

PUBLIC LAW 111-11, SECTION 5203

SEC. 5203. ICE AGE FLOODS NATIONAL GEOLOGIC TRAIL.

16 USC 1244
note.

(a) FINDINGS; PURPOSE.—

(1) FINDINGS.—Congress finds that—

(A) at the end of the last Ice Age, some 12,000 to 17,000 years ago, a series of cataclysmic floods occurred in what is now the northwest region of the United States, leaving a lasting mark of dramatic and distinguishing features on the landscape of parts of the States of Montana, Idaho, Washington and Oregon;

(B) geological features that have exceptional value and quality to illustrate and interpret this extraordinary natural phenomenon are present on Federal, State, tribal, county, municipal, and private land in the region; and

(C) in 2001, a joint study team headed by the National Park Service that included about 70 members from public and private entities completed a study endorsing the establishment of an Ice Age Floods National Geologic Trail—

(i) to recognize the national significance of this phenomenon; and

(ii) to coordinate public and private sector entities in the presentation of the story of the Ice Age floods.

(2) PURPOSE.—The purpose of this section is to designate the Ice Age Floods National Geologic Trail in the States of Montana, Idaho, Washington, and Oregon, enabling the public to view, experience, and learn about the features and story of the Ice Age floods through the collaborative efforts of public and private entities.

State listing.

(b) DEFINITIONS.—In this section:

(1) ICE AGE FLOODS; FLOODS.—The term “Ice Age floods” or “floods” means the cataclysmic floods that occurred in what is now the northwestern United States during the last Ice Age from massive, rapid and recurring drainage of Glacial Lake Missoula.

(2) PLAN.—The term “plan” means the cooperative management and interpretation plan authorized under subsection (f)(5).

(3) SECRETARY.—The term “Secretary” means the Secretary of the Interior.

(4) TRAIL.—The term “Trail” means the Ice Age Floods National Geologic Trail designated by subsection (c).

(c) DESIGNATION.—In order to provide for public appreciation, understanding, and enjoyment of the nationally significant natural and cultural features of the Ice Age floods and to promote collaborative efforts for interpretation and education among public and private entities located along the pathways of the floods, there is designated the Ice Age Floods National Geologic Trail.

(d) LOCATION.—

(1) MAP.—The route of the Trail shall be as generally depicted on the map entitled “Ice Age Floods National Geologic Trail,” numbered P43/80,000 and dated June 2004.

(2) ROUTE.—The route shall generally follow public roads and highways.

(3) REVISION.—The Secretary may revise the map by publication in the Federal Register of a notice of availability of a new map as part of the plan.

(e) MAP AVAILABILITY.—The map referred to in subsection (d)(1) shall be on file and available for public inspection in the appropriate offices of the National Park Service.

(f) ADMINISTRATION.—

(1) IN GENERAL.—The Secretary, acting through the Director of the National Park Service, shall administer the Trail in accordance with this section.

(2) LIMITATION.—Except as provided in paragraph (6)(B), the Trail shall not be considered to be a unit of the National Park System.

(3) TRAIL MANAGEMENT OFFICE.—To improve management of the Trail and coordinate Trail activities with other public agencies and private entities, the Secretary may establish and operate a trail management office at a central location within the vicinity of the Trail.

(4) INTERPRETIVE FACILITIES.—The Secretary may plan, design, and construct interpretive facilities for sites associated with the Trail if the facilities are constructed in partnership with State, local, tribal, or non-profit entities and are consistent with the plan.

(5) MANAGEMENT PLAN.—

(A) IN GENERAL.—Not later than 3 years after funds are made available to carry out this section, the Secretary shall prepare a cooperative management and interpretation plan for the Trail.

(B) CONSULTATION.—The Secretary shall prepare the plan in consultation with—

- (i) State, local, and tribal governments;
- (ii) the Ice Age Floods Institute;
- (iii) private property owners; and
- (iv) other interested parties.

Federal Register,
publication.
Notice.

Deadline.

