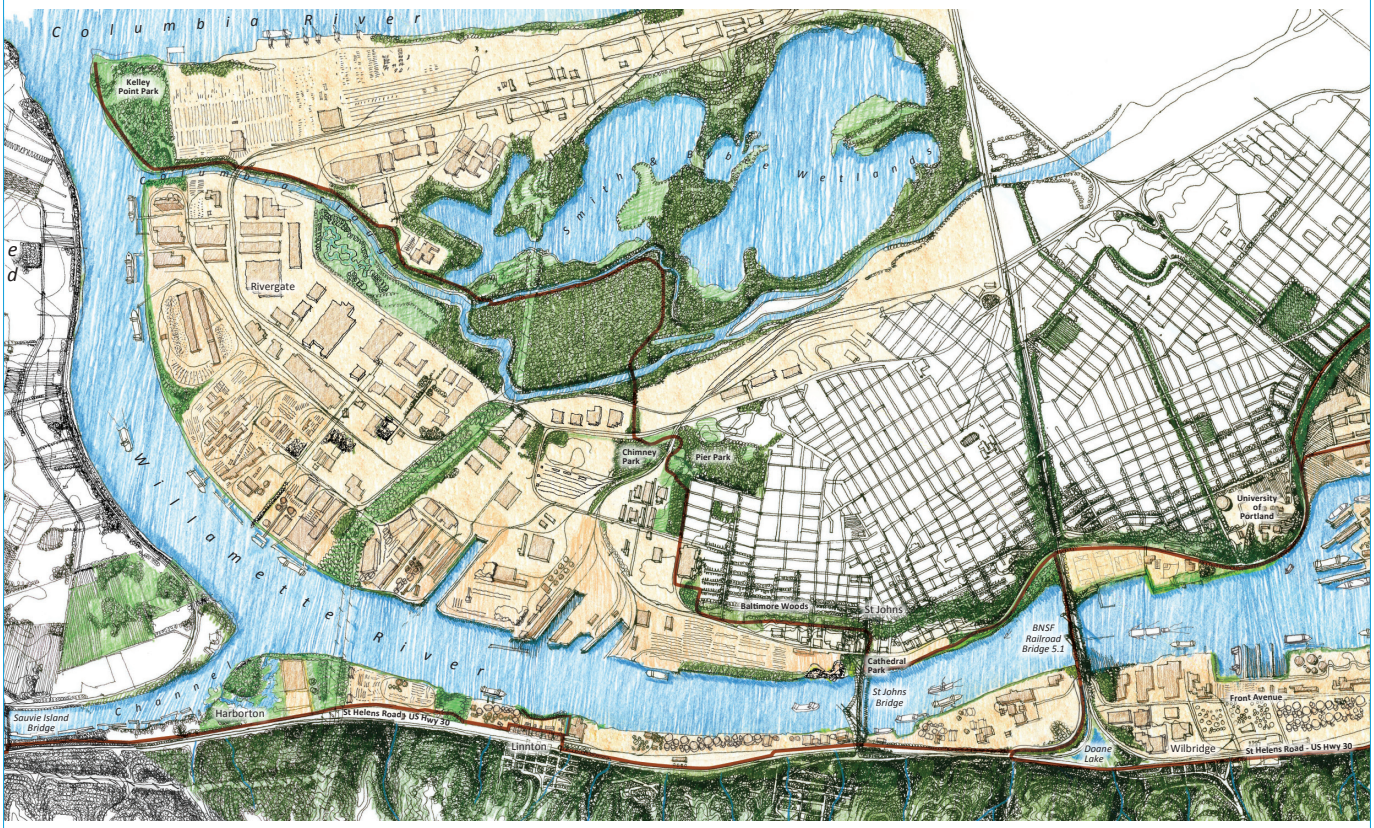
THE RIVER PLAN
NORTH REACH

RECOMMENDED DRAFT

NOVEMBER 2009



VOLUME 4: ACCESS BACKGROUND INFORMATION

City of Portland Bureau of
Planning and Sustainability
Sam Adams, Mayor | Susan Anderson, Director

ACKNOWLEDGEMENTS

Portland City Council
Sam Adams, Mayor, Commissioner-in-charge; Nick Fish, Commissioner; Amanda Fritz, Commissioner; Randy Leonard, Commissioner; Dan Saltzman, Commissioner

Portland Planning Commission
Don Hanson, President; Amy Cortese, Vice President; Michelle Rudd; André Baugh; Lai-Lani Ovalles; Howard Shapiro; Jill Sherman; Irma Valdez

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Don Hanson, Chair; Brian Campbell, Vice Chair (through 8/07); Pauline Anderson; Jason Graf; Bob Naito; Melissa Powers; Greg Wolley; Krystyna Wolniakowski

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RIVER PLAN / NORTH REACH VOLUMES

VOLUME 1A: POLICIES, OBJECTIVES AND RECOMMENDATIONS

*This volume describes the project background, policy context and recommendations to address Economic Prosperity, Watershed Health, Access, Riverfront Communities, and Working with our Partners. (*Available in print)

VOLUME 1B: CODE AMENDMENTS AND ZONING MAPS

This volume contains amendments to the comprehensive plan, zoning code, and other City titles, and zoning maps. (Available in print)

VOLUME 2: ECONOMIC PROSPERITY BACKGROUND INFORMATION

This volume includes background information for some of the economic prosperity recommendations. For additional information please see the River Plan website. (Available on CD)

VOLUME 3A: NATURAL RESOURCES INVENTORY: RIPARIAN CORRIDORS AND WILDLIFE HABITAT

This volume contains natural resource information for 13 resource sites in the North Reach. (Available on CD)

VOLUME 3B: NATURAL RESOURCES INVENTORY: RIPARIAN CORRIDORS AND WILDLIFE HABITAT—APPENDICES

This volume contains five technical appendices to the Willamette River Natural Resource Inventory including a description of the methodology used to develop the inventory. (Available on CD)

VOLUME 3C: ECONOMIC, SOCIAL, ENVIRONMENTAL AND ENERGY ANALYSIS AND RECOMMENDATIONS FOR RIPARIAN CORRIDORS AND WILDLIFE HABITAT

This volume contains a State Land Use Planning Goal 5 required analysis of the tradeoffs associated with different levels of natural resource protection for the upland portions of the River Plan / North Reach planning area. (Available on CD)

VOLUME 4: ACCESS BACKGROUND INFORMATION

This volume includes background information for the access related recommendations. For additional information please see the River Plan website. (Available on CD)

VOLUME 5: ORDINANCE AND RESOLUTION

*This volume includes the draft River Plan/ North Reach Ordinance and Resolution. (*Available in print)

Documents listed as available on CD can be ordered in print form. Please allow seven days for printing.

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Swan Island/Albina Connector Transportation Feasibility Study

PREPARED BY:

Alta Planning + Design
711 SE Grand Avenue
Portland, OR 97214

PREPARED FOR:

City of Portland Bureau of Planning
and Sustainability

February 2009

IN COLLABORATION WITH:

KPFF Consulting Engineers | Kittleson & Associates

Alta Planning + Design is firmly committed to the development of a sustainable global community and planet by enhancing transportation options, investing in local communities, and reducing our carbon footprint in our personal and professional lives. For more information, visit www.altaplanning.com

If fully implemented, this project can reduce carbon emissions by as much as 470,000 pounds per year.

Based on a projected net weekday increase for the current year (2009) of 705 daily bicycle trips, averaging 3 miles per trip, resulting in a reduction of 2,115 daily vehicle miles traveled (VMT). Daily carbon emissions are calculated by multiplying the daily VMT by 0.85 pounds of carbon per vehicle mile traveled[1].

[1] Emissions rates from EPA report 420-F-00-013 "Emission Facts: Average Annual Emissions and Fuel Consumption for Passenger Cars and Light Trucks." 2000.

Contents

Executive Summary

Introduction

The Swan Island/Albina Connector Transportation Feasibility Study evaluates the potential for a new 1.5 mile transportation connection for cars, trucks, bicycles and pedestrians between the Swan Island Industrial Area and the Lower Albina Industrial Area. Three alternative alignments for a public right-of-way connecting North River Street and North Port Center Way were developed and evaluated. A private driveway currently connects North Port Center Way to the Ash Grove Cement Company facility. The driveway is owned by Union Pacific Railroad (UP) and leased to Ash Grove Cement. The existing driveway lease area varies from 23 feet wide to 85 feet wide and includes overhead and buried utilities. The area east of the existing driveway is Union Pacific's Albina rail yard and has been used in this capacity since the early 1900s. The area west of the existing driveway (between the driveway and the Willamette River) has historically been used for industrial purposes. The existing private driveway is alternately called the Cement Road or the Concrete Road and is not open to the public.

Alternative 1 and Alternative 2 are evaluated under the assumption that these alignments would be open to the general public for general traffic. Alternative 3 is most appropriate with limited (permit only) motorized traffic and is evaluated as such.

Study area maps are presented in Appendix A. Detailed drawings of the three alternatives are found in Appendix B. Cost estimates for the three alternatives are found in Appendix C.

Interviews

Interviews were conducted with seven stakeholder groups to identify existing uses of the cement/concrete road and concerns related to the potential utilization of the road as a non-motorized and/or motorized connection between Swan Island and Lower Albina. One stakeholder was unresponsive to requests for an interview. A review of the stakeholder interviews was used to develop evaluation criteria that incorporate stakeholder needs and concerns. A summary of stakeholder interviews is found in Working Paper 1.

Transportation Modeling/Demand Estimate

An analysis was performed to estimate the amount of motorized and non-motorized traffic that would be expected to utilize a new transportation connection between Swan Island and Lower Albina. Estimates of latent demand for the connection informed the development of alternatives. Additional analyses were performed after the alternatives were created to project traffic volumes for each mode under the three alternatives. See Working Paper 2 for the complete transportation modeling analysis.

Environmental Site Assessment

Due to the industrial nature of the study corridor and its proximity to the Willamette River, an environmental site assessment was conducted to assess environmental conditions, estimate the cost

ranges to respond to contamination that might be found and identify appropriate storm drainage approaches to accompany each alternative alignment. See Appendix D for a summary of the Environmental Site Assessment Report.

Evaluation Criteria

Eleven evaluation criteria were used to rate the suitability of the three alignment alternatives (see Working Paper 3 for a description of each alternative). The three alternatives were also compared to a do nothing scenario. Some of the criteria assess how the alternatives will work for different vehicle types (access, mobility, connectivity, user safety and projected traffic volume). Other criteria evaluate the relative impact on specific property owners (impact on business operations, property acquisition and track removal). A final group of criteria provide general evaluations of each alternative (rail crossings, stormwater drainage and cost). See Working Paper 4 for a detailed description of each evaluation criterion and how they were applied.

Current Traffic Operations

The cement/concrete road is a private access road closed to public traffic, though the gate at the south end is rarely closed. The 1.5 mile roadway surface is 20 feet wide and the leased right-of-way varies from approximately 23 to 85 feet. The cement/concrete road is accessed on the north from the end of North Port Center Way, a 100 foot cul-de-sac that intersects North Going Street at a traffic signal. Going Avenue is the only public roadway accessing the Swan Island Industrial Area.

On the south, the cement/concrete road connects through UP's Albina Yard facility to the informal end of North River Street. There is 0.3 mile unpaved section of roadway between the end of the cement/concrete road and North River Street. North River Street serves a small grid of streets in the Lower Albina Industrial Area, and is the only public roadway accessing this area by way of the Tillamook Overpass to North Interstate Avenue.

The cement/concrete road is a private driveway and the only permitted users are Ash Grove Cement and Union Pacific Railroad. The paved driveway connects to North Port Center Way on Swan Island.

Although interviewees reported periodic congestion at the intersections serving this study area, the intersections currently perform within City standards.

Alignments

Three alternative alignments were developed for accommodating non-motorized traffic along the cement/concrete road. Alternative 1 has a 12 foot multi-use trail, Alternative 2 has six foot bike lanes and Alternative 3 has five foot shared shoulders. These alignments are described in greater detail in Working Paper 3. The conclusions drawn in the executive summary are based on the detailed evaluation of each alignment found in Working Paper 4. The costs provided below are based on a planning level opinion of probable construction cost for roadway, bikeway and trail improvements. More detailed cost information can be found in Appendix C – Cost Opinions.

Alternative 1

Alternative 1 supplements the existing 20 foot cement/concrete road with a 12 foot multi-use trail (Figure 1). Additional right-of-way is required for drainage and for separating the trail from the roadway, bringing the total right-of-way width required for this alternative to 50 feet. At $2.1 million, this alternative ranks in the middle of the three alternatives in terms of overall cost. A multi-use trail, by separating motorized and non-motorized users, offers the greatest access, mobility and safety for all modes, including bicycles and pedestrians.

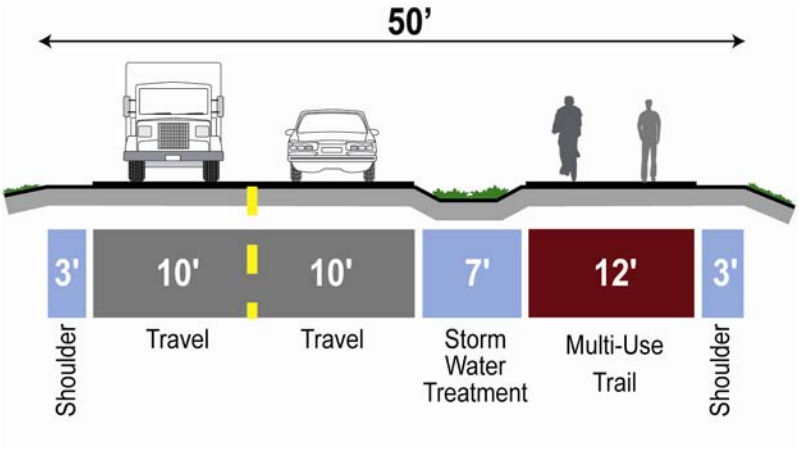

Figure 1 – Roadway plus multi-use trail cross section

Property acquisition, track removal and track relocation is required to accommodate the additional transportation infrastructure. UP's operations would be modified by the required track relocation and property acquisition. The operations at Ash Grove Cement should not be adversely impacted by the property acquisition required for this alternative.

Increased automobile and freight traffic volumes under this alternative are projected to be modest as improvements to the cement/concrete road will not create an attractive connection for 'cut-through' motorized traffic. Bicycle volumes are projected to be greater than motorized traffic volumes, with commuters to Swan Island making up approximately half of the bicycle traffic along the connector. Bicycle volume projections for 2030, though significant at 2,955 - 4,620 bicycles per day, are comparable to automobile traffic volumes on a residential street and should not significantly impact operations for Lower Albina businesses.

Traffic impacts at the North Going Street and North Interstate Avenue (at North Tillamook) intersections due to these improvements should be negligible and performance should remain within city standards. Performance may improve for some trips with the addition of an alternative vehicular access. Refer to Table 5 in Working Paper 4 for projected traffic volumes.

Alternative 2

Alternative 2 widens the cement/concrete road to accommodate six foot bike lanes (Figure 2). At $2.9 million, this is the most expensive alternative. Projected bicycle volumes are significant, but lower than the other two alternatives. This reflects the preference of bicyclists for a separated trail over an on-street facility. Pedestrians are accommodated on the roadway in this alternative.

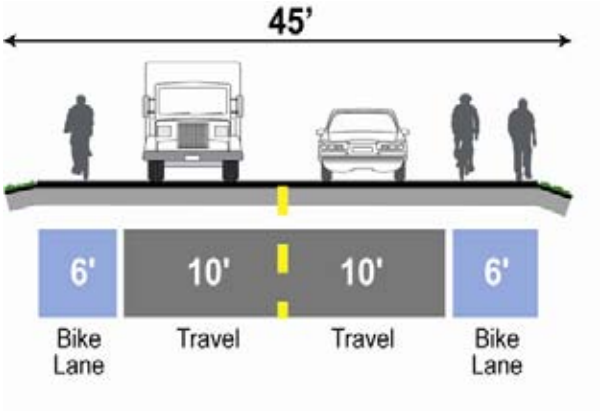

Figure 2 – Roadway plus bike lanes cross section

Alternative 2 requires five feet less overall right-of-way (45 feet) than Alternative 1, but due to alignment limitations requires the greatest amount of property acquisition, track removal and track relocation. Though more property acquisition from Ash Grove and track removal from UP is required, impacts on operations for UP, Ash Grove and Lower Albina businesses are similar to Alternative 1.

Increased automobile and freight traffic volumes under this alternative are projected to be modest as improvements to the cement/concrete road will not create an attractive connection for 'cut-through' motorized traffic. Bicycle volumes are projected to be greater than motorized traffic volumes, with commuters to Swan Island making up approximately half of the bicycle traffic along the connector. Bicycle volume projections for 2030 are lower than Alternative 1, though still significant at 2,280 - 3,650 bicycles per day. This is comparable to automobile traffic volumes on a residential street and should not significantly impact operations for Lower Albina businesses.

Traffic impacts at the North Going Street and North Interstate Avenue (at North Tillamook) intersections due to these improvements should be negligible and performance should remain within city standards. Performance may improve for some trips with the addition of an alternative vehicular access. Refer to Table 5 in Working Paper 4 for projected traffic volumes.

Alternative 3

Alternative 3 makes use of the existing 20 foot pavement, improving the existing cement/concrete road to function as a shared roadway for motorized and non-motorized traffic (Figure 3). At $1.3 million, it is the least costly alternative. This alternative provides for bicycles and pedestrians, but is most appropriate with limited (permit only) and slow speed motorized traffic. While this alternative does accommodate bicycles and pedestrians, the lack of separation creates the least safe travel environment for all modes. In contrast to the dedicated bicycle lanes in Alternative 2, vehicles will be permitted to make use of the shared lanes, especially when passing an opposing vehicle. Due to restricted motor vehicle access, however, cyclist exposure to motor traffic is minimized and projected bicycle volumes are as high as Alternative 1.

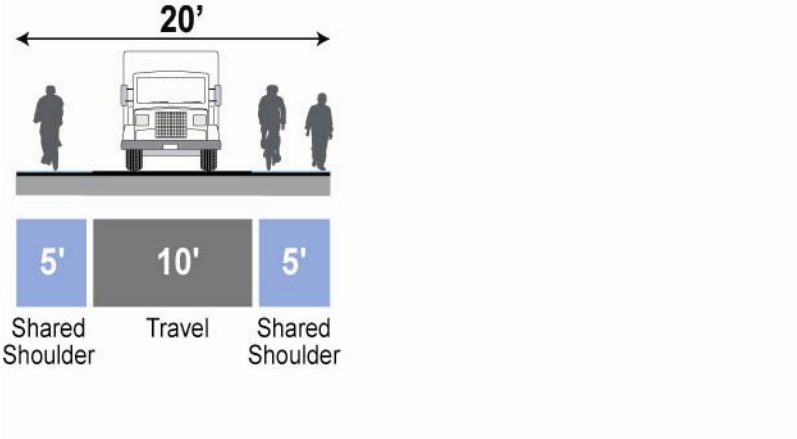

Figure 3 – Shared roadway cross section

Alternative 3 requires property acquisition from UP and Ash Grove Cement, but no track removal or relocation. As a result it has the lowest impact on operations of UP. This alternative, like the other two, is not expected to adversely impact the operations of Ash Grove Cement or Lower Albina businesses.

Because this alternative would be most appropriate with the cement/concrete road remaining closed to general traffic, it has the lowest projected automobile and freight traffic volumes. Bicycle volume projections for 2030 are the same as Alternative 1, with commuters to Swan Island making up approximately half of the bicycle traffic along the connector. Though volumes are significant at 2,955 - 4,620 bicycles per day, they are comparable to automobile traffic volumes on a residential street and should not significantly impact operations for Lower Albina businesses.

Like the other alternatives, traffic impacts at the North Going Street and North Interstate Avenue (at North Tillamook) intersections due to these improvements should be negligible and performance should remain within city standards. Performance may improve for some trips with the addition of an alternative vehicular access. Refer to Table 5 in Working Paper 4 for projected traffic volumes.

Next Steps

The three alternatives vary in the amount of right-of-way required, accommodation of and projected demand for the different modes, impact on operations (UP only) and total project cost. It is intended that this document will enable the City of Portland to weigh these factors when determining the most appropriate approach to realize a non-motorized transportation connection between the Swan Island and Lower Albina Industrial Areas.

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Working Paper 1
Stakeholder Interview Summary

Date: December 18, 2008
To: Shannon Buono, Bureau of Planning
From: Mike Tresidder & Steve Durrant, Alta Planning + Design
Re: Swan Island – Albina Stakeholder Interview Summary

As part of the Swan Island / Albina connector, several key stakeholders were interviewed regarding the potential use of the existing Cement Road as a non-motorized and/or motorized connection between Swan Island and Lower Albina. The following stakeholders were interviewed:

- City of Portland Attorneys (7/1/08)
- Lenny Anderson, Swan Island TMA (7/25/08)
- City and Metro Agency staff – Bureau of Planning (7/3/08)
- Glacier Northwest (7/29/08)
- Daimler Trucks North America cyclists (8/7/08)
- U.S. Coast Guard (10/16/08)
- Union Pacific Railroad (10/6/08)

The following stakeholders did not respond to our inquiries:

- Ash Grove Cement Company

Several themes recurred through the interviews, indicating concerns of particular importance to multiple stakeholders.

- Swan Island TMA and the Daimler bicyclists emphasized the superiority of this connector route for bicyclists over alternatives in the area.
- Swan Island TMA and Daimler bicyclists gave similar accounts of the policy towards bicyclists on Swan Island (see current practices of bicyclists below).
- City and Metro Agency Staff and City of Portland attorneys discussed how this connection fits in with the larger regional multi-modal strategy for working with the railroads on non-motorized transportation.
- Glacier Northwest and Union Pacific Railroad stressed safety as a primary concern.
- Several interviewees expressed concern about trespassing and vandalism.
- All stakeholders realize that conflicts between freight, rail and public users of the corridor require attention to safety.

The following are current practices of bicyclists riding through the yard:

- Most cyclists in the area are Freightliner (Daimler) engineers.
- There is an unwritten 'don't ask, don't tell' policy.
- Swan Island TMA has people sign waivers and hangs green tags on their handlebars; however, this system has not been verified with Union Pacific's legal department.
- Union Pacific Railroad security cites people that are illegally on the property. This serves as an impromptu waiver, as the citation creates a record that the person is aware that they are in a place where they do not belong.
- The route through the yard is preferable to commuting along North Greeley Avenue or North Interstate Avenue.

Key stakeholder comments include:

- Swan Island has history of bicycle use without incident. However, there is concern that more formally allowing bicyclists to pass through the yard will raise a liability issue.
- It will be important to make connections, accommodate all parties involved, and ensure that public policy is balanced in its promotion of different modes.
- There is a need to provide incentives for the railroad to allow cyclists access through adjacent to the yard. At present, the railroad lacks motivation to allow cyclists. However, there may be something the City can offer the railroad in exchange for bicycle access.
- If rails are not serving an active customer, there may be a basis for requesting their removal. This is something to verify with the City.
- The site's Superfund status may present a challenge.
- An easement for non-motorized travel along with improvements to North River Street is a suggested solution.
- Someone of authority at Daimler may be able to negotiate access for their employees only.

Appendix: Stakeholder Interviews

City of Portland Attorneys

Date: 7/1/08
Location: City Hall
Length of Interview: 1 hour (1:30PM – 2:30PM)

Attendees: Jan Betts (superfund issues), Kathryn Beaumont, Ben Walters (rail issues), Sallie Edmunds, Shannon Buono (Bureau of Planning), Steve Durrant (Alta Planning + Design), Mike Tresidder (Alta Planning + Design)

Their approach is to not give up.

Perhaps they (the city) can sweeten the pot, by doing something for them or giving something to them:

- Inter-modal connections
- Money on table
- Bother them other places

The key is to have the right people have the right conversation.

Important to make sure connections are being made. The price of accommodations in one area is compromise on other locations. This is the 'silo effect' of Portland bureaus (different bureaus have their own interests).

Freightliner employees do use Cement Road as a commute route.

The railroad will stop it (bicyclists using the road) when it becomes in the best interests of the railroad to stop it.

Challenges include the large number of rail crossings that are required by roadway users, the unimproved section of the route just south of Ash Grove, and the presence of rail tracks in the right-of-way south of the Fremont Bridge.

Rails in pavement - We can check with the Portland Office of Transportation (PDOT) as to the rules regarding the placement of rails in the public right-of-way (ROW). If the rails are not serving an active customer, there may be a basis for going in and requesting that they pull them out.

Diagonal rail crossings – The argument to make is in the bigger picture of the River Plan if we want to remove tracks or increase the number of at-grade crossings.

There is a need for inter-modal balance in terms of public policy.

Union Pacific believes Albina Yard is inefficient and would like to re-align tracks in the yard to improve efficiency.

There is only one riverside customer. Does Ash Grove need all spurs?

The railroad is receiving money under the Connect Oregon program. From a political standpoint, this may be a starting point to get them to the table to discuss the future of the rail yard and more formalized access along the Cement Road.

The stars need to align on the UP side and the State Rail Division side to get a more formal access approved along the Cement Road.

Albina Yard is part of the Portland Harbor Superfund. UP would not like someone putting a shovel to the ground to do additional environmental analysis.

Environmental Protection Agency (EPA) Portland Harbor Superfund site has general information regarding the site cleanup program.

Department of Environmental Quality (DEQ) databases have more specific information regarding the site cleanup program.

Talk with PDOT ROW management about track control/ownership for tracks that are within the city ROW.

Lenny Anderson, Swan Island TMA

Date: 7/25/08
Location: Swan Island TMA
Length of Interview: 1 hour

Attendees: Lenny Anderson, Mike Tresidder (Alta Planning + Design)

The Swan Island Transportation Management Association (TMA) started in 2000. Not long after that, a problem came up with the railroad yard.

Lenny does not remember when Cement Road was paved.

Fairly early on, Lenny talked with the yard manager and let him know that most bicycle riders are Freightliner (Daimler) engineers.

Lenny does a carpool program with green tags. People sign waivers and then they get a green tag to hang on their handlebars. If UP agrees, this would allow TMA members to traverse the yard. The yard manager says he needs to run the program by UP's legal department in Omaha.

There is an unwritten don't ask, don't tell policy. Larry is disinclined to call the yard manager for fear that they will contact Omaha.

Lenny's thinking is that bicyclists should not stop as they pass through the area, as stopping draws attention.

Whenever there is a problem, Lenny sends it out to his list to get a feeling if it is a one-time or reoccurring problem.

Two people were cited for jogging through the yard.

An out-of-town track crew caught riders and told the yard manager.

When UP railroad security cites people, it is basically an impromptu waiver. UP keeps the names to document that people were notified they are on the property illegally, in the event that they do get hurt.

There were 36 bikes outside Daimler today in six parking racks.

A Daimler engineer on a bike is worth more than a cement importer.

There is a secondary access issue. Secondary access available to the public has its virtues – getting into the roadway network southbound. This has often has come up over the years as an issue.

Lenny has never seen a ship at the original dock. He has seen ships at the old Aluminum dock.

Five or so years ago, Ash Grove had no problem (off the record) with bicyclists on Cement Rd.

Lenny says Ash Grove still moves railroad cars into both of Ash Grove's facilities.

The Swan Island spur goes down to the ship yard and will be used more.
(Contact Alan Sprott at the ship yards – VP projects – Vigor Industrial 247.1672)
It parallels Channel Avenue, going in front of McDonalds. Most car movement will be at night. The volume will increase, and Portland & Western Railroad (P&W) will start providing service down into their facility.

Solutions:

An easement for non-motorized travel (he can see difficulty with pedestrians) with improvements to River Rd.

The best thing to come out of this work is a recognition that this route is far and away superior to Greeley and Interstate as a commute to work. This elevates the importance of this project. Hopefully it will get the City wanting to trade something to get it accomplished.

If management at Daimler wanted to go to bat for their employees, someone of Elmar's stature could get someone in Stuttgart to talk with Omaha (CEO to CEO). They may be able to work out a registration/permit system. This would not open to public, but it would allow more full use by commuters. The TMA would be happy to administer the program. As an Interim solution, they could formalize the existing agreement.

Swan Island has history of use without incident. And when there are accidents, there is no sense of suing or holding the railroad liable.

City and Metro Agency Staff

Date: 7/3/08
Location: 1900 SW 4th Ave (Bureau of Planning)
Length of Interview: 1 hour (3:30PM – 4:30PM)

Attendees: Shannon Buono (Bureau of Planning), Sallie Edmunds (Bureau of Planning), Steve Kontz (Bureau of Planning), Mel Huie (Metro), Mark Gharst (Metro), Bob Hillier (PDOT), Steve Durrant (Alta Planning + Design), Mike Tresidder (Alta Planning + Design)

The Parks department is looking to apply for a planning study to look at the North Portland Greenway.

Stuart Gwynn was the Project Manager of a PDOT study. To deal with the issue of trucks going up Interstate, it looked at a route through Cement Road. They determined it was not feasible to acquire railroad ROW. PDC funded the study.

Potential names of contacts include: Jim Nare – UP, Bob Short – Glacier NW

There is concern that this route would become a primary route and create traffic on Swan Island.

Need to maintain, perhaps, emergency access.

BOP doesn't see anything in yard getting smaller. It is UPRR busiest rail yard. They claim to be overcapacity and want/need to expand ROW and capacity. They have been growing 10% a year for 10 years.

Manifest Yard (small users)
Intermodal Yard (may relocate, doesn't need to be here in Albina Yard);

The long-term viability of the harbor depends on intermodal capabilities. Rail capacity is the biggest constraint/concern from business owner viewpoint.

Horse-trading for rail capacity:

- Double-tracking Kenton line
- Reducing at-grade crossings elsewhere (Powell Junction)
- New rail yard
- I-5/I-84 need to add curve for effectiveness

Glacier Northwest

Date: 7/29/08
Location: Glacier Northwest, 1050 N River St
Length of Interview: 1.5 hours (8:00AM – 9:30AM)

Attendees: Bob Short (Public Affairs Manager), Dale Martin (Terminal Manager), Steve Durrant (Alta Planning + Design)

Bob Short provided the following information about Glacier Northwest:

Number of Truck Trips on an Average Day:	Hundreds. Delays, even a minute or two can be costly.
Training:	They have a culture of safety. They are very conscious that with 70 ft vehicles, it is not a safe environment for people.
Number of Employees:	40-50 (including admin & terminal)
Weekends:	They operate 6 ½ days per week
Peak Hours:	All hours are peak hours
Seasonal or Other Peaks:	July 4- Thanksgiving is a slight seasonal peak
In-house Drivers:	No in-house drivers
Other Trips:	Not too many other trips, other than a few sales & admin.
Trains:	16 cars a day, anytime (the Glacier site manager – stated the trains are delivered early afternoon and pulled out late afternoon)
Train Improvements:	Not planned – goes North, not South I-5 @ Broadway or Going/Interstate
Destination Range:	All over region including Clark County.
Delay:	They ship dry cement, but the plants where it gets delivered have little or no storage capacity so delays can cause far reaching problems with their clients.
On-site Activities:	Loading cement
Who else to talk to:	Ash Grove John Home terminal manager Ross Island Sand and Gravel - concrete trucks on street sometimes KF Jacobson & Co. - asphalt Chuck Hicks at Mckn. 503-239-5504 Sak-Crete. Ed Everts 503-282-2299 U.P. Punky Poof site mgr. at Albina Yard Pacific Power and Light

Bob Short 'can't see any benefit to ramming a truck route through an industrial neighborhood.'

The general public is not as aware of safety as the industry.

The trucking industry is well aware and concerned about employee needs on a pretty consistent basis.

Symptomatic of the City's view of industry:

- They will dis-accommodate us in a way they would never dis-accommodate a residential neighborhood.
- They don't view us as important to the city as we think we are.

The transportation network is built.

