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REGIONAL ACTIVE TRANSPORTATION PLAN

REVIEW DRAFT 2

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THE INTER TWINE

About Metro

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy, and sustainable transportation and living choices for people and businesses in the region. Voters have asked Metro to help with the challenges and opportunities that affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to providing services, operating venues and making decisions about how the region grows. Metro works with communities to support a resilient economy, keep nature close by and respond to a changing climate. Together we're making a great place, now and for generations to come.

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The development of a Regional Active Transportation Plan (ATP) was identified as an implementation activity in the 2035 Regional Transportation Plan (RTP). The plan provides a vision, plan and policies for active transportation to help achieve local and regional aspirations and transportation goals and targets.

The ATP will be refined with stakeholder input for integration into the RTP during the 2014 update. Changes to the Regional Transportation Functional Plan (RTFP) will be addressed in the 2018 update of the RTP.

For more information, visit the Regional Active Transportation Plan webpage at www.oregonmetro.gov/activetransport

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Active transportation is getting where you need to go actively. Walking, riding a bicycle, using a mobility device and accessing public transportation are all active travel.

"Community members want to walk and bicycle more. This plan for our young 21st Century will help our area compete for more funding opportunities and implement our community needs and desires."

~Kathryn Harrington, Metro Councilor

ACKNOWLEDGEMENTS

Metro Council Liaisons

Councilor Kathryn Harrington
Rex Burkholder, *former Metro Councilor*

Stakeholder Advisory Committee

Hal Bergsma, Tualatin Hills Park and Recreation District
Allan Berry, City of Fairview
Todd Borkowitz
Aaron Brown
Brad Choi, City of Hillsboro
Jeff Owen, TriMet
Roger Geller, Portland Bureau of Transportation
Heidi Guenin, Upstream Public Health
Suzanne Hansche, Elders in Action (Multnomah County)
Katherine Kelly, City of Gresham
Lori Mastrantonio-Meuser, Clackamas County
Kate McQuillan, Multnomah County
Councilor Jose Orozco, City of Cornelius
Shelley Oylear, Washington County
Lidwien Rahman, Oregon Dept. of Transportation
Derek J. Robbins, City of Forest Grove
Stephanie Routh, Oregon Walks
Rob Sadowsky, Bicycle Transportation Alliance
Allan Schmidt, Portland Parks and Recreation

Executive Council for Active Transportation, a Council of The Intertwine

Chair, Dr. Phil Wu, Kaiser Permanente
Dr. Christopher Achterman, Legacy Health
Scott Bricker, America Walks
Rex Burkholder, former Metro Council
Stephen Gomez, Bicycle Transportation Alliance
Jay Graves, The Bike Gallery
Steve Gutmann
Alison Hill Graves, Community Cycling Center
Neil McFarlane, TriMet
Randy Miller, Produce Row Property Management Co.
Lynn Peterson, former Policy Advisor to Governor Kitzhaber
Rick Potestio, Potestio Studio
Dick Schouten, Washington County Board of Commissioners
Dave Yaden

Metro staff

Lake McTighe, *Project Manager*
Janet Bebb
Anthony Buczek
Aaron Breakstone
Grace Cho
Zac Christensen
Marne Duke
Kyle Goodman
Matthew Hampton
Mel Huie
Brooke Jordan
Tom Kloster
John Mermin
Chris Meyers
Thaya Patton
Cindy Pederson
Brenda Perez
Budd Reiff
Robert Spurlock
Bill Stein
Richard Walker

Project consultants

CH2MHill
Sumi Malik
Terra Lingley
Reza Farhoodi

Alta Planning and Design
Mathew Berkow
Kim Voros
Nick Falbo

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EXECUTIVE SUMMARY

Promoting, encouraging and making it easy to get around actively is critical to the health, economy and well-being of our region. Whether walking, bicycling, using a wheel chair or an electric bicycle, catching a bus, the MAX or a streetcar, pushing a stroller, skateboarding or in-line skating, active travel is a vital part of the region.

Over 18% of trips are made by walking and by bicycle within the region. The benefits of those trips are many.[1] Compared to other places, our region reports better overall health, reducing health care costs and increasing worker productivity.[2] Providing transportation choices benefits the economy by attracting new businesses and skilled workers. Bicycling tourism and activities generate $89 million in annual economic activity for the region. [3]

People walk, ride bikes and use active travel for all types of trips – to catch the bus or train, get to school and work, go to the store and run errands, and visit friends.

[1] 2011 Oregon Household Activity Survey. Mode share is for urban and rural areas of Clackamas, Multnomah and Washington Counties. Bicycling 3.2% of all trips made within the counties, walking 10.4% and walk-bicycle access to transit 4.2% (walk-bike to transit are additional trips). For all trips less than three miles made within the urban growth boundary the mode shares are: bicycling 5.1% and walking 19%, for over 24% of all trips made by walking and bicycling (2010 Metro transportation modeled data).

[2] Obesity-related health spending in the U.S. reached $147 billion in 2009 and accounts for 91% of all medical spending. (U.S. Department of Health and Human Services Secretary Kathleen Sebilus, 2009); Workplace physical activity programs, such as encouraging walking and bicycling to work, can reduce sick leave by up to 32% and increase productivity by up to 52%. (World Health Organization. Southern Australian Workplace Physical Activity Resource Kit. 11/2/10); Regular physical activity, such as walking or riding a bicycle to work, can improve an employee's work performance by up to 15%. (Alberta Center for Active Living).

[3] *The Economic Significance of Bicycle-Related Travel in Oregon, 2012.* Dean Runyan and Associates.

Drive alone trips are declining per capita, helping freight move more smoothly by reducing the number of cars on the road. Children, elders, the disabled and people that cannot afford to drive all benefit when they can access safe and convenient walking, transit and bicycle routes. The Regional Active Transportation Plan, or the ATP, provides a strategy to build on our success, knitting local plans together into a regional vision to achieve our aspirations.

Investing in active transportation shapes our region in ways we all care about

- It keeps us healthy.
- It makes our streets safer.
- It helps our economy thrive.
- It provides transportation choices for everyone, especially the young, old, poor, disabled and those that cannot or choose not to drive.
- It helps us fight climate change and helps keep our water and air clean.
- It provides access to nature.
- It provides independence for our children and our elders.
- It supports vibrant and safe communities.
- It reduces household expenses.
- It is clean, efficient and easy. It is low cost.
- It is cost effective and provides a high return on investment.

Public desire for transportation choices

Over 65% of residents in Multnomah, Clackamas and Washington Counties would like more walking and bicycling paths and facilities.

~ Opt-In Survey, 2012

A national poll found that most residents would like to drive less, but do not believe it is a realistic option for them. Over 70% feel that they have no choice but to drive as much as they do.

~ Natural Resources Defense Council, September 2012

Peninsula Crossing Trail, Photo: BikePortland

Increasing the number of trips made actively reduces auto traffic and keeps roadways running smoothly. Photo: City of Portland, Hawthorne Bridge.

What challenges does the ATP address?

Policies and strategies in the ATP focus primarily on completing, expanding and upgrading the regional active transportation network as one way to help address personal mobility and access, economic health, human and environmental health, safety and climate change. Complete and well designed pedestrian and bicycle facilities are part of the solution. However, investment in infrastructure alone does not automatically provide more travel options. Land use, pricing policies and other strategies are also ways that communities are addressing these challenges.

Our region is not achieving all of its transportation targets. While nearly 18% of all trips made in the region are made by walking and bicycling, this is far below what is needed to achieve many of our local and regional aspirations and to continue successful trends.[4] The region has an

[4] The current RTP does not meet several of the 2035 RTP transportation performance targets:

1. Total average weekday VMT increases. However, VMT per person continues to decrease.
2. Traffic delay on the regional freight network increases significantly. The cost of delay increases over five fold. Motor vehicle delay increases for travel periods and origin-destinations.
3. Modest increases in transit travel times. Corridors with significant increase in transit service see travel time savings.
4. Congestion increases.
5. System wide, non-drive alone trips increase only slightly (2%). All centers and the City of Portland had the highest increase in non-drive alone trips.[4]
6. Average weekday boarding of transit increase by 40%.
7. When comparing both 2035 RTP Investment Systems to the 2035 No Build, approximately 23% more households are within ½ mile of a regional trail.
8. Environmental justice households access to high capacity transit increases by at least 13%.
9. There is significant reduction in transportation related air pollutants.

active transportation mode share target to triple levels of walking, bicycling and transit by 2035. Transportation modeling conducted for the ATP indicates that current policies and plans do not achieve regional mode share targets.[5]

If we are to address issues such as economic competitiveness, freight mobility, climate change, rising levels of obesity and safety effectively we must rapidly increase the levels of active transportation by making it safe, convenient and comfortable. Development of the ATP was identified as a follow up activity in the 2035 Regional Transportation Plan to help addresses these challenges.

The region's planned pedestrian and bicycle networks have major gaps.[6] These gaps impact safety and discourage people from choosing to walk, ride a bike or take transit. Many people would like to walk and ride bicycles more for transportation, but feel unsafe doing so. The fears are justified; serious pedestrian and bicycle crashes account for 20% of all serious crashes in the region. Pedestrian and bicycle crash rates are higher than their share of trips.

At the same time, federal funding, a major source of funding for active transportation, is

Network completeness

Regional trails/paths: 33% complete

Regional bike network: 55% complete

Regional pedestrian network of sidewalks: only 62% of all roadways in the regional pedestrian network (primarily arterials) have sidewalks.

10. Green house gas emissions increase by at least 41%.
11. More projects intersect in high value habitat

[5]

Active transportation mode	2010 modeled mode share for all trips (4-county area)	2035 modeled mode share for all trips with full build out of 2035 State RTP Network	Active Transportation Target (tripling of 2010 modeled mode share)
Transit	3.8%	4.9%	11.4%
Walking	8.9%	9.6%	26.7%
Bicycling	2.8%	3.1%	8.4%

2011 Oregon Household Activity Survey and modeled data, Metro 2012

[6] The regional bicycle and pedestrian network is defined as the combined network of streets, trails and districts identified on the regional transportation pedestrian and bicycle network maps and identified as Pedestrian and Bicycle Parkways, Regional Bikeways, Regional Pedestrian Corridors and Regional Pedestrian and Bicycle Districts, including station communities.

declining.[7] Current policies and planned levels of investment only get the region so far; filling some of the gaps and improving some of the deficiencies, but not to the level needed to make walking and bicycling the easy, safe and enjoyable choice.

The ATP provides strategies to address the challenges

The ATP provides a vision, a plan and policies for our region to compete more effectively for limited funding and to make the most of our investments to complete and expand walking and bicycling networks, and to improve access to transit.

- **Vision.** A bold vision for the future that builds on local plans, existing investments and successes.
- **Plan.** The plan knits together local projects and routes to achieve complete and seamless networks that make accessing destinations easy, comfortable and safe.
- **Policies.** A set of policies and actions to help achieve local and regional plans, desired outcomes, goals and targets.

ATP Vision

In 2035, convenient and safe access to active transportation has helped create and maintain vibrant communities in the region. Connected and safe pedestrian, bicycle and transit networks provide transportation choices. People of all ages, abilities, income levels and backgrounds can walk and bike easily and safely for many of their daily needs and the walking and bicycling environment is welcoming to them. A majority of the short trips in the region are made by bicycling and walking. Children enjoy independence walking and biking to school and elders are aging in place and can get around easily without a car. Active transportation contributes significantly to the region's economic prosperity. Household transportation costs are lowered, roadways are less congested and freight experiences less delay. People enjoy clean air and water, and because they incorporate physical activity into their daily routines they are healthier and happier.

Opportunities to expand active transportation

There are several opportunities to expand the active transportation networks that are already in place and to increase levels of active transportation. The ATP was developed to target the following opportunities:

- **Support populations that are already driving less by making it easier to drive less.** Lower income households, people with disabilities, young people and people of color use active transportation and transit more often than other populations in the region.[8] Improving transportation choices and providing education and encouragement increases transportation equity and makes it easier to drive less.

[7] Metro 2010. Federal funding programs, primarily administered by ODOT, TriMet and Metro, accounts for approximately 85% of the funding for active transportation in the region. State funding, from the state gas tax accounts for approximately 7% and local funding sources account for approximately 8%.

[8] 2011 Oregon Household Activity Survey.

- **Dramatically increase safety for people walking and riding bicycles by focusing improvements for active transportation on arterials, intersections and mid-block crossings of busy streets.** A high level of walking and bicycle activity and accessing transit occurs on arterials; these roads often provide the most direct and efficient route and provide services and destinations. The 2012 Regional Transportation Safety Plan recommends improving pedestrian and bicycle crossings particularly on multi-lane arterials, improving lighting and providing protected bicycle facilities along high-volume and/or high-speed roadways such as buffered bike lanes, cycle tracks, multi-use paths, or low-traffic alternative routes.
- **Better integrate transit, walking and bicycle networks.** Region wide, nearly 85% of all transit trips start as a walking or bicycling trip.[9] Improvements that benefit walking and bicycling benefit transit. Better access to transit allows people to access destinations without a car. Integration strategies include completing the "last mile" between transit stops and regional destinations, including bicycle parking at transit stops, and coordinating wayfinding.
- **Replace short trips made by car with walking and bicycling.** This will reduce congestion, lower green house gas emissions, lower transportation costs, reduce wear and tear on roadways and increase health in the region. Nearly 45% of all trips made by car in the region are less than 3 miles. [10] With complete networks and education and encouragement and other programs, many short trips made by car could be replaced with bicycle or pedestrian trips, increasing road capacity and reducing the need to expand the road system.

  Replacing 6-21% of short trips under three miles made by auto with walking and bicycling would avoid 21- 52 billion miles of driving annually in the U.S.

  ~Rails to Trails Conservancy, Active Transportation for America, 2008
- **Include bicycle and walking improvements in roadway preservation projects** whenever possible to make all streets in the region complete streets.
- **Tap into the bicycling potential.** Increasing the number of bicycle trips in the region has huge potential. Since 1994, trips made by bicycle in the region have increased over 190% – the fastest growth for any mode.[11] Much of the growth in bicycling occurred in the City of Portland; however, in the areas outside of Portland in Clackamas, Multnomah and Washington counties bicycling mode share increased

[9] Levels of walking, bicycling and transit ridership, and how transit is accessed, varies across the region. The 2011 Oregon Household Activity Survey provides data at the regional and county level and for the City of Portland. Survey sample sizes are too small to provide detailed data for all the cities in the region.

[10] 2011 Oregon Household Activity Survey. Refer to the "Existing Conditions, Opportunities and Findings (2012)" report for a table of regional trip distances.

[11] 2011 Oregon Household Activity Survey.

from 0.7% to 1.5%, which is higher than the national average.[12] Making bicycling a real transportation option can help the region achieve its transportation goals. The City of Portland estimates that if its 25% bicycling mode share target is not reached and bicycling levels remain the same the city will need the equivalent of 23 more Powell Boulevards to accommodate the increase in auto traffic.

A vision for the future that includes active transportation as a real transportation option helps us achieve our shared values – clean air and water, vibrant communities, transportation choices for everyone, equity, economic prosperity and addressing climate change. The challenges can be daunting in the face of declining funding and other important needs. However, the region cannot afford not to invest in active transportation.

Active transportation builds community and provides independence to those who cannot drive.

[12] Refer to Table 1 in Chapter 3

CHAPTER 1: INTRODUCTION

The ATP is a regional modal plan of the Regional Transportation Plan and helps shape transportation policy and development of the regional transportation network. As knowledge of the far-reaching benefits of active transportation has increased, the need for an agreed upon implementation strategy and framework for identifying priorities was acknowledged. Development of the ATP was identified as an implementation activity of the 2035 Regional Transportation Plan. Development of the ATP was guided by a Stakeholder Advisory Committee and input from key stakeholders.

What are the elements of the ATP?

The ATP provides a vision, policies and actions to take advantage of opportunities to increase active transportation. The following elements are included in the ATP:

- **Benefits of active transportation** include lower health care costs, support of the local economy, lower household transportation costs and reduction in green house gas emissions. Chapter 2.
- **Findings and opportunities.** Understanding the successes and challenges of existing conditions helps communities make smart choices. Chapter 3.
- **Policy context.** Goals and policies of the ATP exist within a framework of federal, state and local plans. Chapter 4.

Active transportation helps achieve the region's desired outcomes

1. **Vibrant communities**
2. **Equity**
3. **Climate change leadership**
4. **Transportation choices**
5. **Economic prosperity**
6. **Clean air and water**

- **A vision** for the role active transportation can play in achieving the region's desired outcomes. Benefits associated with active travel play a role in achieving adopted regional outcomes. Chapter 5.
- **Guiding principles** to guide development of the active transportation network that will support achieving regional transportation goals. Evaluation criteria were identified to evaluate how well planned regional networks achieved Access, Safety, Equity and Increased activity. Chapter 6.
- **Evaluation** to guide development of the recommended regional bicycle and pedestrian networks. Using data, GIS analysis and transportation modeling, potential improvements to the regional active transportation network were evaluated to evaluate the impact of improvements on access, safety and equity. Chapter 7.
- **An integrated active transportation network** is a new focus of the regional pedestrian, bicycle and transit networks. Access to transit is emphasized in the updated pedestrian and bicycle network concepts. Chapter 8.

- **Recommended regional bicycle and pedestrian networks** built on the existing pedestrian and bicycle networks in the 2035 Regional Transportation and local plans. Planned networks provide a vision for complete connected networks that are integrated with transit and provide the regional "spine."Chapters 9 & 10.
- **New and updated functional classifications** for the bicycle and pedestrian network**s** clarify how regional active transportation routes function in the broader transportation network. Many active transportation routes are also routes used by freight and transit. Pedestrian and bicycle functional classes describe the ideal vision for routes, with the understanding that plans and projects need to be developed in a context sensitive manner and integrate all modes. Chapters 9, 10 & 11.
- **Design guidelines** will help achieve a consistent network across the region. Design is especially important for people walking and riding bikes on or crossing busy roadways and on trails with high volumes of users. Design can improve safety for all users and make the transportation system work better. The suggested guidelines are based on accepted best practices and are already being implemented in the region. Chapter 11.
- **Policies and implementation actions.** The ATP recommended policies build on existing regional policies for walking and bicycling in the 2035 Regional Transportation Plan and suggest specific follow up actions to help implement policies over time. Implementing the recommended policies will require Metro to work closely with jurisdictions, agencies and stakeholders. Chapter 12.
- **Modal targets and performance measures** in the 2035 Regional Transportation Plan are updated. Chapter 13.
- **Funding strategies** acknowledge that funding is limited and suggest ways to approach funding the regional active transportation network. Chapter 14.
- **Implementation strategies and projects.** The 2035 Regional Transportation Plan identifies many of the pedestrian and bicycle projects needed to complete the regional active transportation network. However there are gaps in the project list. The ATP identifies areas in the region where investments in active transportation will increase access to destinations and serve underserved populations and increase safety and increase pedestrian and bicycle activity.[13] Chapter 15 and Appendix 1.
- **Planning process and stakeholder engagement** describes how the plan was developed. Chapter 16.

[13] Underserved populations include low income, low-English proficiency, non-white, elderly (over 65) and young populations (under 18).

Regional bicycle and pedestrian networks knit together priorities identified in local plans. Making places safe, comfortable to walk, ride a bicycle, use a mobility device, push a stroller and catch a bus or train help implement a complete and integrated regional transportation system.

What is a regional bicycling and walking network?

A regional bicycling and walking network is formed by connecting the many local networks of the region's twenty-five cities and three counties. A regional plan that knits together local networks ensures a coherent, continuous, recognizable and easy to follow regional system. Local plans emphasize the need to provide good pedestrian and bicycle access to transit, schools, parks, jobs, services and other essential destinations; a regional plan emphasizes this need at a regional level.

The ATP provides a plan for the area within Metro's jurisdictional boundary, which includes the urban portions of Multnomah, Washington and Clackamas Counties and twenty-five cities. Major bicycle and pedestrian connections to areas outside of the urban growth boundary, such as Sauvie Island, the Columbia Gorge, east Clackamas County and Mt. Hood, the Pacific Ocean and the Willamette Valley are also part of the system.

Walking and bicycling are a key part of an integrated regional transportation system:

> *"Multi-modal regional transportation facilities and services are defined both functionally and geographically. Specific facilities or services are included in the RTP based on their function within the regional transportation system rather than their geometric design, ownership or physical characteristics. A facility or service is part of the regional transportation system if it provides access to any activities crucial to the social or economic health of the Portland metropolitan region, including connecting the region to other parts of the state and Pacific Northwest, and providing access to and within 2040 Target Areas (described below). Facilities that connect different parts of the region together by crossing county or city boundaries are crucial to the regional transportation system. Any link that provides access to or within a major regional activity center such as an airport or 2040 target area is also a crucial element of the regional transportation system."*[14]

How will different communities implement the network?

Communities in the region are already implementing their pedestrian and bicycle networks in ways that reflect their unique character. Local biking and walking projects often highlight special places in a community and become special places in their own right, places such as the Fanno Creek Trail, the Going Street bicycle boulevard, the Trolley Trail or the Gresham-Fairview Trail.

Communities across the region acknowledge the value of making it easy and safe to walk and ride bicycles to access schools, parks, transit, jobs and daily needs. How communities provide connections may take different approaches. Land use patterns and street network design ensure that a 'one-size-fits-all' approach will not work everywhere. For example, a community with a grid street network may implement a network of bicycle boulevards on low traffic streets, while a community with less street network connectivity might develop trails parallel to major continuous streets.

Communities identify individual needs and opportunities for their transportation networks in transportation system plans and capital improvement plans. Many cities and each of the counties have also developed stand alone pedestrian and bicycle plans.[15] The ATP does not replace these plans, but instead attempts to provide a cohesive regional vision knitting these plans together that will support communities in achieving local goals for increasing walking and bicycling access.

[14] Chapter 2, Regional Transportation Plan

[15] Refer to Appendix 3 for a list of local plans reviewed in the development of the ATP.

How does the ATP move forward?

The draft ATP will be refined with stakeholder input through June 2014, including a public comment period in March 2014. Changes to the Regional Transportation Plan will be proposed as part of the 2014update. The ATP will be proposed for adoption as a component of the Regional Transportation Plan in July 2014. The ATP project list, provided in Appendix 1, will be available to cities, counties, TriMet, ODOT and the public as a resource for developing changes to the Regional Transportation Plan project list. Implementation activities identified in the recommended policies section will occur over time and as funding and resources are available. Potential changes to the Regional Transportation Functional Plan, the implementing plan of the Regional Transportation Plan may be considered in the 2018 update of the Regional Transportation Plan.

Regional coordination can help communities implement projects that require strong partnerships, vision and leadership, such as the Three Bridges project on the Springwater Corridor.

CHAPTER 2: BENEFITS OF ACTIVE TRANSPORTATION

Studies show that integrating active transportation into daily routines improves physical health and well being.

There are numerous economic, social, health and environmental benefits of active transportation. With relatively low levels of investment the region has constructed miles of pedestrian walkways, bikeways and trails, often connected to transit. These investments, combined with land use patterns and development that encourage active transportation, have contributed significantly to the livability of the region. People are healthier compared to national and state averages. People drive less and shorter distances. More money is kept circulating in the local economy. There are fewer crashes. Air and water are cleaner. Though walking and biking networks are incomplete, they already provide a substantial return on investment. The ATP evaluation of planned and potential improvements to the regional pedestrian and bicycle networks provides information on the potential direct and derived benefits our region will experience as walking and bicycling investments improve safety and increase access to destinations. [16] Below are a few of the benefits associated with investing in the regional pedestrian and bicycle networks.

[16] Refer to the *ATP Benefits of Active Transportation and Considerations for Implementation* Report, 2013.

- **Investing in the active transportation network improves public health and lowers health care costs associated with inactivity.** People in the region are more active and have lower rates of obesity compared to national and state levels.[17] However, at least 26% of adults in the Portland-Vancouver area are obese and only 54-55% of adults in Clackamas, Multnomah and Washington counties meet the Center for Disease Controls recommendations for physical activity. [18] Improvements planned to the regional pedestrian and bicycle networks result in increased levels of active transportation.[19] Active transportation is linked to reduced mortality and morbidity rates. A recent study in a peer reviewed journal found that by 2017, the City of Portland will have experienced a net positive return on investment in its bicycle infrastructure of $500 million in healthcare savings and $200 million fuel savings. [20]

Walking and bicycling- transportation or recreation?

Walking (including using a mobility device) and bicycling are both transportation and recreation – and very often they are both at the same time. Many people like to ride a bicycle to work because it relaxes them and provides them with exercise. Children like to walk to school because they can socialize and feel independent. Running an errand by way of a park provides time to enjoy nature. With active transportation the lines between utility and enjoyment are blurred. One more benefit of active travel!

[17] Centers for Disease Control and Prevention, SMART: Behavioral Risk Factor Surveillance System, BRFSS 2010 City and County Data, Quick View Charts. Refer to *Existing Conditions, Findings and Opportunities Report,* 2012.

[18] Centers for Disease Control and Prevention. SMART: BRFSS City and County Data and Oregon BRFSS County Combined Dataset 2006-2009; Oregon Health Authority, Oregon Overweight, Obesity Physical Activity and Nutrition Facts, 2012.

[19] *ATP Regional Bicycle Network Evaluation,* 2013 and *ATP Regional Pedestrian Network Analysis*, 2013.

[20] Gotschi, Thomas. Costs and benefits of bicycling investments in Portland, Oregon. *Journal of Physical Activity and Health*, 2011,8(Suppl 1), S49-S58.

- **Investing in the active transportation network improves safety and reduces the cost of crashes.** Filling sidewalk gaps, constructing trails, adding improved crossings and separated bicycle facilities will reduce crashes in the region.[21] Investments in active transportation have been shown to reduce all crashes.[22] Metro's State of Safety Report found that crashes and the resulting injuries and deaths cost the region $958 million a year in property damage, medical costs, and lost productivity – not to mention the pain and suffering from the loss of life.[23] Over $122 million of the costs are associated with pedestrian and bicycle crashes alone.[24]

- **Investing in the active transportation network protects the environment and reduces costs associated with polluted air and climate change.** More transportation choices results in people driving less. This translates into less green house gas emissions (transportation is responsible for about 25% of the region's green house gas emissions).[25] For every 1-mile pedaled or walked rather than driven, nearly one pound of carbon dioxide is saved.[26] Investing in the active transportation network in

Health Connection

Evidence connecting health and the built environment is growing. Obesity related health care costs reached $147 billion in 2009 and accounts for 91% of all medical spending. To fight obesity and improve public health, the Centers for Disease Control recommend strategies that make it easier and safer to walk, ride bicycles and access transit. Recommended strategies for communities include:

- Improve access to transit.
- Enhance biking and walking infrastructure.
- Zone communities for mixed-use development.
- Locate schools near residential areas.
- Enhance safety where people are or could be physically active.
- Enhance personal safety in areas where people are or could be physically active.
- Improve access to outdoor recreational activities.

~ Center for Disease Control, "Recommended Community Strategies and Measurements to Prevent Obesity in the United States, Morbidity and

[21] *ATP Benefits of Active Transportation and Considerations for Implementation* Report*,* 2013.

[22] *Evidence on Why Bike-Friendly Cities Are Safer for All Road Users.* Environmental Practice 13:16–27 (2011). Wesley E. Marshall, Norman W. Garrick .

[23] Metro State of Safety Report, 2012.

[24] Metro State of Safety Report, 2012.

[25] Regional Greenhouse Gas Inventory, Metro 2010.

[26] US Environmental Protection Agency, 2009 Clean Energy, Calculations and References. An average car emits 11,450 pounds of carbon dioxide a year, or 5.1 metric tons.

low-income and minority neighborhoods will result in better air quality in these areas, where air pollution is often an issue.

- **Investing in the active transportation network increases access to destinations.** New connections in the regional pedestrian network would substantially increase the number of people that are within a safe and protected 1 mile walk of transit, parks, food, civic, health, and retail locations. The recommend regional bicycle network contains 60% greater network mileage than the current network. The increased network density and connectivity will put more people in the region within access of destinations.[27] Improving the pedestrian and bicycle networks to allow for convenient biking and walking access to transit increases access to destinations.

- **Investing in the active transportation network lowers household transportation expenses and keeps more money circulating in the local economy.** By driving less household transportation costs are reduced. A vehicle costs about $10,000 a year to own and operate, second only to housing costs for the typical household. [28]The region already keeps an estimated $800 million circulating in the local economy every year due to less driving. [29]

- **Investing in the active transportation network is cost effective.** Active transportation projects are cheaper to build and maintain compared to auto related projects, while providing a high return on investment. Regionally, approximately 3% of federal and state transportation funding for capital projects is spent on pedestrian and bicycle projects, while 18% of all trips are made by walking and bicycling.[30] The City of Portland estimates that its current 300+ mile bikeway network was constructed for the approximate cost of one freeway interchange- $60 million.[31] Other jurisdictions have

[27] *ATP Benefits of Active Transportation and Considerations for Implementation* Report*,* 2013.

[28] *ATP Benefits of Active Transportation and Considerations for Implementation report.* Within the Portland region, working households spent 28 percent of their income on housing and 31 percent on transportation. On average, working families spend $10,383 on transportation. Driving includes the cost of owning a personal vehicle, gas, insurance, parking, and maintenance. Driving is more costly than bicycling or walking.

[29] *Portland's Green Dividend*, by Joe Cortright. July, 2007. CEO's for Cities.

[30] Metro, Existing Conditions, Findings and Opportunities report, 2012.

[31] The Oregonian *PolitiFact Oregon, 2011 and* Build it and they will come, April 2011. Roger Gelller, City of Portland.($2008).

documented even lower costs for building bicycle projects.[32] Constructing active transportation related projects creates more jobs than traditional roadway projects. [33]

- **Investing in the active transportation network supports tourism, jobs and industry in the region.** Providing active transportation infrastructure has been identified as a crucial element to attracting a skilled and quality workforce to the region.[34] In Portland, 68% of businesses involved in the SmartTrips Business program said that promoting biking and walking helped them market their business. [35] A study of several different communities in the region, both urban and suburban, found that found that while car drivers spend more at supermarkets and restaurants than the other transport modes, walkers, bikers, and public transport users visit the locations more frequently, and thus, over the space of a month, spend more.[36] And, the region benefits from $89 million a year in bicycle related tourism.[37]

- **Investing in the active transportation network supports development.** A Metro supported study found that public investment in high quality streetscapes, bicycle facilities, and transit service can "tip the scale" in the direction of development feasibility.[38] People are willing to pay more for homes that allow them to walk or bike rather than drive. [39]

- **Investing in the active transportation network increases transportation choices.** Completion of the recommended regional pedestrian and bicycle networks would increase transportation choices, including the choice for transportation for many more people in the region. Seventy-five percent of respondents to an Opt-In poll indicated that more dedicated bicycle lanes would encourage bicycle riding for transportation on a more frequent basis.[40]

[32] 2011 Draft- Cost Analysis of Bicycle Facilities (in the Portland metropolitan region), Initiative for Bicycle and Pedestrian Innovation (IBPI).