(C) CONTENTS.—The plan shall—

(i) confirm and, if appropriate, expand on the inventory of features of the floods contained in the National Park Service study entitled “Ice Age Floods, Study of Alternatives and Environmental Assessment” (February 2001) by—

(I) locating features more accurately;

(II) improving the description of features; and

(III) reevaluating the features in terms of their interpretive potential;

(ii) review and, if appropriate, modify the map of the Trail referred to in subsection (d)(1);

(iii) describe strategies for the coordinated development of the Trail, including an interpretive plan for facilities, waysides, roadside pullouts, exhibits, media, and programs that present the story of the floods to the public effectively; and

(iv) identify potential partnering opportunities in the development of interpretive facilities and educational programs to educate the public about the story of the floods.

(6) COOPERATIVE MANAGEMENT.—

(A) IN GENERAL.—In order to facilitate the development of coordinated interpretation, education, resource stewardship, visitor facility development and operation, and scientific research associated with the Trail and to promote more efficient administration of the sites associated with the Trail, the Secretary may enter into cooperative management agreements with appropriate officials in the States of Montana, Idaho, Washington, and Oregon in accordance with the authority provided for units of the National Park System under section 3(l) of Public Law 91-383 (16 U.S.C. 1a-2(l)).

(B) AUTHORITY.—For purposes of this paragraph only, the Trail shall be considered a unit of the National Park System.

(7) COOPERATIVE AGREEMENTS.—The Secretary may enter into cooperative agreements with public or private entities to carry out this section.

(8) EFFECT ON PRIVATE PROPERTY RIGHTS.—Nothing in this section—

(A) requires any private property owner to allow public access (including Federal, State, or local government access) to private property; or

(B) modifies any provision of Federal, State, or local law with respect to public access to or use of private land.

(9) LIABILITY.—Designation of the Trail by subsection (c) does not create any liability for, or affect any liability under any law of, any private property owner with respect to any person injured on the private property.

(g) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this section, of which not more than \$12,000,000 may be used for development of the Trail.



Rainbow Lake scabland, Montana, *NPS Photo*

Appendix B: National Natural Landmarks

NATIONAL NATURAL LANDMARKS

There are seven national natural landmarks (NNLs) with Ice Age floods features as a principal component. A national natural landmark is a nationally significant area in public or private ownership that has been designated by the Secretary of the Interior. To be nationally significant, a site must be one of the best examples of a biological or geological resource in its physiographic province. The significance of the Ice Age Floods National Geologic Trail relates to the exceptional qualities of these national natural landmarks and other floods-related resources.



Wigeon Lake, Drumheller Channels, Washington,
Copyright © 2000 Teri J. Pieper, www.byways.org

The following brief descriptions are adapted from the National Registry of Natural Landmarks. Some additional information is also provided:

Crown Point, Oregon — Crown Point is a promontory rising nearly vertically about 725 feet above the Columbia River. It provides a strategic vantage point for observing a classic illustration of riverine processes. Designated: 1971. Ownership: state.

Drumheller Channels, Washington — Drumheller Channels are the most spectacular example in the Columbia Plateau biophysigraphic province of “butte-and-basin” scabland; an erosional landscape characterized by hundreds of isolated, steep-sided hills surrounded by a braided network of underfit channels. This landscape illustrates the dramatic modification of the Columbia Plateau volcanic terrain by late Pleistocene catastrophic glacial outburst floods. These floods occurred at a scale remaining unparalleled on earth, either in the geologic record or in historical account. Designated: 1986. Ownership: federal, state, private.

Glacial Lake Missoula, Montana — Glacial Lake Missoula was the largest of several lakes impounded by the Cordilleran Ice Sheet during the Quaternary Period. Located 12 miles north of Perma, Montana, this site contains the best examples of giant flood ripples in North America. Ripples appear as ridges 15 to 20 feet high, 100 to 250 feet wide, and from 300 feet to one-half mile long. It is believed that these giant ripples could only have been formed by water at least 800 feet deep, flowing at velocities up to 55 miles per hour. Designated: 1966. Ownership: private.