UP owns track in N River Street, which is a source of aggravation

There are seasonal peaks to grain trucks on Interstate and in Lower Albina

Left turns at Tillamook intersection are crowded and the overpass is crowded

Interstate LRT traffic will increase and increase delays to trucks at the Tillamook intersection

NW Copper transports oversize loads (tanks)

There is sometimes a transient problem.

Daimler Trucks North America cyclists

Date: 8/7/08
Location: Daimler Swan Island
Length of Interview: 1 hour (9:00AM – 10:00AM)

Attendees: Arthur Prichard, Cathy Ault, David Pinson, Clayton Hert, Mike Tresidder (Alta Planning + Design)

Public access to the road has been permitted in the past when Barnum and Bailey (circus) comes through.

First hand observation of crew from various Cement tankers (Chinese crew) running up and down the road – so there are others who use the roadway as well.

There are mailboxes on Cement Road; the US Postal Service only delivers on public roads, so doesn't that make it a public road?

Isn't there is a law regarding if you've been there or been using it for twelve years, it cannot revert to private road? If true, may have some applications for opening Cement Road to greater public access.

One of the riders has been stopped a dozen times or so, but all that happens is the security guard takes his name for their list that notes who has been on the property and that he has been warned that he is there illegally.

Public attitudes may change to where bicyclists get upset at truckers, as newer bicyclists may feel entitled that they have the right-of-way, and that trucks need to yield, which is opposite of how current bicyclists behave. Current bicyclists understand that (a) it is a private road and (b) that it is a

working road that trucks have to access; so the bicyclist typically yields to the trucks that they encounter. New bicyclists may ride through there and think they have rights that they don't have.

There was a theft in Eugene of approximately 600 pounds of material from their rail yard, so access could be a cause of concern to the railroad.

There needs to be a clearer definition of public and private property along Cement Road.

There are periods of time when you can't go through because work crews are present, at those times, the group said they generally didn't bike, as they don't like Greeley or coming down Going Street.

An observer was seen counting bikes at Cement Road recently.

There is airborne mercury from cement factory (Ross Island Sand and Gravel), which is an environmental concern/hazard, especially for bicyclists.

George Birch, Coast Guard

Date: 10/16/08
Location: phone
Length of Interview: ~ 30 minutes

Attendees: George Birch, Mike Tresidder (Alta Planning + Design)

There are no coast guard regulations that require people to be 14 feet from security fencing.

As long as the Trail/Road does not transit through any Restricted or Secured areas of Coast Guard Regulated facilities, there is nothing on our end that prohibits it.

Each facility will have different areas mapped out.

As far as I could tell from the map you gave, the trail will be right next to an existing road. As long as that's the case, it will not impact the security of any facilities in that area.

Brock Nelson, Director of Public Affairs, UPRR (503) 249-3079

Date: 10/6/08
Location: Alta office
Length of Interview: ~ 1 hour

Attendees: Brock Nelson, Steve Durrant (Alta Planning + Design)

The railroad's message is that they are not interested in releasing property in this busy yard for public transportation purposes.

However, they can't say 'never'.

The railroad has a number of concerns including safety for the public and railroad employees, security issues, trespass and vandalism, and that the yard is a busy place without much 'spare' room.

Brock is very committed to being accessible and 'transparent'. (503) 249-3079

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
610 SW Alder Street, Suite 700, Portland, OR 97205 P 503.228.5230 F 503.273.8169

MEMORANDUM

Working Paper #2

Date: January 2, 2009 Project #: 9514

To: Steve Durrant
Alta Planning + Design
1638 NE Davis Street
Portland, Oregon 97232

From: Jamie Parks and Conor Semler
Project: Swan Island - Lower Albina Connector
Subject: Bicycle Ridership and Automobile Volume Estimate

This memorandum summarizes analysis performed by Kittelson & Associates, Inc. (KAI) to estimate future bicycle and automobile volumes along the proposed Swan Island – Lower Albina Connector. KAI estimated automobile volumes using modeling conducted by the City of Portland VISUM model, with estimates provided under both 2005 and 2030 conditions. Because neither Metro nor Portland Office of Transportation (PDOT) travel demand models are able to estimate bicycle volumes at a link-level, KAI estimated bike volumes through a combination of data on existing ridership in the study area and knowledge about bicycle volumes on facilities similar to the proposed Connector. To account for the high degree of variability inherent in such calculations, the bicycle estimates are provided as a range, with both "low" and "high" estimates. A detailed review of the process used to develop these estimates is also included.

Table 1 provides a summary of the estimated bicycle and automobile volume on the Connector. As shown in Table 1, daily bicycle volumes on the Connector would range from approximately 1,030 – 1,200 daily trips under opening day conditions, with the potential to grow substantially in the future. Were the Connector open to motor vehicles, volumes on the order of 300 peak-hour trips would be expected under opening day conditions, which constitutes fewer than 10% of the total trips entering and exiting Swan Island. Projected growth in travel to and from Swan Island would result in increases to approximately 1,020 peak-hour auto trips in 2030.

Table 1 Estimated Swan Island – Lower Albina Connector Volumes

	Auto (PM Peak Hour)	Bicycle (Daily)
Existing	150	985 – 1,155
2030	470	2,955 – 4,620

Note that Table 1 and the following analysis are based on an exclusive travelway for bicycles and pedestrians, and that the following assumptions and calculations would be invalid if the Connector were to accommodate vehicular traffic in shared lanes. Under shared-lane conditions,

volume would likely be on the order of 30% less, as fewer existing cyclists would shift to the Connector and there would be no induced ridership from provision of a higher-quality facility.

The following sections provide a detailed description of the analysis procedures used to develop the estimates in Table 1.

AUTOMOBILE VOLUME ESTIMATION

KAI used the city-wide VISUM travel demand model developed by PDOT to estimate the demand for motor vehicle traffic on the Connector under both existing and 2030 conditions. Table 2 summarizes the results of this analysis. In all, a total of approximately 3,500 peak hour trips travel to and from Swan Island during the PM peak hour under existing conditions, which is expected to grow to 4,570 by 2030. Model results were also post-processed using the results of traffic counts conducted on the N Going Street bridge entering/exiting Swan Island in March 2008. These counts showed that the existing model overestimates trips on N Going Street by approximately 20%. Therefore, a 20% reduction factor was applied to model results for both existing and future conditions to more accurately reflect actual conditions.

Based on the post-processed modeling which added a hypothetical connector to the existing travel demand model, approximately 150 trips, or 4% of the existing total to and from Swan Island would use the Connector under existing conditions. Post-processed model results for 2030 show demand on the Connector growing to 470, or 10% of the total trips, in 2030. The large increase in volume on the Connector in 2030 is due to projected congestion on N Going Street, leading vehicles to look for alternate routes. Note that increased demand on the Connector is dependent on increasing employment on Swan Island. Should employment remain at current levels, no increased demand would be expected.

Table 2 Summary of VISUM Model Results (PM Peak Hour)

	Total Trips to/from Swan Island	Total Connector Trips	% of Total Trips Using Connector
Existing	3,500	150	4%
2030	4,570	470	10%

BICYCLE VOLUME ESTIMATION

Methodology

Unlike automobiles, for which detailed travel demand models are readily available, modeling techniques to estimate bicycle volumes are considerably more limited. To determine an appropriate method to develop bicycle volumes estimates for the Swan Island – Lower Albina Connector, KAI conducted a review of the available methods catalogued in the FHWA *Guidebook*

on Methods to Estimate Non-Motorized Travel: Overview of Methods[1]. The *Guidebook* identifies 11 methods, four of which were applied in this analysis. Table 3 briefly describes each of these methods and assesses the appropriateness of the individual methods to this study.

Table 3 Categorization of Available Non-Motorized Travel Estimation Methods

Method	Description	Appropriate?
Comparison Studies	Methods that predict non-motorized travel on a facility by comparing it to usage and to surrounding population and land use characteristics of other similar facilities.	Yes – Existing bicycle volumes on similar Portland facilities were reviewed, including the Springwater Corridor and Willamette River Bridges.
Aggregate Behavior Studies	Methods that relate non-motorized travel in an area to its local population, land use, and other characteristics, usually through regression analysis.	No – Insufficient data.
Sketch Plan Methods	Methods that predict non-motorized travel on a facility or in an area based on simple calculations and rules of thumb about trip lengths, mode shares, and other aspects of travel behavior.	Yes – Swan Island commute patterns were reviewed to estimate usage.
Discrete Choice Models	Models that predict an individual's travel decisions based on characteristics of the alternatives available to them.	No – Models unavailable.
Regional Travel Models	Models that predict total trips by trip purpose, mode, and origin/destination and distribute those trips across a network of transportation facilities, based on land use characteristics such as population and employment and on characteristics of the transportation network.	No – Metro model does not assign bicycle trips to the transportation network.
Market Analysis	Methods that identify a likely or maximum number of bicycle or pedestrian trips that may be expected given an ideal network of facilities.	Yes – Residences of Swan Island employees were analyzed to estimate potential for bicycle commuting.
Facility Demand Potential	Methods that use local population and land use characteristics to prioritize projects based on their relative potential for use.	No – Project prioritization was not conducted as part of this analysis
Bicycle and Pedestrian Compatibility Measures	Measures that relate characteristics of a specific facility such as safety to its overall attractiveness for bicycling or walking.	No – Insufficient data.
Environment Factors	Measures of facility and environment characteristics at the area level that describe how attractive the area is to bicycling or walking.	No – Insufficient data.
Geographic Information Systems	Emerging information management tools, with graphic or pictorial display capabilities, that can be used in many ways to evaluate both potential demand and supply quality.	Yes – Analysis of Swan Island commute patterns relied on web-based GIS interface.
Preference Surveys	Survey techniques that can be used on their own to determine factors that influence demand, and that also serve as the foundation for quantitative forecasting methods such as discrete choice modeling.	No – No survey was conducted.

[1] Schwartz, W.L., C.D. Porter, G.C. Payne, J.H. Suhrbier, P.C. Moe, and W.L. Wilkinson III. 1999. *Guidebook on Methods to Estimate NonMotorized Travel: Overview of Methods. Prepared by the Turner-Fairbanks Highway Research Center for Federal Highway Administration,* Publication No. FHWA-RD-98-166

As shown in Table 3, the majority of the existing methods are not applicable to this study. However, use of the Comparison Studies, Sketch Plan Methods, Market Analysis, and Geographic Information Systems provides a comprehensive examination of the bicycle ridership estimate for the Connector.

All estimates of Connector ridership assume that the Waud Bluff trail connecting the northern end of Swan Island to North Portland is in place, allowing the Connector to serve trips between Lower Albina and destinations throughout North Portland. Were the Waud Bluff trail not in place, volumes on the Connector would be considerably lower than shown here, as the Connector would provide only a route *to* Swan Island rather than *through* Swan Island.

Existing Usage

KAI reviewed existing bicycle ridership within the vicinity of the proposed Connector to estimate the potential to shift existing roadway users to the multi-use path. PDOT conducted bicycle counts at several locations near Swan Island and Lower Albina within recent years. Figure 1 illustrates the location of the bicycle counts citywide, and Figure 2 illustrates those counts around the proposed Connector.

The bicycle volumes for relevant roadways in 2006 and 2007 (where available) are summarized in Table 4. Although 2008 bicycle counts have been conducted, the data and volumes were not available at the time of this study.

Table 4 Daily Bicycle Volumes near Swan Island (2006-2007)

Location	Daily Bicycle Volume	
	2006	2007
N Willamette Boulevard / Waud Bluff Trail	-	590
N Greely Avenue / N Going Street	-	460
N Greely Avenue / N Interstate Avenue	1,010	960
N Interstate Avenue / N Larrabee Avenue	1,245	1,295
N Port Center Way / Cement Road	-	45

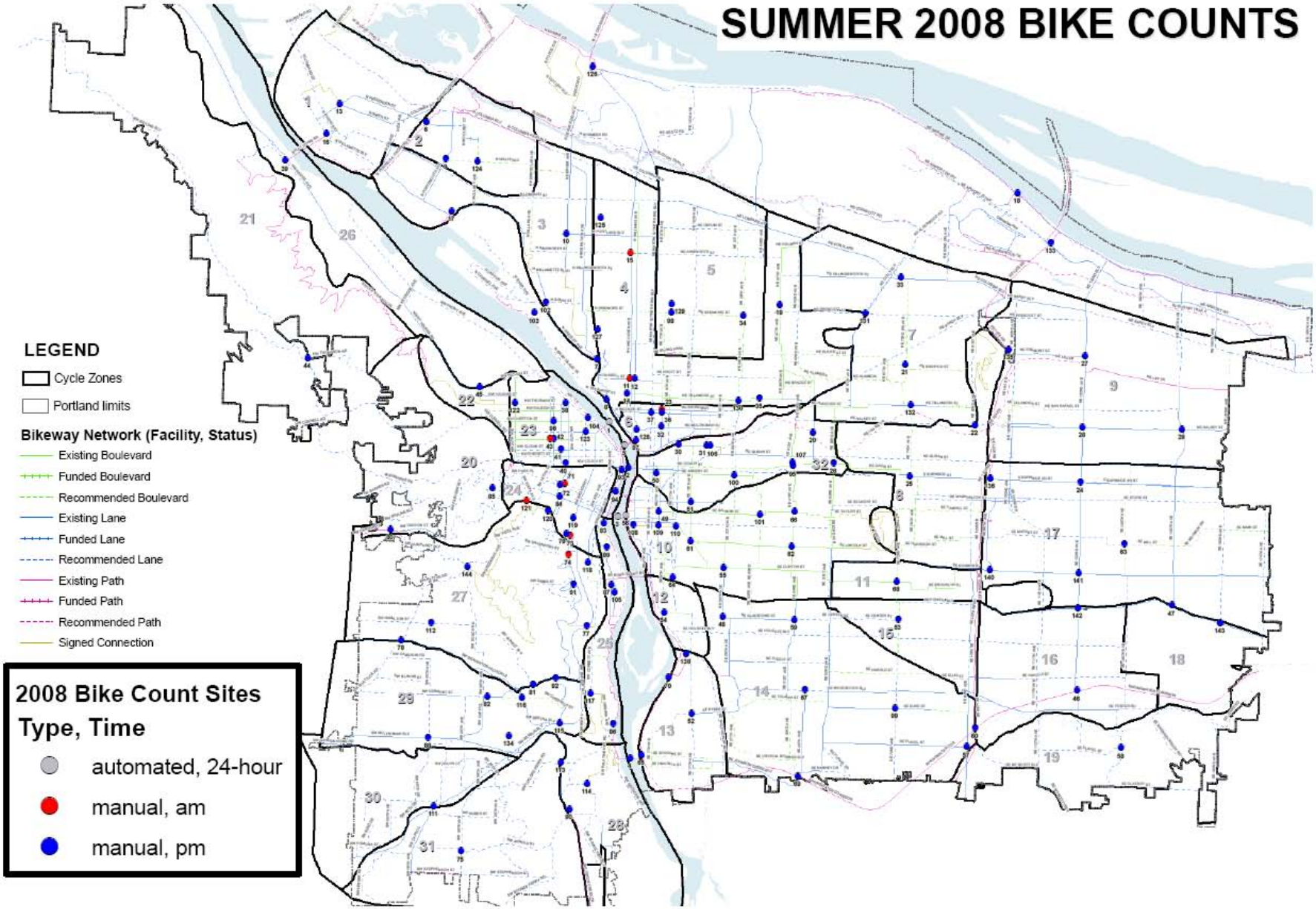

Figure 1 2008 PDOT Bike Count Locations

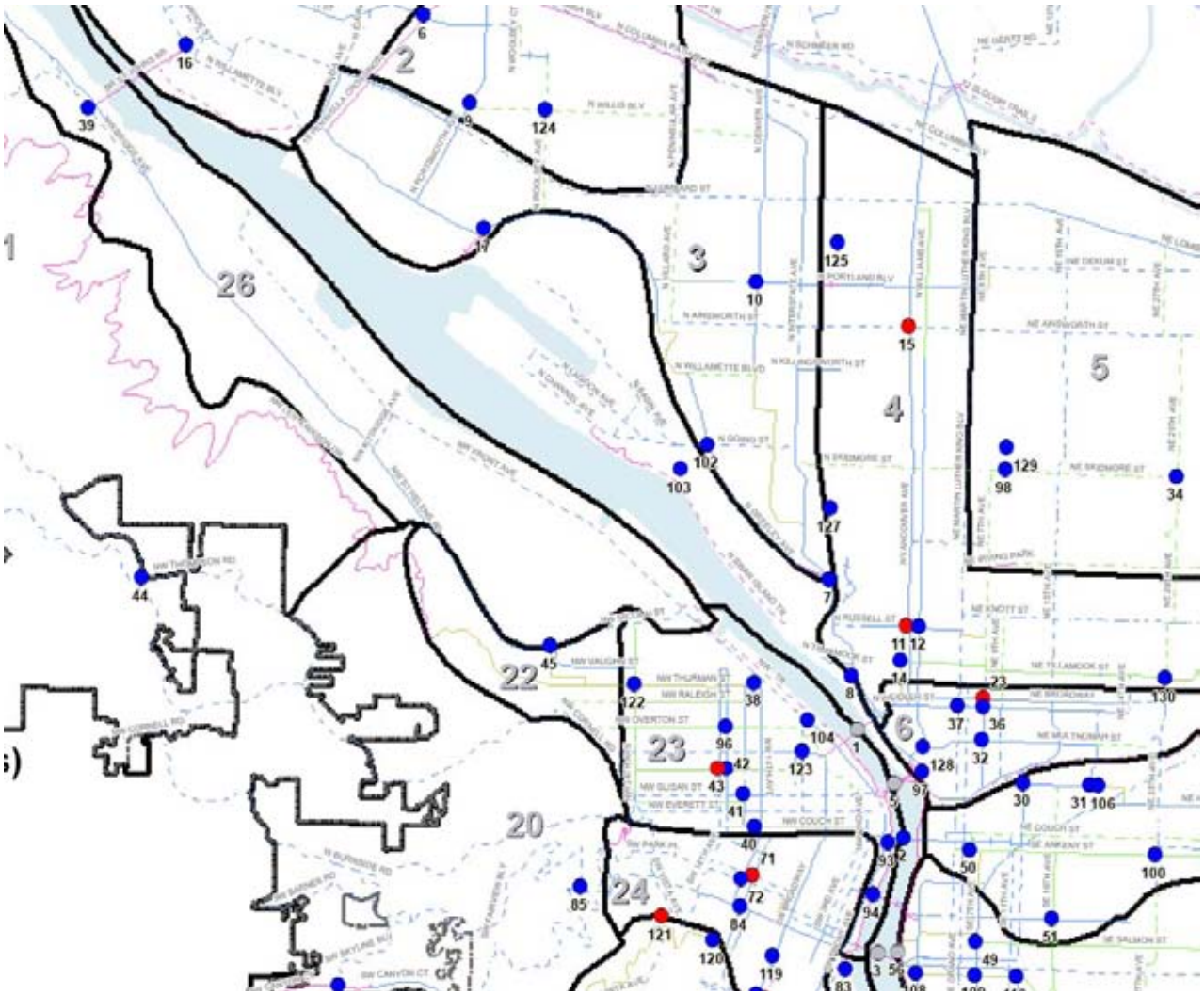

Figure 2 2008 Bicycle Count Locations (Zoom-in)

As shown in Table 4, significant bicycle volumes were recorded at several intersections near Swan Island, indicating high ridership demand in the area. In particular, the intersection of N Interstate Avenue/N Larrabee Avenue provides the most useful approximation for bicycle volumes on the Swan Island – Lower Albina Connector due to its proximity to the N Interstate Avenue/N Tillamook Street intersection which would provide the only southern access to the Connector.

Because the current bicycle routes between Lower Albina and North Portland are on relatively high-speed, high-volume roadways (e.g. N Greeley Avenue), it is anticipated that the construction of a bicycle-friendly connection through Swan Island would attract many of the existing cyclists on the corridor. Potential origin-destination pairs served by the Connector include trips between Downtown/Rose Quarter and the University of Portland/North Portland.

In 2007, PDOT counted 1,295 daily cyclists at N Interstate Avenue/N Larrabee Avenue. Since the Connector would not provide good access to destination between N Tillamook Street and N Willamette Boulevard, only those riders with origins or destinations north of Waud Bluff would be expected to shift to the Connector. In the absence of detailed origin-destination data, it is

estimated that approximately 25 - 35 percent of the riders on the N Interstate corridor would switch to the Connector and utilize it as a north-south connection via the Waud Bluff Trail.

This is supported by the bicycle counts at the N Greeley Avenue/N Interstate Avenue intersection, where 460 bicycles were counted. The terrain and street network in the area suggest that nearly all of those cyclists were also counted at the N Interstate Avenue/N Larrabee Avenue intersection. In other words, 460 of the 1,295 bicycles, or 35-percent, travel north-south along the corridor.

Based on the 2007 volume of 1,295 daily cyclists, such a shift would produce an estimated 320 - 450 daily bicyclists on the Connector under existing conditions. Given that 590 bicycles were counted at N Willamette Boulevard/Waud Bluff Trail, a shift of this magnitude appears reasonable.

Potential Usage

In addition past studies indicate that construction of a facility such as a bicycle path to replace or parallel an on-road facility will attract new riders due to the improved comfort of separated facilities. The *Conserve by Bicycle Program Study*[2] modeled bicycle usage and found that shifting from a bicycle lane on a paved shoulder to an adjacent shared-use path may increase ridership nearly 18-fold. Additionally, PDOT classified the population of the City of Portland into four categories with regard to their attitude toward bicycling. The largest of these categories, "interested but concerned," represents 60% of the population who are curious about cycling but are not currently biking.[3] Increasing the availability of comfortable and safe bicycling accommodations would provide more opportunity for these cyclists and increase bicycle ridership.

While the literature indicates that new off-street trails may result in increases of over 1,700%, this study applied a 30% adjustment factor for induced ridership to remain conservative. Evidence in Portland also points to increased ridership based on facility type. For instance, 60% of residents indicate a desire for separated facilities. Moreover, the Burnside Bridge, which has bike lanes on a shared facility, carries less than 10% of the total Portland bicycle traffic on the downtown bridges despite its central location. On the other hand, ridership on the Hawthorne Bridge increased 28% in the 1999, the year immediately following construction to widen the bridge sidewalks and facilitate bicycle use.

Actual ridership is based partially on connections to the surrounding network, making direct comparisons difficult. The 30% used in the study is based on the project team's engineering judgment and understanding of how the proposed Connector would fit into the surrounding system. Because the network connecting to the Connector is primarily on-street with several

[2] State of Florida Department of Transportation. *Conserve by Bicycle Program Study*. 2007.

[3] Portland Office of Transportation. *Platinum Bicycle Master Plan*. 2007.

higher volume roadways and generally isolated by terrain and a limited number of cross streets, the increase was limited to 30%.

This would increase the estimated north-south usage from 450 to 590 bicycles per day for the "high" estimate.

Lastly, it was assumed that the 45 bicycles counted by PDOT on the Cement Road in 2007 would continue using the connection if built.

Commute Trips

It addition to serving through trips, it is anticipated that the Swan Island – Lower Albina Connector will serve commute trips for employees working on Swan Island. This section estimates the potential for bicycle ridership through Swan Island commuters. The proposed bicycle path would connect Swan Island to the Lower Albina neighborhood by way of N River Street and N Tillamook Street. While current bicycle commute rates to jobs on Swan Island are low, this is due in large part to the lack of good facilities leading to the Island on N Going Street. It is anticipated that provision of the Connector will provide more opportunities for employees living in Southeast and Southwest Portland to commute by bicycle.

KAI analyzed U.S. Census Longitudinal Employer Household Dynamics data to determine the total number of employees who work on Swan Island and live south of the N Interstate Avenue/N Tillamook Street intersection, and thus represent the potential pool of bicycle commuters for the Connector.[4] Figure 2 illustrates the distribution of households of employees working on Swan Island. A total of over 2,800 Swan Island currently live in residences with the potential to commute by bicycle using the Connector.

[4] http://lehd.did.census.gov/led/

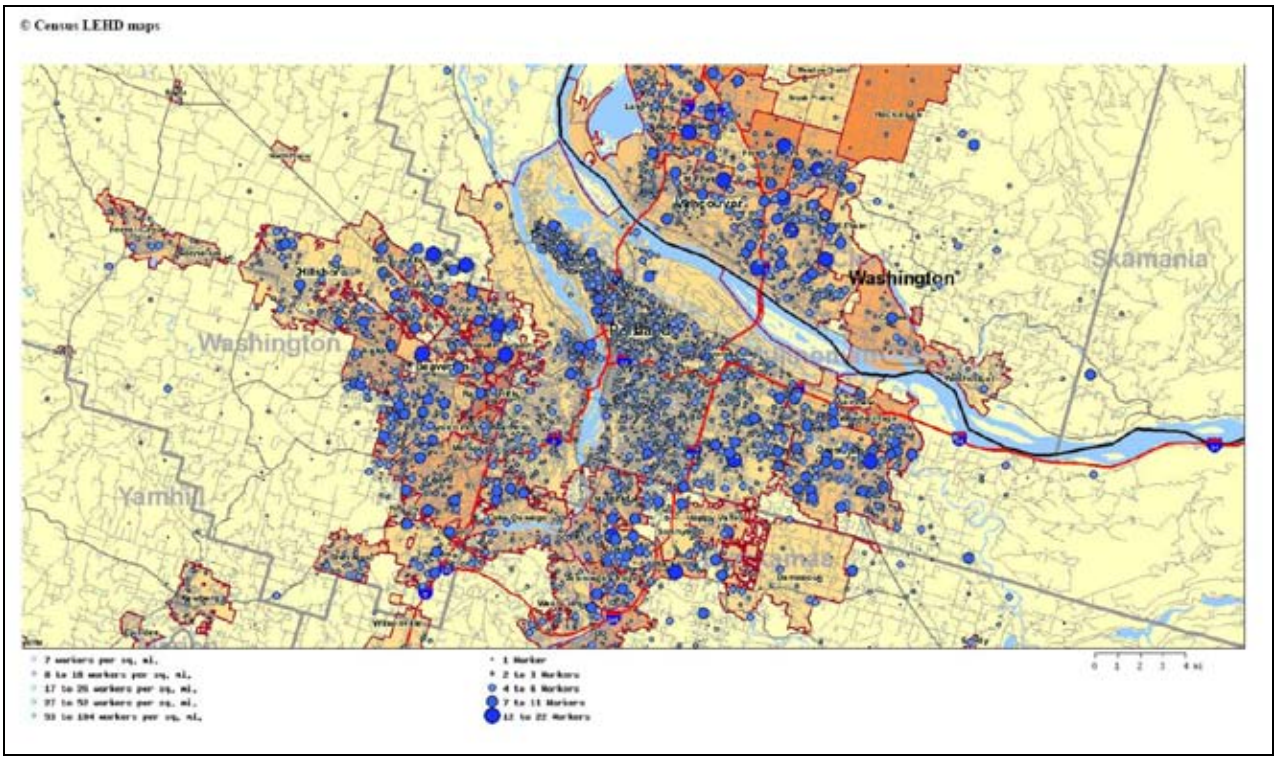

Figure 2 Swan Island Employment Shed

Based on 2006 Census commute data, approximately 7% of Portland eastside residents commute to work via bicycle. However, this likely underestimates the potential bike commute share to Swan Island, since many eastside residents live too far from work to reasonably bike even if they prefer to. Moreover, according to the most recent City Auditor's report, 8% of Portlanders use bicycling as their primary commute mode, up from only 3% in 1997. Since Swan Island is within reasonable biking distance for all 2,800 employees shown in Table 5, the actual commute share with the Connector would likely be even higher than 7%.

Given the high sustained growth in bicycle ridership and the central location of Swan Island, this study assumes that approximately 10% of those employees with the potential to bicycle will do so.[5] Thus, a ten-percent bicycle mode share was assumed for weekday daily commuters, resulting in a total of 570 daily bicycle commute trips on the Connector. Table 5 illustrates the bicycle commuter estimates.

[5] Achieving a 10% bicycle mode share is partially dependent on supporting policies and incentives from Swan Island employers and the Swan Island Transportation Management Association to encourage bicycle commuting.

Table 5 Commuter Bicycle Ridership Estimate

Swan Island Employees	11,025
Southeast/Southwest Residents	2,840
SE/SW Resident Total Commute Trips (two-way)	5,680
Bicycle Mode Share	10%
Daily Bicycle Commuters on Connector	570

As shown in Table 5, the Swan Island – Lower Albina Connector is anticipated to accommodate approximately 570 daily commuter bicycle trips for workers on Swan Island. As this estimate corresponds to an overall bicycle commute mode share for Swan Island employees of under 3%, this appears to be a reasonable estimate.

Total Ridership Estimate

Based on the analysis described above, total bicycle ridership for the Swan Island – Lower Albina Connector was produced by summing the estimated through trips and the potential commuter ridership. Table 6 illustrates the "lower" and "upper" bicycle ridership estimate for the Connector.

Table 6 Swan Island – Lower Albina Connector Bicycle Ridership Estimate

	Lower Estimate	Upper Estimate
Existing Ridership Shift	320	450
High-Quality Facility Adjustment (30%)	95	135
Swan Island Commuter Volume	570	570
Total	985	1,155

Table 5 indicates that between 985 and 1,155 daily bicycle trips can be expected on the proposed Swan Island – Lower Albina Connector. By comparison, the 2007 PDOT bicycle volume counts on the Springwater Corridor indicated approximately 1,885 riders, suggesting that the projected Connector volumes represent a reasonable estimate in the near-term.

Potential for Future Ridership Growth

Bicycle ridership in Portland has grown steadily over the past 15 years, with recent years experiencing the highest growth. This is due to many factors, including fuel costs, environmental concerns, health concerns, and the availability of high-quality cycling facilities. Further expansion of the off-street network of bicycling and walking trails and PDOT's emphasis on policies to support non-motorized travel can be expected to result in continued ridership increases.

Table 7 illustrates the growth in bicycle ridership between 2001 and 2007, divided by region. As shown in Table 7, bicycle ridership has increased across almost all districts of the City, with the exception only of the outer Eastside. Other districts show an 2006-2007 growth rates between 13% and 27%, with the highest growth occurring in North Portland. Development of the Swan Island – Lower Albina Connector could help encourage further bicycle growth in the district.

Table 7 Bicycle Ridership Growth in Portland, Oregon

District / Location	Percent Change		
	2001-2007	Annual	2006-2007
Citywide Total	113%	16%	18%
Central City (west side)	151%	22%	18%
North	118%	17%	27%
Northeast	96%	14%	21%
Southeast	118%	17%	13%
East	n/a	n/a	-6%
Northwest	82%	12%	15%
Southwest	51%	7%	15%

The recent bicycle volume data shown in Table 7 indicate that bicycle ridership has grown between 7% and 22% annually around the city. Furthermore, bicycle ridership continued to increase in 2008 as evidenced by a 15% increase in bicycle bridge traffic this year. Based on these data, a 10-15% per year growth estimate was used for this analysis. To remain conservative, growth rates are linear rather than exponential.

Table 8 illustrates the 20-year volume estimates with these growth rates.

Table 8 2030 Estimated Bicycle Volumes

Growth Scenarios	2010 Base Volumes		2030 Bicycle Volumes	
	Lower Estimate	Upper Estimate	Lower Estimate	Upper Estimate
10% Growth	985	1,155	2,955	3,465
15% Growth			3,940	4,620

We trust that this memorandum adequately addresses potential traffic volumes on the Swan Island – Lower Albina Connector. Should you have any questions or concerns, please contact us at (503) 228-5230.

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Working Paper 3
Alternative Alignments

Date: October 29, 2008
To: Shannon Buono, Bureau of Planning
From: Steve Durrant and Mike Tresidder, Alta Planning + Design
Re: Draft Swan Island/Albina Connector Alternative Identification

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This memo details initial design concepts for alternative alignments for the Swan Island/Albina Connector Transportation Feasibility Study. Each alternative requires a different amount of total right-of-way.