[33] *Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts,* 2011. Heidi Garrett-Peltier.

[34] *ATP Benefits of Active Transportation and Considerations for Implementation* report. For an example of a case study, refer to *Downtown Denver: A Magnet for the Future Workforce.* The Downtown Denver Partnership, Inc.

[35] 2011 City of Portland Smart Trips Business Annual Report.

[36] Clifton, Kelly J., Sara Morrissey, and Chloe Ritter. "Business Cycles: Catering to the Bicycling Market", TR News, 280, May-June 2012.

[37] The Economic Significance of Bicycle-Related Travel in Oregon, 2012. Dean Runyan and Associates.

[38] *The Impact of Amenities on Development Feasibility.* December 2010. Metro and Fregonese Associates.

[39] NY Times. "Now Coveted, a Walkable, Convenient Place to Live." June 5, 2012.

[40] Active Transportation Survey Results, Opt-In Survey2011.

- **Investing in the active transportation network addresses the needs of our most vulnerable residents and those that are "active transportation dependent."** Young people, poor and disabled people may not have the choice of driving. When the pedestrian and bicycle networks are incomplete, making access to transit more difficult, the most vulnerable suffer and feel unwelcome.

Are there negative impacts associated with active transportation?

The direct and derived benefits associated with active transportation are numerous. However, implementing active transportation projects can sometimes be challenging and raise concerns. These concerns are valid and should be addressed as projects are planned and developed, keeping in mind the benefits that active transportation provides and the trade-offs of not investing in active transportation. Common concerns include:

- **Environmental impact of new facilities on habitat and wildlife in environmentally sensitive areas.** As transportation projects are planned and developed impact on the environment must be taken into consideration along with safety and other impacts. Sensitive habitats and resources, such as wetlands, should be avoided when possible. Where not possible, sensitive design should be used to mitigate and reduce impacts.
- **Health impacts on people walking and bicycling in close proximity to auto exhaust.** Breathing polluted air impacts health. Recent Health Impact Analysis for the Climate Smart Scenarios project found that the benefits of increased physical activity outweighs the adverse effects of more exposure to auto pollution. Adding buffers of landscaping and trees along walking and bicycling routes help clean the air, reduce noise pollution, make the experience more pleasant and sometimes add habitat connectivity.
- **Reduced roadway capacity for auto and freight.** Adding missing pedestrian and bicycle facilities to roadways can impact other transportation modes, including transit and freight. These impacts should be minimized and the goal should be to integrate all modes so that all can function well. "Road Diets" are one way to reconfigure limited roadway space in a way that allows for the inclusion of wider sidewalks and separated bicycle facilities such as buffered bicycle lanes. Road diets reduce the number of lanes from an even number, such as four or six , with two, three, or more lanes traveling in each direction, to a an odd number of lanes, such as three or five, with a center turn lane, and usually allocate removed travel lane width to bicycle and pedestrian facilities. Road diets can have multiple safety and operational benefits, such as reducing the number of rear-end collisions, for autos, as well as pedestrians and cyclists.[41]

[41] *ATP Benefits of Active Transportation and Considerations for Implementation* Report*,* 2013.

- **Potential for more walking and bicycling crashes.** There can be a concern that encouraging people to walk and ride bicycles more often and improving infrastructure to make it easier will expose people to a greater risk of being hit by a car. Studies show that in most cases more walking and bicycling can lower crash rates and make the system safer for all users. Streets that are safer for walking and bicycling are typically safer for people driving too.

Designing the transportation network to integrate all modes will help the region achieve its transportation goals and targets.

Active transportation is for all ages and abilities. Connecting walking and bicycle routes to schools is an important strategy to increasing levels of active travel and keeping kids healthy and independent.

"The Portland metro region has long been a leader around the country in promoting active transportation. ATP brings together everything we know to date about active transportation and presents a vision of what our region will look like with walking and bicycling as key components of our transportation system. Implementing the ATP is the next step in creating the vibrant, livable, and equitable community that we all seek. Transportation advocates, partners in other diverse disciplines, policymakers from all the regional jurisdictions, business leaders, and friends in the community can align and focus their work using the guiding principles and recommendations presented in the Plan.

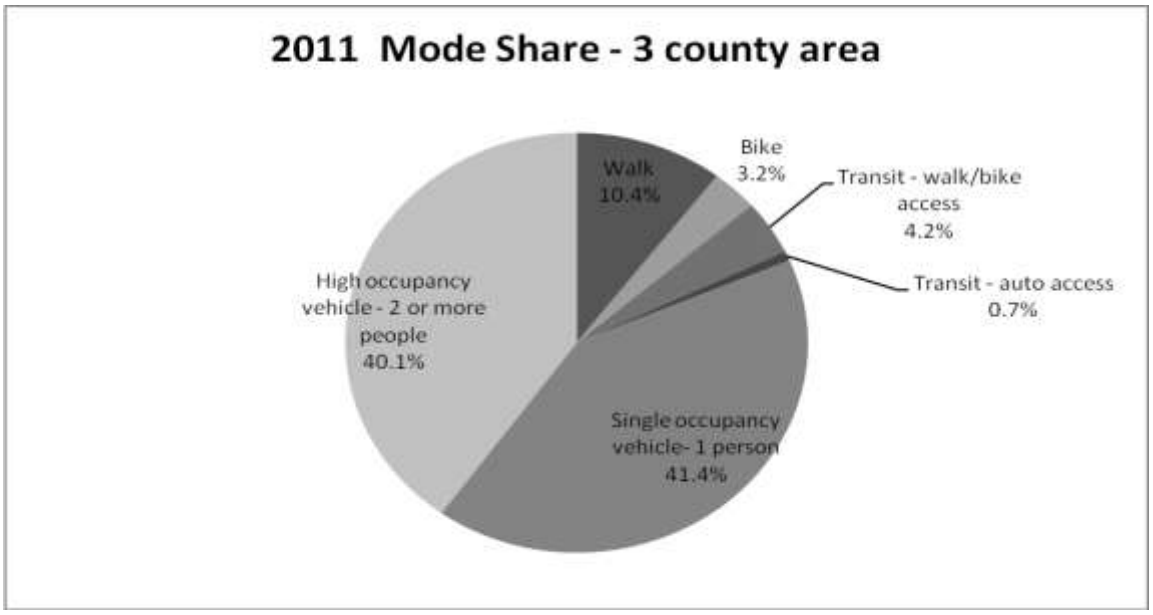
~Philip Wu, MD, Kaiser Permanente Northwest Region

CHAPTER 3: FINDINGS AND OPPORTUNITIES

The *ATP Existing Conditions, Findings and Opportunities Report* provides information and analysis of the existing regional bicycle and pedestrian networks. Findings from the report are summarized below. Refer to the Supplemental Reports section for information on the detailed report.

a) Regional levels of active transportation are increasing, especially bicycling. One in six of all trips in Multnomah, Clackamas and Washington counties are made by active transportation; 84% of all transit trips are accessed by foot or bicycle. The regional active transportation mode share increased 36% between 1994 and 2011, from 13.1% to 17.8% of all trips.[42] The regional bicycle mode share increased by nearly 191%, from 1.1% to 3.2%. Walking increased by over 14%. The graphic below shows regional mode share levels in 2011. The majority of trips made in the region are made by auto.[43]

Figure 1: 2011 Transportation Mode Share for the 3-County area



Source: 2011 Oregon Household Activity Survey for the 3-county area

Levels of walking and bicycling vary from community to community and are highly dependent on existing land use. Table 1, below provides additional detail on levels of walking, bicycling and transit use in the region.

[42] 2011 Oregon Household Activity Survey and 1994 Travel Behavior Survey.

[43] Unless otherwise noted, demographic data cited in this section is from the 2011 Oregon Household Activity Survey.

Table 1: Mode Share by Place of Residence, 1994 and 2011

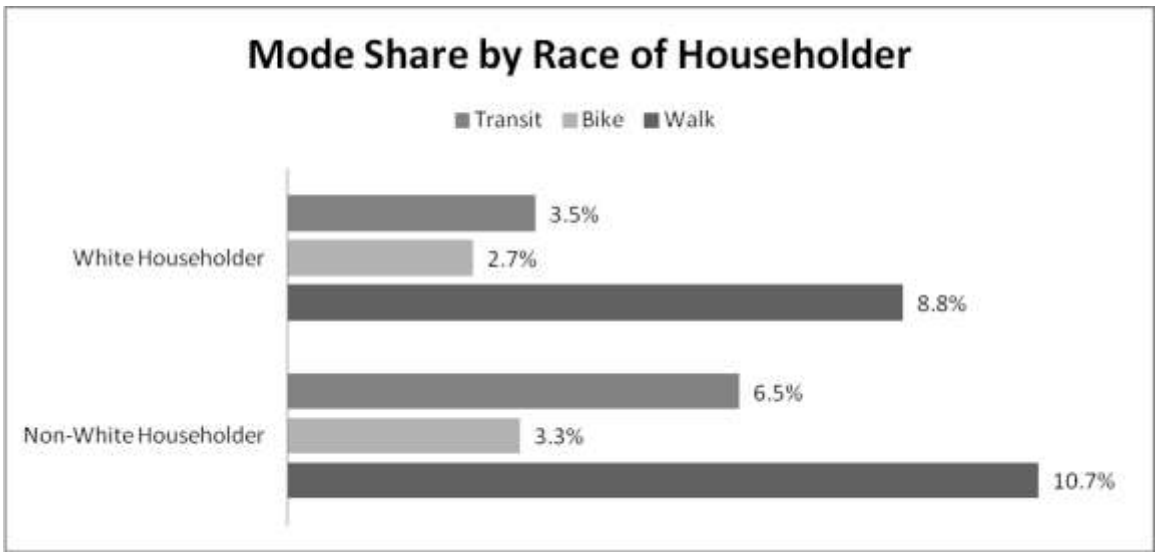
Area	Walk%		Bike%		Transit%		Auto%	
	1994	2011	1994	2011	1994	2011	1994	2011
Portland - Central City	37.6	36.4	2.2	7.1	13.6	18.7	46.5	37.8
Portland - Southwest	12.4	6.7	1.2	1.3	2.6	5.6	83.8	86.3
Portland - Northwest	20.6	24.3	1.4	4.5	4.3	7.8	73.7	63.4
Portland - North	*	10.4	*	4.0	2.8	7.7	84.1	77.9
Portland - Northeast	10.4	15.9	0.8	9.8	4.6	5.8	84.2	68.5
Portland - Southeast	12.3	17.5	2.6	7.5	6.8	5.8	78.3	69.1
Portland - East	6.8	10.3	0.5	1.8	5.1	6.9	87.5	81.0
Oregon - 3 Co Suburbs	6.3	7.4	0.7	1.5	1.7	3.9	91.2	87.2
Washington - Clark Co	6.9	4.7	1.1	1.0	1.0	1.4	91.0	92.8
4-County Area	8.7	9.2	1.1	2.8	2.9	4.2	87.3	83.8
City of Portland	13.0	15.0	1.6	6.0	5.5	6.6	79.8	72.4

*Travel Behavior Survey and 2011 OHAS. *There were insufficient bike samples in subarea 4 (Portland - North) in 1994-95. Combining bike and walk trips, the bike-walk mode share for subarea 4 households in 1994-95 was 13.1%.*

b) Lower income households in the region make more of their trips using active travel, especially walking, than do households with higher incomes. As level of income increases, so does the percentage of trips made by auto. Households with annual incomes of less than $35,000 make up to 25% of their trips walking, bicycling and taking transit.

c) Non-white householders in the region make a greater percentage of their trips by walking, bicycling and transit than white householders. Non-white householders make 20.5% of all their trips by walking and bicycling and transit, while white householders make 15% of all their trips by walking and bicycling and transit.

Figure 2: Transportation Mode Share by Race, 4-county area



Source: 2011 Oregon Household Activity Survey

d) Younger people in the region are making more trips by active transportation. For example, children under the age of 14 make over 23% of all walk trips (the highest of any age group) and over 15% of all bicycle trips in the region.

e) People between the ages of 25 and 34 make nearly 25% of their trips using active modes, the highest level of any age group.

f) People with disabilities rely on transit and walking more than people without disabilities. Nearly 7% of the population reports having a disability that affects their ability to travel. People with disabilities particularly rely on transit for travel.

g) The majority of all trips made by auto in the region are for short trips. Over 66% of all trips made by autos within the 4-county area are less than six miles in length, nearly 44% are less than three miles in length, and nearly 15% are less than one mile in length.

h) Current transportation plans do not achieve regional transportation targets. The 2035 Regional Transportation Plan project list does not achieve many of the region's adopted transportation targets, including a decrease in drive alone trips and reductions in greenhouse gas emissions, congestion and vehicle miles traveled and travel delay. An increase in active transportation would help achieve all of these targets.[44]

i) Levels of investment in active transportation do not match demand or need. Nearly 18% of all trips in Multnomah, Clackamas and Washington counties are made by walking or

[44] 2035 Regional Transportation Plan performance targets and measures.

bicycle, while stand alone bicycle, pedestrian and trail projects have received approximately 3% of transportation capital funds.[45]

j) Many of the region's arterial streets are also regional pedestrian and bicycle routes. Arterials often provide the most direct and efficient route for travel for all modes, especially in suburban areas where there may not be alternative parallel routes. Many essential destinations and services and transit stops are located on arterials. Regional trails and other pedestrian and bicycle routes intersect with arterials.[46]

k) Most serious pedestrian and bicycle crashes occur on arterials, at intersections and mid-block crossings. Over 52% of all serious bicycle crashes and 67% of all serious pedestrian crashes occur on arterials. Arterials have the highest crash incident rate of any facility type for all modes. Nearly 80% of serious and fatal pedestrian crashes occur at intersections and mid-block crossings and 52% of serious and fatal bicycle crashes occur at intersections.[47]

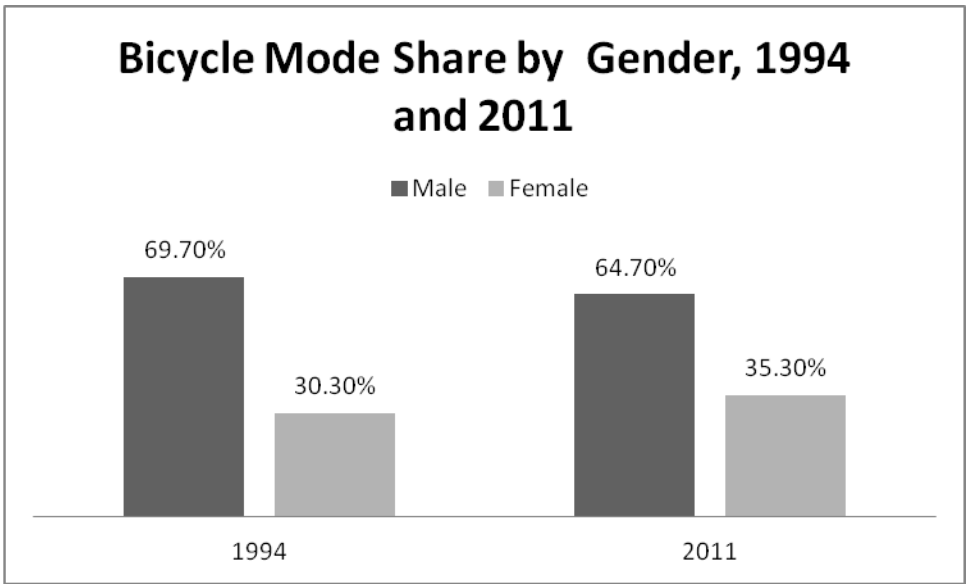
l) Women are still making fewer trips by bicycle than men, but that is changing. Women and girls are often seen as an "indicator species" for comfort of the bicycling environment. As the comfort and safety of the bicycling environment increases, so do the number of women and girls riding bicycles. Women in the region make 1.8% of their trips by bicycle, compared to 4% for men. However, the proportion of women riding bicycles is up 16.5% since 1994.

[45] 2010 Metro.

[46] 2012 Regional Transportation Safety Plan.

[47] Ibid.

Figure 3: Bicycle Mode Share by Gender, 1994 and 2011, 4-county area



Travel Behavior Survey and 2011 Oregon Household Activity Survey

m) Existing conditions for cycling vary across the region and present different opportunities and challenges to increasing bicycle ridership. Large differences exist for factors that influence cycling such as road connectivity, road density, topography, permeability, land use mix/density, as well as the existing bikeways in the region in terms of bike network density, bike network connectivity and bikeway comfort. Urban and suburban areas may need different strategies to increase bicycling.[48]

n) Major regional pedestrian and transit corridors and districts lack sidewalks, have high levels of traffic and high traffic speeds. These corridors often provide the most efficient and direct routes and access to services and destinations.[49]

o) People want to make more trips by bicycle and foot. National, regional and local polls indicate that people support investment in active transportation. In Multnomah, Clackamas and Washington counties 86-91% of respondents in each county were interested in using a bicycle more often for transportation and between 70-79% stated that they were interested in walking more for transportation purposes.[50]

p) Lack of data on walking and bicycling, especially accurate counts of pedestrian and bicycle activity, make it difficult to adequately measure demand and performance. What does not get counted, does not count. Current transportation models do not adequately

[48] Existing Conditions, Findings and Opportunities report, 2012.

[49] Ibid.

[50] Metro Opt-In Survey, 2011

represent walking and bicycling. Adequate data will make sure that investments in bicycling and walking are cost efficient.

q) Regional investment in walkable and bikeable communities is a contributing factor to people engaging in more physical activity and lower rates of obesity compared to national and state levels. Among other factors, the built environment, such as street connectivity/density and density and quality of pedestrian and bicycling infrastructure contribute to how much people, walk, ride bicycles and take transit.[51]

r) Programs and education help reduce the number of trips made by auto in the region. Nearly 19% of the region's population has reduced their car trips as a result of Drive Less Save More, resulting in a conservative estimated 21.8 million reduction in vehicle road miles, which translates into a reduction of about 10,700 tons of CO2. The City of Beaverton's Findley Elementary School reduced the number of autos dropping and picking up students from 800+ a day to 400 cars by introducing a Safe Routes to School Program.[52]

s) There are areas of the region with incomplete bicycling and walking facilities, less access to essential services and destinations, and higher concentrations of environmental equity issues and underserved communities, including communities in East Multnomah County; City of Portland east of I-205; areas of North Portland; areas along McLoughlin Blvd. and 82nd Avenue; areas of unincorporated Clackamas County; including the North Clackamas Revitalization Area; Forest Grove; Cornelius; Aloha and Beaverton.[53]

t) Crashes and the resulting injuries and deaths cost the region $958 million a year in property damage, medical costs, and lost productivity. Studies have found that more people walking and riding bicycles make it safer to walk and ride a bicycle and increase road safety records for all users.[54]

u) Investments in active transportation have provided a high return on investment and multiple benefits to the region. Comparatively small investments in active transportation projects and programming have benefitted the region on multiple levels, including cleaner air and water, healthier people, lower transportation costs, increased development feasibility and safer streets.[55]

[51] Existing Conditions, Findings and Opportunities report, 2012.

[52] Ibid.

[53] Ibid.

[54] Metro State of Safety Report, 2012.

[55] Existing Conditions, Findings and Opportunities report, 2012.

v) Active transportation trips are being made for a variety of purposes, not just commuting. Active transportation trips are consistently undercounted due to a reliance on U.S. Census data which only collects information on travel to work. In the region, 19% of all trips to work, 15% of all trips to school, and 16% of all errands, entertainment and social trips are made by walking or bicycling.[56]

Data is essential to effective planning, implementation and measurement. Accurate use counts are a key piece of data that is needed. Photo: BikePortland

"ODOT and Metro have recognized the need for an Active Transportation Plan. This would put walking and biking on a par with driving for transportation planning purposes."

~Peter Goodkin, MD, Chair, Clackamas County Pedestrian and Bicycle Advisory Committee

[56] 2011 Oregon Household Activity Survey.

CHAPTER 4: POLICY CONTEXT

The ATP builds on and was developed within the context of existing state, regional and local visions and polices that support and promote active transportation. The ATP vision, guiding principles, recommended networks, policies and implementing actions described in the next chapters were identified to help implement state, regional and local visions, plans, goals and targets. Chapter 4 of the ATP Existing Conditions, Findings and Opportunities report describes the ATP policy framework in detail. A snapshot of existing visions is provided below.

- The **Oregon Transportation Plan** provides a transportation plan for the state and establishes "a vision of a balanced, multifaceted transportation system leading to expanded investment in non-highway transportation options".[57]
- The **2050 Oregon Statewide Transportation Strategy** provides a strategy and vision for reducing green house gas emissions.[58] The strategy describes a future Oregon that features: improved public transportation service, bicycling and walking; fuel efficient and alternative energy vehicles; enhanced information technology; more efficient movement of goods; and walkable mixed use communities.
- The **2035 Regional Transportation Plan** provides a vision "to ensure that the Portland region remains prosperous and vibrant by improving safety, expanding transportation choices for everyone, enhancing human health and protecting the natural environment." [59] The ATP vision, plan, policies and actions were identified to help implement the Goals and Objectives of the 2035 Regional Transportation Plan.
- TriMet's **Transit Investment Plan** includes a vision "to make the Portland region the most livable in the country" and a mission to "build and operate the total transit system", including easy access to stations and stops.[60] SMART's **Transit Master Plan** provides a vision where "transportation and recreation are critical facets of life" and when "planned in unison, these elements offer complete connectivity and interrelated opportunities". [61]
- **Plans of local jurisdictions** provide visions and aspirations for communities. Local pedestrian and bicycle plans identify priorities that the ATP knits together.

[57] Oregon Transportation Plan, Volume 1, September 2006.

[58] Oregon Statewide Transportation Strategy, A 2050 Vision for Greenhouse Gas Emissions Reduction, Volume 1, accepted March 2013.

[59] 2035 Regional Transportation Plan, Chapter 2.3.

[60] TriMet, Transit Investment Plan, FY 2012.

[61] SMART Transit Maser Plan, City of Wilsonville, September 2007.

Integrating walking, bicycling and transit makes the combined networks more effective, better serving residents and visitors alike. Bringing your bicycle on board a MAX train is easy and convenient. Bicycle parking at stations and destinations, pedestrian crossings at transit stops, bus stop shelters, way finding and lighting are some of the improvements that local governments and the region's transit agencies are making to make a fully supported active transportation network.

"TriMet strongly supports the regional Active Transportation Plan, which will help make walking, biking and transit safer and more attractive. We are especially interested in how the active transportation network complements the regional transit network to improve access and mobility, while using innovative design to ensure safe and efficient operations and interactions between all modes."

~Neil McFarlane, TriMet General Manager

CHAPTER 5: VISION FOR 2035

Expanding and completing the regional bicycle and pedestrian networks and fully integrating them with transit will take time. Projects are completed in increments, sections of sidewalk or bicycle lanes are added as development occurs or roads are modernized, routes are expanded as new funding is identified. Because developing a fully integrated and complete network will take time, a vision for the future is essential. Like most visions, the ATP vision for the region in 2035 describes **something perhaps not fully attainable by that year**, **and yet something we should strive for**; a vision to guide the collaborative and collective work across the region so that the pieces join together in a meaningful whole.

> *In 2035, convenient and safe access to active transportation has helped create and maintain vibrant communities in the region. Connected and safe pedestrian, bicycle and transit networks provide transportation choices throughout the region. People of all ages, abilities, income levels and backgrounds can walk and bike easily and safely for many of their daily needs and the walking and bicycling environment is welcoming to them. A majority of the short trips in the region are made by bicycling and walking. Children enjoy independence walking and biking to school and elders are aging in place and can get around easily without a car. Active transportation contributes significantly to the region's economic prosperity. Household transportation costs are lowered, roadways are less congested and freight experiences less delay. People enjoy clean air and water, and because they incorporate physical activity into their daily routines they are healthier and happier.*

CHAPTER 6: GUIDING PRINCIPLES & EVALUATION CRITERIA

The following ten guiding principles were developed by the ATP Stakeholder Advisory Committee to guide development of the regional active transportation network. Development of a connected, safe and comfortable network is a key element of achieving the 2035 vision for active transportation and Regional Transportation Plan transportation goals and targets. Future evaluations and performance measures can refer to the guiding principles to evaluate how well we are implementing the vision.

1. Cycling, walking, and transit routes are integrated and connections to regional centers and regional destinations are seamless.
2. Routes are direct, form a complete network, are intuitive and easy-to-use and are accessible at all times.
3. Routes are safe and comfortable for people of all ages and abilities and welcoming to people of all income levels and backgrounds.
4. Routes are attractive and travel is enjoyable.
5. Routes are integrated with nature and designed in a habitat and environmentally sensitive manner.
6. Facility designs are context sensitive and seek to balance all transportation modes.
7. Increases corridor capacity and relieves strain on other transportation systems.
8. Increases access to regional destinations for low income, minority, disabled, non-English speaking, youth and elderly populations.
9. Measurable data and analysis inform the development of the network and active transportation policies.
10. Implements regional and local land use and transportation goals and plans to achieve regional active transportation modal targets.

Criteria for evaluating and identifying recommended networks

The Stakeholder Advisory Committee developed a set of criteria that were used to evaluate the impact of improvements to the pedestrian and bicycle networks and to provide information to identify the recommended networks.

- **Access.** How well does the network improve access to destinations?
- **Safety.** How well does the network make it safer to walk and ride a bike for all users, regardless of age and ability?
- **Equity**. How well does the network increase access for low-income, minority and other underserved populations?
- **Increased activity.** How well does the network increase the number of trips made by walking and bicycling.

CHAPTER 7: EVALUATION SUMMARY

The ATP evaluated improvements to the regional pedestrian and bicycle networks to provide information on where and how improvements to the networks would impact access to destinations, safety, transportation equity and increased walking and bicycling activity. A description and results from the evaluation are summarized below. Detailed results from the evaluations are provided in the 2013 Regional Pedestrian Network Analysis and 2013 Regional Bicycle Network Evaluation.[62]

The evaluation was used to develop the recommended pedestrian and bicycle networks described in Chapters 8, 9 and 10. Input from agencies, jurisdictions and stakeholder was also used to develop the recommended networks.

Potential improvements to the pedestrian and bicycle networks were evaluated using Metro's transportation model and Geographic Information Systems (GIS) analysis. Improvements included completing sidewalks on the regional pedestrian network, completing regional trails, adding separated bicycle facilities on roadways with high traffic volumes and speeds, bridges and improved crossings. Data used in the analysis included population and employment densities in 2010 and 2035, U.S. Census tracts with high percentages of underserved populations, regional bicycle and pedestrian networks and locations of essential and regional destinations.[63]

Regional Bicycle Network Evaluation

Various improvements to the regional bicycle network were analyzed using Metro's bicycle modeling tools and GIS. All bicycle and trail projects currently programmed in the 2035 Regional Transportation Plan were included as improvements. In addition to these projects, the impact of additional projects and improvements not currently programmed in the 2035 Regional Transportation Plan in the were analyzed, including regional trails, separated and complete bicycle routes on major roadways that serve as key bicycle connections, bicycle boulevards and crossings of current barriers. Results of the evaluation, summarized below, provided information to help identify the recommended Regional Bicycle Network (Chapter 9).

- Areas of the region that increased bicycle network density in 2035 saw an increase in bicycle activity. Areas with less density saw less of an increase.
- Bicycle mode share increases the most for commuting trips, indicating the need to connect bicycle routes to jobs.

[62] The evaluations provide broad brush results at a regional scale. These evaluations do not take the place of more detailed evaluations of projects and the impacts of those projects.

[63] Underserved populations include low income, low-English proficiency, non-white, elderly (over 65) and young populations (under 18).

- In general, planned investments in the regional bike network (in the 2035 Regional Transportation Plan) increase bicycle network density in areas with above average underserved populations (in 2010). However, several areas with underserved populations continue to have lower bike network density, compared to other parts of the region:
    - Forest Grove
    - Cornelius
    - Hillsboro South
    - Hillsboro Central
    - Beaverton – East/Raleigh Hills/Washington Square
    - Beaverton- South /Aloha South
    - Tigard
    - Milwaukie – North/ Clackamas Regional Center
    - N. Portland – St. Johns
    - NE Portland – Cully/Rose City Park/Rocky Butte
    - Happy Valley
    - Central Gresham/Wood Village/Fairview

- Protected bicycle facilities increase safety. As the miles of protected bicycle facilities increases, such as trails and cycletracks, the number of bicycle miles traveled on those types of facilities increases, while the number of miles of bicycle facilities on standard five foot bicycle lanes or routes with no separated facilities decreases. This indicates an increase in bicycling safety since more miles traveled by bicycle are on facilities more fully separated from traffic. An increase in safety can be translated into a reduction crash related costs.
- While investment in trails and cycle tracks see a high return on the number of bicycle miles traveled on those facilities, it is important to note that even under the most ambitious scenarios, standard bicycle lanes still account for 55% of bicycle network facilities.
- Bicycle Parkways have about 2.5 times more bicycle traffic than the average bicycle facility, indicating that the importance of the routes and the importance of separated facility designs.
- Routes on the perimeter of the urban growth boundary have lower volumes of bicycle travel due to population levels. However, these routes provide key connections that get people to the higher demand routes.
- Trails and cycle tracks are highly desirable facility types. Trails and cycle tracks that are in denser population and employment areas and connect to destinations tend to attract more bicycle trips. Diagonal routes also showed a high level of demand for bicycle trips.
- Land use is a key factor in the demand and use of bicycle routes. Bike routes in areas with a lot of destinations show higher volumes of trips, even when no bicycle

facilities exist or they are unimproved. This indicates the need to provide bicycle facilities in areas that are destination rich.

- Areas in the region that show the highest level of bicycle activity (other areas show substantial activity, and all areas of the region show bicycling activity):
    - Downtown Portland
    - Inner SE Portland
    - Outer East Portland/West Gresham
    - Central Gresham/Wood Village/Fairview
    - SW Portland
    - Beaverton - South/Aloha-South
    - Beaverton North
    - Tigard
    - SE Portland – Eastmoreland/Woodstock/Foster
    - Inner NE Portland

- Facilities added that overcome barriers saw a relatively large number of bicycle trips. All bridges, existing and added, showed demand for bicycle trips.

Regional Pedestrian Network Evaluation

Various improvements to the Regional Pedestrian Network were analyzed using GIS tools. The analysis estimated the impact of potential improvements to the regional pedestrian network on walking. The analysis compared the potential for walking based on existing pedestrian infrastructure (e.g. sidewalks, trails, signalized crossings) with a future scenario in which gaps and deficiencies in the pedestrian network have been addressed through pedestrian facility projects.

The analysis helped identify where gaps and deficiencies in the network separate people from essential destinations, which can help determine which projects will provide the most benefit in increasing access, safety and equity. Results of the evaluation, summarized below, provided information to help identify the recommended Regional Pedestrian Network (Chapter 10).