Grand Coulee, Washington — Grand Coulee is an illustration of a series of geological events including outpourings of lava, advance and recession of glacial ice, retreat of waterfalls, and the cutting of the Columbia River channel. Designated: 1965. Ownership: federal, state, private.

The Great Gravel Bar of Moses Coulee, Washington — The Great Gravel Bar of Moses Coulee is a very large example of a pendent river bar formed by the catastrophic glacial outburst floods that swept across the Columbia Plateau prior to the last Pleistocene glaciation. The impressive scale of this feature, deposited

in Moses Coulee, provides dramatic evidence for the violent flood waters that formed and once filled the coulee. As a constructional landform, it thus serves as a complement to Drumheller Channels, which were eroded during the same flood events farther downstream. Designated: 1986. Ownership: state, private.



Willamette Valley, Oregon,
Photo by Melissa Rosin

Wallula Gap, Washington

— Wallula Gap is the largest, most spectacular, and most significant of the several large water gaps through basalt anticlines in the Columbia River basin. Designated: 1980. Ownership: federal, municipal, private.

Willamette Floodplain, Oregon

— The Ice Age floods stripped enormous quantities of soil from certain areas (predominantly in eastern Washington), and re-deposited it in other areas downstream, such as the Willamette Valley. This deposition is a major factor in creating the Willamette Valley's fertile soils. The

Willamette floodplain represents the largest remaining native unplowed example of bottomland interior valley grassland in the North Pacific Border biophysiological province. These grassland and shrubland communities have become exceedingly rare because most have been cultivated or converted to pastureland. Designated: 1987. Ownership: federal.

Appendix C: Participants

Participant	Title	Organization	Division/Region
Federal Interagency Coordination Committee Representatives			
Joseph Maxwell	Natural Resource Manager	U.S. Army Corps of Engineers	Lower Granite Natural Resource Office
Bonnie Lippitt	Interpretive Specialist	USDA-U.S. Forest Service	Region 6, Pacific Northwest Region
Melody Holm	Geologist	USDA-U.S. Forest Service	Minerals and Geology Management Centralized National Operations
Brent Cunderla	Geologist	USDI-Bureau of Land Management	Wenatchee Field Office
Mindy Mason	Geologist	USDI-Bureau of Land Management	Missoula Field Office
Scott Sanner	Mining Engineer	USDI-Bureau of Land Management	Coeur d'Alene Field Office
Richard Honey	Water Resources Supervisor	USDI-Bureau of Reclamation	Upper Columbia Area Office
Marsha Davis	Geologist	USDI-National Park Service	Pacific West Region
Jorie Clark	Archaeologist / Geologist	USDI-U.S. Fish & Wildlife Service	Region 1, Pacific Region
Alex Schwartz	Landscape Architect	USDI-U.S. Fish & Wildlife Service	Region 1, Pacific Region
Richard Waitt	Geologist	USDI-U.S. Geological Survey	Cascades Volcano Observatory
Other Representatives			
Mark Buser	President	Ice Age Floods Institute	Ice Age Floods Institute
Dave Daugharty	IAFI Board Member	Ice Age Floods Institute	Cheney / Spokane Chapter
Lynne Brougher	Public Affairs Officer	USDI-Bureau of Reclamation	Grand Coulee Dam
Terry Darby	Superintendent	USDI-National Park Service	Whitman Mission National Historic Site; Acting Superintendent Ice Age Floods National Geologic Trail
Jon Riedel	Geologist	USDI-National Park Service	North Cascades NPS Complex
Erv Gasser	Natural Resource Specialist	USDI-National Park Service	Pacific West Region
Cheryl Teague	Landscape Architect	USDI-National Park Service	Pacific West Region
Sarah Bodo	Community Planner	USDI-National Park Service	Denver Service Center
Tom Gibney	Planner / Landscape Architect	USDI-National Park Service	Denver Service Center
Debbie Bird	Superintendent	USDI-National Park Service	Lake Roosevelt NRA
Ken Hyde	Integrated Resources	USDI-National Park Service	Lake Roosevelt NRA
Murray Shoemaker	Interpretive Specialist	USDI-National Park Service	Lake Roosevelt NRA
Keith Dunbar	NPS-VIP-Planner	USDI-National Park Service	Volunteer
Reed Jarvis	NPS-VIP-Planner	USDI-National Park Service	Volunteer
Rhonda Terry	NPS-VIP-Interpretive Planner	USDI-National Park Service	Volunteer
Jack Epstein	Geologist Emeritus	USDI-U.S. Geological Survey	Eastern Geology and Paleoclimate Science Center
Christine Parsons	Capital Program Manager	Washington State Parks	Eastern Region Headquarters
Bill Fraser	Regional Park Planner	Washington State Parks	Eastern Region Headquarters
Ryan Karlson	Interpretive Services Program Manager	Washington State Parks	Resource Stewardship (statewide)