Alternative 1: Two Travel Lanes + Multi-use Trail

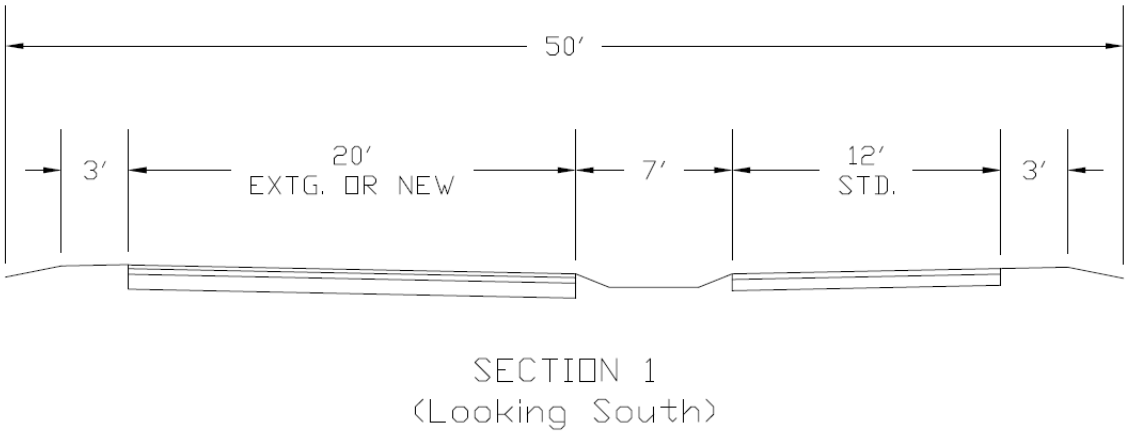

Figure 1 – Roadway plus multi-use trail cross section

Alternative 1 augments the existing 20 foot roadway (two 10 foot travel lanes) with a 12 foot multi-use trail. A seven foot storm drainage retention/treatment area separates the roadway from the trail. A three foot shoulder would be added on either side of the cross section. This cross section fits within a 50 foot total right-of-way width. Relocation of rail track within the Albina Yard and southern Ash Grove Cement Company properties is necessary to accommodate this alternative. The north end of this alternative connects to the existing waterfront trail on BES property.

Alternative 2: Two Travel Lanes + Two Bike Lanes

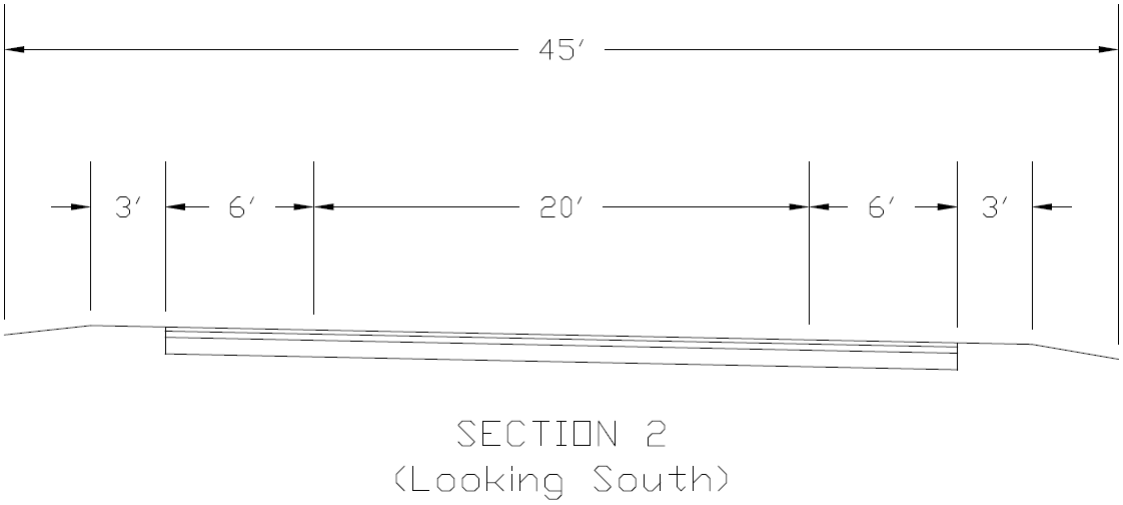

Figure 2 – Roadway plus bike lanes cross section

Alternative 2 supplements the existing 20 foot roadway (two 10 foot travel lanes) with six foot striped bike lanes and shoulders in both directions plus storm drainage accommodations. This alternative fits within a 45 foot total right-of-way width. Like Alternative 1, this alternative requires relocating railroad track within the Albina Yard and southern Ash Grove Cement Company properties.

Alternative 3: Shared Roadway

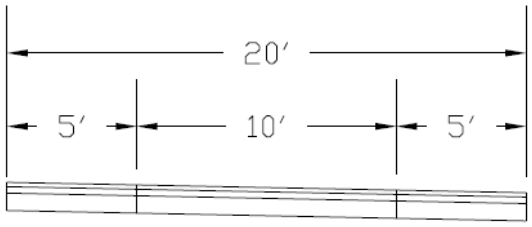

Figure 3 – Shared roadway cross section

Alternative 3 utilizes the existing 20 foot right-of-way. This alternative is based on a design utilized in Europe (Figure 4). A 10 foot travel lane is surrounded on either side by five foot colored shoulders. The shoulders can be used by all modes. Generally, the shoulders will be used by bicycles and pedestrians. However, when two oncoming vehicles pass each other, they are

permitted to travel in the shoulders as well. This alternative would be most appropriate with limited (permit only) and slow speed traffic.

Figure 4 – Shared roadway design in Europe (photo: Roger Geller, Portland Office of Transportation).

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Working Paper 3
Supplement: Storm Drainage

Date: October 30, 2008
To: Shannon Buono, Bureau of Planning
From: Steve Durrant and Mike Tresidder, Alta Planning + Design
Re: Draft Swan Island/Albina Connector Storm Drainage Techniques

The attached memo from KPFF Engineers outlines the storm drainage approaches that would be most suitable for each of the alternative cross sections and alignments presented in Working Paper 3.

kpff Consulting Engineers

U.S. Bancorp Tower, 111 SW 5th Avenue, Suite 2500
Portland, OR 97204 (503) 227-3251 FAX (503) 274-4681

M E M O R A N D U M

DATE: October 30, 2008

TO: Steve Durrant, Alta Planning and Development

CC:

FROM: Paul Dedyo, PE

RE: Swan Island/Albina Connector-Drainage PROJECT NO.:308132

DRAFT

We have reviewed the four Swan Island/Albina Connector Alternative Alignments presented in your memorandum to Shannon Buono at the Bureau of Planning and offer the following recommendations with regard to storm water drainage treatment and conveyance. Since the entire project site is in such close proximity to the Willamette River, detention/flow control will not be required, but water quality treatment will be required.

Alternative 1: Two Travel Lanes (20' wide) & Multi-use Trail (12' wide)

Stormwater treatment can be achieved with a vegetated infiltration swale placed between the 20-foot wide roadway and 12-foot wide multi-use trail. It appears that the shoulder along the west side of the existing 20-foot wide roadway has served this function to date. Provide similar improvements for new roadway extension and multi-use trail system south of Ash Grove property. Consideration should be given to provide a storm drainage connection to the existing UP outfalls in this area to handle high flow storm events. Some additional UP drainage improvements may also be required to intercept site runoff upslope of the proposed roadway.

Alternative 2: Two Travel Lanes & Two Bike Lanes (32' wide section)

Existing roadway is 20-feet wide and has an assumed cross-slope of 2% sloping down to the west. In order to minimize changes in grade for the widened roadway, we propose a 1.5% cross slope for the 32-foot wide roadway, dropping the west pavement edge only 0.08 feet and better matching the existing grades. Stormwater treatment can be achieved with a vegetated infiltration swale placed along the west side of the widened roadway section. Additional property acquisition required along frontage with Ash Grove property to accommodate vegetated facility. A piped conveyance system to a below-grade cartridge filter or mechanical filtration system might be preferred to provide storm water treatment for new roadway extension south of Ash Grove property due to limitation of available space west of proposed roadway corridor. A retaining wall runs along a stretch of this roadway, with the grades below falling quickly to the beach. Provide a storm drainage connection to the existing UP outfalls in this area. Some additional UP drainage improvements may also be required to intercept site runoff upslope of the proposed roadway.

Alternative 3: Shared Roadway

Stormwater treatment will only be required for the portion of new roadway extension, south of the Ash Grove property. The areas of minor street widening along the existing 20-foot paved corridor to accommodate the bike pull-outs at the rail crossings will not likely constitute enough area to require additional treatment. A piped conveyance system to a below-grade cartridge filter or mechanical filtration system might be preferred to provide storm water treatment for new roadway extension south of Ash Grove property due to limitation of available space west of proposed roadway corridor. A retaining wall runs along a stretch of this roadway, with the grades below falling quickly to the beach. Provide a storm drainage connection to the existing UP outfalls in this area. Some additional UP drainage improvements may also be required to intercept site runoff upslope of the proposed roadway.

Existing Utilities: There are visible signs in the field of underground utilities within the project area. The drainage solutions proposed above have been made exclusive of any specific information on existing easements or utilities. These solutions are flexible enough that they are considered constructible and functional within these potential constraints. However, complete topographic and boundary/easement surveys should be performed prior to any detailed utility planning or design.

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Working Paper 4
Analysis Criteria for Alternative Alignments

Date: December 18, 2008
To: Shannon Buono, Bureau of Planning
From: Steve Durrant and Mike Tresidder, Alta Planning + Design
Re: Draft Swan Island/Albina Connector Analysis Criteria

This memo details analysis criteria for selecting between alignment alternatives for the Swan Island/Albina Connector Transportation Feasibility Study. The analysis criteria consider the impacts on and benefits to property owners (Union Pacific Railroad's Albina Yard facility and Ash Grove Cement Company) and users (bicyclists, pedestrians, motor passenger vehicles, freight trucks, maintenance vehicles and emergency vehicles).

Albina Yard operates at or near capacity year round. Union Pacific Railroad (UP) uses the tracks for its arriving and departing of trains, to enable trains to switch tracks, and to assemble trains. The Ash Grove facility is served by both rail and freight trucks.

Cement Road is owned by UP and leased to Ash Grove Cement Company. UP vehicles utilizing Cement Road are primarily light trucks and cars. Larger trucks operate on Cement Road to serve Ash Grove.

We have generated three alternative alignments for Cement Road, which are compared to each other and a "do nothing" scenario.

- Alternative 1: Roadway plus adjacent multi-use trail
- Alternative 2: Widen roadway with bike lanes
- Alternative 3: Shared roadway – permitted vehicles only
- Alternative 4: Do nothing scenario – no public access to alignment

For the preliminary screening, a qualitative comparison method using +/O/- is utilized to compare the various trail alignment options against one another. The evaluation method is

explained in Table 1 below. The potential trail alignments are screened and evaluated using the criteria in Table 2.

Table 1. Evaluation Methodology

Rating	Description
+	The alternative meets the criteria very well.
O	The alternative partially meets the criteria.
-	The alternative does not meet or negatively impacts the user group with regard to the criteria.
N/A	The criteria are not applicable to the alternative.

Table 2. Criteria and Comments

Criteria	Rating	Comments
Access		
	+	Improves the ability of the user group to access destinations in/near the study corridor.
	O	Maintains access at its current levels, for those groups that currently have access.
	-	Negatively impacts the ability of the user group to access destinations in/near the study corridor.
	+	Allows full access for those groups that do not currently have access to Cement Road.
	O	Allows partial access for those groups that do not currently have access to Cement Road.
	-	Does not allow access to user groups that do not currently have access to Cement Road.
Mobility		
	+	Improves the ability of the user group to move around the study corridor. Avoids conflicts with other user groups.
	O	Maintains mobility at its current levels.
	-	Negatively impacts the ability of user groups to move around the study corridor. Increases conflicts with other user groups.

Criteria	Rating	Comments
Connectivity		
	+	Improves the connectivity of the transportation network for which the user group has access. This includes freight routes for trucks and multi-use trails for bicycles and pedestrians.
	O	Partially improves the connectivity of the transportation network for which the user group has access.
	-	Has no impact on the connectivity of the transportation network for which the user group has access.
User Safety		
	+	Provides for a safe travel environment, minimizing conflicts between modes and keeping users a safe distance from active rail lines.
	O	Provides for a reasonably safe travel environment, with some potential for conflicts between modes.
	-	Conflict between modes is likely and/or users are not adequately separated from active rail lines.
Rail Crossings		
	+	Alternative requires few or no at-grade rail crossings.
	O	Alternative requires some at-grade rail crossings.
	-	Alternative requires frequent at-grade rail crossing.
Impact on Business Operations		
	+	Improves the ability of the user group to efficiently move materials to or from destinations beyond the study corridor. Traffic delays are minimized.
	O	Has no impact on the ability of the user group to move materials to or from destinations beyond the study corridor.
	-	Negatively impacts the ability of the user group to efficiently move materials to or from destinations beyond the study corridor. Traffic delays are likely.
Property Acquisition		

Criteria	Rating	Comments
	+	Does not require acquisition of right-of-way.
	O	Requires some acquisition of right-of-way to accommodate the alternative.
	-	Requires significant acquisition of right-of-way to accommodate the alternative.
Track Removal		
	+	No track removal required to accommodate the alternative.
	O	Some track removal required to accommodate the alternative.
	-	Significant track removal required to accommodate the alternative.
Stormwater Drainage		
	+	Alternative provides for adequate and easily implementable stormwater drainage mitigation.
	O	Alternative provides stormwater drainage mitigation that is more difficult to implement.
	-	Alternative does not provide for adequate stormwater drainage mitigation.
Projected Traffic Volume		
	+	High traffic volumes are projected for the user group.
	O	Moderate traffic volumes are projected for the user group.
	-	Low traffic volumes are projected for the user group.
Cost		
	+	High cost of acquisitions, design, engineering, and/or construction.
	O	Moderate cost of acquisitions, design, engineering, and/or construction.

Criteria	Rating	Comments
	-	Low cost of acquisitions, design, engineering, and/or construction.

Several of the above criteria are analyzed for the variety of existing and potential user groups in the evaluation matrix found in Table 4. The different user groups are explained in Table 3 below.

Table 3. User Groups

User	Definition
Bicycles	Bicycle riders utilizing the alignment for recreation purposes, as a segment of a longer commute, or to access employment on Swan Island.
Pedestrians	Pedestrians utilizing the alignment for recreation purposes, as a segment of a longer commute, or to access employment on Swan Island.
Passenger Vehicles (Public Road)	Passenger vehicles utilizing the alignment to pass between Swan Island and Lower Albina. Improvements outlined in Alternatives 1 and 2 would be appropriate for a future Cement Road open to the general public. Therefore, the impact on passenger vehicles not currently permitted is evaluated.
Freight Trucks (Public Road)	Freight trucks utilizing the alignment to pass between Swan Island and Lower Albina. Improvements outlined in Alternatives 1 and 2 are appropriate for a future Cement Road open to the general public. Therefore, the impact on freight trucks not currently permitted is evaluated.
Permitted Trucks	Freight and maintenance vehicles that are accessing properties including Ash Grove Cement and Union Pacific Railroad and are permitted to utilize the current alignment (assuming alignment is closed to general traffic).
Emergency Vehicles	Emergency vehicles such as ambulances, fire trucks, etc.

Table 4. Evaluation Matrix

		Alternative 1 (Adjacent Trail)	**Alternative 2** (Bike Lanes)	**Alternative 3** (Shared Road)	**Alternative 4** (Do Nothing)
ACCESS	Bicycles	+	+	+	-
	Pedestrians	+	-	+	-
	Passenger Vehicles (Public Road)	+	+	-	-
	Freight Trucks (Public Road)	+	+	-	-
	Permitted Trucks	+	+	O	O
	Emergency Vehicles	+	+	O	O
MOBILITY	Bicycles	+	+	+	O
	Pedestrians	+	n/a	+	O
	Passenger Vehicles (Public Road)	+	+	n/a	n/a
	Freight Trucks (Public Road)	+	+	n/a	n/a
	Permitted Trucks	+	+	O	O
	Emergency Vehicles	+	+	O	O
CONNECTIVITY	Bicycles	+	O	O	-
	Pedestrians	+	-	O	-
	Passenger Vehicles (Public Road)	+	+	-	-
	Freight Trucks (Public Road)	+	+	-	-
	Permitted Trucks	+	+	+	-
	Emergency Vehicles	+	+	+	-

		Alternative 1 (Adjacent Trail)	**Alternative 2** (Bike Lanes)	**Alternative 3** (Shared Road)	**Alternative 4** (Do Nothing)
USER SAFETY	Bicycles	+	+	O	-
	Pedestrians	+	n/a	O	-
	Passenger Vehicles (Public Road)	+	+	n/a	n/a
	Freight Trucks (Public Road)	+	+	n/a	n/a
	Permitted Trucks	+	+	O	O
	Emergency Vehicles	+	+	O	O
RAIL CROSSINGS	Rail Crossings	-	O	-	-
IMPACT ON BUISINESS OPERATIONS	Union Pacific Railroad Albina Yard	-	-	O	n/a
	Ash Grove Cement Company	O	O	O	n/a
	Lower Albina Businesses	O	O	O	n/a
PROPERTY ACQUISITION	Union Pacific Railroad Albina Yard	-	-	-	+
	Ash Grove Cement Company	O	-	O	+

		Alternative 1 (Adjacent Trail)	**Alternative 2** (Bike Lanes)	**Alternative 3** (Shared Road)	**Alternative 4** (Do Nothing)
TRACK REMOVAL	Union Pacific Railroad Albina Yard	O	-	+	n/a
	Ash Grove Cement Company * requires relocation, not removal	O*	O*	+	n/a
STORMWATER DRAINAGE	Stormwater Drainage	+	+	-	n/a
PROJECTED TRAFFIC VOLUME	Bicycles	+	O	+	-
	Pedestrians	-	-	-	-
	Passenger Vehicles (Public Road)	O	O	-	-
	Freight Trucks (Public Road)	O	O	-	-
	Permitted Trucks	O	O	O	O
	Emergency Vehicles	O	O	O	O
COST	Total Cost	-	-	+	n/a

Projected traffic volumes for 2008 and 2030 for the various modes are listed in Table 5.

Table 5. Projected Traffic Volumes

	Alternative 1	Alternative 2	Alternative 3
2008 Conditions			
Auto (PM Peak Hour)	110	110	0
Freight (PM Peak Hour)	40	40	0
Bicycle (Daily)	985 - 1,155	760 - 910	985 - 1,155
2030 Conditions			
Auto (PM Peak Hour)	350	350	0
Freight (PM Peak Hour)	120	120	0
Bicycle (Daily)	2,955 - 4,620	2,280 - 3,650	2,955 - 4,620

Appendix A. Area Maps

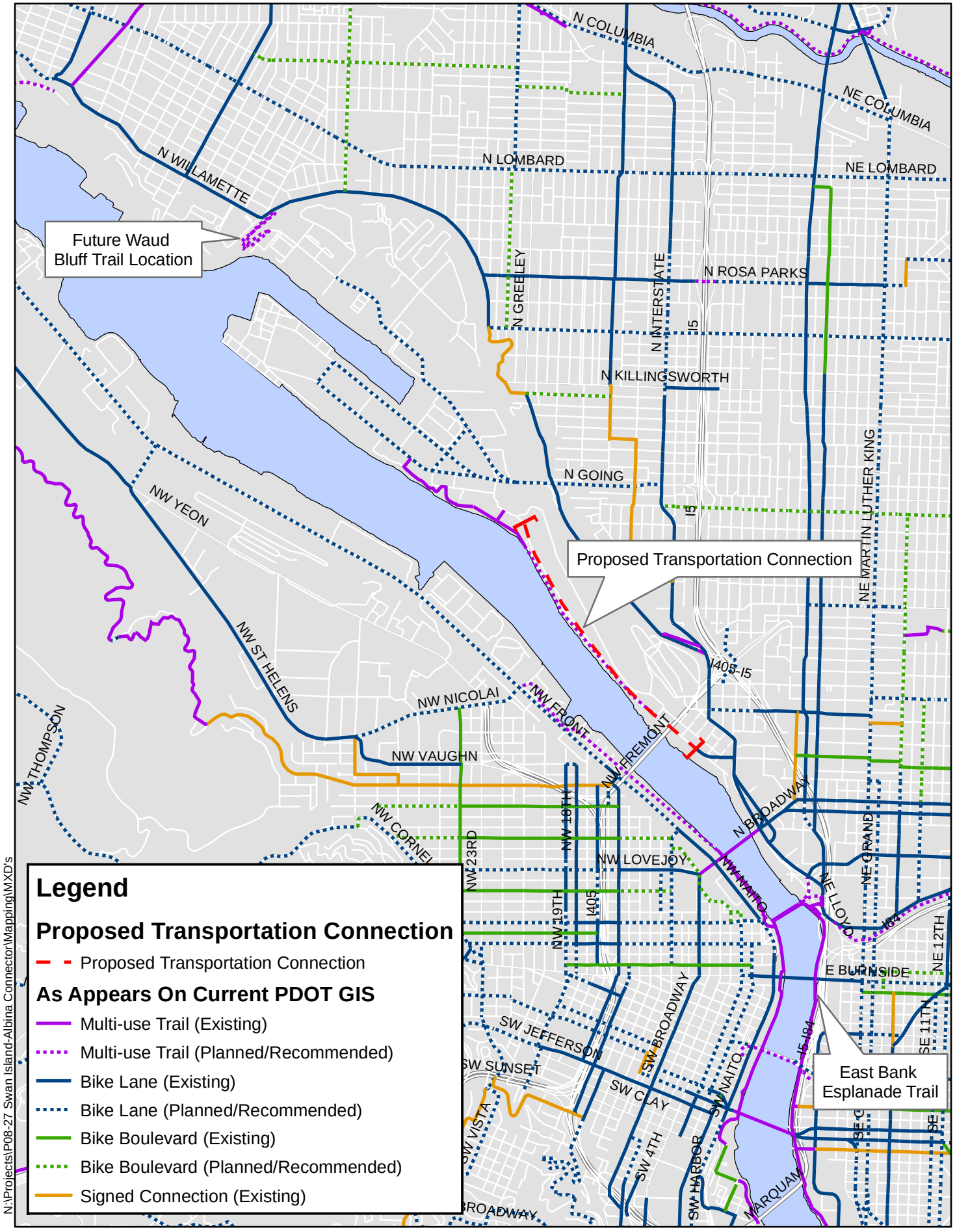


Figure A-1 Area Map

Portland, OR
Swan Island/Albina Connector Transportation Feasibility Study

Source: Metro Regional Land Information System
Portland Office of Transportation
Alta Planning + Design
Date: 2/09
Author: MSB

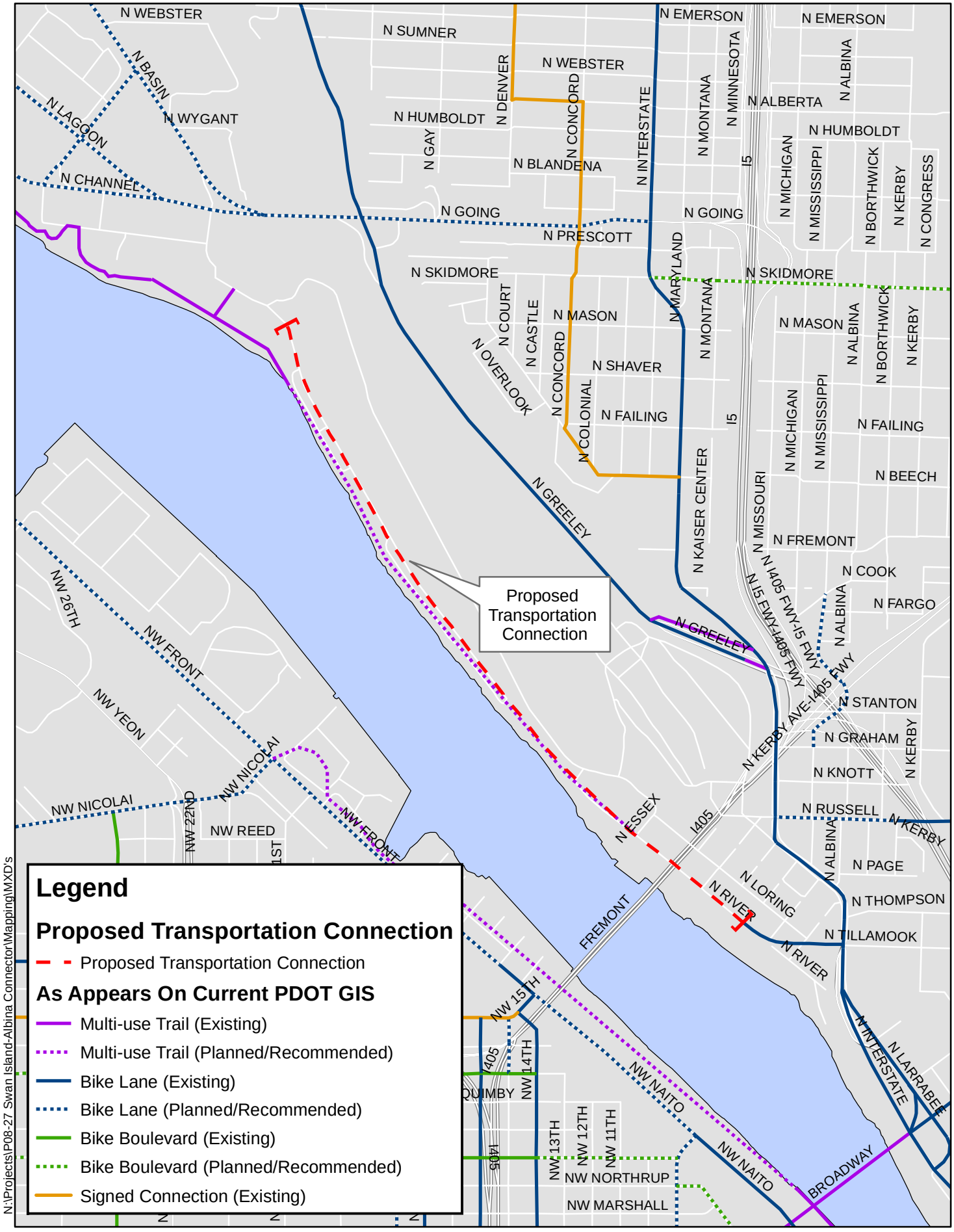


Figure A-2 Area Map

Portland, OR
Swan Island/Albina Connector Transportation Feasibility Study

0 0.1 0.2 Miles

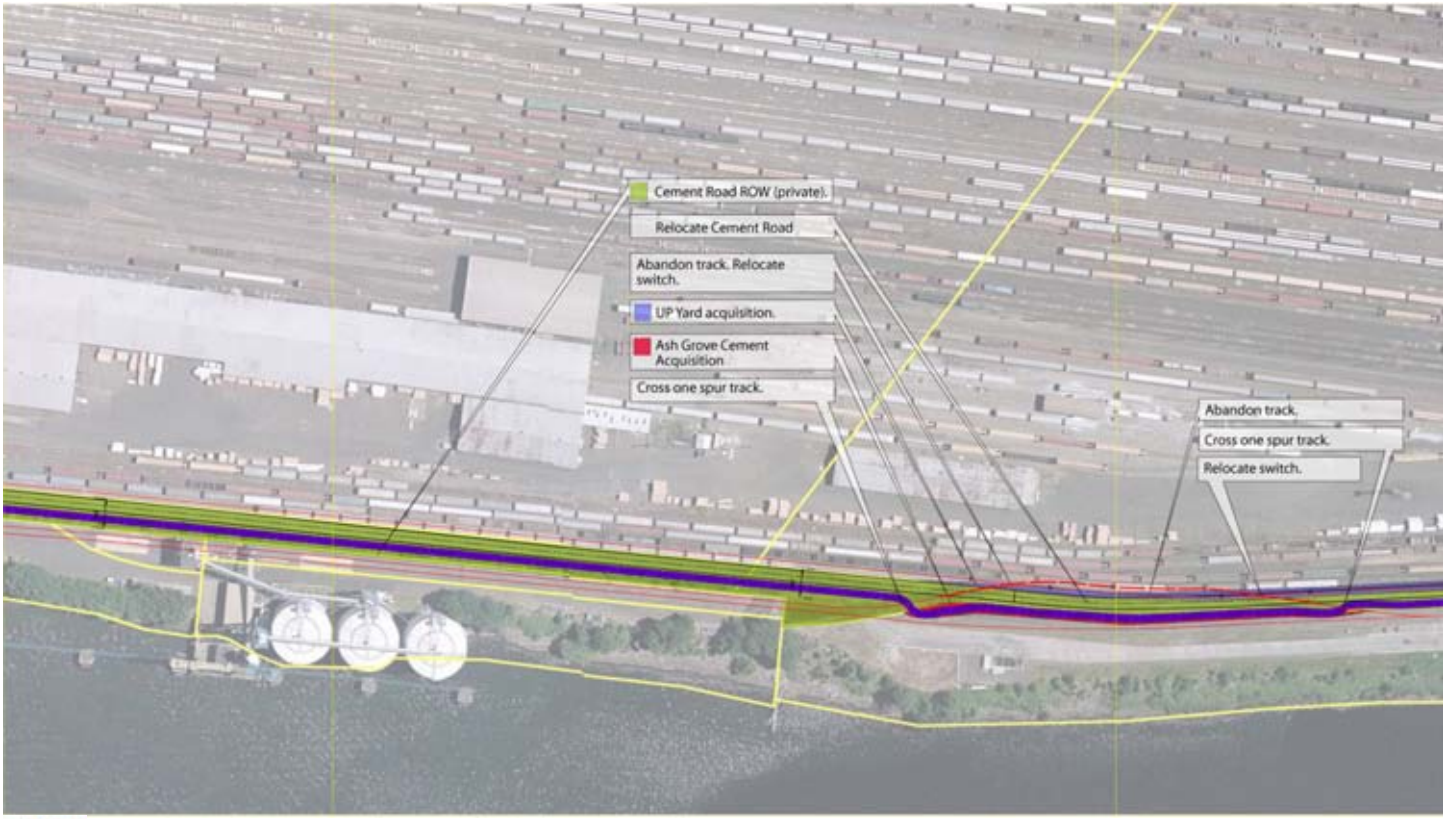
Source: Metro Regional Land Information System
Portland Office of Transportation
Alta Planning + Design
Date: 2/09
Author: MSB