- Areas where there are concentrations of people within close proximity to destinations but that lack walking facilities to connect them were identified in the analysis. [64] Areas where the improvements provided access to the most people were identified:
    - Top pedestrian districts include Tigard, Washington Square, and Millikan Way. Millikan Way, Beaverton Creek and Gateway are in the top 10 for increased access and also have a high percentage of underserved populations.

[64] The top 10 corridors, districts and trails that provide the greatest increase in the number of people with walking access to destinations are provided in Table 2 in the Regional Pedestrian Analysis report, June 2013.

- Top pedestrian corridors include Beaverton to Tualatin, Hillsboro to Cedar Mill, and SW Oleson Rd./SW Greenburg Rd. Beaverton to Tualatin, Hillsboro to Cedar Mill, and Powell Boulevard are in the top 10 for increased access and also have a high percentage of underserved populations.

- Top regional trails include Fanno Creek Trail, I-205 Corridor, and Beaverton Creek Trail. I-205 Corridor, Beaverton Creek Trail, Columbia Slough Trail and Highway 217 Trail are in the top 10 for increased access and also have a high percentage of underserved populations.[65]

- The analysis identified the percentage of census block groups within each pedestrian area (district, corridor, and trail) that contain an above average share of underserved populations. This allows for the analysis to identify, for example, where areas with high potential to improve access would also serve significant populations of underserved groups.[66], [67]

    - Pedestrian districts with the highest percentage of underserved populations include Beaverton Creek, 148th Ave. and Rockwood. Nearly all of the "top scoring" districts also score highly in the access and cost per person with increased access metrics. The exception is Hillsboro, which scores low in the access metric because a large percentage of the population is already within walking access to destinations.

    - Pedestrian corridors with the highest percentage of underserved populations include Forest Grove to Cornelius (Tualatin Valley Highway), SE 155th/Milmain, and Aloha to Beaverton. Many also score highly in the access and cost per person with increased access metrics.

    - Regional trails with the highest percentage of underserved populations include the Highway 47 Trail, Council Creek Trail, and MAX Path. Many,

[65] Hwy 217 Trail is not included on the ATP networks as it has not yet been identified on Beaverton's Transportation System Plan. It is included on the Regional Trails and Greenways map.

[66] The top 10 corridors, districts and trails with the highest percentage of underserved populations are provided in Table 4. Since it is not possible to forecast the distribution of future populations by sub-group, the analysis assumes a distribution of population sub-groups for 2035 (the year used for this analysis) similar to 2010.

[67] It is important to note that concentrations of underserved populations may still be present in areas with low equity scores. This is especially the case for Pedestrian Corridors, whose length may pass through areas with above average numbers of underserved populations, but due to the length of the corridor the Equity score gets 'washed out.' Examples of these corridors are: Murray Scholls to Cedar Mill (#10); Halsey (#40); Fremont (#49), Sandy (#52), Cully (#53), Powell (#57), Troutdale to Gresham (#60). The potential for investments in different areas to improve access for people with physical disabilities is illustrated in Appendix E of the Pedestrian Analysis Report, which identifies the frequency of lift deployments at TriMet bus stops.

though not all, of the trails also score highly in the access and cost per person with increased access metrics.

- Sub-areas with the greatest projected increase in *total walking trips* between 2010 and 2035 are: Urban Clark County (78,207), Portland Central City (76,109), North Washington Suburbs (34,765), Clackamas Eastside Suburbs (28,830) and Portland SE to I-205 (20,767).[68]
- Sub-areas with the greatest projected increase in *percentage* of walking trips between 2010 and 2035 are: Portland East of I-205 (20.4% increase), Portland North (11.8%), Clackamas Eastside Suburbs (11.7%), North Washington Suburbs (9.2%), and South Multnomah Suburbs (8.9%).

Connecting people to the places they want to get to is a key strategy in making walking and bicycling attractive. Photo: Washington County Visitors Association

[68] Walking mode share estimates were provided by Metro's transportation modeling tools

CHAPTER 8: AN INTEGRATED ACTIVE TRANSPORTATION NETWORK

An integrated transportation network responds to needs of people, understanding that different travel modes satisfy different needs. People want all of their transportation choices to function well and to be integrated so that moving between modes is easy and seamless. Many people in the region incorporate walking, transit, riding a bicycle and driving into daily travel.

For active travel, transitioning between modes is easy when wayfinding is coordinated; transit stops have shelters and places to sit; maps and mobile apps are available for all modes; safe and secure bicycle parking is provided at transit and destinations; bicycles are accommodated on-board transit; ample room is provided for bicyclists and pedestrians on shared facilities.

The ATP networks were developed to:

- Provide access to the transit network;
- Provide access to regional destinations, including jobs, regional and town centers, schools, parks and essential daily services;
- Improve safety for walking and bicycling;
- Increases walking and bicycling access for underserved populations;[69]
- Increase levels of walking and bicycling to achieve regional and local transportation plans, goals and targets.

Linking Transit, Biking and Walking Supports Transit

Establishing pedestrian and bicycle connections to bus and train stations helps extend the reach of the transit network, making trips made by transit feasible for more people. Connections include:

- Filling sidewalk and trail gaps within a mile of stops and stations.
- Filling bicycle network gaps within three miles of stops and stations.
- Including transit information on bike and pedestrian wayfinding.
- Providing shelters and seating at stops and stations.
- Having protected crossings at stations and stops.
- Integrating trail connections into transit stations.
- Including secured, covered bicycle parking or Bike N Rides at stations and stops.
- Allowing bicycles on board transit.
- Exploring the use of apps to let bicycle riders know if a bus or train has bicycle space available.
- Locating transit stops and stations on bicycle and pedestrian maps

Connections to regional destinations

An integrated active transportation network provides access to regional destinations by bike, foot and transit. The ATP Regional Destinations

[69] Underserved populations include low income, low-English proficiency, non-white, elderly (over 65) and young populations (under 18).

Map illustrates how the pedestrian and bicycle networks link to transit and other regional destinations. Evaluation of improvements to the regional pedestrian and bicycle networks included evaluating how improvements increased access to these destinations.

New and updated functional classifications for the ATP regional bicycle and pedestrian networks clarify how regional active transportation routes function in the broader transportation network. The classifications are intended to develop thresholds for the functioning of active transportation network, focusing on corridors and districts where people want to access regional destinations by walking and riding bicycles. The next three chapters describe the pedestrian and bicycle network concepts and the network functional classifications. Access to the regional public transportation network is highlighted on the network maps, emphasizing that public transit is a vital part of the active transportation network.

Integrating walking, bicycling and transit puts the region at your feet.

Active Transportation Plan

Regional Destinations

Shows overlap of regional destinations with regional pedestrian, bicycle and frequent transit routes, city and town centers and station communities. Regional destinations are major attractors and trip generators that serve many people and include: large employers, colleges and high schools, libraries, regional shopping centers, airports, hospitals and major medical centers, regional parks, major social service sites and bus stops with high volumes of riders.

Vancouver
Portland
Washougal
Cornelius
Forest Grove
Hillsboro
Beaverton
Tigard
Lake Grove
Sherwood
Wilsonville
Milwaukie
Gresham
Fairview
Happy Valley
Damascus
Boring
Sandy
West Linn
Gladstone
Oregon City
Estacada
MULTNOMAH CO.
WASHINGTON CO.
CLACKAMAS CO.
YAMHILL CO.
NW Glencoe Rd
NW Cornelius Pass Rd
NW Gales Creek Rd
N Main St
S Main St
NW Scoggins Valley Rd
NW Cornell Rd
NW Barnes Rd
NW Burnside Rd
NW Lovejoy St
NW Yeon Ave
N Marine Dr
N Portland Rd
N Columbia Blvd
N Denver Ave
N Interstate Ave
NE Lombard St
NE Marine Dr
NE Sandy Blvd
NE Weidler St
E Burnside St
NE 82nd Ave
NE 122nd Ave
NE 181st Ave
NW 257th Ave
SE Stark St
SE Division St
SE Powell Blvd
W Powell Blvd
SE Foster Rd
SE Hogan Rd
SE Kane Dr
SE Orient Dr
SE Bluff Rd
SE Compton Rd
SE Sunnyside Rd
SE 242nd Ave
SW Baseline St
SW Oak St
SW Pacific Ave
SW 19th Ave
SW 185th Ave
SW Walker Rd
SW Canyon Rd
SW Baltic Ave
SW Harbor Dr
SW Barbur Blvd
SW Capitol Hwy
SW Kruse Way
SW Boones Ferry Rd
SW Dakota Dr
SW Tualatin Sherwood Rd
SW 65th Ave
SW Stafford Rd
SW Borland Rd
S State St
A Ave
Willamette Falls Dr
S Clackamas River Dr
S Redland Rd
S Springwater Rd
S Beavercreek Rd
S Henrici Rd
SW Unger Rd
SW Farmington Rd
SW River Rd
SW Bald Peak Rd
SW Laurelwood Rd
SW Dixon Mill Rd
E Main St
SW Hardebeck Rd
Spring Hill Rd
NW Amberwood Dr
NE Cornell Rd
NW 185th Ave
SE 1st Ave
Bluff Rd
Pioneer Blvd
0
2.5
5 Miles

- Regional park
- School[1]
- Business[2]
- Shopping center
- Airport
- Hospital
- Library
- City hall
- Significant bus stop[3]
- Regional active transportation network
- Services[4]

[1] High schools, colleges and universities. [2]Employment sites with 300 or more employees.
[3]High ridership bus stop locations identified by TriMet. [4]Tri Met LIFT paratransit service.

CHAPTER 9: RECOMMENDED REGIONAL BICYCLE NETWORK

The ATP recommended regional bicycle network is an interconnected network off-street trails and on-street separated bikeways linking bicycle districts. The recommended network is shown on the Recommended Regional Bicycle Network Map. The map shows Bicycle Parkways, Regional Bikeways, Bicycle Districts, transit stops and bicycle transit facilities. Bicycle transit facilities are often referred to as Bike & Rides and include protected, secure bicycle parking. Some can include showers and bicycle repair, such as the Bike & Ride in Hillsboro.

The recommended regional bicycle network identifies approximately 1,400 miles of Bicycle Parkways and Regional Bikeways and seventy-four bicycle districts.[70] The network builds on the currently adopted regional bicycle network and bicycle networks identified in local transportation system plans. [71]

Bicycle Parkways	
On-street routes	267
Off-street (trail) routes	222
Regional Bikeways	
On-street routes	705
Off-street (trail) routes	212
Total miles	**1406**

How were the routes identified? Most of the routes were already identified in the 2035 Regional Transportation Plan. New routes were identified in local plans and corridor plans and from recommendations of the Stakeholder Advisory Committee and other stakeholders. Information from the existing conditions and bicycle network analysis guided the development of the Regional Bicycle Network Concept.[72] Approximately 225 miles of new routes (a 19% increase) were identified and added to the recommended regional bicycle network. Approximately 70 miles of regional trails were added to the network and approximately 150 miles of roadways were identified as regional bicycle routes. Regional trail additions were identified through the update of the Regional Trails and Greenways inventory and map. Trail alignments were updated and refined and local jurisdictions and stakeholders had the opportunity to add or remove trails to the network and map. Additional roadway routes were identified by local jurisdictions. Routes that showed a high level of demand, but that are not currently on the 2035 Regional Transportation Plan bicycle network map are recommended as new routes, for example Foster Road in the City of Portland.

REGIONAL BICYCLE NETWORK CONCEPT

The Regional Bicycle Network knits together local bicycle routes into a cohesive, connected regional network. Bicycle Parkways and Regional Bikeways connect to and through Bicycle

[70] Mileage numbers are approximate and will be updated based on potential refinements of the map made during the 2014 update of the Regional Transportation Plan.

[71] Chapter 2, 2035 Regional Transportation Plan, Regional Bicycle Network, page 2-62.

[72] Regional Bicycle Network Evaluation, 2013 and Existing Conditions, Findings and Opportunities report, 2012.

Districts. Routes and Districts on the Regional Bicycle Network are areas where high levels of bicycling exist or are planned. Many destinations, such as transit, schools, parks, jobs, shops, entertainment and essential services that people want to bicycle to are located in Districts or along or near Parkways and Bikeways; often the Districts, Parkways and Bikeways are destinations themselves. The Regional Bicycle Network is well integrated with the regional transit networks and is safe, direct, and enjoyable to use. Connections to transit are convenient and safe, waiting areas are comfortable and safe.

Three separate bicycle network concepts were developed and evaluated to identify the preferred regional bicycle network concept. A description of the evaluation is provided in the supplemental ATP report "Regional Bicycle Network Evaluation", April 2013. The recommended concept provides a denser network of bicycle parkways than the three scenarios tested; this is in part due to input from local jurisdictions, agencies and stakeholders, as well as outcomes of the evaluation that demonstrated the benefits of increased density and connectivity of a network of Bicycle Parkways and Regional Bikeways. The recommended network concept includes:

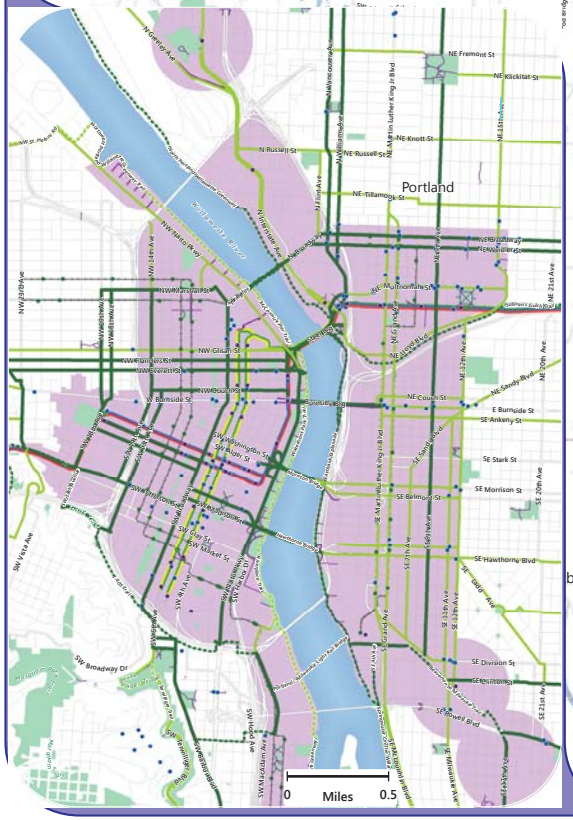
- A bicycle parkway in each of the region's Mobility Corridors within the urban growth boundary.
- A network of bicycle parkways, spaced approximately every two miles, that connect to and/or through every to town and regional center, many regional destinations and to most employment and industrial land areas and regional parks and natural areas (all areas are connected by regional bikeways, the next functional class of bicycle routes).
- A network of regional bikeways that connect to the bicycle parkways, providing an interconnected regional network. Local bikeways connect to bicycle parkways and regional bikeways.
- Regional bicycle districts. Regional and town centers and station communities were identified as bicycle districts, as well as pedestrian districts.

Improving the regional bicycle network improves the livability of neighborhoods and the vibrancy of commercial districts. Photo/rendering: Foster Road United.

Active Transportation Plan

Recommended Regional Bicycle Network

D R A F T 1.5



Regional Bicycle Network Functional Classifications

Two functional classes are applied to regional bicycle routes and replace the existing functional classes in the 2035 Regional Transportation Plan. Applying functional classifications to identified routes helps achieve coherent, continuous, recognizable and easy to follow routes. Bicycle Parkways are the highest functional classification for regional bicycle routes. They form the spine of the regional bicycle network and are connected to and by Regional Bikeways, the second functional classification for regional bicycle routes. Bicycle Parkways and Regional Bikeways connect to and through Bicycle Districts**.** The recommended regional bicycle network identifies Bicycle Parkway and Regional Bikeway routes that demonstrated a high level of demand in 2010 and 2035 in the network evaluation, provide connections to jobs, transit and destinations and serve underserved populations (in 2010). Routes on the edge of the urban area showed less activity compared to other areas. Therefore, routes on the edge of the urban areas are Regional Bikeways. Regional bikeways may experience less demand than bicycle parkways, however they provide key routes and connectivity on the regional network; bicycle parkways would not function without them.

The regional bicycle network has a functional hierarchy similar to that of a street network. Location of frequent and almost frequent transit stops and bicycle transit facilities are included on the network.

Bicycle Districts are a new concept for the Regional Transportation Plan and were added to the regional bicycle network through the ATP. As a starting place, the Central City, Regional and Town Centers and Station Communities are identified as Bicycle Districts.[73] A Bicycle District is an area with a concentration of transit, commercial, cultural, institutional and/or recreational destinations where bicycle travel is attractive, comfortable and safe. Bicycle Districts are areas where high levels of bicycle use exist or a planned. Within a Bicycle District, some routes may be designated as Bicycle Parkways or Regional Bikeways, however all routes within the Bicycle District are considered regional.

Which areas are designated as Bicycle Districts should be considered further and is identified in the implementing activities of the policy section; Bicycle Districts may need to be added or removed. Since all Station Communities are currently identified as Bicycle Districts, bus stops with high ridership could also be considered as potential Bicycle Districts. Additionally, some Main Streets on the regional network could also be considered for expansion as Bicycle Districts, as well as other areas.

[73] These are 2040 Growth Concept Design Types identified in the 2035 Regional Transportation Plan.

Bicycle Districts can include elements such as bike corrals.
Photo: BikePortland

Bicycle Parkways are a new functional class for the regional bicycle network and are the highest functional class for bicycle routes. Bicycle Parkways are high quality routes and make up the spine of the bicycle network – the highways of bicycle travel. They provide safe, comfortable and efficient bicycle travel within and between centers. They provide connections to key destinations and routes outside of the region. Based on current research and evaluation of the regional bicycle network Bicycle Parkway routes were identified because they:[74]

- Provide the most direct and efficient route.
- Link population, employment and regional destinations.
- Have the potential to allow for safe and comfortable travel separated from auto traffic.
- Showed high levels of bicycle trips in transportation modeling.
- Overcome barriers to bicycle travel.

Parkways can be any type of facility, such as a bicycle lane, cycle track, bicycle boulevard, or trail, which provides an enhanced bicycle experience that feels safe and comfortable. Design guidelines outlined in Chapter 11 provide examples of the types of designs that can be used to develop Bicycle Parkways. Separated in-street bikeways can be designed in many ways including bicycle lanes, wide bicycle lanes, buffered lanes, passing bicycle lanes, and colored bicycle lanes, using parking as a buffer to a raised path alongside the road. Bicycle boulevards are typically low traffic streets that use traffic calming and wayfinding to prioritize pedestrian and bicycle travel,

[74] Regional Bicycle Network Evaluation, April 2013.

and can serve as parkways if they are direct, have protected crossings, and route signage. Trails should ensure adequate separation between people riding bicycles and walking and should provide convenient and safe crossings of streets.

Bicycle Parkways are spaced approximately every two miles on the regional bicycle network, and connect to and/or through every urban center, many regional destinations and to most employment and industrial land areas and regional parks and natural areas ;all areas are connected by Regional Bikeways, the next functional class of regional bicycle routes). Refer to the Regional Destinations map. Each Mobility Corridor within the urban area has an identified Bicycle Parkway.[75]

Example of a raised cycle track that is a Bicycle Parkway. Cully neighborhood, Portland. Photo: BTA

Shared use paths identified as regional bicycle parkways are also regional pedestrian parkways. Adequate width and separation between pedestrians and bicyclists are provided on shared use path parkways.

[75] There are twenty-four transportation, or Mobility Corridors, in the region. The corridors are sub-areas that include all regional transportation facilities within the subarea as well as the land uses served by the regional transportation system. This includes freeways and highways and parallel networks of arterial streets, regional bicycle parkways, high capacity transit, and frequent bus routes.

Example of a shared use path that is a Bicycle Parkway. Ki-a-Kuts Bridge, Tulatain. Photo: The Oregonian

Regional Bikeways can be any type of facility, including off-street trails, separated in-street bikeways (such as buffered bicycle lanes) and bicycle boulevards. On-street Regional Bikeways located on arterial and collector streets are designed to provide separation from traffic. Regional Bikeways connect to Bicycle Parkways and complete the regional level network of bicycle routes.

Example of a Regional Bikeway. Regional Bikeways connect to Bicycle Parkways.

Local Bikeways trails, streets and connections not identified as regional bicycle routes, but they are very important to a fully functioning network. Local bikeways are the local collectors of bicycle travel. They are typically shorter routes with less bicycle demand and use. They provide for door to door bicycle travel.

Can alternate or parallel routes be used if the identified routes turn out to have too many constraints? It is anticipated that as plans and projects develop Bicycle Parkway and Regional Bikeway routes could change, including moving from a regional arterial to a parallel route of low-stress streets. Bicycle Parkways and Regional Bikeways can make use of various types of facility designs, including off street trails, low traffic side streets and major urban arterials. If routes are changed, the new route must provide the same direct, easy access to destinations, prioritize bicycle travel, and provide separation from auto traffic on roadways with higher levels of traffic and speeds.

Changes to the regional bicycle and pedestrian maps are made by submitting a map change request to Metro. Maps in the Regional Transportation Plan are updated during each Regional Transportation Plan update. The recommended bicycle and pedestrian maps in the ATP are recommended for inclusion in the update of the 2014 Regional Transportation Plan; the maps in the ATP are draft until finalized during the 2014 update of the Regional Transportation Plan.

"If we are to meet our regional transportation goals we must recognize that every bicycle trip is of regional significance."

~Roger Geller, City of Portland Bicycle Coordinator

CHAPTER 10: RECOMMENDED REGIONAL PEDESTRIAN NETWORK

The ATP recommended regional pedestrian network is an interconnected network of off-street trails and pedestrian corridors that link pedestrian friendly districts. The recommended network is shown on the Recommended Regional Pedestrian Network Map. The map identifies Pedestrian Districts, Pedestrian Parkways, and Pedestrian Corridors and transit stops and stations. Local streets and trails, identified as Pedestrian Connectors are also shown for context and to illustrate the important role they have for a complete walking network.

The recommended regional pedestrian network identifies approximately 1245 miles of regional pedestrian routes and seventy four Pedestrian Districts.

Pedestrian Parkways	
On-street routes	543
Off-street (trail) routes	222
Regional Pedestrian Corridors	
On-street routes	242
Off-street (trail) routes	238
Total miles	**1245**

How were the routes identified?[76] Many of the routes were already identified in the 2035 Regional Transportation Plan. New routes were identified in local plans and corridor plans and from recommendations of the Stakeholder Advisory Committee and other stakeholders. Information from the existing conditions and pedestrian network analysis guided the development of the Regional Pedestrian Network Concept. The recommended network identifies 57 miles of new Pedestrian Parkways and 242 new miles of Regional Pedestrian Corridors.[77] The majority of the new on-street routes are urban arterials that are part of the existing Regional Transportation Plan regional arterial system but not previously identified as part of the regional pedestrian network. Additionally, a few non-arterial streets were added to provide a regional pedestrian connection. Approximately 208 miles of regional trails were added to the network. Regional trail additions were identified through the update of the Regional Trails and Greenways inventory and map. Trail alignments were updated and refined and local jurisdictions and stakeholders had the opportunity to add or remove trails to the network and map.

REGIONAL PEDESTRIAN NETWORK CONCEPT

The Regional Pedestrian Network links local pedestrian networks together into a cohesive regional network. It is comprised of Pedestrian Parkways and Regional Pedestrian Corridors linking into and through Pedestrian Districts. Pedestrian Parkways, Districts and Corridors are

[76] Regional Pedestrian Network Analysis, June 2013 and Existing Conditions, Opportunities and Findings report, 2012.

[77] All urban arterials identified in the 2035 Regional Transportation Plan were recognized as being important corridors in the Regional Pedestrian Network because of the destinations and transit they provide and are recommended to be added to the Regional Pedestrian Network. Urban arterials are also locations that need extra attention to be safe and comfortable for pedestrian travel.

areas with current or anticipated high levels of walking activity. Many destinations, such as transit, schools, parks, jobs, shops, entertainment and essential services that people want to walk to are located in Districts or along or near Pedestrian Parkways and Corridors; often the Districts, Parkways and Corridors are often destinations themselves. The Regional Pedestrian Network is well integrated with the regional transit networks and is safe, direct, and enjoyable to use. Connections to transit and transit stops are conveniently located, safe and comfortable.

Most walking trips in the region are approximately half a mile in length. While the Regional Pedestrian Network identifies continuous, long corridors, it is understood that a majority of pedestrian activity will occur in specific pockets along these corridors, for example when a corridor passes through a town center, station area or serves as a main street.

The Regional Pedestrian Network is safe, comfortable, accessible and enjoyable. People walking feel welcomed and prioritized. Key elements of the Regional Pedestrian Network include complete sidewalks, multi-use paths and trails, safe street crossings at regular intervals, illumination and streetscape details. As part of the 2014 Regional Transportation Plan update, a new Pedestrian Parkway concept graphic will be developed.[78]

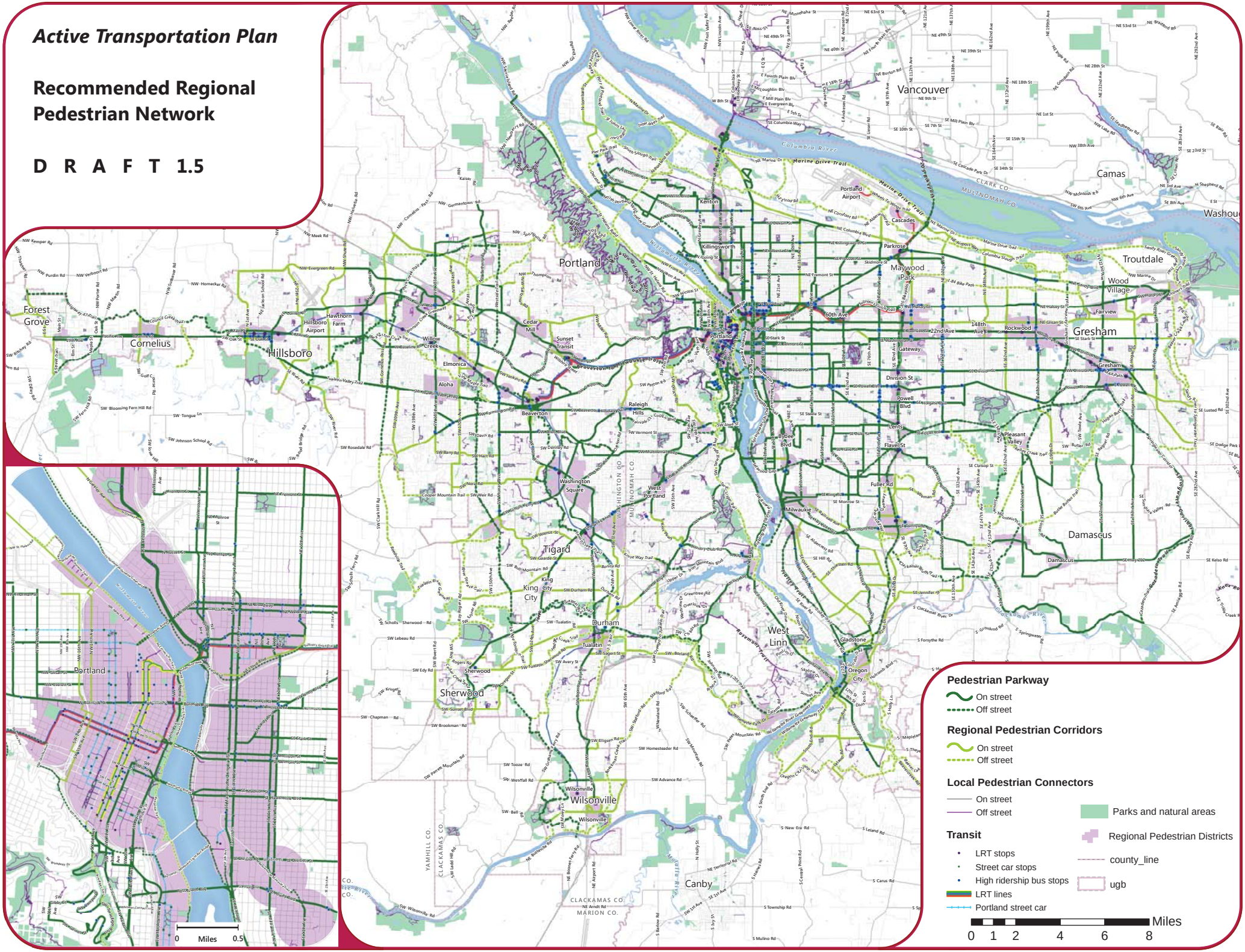
Regional pedestrian routes and districts are places where walking is prioritized, comfortable, safe and convenient. Providing buffers from traffic, convenient and safe crossings of busy roads, lighting and access to destinations are key to making the regional pedestrian network great.

[78] Page 2-70.

Active Transportation Plan

Recommended Regional Pedestrian Network

D R A F T 1.5



Regional Pedestrian Network Functional Classifications

Two functional classes are applied to regional pedestrian routes; this is the first time the regional pedestrian network has had functional classifications associated with routes. Pedestrian Parkways are the highest functional classification for regional pedestrian routes. They mirror the regional transit network and are also key regional destinations themselves. Regional Pedestrian Corridors are the second functional classification for regional pedestrian routes. Pedestrian Parkways and Regional Pedestrian Corridors connect to and through Pedestrian Districts.

Pedestrian Districts identified in the ATP are those currently identified on the 2035 Regional Transportation Plan pedestrian network map. The Central City, Regional and Town Centers and Station Communities are identified as Pedestrian Districts.[79] A Pedestrian District is an area with a concentration of transit, commercial, cultural, institutional and/or recreational destinations where pedestrian travel is attractive, comfortable and safe. Pedestrian Districts are areas where high levels of walking exist or are planned. Within a Pedestrian District, some routes may be designated as Pedestrian Parkways or Regional Pedestrian Corridors, however all routes within the Pedestrian District are considered regional.

Pedestrian-friendly downtowns support transportation choices for residents to work, shop and play within one area. Beaverton Broadway Streetscape Improvement Project.

Which areas are designated as Pedestrian Districts may be reevaluated as part of an update of the 2040 Growth Concept Map or separately. New Pedestrian Districts may need to be added. Since all station communities are currently identified as Pedestrian Districts, bus stops with high ridership should be considered as potential pedestrian districts. Additionally, some Main Streets on the regional network should also be considered for expansion as Pedestrian Districts, as well

[79] These are 2040 Growth Concept Design Types identified in the 2035 Regional Transportation Plan.

as other areas. For example, Villebois in the City of Wilsonville, or Mississippi Avenue in North Portland could be considered as a regional Pedestrian District.

Pedestrian Parkways are great places to walk and are places that have high or planned high levels of people walking to access transit, nature, shops and services.

Pedestrian Parkways are a new functional class for pedestrian routes and the highest functional class. They are high quality and high priority routes for pedestrian activity. Pedestrian Parkways are major urban streets that provide frequent and almost frequent transit service (existing and planned) or regional trails.[80] Adequate width and separation between pedestrians and bicyclists should be provided on shared use path parkways.