Glacial grooves and striations, Lake Pend Oreille, Idaho, *NPS Photo*

Appendix D: Future Planning Needs

FUTURE PLANNING NEEDS

Planning for the Ice Age Floods National Geologic Trail is at a very early stage. Though the trail was established in 2009, no operational dollars for development of the trail have been forthcoming. In addition, the NPS National Planning Program has placed a hold on starting any new long-term planning efforts at this time.

Development of the trail would take place in the future, guided by enabling legislation, and following subsequent phases of planning. As described in the “Special Mandates and Administrative Commitments” section of this foundation statement, Public Law 111-11 Section 5203 directs the Secretary of the Interior to prepare a cooperative management and interpretation plan for the Ice Age Floods National Geologic Trail. This plan would “describe strategies for the coordinated development of the Trail, including an interpretive plan for facilities, waysides, roadside turnouts, exhibits, media and programs that present the story of the floods to the public effectively.” The legislation outlines additional objectives that correspond to future planning needs, which are summarized below. The National Park Service has been identified as the lead agency.

Legislation directs that the cooperative management plan would, “confirm and, if appropriate, expand on the inventory of features of the floods contained in the National Park

Service study entitled *Ice Age Floods Study of Alternatives and Environmental Assessment*.” This would involve locating floods-related features more accurately and improving upon the description of these floods features. Analysis would also identify sites for interpretation and visitation. In addition to interpretive potential, this analysis would consider critical factors such as land ownership and access. The resulting product is envisioned as an accessible inventory database.

The legislation also directs that the future plan would “review, and if appropriate, modify the map of the trail.” One step would be to analyze the proposed routes depicted in the *Ice Age Floods Study of Alternatives and Environmental Assessment* to determine whether refinements to proposed routes are needed.

Additionally, legislation recognizes a need to “identify potential partnering opportunities in the development of interpretive facilities and educational programs.” Although seven federal agencies have been identified in a memorandum of understanding, planners may choose to engage additional partners in their efforts to identify areas of mutual interest and strategies to advance future operation and public use of the trail. This would include partner commitments for research, resource protection, visitor protection, visitor services, and interpretation.

There is also a need to promote awareness of the new national geologic trail—both among the general public and also internally within the agencies that signed the memorandum of understanding. Increased public and agency support will be critical to ensuring that the trail is realized. To facilitate this public awareness, the development of a public foundation statement newsletter would be recommended.



Frenchman Coulee, Washington, *Photo by Tom Foster*



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has an important responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

Ice Age Floods National Geologic Trail
Draft Foundation Statement
September 2011

Appendix F: Sample Declaration of Cooperation Agreement



Declaration of Cooperation

Sandy River Connections Working Group

February 1, 2008

Preface

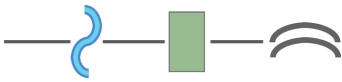
The Sandy River Connections Working Group includes representatives from a coalition of local, county, regional, state and federal partners: the City of Troutdale, Confluence Project, the Port of Portland, 40-Mile Loop Land Trust, Multnomah County, Metro Regional Government, Oregon Department of Transportation (ODOT) Region 1, Oregon Parks and Recreation Department the Oregon Recreational Trails Council, the U.S. Forest Service – Columbia River Gorge National Scenic Area, , and the Bureau of Land Management. The Sandy River Connections Working Group is working to ensure coordinated planning and implementation of recreation, transportation, and habitat protection and enhancement related projects in the vicinity of the Sandy River Delta.