Appendix B. Alignment Options

alta PLANNING + DESIGN 0 125 250 500 ft

Alternative 1
Multi-use Pathway Adjacent to Cement Road - BES

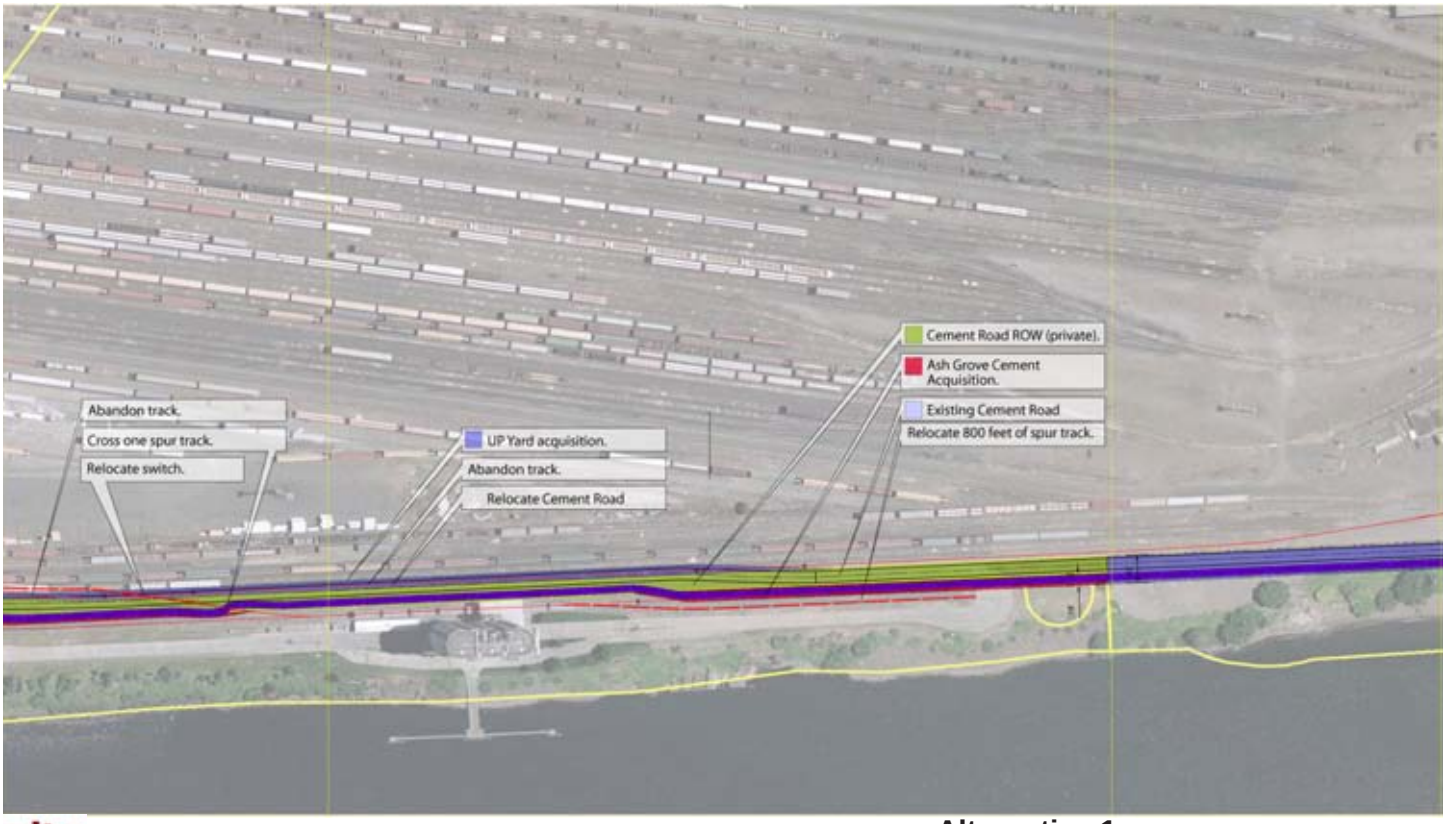
1.1



alta PLANNING + DESIGN 0 125 250 500 ft

Alternative 1
Multi-use Pathway Adjacent to Cement Road

1.2



0 125 250 500 ft

Alternative 1
Multi-use Pathway Adjacent to Cement Road

1.3

0 125 250 500 ft

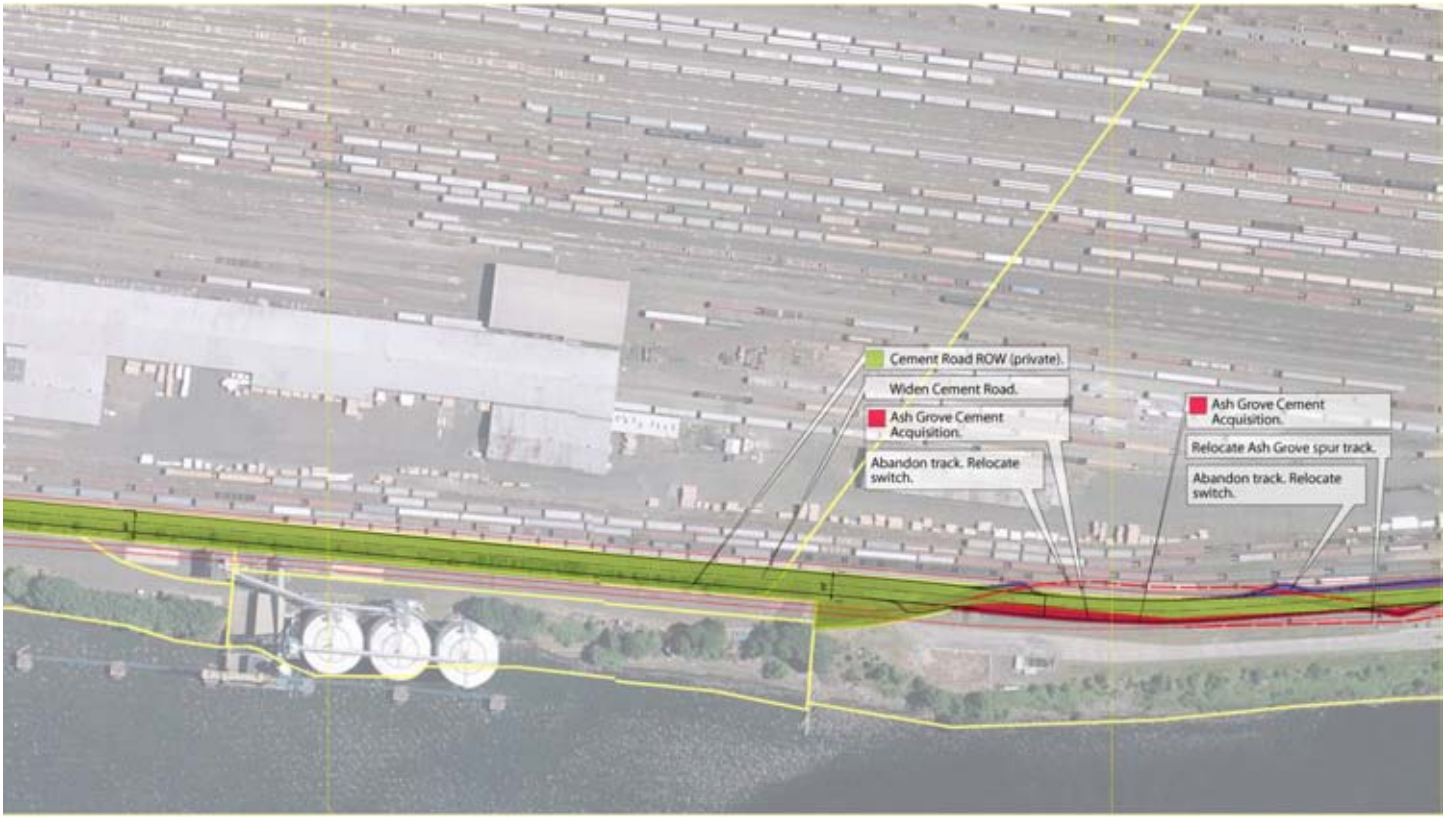
Alternative 1
Multi-use Pathway Adjacent to Cement Road

1.4

0 125 250 500 ft

Alternative 2
Widen Cement Road with Bike Lanes

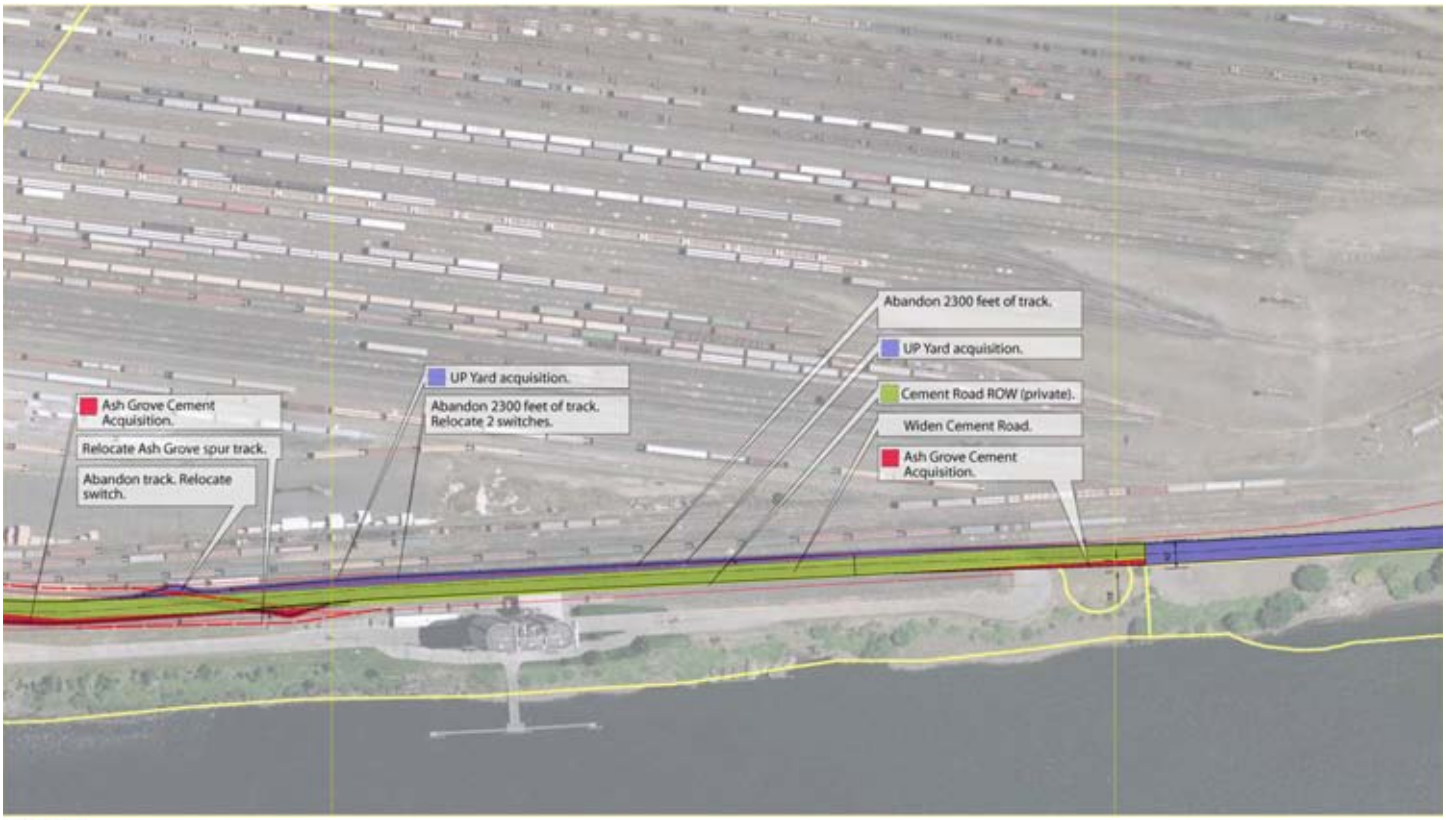
2.1



0 125 250 500 ft

Alternative 2
Widen Cement Road with Bike Lanes

2.2



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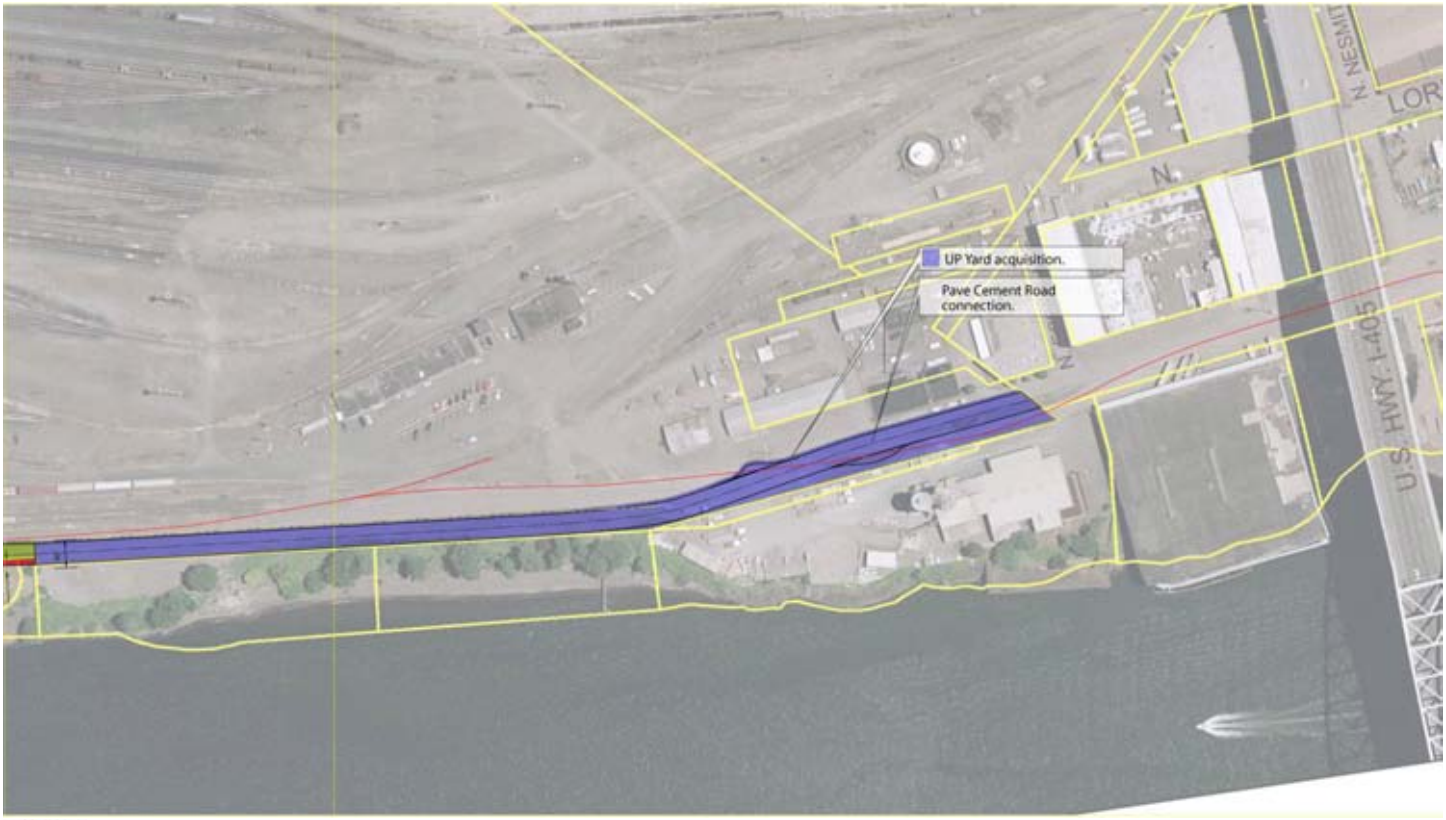
Alternative 2
Widen Cement Road with Bike Lanes

2.3



alta PLANNING + DESIGN 0 125 250 500 ft

Alternative 2
Widen Cement Road with Bike Lanes

2.4

alta PLANNING + DESIGN 0 125 250 500 ft

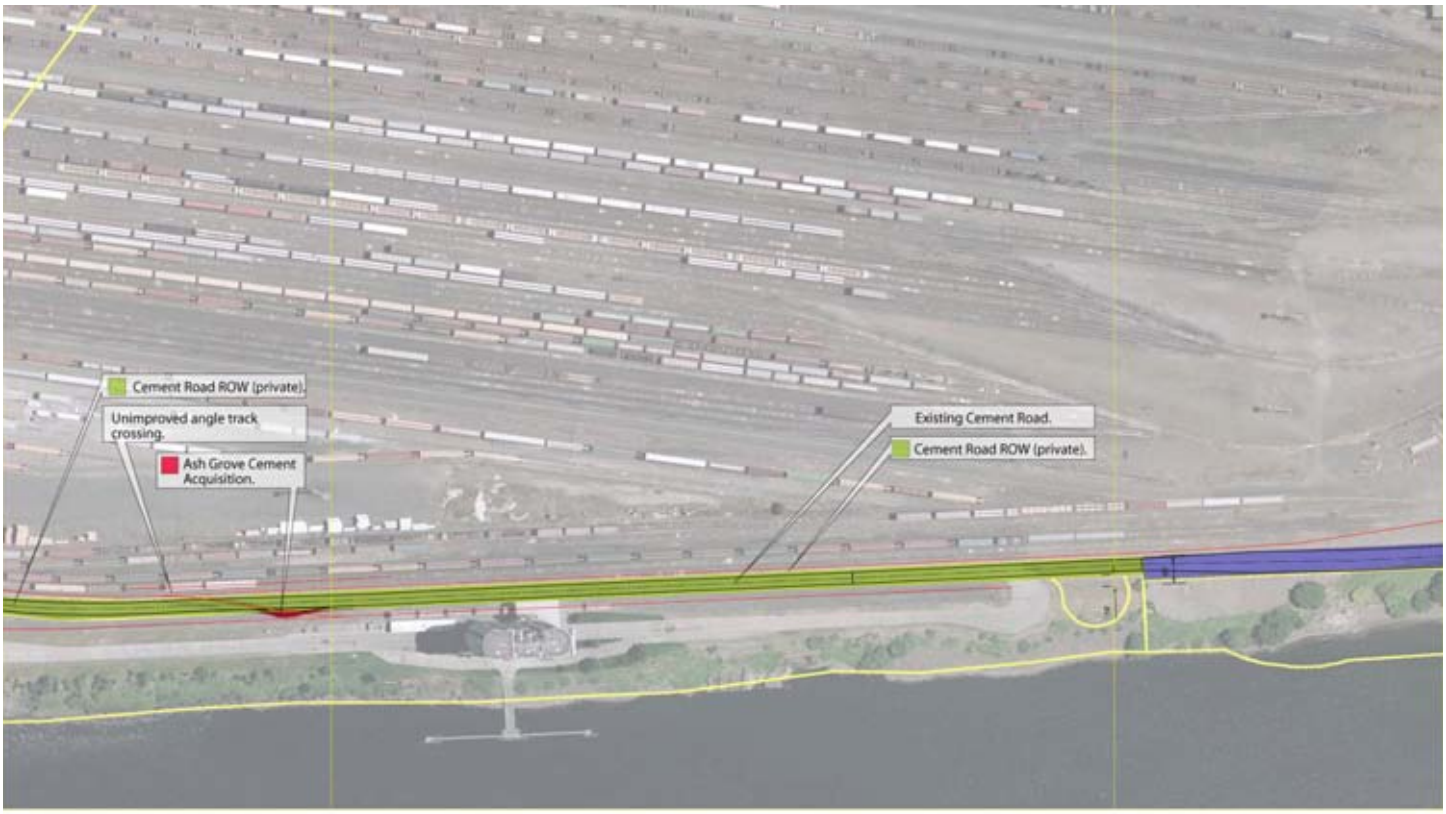
Alternative 3
Improve Existing Cement Road

3.1

alta PLANNING + DESIGN 0 125 250 500 ft

Alternative 3
Improve Existing Cement Road

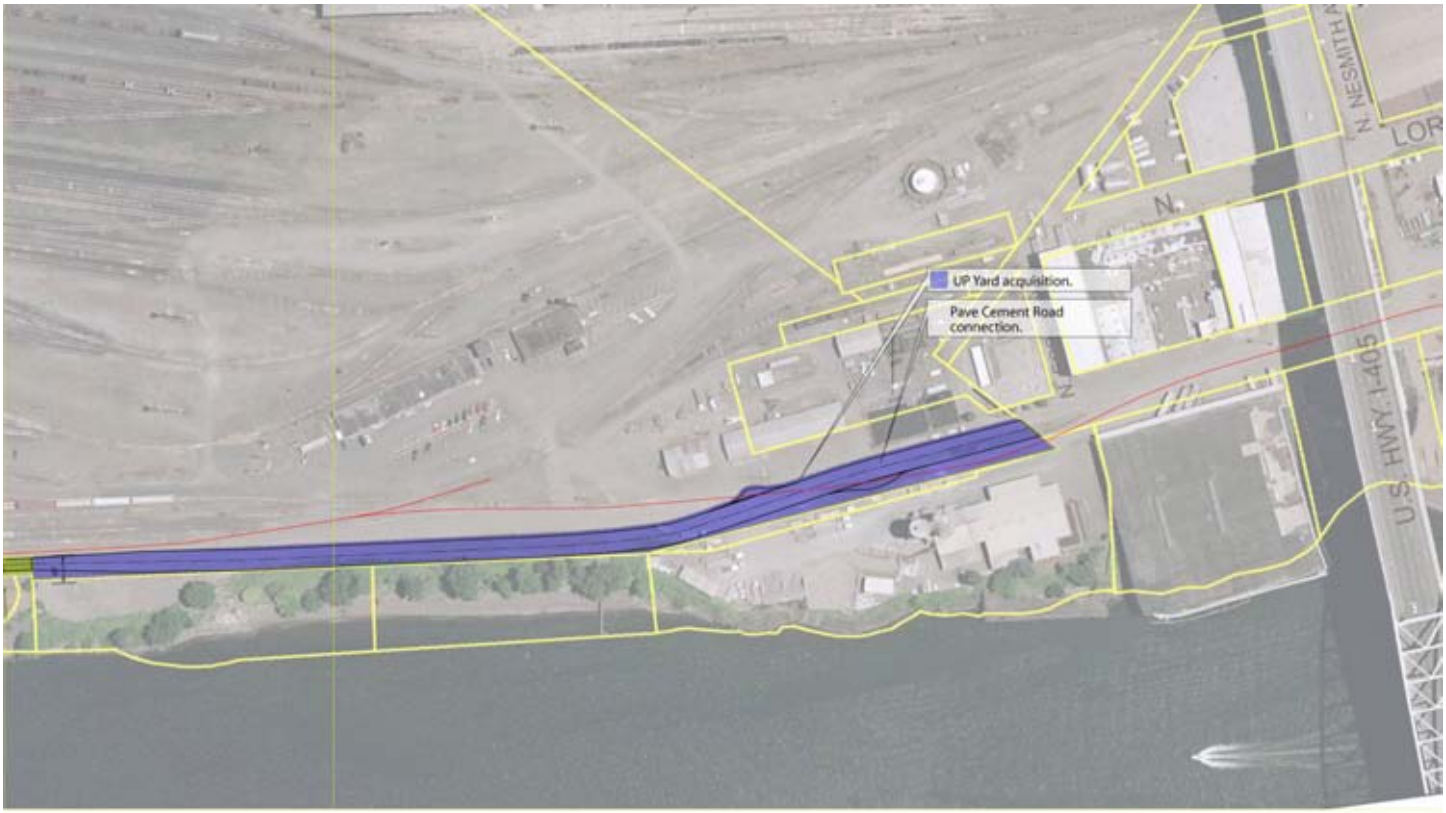
3.2



alta PLANNING + DESIGN

0 125 250 500 ft

Alternative 3
Improve Existing Cement Road



alta PLANNING + DESIGN

0 125 250 500 ft

Alternative 3
Improve Existing Cement Road

Appendix C. Cost Opinions

MEMORANDUM

To: Shannon Buono, Bureau of Planning
From: Mike Tresidder & Steve Durrant, Alta Planning + Design
Date: November 12, 2008
Re: Swan Island – Albina Cost Opinions

The cost opinions prepared by KPFF for The Swan Island – Lower Albina Connector alternatives summarized in this memo outline a planning level opinion of probable construction cost for roadway, bikeway and trail improvements that connect North Port Center Way on Swan Island with North River Street in the Lower Albina industrial district. The alternatives are shown and described in greater detail in previous memos.

Alternative 1

Separate multi-use pathway adjacent to 20' roadway: **$2.1 million**

Alternative 2

Bike lanes on new 32' roadway: **$2.9 million**

Alternative 3

Improve existing 20' roadway (bike lanes on private road): **$1.3 million**

Assumptions

- The asphalt pavement section is assumed to be 6" of AC over 12" of base rock.
- Assume existing concrete road to be relocated will be constructed in asphalt.
- New 32' road section will be asphalt and will replace existing concrete road rather than widen it.
- There are a total of 8 existing power poles along the east side of the existing roadway. The alignment may be able to be refined during final design to avoid some of them.
- Fence removal/replacement is not included.
- Hazardous materials clean up costs are not included.
- Earthwork volumes for excavation and haul or fill not quantified.

Appendix D. Environmental Site Assessment Report Summary

August 20, 2008

Shannon Buono
Bureau of Planning
1900 SW 4th Avenue, Suite 7100
Portland, OR 97201

RE: Swan Island – Lower Albina Connector
Task 4: DRAFT Phase I Environmental Site Assessment and Evaluation of Alternatives

Dear Ms. Buono,

Please find attached the Environmental Site Assessment Report for the Swan Island - Lower Albina Connector project. The entire 2808 page report, including printouts of the supporting database files, can be found on the project ftp site and will be transmitted to you on CD upon completion of the task.

An accurate understanding of the site conditions related to potential contamination of the soil and groundwater requires a thorough reading of the entire report and background data. The short version conclusion is that the records and field observations "reveal no evidence of recognized environmental conditions with the property".

The report also concludes that additional soil and groundwater investigation is recommended in several areas where current or historical uses of the property or adjacent properties may have resulted in contamination.

In any case, indemnification from liability for pre-existing soil and groundwater impacts associated with historical activities on adjacent properties should be sought from the property owners, especially with regard to ongoing Portland Harbor investigations.

Finally, our conclusions for the evaluation of alternatives are:

- The existing roadway location is most likely to be the most advantageous alignment for transportation improvements within the study corridor.
- Design guidelines for improvements to the site should protect and preserve the active monitoring wells and other structures abutting the alignment, involve limited excavation, include impermeable pavements and limited stormwater infiltration.
- Project costs should include monitoring and testing for soil and groundwater contamination during grading operations and a contingency fund and Contaminated Media Management Plan for responding to potential contamination should it be encountered during construction.

With this cover letter and report we conclude this task. Please forward your comments at your convenience.

Thank you.

Sincerely,

Steve Durrant, ASLA
Senior Associate
Alta Planning + Design
stevedurrant@altaplanning.com

Claudia Byes-Lund
Project Scientist
PBS Engineering + Environmental
claudiab@pbsenv.com

North Reach Greenway Trail and Viewpoints

May 7, 2007

Revised Staff Proposal for River Plan Committee Discussion

on May 15, 2007 5:00 pm – 7:00 pm
1900 SW 4th Avenue, Portland, OR
Fourth Floor, Room 4A

THE RIVER PLAN
NORTH REACH

CITY OF PORTLAND, OREGON
BUREAU OF
Planning

ACKNOWLEDGEMENTS

Portland Bureau of Planning
Gil Kelley, *Director*
Cary Pinard, *Principal Planner*
Sallie Edmunds, *River Planning Manager/Project Manager*
Shannon Buono, *City Planner*
Arianne Sperry, *City Planner*
Gary Odenthal, *Geographic Information System Manager*
Matt Lustig, *Intern*
Joe Zehnder, *Principal Planner (through March 2007)*
Marguerite Feuersanger, *City Planner (through November 2006)*
Diane Sullivan, *City Planner (through November 2005)*
Sarah Selden, *Intern (through February 2007)*

Consultant
Alta Planning + Design

The following people have either served on the River Plan/North Reach Trail Alignment and Design Task Group or have provided significant input to staff:
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www.portlandonline.com/planning

Sallie Edmunds, Project Manager, 503-823-6950
Shannon Buono, Trail Issues, 503-823-7662

TABLE OF CONTENTS

1. INTRODUCTION

PURPOSE OF THIS REPORT

The purpose of this report is to describe and illustrate the River Plan/North Reach staff proposal regarding the Willamette greenway trail and viewpoints. The staff proposal includes trail and viewpoint policies and guiding principles, an updated greenway trail alignment and viewpoint locations, trail and viewpoint implementation strategies, and next steps. This report was developed by River Plan staff with the input of the Greenway Trail Alignment and Design Task Group and other stakeholders.

The River Plan Committee will discuss this proposal on May 15, 2007. The committee will not make a final recommendation on the greenway trail and viewpoints until all of the River Plan/North Reach task groups have completed their work and staff has prepared an integrated draft River Plan/North Reach recommendation.

The River Plan Committee's proposal will be forwarded to the Planning Commission for consideration. The Planning Commission's recommendation will be forwarded to City Council for consideration. The final version of the Greenway Trail and Viewpoints report will be included as an appendix to the River Plan/North Reach recommendation.

WHAT IS THE RIVER PLAN?

The River Plan is a comprehensive multi-objective plan for the land along the Willamette River. The River Plan will guide, inspire and facilitate action along the Willamette River and replace the 1987 Willamette Greenway Plan, the greenway zoning code and greenway design guidelines. The Willamette Greenway Plan serves as Portland's compliance with Statewide Planning Goal 15.

The first phase of the River Plan focuses on the North Reach of the Willamette River (roughly the Broadway Bridge to the Columbia River) and will include a working harbor reinvestment strategy component. Future planning will address the Central City and southern areas of the river.

The River Plan/North Reach will address a broad set of issues related to the Willamette River and its corridor in order to update the Willamette Greenway Plan and refine and streamline Portland's zoning code and design guidelines. These topics include:

- **Industry**—reinvestment in labor, land, and infrastructure; river-related/river-dependent definitions
- **Neighborhoods**—North Beach, St. Johns, Linnton, others.
- **Recreation**—trails, viewpoints, parks, boating.
- **Natural Resources**—habitat conservation and restoration, bank treatment, landscaping, stormwater management.

The Broadway Bridge marks the southern boundary of the North Reach.

OVERVIEW OF PLANNING PROCESS

A key part of the River Plan process is the use of stakeholder task groups. Task groups have been formed to review and comment on a particular issue area. The groups provide staff with various perspectives on issues related to planning along the Willamette River. The groups are not asked to reach consensus or forward recommendations, but rather to provide staff with information that will help with decision making. River Plan task groups have explored and discussed a variety of issues ranging from contaminated sites to river-dependent industrial land policies.

The Greenway Trail Alignment and Design Task Group met six times and went on two field trips between November 2005 and April 2007. (Brief summaries of each the task group meeting are included in Appendix C.) In addition to the discussions that took place during task group meetings, this staff proposal has been informed by meetings with a variety of groups with ties to the North Reach area including the Linnton Neighborhood Association, Linnton Action Agenda Team, a coalition of petroleum cluster business owners, np Greenway, and representatives of several City agencies.

Task group members studied the Baltimore Woods area during one field trip.

2. GREENWAY TRAIL POLICIES AND GUIDANCE

GREENWAY TRAIL POLICIES FROM THE RIVER CONCEPT

An early step in the River Plan process was to synthesize the policy guidance and aspiration gleaned from Willamette River-related planning over the last decade into a document called the *River Concept*. The *River Concept* was endorsed by the Portland City Council on April 26, 2006. Through the development and adoption of the River Plan, the policies and aspirations contained in the *River Concept* will be further discussed, refined and validated.

The following statements from the *River Concept* relate to greenway trail planning in the North Reach of the Willamette River.

- The North Reach will continue to provide Oregon with access to global markets and support the region's economy as a West Coast distribution hub and a heavy industrial area. Environmental cleanup, recreational access, and watershed health actions will contribute to the harbor's long-term vitality.

- Over time, using a variety of tools, a continuous trail will be developed along both sides of the Willamette River that complements the existing and planned riverfront uses and recognizes the vital contribution that river-proximate industrial uses make to Portland's economy.

- A bikeway and pedestrian system will continue through the North Reach using off-street trails, on-street bicycle lanes and sidewalks. In addition, a new bike and pedestrian path will be constructed connecting the east and west sides of the river utilizing the existing St. Johns Bridge, the railroad bridge or a new bridge crossing the Willamette.