[80] All regional trails that are Pedestrian Parkways are also Bicycle Parkways.

Regional Pedestrian Corridors are all urban arterials and trails that are not Parkways.

Regional Pedestrian Corridors is the second highest functional class of the regional pedestrian network. On-street Regional Pedestrian Corridors are any major or minor arterial on the regional urban arterial network that is not a Pedestrian Parkway. Regional trails that are not Pedestrian Parkways are Regional Pedestrian Corridors. These routes are also expected to see a high level of pedestrian activity, though not as high as the Parkways.

A pedestrian bridge crosses Trillium Creek near Robert Gray Middle School. Photo: The Oregonian

Local Pedestrian Connectors are all streets and trails not included on the regional network. Local connectors experience lower volumes of pedestrian activity and are typically on residential and low-volume/speed roadways or smaller trails. Connectors, however, are an important element of the regional pedestrian network because they allow for door-to-door pedestrian travel.

CHAPTER 11: DESIGN GUIDELINES

Design of facilities is especially important for people walking and riding bikes on arterial roadways, crossing busy streets or other barriers and on trails with high volumes of users. Design has been shown to improve safety for all roadway users and make the entire transportation system work better. Context, such as anticipated level of activity, land use, nearby destinations, frequency of transit service, vehicle volumes and speeds and level of freight activity, should be considered as routes are designed and planned to achieve the appropriate level of design.

The ATP provides a set of suggested design guidelines for completing, extending and upgrading the region's bicycle and pedestrian networks. The recommended designs are currently being applied in the U.S. and in the region. When applied to pedestrian and bicycle facilities the designs have been shown to help to make walking and bicycling easy, safe, comfortable and attractive. The purpose of the design guidelines is to provide a check-list of the highest possible standards being used today, with the understanding that not all projects will be able to or need to use the designs.

> The U.S. Department of Transportation recommends going beyond minimum design standards for walking and bicycling facilities. Transportation agencies are encouraged, when possible, to avoid designing walking and bicycling facilities to the minimum standards. For example, shared-use paths that have been designed to minimum width requirements will need retrofits as more people use them. It is more effective to plan for increased usage than to retrofit an older facility. Planning projects for the long-term should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements.
>
> ~United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations, 2010

- The guidelines were drawn from the following sources:Metro Creating Livable Streets: Street Design Guidelines for 2040 (for pedestrian elements)
- National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide
- Washington County Bicycle Design facility Toolkit
- Oregon Department of Transportation Bicycle and Pedestrian Design Guide
- Institute of Transportation Engineers Designing Walkable Urban Thoroughfares: A Context Sensitive Approach
- AASHTO Guide for the Development of Bicycle Facilities, 4th Edition

In addition to the design guidelines identified in the above sources, the ATP Stakeholder Advisory Committee recommended fourteen feet as the preferred minimum width for Regional Pedestrian and Bicycle Parkway trails. This design width may not be possible in some cases due to available right of way, environmental constraints or other reasons. In instances where it is not

possible to construct or upgrade trail, other approaches that minimize conflicts between people walking and riding bicycles and other uses can be explored.

On existing roadways, separated in-roadway facilities may be implemented by narrowing existing travel lanes, removing travel lanes, removing on-street parking or widening the roadway shoulder. If constraints, such as narrow existing right-of-way, prohibit providing optimally desired bicycle facility widths, then interim facility improvements can be used.

Interim pedestrian and bicycle facility improvements

As regional pedestrian and bicycle corridors and districts are developed it may not be feasible, for a variety of reasons, to construct the ultimate preferred pedestrian or bikeway facility. Sufficient funding may not be immediately available, or a desired improvement may be constrained by external factors. In such instances, an interim facility is preferred to no facility, provided it meets the minimum standards of local jurisdictions identified in local plans. However, this should be a "last resort" and not a default approach.

Providing separation for people walking and riding bicycles can make the road safer and easier to navigate for all users. Moving parked cars over provides a cycle track near Portland State University.

Regional Bicycle Network Functional Classifications and Preferred Design Guidelines

<table>
<tr>
<td>Functional Class 1 (FC-1): Bicycle Parkway and Bicycle District
Identified design guidelines are derived from best practices that have been shown to encourage bicycling by making it safer and more comfortable and minimizing conflicts with other transportation modes. Context, such as anticipated level of activity, land use, nearby destinations, frequency of transit service, vehicle volumes and speeds and level of freight activity, should be considered as routes are designed and planned to achieve the appropriate level of design. Refer to Chapter 9 on the Regional Bicycle Network for more information on the functional classifications and Chapter 11 Design Options for additional context.</td>
<td>Functional Class 2 (FC-2): Regional Bikeway
Identified design options are derived from best practices that have been shown to encourage bicycling by making it safer and more comfortable and minimizing conflicts with other transportation modes. Context, such as anticipated level of activity, land use, nearby destinations, frequency of transit service, vehicle volumes and speeds and level of freight activity, should be considered as routes are designed and planned to achieve the appropriate level of design. Refer to Chapter 9 on the Regional Bicycle Network for more information on the functional classifications and Chapter 11 Design Guidelines for additional context.</td>
<td rowspan="4">Functional Class 3 (FC-3): Local Bikeway
Primarily local streets and trails providing the door to door connections for bicycle travel. They are typically shorter routes with less bicycle demand and use. Includes all streets and trails not identified as a bicycle parkway or community bikeway. While local streets and trails that fall into this functional class are not regional facilities, they are identified because they are important to the functioning of the regional active transportation network.

Design guidelines are not identified for local bikeways.</td>
</tr>
<tr>
<td>Preferred Design Guidelines for FC-1 Design Type A: Off-street shared use path
• Preferred minimum width of 14’; additional width and bifurcation where expected demand warrants preferred. If 14’ width is not possible design approaches such as pavement markings, signage, pull outs, etc. can be applied to minimize conflicts among high volume of users.
• Marked high-visibility crosswalks with lighting at all crossings of collector and arterial roads, additional crossing features where appropriate.
• Lighting of path is desirable.
• Bike signals and detection at signals are desirable.
• Way finding and bike parking are included.
• Separation of pedestrians and bicyclists.
• Seating and pull outs are provided.</td>
<td>Preferred Design Guidelines for FC-2 Design Type A: Off-street shared use path
• Preferred width of 12’ when feasible, minimum width of 10’.
• Marked crosswalks with lighting at all crossings of collector and arterial roads, additional crossing features where appropriate.
• Lighting of path may be desirable.
• Way finding and bike parking are included.</td>
</tr>
<tr>
<td>Preferred Design Guidelines for FC-1 Design Type B: Low traffic street, (ADT <6,000 and posted speed is 30 or less)
• Where ADT <3,000, bicycle boulevard treatments including traffic calming and diversion measures may be appropriate.
• Where bike boulevard treatments are not used, 7’ bike lanes with markings , or 5’ bike lane with 2’ buffer, are preferred design; 6’ bike lanes should be considered as minimum treatment for bicycle parkways
• Crossing treatments at all crossings of collector and arterial roads.
• Context-based traffic calming is desirable.
• Lighting along bikeway and at intersections.</td>
<td>Preferred Design Guidelines for FC-2 Design Type B: Low traffic street, (ADT <6,000 and posted speed is 30 or less)
• Where ADT <3,000, bicycle boulevard treatments including traffic calming and diversion measures may be appropriate.
• Where bike boulevard treatments are not used, 7’ bike lanes with markings , or 5’ bike lane with 2’ buffer, are preferred design; 5’ bike lanes should be considered minimum treatment
• Crossing treatments at all crossings of arterial roads.
• Context-based traffic calming is desirable.
• Lighting along bikeway and at intersections.</td>
</tr>
<tr>
<td>Preferred Design Guidelines for FC-1- Design Type C: High traffic street, (ADT >6,000 or posted speed is 35 or more), or high volume of heavy trucks
• A high degree of separation from vehicle traffic is critical. Where feasible use cycle tracks, buffered bike lanes with a preferred minimum width 6’ lane, 3’ buffer or protected bikeways such as a parallel path.
• Attention to treatment of intersections and driveways is critical.
• Preferential treatments such as green coloring, bike boxes, bike signals, turn queue boxes, and advance stop lines should be used as appropriate.
• Arterial-type traffic calming is desirable, including raised medians, raised intersections, gateway treatments, textured intersections, refuge islands, road diets, and roundabouts.
• Lighting along bikeway and at intersections.</td>
<td>Preferred Design Guidelines for FC-2 Design Type C: High traffic street, (ADT >6,000 or posted speed is 35 or more), or high volume of heavy trucks
• A high degree of separation from traffic is critical. Where feasible use cycle tracks, buffered bike lanes with a preferred minimum width 6’ lane, 3’ buffer, or 7’ bike lanes. 5’ bike lanes are minimum treatment.
• Attention to treatment of intersections and driveways is desirable.
• Preferential treatments such as green coloring, bike boxes, bike signals, turn queue boxes, and advance stop lines may be used as appropriate.
• Arterial-type traffic calming is desirable, including raised medians, raised intersections, gateway treatments, textured intersections, refuge islands, road diets, and roundabouts.
• Lighting along bikeway and at intersections.</td>
</tr>
</table>

Regional Pedestrian Network Functional Classifications and Preferred Design Guidelines

<table>
<tr>
<td>Functional Class 1 (FC-1): Pedestrian Parkway and Pedestrian District
These design guidelines are derived from best practices that have been shown to encourage walking by making it safer and more comfortable and minimizing conflicts with other transportation modes. Context, such as anticipated level of activity, land use, nearby destinations, frequency of transit service, vehicle volumes and speeds and level of freight activity, should be considered as routes are designed and planned to achieve the appropriate level of design. Refer to Chapter 10 on the Regional Pedestrian Network for more information on the functional classifications and Chapter 11 Design Guidelines for additional context.</td>
<td>Functional Class 2 (FC-2): Regional Pedestrian Corridor
These design guidelines are derived from best practices that have been shown to encourage walking by making it safer and more comfortable and minimizing conflicts with other transportation modes. Context, such as anticipated level of activity, land use, nearby destinations, frequency of transit service, vehicle volumes and speeds and level of freight activity, should be considered as routes are designed and planned to achieve the appropriate level of design. Refer to Chapter 10 on the Regional Pedestrian Network for more information on the functional classifications and Chapter 11 Design Guidelines for additional context.</td>
<td rowspan="3">Functional Class 3 (FC-3): Local Pedestrian Connector
All streets and trails/paths not included in the principal regional or regional corridor networks. Local connectors experience lower volumes of pedestrian activity and on-street connectors are typically on residential and low-volume/speed roadways. Allow for door-to-door pedestrian travel. While local streets and trails that fall into this functional class are not regional facilities, they are identified because they are important to the functioning of the regional active transportation network.

Design guidelines are not identified for local walkways.</td>
</tr>
<tr>
<td>Preferred Design Guidelines for FC-1 Design Type A: Off-street shared use path
• Preferred minimum width of 14’; additional width and bifurcation where expected demand warrants. If 14’ width is not possible design approaches such as pavement markings, signage, pull outs, etc. should be applied to minimize conflicts among high volume of users.
• Marked crosswalks at all crossings of collector and arterial roads, additional crossing features where appropriate.
• Marked high-visibility crosswalks with lighting at all crossings of collector and arterial roads, additional crossing features where appropriate.
• Lighting of path is desirable.
• Pedestrian countdown heads at all signals.
• Short signal cycle lengths (90s or less), pedestrian-friendly timing, and lead pedestrian intervals at signals are desirable.
• Separation of pedestrians and bicyclists.
• Seating and pull outs are provided.
• Way finding included.</td>
<td>Preferred Design Guidelines for FC-2 Design Type A: Off-street shared use or pedestrian only path
• Preferred width of 12’, minimum width of 10’.
• Marked crosswalks with lighting at all crossings of collector and arterial roads, additional crossing features where appropriate.
• Lighting of path may be desirable.
• Way finding included.</td>
</tr>
<tr>
<td>Preferred Design Guidelines for FC-1 Design Type B : Low traffic street, (ADT <12,000 and posted speed is 35 or less)
• Preferred combined minimum width for sidewalk and buffer-10’ Buffer width can be provided by on-street parking, landscape buffer, furnishing zone, raised cycle track, and/or buffered bike lane.
• Pedestrian clear zone of 6’ or more.
• Street trees between roadway and pedestrian clear zone are desirable.
• Marked crosswalks provided ≤530’ spacing along corridor using context sensitive placement
• Crossing features such as refuge islands, curb extensions, raised crosswalks, raised intersections, and beacons or signals where appropriate.
• Lighting at all crosswalks.
• Pedestrian-scale lighting along corridor.
• Pedestrian countdown heads at all signals.
• Short signal cycle lengths (90-s or less), pedestrian-friendly timing, and lead pedestrian intervals at signals are desirable.
• Walkable street-fronting retail uses and on-street parking is desirable in centers and along Main Streets.
• Medians desirable along corridors with 4+ lanes.
• Minimize driveway count and width.
• Context-based traffic calming is desirable.</td>
<td>Preferred Design Guidelines for FC-2 Design Type B: Low traffic street, (ADT <12,000 and posted speed is 35 or less)
• Preferred combined minimum width for sidewalk and buffer - 10’. Buffer width can be provided by on-street parking, landscape buffer, furnishing zone, raised cycle track, and/or buffered bike lane
• Pedestrian clear zone of 5’ or more.
• Street trees between roadway and pedestrian clear zone.
• Marked crosswalks provided every ≤530‘along corridor using context sensitive placement.
• Crossing features such as refuge islands, curb extensions, and beacons or signals where appropriate.
• Lighting at all crosswalks.
• Pedestrian-scale lighting along corridor.
• Pedestrian countdown heads at all signals.
• Short signal cycle lengths (90-s or less), pedestrian-friendly timing, and lead pedestrian intervals at signals are desirable.</td>
</tr>
</table>

Regional Pedestrian Network Functional Classifications and Preferred Design Guidelines

Preferred Design Guidelines for FC- 1 Design Type C: High traffic street, (ADT >12,000 or posted speed is 40 or more), or high volume of heavy trucks • A high degree of separation from vehicle traffic is critical. Preferred combined minimum width for sidewalk and buffer -17'. Buffer width can be provided by on-street parking, landscape buffer, furnishing zone, raised cycle track, and/or buffered bikelane. • Pedestrian clear zone of 6' or more. • Street trees between roadway and pedestrian clear zone are desirable • Marked crosswalks provided ≤530' spacing along corridor using context sensitive placement provide desired regional pedestrian connectivity. • Crossing features such as refuge islands, curb extensions, raised crosswalks, raised intersections, and beacons or signals where appropriate. • Lighting at all crosswalks. • Pedestrian-scale lighting along corridor. • Pedestrian countdown heads at all signals. • Short signal cycle lengths (90-s or less), pedestrian-friendly timing, and lead pedestrian intervals at signals are desirable. • Walkable street-fronting retail uses and on-street parking is desirable in centers and along Main Streets. • Medians desirable along corridors with 4+ lanes. • Minimize driveway count and width. • Context-based traffic calming is desirable, including raised medians, raised intersections, gateway treatments, textured intersections, refuge islands, road diets, and roundabouts.	**Preferred Design Guidelines for FC- 2 Design Type C: High traffic street, (ADT >12,000 or posted speed is 40 or more), or high volume of heavy trucks** • A high degree of separation from vehicle traffic is critical. Preferred combined minimum width for sidewalk and buffer 14'. Buffer width can be provided by on-street parking, landscape buffer, furnishing zone, raised cycle track, and/or buffered bikelane. • Pedestrian clear zone of 6' or more. • Street trees between roadway and pedestrian clear zone are desirable. • Marked crosswalks provided ≤530' spacing along corridor using context sensitive placement provide desired regional pedestrian connectivity • Crossing features such as refuge islands, curb extensions, raised crosswalks, raised intersections, and beacons or signals where appropriate. • Lighting at all crosswalks. • Pedestrian-scale lighting along corridor. • Pedestrian countdown heads at all signals. • Short signal cycle lengths (90-s or less), pedestrian-friendly timing, and lead pedestrian intervals at signals are desirable. • Walkable street-fronting retail uses and on-street parking is desirable in centers and along Main Streets. • Medians desirable along corridors with 4+ lanes. • Minimize driveway count and width. • Context-based traffic calming is desirable, including raised medians, raised intersections, gateway treatments, textured intersections, refuge islands, road diets, and roundabouts.	

Mid-block crossings for trails are important to increase use of trails and improve safety.
Photo: Dana Tims, The Oregonian

Overlapping needs: wildlife habitat and freight

Many active transportation routes are also routes used by freight and transit or could potentially bisect sensitive land areas. The recommended ATP regional pedestrian and bicycle network maps show the network vision, with the understanding that plans and projects need to be developed in a context sensitive manner that integrates all modes while enhancing and preserving the natural environment. Because of this, design will vary from project to project based on the context. The following maps show where bicycle and pedestrian routes overlap with regional freight routes, and with wildlife habitat and riparian areas. More work is needed to identify areas of key concern and to identify examples of success to help provide guidance for the future.

- Environmental impact of new facilities on habitat and wildlife in environmentally sensitive areas should be considered early in the planning stages; identifying places where projects can benefit the environment, by replacing a culvert or providing new vegetation, should also be considered. Involving conservation experts in the planning process early is important. Where there are significant physical constraints, such as steep slopes, landslide hazards, or regionally significant lands or

riparian areas, alternative routes may be appropriate.[81] The maps included in this chapter illustrate the location of high quality land and riparian areas and the regional active transportation networks. Sensitive habitats and resources, such as wetlands, should be avoided. Sensitive design should be used to enhance watershed and ecosystem health and mitigate and reduce impacts.

- Adding missing pedestrian and bicycle facilities to roadways can impact other transportation modes, including transit and freight. These impacts should be minimized and the goal should be to integrate all modes so that all can function well. Location of transit routes and routes with heavy volumes of trucks should be considered in planning new routes, and interaction with buses and trucks should be addressed, especially when designing for bicycles. "Road Diets" are one way to reconfigure limited roadway space in a way that allows for the inclusion of wider sidewalks and separated bicycle facilities such as buffered bicycle lanes, which can provide space for all users to operate safely an in their own "zones". Road diets can have multiple safety and operational benefits for autos, as well as pedestrians and cyclists. The following maps show the overlap of the regional pedestrian, bicycle and freight networks. Identifying where there is overlap in the networks and working on solutions that achieve desired outcomes for transit, freight and active transportation is vital to an integrated, functioning network.

Treatments such as pedestrian crossings improve the viability of pedestrian to cars and trucks. Photo: Federal Highway Administration Pedestrian Safety Plan

[81] The Regional Conservation Strategy for the Greater Portland Vancouver Metropolitan Area, Intertwine and Metro, identifies high quality land and riparian areas in the region. Refer to maps in this chapter.

Environmental Considerations for Trails

Many of the region's trails connect people to key regional destinations with a non-motorized, natural corridor that provides an unrivaled travel experience. Building out the regional trail network provides an opportunity to enhance and increase active transportation. Trails play a special role in the region's transportation strategy. Trails are linear parks, they are roads for active travel and they serve as public squares, places for communities to gather.

In some cases, planned trails may pass through sensitive wildlife habitat. Active transportation and impacts to wildlife must be carefully balanced. Some impacts can be mitigated with design treatments. For example, pervious pavement can be used to reduce water runoff. Wildlife crossing treatments can be considered at key animal routes or at culverts. In other instances avoiding the habitat altogether is necessary.

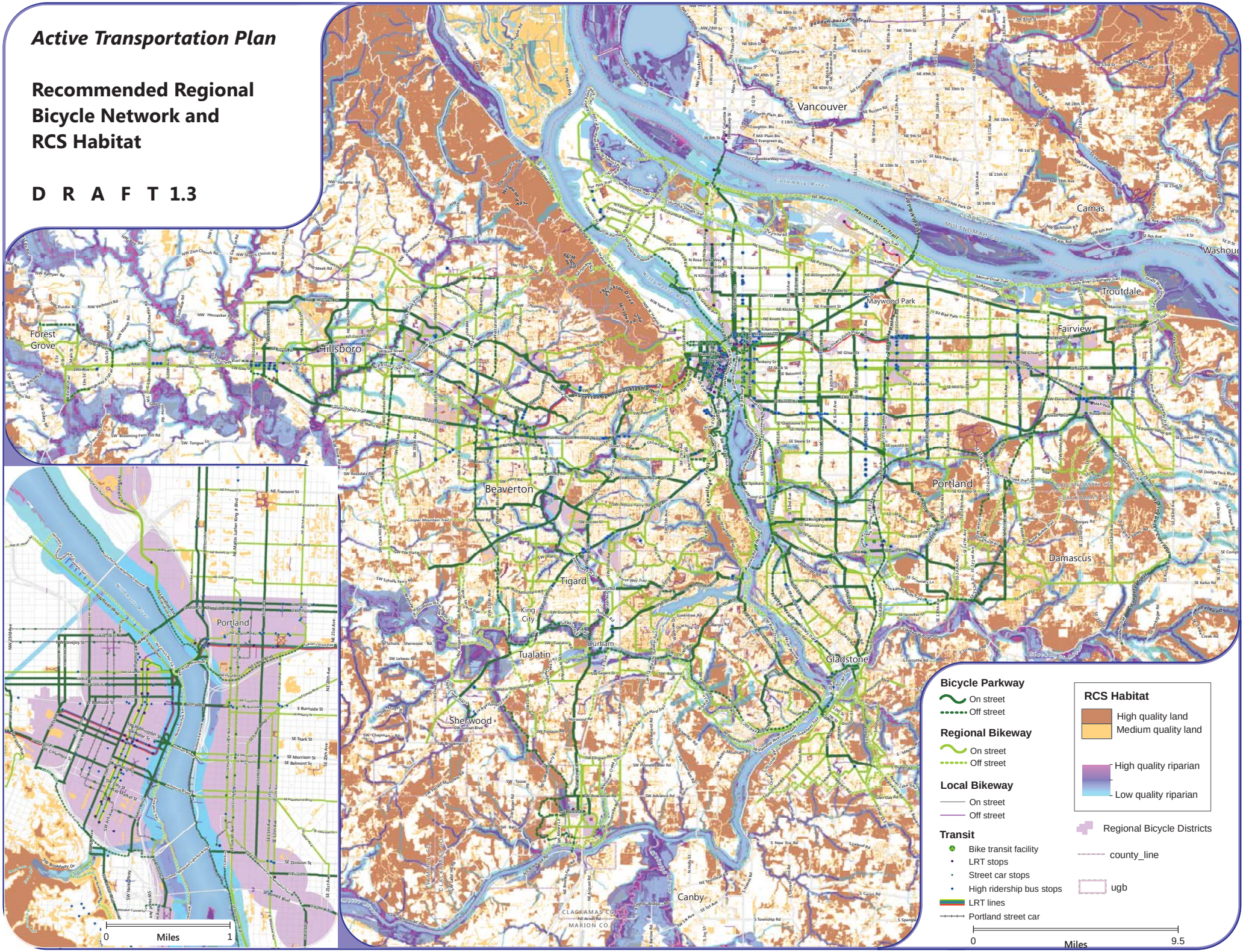
Resources for planning and developing environmentally sensitive and habitat friendly trails

- Green Trails: Guidelines for environmentally friendly trails. Metro.
- Planning Trails with Wildlife in Mind: A handbook for trail planners. Colorado State Parks.
- For regional data, Regional Conservation Strategy for the Greater Portland Vancouver Metropolitan Area. Intertwine and Metro.
- For local planning, resources such as Title 13, local wetland inventories, and local tree cover maps are useful.

Active Transportation Plan

Recommended Regional Bicycle Network and RCS Habitat

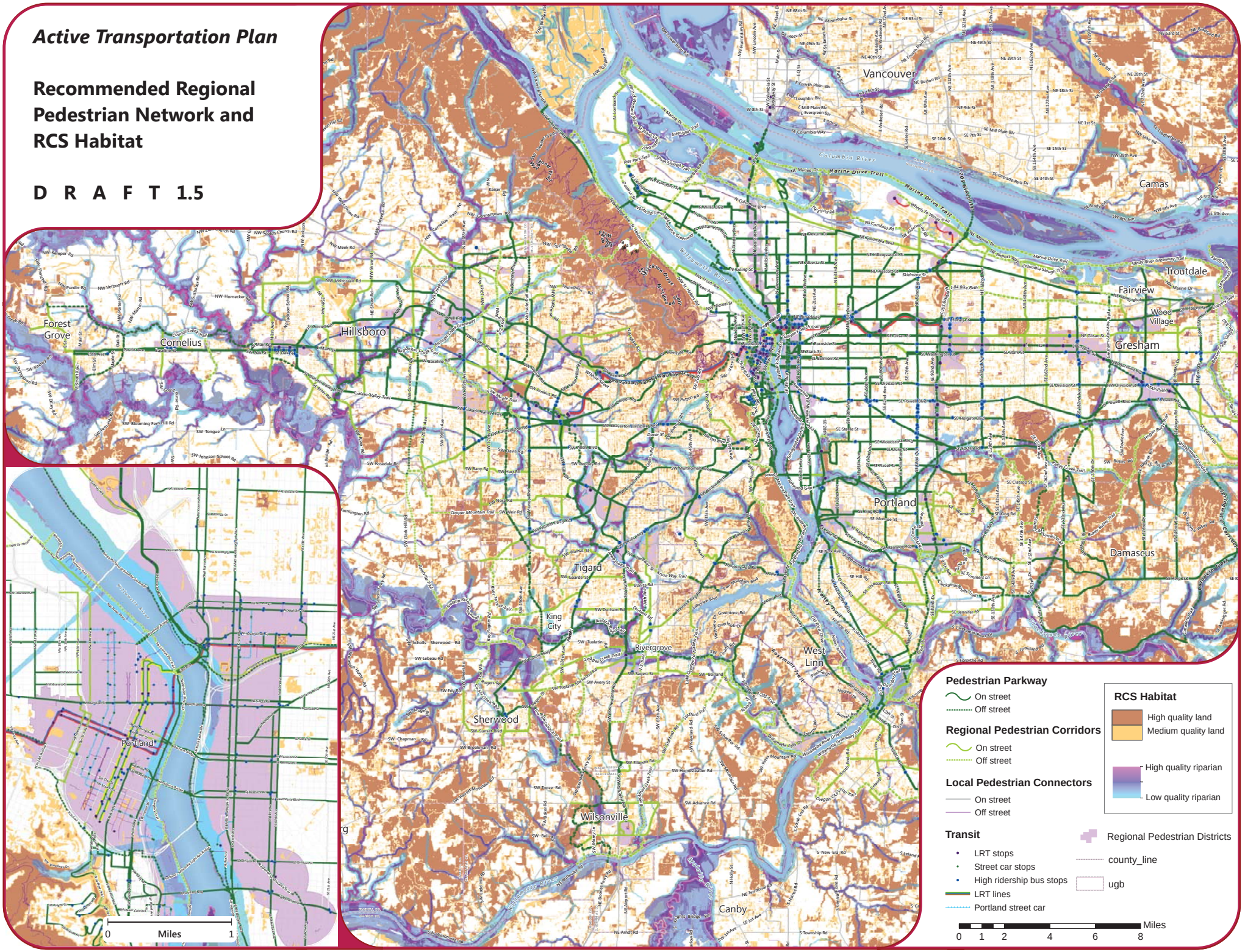
D R A F T 1.3



Active Transportation Plan

Recommended Regional Pedestrian Network and RCS Habitat

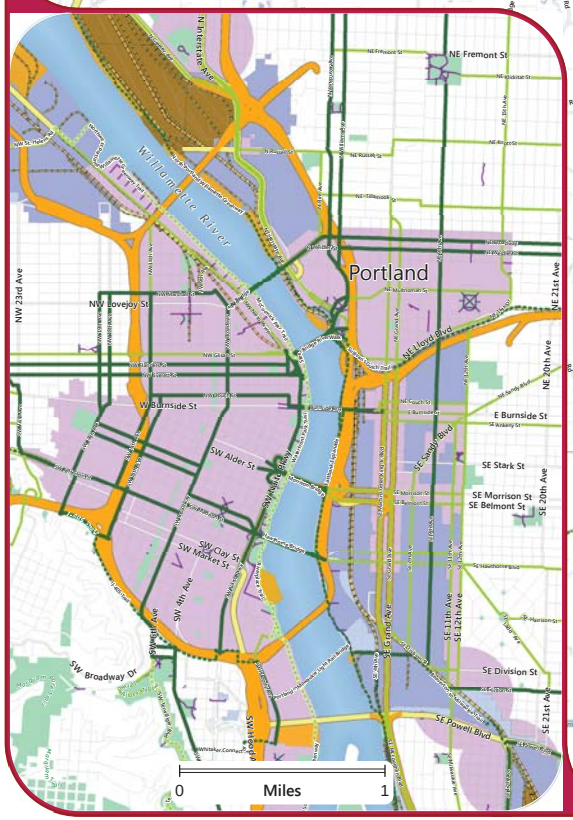
D R A F T 1.5



Active Transportation Plan

Recommended Regional Bicycle Network and RTP Freight Network

D R A F T 1.3



Vancouver
Camas
Washougal
Portland
Troutdale
Fairview
Gresham
Forest Grove
Cornelius
Hillsboro
Beaverton
Tigard
King City
Durham
Tualatin
Sherwood
Gladstone
Damascus
Canby
CLARK CO.
MULTNOMAH CO.
CLACKAMAS CO.
YAMHILL CO.
MARION CO.