In February 2008, the Sandy River Connections Working Group finalized the Sandy River Connections Concept Plan (Concept Plan). The projects described in the Concept Plan will provide improved access to nature, regional recreation resources, workplaces, commercial centers and schools. In addition, the projects described in the Concept Plan will create economic and ecological benefits, provide educational and interpretive opportunities and serve a broad public user base. With the Concept Plan in place, the Sandy River Connections Working Group will seek opportunities to leverage funding and other resources to implement projects described in the Concept Plan. As new projects are identified by the Working Group, the Concept Plan will be amended to include them. This Declaration does not constitute a financial commitment at this time for any members of the Sandy River Connections Working Group.

Project Area

The Sandy River Connections Concept Plan project area includes the area immediately east and west of the Sandy River near the City of Troutdale at the river's confluence with the Columbia River. The project area is not only the confluence of two important rivers, the Sandy and the Columbia Rivers, but geographically delineates the edge of the Portland metropolitan region from the Columbia River Gorge National Scenic Area and provides a link to the natural resources and recreational opportunities in the Sandy River Basin and public lands.





Concept Plan Objectives

- Provide pedestrian/ bicycle access over the Sandy River to improve user safety and provide more efficient access to nature and the recreational areas in the Sandy River Delta, Columbia River Gorge, the Sandy River Basin and other public lands.
- Promote a coordinated multi-use trail system with improved connections to Metro's Regional Trail and Greenway system, including the 40-Mile Loop trail system that serves multiple users and skill levels.
- Improve movement of automobiles and freight along I-84 in the project area.
- Increase the presence of nature in the project area and incorporate ecological benefits into project designs.
- Improve recreational opportunities and staging for regional recreation outside the Sandy River Connections Planning Area.
- Increase and identify river access and appropriate riverfront opportunities to boost tourism and economic development.
- Work collaboratively with partners to leverage support and resources for projects identified in this Concept Plan.
- Provide opportunities to maximize restoration and recovery of the Sandy River's wild salmon and steelhead.
- Promote collaborative planning efforts among local, county, regional, state and federal partners throughout the Sandy River Basin to identify existing and future natural resource and recreation management issues related to expected increased public use.





We, the undersigned, agree to participate in the implementation of the Sandy River Connections Concept Plan, to strive to identify opportunities and solutions whenever possible, to contribute assistance and support within resource limits, and to communicate and collaborate with other team members in promoting the successful implementation of the plan.

We, the undersigned, also agree that separate Intergovernmental or Cooperative Improvement Agreements may be required between affected participating parties. Said agreement(s) must be executed prior to construction of Project elements, or financial contributions made toward such a Project.

Elected Officials

Mayor, City of Troutdale

Date

Metro Council President, Metro Regional Government

Date

Commission Chair, Multnomah County

Date

Agency Representatives

Region 1 Manager, ODOT

Date

Area Manager, Columbia River Gorge National Scenic Area, USFS

Date

Director, Oregon Parks and Recreation

Date

Executive Director, Port of Portland

Date

Cascades Field Manager, Bureau of Land Management

Date

Non Profits

Executive Director, The Confluence Project

Date

President, 40 Mile Loop Land Trust

Date

Chair, Oregon Recreational Trails Council

Date





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Barbara Roberts, District 6

Auditor

Suzanne Flynn

Metro

600 NE Grand Ave.

Portland, OR 97232

503-797-1700

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 13-4415, FOR THE PURPOSE OF APPROVING THE ICE AGE TONQUIN TRAIL MASTER PLAN

Date: February 28, 2013

Prepared by: Jane Hart, 503-797-1585

BACKGROUND

The 22-mile Ice Age Tonquin Trail will connect the Willamette and Tualatin Rivers and the cities of Wilsonville, Sherwood and Tualatin as it travels through parts of Clackamas and Washington counties over a landscape formed by the Ice Age floods 15,000 to 20,000 years ago.