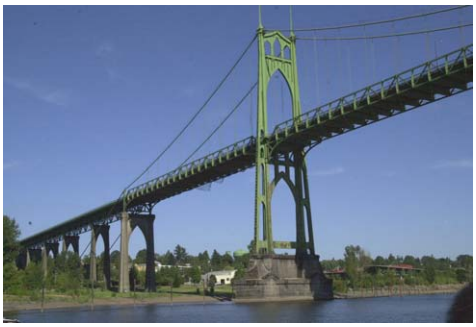
- Access from North Portland neighborhoods to McCarthy Park on Swan Island and the greenway trail will be improved with the development of the Waud Bluff Trail and other potential trail connections down the bluff.

- The riverfront between the University of Portland and Cathedral Park has the potential to develop into two continuous miles of greenway trail, campus activity, natural habitat, parks, viewpoints, and water recreation opportunities through public and private actions.

- The St. Johns waterfront, south of Cathedral Park, will become a dynamic, mixed-use district with new residential, employment and commercial development, open spaces, recreational opportunities, trail connections, and pedestrian friendly streets. This riverfront area will need to coexist with rail operations.

- New investment on the Linnton waterfront will add to activity, access to the waterfront, and the community's economic base.

The Greenway Trail will offer views of Swan Island.



The St. John's Bridge is the only option for bicyclist and pedestrians to cross the river north of the Broadway Bridge.

The following area specific statements from the *River Concept* weave the policies and aspirations together into a picture of what each area could look like in the future:

Kelley Point Park to Cathedral Park

Non-industrial activities will be managed to ensure the success of this heavy industrial district. A continuous trail will be developed that connects Cathedral Park with Kelley Point Park. Trails in all areas will be designed to ensure safety and security for both industry and trail users. On sites planned for river-dependent industry, public access to the river's edge may be largely limited to occasional trail spurs and viewpoints. Opportunities to view the working harbor will give the public a new understanding of their city's enduring relationship with the working harbor and Willamette River.

St. Johns/North Beach

The St. Johns riverfront will continue to evolve into a more thriving, dynamic place. Cathedral Park, with its history, music and cultural festivals, and stunning views, will grow as a neighborhood focal point. North of the park, industry and employment uses will flourish, including green technology and small manufacturing firms, cottage industries, and live-work spaces for a growing community of artisans. South of Cathedral Park will be a mix of activities, including housing, limited office and retail, and other community-serving uses. New development will be designed to be compatible with the surrounding neighborhood, and set back from the riverbank to allow for a continuous trail and habitat enhancement. New streets and rights-of-way will be designed to manage stormwater through landscaping and creative design. River taxi/ferry service connecting St. Johns destinations with the Central City and Vancouver may also be available.

The riverfront south of St. Johns to the University of Portland has the potential to undergo a major transition. Due to economic and access constraints for industrial land uses, eighty acres of vacant and contaminated riverfront land could be transformed into recreational and environmental learning opportunities for the University of Portland student body and the Portland community. Next door, Willamette Cove will be restored to provide valuable habitat. A new greenway trail segment will connect the University with Cathedral Park. Superfund cleanup of harbor sediments and sites will continue until complete.

The Greenway Trail will connect users to Kelley Point Park at the confluence of the Willamette and Columbia rivers.

The land below the University of Portland could provide riverfront trail access.

Swan Island/Lower Albina

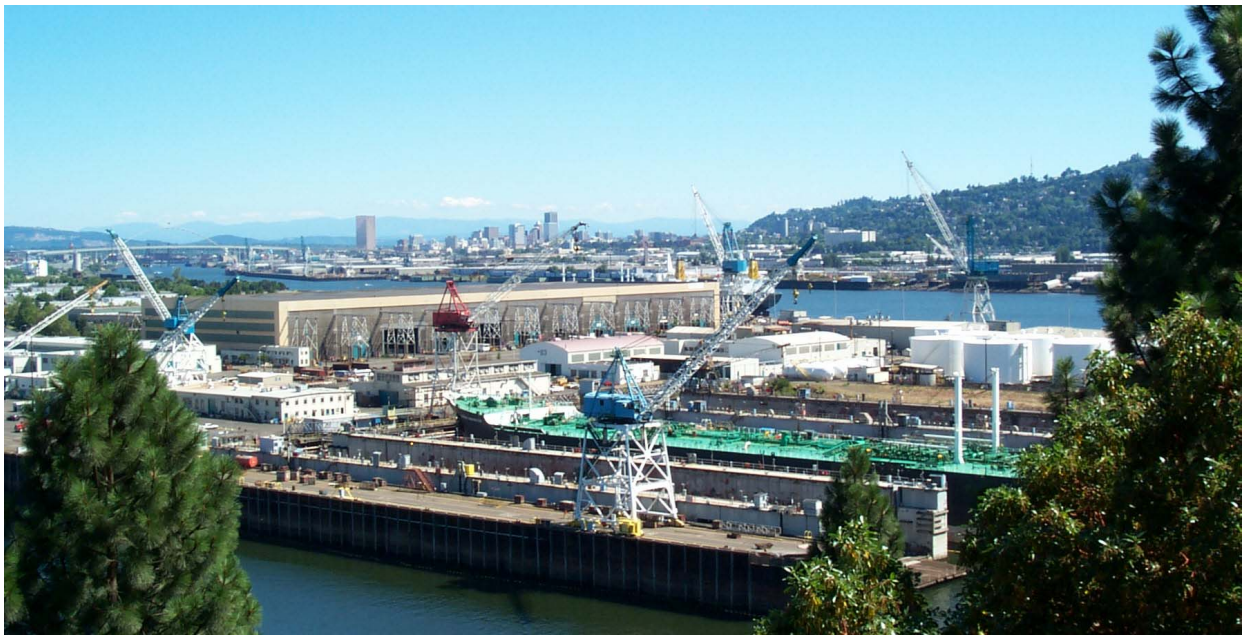
Urban renewal resources will help stimulate new industrial and manufacturing investments that will produce jobs and encourage existing business to remain and expand. Transportation improvements to North Going Street and a secondary access route will enhance capacity to accommodate increased freight movement in the district. Other transportation investments to expand employee travel choices and reduce single occupancy vehicle trips to the area will help protect roadway capacity for freight movement.

Industry that is dependent on the river will be located nearest to the riverbank, while land uses that are not dependent on river access will be set back. Superfund cleanup of harbor sediments and upland sites in the district will continue until completed.

Non-industrial activities will be managed to ensure the success of this district. The greenway trail system, including either bike lanes and sidewalks or off-street trails, will pass through this area. However, on sites planned for river-dependent industry, public access to the river's edge may be largely limited to occasional trail spurs and viewpoints. Bluff trails will connect Swan Island to the neighborhoods, provide river access for residents, and serve as a commuter route for workers. To reduce the risk of urban wildfires and to improve watershed health, significant upland resources at Waud Bluff and Mocks Crest will be protected and restored.

Northwest/Guilds Lake

Marine loading and mooring will remain an important feature of the riverfront landscape. While most of the riverbank remains intensively developed and used for maritime access, future riverbank treatment will add to the environmental quality of the river in ways that are cost effective. Industry that is dependent on the river will be located nearest to the riverbank, while land uses that are not dependent on river access will be set back. Superfund cleanup of harbor sediments and sites in the district will continue until completed.



Trail access to the river is limited along sites with river-dependent industry.

GREENWAY TRAIL AND VIEWPOINT GUIDING PRINCIPLES

The following greenway trail and viewpoint guiding principles build on the *River Concept* aspirations. The principles have helped guide the location of the proposed greenway trail and greenway viewpoints, and have informed the implementation recommendations that follow in section 3. Benefits and issues related to some of the principles are identified. It is important to note that these proposed principles were drafted with the North Reach of the Willamette River in mind. These principles will need to be revisited for the River Plan/South Reach and River Plan/Central Reach.

#1 The greenway trail can provide public access to the Willamette River, improve circulation within and between neighborhoods, reduce vehicle congestion, and provide a safe alternative transportation route that is attractive to a variety of users.

The Eastbank Esplanade—connects neighborhoods and improves circulation.

#2: Where the land is being preserved for river-dependent industrial uses, a greenway trail along the riverfront is generally not feasible at this time. While River Renaissance envisions the integration of trails with a variety of land-uses along the riverfront, current security issues, and the levels and types of river-dependent uses in much of the North Reach, preclude realizing that vision until a time when security and safety issues can be resolved in a way that benefits both property owners and potential trail users.

Benefits of this principle:

- Protects river-dependent industrial development and provides certainty for river-dependent industrial operations in these areas.
- Ensures public safety.
- Addresses security concerns related to the Maritime Transportation Security Act.

Cascade General on Swan Island—Example of area where a trail is not feasible at this time.

Issues/concerns related to this principle:

- The public will not have access to the Willamette River in many sections of the North Reach.
- Does not allow for the possibility that trail design solutions could resolve safety issues on some river-dependent sites.
- Limits alternative transportation connections between neighborhoods in the North Reach and neighborhoods to the south.
- Limits the recreational opportunities in North and Northwest Portland.

#3: Where the land is not being preserved for river-dependent industrial uses, a greenway trail can be feasible.

Astoria Riverwalk—this trail runs through an active industrial area.

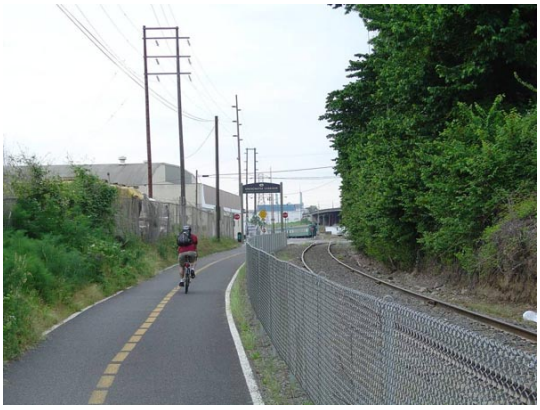
Benefits of this principle:

- Provides for public use and enjoyment of the Willamette River waterfront.
- Provides the opportunity for the public to view an active industrial waterfront.
- Provides alternative transportation options between and within neighborhoods and districts.
- Provides opportunities for recreation and relaxation along the waterfront including views of the Willamette River.

Issues/concerns with this principle:

- Public access to the river in industrial areas could impact industrial operations.
- There is a perception that a trail along the waterfront in these locations will discourage river-dependent development in the future.
- There is concern that trails will result in conflicts between bicyclists and pedestrians, and truck and rail traffic.

#4 Where an industrial area is rail-dependent rather than river-dependent, a trail can be feasible. Depending on the opportunities and constraints of an area or a site, a trail in this context can be appropriate either as a riverfront trail or a rail-with-trail. If the river bank is not being preserved for river-dependent uses, then a riverfront trail may be feasible. In other cases, a rail-with-trail through industrial development can be feasible where there is adequate space for a trail and user safety issues can been addressed.



Springwater Corridor rail-with-trail near Ross Island Sand and Gravel facility.

Benefits of this principle:

- Provides for public use and enjoyment of the Willamette River waterfront.
- Provides the opportunity for the public to view and embrace an active industrial area.
- Provides alternative transportation options between and within neighborhoods and districts.

Issues/concerns with this principle:

- Public access to the river in rail-dependent industrial areas could impact industrial operations.
- There is a perception that a trail in these locations will discourage industrial uses in the future.

- There is concern that trails will result in conflicts between bicyclists and pedestrians, and truck and rail traffic.

#5: Viewpoints should be encouraged at various points within the North Reach. Viewpoints should be spaced appropriately along the trail route and should provide the public with views of the harbor, Willamette River and surrounding landscapes.

McCarthy Park viewpoint on Swan Island.

Benefits of this principle:

- Viewpoints allow the public to see and appreciate the working harbor, the Willamette River and the surrounding landscape.

Issues/concerns with this principle:

- Potential for personal safety concerns if a viewpoint is isolated or located far from the main greenway trail system.
- The design of the viewpoint and any trail spur to the viewpoint is important.
- Bringing people into an industrial area may create conflicts.

#6: If conditions in the North Reach change overtime and the City policies regarding preserving land for river-dependent activities change, then the possibility of a riverfront trail in the North Reach should be revisited.

3. IMPLEMENTATION TOOLS AND STRATEGIES

GREENWAY TRAIL AND VIEWPOINT IMPLEMENTATION RECOMMENDATIONS

The greenway trail and viewpoint implementation recommendations were developed by River Plan staff following the guidance provided in the River Concept, the proposed greenway trail and viewpoint guiding principles, and the advice provided by stakeholders including the Greenway Trail Alignment and Design Task Group.

Staff proposes that the River Plan Committee:

1. Recommend that the policies and guiding principles in this report be integrated into the River Plan/North Reach proposal;

2. Recommend that the proposed Willamette Greenway Trail alignment and viewpoint locations shown on Map 1 be taken forward into the integration phase of the River Plan/North Reach process;

3. Direct River Plan staff to continue to work with the Office of Transportation, Union Pacific Railroad, Ash Grove Cement Company, and others to refine the proposed alignment in the vicinity of Albina Yard. Staff should explore the possibility of extending the public right-of-way from N. River Street to N. Port Center Way. If development of a public right-of-way in this location is feasible in the future, the design of the right-of-way should include a safe, on-street bicycle and pedestrian connection;

4. Direct River Plan staff to continue to work with stakeholders in the Linnton area to refine the proposed alignment in and near the downtown Linnton area. An additional goal that should guide staff as they work to refine the location of the trail alignment in and around Linnton should include moving the trail off Highway 30 where possible as a way to increase user safety;

5. Direct River Plan staff to continue to work with staff in the Bureau of Development Services, Office of Transportation, Portland Parks and Recreation, and City Attorney's Office to develop a comprehensive proposal that will address rough proportionality in the context of trail and viewpoint development (Dolan vs. the City of Tigard). The proposal should include amendments to the Portland Zoning Code and Willamette Greenway Design Guidelines, as well as recommendations for incentives and funding mechanisms to address situations when trail or viewpoint development is not deemed to be roughly proportional;

6. Direct River Plan staff to work with the Burlington Northern Santa Fe Railroad and others to explore the possibility of developing the greenway trail across the BNSF Railroad Bridge (similar to the bicycle and pedestrian connection across the Steel Bridge);

7. Direct River Plan staff to work with Union Pacific Railroad, Portland and Western Railroad and others to ensure that rail-with-trail options shown on Map 1 can be implemented;

8. Direct River Plan staff to continue to work with other City agencies to explore non-regulatory, incentive options for greenway trail development;

9. Recommend that the Office of Transportation include all segments of the updated Willamette Greenway Trail alignment in the Transportation System Plan, Bicycle Master Plan, and Pedestrian Master Plan during the next scheduled update of each plan;

10. Recommend that River Plan staff and staff in the Office of Transportation work with Metro to include the updated Willamette Greenway Trail alignment in the Regional Trail Plan;

11. Direct River Plan staff to identify or develop designs for trails that can be successfully integrated into river-dependent industrial areas. These trail design will be used to inspire development of safe trail in industrial areas;

12. Direct River Plan staff to continue to work with staff in the Office of Transportation and Portland Parks and Recreation to develop standards or guidelines for greenway trail and viewpoint design.

MAP 1: NORTH REACH GREENWAY TRAIL ALIGNMENT AND VIEWPOINT LOCATIONS

The proposed Willamette Greenway Trail alignment and the proposed greenway viewpoint locations in the North Reach are shown on Map 1.

In addition to its recreation purpose and link to the Willamette River, the proposed greenway trail should be part of Portland's transportation system. The proposed alignment is designed to improve circulation within and between neighborhoods and reduce vehicle congestion. An important goal is to create a safe route that is attractive to a variety of users with a variety of purposes, including recreation and commuting.

The existing greenway trail alignment is also shown on Map 1. Where the existing trail does not coincide with the proposed trail, staff will likely recommend deleting the existing segment from the trail alignment. Some of the existing segments are no longer the best alternative for the greenway trail, however they will continue to be important bicycle and pedestrian connections and should be included in other City plans as relevant (e.g. the Transportation System Plan). Several proposed trail connections are also identified on the map. The connections are shown for illustrative purposes.

In addition to the greenway trail, existing and proposed greenway viewpoints are shown on Map 1. The existing greenway viewpoints were established when the Willamette Greenway Plan was adopted in 1987. Staff recommends that five additional viewpoints be added.

On-street bike lanes along Hwy. 30/St. Helens Road are part of the existing transportation system.

An existing off-street trail on Swan Island provides a riverfront path for pedestrians and bicyclists.

North Reach Study Area - Proposed Greenway Trail Alignment

Map 1 Sheet 1

Columbia River
TERMINAL 6
N MARINE DR
Kelley Point Park
Smith & Bybee Lakes
N PORTLAND RD
N COLUMBIA BLVD
N COLUMBIA WAY
N SMITH ST
N LOMBARD ST
PENNINSULA CROSSING TRAIL
TERMINAL 5
N LOMBARD ST
N BURGARD RD
Chimney Park
Pier Park
N LOMBARD
N BRADFORD
RENO
ST. LOUIS
N DECATUR
N PHILADELPHIA AVE
St. Johns
N WILLAMETTE BLVD
Willamette Cove
Cathedral Park
TERMINAL 4
Sauvie Island
Willamette River
1
HARBORTON WETLANDS
NW MARINA WY
HWY 30
Linnton
NW GERMANTOWN RD
FOREST PARK
NW N

Greenway Trail & Viewpoints

- Proposed On-street Trail Alignment
- Proposed Off-street Trail Alignment
- Proposed Greenway Viewpoint
- Existing Greenway Viewpoint

- Trail Connection
- Existing Greenway Trail Designation
- Existing River Dependent Use
- Industrial Sanctuary
- Non-industrial Areas
- Parks and Open Space

INFORMATION SOURCES:

Proposed Greenway Trails: developed by Bureau of Planning from Parks and Recreation and PDOT data. Updated 2007.

Viewpoints: Developed by the Bureau of Planning from the Scenic Resources Protection Plan. Registered to taxlots. July 2000.

Zoning: Digitized from bureau zoning maps by Roy F. Weston, Inc. for Portland Planning Bureau. Registered to taxlots. Updated by Planning through February 2007.

Street Centerlines: U.S. Census Bureau TIGER data, registered to taxlots under contract to Metro. Updated by Metro through February 2007.

All data compiled from source materials at different scales. For more detail, please refer to the source materials or City of Portland, Bureau of Planning.

NORTH

0 600 1,200 2,400 Feet

RIVER RENAISSANCE

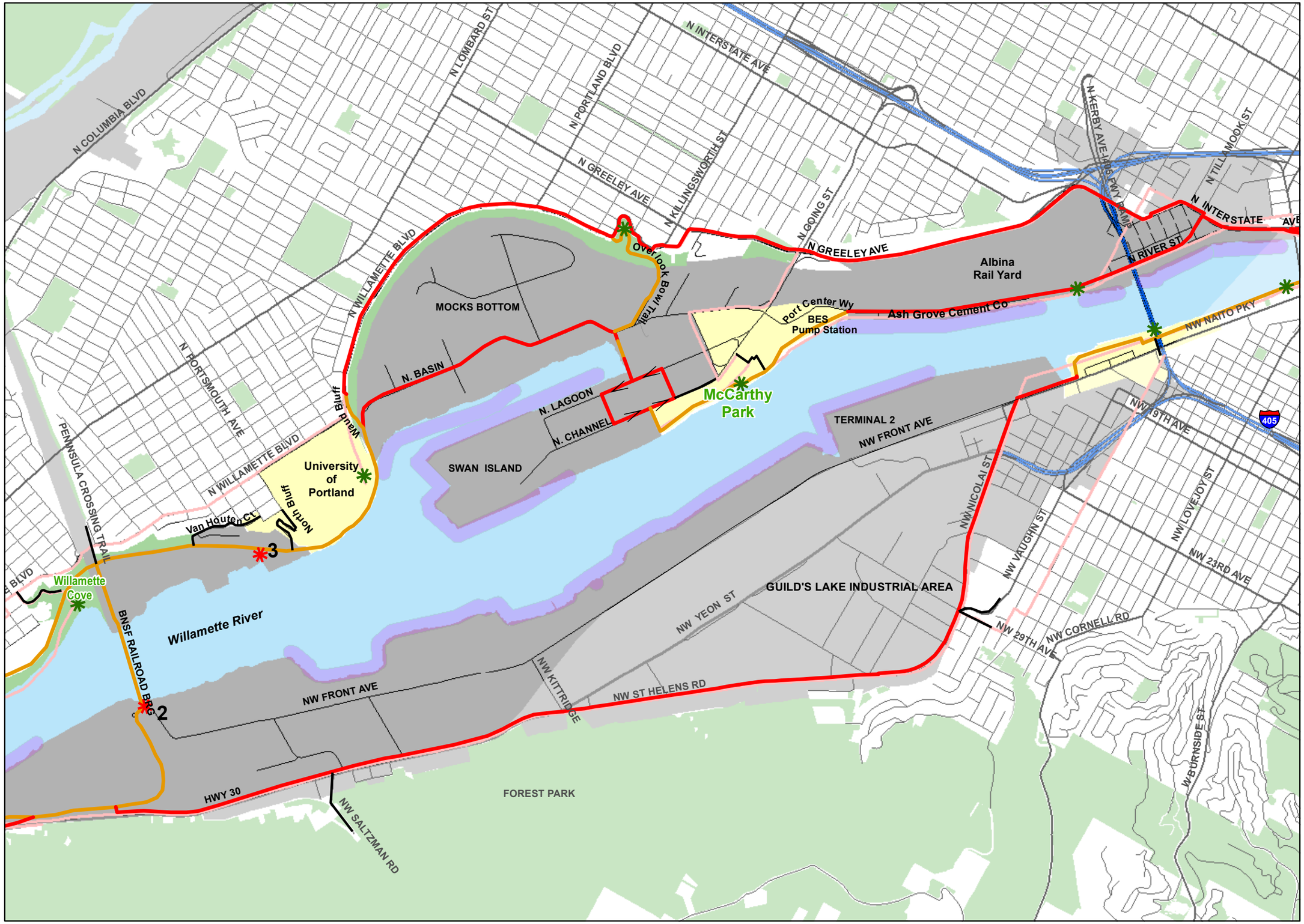
THE RIVER PLAN

CITY OF PORTLAND, OREGON BUREAU OF Planning

May 7, 2007

North Reach Study Area - Proposed Greenway Trail Alignment

Map 1 Sheet 2



Greenway Trail & Viewpoints

- Proposed On-street Trail Alignment
- Proposed Off-street Trail Alignment
- Proposed Greenway Viewpoint
- Existing Greenway Viewpoint

- Trail Connection
- Existing Greenway Trail Designation
- Existing River Dependent Use
- Industrial Sanctuary
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NORTH

0 600 1,200 2,400 Feet

RIVER RENAISSANCE

THE RIVER PLAN

CITY OF PORTLAND, OREGON
BUREAU OF Planning

May 7, 2007

4. NEXT STEPS

The River Plan Committee will review and discuss this proposal at the May 15, 2007 meeting. Once staff has developed draft concepts for the various topics, staff will begin the process of integrating the recommendations into one comprehensive River Plan/North Reach proposal Once the River Plan Committee has endorsed the trail and viewpoint implementation recommendations, the next steps for the trail and viewpoint work include:

- River Plan staff will work with the Office of Transportation, Union Pacific Railroad, Ash Grove Cement, and others to explore the possibility of extending N. River Street to N. Port Center Way.

- River Plan staff will continue to work with stakeholders in the Linnton community to refine the location of the greenway trail in and around downtown Linnton.

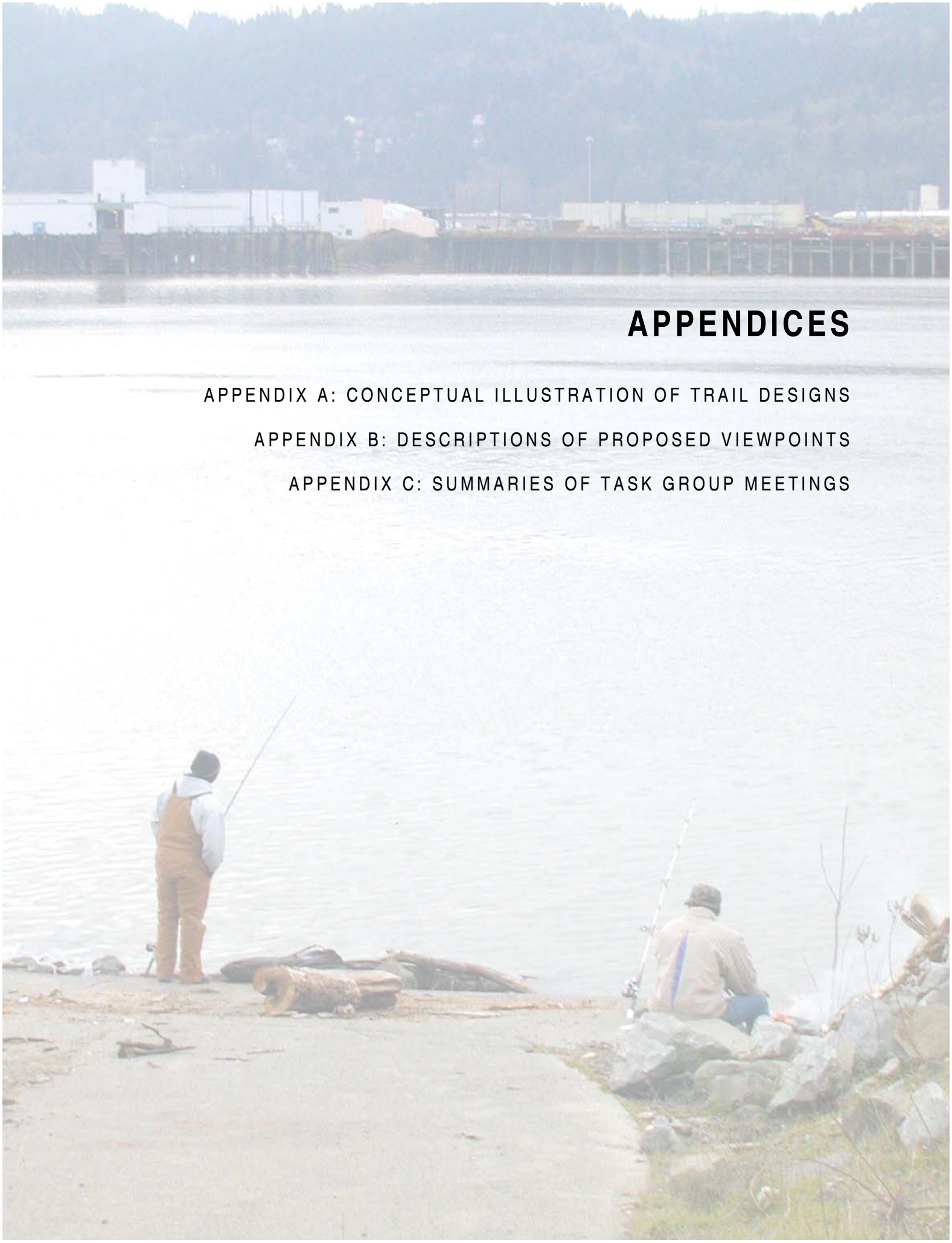
- The proposed trail alignment includes several segments of rail-with-trail including a segment across the Burlington Northern Santa Fe railroad bridge and between downtown Linnton and the City boundary to the north. River Plan staff will continue to pursue development of the these rail-with-trail segments and will work with the offices of Mayor Tom Potter, Commissioner Sam Adams, United States Representative Earl Blumenauer, and others to ensure that rail-with-trail remains a possibility for the future.

- Development of a comprehensive proposal to ensure that a requirement to dedicate land for a public trail is roughly proportional to the development's anticipated impacts. This proportionality threshold, often referred to as the 'Dolan test,' after the landmark Supreme Court decision Dolan v. the City of Tigard, is designed to ensure that any exactions required by government are reasonable, given the proposed development. The Bureau of Planning is currently working with several other City agencies to develop such a proposal. The results of this group's effort will influence River Plan staff recommendations to amend existing greenway code and design guidelines in a way that addresses rough proportionality when trail dedication and development is required and encourages trail dedication and development when they can't be required.

- River Plan staff will continue to work with other City agencies to develop non-regulatory programs to provide incentives to property owners to dedicate and develop the trail.

- River Plan staff will continue to work on developing trail designs that can be successfully integrated into river-dependent industrial areas. In addition, staff will work with the Office of Transportation and Portland Parks and Recreation to develop greenway trail development standards or guidelines to be used during the development review process.

- The policies proposed in this document include a number of references to river-dependent uses or development; however the definition of river-dependent is subject to debate. The River Industrial Task Group will be examining the existing definition and once that work is complete, staff will make recommendations to revise the definition or create new definition.



APPENDICES

APPENDIX A: CONCEPTUAL ILLUSTRATION OF TRAIL DESIGNS

APPENDIX B: DESCRIPTIONS OF PROPOSED VIEWPOINTS

APPENDIX C: SUMMARIES OF TASK GROUP MEETINGS

APPENDIX A

CONCEPTUAL ILLUSTRATIONS OF TRAIL DESIGNS

The following conceptual layouts focus on four of the proposed greenway trail segments. Each layout shows the proposed greenway trail alignment more closely, provides photos of the site conditions and shows comparable trail designs that could work for the segment. The layouts that include the Linnton neighborhood show more than one alignment alternative because at the time of publication of this report, the alignment in and around Linnton had not been solidified. The layouts also includes a brief analysis of trail implementation issues within each segment. All of this information has been used to further refine the proposed greenway trail alignment and implementation recommendations.

There are four segments:

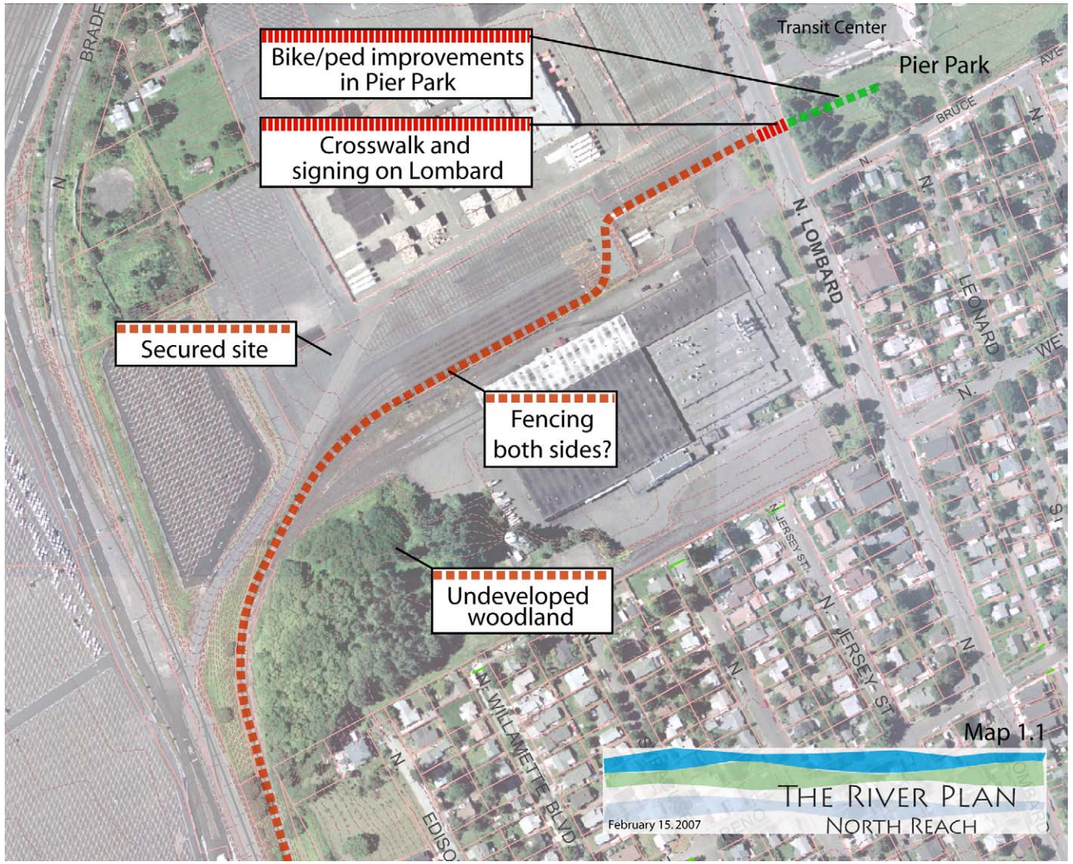
Segment 1: Pier Park to N. Decatur (2 pages)

Segment 2: Cathedral Park to N. Basin Ave—through Willamette Cove, McCormick/Baxter, Triangle Park (6 pages)

Segment 3: Railroad Bridge to St. Johns Bridge—west side of Willamette River (4 pages)

Segment 4: St. Johns Bridge to City Limits—through Linnton (7 pages)

Willamette Greenway Trail
Pier Park to N. Decatur



Greenway Trail Implementation Issues:

- Proposed alignment is not currently in the Transportation System Plan.
- Proposed alignment does not match Metro Regional Trail alignment.
- Proposed alignment crosses Port of Portland and other private property.