Bicycle Parkway
- On street
- Off street

Regional Bikeway
- On street
- Off street

Local Bikeway
- On street
- Off street

Freight Network
- Main roadway routes
- Road connectors
- Main railroad lines
- Branch railroad lines and spur tracks

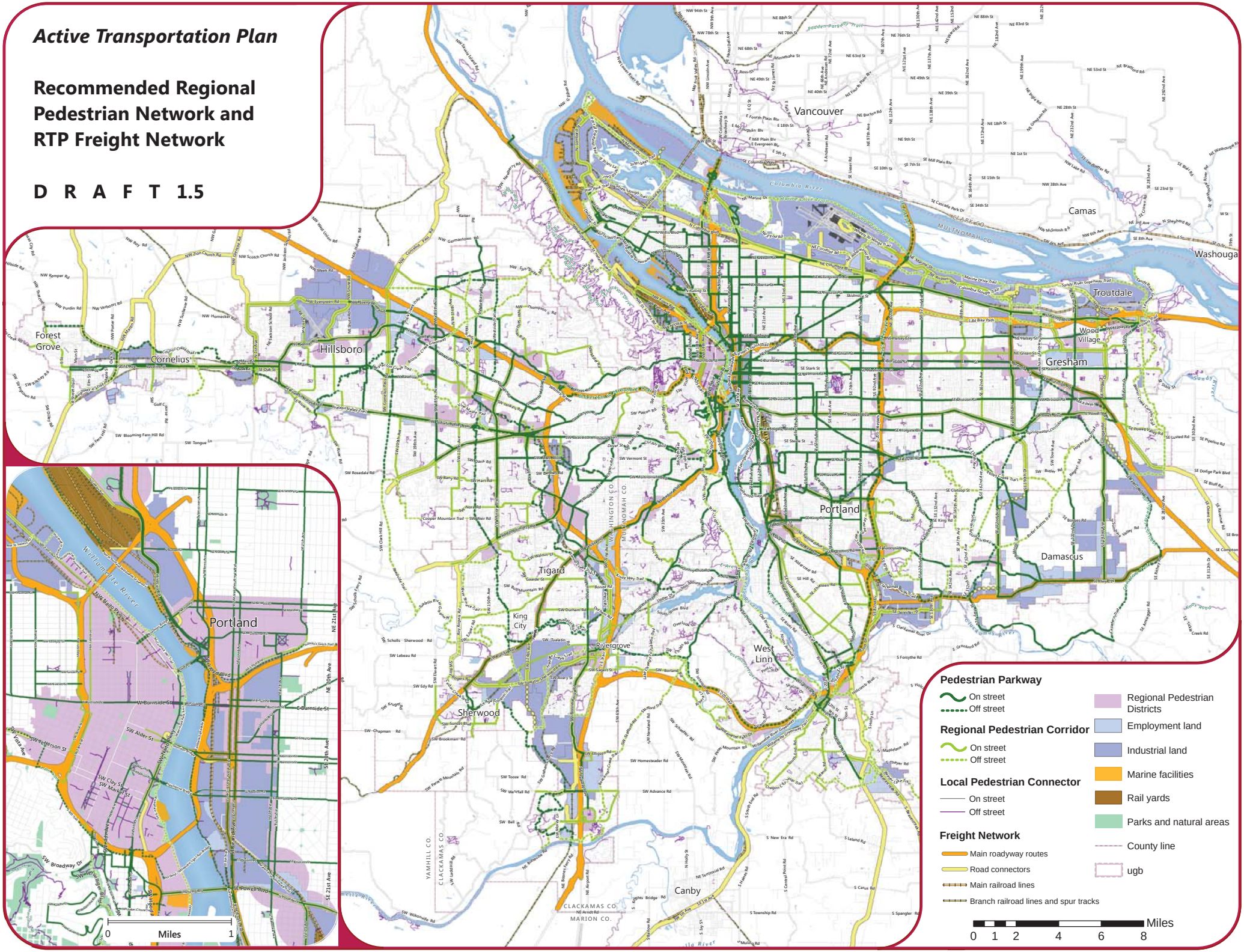
- Regional Bicycle Districts
- Employment land
- Industrial land
- Marine facilities
- Rail yards
- Parks and natural areas
- county_line
- ugb

0 Miles 10

Active Transportation Plan

Recommended Regional Pedestrian Network and RTP Freight Network

D R A F T 1.5



CHAPTER 12: POLICY RECOMMENDATIONS

Five policies listed below build on existing pedestrian and bicycle policies identified in the 2035 Regional Transportation Plan. These policies are intended to help communities achieve adopted local and regional goals, outcomes, objectives and targets.

Corresponding **actions** to implement the policies have been identified. Unless otherwise noted, Metro is considered the lead agency for the actions, working in partnership with cities and counties, jurisdictions, agencies and stakeholders. Most actions will require further engagement and discussion with stakeholders and will be implemented over time.

Policy 1. Make walking and bicycling the most convenient and enjoyable transportation choices for short trips.

Metro actions to implement policy

1.1 Support jurisdictions and agencies to implement the regional active transportation network according to the Principles for the Regional Active Transportation Network, and encourage use of the ATP design guidelines.

1.2 Work with jurisdictions, agencies and stakeholders to identify and encourage the implementation of projects that connect people to destinations that serve essential daily needs, including schools, jobs, parks and nature, transit, services and urban centers, especially in areas where there is a high level of demand for walking, bicycling and transit service.

1.3 Work with jurisdictions, agencies and stakeholders to support projects and plans to include way finding, street markings and clear connections to make the regional pedestrian and bicycle networks consistent, easy to navigate on foot or by bicycle. Provide data in an open format to support third-party mobile application and map development.

1.4 Work with partners to seek opportunities to implement recommendations for pedestrian and bicycle safety improvements identified in the 2012 Regional Transportation Safety Plan, including lighting, crossing improvements and protected bicycle facilities.

1.5 Encourage jurisdictions and agencies to include education and encouragement in transportation projects in order to raise awareness, increase safety and increase the use of completed projects.

1.6 Work with partners to identify opportunity areas where short trips made by auto might be easily replaced by walking and bicycling and support the development of projects and programs, such as Drive Less Save More and Bike Share, in those areas. Short trips are generally defined as one way trips less than three miles.

1.7 Work with jurisdictions and agencies to provide bicycle parking, bus stop shelters and safe crossings at transit stations and stops where applicable.

Policy 2. Develop a well-connected regional network of complete streets and off-street paths integrated with transit and nature, and prioritizing safe,

convenient and comfortable pedestrian and bicycle access for all ages and abilities.

Metro actions to implement policy

2.1 Encourage the use of complete streets checklists for planning and project development. Many cities are using checklists to better integrate all transportation modes into projects and to ensure that environmental impacts of projects are being considered. Complete streets is a transportation policy and design approach where streets are planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation.

2.2 Partner with lead agencies to prioritize pedestrian and bicycle projects in areas where the state and region are actively trying to encourage multi-modal travel.

2.3 Work with jurisdictions, agencies and stakeholders to emphasize the need for physically separated pedestrian and bicycle facilities, improved crossings, lighting and other safety features on roadways with high traffic speeds, volumes, or heavy truck traffic. Physically separated bicycle facilities include standard bicycle lanes, buffered bicycle lanes and cycletracks. In instances where enhanced safety designs are not feasible, lead agencies should work to identify alternate routes that provide a safe, direct and parallel alternative.

2.4 Endorse the use of the National Association of City Transportation Officials Bike Design Guide and Washington County Bike Design Tool Kit as best bicycle design practices.

2.5 Develop design guidelines for transit and bicycle interaction, especially at transit stops and stations and along light rail and streetcar tracks.

2.6 Develop design and operation guidelines for regional trails as transportation facilities. Include conservation experts to provide guidance on planning and designing trails that protect and enhance the natural environment.

2.7 Work with jurisdictions, agencies and stakeholders to identify best practices and successful case studies integrating bicycle, pedestrian and freight facilities, especially within constrained roadways, to guide future planning and project development.

2.8 Work with jurisdictions, agencies and stakeholders to update the Regional Transportation Plan in 2014with the recommended network principles, ATP pedestrian and bicycle networks and map updates, functional classifications, suggested design guidelines, policies and implementing actions.

2.9 Work with jurisdictions, agencies and stakeholders on the 2018 update of the Regional Transportation Plan to determine if changes to the Regional Transportation Functional Plan are needed to support implementation of local transportation system plans and the Regional Transportation Plan.

2.10 Work with jurisdictions, agencies and stakeholders to consider adding pedestrian and bicycle projects to the Regional Transportation Plan during Regional Transportation Plan updates that will complete the recommended ATP pedestrian and bicycle networks.

2.11 Encourage and work with state and local jurisdictions and agencies to update transportation system plans and comprehensive plans to be consistent with the ATP and include the regional pedestrian and bicycle network routes.

2.12 Work with jurisdictions, agencies and stakeholders to consider developing criteria for prioritizing Regional Transportation Plan projects.

2.13 Coordinate pedestrian, bicycle and transit investments with the Regional Transportation Option program and grants to deliver complete corridors for active travel. Provide outreach and engagement to inform partners about RTO grants.

2.14 Coordinate pedestrian, bicycle and transit investments with the Transportation System Management Options program and grants to deliver complete corridors for active travel.

2.15 Work with partners, including the Oregon Department of Transportation and TriMet, during the next policy update of the Metropolitan Transportation Improvement Plan (MTIP) to consider implementing recommendations of the ATP through development of the MTIP project list and Regional Flexible Funds policies.

Policy 3. Ensure that the regional active transportation network equitably serves all people.

Metro actions to implement policy

3.1 Develop best practices on engaging underserved communities on active transportation projects.

3.2 Work with Transportation Management Associations, Safe Routes to School programs and partner organizations to seek funding to provide awareness programs and address barriers to active transportation.

3.3 Work with cities, counties, agencies and jurisdictions to identify and encourage the implementation of pedestrian and bicycle projects that increase safety and access to destinations in areas with minority, low income, youth and elders, disabled and low English proficiency populations.

Policy 4. Complete the regional pedestrian and bicycle networks.

Metro actions to implement policy

4.1 Work with partners in the 2014 and future updates of the Regional Transportation Plan to refine existing Regional Transportation Plan performance measures and targets to better meet active transportation goals and new federal performance measure requirements under MAP-21.[82] Consider developing and adopting a 'complete network' and complete streets policy and performance target where the regional pedestrian and bicycle networks are completed to match roadway network percentage of completeness.

4.2 Further develop the regional Bicycle Comfort Index and Pedestrian Comfort Index to help identify areas in the regional pedestrian and bicycle network that do not provide a comfortable level of service for people of all ages and abilities.

[82] See Chapter 13.

4.3 Work with stakeholders to explore developing a policy in the Regional Transportation Plan and Regional Transportation Functional Plan to complete pedestrian and bicycle networks through maintenance roadway projects.

Policy 5. Utilize data and analyses to guide transportation investments.

Metro actions to implement Policy

5.1 Support the collection and maintenance of regional pedestrian and bicycle data by:

- working with jurisdictions, agencies and stakeholders to identify desirable and practical data to be collected and maintained at a regional level;
- developing a regional plan for bicycle count locations to support the regional bicycling modeling tools;
- developing a method to count and estimate pedestrian activity to support development of regional pedestrian modeling tools;
- continue to support and develop Metro's leadership on regional trail counts.

5.2 Collaborate with local, state, and federal partners to develop new, and refine existing, transportation models and forecasting tools. Use tools to accurately predict pedestrian and bicycle travel demand generated by capital and programmatic improvements, model system performances that include bicycling and walking, and demonstrate the effect of increased active transportation on auto traffic volumes.

5.3 Work with partners to support the Oregon Household Activity Survey and to include the survey of pedestrian and bicycle activity, including the relationship between bicycle and transit travel in the region.

5.4 Partner with health organizations to explore measuring and possibly incorporating health outcomes, such as levels of physical activity into regional plans.

5.5 Support research efforts to help build appropriately sized bike parking at transit stations, and to better understand potential barriers to usage.

5.6 Work with jurisdictions, agencies and stakeholders to encourage the use of transportation impact analyses tools, such as Multi-Modal Level of Service analysis, in planning, project development, development review, etc. that take into account transit and active transportation needs and consider land use context in all recommendations.

5.7 Utilize the data, analysis, findings and recommendations from the ATP to inform actions in regional and corridor planning and investment strategies to help address climate change and economic development.

5.8 Provide, utilize and encourage partners to utilize data from the Regional Conservation Strategy, including habitat, riparian and sensitive land inventories when developing pedestrian and bicycle plans, master plans and projects.

Secure bicycle parking at Wilsonville's SMART Central Station. Bicycle parking is a key element to making an integrated active transportation network work.

"An Active Transportation Plan for the Metro region is more than just a planning exercise; it will result in achieving goals we have set to enhance quality of life and economic development opportunities by defining a quality regional system for walking and biking."

~Katherine Kelly, City of Gresham Transportation Planning Manager

CHAPTER 13: MODAL TARGETS AND PERFORMANCE MEASURES

Performance measures and targets are important for measuring progress and maintaining accountability. The 2035 Regional Transportation Plan developed performance targets and measures directly measuring with active transportation – Safety, Active Transportation, Basic Infrastructure and Access to Daily Needs.[83] MAP-21 is the most recent surface transportation funding legislation. A fundamental element of the legislation is its focus on performance management. The legislation creates new requirements on state transportation departments, transit agencies, and metropolitan planning organizations to track and report performance for safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduction of project delivery delays.[84] Performance outcomes related to active transportation will play a role in achieving these targets.

The ATP recommends maintaining the current Active Transportation Mode Share and Safety Targets, as described below, with updated the data reference points.[85] Targets for Basic Infrastructure and Access to Daily Needs are being further developed through the update of the Regional Transportation Plan.

Active Transportation: By2035, triple the walking, biking and transit mode shares compared to 2010 modeled mode shares within urban growth boundary.

Active transportation mode	2010 modeled mode share for all trips (4-county area)	2035 modeled mode share for all trips with full build out of 2035 State RTP Network	Active Transportation Target (tripling of 2010 modeled mode share)
Transit	3.8%	4.9%	11.4%
Walking	8.9%	9.6%	26.7%
Bicycling	2.8%	3.1%	8.4%

[83] 2035 Regional Transportation Plan, Chapter 2, Section 2.3.1. Other targets, including Climate Change, Travel and Affordability are impacted by increased levels of walking and bicycling, are not addressed by the ATP.

[84] Moving Ahead for Progress in the 21st Century (MAP-21) was signed into law in 2012 creating the most significant federal transportation policy shift since the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA).

[85] The original target for active transportation: "By 2035, triple walking, biking and transit mode share compared to 2005." The original target for safety: "By 2035, reduce the number of pedestrian, bicyclist, and motor vehicle occupant fatalities plus serious injuries each by 50% compared to 2005."

Safety: By 2035, reduce the number of pedestrian, bicyclist, and motor vehicle occupant fatalities plus serious injuries each by 50% compared to five year levels based on data in the in the Metro State of Safety 2011 Report (April 2012).

Number of serious and fatal crashes by mode, within Urban Growth Boundary				
	All Modes	Pedestrian	Bicycle	Motor Vehicle
2007-2011	496	63	35	398

Basic Infrastructure: "By 2035, increase by 50 percent the number of essential destinations accessible within30 minutes by trails, bicycling and public transit or within 15 minutes by sidewalks for all residents compared to 2005." This target and the Access target below will be updated in the update of the Regional Transportation Plan.

Access to Daily Needs: "By 2035, increase by 50 percent the number of essential destinations accessible within 30 minutes by bicycling and public transit for low income, minority, senior and disabled populations compared to 2005." This target will be updated in the in the update of the Regional Transportation Plan. In addition to transportation targets, the 2035 Regional Transportation Plan provides two sets of measures for evaluating the overall transportation system: RTP System Evaluation Measures and RTP System Monitoring Performance Measures.

Several of these measures are useful for evaluating and monitoring progress in active transportation. In addition to these measures, the **ATP recommends that the following additional performance measures be measured in subsequent updates of the ATP:**

1. Bicycle and pedestrian miles traveled (total and per capita).
2. Percent increase in bicycle network separated from traffic.
3. Percent of pedestrian system completed region-wide and by mobility corridor.
4. Percent of regional trails completed.
5. Percent of regional bicycle system with low Bicycle and Pedestrian Comfort Index improved, region-wide and by mobility corridor and cycle analysis zone.
6. Increase in density of regional bicycle network region-wide and by mobility corridor.
7. Increase in connectivity of regional bicycle and pedestrian networks region-wide and by mobility corridor.

For information purposes, performance and evaluation measures from the 2035 Regional Transportation Plan are provided below.

Current 2035 Regional Transportation Plan System Evaluation Measures[86]

1. Vehicle miles traveled (total and per capita)
2. Total delay and cost of delay on the regional freight network in mid-day and PM peak
3. Motor vehicle and transit travel time between key origin-destinations for mid-day and 2-HR PM peak
4. Congestion - Location of throughways, arterials, and regional freight network facilities that exceed RTP motor vehicle-based level of service thresholds in mid-day and 2-HR PM peak
5. Mode share and non-drive alone trips system-wide, by mobility corridor and for central city and individual regional centers (Number of daily walking, bicycling, shared ride and transit trips and % by mode)
6. Transit productivity (transit boarding rides per revenue hour) for High Capacity Transit (HCT) and bus
7. Number and percent of homes within ½-mile of regional trail system
8. Number and percent of homes and environmental justice communities (census data) within ½-mile of HCT or ¼-mile frequent bus service
9. Tons of transportation-related air pollutants (e.g. CO, ozone, and PM-10)
10. Tons of transportation-related greenhouse gas emissions (e.g. CO2)
11. Percent of projects that intersect high value habitat areas

Current Proposed Regional Transportation Plan System Monitoring Performance Measures[87]

1. Vehicle miles traveled (total and per capita)
2. Average trip length by mobility corridor
3. Motor vehicle and transit travel time between key origin-destinations for mid-day and PM peak
4. Congestion - Location of throughways, arterials, and regional freight network facilities that exceed RTP motor vehicle-based level of service thresholds in mid-day and PM peak
5. Travel time reliability on throughways (buffer index – additional time added to ensure on time arrival 95% of the time)
6. Average incident duration on throughway system
7. Number and share of average daily shared ride, walking, bicycling and transit trips region wide, by mobility corridor and for the Portland central city and individual regional centers
8. Transit productivity (transit boarding rides per revenue hour) for High Capacity Transit and bus

[86] Chapter 5, 2035 Regional Transportation Plan

[87] Chapter 5, 2035 Regional Transportation Plan

9. Percent of regional pedestrian system completed region-wide and by 2040 centers and RTP transit-mixed-use corridor
10. Percent of regional bicycle system completed region-wide and by mobility corridor
11. Number and percent of households and jobs within 30 minutes of central city, regional centers, and key employment/industrial areas for mid-day and PM peak
12. Number of fatalities, serious injuries and crashes per capita for all modes of travel region-wide. [The ATP recommends changing this to measurement to per vehicle mile traveled.]
13. Average household combined cost of housing and transportation
14. Tons of transportation-related air pollutants (e.g. CO, ozone, and PM-10)

Lighting is a crucial part of pedestrian and bicycle safety. Lighting intersections and routes makes it easier for pedestrians and bicyclists to be seen. Photo: Michael Ronkin.

"The region is aging, young children cannot drive, and good freight depends on smarter mobility. This plan provides a road map for meeting the many needs of our growing, diversifying region."

~Stephanie Routh, Oregon Walks!
Executive Director

CHAPTER 14: FUNDING THE ACTIVE TRANSPORTATION PLAN

As a regional government Metro has a unique role in developing the regional pedestrian and bicycle networks. Metro allocates federal funding that historically has provided over 40% of all funding for regional trails and over 20% of all funding for other pedestrian and bicycle projects. Metro's regional focus provides an opportunity to link local efforts together into a comprehensive regional network. Keeping in mind the regional focus, Metro's role should be to fund and support projects that are identified on the regional network, require regional coordination, are large or complex, have an impact on regional targets and goals, or need strategic partnerships and long-range planning.

Metro can also take a role in coordinating a funding strategy to develop the regional active transportation network. The funding strategy should use a multi-pronged approach that:

- **Is flexible.** Projects are aligned with different funding opportunities and strategically advanced to make the most of the funding opportunities. Historically, active transportation projects (and transit) have relied much more heavily on federal funding sources than roadway projects; approximately 85% of all funding for active transportation projects in the region is from federal sources.[88] Declining federal transportation dollars point to the need for flexible funding solutions for active transportation, including more local sources.
- **Leverages existing investments.** Projects that fill critical gaps and link existing facilities making them work more effectively can provide a high return on investment.
- **Is coordinated with other projects to maximize efficiencies.** Integrating active transportation into projects from the beginning (e.g. sewer, roadway maintenance) rather than tacking them on at the end will maximize efficient use of tax payer dollars.
- **Develops a pipeline of projects.** Projects need to be lined up to receive funding for the next stage of development, either from regional flexible funds or other opportunities. Lack of projects that are "shovel ready" – or a pipeline of projects - has been cited by agencies as a barrier to applying for competitive federal grants such as the federal TIGER program or federal sustainability and health related programs.[89] In a resource scarce financial environment, however, local agencies are reticent to risk spending on development of active transportation projects without some funding assurance for construction. A strategy to support project development of priority projects and development of funding processes that

[88] Existing Conditions, Findings and Opportunities Report for the ATP, August 2012, Chapter 9: Current Funding.

[89] TIGER(Transportation Investment Generating Economic Recovery) a discretionary grant program of the Federal Department of Transportation, has funded several region wide active transportation networks, including in Indianapolis and Philadelphia.

provide some funding assurance for active transportation projects will accelerate implementation of the active transportation system.

- **Is strategic.** Active transportation projects can be 'bundled' with larger roadway and transit projects to achieve efficiencies and reduce costs, complete streets and improve transit access. Opportunities to make all transportation projects 'complete' should be sought out. At the same time, it can be critical to 'unbundle' pedestrian and bicycle projects from larger projects if the timeline, cost or size of the larger project may delay the project getting off of the ground for many years. In those instances, opportunities to complete pedestrian and bicycle access should be sought.

Aligning projects with existing funding opportunities

Active transportation projects are developed using a variety of funding sources; sometimes several different funding programs are needed to complete a project from concept to construction. The ATP proposes a funding strategy that aligns projects with different funding opportunities and examines how those opportunities can be utilized most effectively for developing the pedestrian, bicycle and access to transit networks.

1. **Large federal funding opportunities such as TIGER and sustainability grants.** For active transportation projects to be competitive for these types of funding opportunities regional collaboration is essential. Regional partners come together to support active transportation projects of regional significance. Public and private partnerships need to be fostered and projects need to be readied for development. This type of funding opportunity should be sought for projects that are complex, high-profile, cross multiple jurisdictions and require more funding. Examples of such projects include the Hwy 26 Trail, Sullivan's Gulch Trail, Bicycle and Pedestrian District development, and the Council Creek Trail.
2. **Oregon Department of Transportation Enhance and Fix-It programs.** ODOT administers several streams of funding for which active transportation projects are eligible. Federal and state funding sources (including ODOT's portion of 1% of gas tax revenues dedicated to bike and ped) are organized into two main programs, Enhance and Fix-it.[90] New pedestrian and bicycle capital projects (including trails) are funded primarily through the Enhance program. The Fix-it program is focused on maintaining the existing infrastructure and safety. Many roadways do not provide adequate pedestrian and bicycle facilities, including trail crossings of roadways, and therefore impact safety for all users. The Fix-it program could be considered for funding roadway maintenance that includes adding missing facilities and improving safety.

[90] Oregon's landmark "Bike Bill" requires that a minimum of 1% of all collected gas tax revenues be dedicated to bicycle and pedestrian projects. Maintenance of projects is allowed. The state, cities and counties are allowed to spend more than 1% of gas tax revenues on bicycle and pedestrian projects.

3. **Statewide trail funding programs.** Though MAP-21, the federal transportation bill, eliminated the federal Recreational Trails Program (RTP), states could choose to continue funding for the program. Oregon chose to continue the program which is administered by Oregon State Parks. The Oregon Department of Transportation administers the Urban Trail Fund. The Urban Trail Fund is currently unfunded, but along with the Recreational Trails Program, presents an opportunity to seek new funding for regional trails. For the first time active transportation projects are eligible for Connect Oregon funds (funds generated by the lottery). Approximately $42 million is available in Connect Oregon V and pedestrian and bicycle projects not in the road right of way are eligible for funding.[91]
4. **Transit related funding.** TriMet and SMART directly receive and allocate federal funding from the Federal Transportation Authority (FTA). Under new FTA rules, pedestrian and bicycle projects within a 3-mile radius of transit stops are eligible for some of these funds, particularly New/Small Starts funding. This funding presents an opportunity to support access to transit. Because these funds are managed by transit agencies and incorporated into larger transit capital projects, the costs of administering the projects can be lower than smaller stand alone pedestrian/bicycle capital projects. Identification and consideration of pedestrian and bicycle access to transit needs by agencies and project partner local agencies during planning and project development is important to increasing progress of the active transportation network.
5. **Regional Flexible Funds.** Metro allocates federal funds, including Congestion Management and Air Quality (CMAQ) funds and Transportation Alternative Program (TAP) funds, which fund a substantial amount of active transportation projects in the region. Strategically utilizing these types of funds is key to a successful funding strategy. The funds present the opportunity to develop a pipeline of projects and to complete and expand the existing network to reach regional and local goals. Funding continuity and certainty can help develop a pipeline of projects. Regional Flexible funds have been used in this way to implement complex transit projects in the region.
6. **Special and short term funds.** These types of funds are usually one-time fees, taxes or bond measures that target specific projects and outcomes. They can include property taxes, bond measures, and local improvement districts. Developing a regional active transportation fund has been raised as one way to increase funding and achieve active transportation goals. This approach would need more exploration and substantial support. The region has already passed several regional and local bond measures have passed that have provided funding for active transportation. Metro and Tualatin Hills Park and Recreation District has passed bond measures that have been used to acquire land for trails and to construct trails.

[91] Eligible projects include trails, wayfinding, bicycle parking, bridges, tunnels, bikesharing, and bus bike racks. A 20% local match is required.

7. **Local sources of transportation funding.** Local funding is crucial to the active transportation funding strategy, for filling gaps, enhancing access to transit and providing the local matching funds needed to be competitive for grants. Local funding revenues for transportation (including trails) include city and county allocations of the statewide gas tax, include system development charges (SDCs) which are tied to new development; traffic impact fees (TIFs); street utility fees; registration fees; vehicle parking fees; and property taxes. While eligible, active transportation projects are not always included in the indentified capital needs lists for these types of funding. Local jurisdictions may want to consider setting a 'need rate' for local funding sources to include identified pedestrian, bicycle and transit stop capital projects as part of local transportation system fee structures. The development community also provides funding for pedestrian and bicycle improvements conditions of approval and frontage improvements, an important way that communities improve areas for walking and bicycling.

Cost estimates for the regional active transportation network

Programmed stand-alone bicycle, pedestrian and trail projects account for approximately 6% of the $20 billion of projects identified in the 2035 Regional Transportation Plan.[92] These projects represent a substantial number of the projects needed to complete the regional active transportation network. However, the list does not include all of the projects needed for a complete regional pedestrian and bicycle network developed according to the Guiding Principles identified in Chapter 6.

To better understand the funding needs for developing out the regional network, the ATP developed general planning level cost estimates for completing, upgrading and expanding the regional active transportation network.[93] Cost assumptions used to develop the planning level cost estimates can be found in Appendix 2. Cost estimates are general per mile or per pedestrian/bicycle crossing (costs were not developed for specific projects) in order to provide a ball-park figure of the potential cost of completing the network.

The total estimated cost for completing, upgrading and expanding the regional pedestrian and bicycle networks is approximately $3,280,000,000. Planning level cost estimates are shown in Table 2, below. Included in the total cost are the project costs identified in the 2035 Regional Transportation Plan, for $1,283,000,000.

[92] 2035 Regional Transportation Plan, financially constrained and state project lists. Standalone projects are bicycle, pedestrian and trail projects that are not included as part of a larger roadway or transit project. Refer to Chapter 3 of the 2035 Regional Transportation Plan.

[93] At this time, planning level cost estimates are identified only for the Bicycle and Pedestrian Parkways. Cost estimates include building new facilities not already identified in the 2035 Regional Transportation Plan project list and upgrading existing facilities (those already built or that have a project in the 2035 state Regional Transportation Plan project list). The cost estimates assume a high level of design.

Table 2: Planning Level Cost Estimates for the Regional Active Transportation Network

Projects	Cost (millions)
2035 RTP sidewalks, bike facilities and trails (federal and state lists)[94]	$1,283 M
New ATP sidewalks, improved crossings, bike facilities and trails	$1,550 M
New upgrade to existing bike and trail projects[95]	$447 M
Total	$3,280 M

In Table 2, new projects include sidewalks to fill all gaps in the regional pedestrian network, as defined in the "Regional Pedestrian Network Analysis", completion of regional trail projects not already included in the 2035 Regional Transportation Plan project list; separated 8-10' in roadway bikeways on the regional bicycle network as defined in the "Regional Bicycle Network Evaluation"; and improved crossings as identified in the "Regional Pedestrian Network Analysis".

Appendix 1 provides a list of corridors and districts identified in the regional active transportation network and projects from the 2035 Regional Transportation Plan associated with each of the corridors and districts, as well as project needs. The list does not provide project costs for specific projects.

Current expenditures on active transportation

Investments in active transportation have increased since the early 1990s. Nationally, in 1990, $6 million in federal funds spent on bicycling and walking projects. In 2010, $1.04 billion, 2% of the federal surface transportation budget, was spent on pedestrian and bicycle projects.

Federal and state capital transportation investments represent an important source of funding for active transportation. From 1995 -2010 the region invested approximately $10 million/year in stand-alone pedestrian, bicycle and trails, or 3% of all federal and state capital transportation funds.[96] Additionally, local jurisdictions allocate between 1% and 6% of local transportation dollars, such as gas tax revenues, system development charges or urban renewal funds, to bicycle and pedestrian projects. Many pedestrian and bicycle projects are also completed as part of larger roadway projects or as part of complete streets projects. Determining the level of funding going towards active transportation elements of these projects can be challenging. Some jurisdictions assume that pedestrian and bicycle elements account for approximately 25% of the total project cost. Better data is needed to adequately understand the level of investment

[94] Chapter 6, 2035 Regional transportation Plan

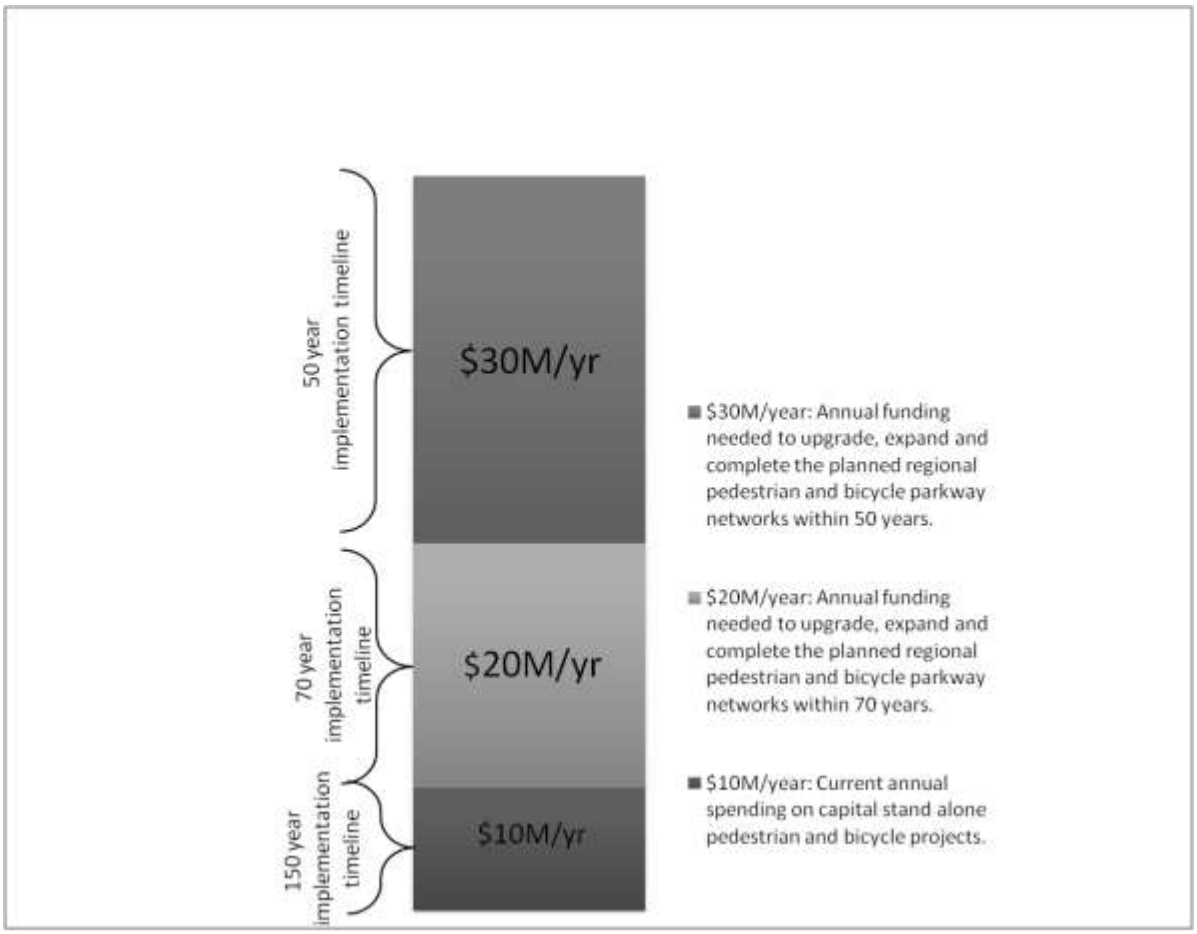
[95] Costs for upgrading sidewalks is not included; lack of regional data on sidewalk condition prevented analysis of where sidewalk upgrades may be needed (e.g. narrow, no curb cuts, etc).