The Ice Age Tonquin Trail was identified as a regionally significant trail in Metro's 1992 Metropolitan Greenspaces Master Plan. Since that time, voters approved two Metro bond measures; one in 1995 and another in 2006, which identified acquisition priorities in the Tonquin Geologic Area target area, including natural areas and a trail corridor.

In November 2007, Metro entered into an Intergovernmental Agreement (IGA) with the Oregon Department of Transportation (ODOT), the cities of Wilsonville, Sherwood and Tualatin, whereby Metro managed a contract with CH2MHill consultants to conduct the master planning process and prepare the trail master plan. The plan was funded by ODOT.

Building on the 2004 Tonquin Trail Feasibility Study, the Ice Age Tonquin Trail master planning process confirmed a specific alignment for the trail and identified trail design elements, cost estimates to build and maintain the trail, possible funding sources, and a phased implementation plan. During the master planning process, more than 1,000 community members commented at open houses, community festivals, public presentations, stakeholder interviews and online. A steering committee comprised of citizens and representatives from partner cities and counties worked with Metro and the consultant team to finalize the route and trail design and to identify who will build and operate the trail. The extensive public involvement, including presentations to elected officials to keep them updated, resulted in a master plan that is widely supported by the partner jurisdictions and residents of the region. Based on letters of support from the trail partner jurisdictions, the trail name was also amended to add the words *Ice Age*. Appendix A of the Ice Age Tonquin Trail Master Plan contains a complete summary of the community outreach conducted for the trail project. The Ice Age Tonquin Trail Master Plan has been successfully completed and meets the intent of the IGA between ODOT, Metro and the cities of Wilsonville, Sherwood and Tualatin.

Metro staff and project partners met with landowners where trail easements are needed to explain Metro's willing-seller program for trail acquisition and to gauge landowner interest in the project. All landowners contacted were open to the project and to further discussion. The route will need to be refined in some areas where concept planning is underway in unincorporated Washington County. As a result of these landowner meetings, staff has refined the list of properties that are needed to successfully implement the trail. Although some of these properties were not identified on the confidential refinement plan maps, they are needed to help achieve the goals and objectives identified in the Tonquin Geologic Area Refinement Plan, therefore tax lot map adjustments are required to add these properties.

The Metro Chief Operating Officer is authorized to acquire properties identified on the confidential refinement plan maps in accordance with the acquisition guidelines set forth in the Natural Areas Implementation Work Plan (Resolution No. 07-3766A adopted March 1, 2007). Allowing the Chief Operating Officer to acquire these properties without further Council approval enables staff to work with

willing sellers in a timely, businesslike manner, and has been Metro's standard practice in its acquisition of 12,000 acres since 1995.

This resolution requests that the Metro Council approve the amended confidential refinement plan map for the Tonquin Geologic Area target area to allow for acquisition of these newly identified properties. Metro's acquisition of these properties would help achieve the goals and objectives specifically set forth in the refinement plan.

The master plan recommends that partner jurisdictions (the three cities and two counties) amend their respective transportation system plans and that Metro amend its 2035 Regional Transportation Plan to include the master plan's recommended trail alignment in those documents. Adopting the trail alignment in these and other land use and transportation plans will allow it to be eligible for local, regional, state and federal funding sources.

ANALYSIS/INFORMATION

1. Known Opposition

There is no known opposition to the Ice Age Tonquin Trail Master Plan. During the project steering committee meetings, public open houses, stakeholder meetings and landowner interviews, concerns and issues were raised related to the trail location and trail design and adjustments in the alignment were made as appropriate. An extensive, thorough and transparent analysis was conducted to address these issues as they came up during the master planning process. The project steering committee unanimously endorses the resulting master plan.

The plan has already been adopted by the cities of Tualatin and Sherwood and by Washington County.