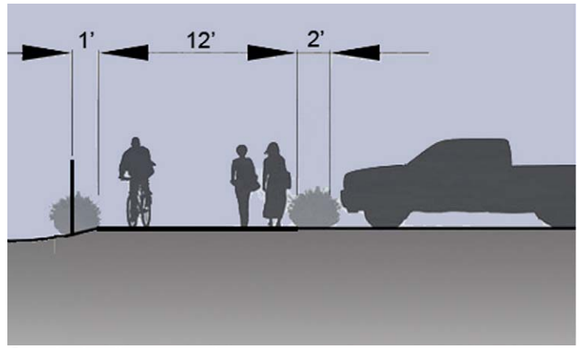
Site Conditions

A bike/ped crossing of North Lombard will be required to Pier Park.

Marine terminal access at N Lombard.

St Johns Bridge view from top of unused rail grade.

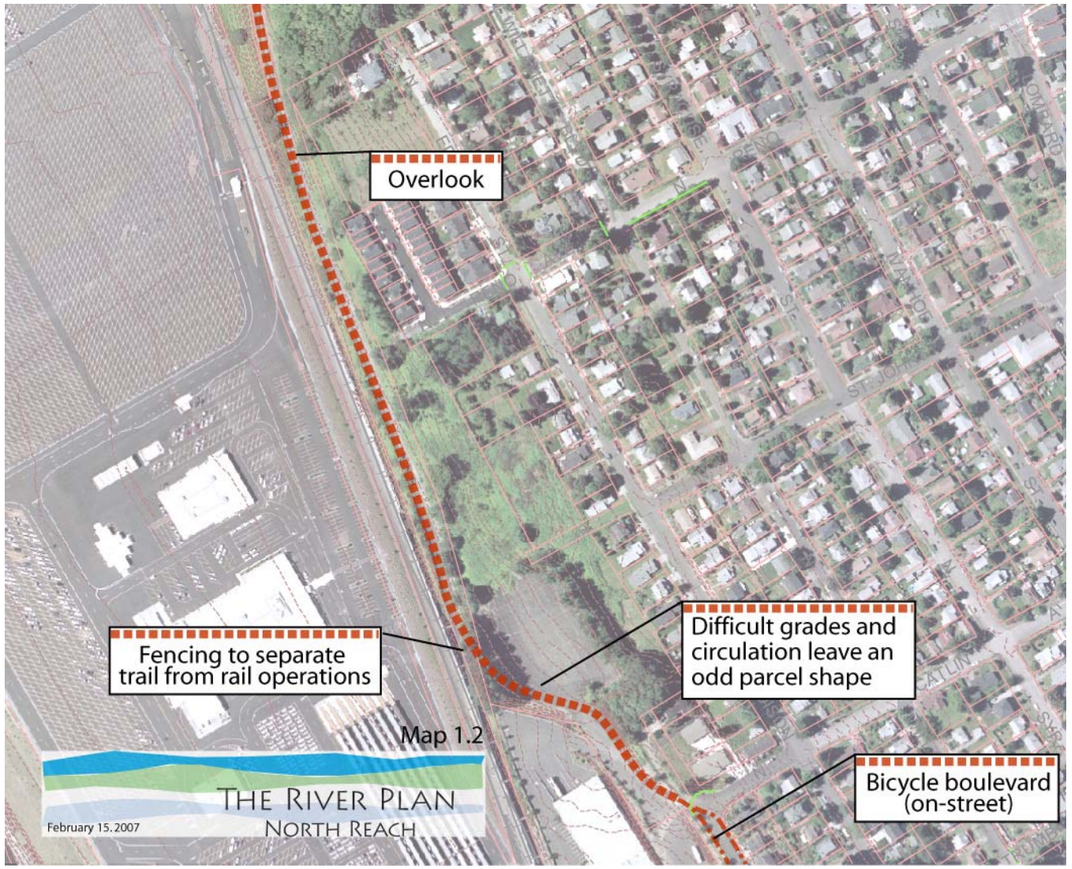
Comparable



Standard trail cross-section.

12-foot tread with shoulders. Where fences are necessary, they should be at least 12" from edge of tread (Springwater-OMSI Trail).

Willamette Greenway Trail
Pier Park to N. Decatur



Greenway Trail Implementation Issues:

- Proposed alignment is not currently in the Transportation System Plan.
- Proposed alignment does not match Metro Regional Trail alignment.
- Proposed alignment crosses Port of Portland and other private property.

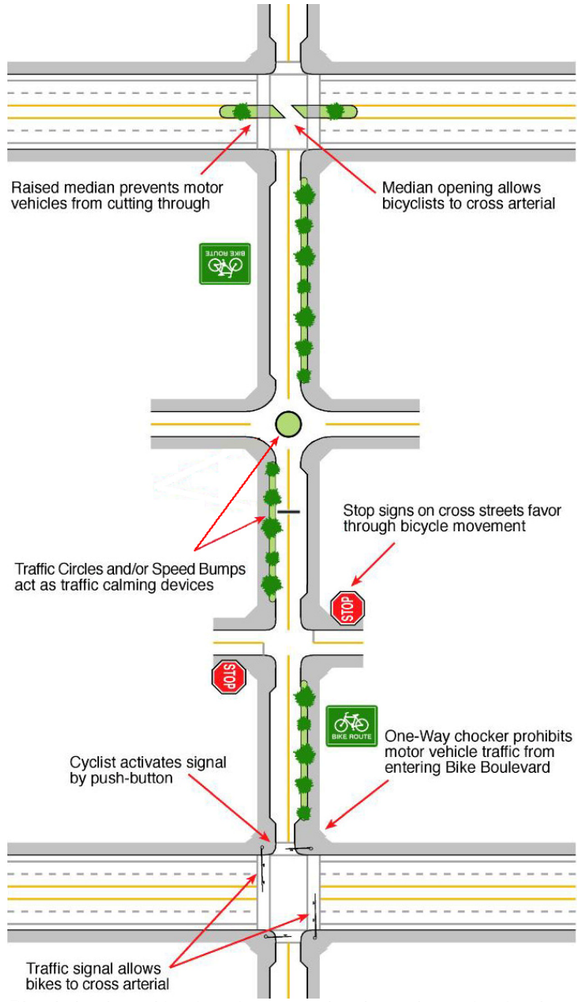
Site Conditions

Panoramic view from trail over the Port of Portland.

Views to the St Johns Bridge.

Baltimore Woods and unimproved N Decatur Avenue.

Comparable



Bicycle boulevard treatments are used on low volume streets when parallel facilities are not feasible. N Catlin Ave to N Baltimore Ave.

Willamette Greenway Trail
Cathedral Park to North Basin Avenue

Site Conditions

The existing riverside trail at the BES Water Lab, looking north.

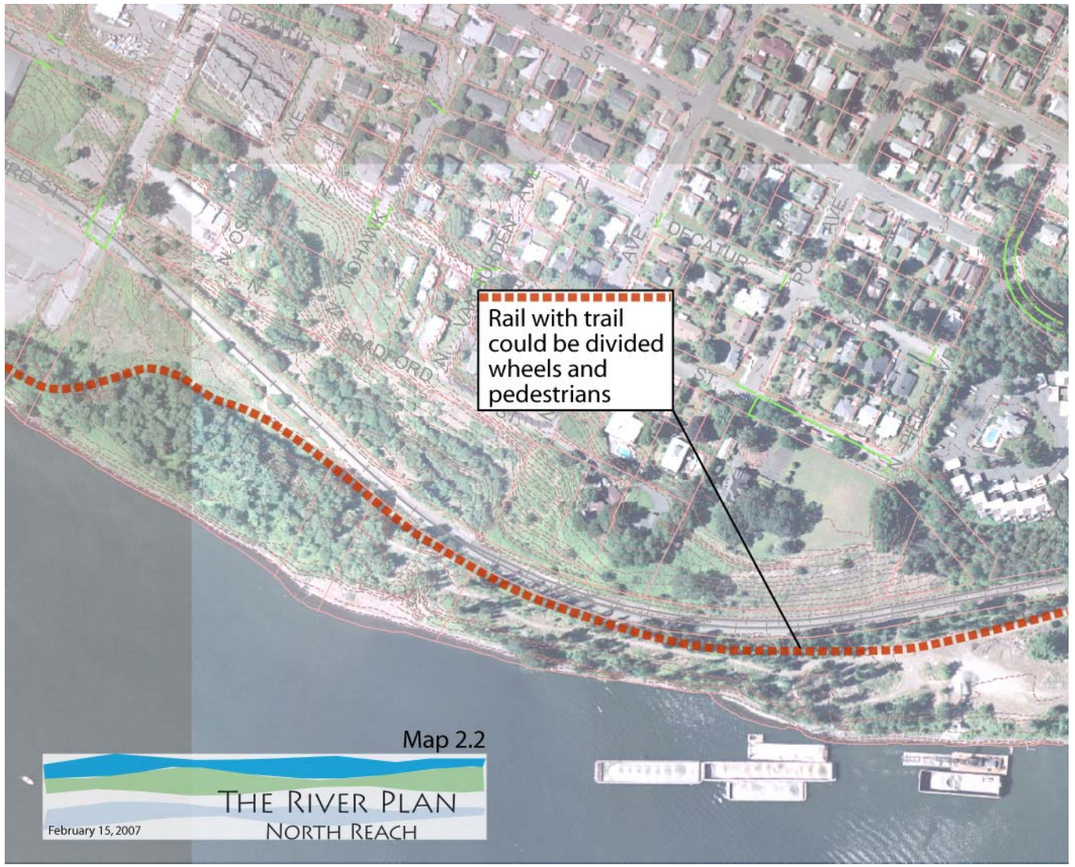
The existing riverside trail at the BES Water Lab, looking south.

Comparable

Greenway Trail Implementation Issues:

- Transportation System Plan and Bicycle Master Plan designations do not coincide in some places along this proposed alignment and should to be reconciled with the Greenway Route alignment.
- Proposed alignment crosses privately owned property.
- Proposed alignment matches Metro Regional Trail alignment.

Willamette Greenway Trail
Cathedral Park to North Basin Avenue



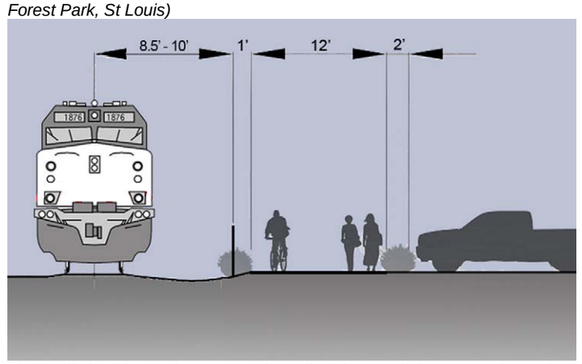
Site Conditions

Willamette Cove property north of the railroad mainline.

Willamette Cove.

Comparable

Multi-user trail with divided wheel and walking paths. (Dual Pathway – Forest Park, St Louis)

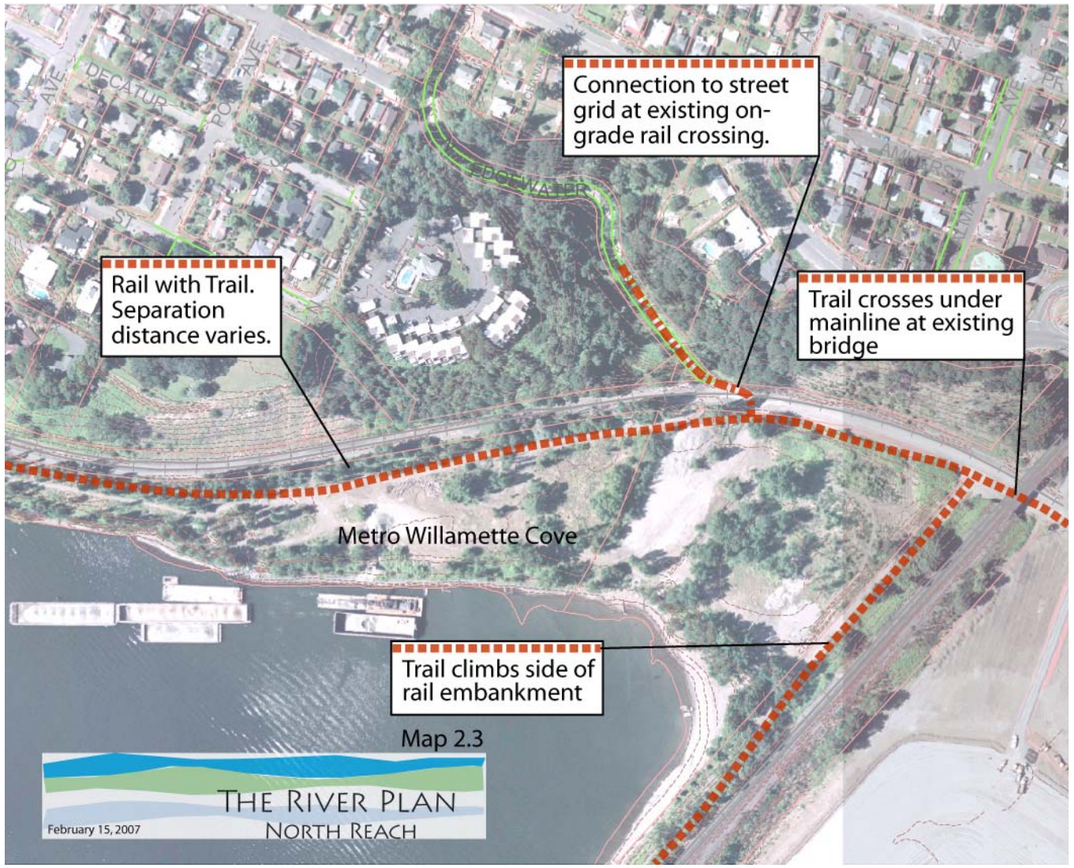


Rail-with-trail typical cross-section. (Minimum distance center of track to fixed objects is 8.5', increases with curvature of rail alignment).

Greenway Trail Implementation Issues:

- Transportation System Plan and Bicycle Master Plan designations do not coincide in some places along this proposed alignment and should to be reconciled with the greenway trail alignment.
- Proposed alignment crosses Metro owned property or lies within railroad right-of-way.
- Proposed alignment matches Metro Regional Trail alignment.

Willamette Greenway Trail
Cathedral Park to North Basin Avenue

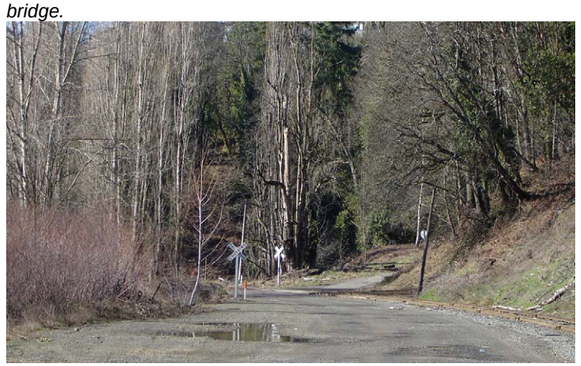


Greenway Trail Implementation Issues:

- Transportation System Plan and Bicycle Master Plan designations do not coincide in some places along this proposed alignment and should to be reconciled with the greenway trail alignment.
- Proposed alignment crosses Metro owned property or lies within railroad right-of-way.
- Proposed alignment matches Metro Regional Trail alignment.
- Potential parking area for long trains that will block the N. Edgewater access at times.

Site Conditions

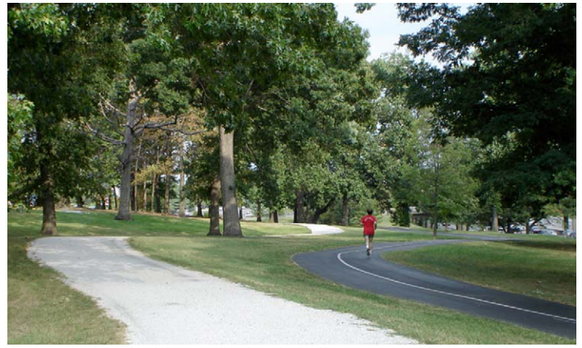
A long embankment between McCormick-Baxter and Willamette Cove carries the rail mainline from the St Johns Cut to the railroad bridge.



N Edgewater Street crossing railroad at Willamette Cove.

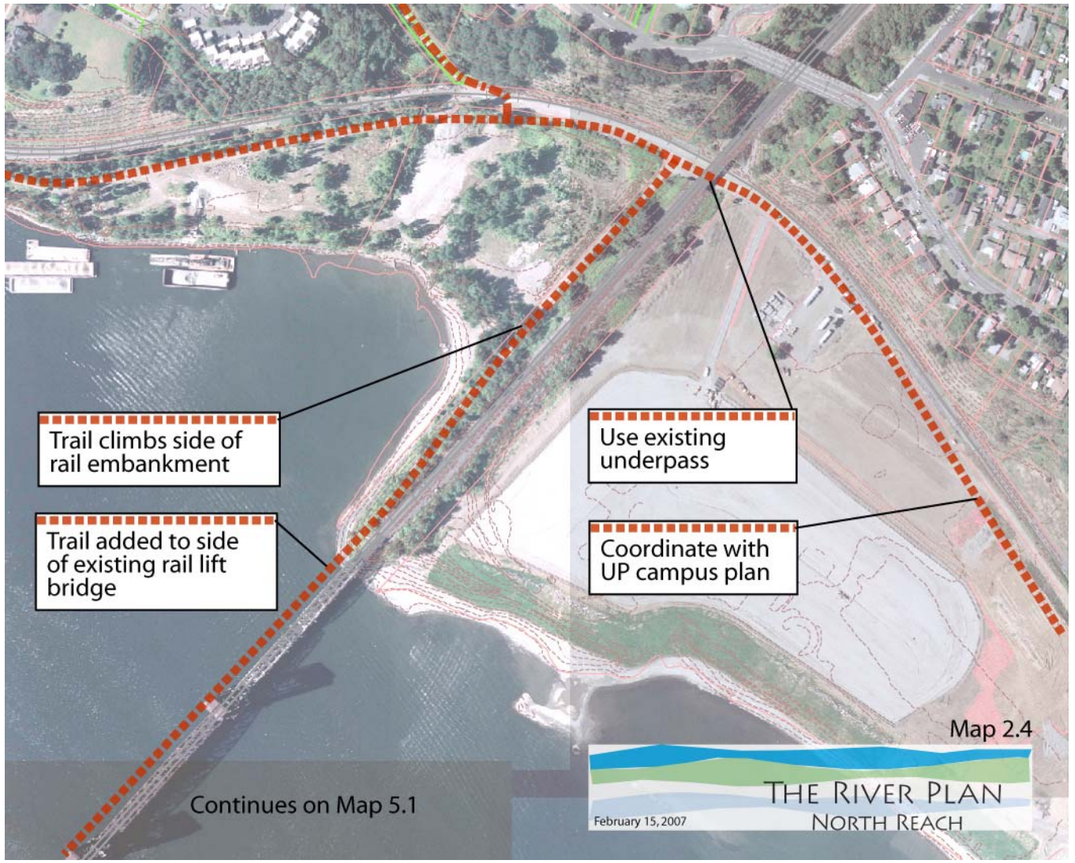
Willamette Cove.

Comparable



Separated pedestrian and wheels pathways provide increased recreation and commuter capacities. (Dual Pathway – Forest Park, St Louis)

Willamette Greenway Trail
Cathedral Park to North Basin Avenue



Greenway Trail Implementation Issues:

- Proposed alignment is not in the Transportation System Plan as an off-street path. TSP and Bicycle Master Plan designations should to be reconciled with the greenway trail alignment.
- Proposed alignment matches Metro Regional Trail alignment.
- Proposed alignment crosses privately owned property.

Site Conditions

Approach to Railroad Bridge.

Underpass between McCormick-Baxter and Willamette Cove.

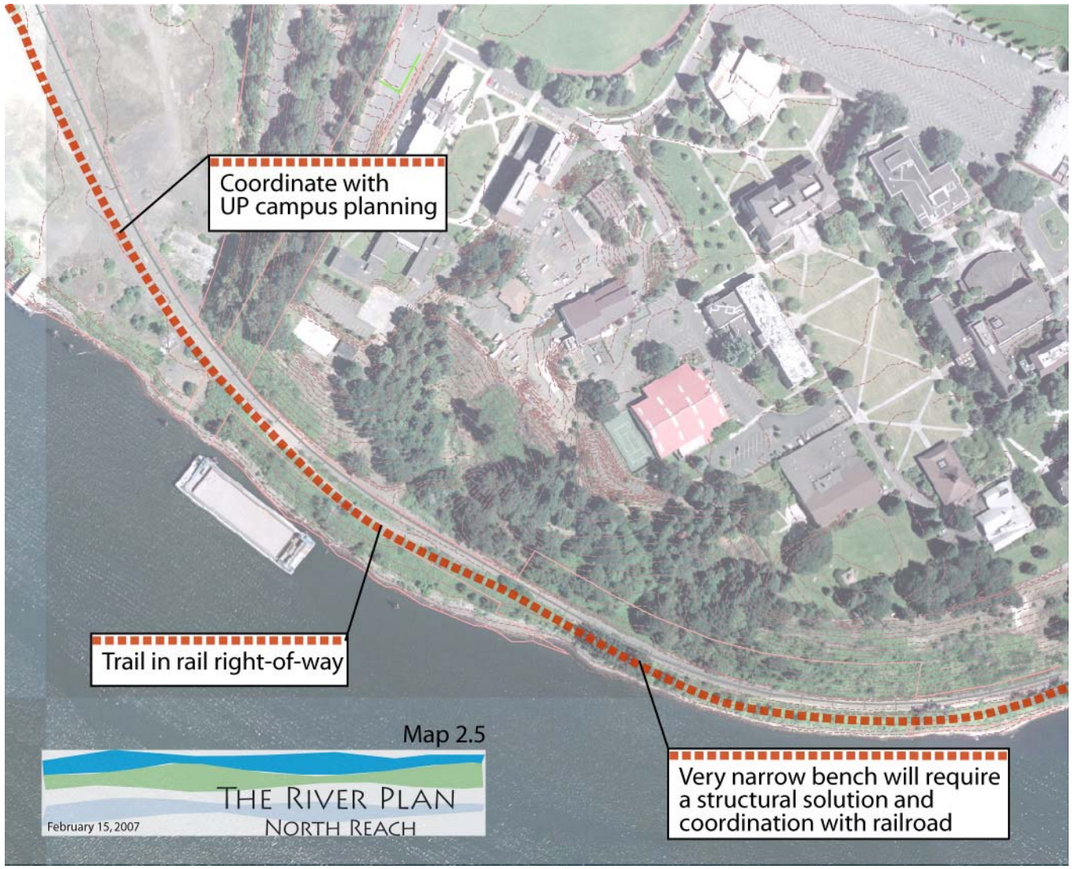
Rail alignment through McCormick-Baxter.

Comparable

An adaptive trail use of an existing active rail bridge. (Appalachian Trail, Harpers Ferry, WV).

The Steel Bridge trail connection between the Eastbank Esplanade and downtown Portland.

Willamette Greenway Trail
Cathedral Park to North Basin Avenue

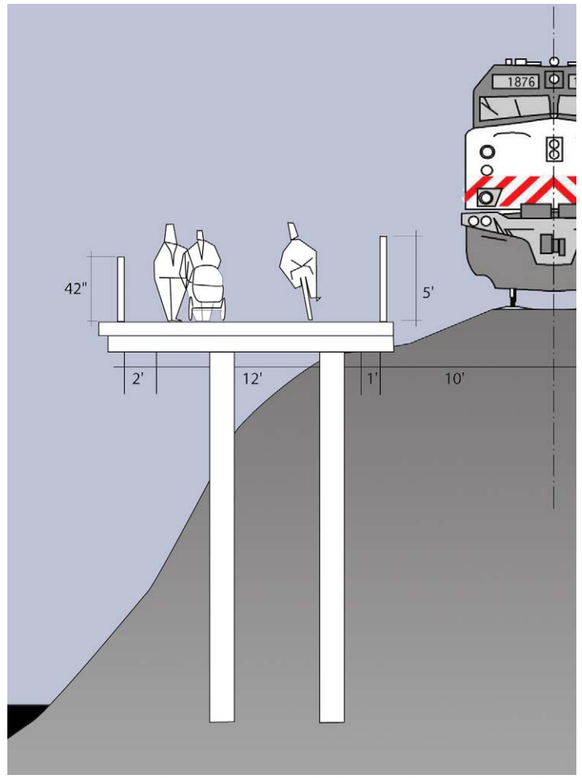


Site Conditions

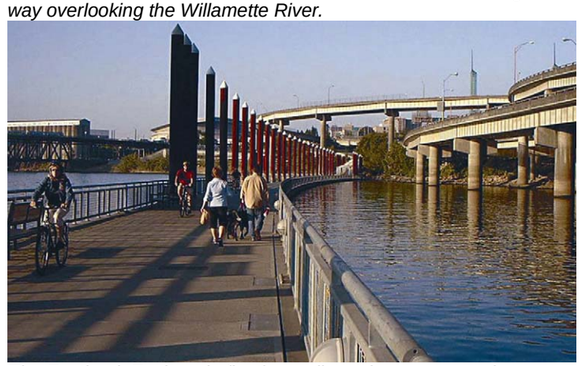
Narrow right-of-way between railroad and the Willamette River below the University of Portland.

Narrow right-of-way between railroad and the Willamette River below the University of Portland.

Comparable



A boardwalk structure could be built to traverse the narrow right-of-way overlooking the Willamette River.

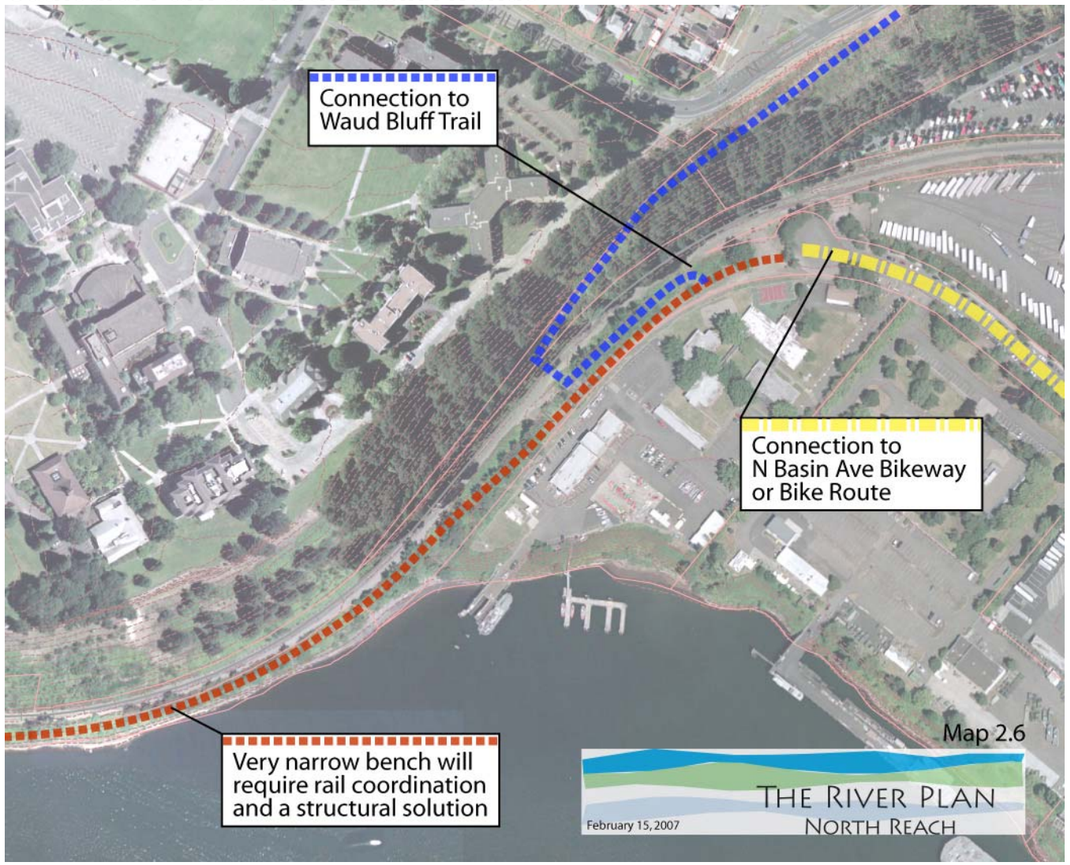


The Eastbank Esplanade floating walkway bypasses nearby constraints.

Greenway Trail Implementation Issues:

- Proposed alignment is not in the Transportation System Plan as an off-street path. TSP and Bicycle Master Plan designations should to be reconciled with the greenway trail alignment.
- Proposed alignment matches Metro Regional Trail alignment.
- Proposed alignment crosses privately owned property or lies within railroad right-of-way.
- Area between the rail line and the slope to the river is very narrow.

Willamette Greenway Trail
Cathedral Park to North Basin Avenue



Site Conditions

The end of the proposed Waud Bluff Trail connecting Willamette Boulevard with N Basin Avenue.

Rail right-of-way below the University of Portland near the end of North Basin Avenue.

Comparable

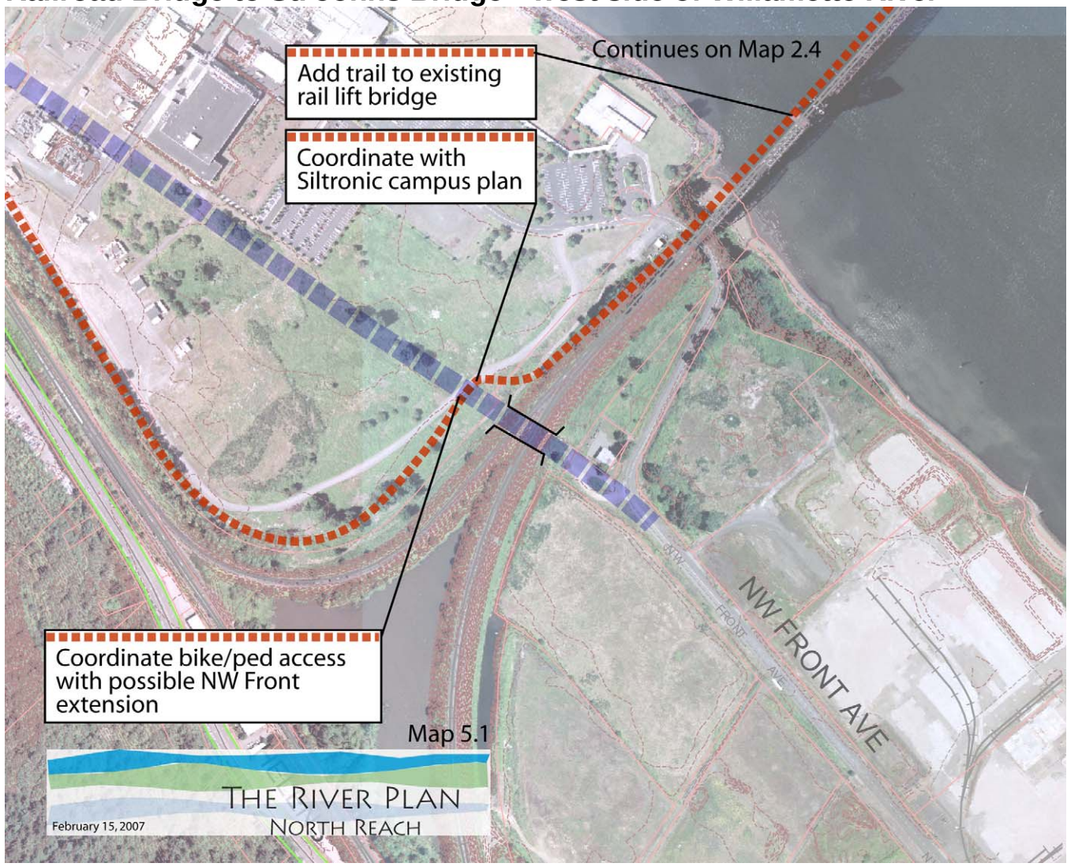
A multi-use trail boardwalk on pilings.