[96] Existing Conditions, Findings and Opportunities Report for the ATP, August 2012, Chapter 9: Current Funding.

going towards active transportation, but it is fair to assume that it is currently far below levels of investments for other modes.

At the current rate of funding for stand-alone bicycle and pedestrian projects, approximately $10 million/year, it is estimated to take approximately 150 years to complete and expand the regional pedestrian and bicycle network.

Table 3: Funding Level Scenarios and Implementation Timelines for the Regional Active Transportation Network



Metro, 2013.Funding levels are in 2013 dollars.

Maintenance

While bicycle and pedestrian facilities require much less maintenance than other transportation facilities, funding for active transportation should include assumptions for maintenance of facilities, such as sweeping bicycle lanes, replacing sidewalks or trails damaged by tree roots, replacing signage, removing trash and graffiti, servicing signals and counters, and caring for trees and foliage that serve as buffers. Maintaining pedestrian and bicycle facilities is an important part of encouraging and supporting walking and bicycling and providing good access to transit.

Average maintenance costs vary depending on the type and design of the facility and how much maintenance a jurisdiction performs. Annual maintenance costs for sidewalks can range from $1,000 to $4,000/mile, bicycle lane maintenance can average at about $2,000/mile, and shared use paths/trails can average between $2,000 and $8,000/mile.[97] Using an average cost of $2,000/per mile for sidewalks, bicycle facilities (e.g. bike lane, bike boulevard), and trails a general estimated cost to provide maintenance for the existing regional active transportation network is approximately $3 million/year.[98]

Table 4: Estimated Annual Maintenance Costs, 2010 Regional Pedestrian and Bicycle Network

	Sidewalks	Trails	Bikeways	
Miles in regional network	946	121	450	
Cost at $2,000/mile	$1,892,000	$242,000	$900,000	
Total				$3,034,000

Using the same approach, estimated maintenance costs for the completed active transportation network in 2035 are approximately $6 million/year in 2012 dollars.[99]

Table 5: Estimated Annual Maintenance Costs, 2035 Regional Pedestrian and Bicycle Network

	Sidewalks	Trails	Bikeways	
Miles in regional network	1462	460	972	
Cost at $2,000/mile	$2,924,000	$920,000	$1,944,000	
Total				$5,788,000

[97] Based on a summary review of maintenance costs in various cities.

[98] In 2012 dollars

[99] The estimated cost in 2035 would be approximately $12 million/year.

CHAPTER 15: IMPLEMENTATION STRATEGIES AND PROJECTS

Focusing investments strategically to get the highest return on investment is important. However, in many ways the region has not yet reached a decision place of which walking and bicycling projects to prioritize; if the goal is to increase opportunities to walk, bicycle and take transit, completion of the networks is needed.

The overall recommended approach of the ATP is that completion of the entire regional pedestrian and bicycle networks, so that they are connected and safe, should be a high priority and key focus of transportation improvements in the region. Until the networks are complete it is not possible to expect substantial outcomes, except in discrete sub-areas, or walking and bicycling "sheds." In sub-areas where there is a high level of completion, connectivity and supporting land uses and levels of walking and bicycling and transit use can be quite high. A helpful analogy is to consider how effective our highway or rail systems would be if they had gaps or entire missing sections.

The implementation strategies outlined below are intended to be implemented by Metro in partnership with agencies, jurisdictions and other stakeholders.

Strategically investing funding will help achieve desired outcomes sooner and more efficiently and effectively. The ATP evaluated improvements to the regional pedestrian and bicycle networks to provide some guidance on where and how improvements would impact access to destinations, safety, transportation equity and increased walking and bicycling activity. The results of the evaluation can be found in the ATP "2013 Regional Pedestrian Network Analysis" and "2013 Regional Bicycle Network Evaluation" supplemental reports. The evaluations provide broad brush results at a regional scale. These evaluations do not take the place of more detailed evaluations of projects and the impacts of those projects.

Improvements evaluated included filling in sidewalk gaps, completing and extending regional trails, increasing connectivity with crossings and overcoming barriers such as freeways, highways and rivers, and improving or adding bikeways, such as cycletracks, on busy roads.

Recommended implementation strategies

1. **Prioritize all transportation modes together.** Many transportation plans and Capital Improvement Plans have separate prioritized lists for different modes or purposes, such as auto, transit, freight, bicycle and pedestrian. Prioritizing all modes together in one list allows for thinking about transportation systems holistically and will focus on outcomes of the transportation system, rather than on the outcomes associated with individual modes. Such a list, for example, may have a transit/roadway improvement project as the first priority, a freight access project as the second priority and a pedestrian and bicycle bridge as the third priority.

2. **In suburban areas where destinations are farther apart and road connectivity is lower, complete routes that connect to and along transit routes and support routes that provide the most connected and direct bicycle travel.** The diversity of communities, land uses, roadway network patterns and population and employment densities in the region requires that a wide range of approaches be employed to make active transportation feasible. Many communities that have suburban style land use patterns are experiencing success with active transportation.[100]Disconnected roadway networks can be one of the biggest hurdles to bicycle travel; constructing trails or protected facilities along major roadways can provide convenient connections.

3. **Fill gaps in the networks that increase access for the most people and increase levels of walking, bicycling and access to transit.** Evaluation of improvements to the regional pedestrian and bicycle networks provides information on areas (routes, corridors and districts) where improvements increase access for the most people. The ATP "Regional Bicycle Network Evaluation" and the ATP "Regional Pedestrian Network Analysis" identify corridors and districts on the regional pedestrian and bicycle networks where adding improvements will increase access and activity.

   Areas in the region that show the highest level of bicycle activity in 2035 (other areas show substantial activity, and all areas of the region show bicycling activity):

   - Downtown Portland
   - Inner SE Portland
   - Outer East Portland/West Gresham
   - Central Gresham/Wood Village/Fairview
   - SW Portland
   - Beaverton - South/Aloha-South
   - Beaverton North
   - Tigard
   - SE Portland – Eastmoreland/Woodstock/Foster
   - Inner NE Portland

   Roadway routes that show high to moderate bicycle volumes in 2035:

   - 17th Ave. connection between Trolley Trail and Springwater Corridor
   - 40's and 50's Bikeways, Portland
   - Barbur Blvd./99 W in Portland and Washington County
   - Burnside in East Multnomah County
   - Capitol Highway and Kerr Parkway, Portland and Washington County
   - Clinton Bike Boulevard in inner SE Portland
   - Cully Blvd. Portland

[100] Suburban areas of Assen, Germany provide excellent examples of suburban communities that have successfully integrated active transportation.

- Division Street, Portland to Gresham
- Downtown Portland
- Foster Road in Portland
- Going Street, Portland
- Hall Blvd. Beaverton to Fanno Creek Trail, Washington County
- Hogan Road, Multnomah County
- Iron Mountain Road, Lake Oswego/Washington Count (parallel Surf to Turf Trail)
- Kruse Way, Washington County (assumed crossing over I-5)
- Lake Road in Milwaukie
- Main Street, Hillsboro
- Monroe Blvd. Clackamas County
- NE 15th Ave and 20's Bikeway, Portland
- NE Airport Way
- NE Halsey, Multnomah County
- NW Evergreen Rd, Washington County
- Pacific Hwy/Willamette Falls Drive, Clackamas County
- Pimlico Drive, West Linn
- Powell Blvd., especially in inner SE Portland
- Sandy Blvd. in Portland
- Scholls Ferry Road, Washington County
- SE 122nd Ave, East Multnomah County
- SE 136th Multnomah County
- SE 148th Ave, East Multnomah County
- SE 162nd, Multnomah County
- SE 181st Ave, East Multnomah County
- SE Hawthorne Blvd. Portland
- SE Johnson Creek Road, connecting to I-205 Path, Clackamas County
- SE Lincoln, SE Market, SE Mill, Portland/East Multnomah County
- SE Linwood Ave. Clackamas County
- SE Stark St., I-205 to SW 257th, Multnomah County
- SE Sunnyside Road, Clackamas
- SE Thiessen Rd., Clackamas County
- SW 257th, Multnomah County
- SW 5th and 6th Avenues, Beaverton
- SW 72nd, Washington County, between SW Bonita and 99W
- SW Baseline, Washington County
- SW Beaverton Hillsdale Hwy.
- SW Boones ferry Road, Fanno Creek to Wilsonville
- SW Brockman St. Washington County
- SW Canyon Road
- SW Cedar Hills Blvd., Washington County
- SW Dosch Road, Washington County
- SW McDonald, SW Gaard St, Washington County
- SW Multnomah Blvd. Portland/Washington County
- SW Oleson Road, Washington County
- SW Tualatin Sherwood hwy.
- SW Western Ave., Beaverton

- Tualatin Valley Highway, Washington County
- Warner Milne Road, Linn Ave, Central Point Road, Oregon City
- Williams/Vancouver, Portland

Trails that show high to moderate bicycle volumes in 2035:

- Beaverton Creek Greenway, Washington County
- Bronson Creek Greenway, in the North Hillsboro/Bethany areas
- Council Creek Trail
- East Buttes Powerline Corridor Trail, Clackamas, connecting to the Gresham Fairview Trail
- Fanno Creek Trail, Washington County
- Gresham MAX Path
- Gresham-Fairview Trail
- Hwy 26 Trail connecting Portland and Washington County
- I-205 Path
- I-405 trail in Portland (connects to Hwy 26 Trail)
- I-84 Path, Multnomah County
- Lake Oswego to Portland Trail
- Mt. Scot/Scouter Mtn. Trails that connect to the East Buttes Powerline Corridor Trail, Clackamas and Multnomah County
- Oregon City Loop, Clackamas County
- Phillips Creek Trail, connecting to I-205 Path, Clackamas County
- Red Electric Trail/Capitol Highway
- Rock Creek Trail, Hillsboro
- Springwater Corridor Trail
- Sullivan's Gulch Trail in Portland
- Sunrise Corridor Trail in Clackamas County
- Surf to Turf Trail, parallel to Iron Mtn. Road, Lake Oswego
- Tonquin Trail, Washington County
- Trail along McLoughlin Blvd and the future Portland to Milwaukie Light Rail
- Trolley Trail in Clackamas County
- Tualatin River Greenway Trail between Fanno Creek and Westside Trail
- Waterhouse Trail, Washington County
- Westside Trail
- Willamette River Greenway/Hwy43, south of Lake Oswego, Clackamas County
- Willamette River Bridges

Trails that show a high number of people with increased access to destinations:

- Beaverton Creek Trail
- Bronson Creek Greenway
- Columbia Slough Trail
- Council Creek Trail
- East Buttes Power Line Corridor Trail

- Fanno Creek Greenway
- Gresham / Fairview Trail
- Highway 217 Trail
- Highway 47 Trail
- Hillsdale to Lake Oswego Trail
- Hwy 26 Bike Path/Sunset Transit Center Trail
- I-205 Corridor
- I-84 Bike Path
- Ice Age Tonquin Trail
- Kruse Way Path
- Marine Drive Trail
- Milwaukie LRT Trail
- Mt. Scott/Scouter Mountain Trails
- North Clackamas Greenway
- North Portland Willamette Greenway
- Northwest Portland Willamette Greenway Trail
- Oregon City Loop
- Pearl-Keeler Powerline Trail
- Phillips Creek Trail
- Red Electric Trail
- Rock Creek Trail
- Southwest Portland Willamette Greenway Trail
- Springwater Corridor
- Sullivan's Gulch Trail
- Terwilliger Trail
- Trolley Trail
- Tualatin River Greenway Trail
- Waterhouse Trail
- Westside Trail
- Willamette River Bridges

Pedestrian Corridors that show a high number of people with increased access to destinations via the pedestrian network:

- 122nd Ave. Portland (SE Foster to NE Sandy)
- 181st/182nd Ave. Portland (Powell to NE Sandy)
- 5th/Warner Milne/Beavercreek Rd.
- 82nd Ave. Portland/Clackamas County
- Aloha to Beaverton – Hwy 8 (SW 185th to Hwy 217)
- Aloha to Hillsdale – Beaverton Hillsdale Hwy (Hwy 10)
- Barbur Blvd./99W (SW Hall to Downtown Portland)
- Beaverton to Barbur Blvd. (SW Allen, SW Garden Home Rd, SW Multnomah Blvd)
- SW Canyon Road (Beaverton to Hwy 26)
- Beaverton to Tualatin (SW Hall Blvd, SW 85th, SW Boones Ferry Rd.)
- Boones Ferry Road (Pilkington Rd. to SW Macadam Ave)

- Burnside, Portland to Gresham
- Capitol Hwy – SW 49th in West Portland to SW Macadam Ave.
- Cedar Mill to Portland – (SW Barnes Road/W Burnside Rd)., NW Cornell Rd to NW 23rd.
- Clackamas TC to Damascus –(SE Sunnyside Rd/Hwy 212 (Clackamas Boring Hwy)) from I-205 to Hwy 212 at UGB
- Division – SE Grand Ave to NE Kane Drive
- Forest Grove to Cornelius (Hwy 8) – Pacific/19th Ave to Cornelius
- Halsey St. – Hollywood District to Troutdale
- Hillsboro TC to Willow Creek MAX station – (E Main Street/W Baseline Rd) from SW Oak St (Hillsboro) to SW 185th Ave.
- Hillsboro to Aloha (Hwy 8)
- Hillsboro to Cedar Mill –(NE Cornell Road) to SW Murray Blvd in Cedar Mill
- Holgate – 99 E to SE Powell Blvd. via 136th
- Hwy 43 - Portland to Oregon City- 99 E to SE Powell Blvd.
- HWY 8 to Orenco (NW 231st Ave.)
- Interstate Ave. (N Denver Ave, N Interstate Ave, N Russell) Steel Bridge to Hayden Island
- Johnson Creek Blvd. - SE Harney Drive to SE 92nd Ave
- N/NE Killingsworth - N Greeley Ave to Cascade Hwy (NE 82nd Ave)
- Kruse Way - Tigard at I-5 to Boones Ferry Rd.
- McLoughlin Blvd. (UGB to SE Powell)
- Milwaukie to Clackamas TC (SE Harrison/Milwaukie Expy/SE Harmony/SE Sunnyside/SE Lake Rd./SE McLoughlin) 99E at Holgate to 1-205 Clackamas TC
- Molalla Ave - 99E/7th Ave Oregon City to Hwy 213
- Murray Scholls to Cedar Mill – (SW Murray Blvd.) HWY 210 to NW Cornell Rd.
- Murray Scholls to Raliegh Hill - Hwy 210 (Scholls Ferry Rd) SW Murray Blvd. to Hwy 10
- NW Bethany Blvd. - NW German Town Rd to NW Cornell
- NW Evergreen
- Orenco to Tanasbourne – (NW 229th/Evergreen) NE Brookwood Pkwy to NW Cornell Rd
- Portland to Damascus (SE Foster Rd.) SE Powell Blvd. to SE Sunnyside Rd.
- Portland to Oregon City – (SE 52nd/SE Flavel/SE Linwood/Webster Rd.) SE Powell Blvd. to SE McLoughlin Blvd. (99E)
- Powell Blvd. – Ross Island Bridge to Gresham
- Prescott – NE 42nd Ave to NE 122nd Ave
- Sandy Blvd. NE Couch to SW 257th Ave.
- SE 155th/Milmain
- Sherwood (99W, SW Sherwood Blvd, SW Oregon St.) Tualatin Sherwood Road to SW Oregon St at SW Murdock Rd.
- Sherwood to Tigard (99W) - Tualatin Sherwood Road to SW Hall Blvd
- SE Stark St. (w/SE Washington couplet) SE 50th Ave to NE Kane Drive.
- SW 185th Ave. to PCC – (SW 185th Ave) Aloha at Hwy 8 to NW Springville Rd. to NW Bethany Blvd.
- SW 206th

- SW Cedar Hills Blvd. Beaverton at SW Farmington Rd. to Hwy 26, Cedar Mill
- SW Oleson Rd./SW Greenburg Rd - Washington Square at Hall Blvd to 99W
- SW Parkway Ave to Wilsonville - SW Boones Ferry at SW Day Rd to SW Town Center Loop
- SW Scholls Ferry Rd.
- Swan Island to St John's Bridge – (Going, Greeley, N Peninsula, N Willis, N Alaska, Fesseden, N Lombard) Going St on Swan Island to St John's, Lombard and N Commando Ave
- Tanasbourne to Beaverton (Walker Road) - SW 185th Ave to SW Canyon Rd.

Pedestrian Districts that show a high number of people with increased access to destinations via the pedestrian network:

- 122nd Ave. Station
- 148th Ave. Station
- Aloha Town Center
- Beaverton Creek Station
- Beaverton Town Center
- Cedar Mill Town Center
- Clackamas Town Center
- Cornelius Town Center
- Division St. Station
- Elmonica Station
- Expo Center Station
- Forest Grove Town Center
- Fuller Rd. Station
- Gateway Town Center
- Gresham Town Center
- Hawthorn Farm Station
- Hayden Island Station
- Hillsdale Town Center
- King City Town Center
- Lake Grove Town Center
- Merlo Rd Station
- Millikan Way Station
- Milwaukie Town center
- Murray/Scholls Station
- Oregon City Town Center
- Orenco Station
- Overlook Station
- Park Ave P&R
- Parkrose Station
- Portland Central City
- Powell Blvd. Station
- Raleigh Hills Town Center
- Rockwood Town Center
- Sherwood Town Center
- Sunset Transit

- Tacoma P&R
- Tanasbourne Station
- Tigard Town Center
- Troutdale Town Center
- Tualatin Town Center
- Washington Square Town Center
- West Portland Town Center
- Willow Creek Station

4. **Support projects that increase access and safety for underserved populations.** *The ATP "*Regional Bicycle Network Evaluation" and the ATP "Regional Pedestrian Network Analysis" identify corridors, districts and areas on the regional pedestrian and bicycle networks where adding improvements will increase access to underserved populations. Increasing access improves safety, especially when projects address issues such as those identified in the Metro2012 Regional Transportation Safety Plan, including crosswalk and intersection lighting, pedestrian crossings on arterials and multi-lane roadways and protected bicycle facilities along roadways with high motor vehicle traffic volumes, speeds and/or high volumes of trucks.

   Areas with above average underserved populations that have lower bike network density, compared to other parts of the region, in 2035:

   - Forest Grove
   - Cornelius
   - Hillsboro South
   - Hillsboro Central
   - Beaverton – East/Raleigh Hills/Washington Square
   - Beaverton- South /Aloha South
   - Tigard
   - Milwaukie – North/ Clackamas Regional Center
   - N. Portland – St. Johns
   - NE Portland – Cully/Rose City Park/Rocky Butte
   - Happy Valley
   - Central Gresham/Wood Village/Fairview

   Pedestrian Districts with higher percentages of underserved populations:

   - 122nd Ave. Station
   - 148th Ave. Station
   - 82nd Ave. Station
   - Aloha Town Center
   - Beaverton Town Center
   - Beaverton Creek Station
   - Bethany Town Center
   - Clackamas Town Center
   - Cornelius Town Center
   - Division St. Station

- Elmonica Station
- Fairview Town Center
- Flavel St. Station
- Forest Grove Town Center
- Fuller Rd. Station
- Gateway Town Center
- Gresham Town Center
- Happy Valley Town Center
- Hillsboro Town Center
- Hillsboro Airport Station
- Killingsworth Station
- King City Town Center
- Lents Town Center
- Merlo Rd. Station
- Millikan Way Station
- Overlook Station
- Parkrose Station
- Pleasant Valley Town Center
- Powell Blvd. Station
- Prescott Station
- Rockwood Town Center
- St. Johns Town Center
- Troutdale Town Center

Pedestrian Corridors with higher percentages of underserved populations:

- 122nd Ave. Portland (SE Foster to NE Sandy)
- 181st/182nd Ave. Portland (Powell to NE Sandy)
- 52nd to MLK via Columbia
- 82nd Ave. Portland/Clackamas County
- NE Alberta – NE MLK to NE 33rd Ave
- Aloha to Beaverton – Hwy 8 (SW 185th to Hwy 217)
- Aloha to Hillsdale – Beaverton Hillsdale Hwy (Hwy 10)
- Beaverton to Hwy 26 (SW Canyon Road)
- Beaverton to Tualatin (SW Hall Blvd, SW 85th, SW Boones Ferry Rd.)
- Burnside (Portland to Gresham)
- Clackamas Hwy (Hwy 224)- Hwy 212-224 to Eagle Creek Hwy
- Clackamas TC to Damascus –(SE Sunnyside Rd/Hwy 212 (Clackamas Boring Hwy)) from I-205 to Hwy 212 at UGB
- Division – SE Grand Ave to NE Kane Drive
- (Fairview to Gresham – (NE 223rd Ave.) - NE Sandy Blvd to E Powell Blvd
- Forest Grove to Cornelius (Hwy 8) – Pacific/19th Ave to Cornelius
- NE Glisan - Sandy Blvd. to NE 102nd Ave
- N Going St.- N Interstate Ave to NE MLK
- NE Halsey St. - Hollywood to Troutdale, SW 257th Ave
- Hillsboro TC to Willow Creek MAX station – (E Main Street/W Baseline Rd) from SW Oak St (Hillsboro) to SW 185th Ave.
- Hillsboro to Aloha (Hwy 8) - Hillsboro UGB to SW 185th Ave

- Hillsboro to Cedar Mill –(NE Cornell Road) to SW Murray Blvd in Cedar Mill
- Holgate – 99 E to SE Powell Blvd. via 136th
- N/NE Killingsworth - N Greeley Ave to Cascade Hwy (NE 82nd Ave)Kruse Way
- N Lombard St., N Columbia- St John's Bridge, West end to NE Martin Luther King Blvd.
- Mississippi/Albina - Fremont and Vancouver to Mississippi to Lombard
- N 1st Ave.
- SW Naito/NW Naito Parkway - SW Barbur to Steel Bridge
- NE 25th/SE 32nd
- Portland to Damascus (SE Foster Rd.) SE Powell Blvd. to SE Sunnyside Rd.
- Powell Blvd. – Ross Island Bridge to Gresham
- Prescott – NE 42nd Ave to NE 122nd Ave
- Rosa Parks, Willamette Blvd (W. Portsmuth connection to Lombard) from N Vancouver Ave to N Richmond Ave.
- NE Sandy Blvd. - NE Couch to SW 257th Ave.
- SE 155th/Milmain
- SE 172nd – SE Foster to Hwy to Hwy 212
- SE 242nd Ave - SE Butler Rd. to SE Roberts Rd.
- SE 242nd/SE Hogan
- SE Stark St. (w/SE Washington couplet) SE 50th Ave to NE Kane Drive.
- SW 185th Ave. to PCC – (SW 185th Ave) Aloha at Hwy 8 to NW Springville
- SW 206th
- SW Cedar Hills Blvd. - Beaverton at SW Farmington Rd. to Hwy 26, Cedar Mill
- Swan Island to St John's Bridge – (Going, Greeley, N Peninsula, N Willis, N Alaska, Fesseden, N Lombard) Going St on Swan Island to St John's, Lombard and N Commando Ave.
- Troutdale to Gresham (NE Kane Drive, SW 257th) - NE Division St. to E Columbia River Hwy
- Vancouver/Williams – Rose Quarter to Rosa Parks
- Woodstock – SE 39th to SE Foster Rd.

Regional Trails with higher percentages of underserved populations:

- Beaverton Creek Trail
- Clackamas River Greenway Trail
- Columbia Slough Trail
- Council Creek Trail
- East Buttes Power Line Corridor Trail
- Fanno Creek Greenway
- Gresham / Fairview Trail
- Highway 217 Trail
- Highway 47 Trail
- I-205 Corridor
- I-405 Trail
- I-84 Bike Path
- Kelley Creek Trail

- Kruse Way Path
- MAX Path
- Mt. Scott/Scouter Mountain Trails
- Pearl-Keeler Powerline Trail
- Peninsula Crossing Trail
- Phillips Creek Trail
- Southwest Portland Willamette Greenway Trail
- Springwater Corridor
- Sunrise Multi-Use Path
- Waterhouse Trail
- Westside Trail
- Willamette River Bridges

5. **Focus active transportation investments to improve access to transit, utilizing the priorities identified in TriMet's *Pedestrian Network Analysis and access to transit priorities identified in SMART's Transit Master Plan*.** TriMet, in partnership with jurisdictions, agencies and stakeholders, identified ten initial focus areas for improving access to transit.[101] The recommendations target pedestrian access, but the improvements will benefit all types of active travel. The ATP recommends focusing investments on the identified focus areas to improve access to transit, including adding secured bicycle parking if possible.

6. **Focus investments in Regional Pedestrian and Bicycle Districts.** These are urban centers with existing or planned high concentration of transit, commercial, cultural, institutional and/or recreational destinations where walking and bicycle travel is attractive, comfortable and safe. Implementation of pedestrian and bicycle infrastructure should be coordinated with land use and development that provide destinations to walk and bike to. The ATP "Regional Bicycle Network Evaluation" and the ATP "Regional Pedestrian Network Analysis" identify areas, corridors and districts on the regional pedestrian and bicycle networks where adding improvements will increase access and activity.

7. **Prioritize projects that remove barriers to pedestrian and bicycle travel, especially if access across the barrier is infrequent.** These types of projects are often challenging and more expensive, therefore prioritization can help move them forward. Projects that provide crossings of major barriers are identified in the ATP project list.

    - New light rail bridge in downtown Portland
    - Lake Oswego to Portland Bridge
    - Hwy 26 Trail
    - Trolley Trail Bridge
    - Sellwood Bridge

[101] The analysis provides a framework and methodology for identifying additional focus areas once the ten areas are improved.

- St. John's Bridge
- Steel Bridge
- Broadway Bridge
- Morrison Bridge
- Burnside Bridge
- Hawthorne Bridge
- Crossings of Hwy 26, including the Westside Trail
- Gaps in the I-205 Trail
- Crossings of I-84
- Crossings of I-205

8. **Include education programs, encouragement programs and initiatives such as Bike Share programs.** Just as important as on-the ground projects are programs that make it easier for people to walk, ride bikes and access transit. Funding decisions should consider the importance of these types of programs

9. **Support 'game changing' projects that will build on the potential to increase levels of walking and bicycling.** Support high priority projects, such as those identified in the BTA's Blueprint for Bicycling and priority areas for walking, safe crossings, access to transit and connectivity, as identified by Oregon Walks in the Getting Around on Foot plan.

Game changing projects, such as this bridge crossing on the East Bank Esplanade in the City of Portland, provide a high return on investment. Thousands of people use the crossing to access jobs, education, shopping and services on both sides of the river.

ATP Project List

The pedestrian and bicycle routes (on-street and trail) and districts that make up the regional active transportation network are provided as a list of projects Appendix 1. Entire routes and districts are identified as individual projects with the idea that seamless corridors and complete districts are needed to support fully functioning pedestrian and bicycle transportation networks.

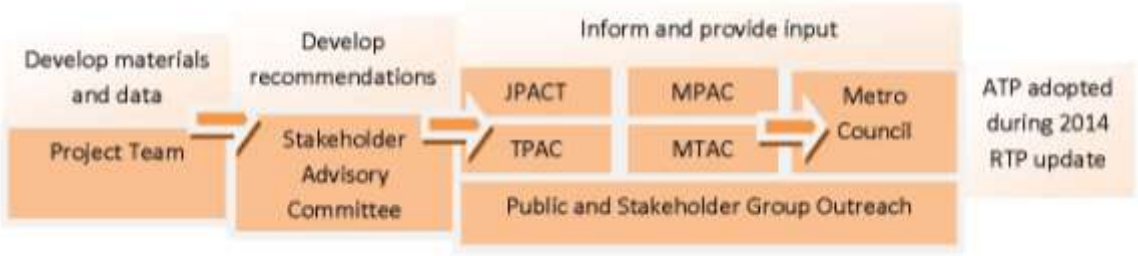
Projects already listed in the 2035 Regional Transportation Plan, and that help complete regional pedestrian and bicycle routes, are identified on the ATP project list. Some routes and districts already have 2035 Regional Transportation Plan projects associated with them, some do not and some have 2035 Regional Transportation Plan projects that complete parts of the route or district. The project list is provided as a tool to frame how projects are defined and pursued in the region. It is intended to be flexible.

CHAPTER 16: PLANNING PROCESS AND STAKEHOLDER ENGAGEMENT

The impetus to develop a regional active transportation plan is the outcome of the adopted 2035 Regional Transportation Plan and The Intertwine Alliance initiative, which started as Connecting Green. The need to better integrate walking and bicycling projects into the Regional Transportation Plan was a recommendation of the Metro Blue Ribbon Committee for Trails in 2009.[102] The Blue Ribbon Committee recommended that development of the regional trails system should be accelerated, and that it must be done as part of a larger strategy to support active transportation – including well integrated and mutually supportive regional bicycle, pedestrian and transit networks. Development of a regional active transportation plan was identified as a follow up implementation activity in the 2035 Regional Transportation Plan.[103]

Planning process

Development of the ATP was guided by a Stakeholder Advisory Committee composed of staff from jurisdictions and agencies, advocates and citizens, and with input from stakeholder groups, the Executive Council for Active Transportation, the public, Metro's advisory committees and the Metro Council. The plan was developed between January 2012 and June 2013.