Notice of the public review draft was widely distributed through e-mail, social media, print, web video and television advertising. A handful of public comments were received, all favorable about the project. An attorney representing three or four contiguous industrial landowners who generally support the project requested several text changes related to the goal of the trail near their land and their involvement in determining the best alignment. The master plan has been revised to address as many of their concerns as possible. Other concerns not directly addressed in the master plan, appear to related to future land use regulations that are local in nature and out of Metro's direct control.

2. Legal Antecedents

Metro Council Resolution No. 07-3850 approving the Tonquin Geologic Area Target Area Refinement Plan and confidential tax lot specific map, adopted on September 27, 2001.

Intergovernmental Agreement (#24086) between the Oregon Department of Transportation, Metro and the cities of Wilsonville, Sherwood and Tualatin, dated November 20, 2007, for funding support and working together to prepare the Ice Age Tonquin Trail Master Plan.

Intergovernmental Agreement between Metro, Washington County and the cities of Wilsonville and Tualatin, dated July 7, 2011, for Concept Planning the "Basalt Creek" and "West Railroad" Planning Areas, which will help to determine final alignment of the Ice Age Tonquin Trail in that area.

3. Anticipated Effects

When completed, the multi-use Ice Age Tonquin Trail will span approximately 22 miles, connecting the Willamette and Tualatin rivers and dozens of neighborhoods, businesses, schools and parks as it travels through the communities of Wilsonville, Sherwood and Tualatin. The Ice Age Tonquin Trail anchors the southwest quadrant of a larger interconnected network of trails and greenways known as The Intertwine.

The trail will connect with other regional trails including the Fanno Creek Greenway Trail and the Westside Trail, and if the French Prairie Bridge is built in Wilsonville, to both Champoege and Willamette Mission State Parks.

The Ice Age Tonquin Trail Master Plan establishes a clearly defined roadmap for taking the trail from vision to reality. The master plan provides the information needed for Metro and local and regional partners to embark on trail acquisition and development by providing detail alignment, design, and implementation guidance. The trail will be constructed in phases by the jurisdictions the trail serves, as funding becomes available.

When implemented, the master plan's recommendations will result in:

- A safe, ADA-accessible and seamless connection from neighborhoods and employment areas to the trail.
- An alignment that is primarily off-street, with some on-street sections in low traffic areas.
- A consistent look and feel for the trail throughout its entire length, from amenities to signage to logos and more.
- A unifying interpretive theme of the Glacial Lake Missoula Ice Age floods that created the landscape the trail travels through.
- Acquisition of newly-identified properties that will help achieve the goals and objectives of the 2006 Natural Areas Bond. Negotiations can begin with willing sellers associated with these properties.
- Adoption of the master plan by jurisdictions to their respective plans and policy documents.
- The three cities as the primary jurisdictions responsible for trail development and operations and maintenance and close coordination among the implementing agencies.
- Adoption of the trail alignment into partner transportation system plans to make the project eligible for a variety of funding sources.

4. Budget Impacts

The Ice Age Tonquin Trail is divided into 18 segments running south to north (see Map 26 of the master plan). Approximately five miles of the trail is built, leaving about 17 miles left to build, including bridges and undercrossings where needed. The total cost to acquire, design and build the trail is estimated to range between \$90 million and \$120 million. This represents a planning level cost estimate in 2012 dollars, and is intended to provide an order of magnitude opinion to inform future funding requests for trail development.

The City of Sherwood recently received an approximately \$5 million grant to design and build one to two miles of the trail in the Cedar Creek Greenway, with expected completion in 2015.

Other jurisdictions will build remaining sections as funding becomes available.

Acquisition opportunities identified in proposed amendments to the Tonquin Geologic Area target area refinement plan would be funded primarily with funds from the 2006 Natural Area Bond Measure and grants that have been secured from other agencies.

RECOMMENDED ACTION

Chief Operating Officer Martha Bennett, with the concurrence of Metro Council President Tom Hughes, recommends approval of Resolution No. 13-4415.