Trail adjacent to active rail line in Minneapolis. (Hiawatha Light Rail Line, Minneapolis, MN).

Greenway Trail Implementation Issues:

- Proposed alignment is not in the Transportation System Plan as an off-street path. TSP and Bicycle Master Plan designations should to be reconciled with the greenway trail alignment.
- Proposed alignment matches Metro Regional Trail alignment.
- Proposed alignment is within railroad right-of-way.
- Area between rail line and slope to river is very narrow.

Willamette Greenway Trail
Railroad Bridge to St. Johns Bridge—west side of Willamette River



Site Conditions

The existing rail lift bridge.

Viewpoint opportunity.

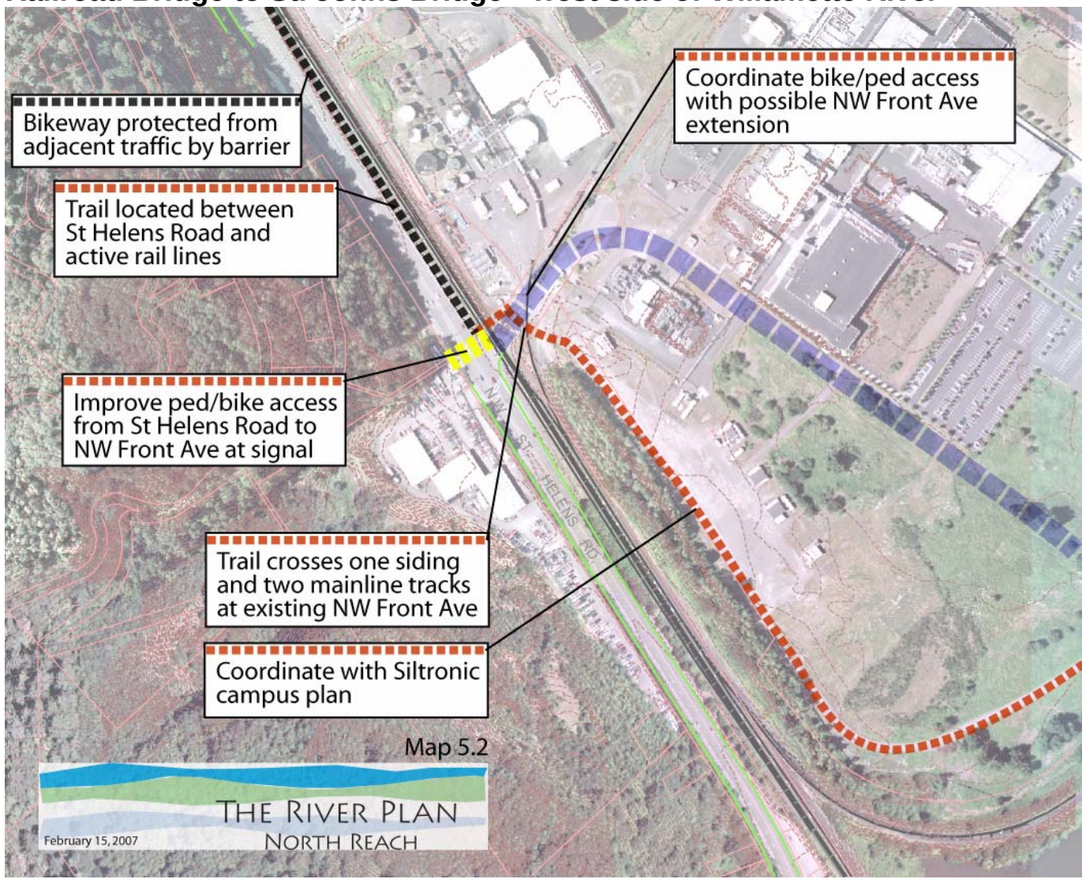
Comparable

The Steel Bridge in Portland, combination rail-roadway-light rail lift bridge carries a multi-use trail adjacent to the lower lift deck.

Greenway Trail Implementation Issues:

- Proposed alignment is not in the Transportation System Plan as an off-street path. TSP and Bicycle Master Plan designations should to be reconciled with the greenway trail alignment.
- Proposed alignment does not match Metro Regional Trail alignment.
- Proposed alignment is within railroad right-of-way.

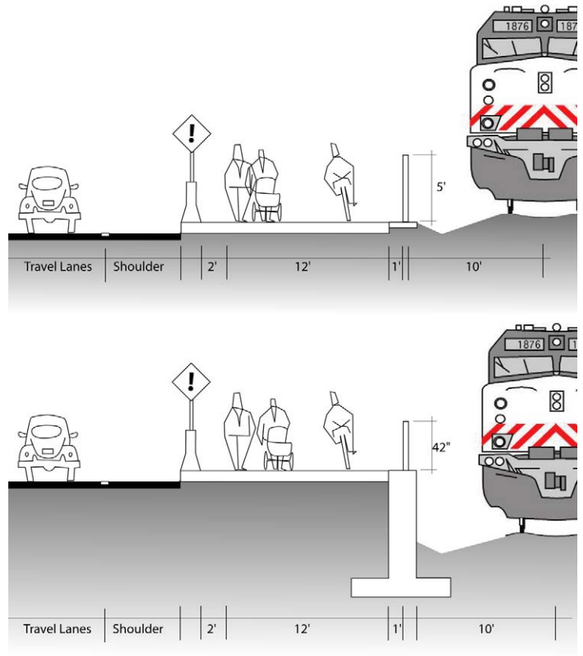
Willamette Greenway Trail
Railroad Bridge to St. Johns Bridge—west side of Willamette River



Site Conditions

Very narrow right-of-way at St Helens Road intersection.

Comparable

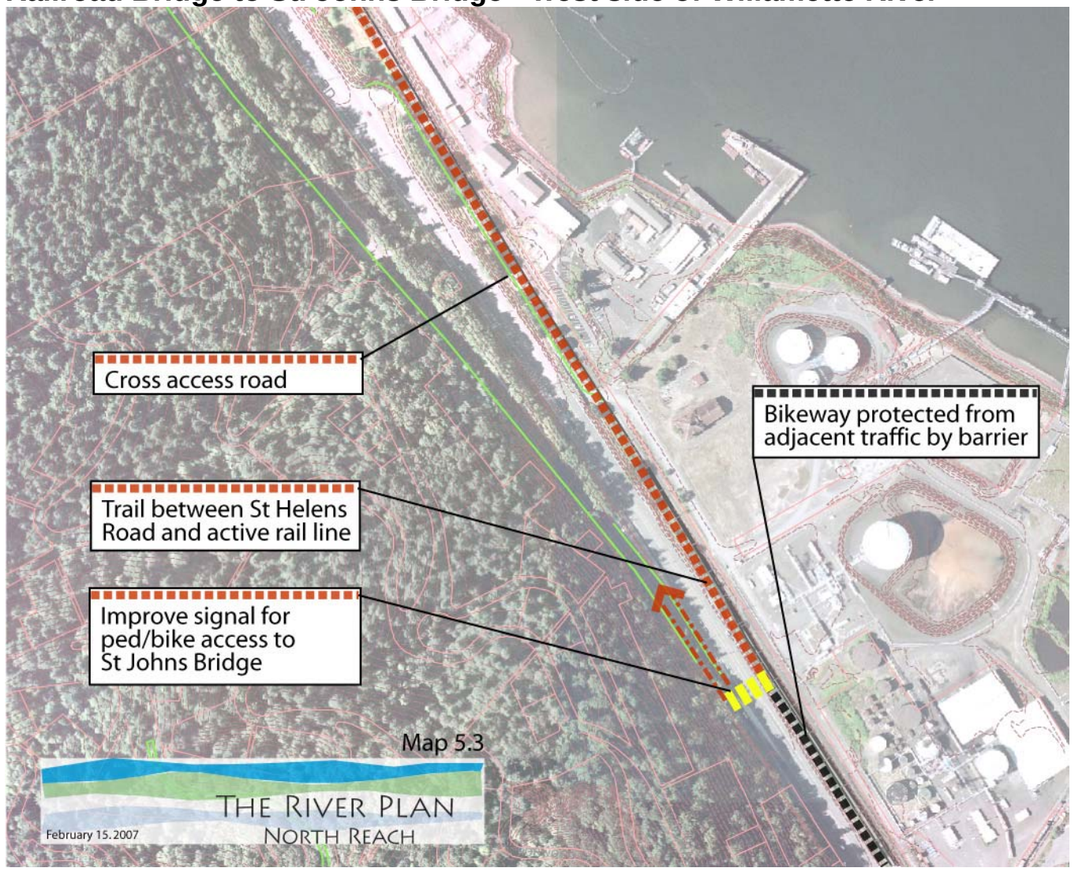


Typical cross-sections for a barrier-protected multi-use trail between travel lanes and rail line.

Greenway Trail Implementation Issues:

- Proposed alignment is not in the Transportation System Plan as an off-street path. TSP and Bicycle Master Plan designations should to be reconciled with the greenway trail alignment.
- Proposed alignment does not match Metro Regional Trail alignment.
- Proposed alignment potentially crosses private property or lies within railroad right-of-way.

Willamette Greenway Trail
Railroad Bridge to St. Johns Bridge—west side of Willamette River



Site Conditions

Unsignalized driveway access from St Helens Road north of St Johns Bridge.

Comparable

Greenway Trail Implementation Issues:

- Proposed alignment is not in the Transportation System Plan as an off-street path. TSP and Bicycle Master Plan designations should to be reconciled with the greenway trail alignment.
- Proposed alignment does not match Metro Regional Trail alignment.
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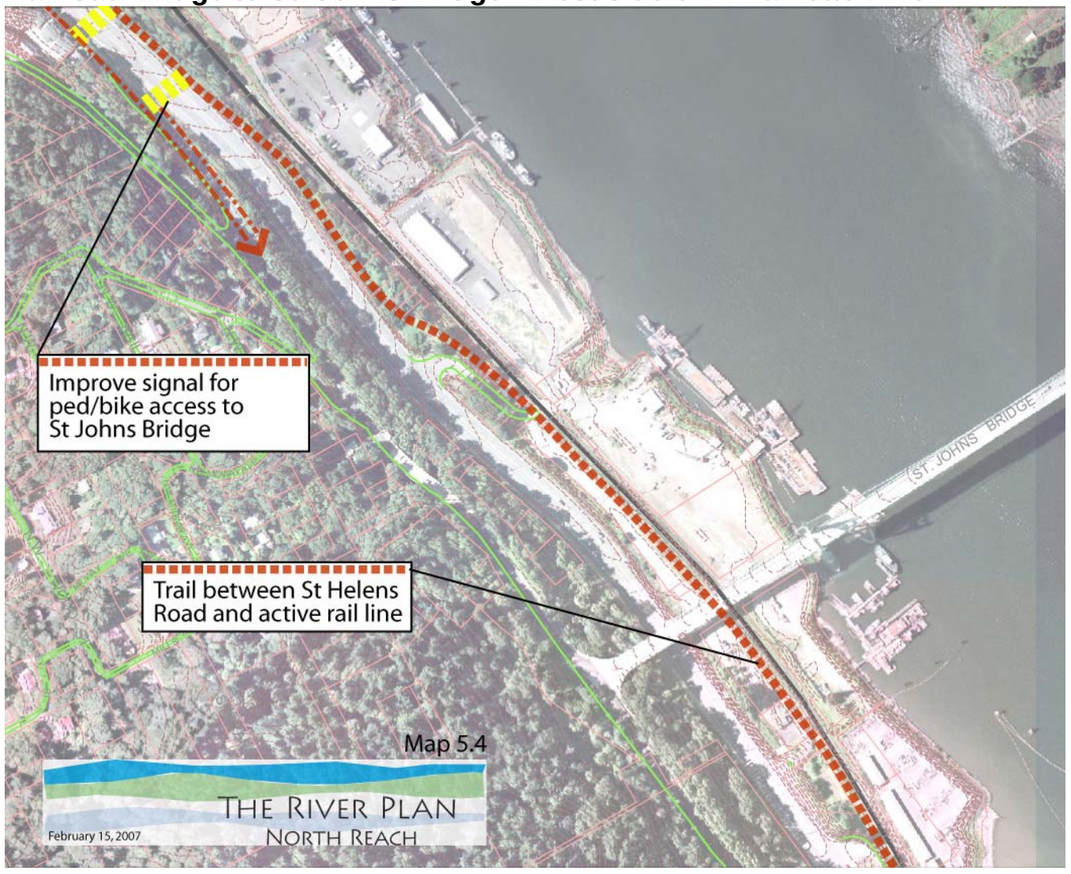
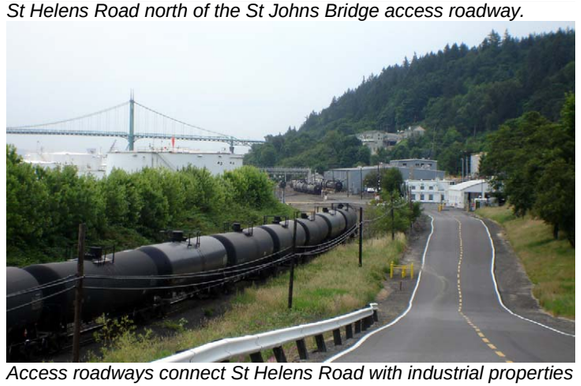
Willamette Greenway Trail
Railroad Bridge to St. Johns Bridge—west side of Willamette River



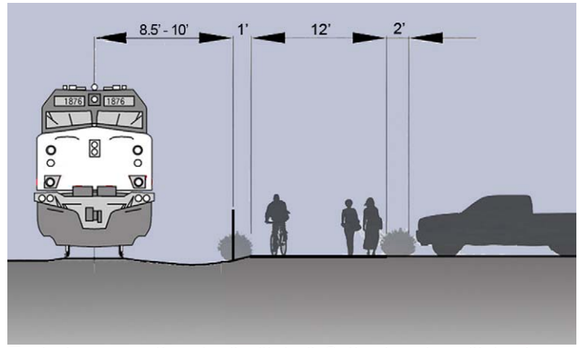
Site Conditions

St Helens Road north of the St Johns Bridge access roadway.



Access roadways connect St Helens Road with industrial properties between the railroad and river.

Comparable

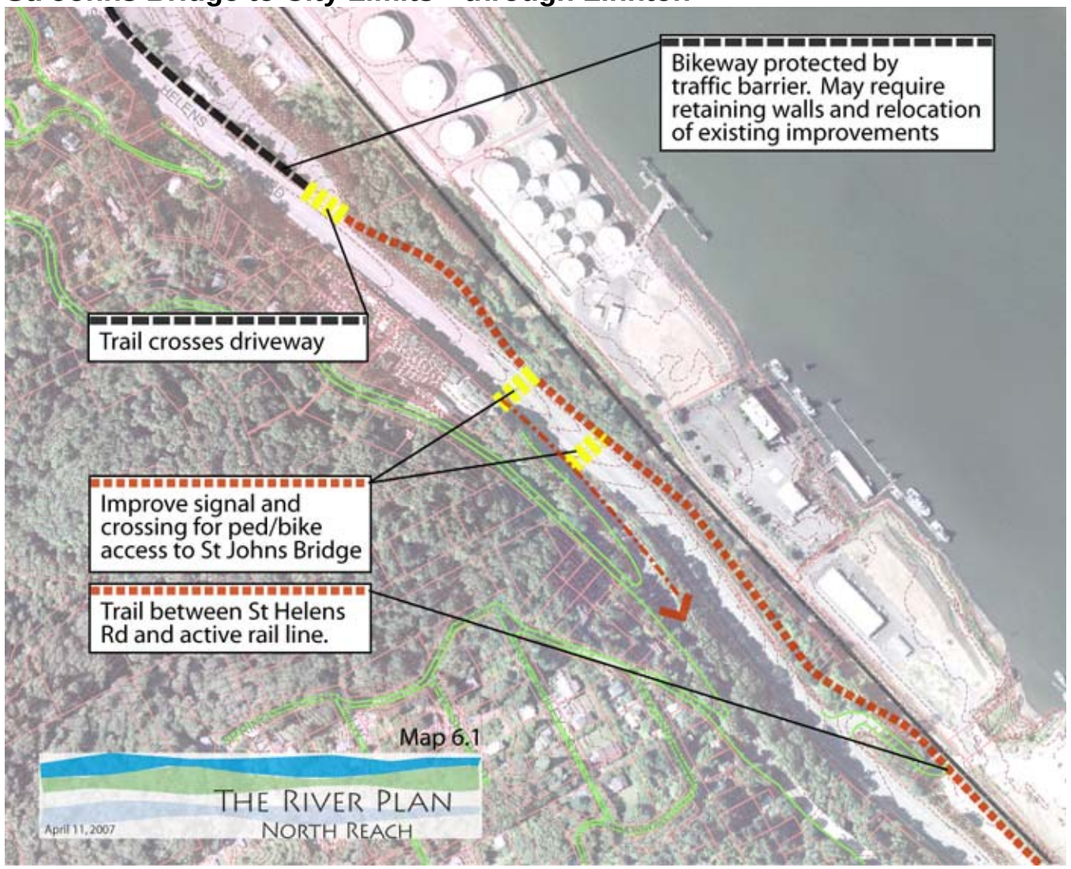


Typical cross-section at rail-with-trail. Setback varies with track curvature.

Greenway Trail Implementation Issues:

- Proposed alignment is not in the Transportation System Plan as an off-street path. TSP and Bicycle Master Plan designations should to be reconciled with the greenway trail alignment.
- Proposed alignment does not match Metro Regional Trail alignment.
- Proposed alignment potentially crosses private property or lies within railroad right-of-way.

Willamette Greenway Trail
St. Johns Bridge to City Limits—through Linnton

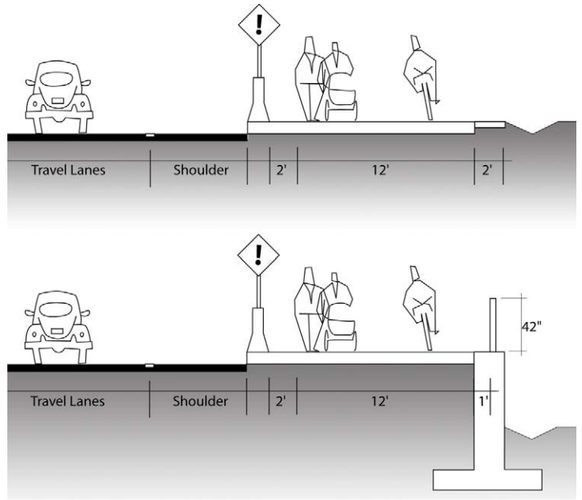


Site Conditions

Drop-off adjacent to right-of-way on St Helens Road north of the St Johns Bridge.

Drop-off and guardrail between St Johns Bridge and Linnton.

Comparable



A barrier protected multi-use trail can be on-grade with the roadway, or supported by a retaining wall where the ground slopes away from the shoulder.

Greenway Trail Implementation Issues:

- Proposed alignment is not in the Transportation System Plan as an off-street path. TSP and Bicycle Master Plan designations should to be reconciled with the greenway trail alignment.
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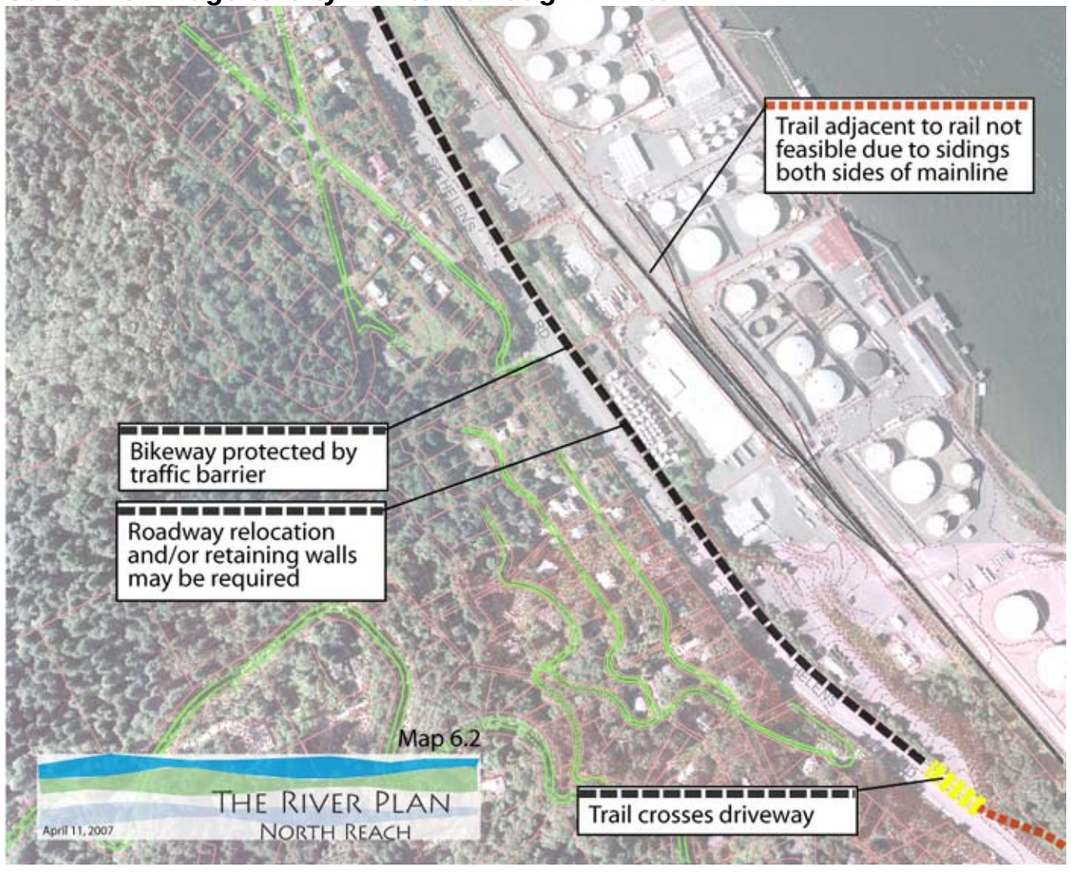
Willamette Greenway Trail
St. Johns Bridge to City Limits—through Linnton



Greenway Trail Implementation Issues:

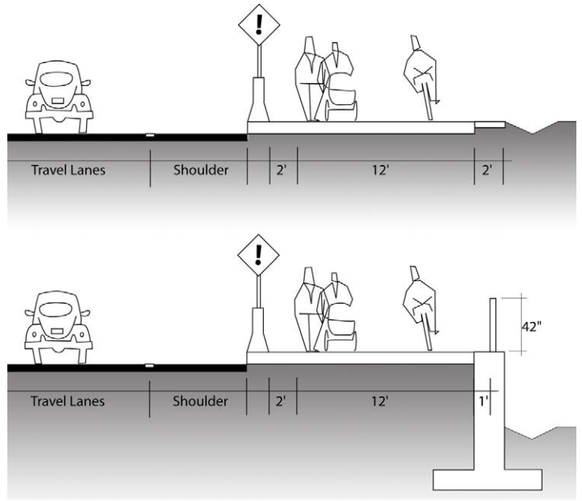
- Hwy. 30 alignment is currently in the Transportation System Plan.
- Proposed alignment does not match Metro Regional Trail alignment.
- Trail design ideas and improvements within Hwy. 30 corridor need to be coordinated with Oregon Department of Transportation in addition to Portland Office of Transportation.
- Proposed alignment potentially crosses private property or lies within railroad right-of-way.

Site Conditions

The existing ground falls away steeply. Some places include retaining walls very close to the guardrail and industrial facilities adjacent to the right-of-way.

Existing steep slopes and narrow building setbacks make construction of a separate trail difficult.

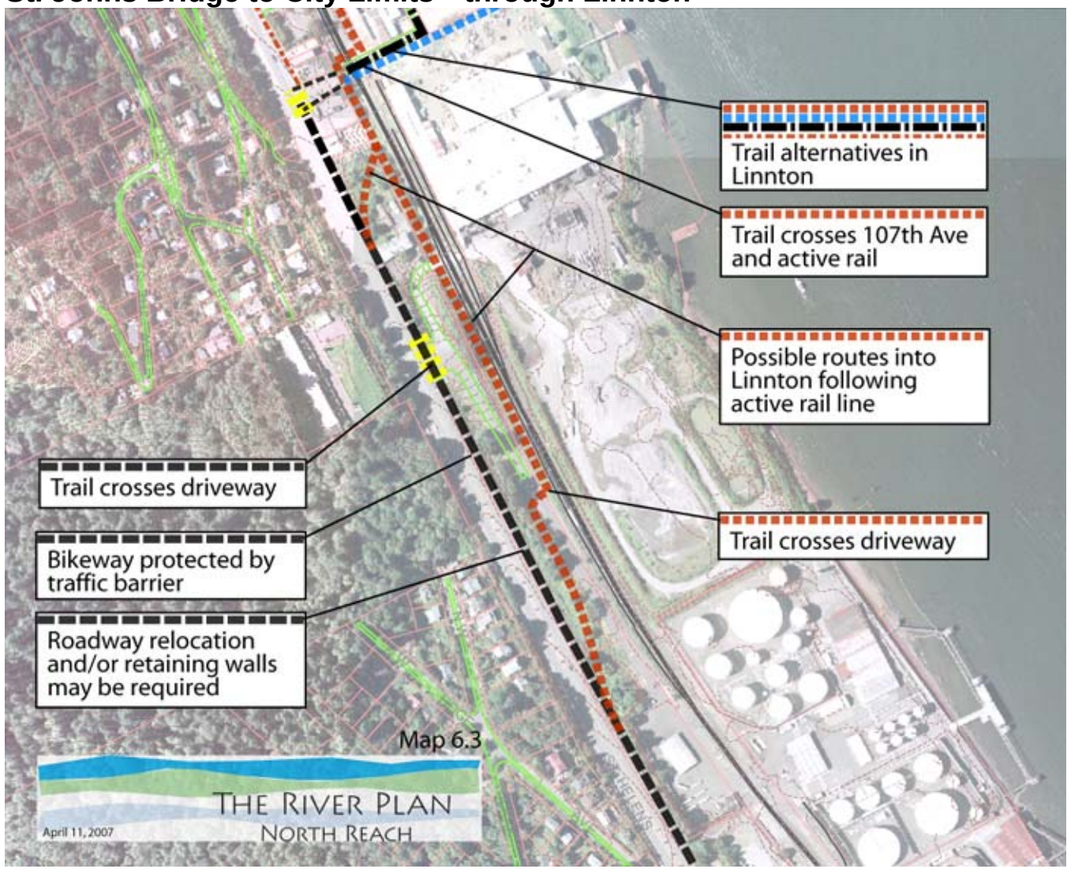
Comparable



A barrier-protected multi-use trail will require modification of the roadway and could require retaining walls and/or changes to other improvements in and adjacent to the St Helens Road right-of-way.

Barrier-protected multi-use trail adjacent to Interstate 90. (Mercer Island Floating Bridge, Seattle, WA)

Willamette Greenway Trail
St. Johns Bridge to City Limits—through Linnton



Greenway Trail Implementation Issues:

- Hwy. 30 alignment is currently in the Transportation System Plan. The possible route alternatives shown off of Hwy. 30 are not currently in the Transportation System Plan as an off-street path.
- Proposed alignment does not match Metro Regional Trail alignment.
- Trail design ideas and improvements within Hwy. 30 corridor need to be coordinated with Oregon Department of Transportation in addition to Portland Office of Transportation.
- Portions of proposed alignment potentially cross private property or lie with railroad right-of-way.

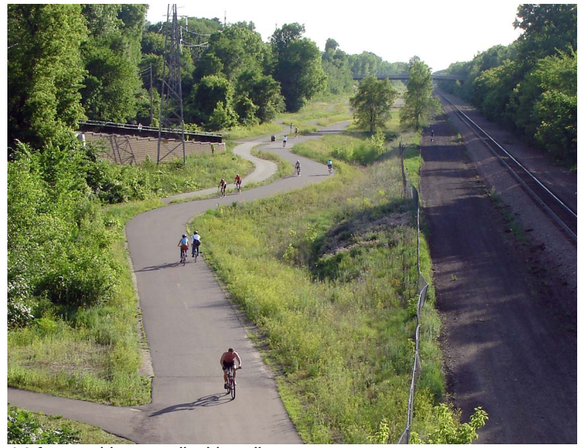
Site Conditions

Viewing south where driveway parallels rail corridor south of Linnton.

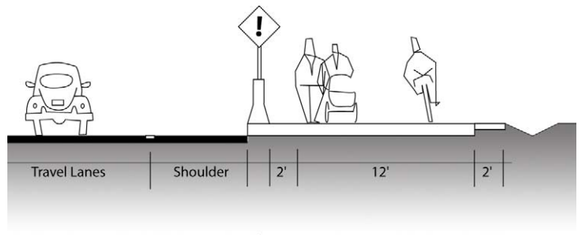
Existing stoplight on St Helens Road at plywood driveway just south of Linnton.

Viewing south from NW 107th in Linnton.