Committee and Stakeholder Engagement

- The **Metro Council** is the region's directly elected governing body, consisting of a Council President and six district representatives. The Metro Council will vote to adopt the ATP and amend it to the 2035 Regional Transportation Plan during the update of the Regional Transportation Plan in 2014.
- The **Joint Policy Advisory Committee on Transportation (JPACT)** is a committee of elected officials and representatives of agencies involved in transportation related needs for the region.All transportation related actions (including federal MPO actions) are recommended by JPACT to the Metro council. The Metro Council can approve the recommendations or refer them back to JPACT with a specific

[102] "The Case for an Integrated Mobility Strategy: Walking and Bicycling Offer an Immediate Opportunity to Tackle Key Challenges" (2009), The Blue Ribbon Committee for Trails final report

[103] Chapter 6.

concern for reconsideration. Final approval of each item, therefore, requires the concurrence of both bodies. As a component of the Regional Transportation Plan, the ATP must be approved by both JPACT and MPAC before implementation. A

- The **Metro Policy Advisory Committee (MPAC)** is a charter mandated committee of local government representatives and citizens. Under state law, the Regional Transportation Plan serves as the region's transportation system plan. As a result, MPAC also has a role in approving the regional transportation plan, and thus the ATP, as a land use action, consistent with statewide planning goals and the Metro Charter.
- The **Transportation Policy Alternatives Committee (TPAC)** provides technical input to JPACT and transportation planning and funding priorities for the region. TPAC will receive updates and provide input on the development of the ATP.
- The **Metro Technical Advisory Committee (MTAC)** is composed of planners, citizens and business representatives and provides detailed technical support to MPAC. MTAC will receive updates and provide input on the development of the ATP.
- The **Project Team** is composed of Metro staff and consultant and developed the work products and data.
- The **Project Stakeholder Advisory Committee (SAC) and sub-committees** provided technical and policy guidance for the project and developed recommendations. The SAC membership includes bicycle, pedestrian, trail and transit planners and advocates, and representatives of elders, youth, and health.
- The **Executive Council for Active Transportation (ECAT)** provided high level guidance in the early stages of the project. ECAT was initially formed to support the development of a regional active transportation network through the Intertwine initiative.
- **Stakeholder groups** (listed below) provided input at staff presentations on the project.
- The **Public** provided valuable input at a public open house on May 23, 2013. Additionally, metro conducted an Active Transportation Opt-In poll at the start of the project and received responses from nearly 4,000 residents. The results of the poll were used to develop the workplan for the project. Materials and information on the project were provided on the public webpage.

Committees and Stakeholders

ATP Stakeholder Advisory Committee (advisory committee for the project)
Access Recreation
Bicycle Transportation Alliance Project Advisory Committee
Clackamas County Bicycle and Pedestrian Committee
Clackamas County Transportation Advisory Committee

East Multnomah County Transportation Coordinating Committee
Elders in Action Commission (Multnomah County)
Executive Council for Active Transportation
Gresham Transportation Subcommittee
Metro Council
MPAC
MTAC
Multnomah County Pedestrian and Bicycle Advisory Committee
Oregon Bicycle and Pedestrian Advisory Committee (Oregon Dept. of Transportation)
Portland Bicycle Advisory Committee
Portland Freight Advisory Committee
Portland Pedestrian Advisory Committee
TPAC
Washington County Coordinating Committee
Washington County Coordinating Committee TAC
Westside Economic Alliance Transportation Committee

Public Engagement

Active Transportation Opt-In Survey, 2011
Intertwine Summit, October 2012
Public Open House, May 2013
Open house materials available on-line for extended public input
Quarterly Regional Trail Forums – updates and presentations
Oregon Active Transportation Summit – table and presentation, April 2013

Metro Workgroup Coordination

Climate Smart Scenarios
Making the Greatest Place Group
SW Corridor

An active transportation network that functions well for the most vulnerable people functions well for everyone. Photo: TriMet

ACRONYMS

ATP	Active Transportation Plan for the Region
BTA	Bicycle Transportation Alliance
EMCP	East Metro Connections Plan
ECAT	Executive Council for Active Transportation
JPACT	Joint Policy Advisory Committee on Transportation
MPAC	Metro Policy Advisory Committee
MTIP	Metropolitan Transportation Improvement Program
MTAC	Metro Technical Advisory Committee
ODOT	Oregon Department of Transportation
RTFP	Regional Transportation Functional Plan
RTP	Regional Transportation Plan
UGMFP	Urban Growth Management Functional Plan
SAC	Stakeholder Advisory Committee
TPAC	Transportation Policy Alternatives Committee
TSP	Transportation System Plan

LIST OF SUPPLEMENTAL REPORTS

Information and analyses produced for or used in the development of the ATP are available on Metro's active transportation web page: www.oregonmetro.gov/activetransport

1. Existing Conditions, Findings and Opportunities Report, August 2012
2. Pedestrian Network Analysis Report, June 2013
3. Regional Bicycle Network Evaluation, April 2013
4. Benefits of Active Transportation & Considerations for Implementation, June 2013
5. Intertwine Trail Use Snapshot Report, June 2013
6. Active Transportation Survey Results, Opt-In Survey, October 2011
7. Stakeholder Communication Strategy for the ATP, February 2012
8. Regional Transportation Safety Plan, May 11, 2012
9. Metro State of Safety Report, April 2012

APPENDICES

1. ATP Project List
2. Planning Level Cost Estimate Assumptions for the ATP
3. Transportation System Plans, Bicycle and Pedestrian Plans
4. Glossary of Selected Terms

Appendix 1: Regional Active Transportation Plan Project List - DRAFT

ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
B1	Bike	Washington County	Washington County	Jackson School Road	Evergreen	Council Creek Trail/TV Hwy	Bicycle Parkway	10826	Roadway will be improved in next five years; consider adding bike/ped project to road project.
B2	Bike	Washington County	Washington County	NW Evergreen	NE Jackson School Rd.	NW Cornell Road	Bicycle Parkway	10597, 10814	Consider adding bikeway project
B3	Bike	Washington County	Cornelius, Hillsboro, Beaverton, Aloha	Tualatin Valley Hwy	Council Creek Trail (TV Hwy Trail) connection at S 1st Ave	Westside Trail	Bicycle Parkway	10846	RTP project covers Hillsboro section, new project(s) needed to address continuous bicycle parkway connecting jurisdictions
B4	Bike	Washington County	Hillsboro	NE Grant/NE Veterans	NE Jackson School Rd.	Brookwood	Bicycle Parkway	10833	RTP project to construct new road connecting to Brookwood. Project for upgrading Grant needed.
B5	Bike	Washington County	Washington County	NW Walker	Amberglen	SW Canyon Road	Bicycle Parkway	11233, 11235	RTP projects widens Walker from two to five lanes with bike lanes from 185th to Hwy 217. Update project to include bicycle parkway.
B6	Bike	Washington County	Hillsboro	Brookwood	Evergreen	Rock Creek Trail	Bicycle Parkway	11140	RTP project includes parallel bicycle path. Extend project to include extent of Parkway.
B7	Bike	Washington County	Beaverton	NW Cornell/SW Barnes	Evergreen	Hwy 26 Multi Use Path connection	Bicycle Parkway	10559	RTP: widen to 5 lanes from Murray to Hwy 26
B8	Bike	Washington County	Beaverton	SW Cedar Hills BLvd.	SW Barnes	Walker	Bicycle Parkway	10634	RTP project from Farmington to Walker
B9	Bike	Washington County	Beaverton	Beaverton Hillsdale Hwy	Hocken	Scholls Ferry Road	Bicycle Parkway	No	RTP projects cover Portland segments. Project(s) needed for rest of corridor
B10	Bike	Washington County	Beaverton	SW Hall Blvd	SW Broadway	Fanno Creek Trail, south of Hunziker	Bicycle Parkway	10619, 11220	Critical on road section of the Crescent Connection. 10619: Crescent extension
B11	Bike	Washington County	Beaverton	SW Greenway/SW Brockman/ SW Beard/SW Nora	Hall Blvd /Fanno Creek Trail	Westside Trail	Bicycle Parkway	10654	Nora project for sidewalks and bikelanes; exisitng bikelanes on Broackman and Beard
B12	Bike	Washington County	Beaverton/ Portland	Scholls Ferry Rd.	Tile Flat	Hall Blvd.	Bicycle Parkway	11213	Need project from Westside trail to Tile Flat. Upgrade existing bike lanes from Hall to Westside Trail; 11213:Bridge crossing of Scholls Ferry Road by the Westside Trail.
B13	Bike	Washington County/Multnomah County	Portland/ Multnomah County	Multnomah Blvd./SW Garden Home	SW Oleson	SW Barbur	Bicycle Parkway	11351	Upgrade exisitng bike lanes. 11351: Reconstruct street to urban standards, including curbs, sidewalks, storm sewers and upgraded street lights, Barbur to 45th Ave.
B14	Bike	Washington County/ Multnomah County	ODOT	Barbur Blvd. (99 W)	Portland	Tonquin Trail in Sherwood	Bicycle Parkway	10283, 11205, 10282, 11324	Upgrade exisitng bike lanes, complete bridges. 10283: Construct Improvements for transit, bikes and pedestrians. Transit improvements include preferential signals, pullouts, shelters, left turn lanes and sidewalks. SW 3rd-Terwilliger. 11205: SW Portland sidewalk infill includes Barbur; 10282: Construct safety improvements, including traffic signals, at the intersection of Capitol Hwy, Taylors Ferry, Huber, and Barbur. Provide better sidewalks and crossings. 11324: Barbur Bridges
B15	Bike	Washington County/ Multnomah County	Portland/ Beaverton	SW Scholls Ferry Road/SW Oleson Rd	Schools Ferry from Hwy 26 to BH Hwy	SW Oleson from BH Hwy to Hall Blvd.	Bicycle Parkway	10188	Need project from County line to Beaverton Hillsdale Hwy. Bike lanes on Schools Ferry from Hwy 26 to Sheridan. 10188: Humphrey to County line, multimodal improvements. Upgrade existing bike lanes on SW Oleson from Hall to BH Hwy
B16	Bike	Multnomah	Portland	Downtown Portland Parkways			Bicycle Parkway	10232	10232:Flanders, NW (Steel Bridge to Westover): Bicycle Facility.

Note: Relevant RTP projects still being identified; ATP projects may change based on stakeholder input; Extents of some Regional Pedestrian Corriodrs and Regional Bikeways are still being identified.

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ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
B17	Bike	Washington County	Wilsonville	SW Boones Ferry Road	Eligsen in Wilsonville	Tualatin River Greenway	Bicycle Parkway		
B18	Bike	Washington County		SW Boeckman Rd.	Tonquin Trail	SW Wilsonville Rd.	Bicycle Parkway		
B19	Bike	Clackamas County		Lake Road/ SE Harmony Rd	Trolley Trail	Scouter Mtn. trail	Bicycle Parkway		
B20	Bike	Multnomah	Portland	Powell/Foster	SE 17th Ave	I-205 Path	Bicycle Parkway		
B21	Bike	Multnomah	Portland	Division Street	SE 50th	I-205 Path	Bicycle Parkway		
B22	Bike	Multnomah	Gresham	NE Hogan Drive	MAX Path	Stark St.	Bicycle Parkway		
B23	Bike	Multnomah	Gresham, Troutdale	NE Kane Dr./SW 257th Ave	NE Division	SW Halsey	Bicycle Parkway		
B24	Bike	Multnomah	Portland, Troutdale	NE Halsey/NW Halsey	I-205 Path	257th in Troutdale	Bicycle Parkway		
B25	Bike	Multnomah	Portland, Gresham	Burnside/Stark	I-205 Path to 188th to Yamhill to MAX Path	SW 257th Ave.	Bicycle Parkway		
B26	Bike	Multnomah		181st/182nd Ave	Stark St.	Springwater Corridor Trail	Bicycle Parkway		
B27	Bike	Multnomah	Portland	SE Clinton	SE 50th	Clinton St. Path	Bicycle Parkway		
B28	Bike	Multnomah County/Clackamas County	Portland, Milwaukie, unicorportated	Cully to Springwater to Harmony, via 50's bikeway and Linwood, Webster to I-205 Path	Killingsworth (NE Portland)	I-205 Path (Clackamas County)	Bicycle Parkway		
B29	Bike	Multnomah	Portland	Sandy	Sullivan's Gulch Trail	Hogan Rd. in Troutdale	Bicycle Parkway		
B30	Bike	Multnomah	Portland	Broadway/Wiedler	Vancouver/Willams	NE 38th crossing	Bicycle Parkway		
B31	Bike	Multnomah	Portland	50's Bikeway	SE Powell Blvd.	Broadway	Bicycle Parkway		
B33	Bike	Multnomah	Portland	Vancouver/Williams	Rose Quarter	MLK Blvd. to I-5 Bridge	Bicycle Parkway		
B34	Bike	Multnomah	Portland	Going Street	Interstate	Basin	Bicycle Parkway	10267	RTP: Interstate to Basin
B35	Bike	Multnomah	Portland	20's (28th)	Broadway	Powell	Bicycle Parkway		
B36	Bike	Multnomah	Portland	72nd, 71st, 76th, 74th	Sullivan's Gulch Trail	Springwater Corridor Trail	Bicycle Parkway		
B37	Bike	Multnomah/ Clackamas		SE Johnson Creek Blvd.	Springwater Trail/SE Bell Ave.	I-205 Path	Bicycle Parkway		
B38	Bike	Clackamas County		Monroe Blvd.	Trolley Trail	I-205 Path	Bicycle Parkway	10099	10099: Bicycle boulevard, from 21st, need to extend for full extent, connections to trails
B39	Bike	Multnomah County	Portland	Interstate Ave	Going St	Lombard	Bicycle Parkway		
B60	Bike	Clackamas County	Lake Oswego	Iron Mtn. Road/SW Boones Ferry Road	N State Street, via A Ave	Tualatin River Greenway	Bicycle Parkway		
B61	Bike	Clackamas County	West Linn	Salamo/Pimico	Willamtte Drive	Willamette falls Drive	Bicycle Parkway		

Note: Relevant RTP projects still being identified; ATP projects may change based on stakeholder input; Extents of some Regional Pedestrian Corriodrs and Regional Bikeways are still being identified.

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B63	Bike	Clackamas County	Oregon City	Oregon City spine, Bridge, 5th Ave, Warner Milne, Beavercreek Road	Oregon City Bridge	Beavercreek road past Community College	Bicycle Parkway		
B64	Bike	Washington County	Beaverton	SW 6th & 5th	Westside Trail	Crescent Connection	Bicycle Parkway		
B65	Bike	Multnomah	Portland	122nd	Stark St.	Springwater Corridor Trail	Bicycle Parkway		
B32	Bike	Multnomah	Portland	NE 9th and 9th Ave crossing of I-84	Caruthers (Willamette River Bridge Crossing)	Mason Bikeway	Bicycle Parkway		Update maps
B62	Bike	Clackamas County		Stafford Road	Willamette River Trail via McVey	Tualatin River Greenway	Bicycle Parkway		
B65	Bike	Multnomah County/Portland		9th Ave	Clinton St. path	Mason	Bicycle Parkway		
BTF1	Bike	Clackamas	TriMet	PMLR Park Ave. Bicycle transit facility			Bicycle transit facility		
BTF2	Bike	Clackamas	TriMet, Milwaukie	PMLR Milwaukie TC Bicycle transit facility			Bicycle transit facility		
T2	Bike/Ped	Washington County	Forest Grove	Hwy 47 Trail	Pacific Ave.	Hwy 47/B street	Bicycle/Pedestrian Parkway	10783	Trail constructed; improvements needed
D1	Bike	Washington County	Forest Grove	Forest Grove Bicycle and Pedestrian District			Bicycle/Pedestrian District	10784, 10783, 10782, 10781	RTP projects improve connectivity to the town center, additional projects needed within town center to fill sidewalk and bikeway
D2	Bike	Washington County	Cornelius	Cornelius Bicycle and Pedestrian District			Bicycle/Pedestrian District	11095, 10785, 10788, 10795, 10796, 10797, 10798, 10799, 10800, 10801, 10802, 10804	RTP projects: main street improvements and road extensions; RTP 10804: bike lnaes on 50 blocks. Consider separate bike/ped distirct improvements
D3	Bike	Washington County	Hillsboro	Hillsboro Bicycle and Pedestrian District			Bicycle/Pedestrian District		
D4	Bike	Washington County		Hillsboro Airport Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D5	Bike	Washington County		Orenco Station Bicycle and Pedestrian District			Bicycle/Pedestrian District		
D7	Bike	Washington County		Bethany Staton Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D8	Bike	Washington County		Willow Creek Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D9	Bike	Washington County		Elmonica Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D10	Bike	Washington County		Merlo Rd Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		

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D11	Bike	Washington County		Beaverton Creek Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D12	Bike	Washington County		Millikan Way Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D13	Bike	Washington County		Aloha Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D14	Bike	Washington County		Beaverton Bicycle/Pedestrian District			Bicycle/Pedestrian District	10616, 10619, 10646, 10630	RTP 10619/10616: Biggi extension, crescent St. Multi-modal extension; 10646: Hall Blvd. / Watson Ave. pedestrian improvements. 10630 Hall Blvd. extension
D15	Bike	Washington County		Cedar Mill Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D16	Bike	Washington County		Sunset Transit Center Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D17	Bike	Washington County/Multnomah County		Raleigh Hills Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D18	Bike	Washington County		Washington Square Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D19	Bike	Washington County		Murray/Scholls Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D20	Bike	Washington County		Tigard Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D21	Bike	Multnomah County		West Portland Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D22	Bike	Multnomah County		Hillsdale Bicycle/Pedestrian District			Bicycle/Pedestrian District	10278, 10279	RTP project is Pedestrian District impr
D23	Bike	Multnomah County		Washington Park Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D24	Bike	Washington County		King City Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D25	Bike	Clackamas County		Lake Grove Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D26	Bike	Clackamas County		Lake Oswego Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D27	Bike	Washington County		Sherwood Bicycle/Pedestrian District			Bicycle/Pedestrian District		

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ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
D28	Bike	Washington County		Tualatin Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D29	Bike	Clackamas County		Wilsonville WES Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D30	Bike	Clackamas County		Wilsonville TC Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D31	Bike	Clackamas County		West Linn - WillametteBicycle/Pedestrian District			Bicycle/Pedestrian District		
D32	Bike	Clackamas County		West Linn - Bolton Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D33	Bike	Clackamas County		Oregon City Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D34	Bike	Clackamas County		Gladstone Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D35	Bike	Clackamas County		Park Ave P&R Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D36	Bike	Clackamas County/Multnomah County		Milwaukie Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D37	Bike	Multnomah County		Tacoma P&R Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D38	Bike	Multnomah County		Bybee Blvd. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D39	Bike	Multnomah County		Holgate Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D40	Bike	Multnomah County		Downtown Portland Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D41	Bike	Multnomah County		Overlook Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D42	Bike	Multnomah County	Portland	Prescott Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	10300	10300: Prescott station area improvements
D43	Bike	Multnomah County		Killingsworth Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D44	Bike	Multnomah County		Rosa Parks Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		

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ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
D45	Bike	Multnomah County		Lombard Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D46	Bike	Multnomah County		Kenton Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D47	Bike	Multnomah County		Delta Park/Vanport Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D48	Bike	Multnomah County		Expo Center Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D49	Bike	Multnomah County		Hayden Island Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D50	Bike	Multnomah County		Hollywood Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D51	Bike	Multnomah County		60th Ave. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D52	Bike	Multnomah County	Portland	NE 82nd Ave. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	No	
D53	Bike	Multnomah County		Portland Airport Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D54	Bike	Multnomah County		Mt Hood Ave. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D55	Bike	Multnomah County		Cascades Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D56	Bike	Multnomah County		Parkrose Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D57	Bike	Multnomah County		Gateway Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D58	Bike	Multnomah County		Division St. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D59	Bike	Multnomah County		Powell Blvd Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D60	Bike	Multnomah County		Lents Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D61	Bike	Clackamas County		Flavel St. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		

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ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
D62	Bike	Clackamas County		Fuller Rd. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D63	Bike	Multnomah County		Clackamas Regional Center Bicycle and Pedestrian District			Bicycle/Pedestrian District		
D64	Bike	Multnomah County		122nd Ave. Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D65	Bike	Multnomah County		148th Ave. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D66	Bike	Multnomah County		Rockwood Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D67	Bike	Multnomah County		Gresham Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D68	Bike	Multnomah County		Fairview Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D69	Bike	Multnomah County		Troutdale Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D70	Bike	Multnomah County		Pleasant Valley Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D71	Bike	Clackamas County		Happy Valley Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D72	Bike	Clackamas County		Damascus Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D73	Bike	Multnomah County		St. Johns Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D74	Bike	Washington County		Hawthorn Farm Station Bicycle/Pedestrian District			Bicycle/Pedestrian District		
D6	Bike	Washington County		Tanasbourne Bicycle/Pedestrian District			Bicycle/Pedestrian District		
T1	Bike/Ped	Washington County		Council Creek Trail	NW Thatcher Road (connects to segment to Banks)	TV Hwy	Bicycle/Pedestrian Parkway		
T10	Bike/Ped	Washington County/Clackamas County		Tualatin River Greenway Trail (segment)	Westside Trail	Willamette falls Drive	Bicycle/Pedestrian Parkway		
T11	Bike/Ped	Washington County/Clackamas County		Ice Age Tonquin Trail (segment)	Downtown Sherwood	SW Boeckman Rd in Wilsonvillle	Bicycle/Pedestrian Parkway		

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ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
T12	Bike/Ped	Washington County/Clackamas County		Fanno Creek Greenway	SW Denny Road	Tualatin River Greenway	Bicycle/Pedestrian Parkway		
T13	Bike	Washington County/Clackamas County		Kruse Way Path (segment)	Iron Mountain Road	SW Bonita	Bicycle/Pedestrian Parkway		Entire trail could be parkway if connection over I-5
T15	Bike/Ped	Washington/Multnomah	Porltand, Beaverton, ODOT	Hwy 26 Bike Path/Sunset Transit Center Trail	I-405 Path	SW Barnes Road	Bicycle/Pedestrian Parkway		
T20	Bike/Ped	Washington County/Multnomah County	Portland, Washington County	Red Electric Trail	SW Oleson Rd.	Willamette River Greenway	Bicycle/Pedestrian Parkway		
T21	Bike/Ped	Clackamas County/Multnomah County		Terwilliger Trail			Bicycle/Pedestrian Parkway		
T23	Bike/Ped	Multnomah County		I-405 Trail			Bicycle/Pedestrian Parkway		
T24	Bike/Ped	Multnomah County		Goose Hollow Trail			Bicycle/Pedestrian Parkway		
T25	Bike/Ped	Clackamas County/Multnomah County	Portland/Lake Oswego	Portland to Lake Oswego Willamette Greenway Trail/Hwy 43 Corridor	Ross Island Bridge	Lake Oswego, A Ave	Bicycle/Pedestrian Parkway		
T26	Bike/Ped	Multnomah County	Portland	Southwest Portland Willamette Greenway Trail	Steel Bridge	Ross Island Bridge	Bicycle/Pedestrian Parkway		
T29	Bike/Ped	Multnomah County	Portland	St. Johns Bridge			Bicycle/Pedestrian Parkway		
T3	Bike/Ped	Washington County	Hillsboro	Rock Creek Trail			Bicycle/Pedestrian Parkway		
T30	Bike/Ped	Multnomah County	Porltand	North Portland Willamette Greenway	Steel Bridge	Columbia Slough Trail	Bicycle/Pedestrian Parkway		
T34	Bike/Ped	Multnomah County	ODOT	I-5 Bridge Trail			Bicycle/Pedestrian Parkway		
T35	Bike/Ped	Multnomah County		Southeast Portland Willamette Greenway	Steel Bridge	Springwater Corridor Trail	Bicycle/Pedestrian Parkway		
T36	Bike/Ped	Multnomah/Clackamas	Portland, Milwaukie	Milwaukie LRT Trail	New Willamette River Light Rail Bridge	Springwater Corridor Trail	Bicycle/Pedestrian Parkway		
T37	Bike/Ped	Multnomah County	Portland	Sullivan's Gulch Trail	Steel Bridge	I-205 Path	Bicycle/Pedestrian Parkway		
T38	Bike/Ped	Multnomah County		Springwater Corridor (along	Sellwood Bridge	Hwy 212	Bicycle/Pedestrian Parkway		
T39	Bike/Ped	Clackamas County		Trolley Trail	17th Ave (connects to 17th Ave Path)	Oregon City, including proposed bridge connecting to Oregon City	Bicycle/Pedestrian Parkway		
T4	Bike/Ped	Washington County		Beaverton Creek Trail	Sw Broadway	SW Jenkins	Bicycle/Pedestrian Parkway		
T40	Bike/Ped	Clackamas County		Clackamas River Greenway Trail	I-205 Path	McLoughlin Blvd.	Bicycle/Pedestrian Parkway		
T42	Bike/Ped	Multnomah County	Portland	Hawthorne Bridge			Bicycle/Pedestrian Parkway		

Note: Relevant RTP projects still being identified; ATP projects may change based on stakeholder input; Extents of some Regional Pedestrian Corriodrs and Regional Bikeways are still being identified.

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ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
T42	Bike/Ped	Multnomah County	Portland	Steel Bridge River Walk			Bicycle/Pedestrian Parkway		
T42	Bike/Ped	Multnomah County	Portland	Morrison Bridge			Bicycle/Pedestrian Parkway		
T42	Bike/Ped	Multnomah County	Portland	Sellwood Bridge Trail	Springwater Corridor	Southwest Portland Willamette Greenway Trail	Bicycle/Pedestrian Parkway		
T43	Bike/Ped	Multnomah /Washington /Clackamas County		I-205 Corridor	Columbia River	Tualatin (trail)	Bicycle/Pedestrian Parkway		New segment in Washington County added as Trail Map update
T46	Bike/Ped	Clackamas County		Lake Oswego to Milwaukie Trail			Bicycle/Pedestrian Parkway		
T47	Bike/Ped	Clackamas County	ODOT	Sunrise MultiUse Path			Bicycle/Pedestrian Parkway		
T48	Bike/ped	Clackamas County		East Buttes Power Line Corridor Trail			Bicycle/Pedestrian Parkway		
T49	Bike/Ped	Clackamas County		Mt. Scott/Scouter Mountain Trails			Bicycle/Pedestrian Parkway		Parkway, segment, Regional segment
T5	Bike/ped	Washington County		Reedville Trail	Rock Creek Trail	Cooper Mountain Trail	Bicycle/Pedestrian Parkway		Parkway until UGB, then Regional, also known as the Pearl-Keeler Powerline Trail or BN Powerline Trail
T54	Bike/Ped	Multnomah County	Gresham	Gresham / Fairview Trail			Bicycle/Pedestrian Parkway		
T55	Bike/Ped	Multnomah County	ODOT	I-84 Bike Path			Bicycle/Pedestrian Parkway		
T56	Bike	Multnomah County	Gresham	MAX Path			Bicycle/Pedestrian Parkway		
T9	Bike/Ped	Washington County		Westside Trail	Rock Creek Trail (south of NW Springville Road)	99W	Bicycle/Pedestrian Parkway		
T8	Bike/Ped	Washington County		Waterhouse Trail	Beaverton Creek Trail/Westside Trail at SW Jenkins Road	SW Springville Road	Bicycle/Pedestrian Parkway		
	Ped	Multnomah /Washington /Clackamas County		Urban arterials			Commnity Pedestrian Corridor		Designate existing urban arterials identified on the RTP Arterial and Throughway Network system map as Regional Pedestrian Corridors
T42	Bike/Ped	Multnomah County	Portland	Ross Island Bridge Trail			Not currently on ATP maps		
P1	Ped	Washington County	Forest Grove, Cornelius, ODOT	Pacific Ave, 19th Ave; N Adair St./Baseline St.	Forest Grove, C St.	Cornelius - to Hillsboro city limits	Pedestrian Parkway	10779, 10846, 10805, 11094	Exisintg RTP projects include ped sidewalk infill on TV hwy in Cornelius, Boulevard/pedestrian treatments in Forest Grove. 10805: TV Hwy sidewalk infill; 11094 sidewaklks on baseline
P2	Ped	Washington County		Tualatin Valley Hwy	Hillsboro (UGB)	Aloha (SW 185th Ave)	Pedestrian Parkway		
P3	Ped	Washington County		Baseline, E. Main St., W. Baeline Rd.	SW Oak St (Hillsboro)	SW 185th Ave.	Pedestrian Parkway		
P4	Ped	Washington County		Tualatin Valley Hwy	SW 185th Ave (Aloha)	Hwy 217 (Beaverton)	Pedestrian Parkway		
P5	Ped	Washington County		SW Canyon Road	SW Beaverton Hillsdale Hwy	Hwy 26	Pedestrian Parkway		

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ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
P6	Ped	Washington County		NE Cornell/NW Cornell	Hillsboro , E Main St.	Cedar Mill at SW Murray Blvd.	Pedestrian Parkway	10559, 11090, 10824	RTP projects: Widen to 5 lanes
P7	Ped	Washington County		NW 231st Ave.	Hwy 8	Orenco	Pedestrian Parkway		
P8	Ped	Washington County		NW 229th/Evergreen	NE Brookwood Pkwy	NW Cornell Rd	Pedestrian Parkway		includes HF bus segment
P9	Ped	Washington County		NW 229th/Evergreen	SW 185th Ave	SW Canyon Rd.	Pedestrian Parkway		
P10	Ped	Washington County		SW Murray Blvd.	HWY 210	NW Cornell Rd.	Pedestrian Parkway		
P11	Ped	Washington County/Multnomah County		HWY 10 (Beaverton Hillsdale Hwy) and 185th and SW Farmington Triangle	SW 185th to Kinnaman at SW Farmington	SW Farmington, Beaverton Hillsdale Hwy to SW Capitol Hwy	Pedestrian Parkway	10274, 10278, 10279	Need project on BH between Beaverton and Portland. RTP: Beaverton-Hillsdale /Bertha/Capitol Hwy, SW: Intersection Improvements. 10278 improvemetns to Hillsdale district
P12	Ped	Washington County		SW 185th Ave.	Aloha at Hwy 8 to NW Springville Rd.	NW Bethany Blvd.	Pedestrian Parkway		
P13	Ped	Washington County		NW Bethany Blvd.	NW German Town Rd	NW Cornell	Pedestrian Parkway		crosses Sunset Hwy
P14	Ped	Washington County		SW Cedar Hills Blvd.	Beaverton at SW Farmington Rd.	Hwy 26, Cedar Mill	Pedestrian Parkway	10634	RTP: Walker to Farmington
P15	Ped	Washington County/Multnomah County		SW Barnes Road/W Burnside Rd.	NW Cornell Rd	NW 23rd.	Pedestrian Parkway		
P16	Ped	Washington County	Beaverton, Tigard, Tualatin	Hall Blvd; includes SW Hunzikier Rd spur; via Washington Square and Tigard	SW Farmington	SW Sagert St.	Pedestrian Parkway	10646, 11220, 10630	10646: Hall Blvd. / Watson Ave., add pedestrian improvements at intersections and amenities (lighting, plazas). RTP 11220: Tigard, Locust to Durham
P17	Ped	Washington County/Clackamas County		SW Parkway Ave	SW Boones Ferry at SW Day Rd	SW Town Center Loop	Pedestrian Parkway		
P18	Ped	Washington County	Washington County	Scholls Ferry Rd (Hwy 210)	SW Murray Blvd.	Beaverton Hillsdale Hwy (Hwy 10)	Pedestrian Parkway	10577	10577: Road widening with bike lanes and sidewalks from BH Hwy to Allen Blvd.
P19	Ped	Washington County		SW Oleson Rd./SW Greenburg Rd.	Washington Square at Hall Blvd	99W	Pedestrian Parkway		includes HF bus segment
P20	Ped	Washington County	Sherwood	Pacific Coast Hwy (99 W)	Tualatin Sherwood Road	SW Hall Blvd	Pedestrian Parkway	10703	10703: Pedestrian upgrades, new sidewalks, sidewalk infill a Old Pacific Hwy. connecting to Sherwood town center
P21	Ped	Washington County/Multnomah County		Barbur Blvd.	SW Hall Blvd (as Pacific Coast Hwy)	Downtown Portland, Hawthorne Bridge	Pedestrian Parkway	10703, 11324	11324: Barbur Bridges
P22	Ped	Clackamas County/Multnomah County		Boones Ferry via Lake Grove	Pilkington Rd	SW Macadam Ave	Pedestrian Parkway		
P23	Ped	Clackamas County		Kruse Way	Tigard at I-5	Boones Ferry Rd.	Pedestrian Parkway		
P24	Ped	Clackamas County		Country Club Road to downtown Lake Oswego	Boones Ferry Rd	SW Riverside Dr.	Pedestrian Parkway		
P25	Ped	Clackamas County/Multnomah County		Hwy 43 - Portland to Oregon City	99E in Oregon City	SE Powell Blvd. (Hwy 26)	Pedestrian Parkway		via Lake Oswego
P26	Ped	Clackamas County		Molalla Ave	99E/7th Ave Oregon City	Hwy 213	Pedestrian Parkway		Oregon City