Comparable

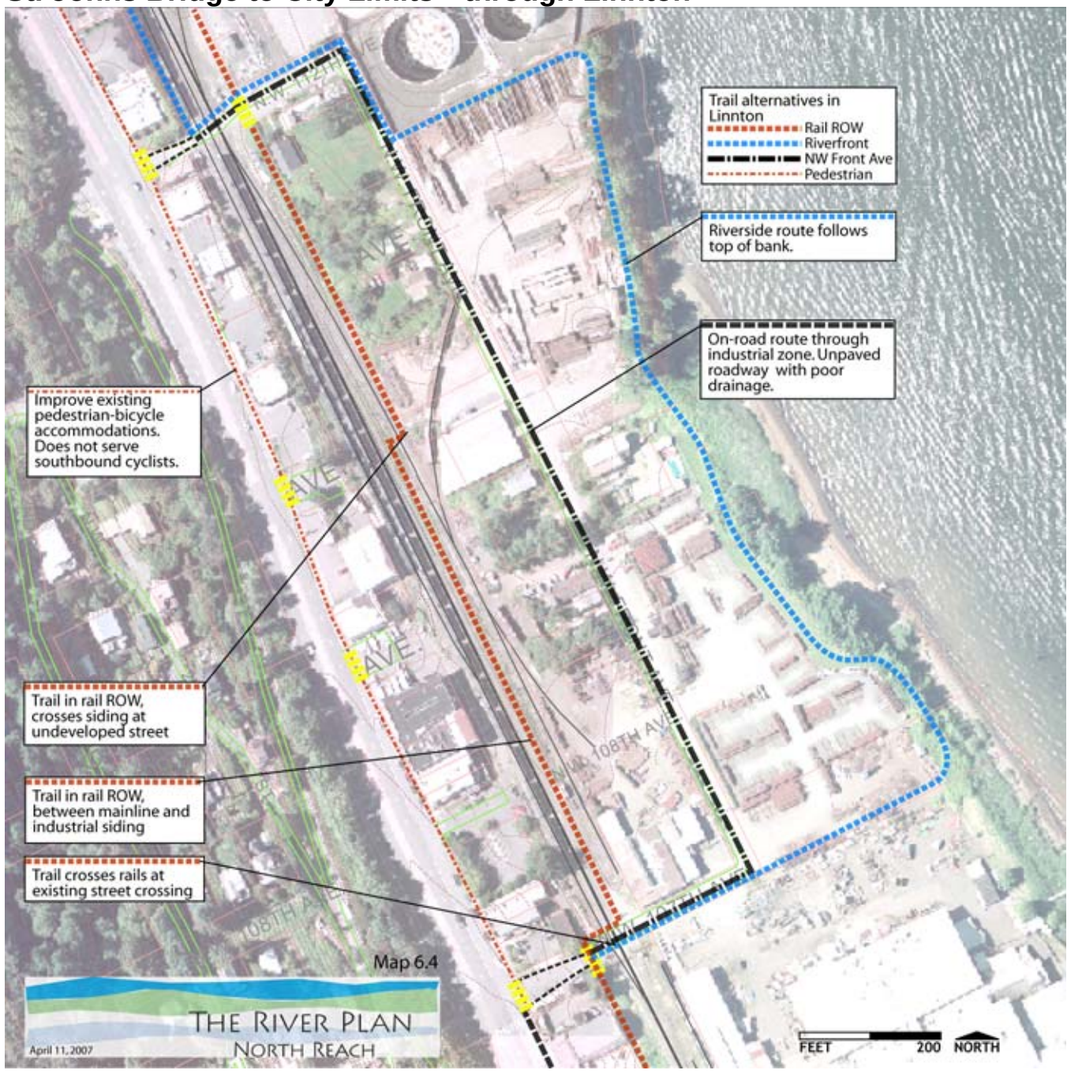


14-foot multi-user rail with trail. *(Cedar Lake Regional Trail, Minneapolis, MN)*



Typical cross-section for barrier-protected multi-use trail.

Willamette Greenway Trail
St. Johns Bridge to City Limits—through Linnton



Greenway Trail Implementation Issues:

- The possible alignment alternatives that are shown off of Hwy. 30 are not currently in the Transportation System Plan.
- Possible alignments do not match Metro Regional Trail alignment.
- Portions of possible alignment alternatives potentially cross private property or lie with railroad right-of-way.

Site Conditions

Rail right-of-way at NW 107th Avenue in Linnton.

NW Front Avenue in Linnton is unimproved.

Rail crossings in Linnton are not developed between NW 107th Ave and NW 112th Avenue. Industrial sidings alternate on both sides of the mainline in Linnton.

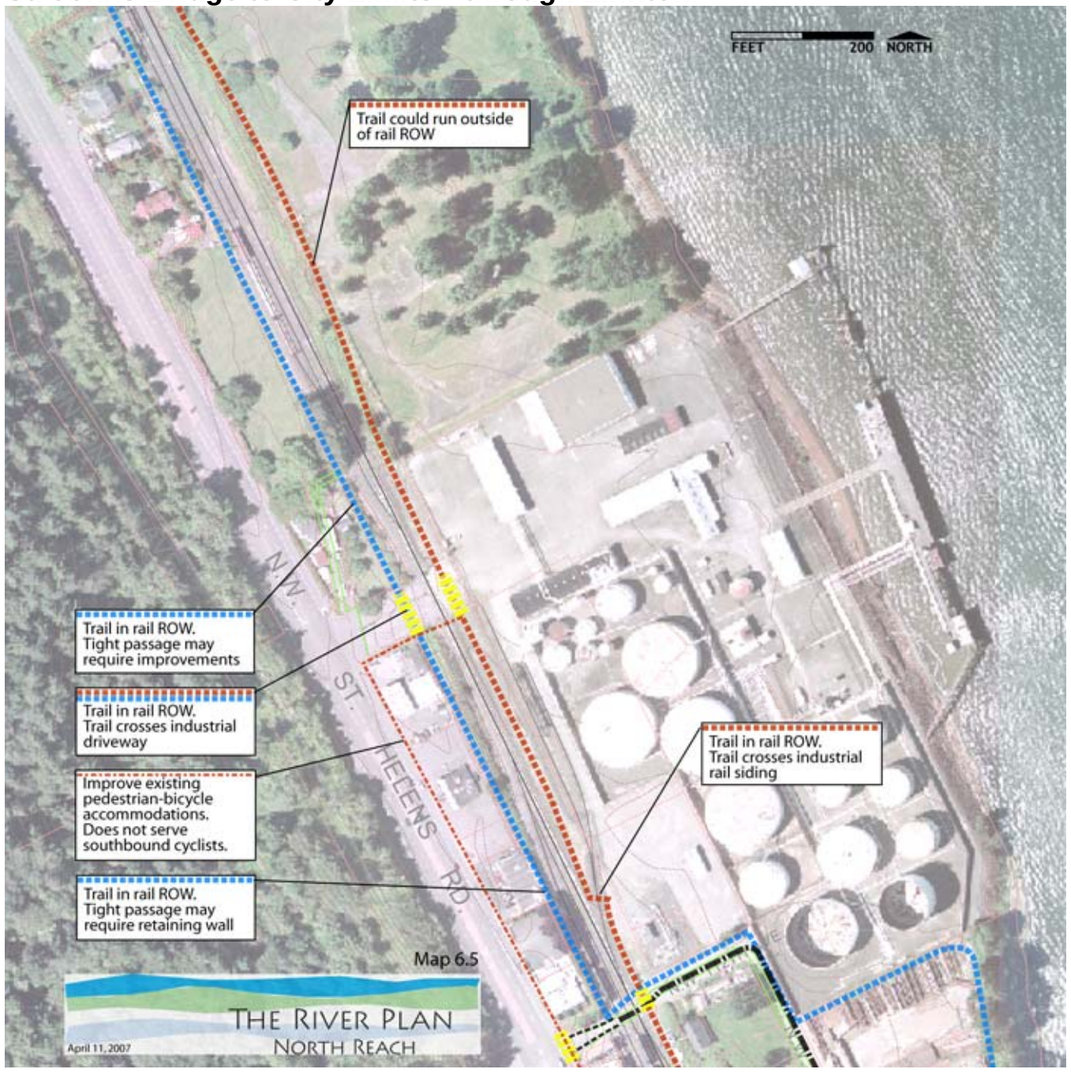
Pedestrian and bicycle accommodations in Linnton.

Comparable

Signalized trail crossing on the Peninsula Crossing Trail, Portland.

Bicycle Boulevards are signed routes with low traffic volume and speed where cycling is encouraged as an alternative to busier roadways. (Southeast Portland)

Willamette Greenway Trail
St. Johns Bridge to City Limits—through Linnton



Greenway Trail Implementation Issues:

- Possible alignment alternatives are not currently in the Transportation System Plan.
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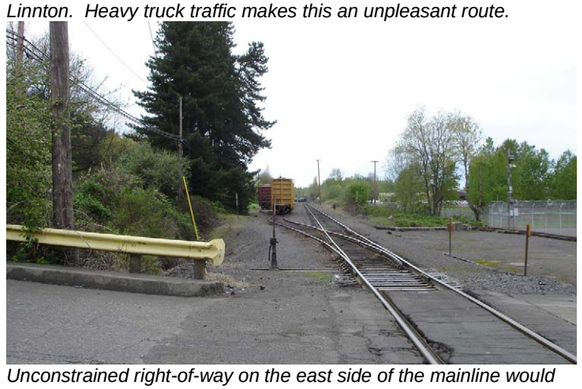
Site Conditions

Industrial sidings alternate on both sides of the mainline in Linnton.

Traffic speeds increase on St Helens Road northwest of downtown Linnton. Heavy truck traffic makes this an unpleasant route.



Unconstrained right-of-way on the east side of the mainline would provide access with minimum crossings.

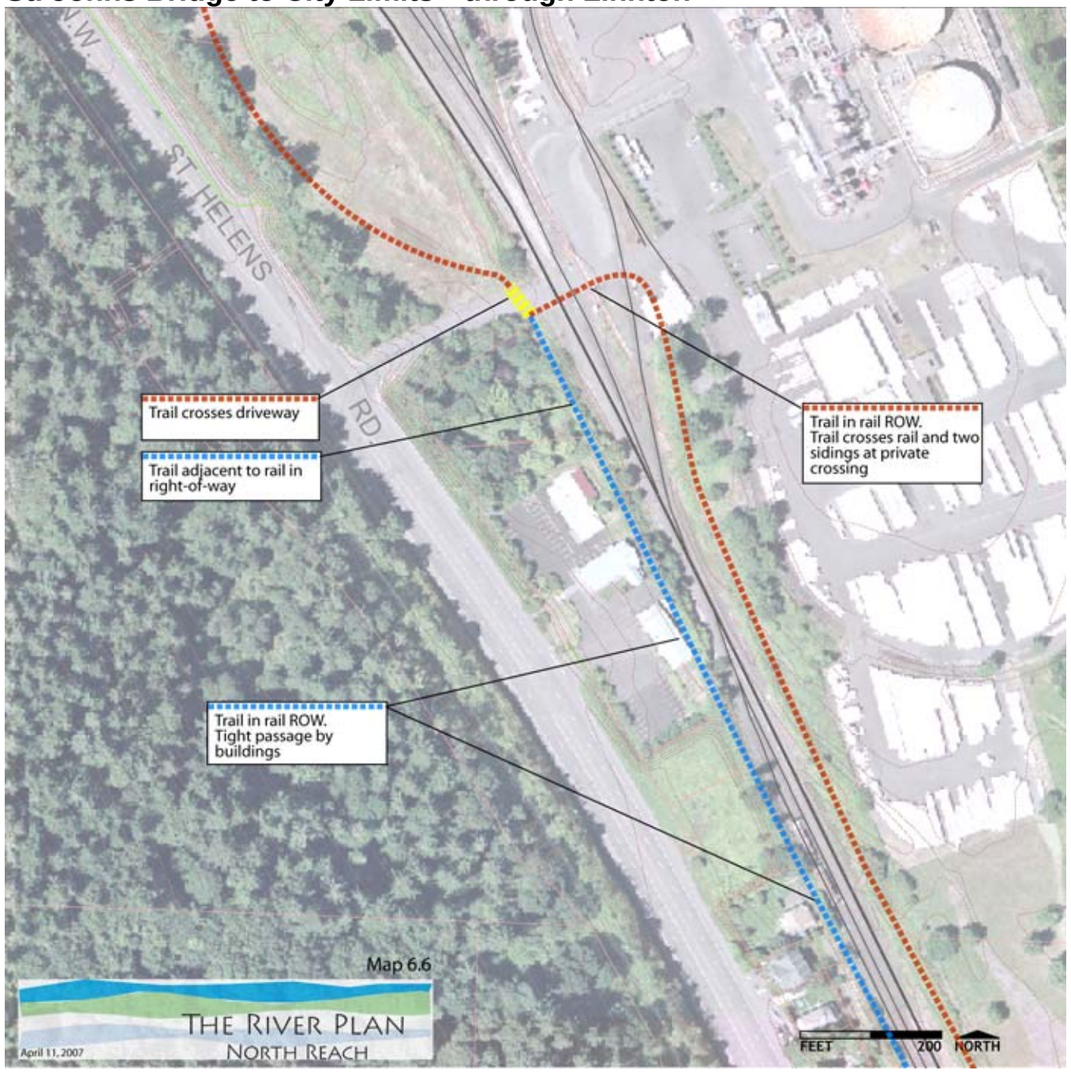
Comparable

Trail alignment in wider right-of-way may not need fencing. (Cedar Lake Regional Trail, Minneapolis, MN)

Trail crossings of sidings and not located at roadways may not require signalization, but should have safety signing and smooth construction. (Cedar Lake Regional Trail, Minneapolis, MN)

The Springwater-OMSI rail-with-trail accommodates active rail traffic and trail users.

Willamette Greenway Trail
St. Johns Bridge to City Limits—through Linnton

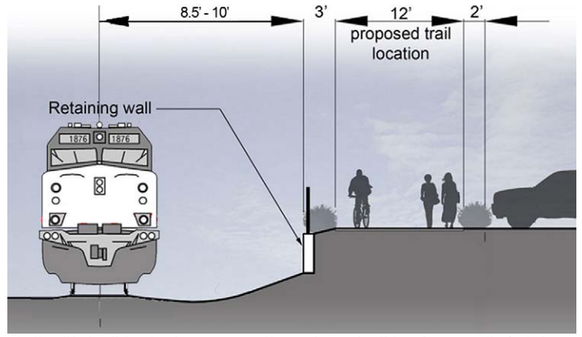


Site Conditions

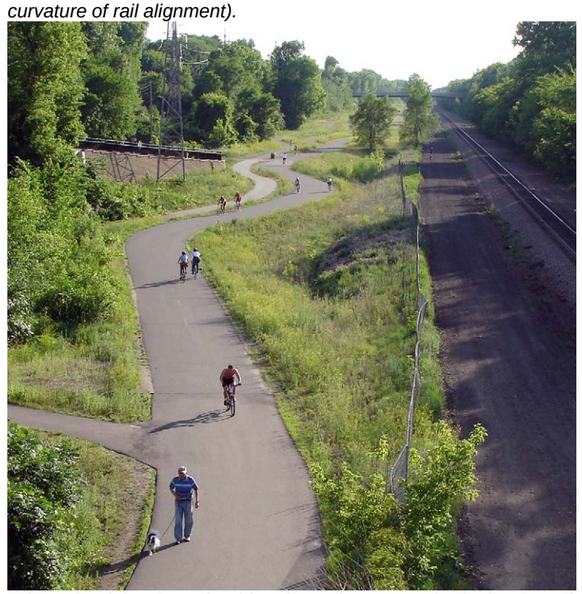
Industrial sidings north of Linnton alternate on both sides of mainline.

St Helens Road viewing north. Two lanes each direction at 50mph.

Comparable



Rail-with-trail typical cross-section where trail is above rail. (Minimum distance center of track to fixed objects is 8.5', increases with curvature of rail alignment).

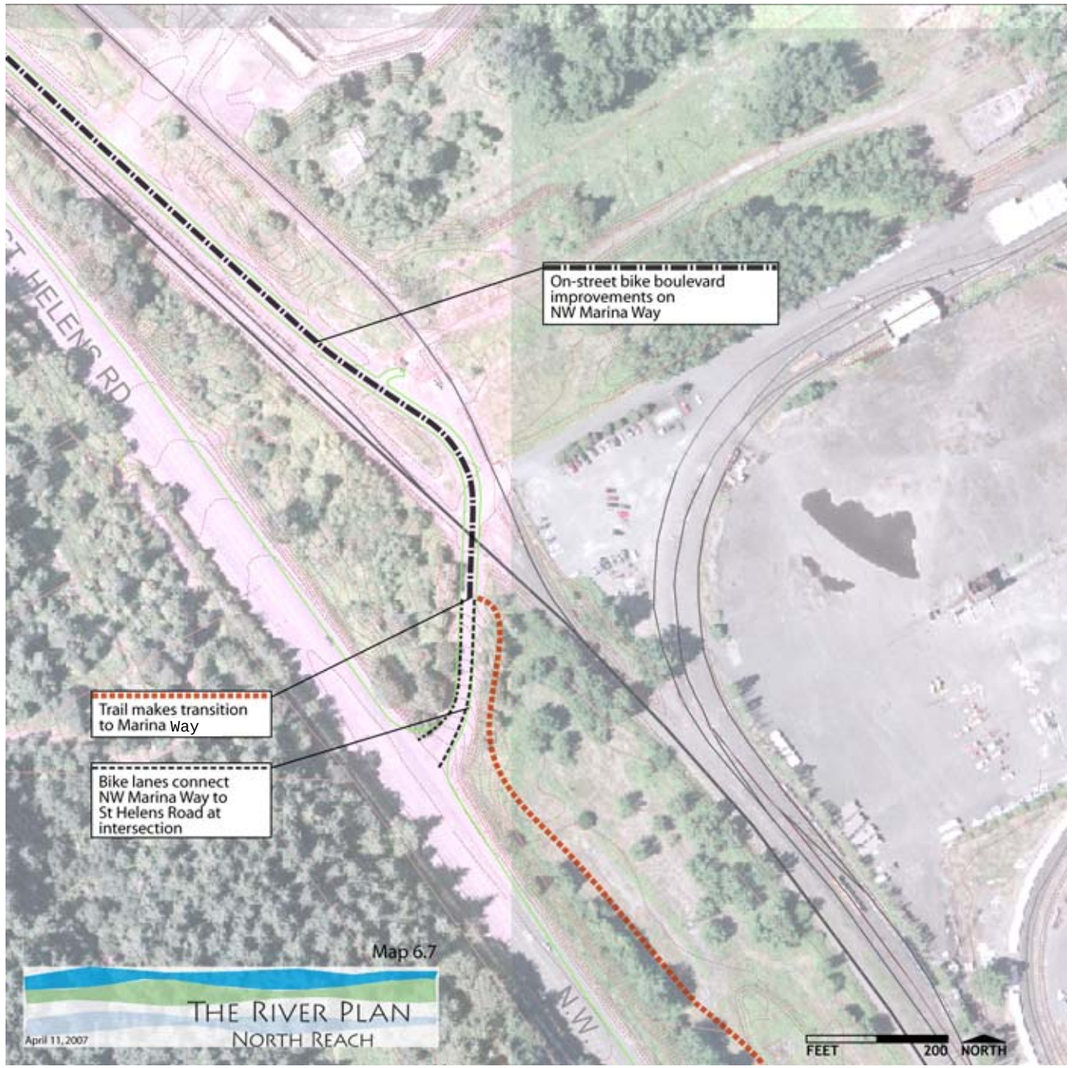


Where the right-of-way is wider, the trails can wander further from the rail. 14-foot multi-user rail with trail. (Cedar Lake Regional Trail, Minneapolis, MN)

Greenway Trail Implementation Issues:

- Possible alignment alternatives are not currently in the Transportation System Plan.
- Possible alignments do not match Metro Regional Trail alignment.
- Portions of possible alignment alternatives cross private property and lie with railroad right-of-way.
- A segment of the possible trail alignment crosses close to wetlands/waterbodies.

Willamette Greenway Trail
St. Johns Bridge to City Limits—through Linnton



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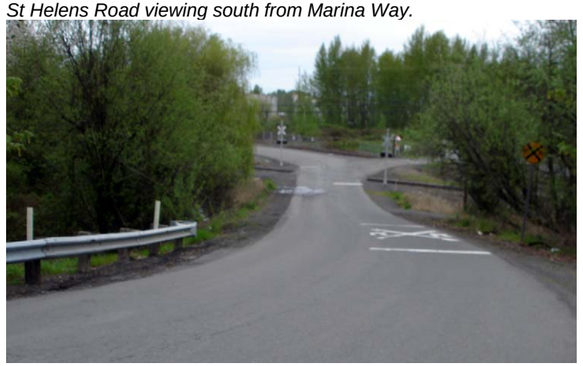
Site Conditions

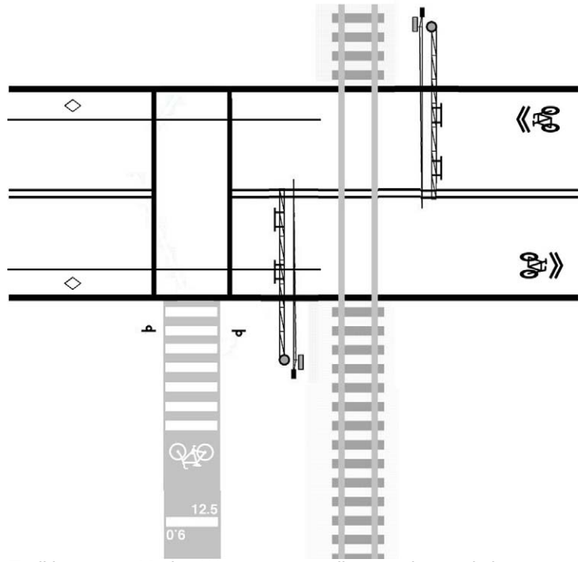
St Helens Road viewing south from Marina Way.



Marina Way viewing south from St Helens Road.

Marina Way viewing northwest.

Comparable



Trail intersects Marina Way, crosses rail on grade at existing roadway and continues as a Share Lane route toward Sauvie Island. Bicycle lanes connect the trail with the Marina Way/St Helens Road intersection.

APPENDIX B

DESCRIPTION OF PROPOSED GREENWAY VIEWPOINTS

Viewpoints provide greenway trail users with an opportunity to connect with the scenic, economic and historic resources along the trail. Viewpoints may be available directly alongside the trail, or by traveling a short distance along a trail spur. Designated viewpoints should provide space off of the trail path for trail users to pull off and rest while taking in the view. Viewpoints also provide an opportunity to learn about the surrounding area through interpretive signs highlighting the natural habitat, history, culture and economic resources viewed from the site. In the North Reach, viewpoints offer a unique chance to observe Portland's working harbor.

Interpretive signs provide trail users with an understanding of the diverse history and land uses along the river.

An existing Greenway Viewpoint on the University of Portland campus provides views of ships in the Swan Island Lagoon.

The following five proposed viewpoints are shown on Map 1 and have been identified to connect with the proposed greenway trail. In addition to a brief description and photograph of the view from that site, some historic information suitable for an interpretative sign is provided.

1. Confluence

The proposed viewpoint is located on a stretch of beach along the PGE–owned natural area.

This viewpoint offers views of industrial ships and activity across the river and Sauvie Island to the north between the Willamette River and the Multnomah Channel.

Interpretive Signage Information

This viewpoint offers an opportunity to learn about the history of Sauvie Island. The Island served as a regional trading center and was home to Native American Chinookan residents. On their journey in 1805 - 06, Lewis and Clark named the Island "Wappato", after the tuber harvested by the Native residents. In 1834, Nathaniel Wyeth briefly established a trading post for wheat and salmon on the Island. Known as Ft. William, Wyeth's operation was bought out by the Hudson's Bay Company which established a dairy on the Island in 1846, later renamed after a French- Canadian employee of the company, "Sauvie."

2. Railroad Bridge

The proposed viewpoint directly south of the Burlington Northern Santa Fe Railroad Bridge offers views across the river to the Triangle Park Property and McCormick & Baxter site.

Interpretive Signage Information

This view overlooks the Willamette River and the site of the former McCormick & Baxter Creosoting Company. Between 1944 and 1991 the company produced a number of chemically treated wood products. Historically, process wastes were discharged directly into the river and dumped on site which resulted in high levels of toxic contamination.

In 1994, the site was listed as a Superfund Site by the U.S. EPA. Cleanup activities thus far include the removal of over 33,000 tons of contaminated soil, the construction of an 80 foot underground containment wall to prevent groundwater from entering the river, and the erection of a 35 acre sediment cap. In 2006, the City of Portland's Bureau of Environmental Services led a team of volunteers in a revegetation effort which resulted in the planting of over 10,000 trees and shrubs at the site.

3 University of Portland

The proposed viewpoint provides wide river views of the Railroad Bridge and Forest Park beyond.

Interpretive Signage Information

This viewpoint shows the Union Pacific's Railroad Bridge (1888), the first steel bridge on the Pacific Coast. In 1896 the Union Pacific opened Union Station on the City's West Side and several other railroads connected to it including the Southern Pacific and James J. Hill's Spokane, Portland and Seattle Railroad. The rail connections led to the construction of additional bridges spanning the Willamette and this increased physical bond subsequently led voters in Albina and East Portland to vote to consolidate with Portland into a single city in 1891.

Railroads played an important role in the economic development of 19th century Portland as a center for processing and distribution. In the 1880's rail lines to San Francisco were built and Portland was connected to the new national rail network. Emerging technologies allowed for the development of structural steel which changed the physical landscape of the City as several new steel bridges spanned the Willamette River connecting Portland's east and west sides...

4. Lampros Steel

The proposed viewpoint is directly south of the St. John's bridge, adjacent to the BES Water Lab facility and current Lampros Steel yard. A trail spur leading to the river beach would provide wide views up and down the river.

Interpretive Signage Information

This view of the Willamette shoreline beneath the St. Johns Bridge is the site of the former town of Springville.

Founded in 1852, as "Cassino", in honor of a local Chinookan leader, the town served as a flag-stop for steamers and a loading dock for Tualatin Valley wheat brought across the hills along an old wagon road. The town was eclipsed in 1871 by rival Portland with the completion of a railroad connecting the city to the Tualatin Valley farmers. In 1872 the warehouse burned and the town began a rapid decline. Today the town is remembered only in the name of NW Springville Road.

5. Terminal 4

The viewpoint overlooks the Port of Portland's marine Terminal 4.

Interpretive Signage Information

During Lewis and Clark's 1805-1806 epic journey, Clark visited the "Ne-mal-quiner Tribe" village on their return voyage, which he mapped downriver of St. Johns in the vicinity of historic Gatton's Slough, possibly on or near the site of Terminal 4.

Built in 1927, the terminal is the largest handler of Asian automobiles on the Pacific Coast. Specialized container ships deliver the cars to Portland where longshoremen and teamsters load them onto railcars for distribution across the country.

APPENDIX C

SUMMARIES OF TASK GROUP MEETINGS

The Trail Task Group met six times between November 2005 and February 2007.

Meeting #1: November 7, 2005
An introduction to the River Plan was presented as well as an overview of the purpose and operation of the task group. The group reviewed definitions for key terms, and discussed that it was confusing to have a greenway trail that occurs in places only as an on-street bike lane, with no sidewalks. The group agreed that when possible, the Greenway Trail should be a multi-use path that provides bicycle and pedestrian paths separated from the street, or outside of the right-of-way. The group also discussed criteria for aligning the trail, and added several criteria to the issue paper: security for industrial interests; safety for trail users; safe crossings; educational purposes of the trail; additional functions of the trail; and ensuring that it is continuous and well connected to neighborhoods.

Meeting #2: November 14, 2005
The second meeting focused on discussions of the Greenway Trail in industrial areas, and of the potential alignments in each district on the east side of the river. Planning Bureau staff explained their proposal that off-street trails should not be required in the Zoning Code for industrial areas, but rather trails would be required should the zoning be changed from industrial. Trail opportunities could also be pursued through cooperative agreements with landowners. The group discussed concerns over requirements and lack of requirements for trails in industrial zones.

The group then reviewed the Trail Workbook, which included two sets of aerial maps of the North Reach showing information about existing street and trail improvements, bus stop locations, and the existing bicycle and pedestrian systems. The workbook also included proposed trail alignments for the North Reach. Discussions focused on trail safety due to truck traffic and railroad access challenges in the Lower Albina district; the Landfill and Waud Bluff trails as connectors to Swan Island; considerations for setbacks, flooding and habitat protection along the bottom of the University of Portland Bluff; and the potential for a trail if the University of Portland purchases the Triangle Park property in the North Beach area.

Meeting #3: November 21, 2005
The third meeting continued discussions of the east side trail alignment in response to the Task Group field trip the previous weekend. The group further discussed the Bureau of Planning proposal presented at Meeting #2, and mentioned ideas for “land banking” and floating easements; trail use for Swan Island bike and pedestrian commuters; the necessity to have flexibility in requirements; security concerns; and examples of other industrial areas in Portland where trails have been successful. District-specific discussions included the pros and cons of bike lanes/sidewalks on N. River Street and a multi-use path on the concrete road through the Albina Yard; challenges of the narrow sidewalk under the Broadway Bridge; connector trails, a bluff promenade and inland alternative alignments for Swan Island; and trail options for habitat protection at Willamette Cove.

Meeting #4: December 5, 2005
The fourth meeting included a review of additional comments on the east side trail alignment, and a discussion of west side trail alignment in response to the Task Group field trip the previous weekend. Discussion of the west side alignment focused on the challenges of finding an appropriate route due to street width (Front Avenue), and incompatible levels of traffic (Highway 30), as well as topography and railroad land ownership. General comments included recommendations to: evaluate each alignment with a set of measurable criteria, to review trail alignments in industrial areas on a case by case basis, and to create both short-term and long-term alignment proposals. Additional discussion surrounded planning for long term solutions that may currently seem unfeasible, and ensuring consideration of the proposal’s effect on business reinvestment.

Meeting #5: July 12, 2006
The fifth task group meeting was convened to discuss the Staff Proposed Greenway Trail Alignment document (July 3, 2006). Staff provided overviews of the five proposed Greenway Trail policy statements, and of the proposed trail alignment. Policy discussion among the task group and other attendees included questions on financial responsibility for trails, the definition of river-related and river-dependent, site definition and site constraints, trail connectivity, and approaches to the policies that will allow flexibility to meet changing land uses and situations over the life of the policies.

The task group then turned to a discussion of the trail alignment, focusing on four sections of the alignment: Willamette Cove, St. John's, Front Avenue/St. Helens & Nicolai, and Lower Albina. Discussion included comments on environmental considerations for Willamette Cove, possible constraints along the N. Bradford alignment and a potential alternative alignment along the Crown Cork property, and space constraints along St. Helens & Nicolai, particularly along the Gunderson property. The task group also discussed the Ash Grove Cement/N. Greeley alignment alternatives for North Albina. Comments included concerns for safety and security, space constraints, rider experience and connectivity to Swan Island.

Meeting #6: February 21, 2007
The purpose of the sixth meeting was to review the greenway trail illustrations and cross-sections produced by the river plan consultant Steve Durrant (Alta Planning + Design), and update the group on the staff proposed greenway trail alignment including changes that have been made since August, 2006. The trail alignment changed in Willamette Cove, on Swan Island, along NW Front Avenue, and in the vicinity of Linnton. The changes to the alignment were made in response to comments and/or concerns raised between the August 2006 meeting and February 2007.

Steve Durrant walked the group through the six trail design posters that he produced and there was some discussion of issues regarding trail development in several area including the segment between Pier Park and N. Decatur, the segment between Cathedral Park and Swan Island, and adjacent to the railroad bridge.

After review of the trail design posters the discussion moved on to feasibility and the cost of trail development and finally to the greenway trail in the Albina Yard/Ash Grove Cement area.

THE RIVER PLAN
NORTH REACH

River Plan / North Reach RECOMMENDED DRAFT

VOLUME 1A: POLICIES, OBJECTIVES, AND RECOMMENDATIONS (available in print)

VOLUME 1B: CODE AMENDMENTS AND ZONING MAPS (available in print)

VOLUME 2: ECONOMIC PROSPERITY BACKGROUND INFORMATION

VOLUME 3A: NATURAL RESOURCES INVENTORY: RIPARIAN CORRIDORS AND WILDLIFE HABITAT

VOLUME 3B: NATURAL RESOURCES INVENTORY: RIPARIAN CORRIDORS AND WILDLIFE HABITAT - APPENDICES

VOLUME 3C: ECONOMIC, SOCIAL, ENVIRONMENTAL AND ENERGY ANALYSIS AND RECOMMENDATIONS FOR RIPARIAN CORRIDORS AND WILDLIFE HABITAT

VOLUME 4: ACCESS BACKGROUND INFORMATION

VOLUME 5: ORDINANCE AND RESOLUTION (available in print)

Volumes 2, 3 and 4 are available on CD or in print by special request. Please allow seven days for printing.

City Council Public Hearing

Wednesday, December 16, 2009 at 6:30 pm
1221 SW 4th Avenue, Council Chambers

Please submit written comments to:
Council Clerk
1221 SW 4th Avenue, Room 140
Portland, OR 97204
Fax: (503) 823-4571
Email: kmoore-love@ci.portland.or.us

Written comments must be received by the hearing date.

riverplan@ci.portland.or.us
www.portlandonline.com/bps/riverplan
(503) 823-2281