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ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
P27	Ped	Clackamas County/Multnomah County		McLoughlin Blvd.	UGB	SE Powell Blvd. (Hwy 26), with Bybee Blvd, SE th loop in Sellwood)	Pedestrian Parkway		?includes 17th Ave in Portland?
P28	Ped	Multnomah County		SE Grand Ave	Powell Blvd (Hwy 26)	NE Weidler St.	Pedestrian Parkway		Portland
P29	Ped	Multnomah County		Martin Luther King Blvd.	Powell Blvd (Hwy 26)	NE 6th Drive via NE vancouver Way	Pedestrian Parkway		Portland, includes HF bus
P30	Ped	Washington County/Multnomah County		Beaverton to Barbur Blvd.	SW Murray Blvd.	SW Barbur Blvd.	Pedestrian Parkway		
P31	Ped	Multnomah County		Capitol Hwy	SW 49th Ave. in West Portland	SW Macadam Ave (Hwy 43)	Pedestrian Parkway		via West Portland and Hillsdale
P32	Ped	Multnomah County	Portland	NW 23rd Ave.	W. Burnside St.	NW Nickolai St.	Pedestrian Parkway		
P33	Ped	Multnomah County	Portland	21, 22, 20th ave	W. Burnside St.	NW Thurman	Pedestrian Parkway		
P34	Ped	Multnomah County	Portland	NW Lovejoy	I-405	NW Cornell	Pedestrian Parkway		
P35	Ped	Washington County	Sherwood	99W, SW Sherwood Blvd, SW	Tualatin Sherwood Road	SW Oregon St at SW Murdock Rd.	Pedestrian Parkway		Sherwood
P36	Ped	Multnomah County	Portland	Oregon St.	Hawthorne Bridge, Downtown Portland	SE Powell Blvd. (Hwy 26)	Pedestrian Parkway		Includes SE Madison, inlcudes HF bus
P37	Ped	Multnomah County	Portland	Belomont St.	Morrison Bridge, Downtown Portland	SE 50th Ave.	Pedestrian Parkway		Includes SE Morrison
P38	Ped	Multnomah County	Portland	Burnside	Burnside Bridge, Downtown Portland	Intersection with SE Powell Blvd in Gresham	Pedestrian Parkway		via Gateway and Rockwood
P39	Ped	Multnomah County	Portland	Stark	SE 50th Ave	NE Kane Drive.	Pedestrian Parkway		via Gateway and Rockwood
P40	Ped	Multnomah County	Portland	Halsey St.	Hollywood	Troutdale, SW 257th Ave	Pedestrian Parkway		via Gateway, Rockwood, Wood Village
P41	Ped	Multnomah County	Portland	Naito Parkway	SW Barbur	Steel Bridge	Pedestrian Parkway		includes HF bus segment, Portland, includes Steel Bridge
P42	Ped	Multnomah County	Portland	Weidler	West end of Broadway Bridge	Hollywood Town Center	Pedestrian Parkway		
P43	Ped	Multnomah County	Portland	Interstate Ave	Steel Bridge	Hayden Island	Pedestrian Parkway	10194	RTP 10194: Construct street improvements to improve pedestrian connections to Interstate MAX LRT and to establish a main street character promoting pedestrian-oriented activities.
P44	Ped	Multnomah County	Portland	Lombard	St John's Bridge, West end	NE MLK	Pedestrian Parkway		vis St. John's Town Center, loop of three streets in St. John's
P45	Ped	Multnomah County	Portland	Killingsworth	N Greeley Ave	Cascade Hwy (NE 82nd Ave)	Pedestrian Parkway		Portland
P46	Ped	Multnomah County	Portland	Alberta	NE MLK	NE 33rd Ave.	Pedestrian Parkway		Portland
P47	Ped	Multnomah County	Portland	Going St.	N Interstate Ave	NE MLK	Pedestrian Parkway		Portland
P48	Ped	Multnomah County	Portland	Prescott	NE 42nd Ave.	NE 122nd Ave.	Pedestrian Parkway	10300	RTP: Prescott station area improvements
P49	Ped	Multnomah County	Portland	Fremont	NE MLK	NE Sandy Blvd.	Pedestrian Parkway		Portland
P50	Ped	Multnomah County	Portland	Cesar Chavez Blvd	SE Woodstock	NE Columbia	Pedestrian Parkway		Portland

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P51	Ped	Multnomah County	Portland	Division	SE Grand Ave. (99E)	NE Kane Drive.	Pedestrian Parkway		Downtown Portland to Greasham
P52	Ped	Multnomah County	Portand, Fairview, Troutdale	Sandy Blvd.	intersecton with NE Couch	SW 257th Ave.	Pedestrian Parkway		
P53	Ped	Multnomah County	Portland	Cully	NE Killingsworth	SE Powell Blvd. (Hwy 26)	Pedestrian Parkway		Portland
P54	Ped	Multnomah County/ Clackamas County	Portland, Clackamas County	82nd Ave.	Clcakamas RC at SE Sunnyside Rd.	NE Killingsworth	Pedestrian Parkway	10014, 10018, 10291, 11326	Add bus stop improvement projects. 10014: Widen to add sidewalks, lighting, central median, planting strips and landscaping, Clatsop to Montery Ave. (Clack Co.), 10018: Improve multi-modal access within the Clackamas Regional Center (Montery to Sunnybrook); 10291: Sciller to Portland City limits, Expand into fully curbed, 4-lane, 60-foot wide roadway w/ continuous left-turn lane, sidewalks, street trees, storm drainage improvements, street lighting, & ROW acquisition.
P55	Ped	Multnomah County		Glisan	Sandy Blvd.	NE 102nd Ave	Pedestrian Parkway		to Gateway, includes HF bus route
P56	Ped	Multnomah County		122nd Ave.	SE Foster Rd.	NE Sandy Blvd.	Pedestrian Parkway		Portland
P57	Ped	Multnomah County	Portland/ODOT	Powell Blvd	Ross Island Bridge (W end)	Gresham, intersection with Burnside	Pedestrian Parkway		
P58	Ped	Multnomah County		181st/182nd Ave	Powell Blvd (Hwy 26)	NE Sandy Blvd.	Pedestrian Parkway		via Rockwood
P59	Ped	Multnomah County		Fairview to Gresham	NE Sandy Blvd	E Powell Blvd	Pedestrian Parkway		via Wood Village
P60	Ped	Multnomah County		NE Kane Drive, SW 257th	NE Division St.	E Columbia River Hwy	Pedestrian Parkway		
P61	Ped	Clackamas County/Multnomah County		Holgate	99E	SE Powell Blvd., via 136th	Pedestrian Parkway		Portland
P62	Ped	Multnomah County		Woodstock	SE 39th	SE Foster Rd.	Pedestrian Parkway		to Lents
P63	Ped	Clackamas County/Multnomah County		SE Foster Rd.	SE Powell Blvd. (Hwy 26)	SE Sunnyside Rd.	Pedestrian Parkway		includes SE 190th spur
P64	Ped	Clackamas County/Multnomah County		SE 52nd/SE Flavel/SE Linwood/Webster Rd.	SE Powell Blvd. (Hwy 26)	SE McLoughlin Blvd. (99E)	Pedestrian Parkway		
P65	Ped	Multnomah County		Tacoma St.	West end of Sellwood Bridge	SE McLoughlin Blvd. (99E)	Pedestrian Parkway		
P66	Ped	Clackamas County		Johnson Creek Blvd.	SE Harney Drive	SE 92nd Ave	Pedestrian Parkway		
P67	Ped	Clackamas County/Multnomah County		SE Harrison/Milwaukie Expy/SE Harmony/SE Sunnyside/SE Lake Rd./SE McLoughlin	SE McLoughlin Blvd (99E) at Holgate, with loop around Eastmoreland to SE 46th Ave.	I-205 Clackamas TC	Pedestrian Parkway		includes SE 32nd Ave. spur
P68	Ped	Clackamas County		SE Sunnyside Rd/Hwy 212 (Clackamas Boring Hwy)	I-205	Hwy 212 at UGB	Pedestrian Parkway		via Happy Valley
P69	Ped	Clackamas County/Multnomah County		SE 172nd	SE Foster Rd.	Hwy 212	Pedestrian Parkway		via Happy Valley

Note: Relevant RTP projects still being identified; ATP projects may change based on stakeholder input; Extents of some Regional Pedestrian Corriodrs and Regional Bikeways are still being identified.

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ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
P70	Ped	Clackamas County		SE 222nd Dr	Between SW Butler and SE Borges Rd	Hwy 212 (Clackamas Boring Hwy)	Pedestrian Parkway		
P71	Ped	Clackamas County/Multnomah County		SE 242nd Ave	SE Butler Rd	SE Roberts Rd.	Pedestrian Parkway		
P72	Ped	Clackamas County		Clackamas Hwy	Hwy 212-224	Eagle Creek Hwy	Pedestrian Parkway		
P73	Ped	Multnomah County		OHSU Loop			Pedestrian Parkway		HF bus segment
P74	Ped	Multnomah County		NW Everett	I-405 bridge crossing	NW 21st	Pedestrian Parkway		HF bus segment
P75	Ped	Multnomah County		NW Gleason	I-405 bridge crossing	NW 21st	Pedestrian Parkway		HF bus segment
P76	Ped	Multnomah County		NW Vaugn, NW St. Helen's Rd., NW 35th Ave, NW Yeon Ave, to NW St Helen's Rd.	NW 23rd Ave.	NW Sauvie Island Bridge at NW Gillihan Loop Rd.	Pedestrian Parkway		HF bus segment
P77	Ped	Multnomah County		Milwaukie, 11th, 12th, NE15th,	SE McLoughline Blvd and Milwaukie	NE Dekum	Pedestrian Parkway		
P78	Ped	Multnomah County		52nd to MLK via Columbia, Columbia to Dekum	NE 52nd Ave	NE MLK	Pedestrian Parkway		
P79	Ped	Multnomah County		Rosa Parks, Willamette Blvd (w.Portsmuth connection to Lombard)	N Vancouver Ave	N Richmond Ave.	Pedestrian Parkway		
P80	Ped	Multnomah County		Vancouver/Williams	Rose Quarter	Rosa Parks	Pedestrian Parkway		
P81	Ped	Multnomah County		Mississippi/Albina	Fremont and Vancouver to Mississippi	Lombard	Pedestrian Parkway		
P82	Ped	Multnomah County		Going, Greeley, N Penninsula, N Willis, N Alaska, Fesseden, N Lombard	Going St on Swan Island	St Johns; Lombard and N Commando Ave	Pedestrian Parkway		
P11.a	Ped	Washington County		185th and SW Farmington Triangle	Kinneman to SW Farmington	to Kinneman	Pedestrian Parkway		HF Bus segment
P13.a	Ped	Washington County		NW Union Rd./NW 143rd Ave.	NW Bethany	NW Cornell	Pedestrian Parkway		HF bus segment
54.a	Ped	Multnomah County		72nd Ave. Loop	SE Woodstock	SE 82nd. Ave	Pedestrian Parkway		
P54.a	Ped	Multnomah County		Mt. Scott Blvd. spur	SE 82nd Ave.	SE 112th Ave.	Pedestrian Parkway		
P62.a	Ped	Multnomah County		Duke and Flavel	52nd Ave	Duke: 82nd., Flavel, 72nd.	Pedestrian Parkway		
T27	Bike/Ped	Multnomah County	Portland	Northwest Portland Willamette Greenway Trail			Regional Bikeway		

Note: Relevant RTP projects still being identified; ATP projects may change based on stakeholder input; Extents of some Regional Pedestrian Corriodrs and Regional Bikeways are still being identified.

Appendix 1: Regional Active Transportation Plan Project List - DRAFT

ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
	Bike	Multnomah /Washington /Clackamas County		Community and Regional Bikeways identified on 2035 Bicycle Network Map			Regional Bikeway		
	Bike	Washington County		Hall Blvd	SW Durham	Fanno Creek Trail (north intersection)	Regional Bikeway	10630	
	Bike	Washington County		Hall Blvd	SW Durham	Fanno Creek Trail (south intersection)	Regional Bikeway		New road
	Bike	Washington County		Hall Blvd	SW Greenway	Cedar Hills Blvd.	Regional Bikeway		
	Bike	Multnomah County	Portland	Burnside Couch Couplet	Sandy	Burnside Bridge	Regional Bikeway		
	Ped	Washington County		N 1st Ave.			Regional Pedestrian Corridor		Bicycle Parkway and urban arterial
	Ped	Multnomah		SW Stafford Rd.	N State Street, via McVey Rd	SW Borland rd.	Regional Pedestrian Corridor		Regional Bikeway and urban arterial
	Ped	Multnomah		SE 155th/Milmain SE 162nd Ave	I-84 Trail	SE powell	Regional Pedestrian Corridor		Commu nity Bikeway and urban arterial
	Ped	Multnomah		SE 242nd/SE Hogan (segment)	NE sandy Blvd	SE Lusted Rd	Regional Pedestrian Corridor		Bicycle Parkway and urban arterial
	Ped	Washington County		NW Evergreen			Regional Pedestrian Corridor		Bicycle Parkway and urban arterial
	Ped	Washington County		B-5 SW Brockman/SW Beard	Westside Trail	Hall Blvd.	Regional Pedestrian Corridor		Bicycle Parkway and urban arterial
	Ped	Washington County/Multnomah County		SW Scholls Ferry Rd.	Hwy 26	Hillsdale Hwy	Regional Pedestrian Corridor		Bicycle Parkway and urban arterial
	Ped	Multnomah		B-9 SW Dosch Rd.	Hwy 26 Trail	Hillsdale Hwy	Regional Pedestrian Corridor		Regional Bikeway
T58	Ped	Multnomah County	Gresham	Beaver Creek Canyon Trail (Sandy River to Springwater)			Regional Pedestrian Corridor		Pedestrian only
T59	Ped	Multnomah County	Gresham	Kelly Creek Greenway Trails (Sandy River to Springwater)			Regional Pedestrian Corridor		PED Only part of the Sandy River to Springwater Connection
	Ped	Multnomah County	Troutdale	Cherry Creek Road	SW 257th	S Troutdale Road	Regional Pedestrian Corridor		
	Bike	Multnomah County	Portland	Beaverton Hillsdale Hwy	SW Oleson Road	SW Barbur Blvd.	Regional Bikeway	10274, 10278, 10279	10278 improvemetns to Hillsdale district. RTP projects cover Portland segments. Project(s) needed for rest of corridor

Appendix 1: Regional Active Transportation Plan Project List - DRAFT

ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
	Bike	Washington County	Washington County	SW Schools Ferry Road	Beaverton Hillsdale Hwy	SW Hall Blvd.	Regional Bikeway	10577	10577: Road widening with bike lanes and sidewalks from BH Hwy to Allen Blvd.
	Bike	Clackamas County/Multnomah County	Lake Oswego/Portland	SW Boones Ferry Road/SW Taylors Ferry Road	Iron Mtn. Road	SW Macadam	Regional Bikeway	11081, 10308	11081: bike lanes to north city limits. 10308:Terwilliger - City Limits, Bikeway
	Bike	Washington County	Forest Grove	B-Street	Hwy 47	19th Ave	Regional Bikeway	10782	
	Bike	Washington County	Hillsboro	NE CornellRoad/10th Ave.	NW 206th Ave.	TV Hwy	Regional Bikeway	11090, 10824	RTP project from Baseline to 25th, and Arrington to Main
	Bike	Washington County	Washington County	NW Cornell Road	NW Saltzmann	NW 24th Ave	Regional Bikeway	10558	RTP project from 113th to 107th
	Bike	Clackamas County	Milwaukie	SE 29th & SE 40th	SE King Road	Springwater Corridor Trail	Regional Bikeway	11174	RTP project for adjacent streets, not Regional Bikeways: 29th/40th/42nd Bike Boulevard Intersection Improvements
	Bike	Multnomah	Portland	122nd	Stark St.	NE Airport Way	Regional Bikeway		
	Bike	Clackamas/Multnomah		17th Ave	Springwater Trail	McLoughlin	Regional Bikeway		
	Ped	Washingon County			SW Barnes Road	NW Cornell	Regional Pedestrian Corridor		
T4	Bike/Ped	Washington County		Beaverton Creek Trail	SW Cornelius Pass Road	SW Jenkins	Regional Pedestrian Corridor/Bikeway		
T22	Ped	Multnomah County	Portland	Marquam Trail			Regional Pedestrian Corridor/Bikeway		Pedestrian Only
	Ped	Washington County	Hillsboro	Brookwood	Hwy 26	TV Hwy	Regional Pedestrian Corridor/Bikeway	11140	RTP project includes pedestrian path from Ihly to Cornell. Extend project to include extent of Parkway.
	Ped	Washington County		NW Cornell Road	NW Saltzmann	NW Miller Road	Regional Pedestrian Corridor/Bikeway	10558	RTP project from 113th to 107th
T13	Bike/Ped	Washington County/Clackamas County		Kruse Way Path (segment)	SW Bonita	I-5	Regional Pedestrian Corridor/Bikeway		Entire trail could be parkway if connection over I-5
T17	Bike/Ped	Clackamas County		Lake Oswego to West Linn Trail			Regional Pedestrian Corridor/Bikeway		Trail name may be wrong. Part of Willamette River Greenway
T18	Bike/Ped	Clackamas County		Lake Oswego Willamette River Greenway Trail			Regional Pedestrian Corridor/Bikeway		
T31	Bike/Ped	Multnomah County		Columbia Slough Trail			Regional Pedestrian Corridor/Bikeway		Fills gaps in system; need to determine what is ped only
T32	Bike/Ped	Multnomah County		Peninsula Crossing Trail			Regional Pedestrian Corridor/Bikeway		
T33	Bike/Ped	Multnomah County		Marine Drive Trail			Regional Pedestrian Corridor/Bikeway		

Appendix 1: Regional Active Transportation Plan Project List - DRAFT

ATP ID #	RTP System Map	County	Jurisdiction	Project	Extent From	Extent To	Proposed RTP Designation	Related RTP proj. #	Recommended additions to project list
T44	Bike/ped	Clackamas County		Phillips Creek Trail			Regional Pedestrian Corridor/Bikeway		need to add back on
T45	Bike/Ped	Clackamas County		Oregon City Loop			Regional Pedestrian Corridor/Bikeway		
T50	Bike/Ped	Multnomah County/Clackamas County	Damascus	Gresham Butte Saddle Trails	SE 172nd Ave.	Springwater Corridor Trail at SE Palmquist Rd.	Regional Pedestrian Corridor/Bikeway		
T51	Bike/Ped	Multnomah County		Kelley Creek Trail	Springwater Corridor Trail (near SE Jenner Rd.)	Gresham Butte Saddle Trails	Regional Pedestrian Corridor/Bikeway		This is part of the sandy Rver Springwater connection??
T53	Bike/ped	Clackamas County		Cazadero Trail			Regional Pedestrian Corridor/Bikeway		
T57	Bike	Multnomah County	Gresham	Sandy River Connections (Sandy River to Springwater)	NE Sandy Blvd	Springwater Corridor Trail	Regional Pedestrian Corridor/Bikeway		recommendation from East Metro Connections Plan. This is on S/SE Troutdale Road but designated as off-street connection
T6	Bike/Ped	Washington County		Cooper Mountain Trail	Reedville Trail	Westside Trail	Regional Pedestrian Corridor/Bikeway		
T7	Bike/Ped	Washington County		Bronson Creek Greenway	Beaverton Creek Trail	Westside Trail	Regional Pedestrian Corridor/Bikeway		Intersects with the Waterhouse Trail. Potentially pedestrian only

Appendix 2: Planning Level Cost Estimate Assumptions for the Active Transportation Plan

Planning level cost estimates for developing the regional pedestrian and bicycle networks were developed for the Regional Active Transportation Plan (ATP). The ATP identifies the recommended regional active transportation network. This network is integrated with public transit and is comprised of bicycle and pedestrian parkways, regional bikeways and regional pedestrian corridors, and pedestrian and bicycle districts. The planning level cost estimates can be used to develop funding and implementation strategies, providing a very general idea of the costs of completing and extending the planned network.

1. Costs are in 2012 dollars for consistency with the update of the Regional Transportation Plan.

2. Costs identified in Table 1, below, assume the highest level of design feasible to provide for a fully functioning, safe and comfortable bicycle and pedestrian parkway. Elements such as landscaping (e.g. trees in sidewalk buffer or along trails), lighting, bicycle parking staples, wayfinding, benches, etc. that contribute to complete bicycle and pedestrian routes could be accommodated in the planning level costs in many cases.

3. Cost assumptions include construction, design, engineering and contingency, and costs are federalized, that is, additional administrative costs incurred by federally funded projects are included in the assumption.

4. Cost assumptions do not include acquisition of right of way, drainage/stormwater management, maintenance, or education or programs.

Table 1. Planning Level Federalized Capital Cost Assumptions *

Improvement	Cost per mile, 2012$	Costs can include
New 8-10' sidewalk and 7' buffer (parking or planter strip)	$2 million/side	Sidewalk and parking or planter strip buffer, grading, a few sections with walls, landscaping, wayfinding, signage, seating. Drainage/stormwater management system already in place.
Upgrade existing sidewalk to 8-10' sidewalk and 7' buffer (parking or planter strip)	$1 million/side	Sidewalk upgrade and addition of parking or planter strip buffer if needed, grading, a few sections with walls, landscaping, wayfinding, signage, seating. Drainage/stormwater management system already in place.
New 12' regional trail	$3 million	Trail, intersection crossings, mitigation, access points, bridge crossings, trailheads, signage and lighting. Assumes some ROW may be needed.
Upgrade existing trail in 2035 network to 12-14',	$1.5 million	Widen existing trails 4' from 8' to12' or 10' to 14', repave if needed, lighting, signage, intersection crossings, improved access points.
New bicycle boulevard	$250,000	Signage, markings, speed humps, traffic diversion, crossing elements, lighting, bicycle parking and any other elements to develop a complete bicycle boulevard.
Upgrade existing bicycle boulevard	$100,000	Improve crossings, add signage, fix identified, deficiencies, etc.

Improvement	Cost per mile, 2012$	Costs can include
New or upgraded separated 8-10' in-roadway bikeway	$1 million/side	Costs include signal timing, lane reconfigurations, striping, signage, bicycle parking, lighting, raised curbs, no drainage needed.
Improved or new crossings	$80,000/crossing of five lane arterial	Costs are for a typical 4-5 lane arterial, includes treatments such as rapid flash beacons, curb ramps, median island, signage, lighting striping.

*Cost assumptions do not include acquisition of right-of-way

Included in Sidewalk Cost Assumption

Proposed sidewalk widths are consistent with guidelines for regional and community boulevards and streets described in Metro's "Creating Livable Streets – Street Design Guidelines" (2002). The per mile unit cost was developed by Metro based on the costs included in the table below to provide a general federalized capital cost that assumes no acquisition of right-of-way and no drainage required. Elements such as seating, signage, lighting and landscaping are not broken out, but could be accommodated in the cost/mile estimate for many projects.

Table 2: Sidewalk Costs

New 8-10' sidewalk, no curb	10.00/SF 60.00/LF
New curb	16.00/LF
Grading	17.50/CY
Retaining Wall	250.00/LF
Surveying, Design	30%
Construction Engineering	20%
Administration	35%
Contingency	20%

Included in Trail Cost Opinion

Planning level per mile unit costs for trails are an average per mile cost of twenty trails in the Portland region developed by Alta Planning and Design and described in the 2009 report "Connecting Green Trails, Cost Estimates, Benefits and State of Development for Twenty Regional Trails". The report estimated 229 miles of trail gaps for the twenty trails. The cost opinion for capital was estimated at $518,140,636. The federalized cost opinion estimate was $673,585, 827. The cost opinion for acquisition was $507,414,959. The cost opinion for administrative costs was $7,535,000. Using the federalized cost opinion plus the administrative cost opinion divided by the 229 miles of trail gaps Metro developed a per mile cost opinion of $3,000,000 for federalized capital costs. The following table provides the costs Alta Planning and Design used to determine the cost estimates for the twenty trails. Elements such as seating, signage, lighting and landscaping are not broken out, but could be accommodated in the cost/mile estimate for many projects.

Table 3. Regional Trail Costs

12' Trail common condition	39.75/LF
Add for difficult soils	23.00/LF
Add for 4' fill	20.71/LF
Add for 4' cut	37.68/LF
Add for parallel to stream	99.90/LF
Add for wetland mitigation	262.50/LF
12'wide boardwalk	600.00/LF
14" wide bridge	3,500.00/LF
Intersection	8,760.00 EA
Signalized intersection	131,760.00 EA
Trailhead	78,267.60 EA
High visibility crosswalk	3,000.00 EA
Contingency: concept alignment	40%
Contingency: master planned	35%

Alta Planning and Design, 2009

Table 4. Cost Opinion Summary, Twenty Regional Trails

Total gap length	229
Capital cost opinion	$518,140,636
Federalized cost opinion	$673,582,827
Cost opinion for acquisition	$507,414,959
Cost opinion for administrative costs	$7,535,000

Alta Planning and Design, 2009

Included in bikeway costs

Costs for bicycle boulevards and separated in-roadway bikeways are based on per mile project cost estimates used in the *Portland Bicycle Plan for 2030*, costs (Chapter 5 and Appendix A) and a report developed by the Initiative for Bicycle and Pedestrian Innovation (IBPI) *Draft Report - Cost Analysis of Bicycle Facilities*, (November 2011). The table below provides examples of the range of costs for bicycle boulevards and cycle tracks. Portland has developed the most bicycle boulevards in the region. Costs range from $70,000/ mile to 200,000/mile. In planning for new cycle track facilities the City or Portland is using an estimate of $275/FT or $1.5M/mile. Elements such as signage,

lighting, bicycle parking and landscaping are not broken out, but could be accommodated in the cost/mile estimate for many projects.

Table 5. Cost examples, Bicycle Boulevards and Cycle tracks in Portland

Bicycle Boulevard - include signage, street markings, speed humps, traffic circles, bike boxes, intersection crossings	North Concord Neighborhood Greenway, Portland - Total cost approx $184,000 total cost, $73,600/mile	North 80s Greenway, Portland. Total cost approx $520,000, $200,000/mile.	SE Center-Gladstone Neighborhood Greenway, Portland. Total cost $300,000, $168,000/mile.
Cycle tracks	Street level cycle track $132,000/mile. Broadway cycle track 1,800 feet, $44,623 or $25/ft.	Raised concrete two way cycle track $698/foot, $3.6M/mile (Portland)	Raised cycle track, $275/foot, $1.5M/mile (Portland) Cully Cycle Track, ($360,000/mile)Portland

Initiative for Bicycle and Pedestrian Innovation – IBPI, *Draft Report - Cost Analysis of Bicycle Facilities*, (November 2011)

Table 6. Raised Concrete Cycle Track Costs

2-way raised concrete cycle track, construction	93.00/LF
Project management	23.00/LF
Engineering	23.00/LF
Administration/overhead	78.00/LF
Contingency	58.00/LF

Cost assumptions do not include right-of-way

- Comprehensive regional data for existing right-of-way does not exist. Metro has developed a polygon shapefile showing all right-of-way in the region (approximately 16% of all land), but that data is not yet available by street or trail segment. Local right-of-way data is in varying formats and is not easily combined into a regional data set.
- Metro has some data providing a unit cost for ROW acquisition for trail corridors, developed for 20 trail projects in the region. However recent experience with acquisition has shown those unit cost estimates are probably too high and should not be used.
- Metro investigated developing a unit cost per mile for right-of-way acquisition for on-street bikeways. However, right-of-way acquisition costs vary widely depending on the value of the land and seller willingness. Developing a standard cost for ROW acquisition for the region is therefore unrealistic.
- There are very few instances, if any, in the U.S. where a DOT has acquired ROW solely for a bikeway project, such as a cycletrack. Acquiring ROW for sidewalk expansion is also rare. In instances where bicycle and pedestrian projects are developed on new ROW, the ROW was acquired to expand capacity for autos. It is safe to assume that this trend will continue and that the addition of separated on-street bikeways and sidewalk expansions will, in most circumstances, need to be accommodated in existing ROW through roadway reconfigurations or as part of larger roadway projects.

Table 7, below, provides planning level cost estimates for the regional active transportation network, based on the assumptions described above. The estimates are provided only for discussion and planning purposes

Table 7: Planning Level Cost Estimates for the Regional Active Transportation Network

Projects	Cost per mile	Miles	Cost
New bicycle blvd.	$250,000	5	$1,208,750
Improved bicycle blvd.	$100,000	16	$1,561,500
New trail	$3,000,000	35	$105,645,000
Improved trail	$1,500,000	98	$146,302,500
New separated in roadway	$2,000,000	11	$22,900,000
Improved separated in roadway	$2,000,000	150	$299,400,000
Sidewalk gaps	$2,000,000	648	$1,296,000,000
Number of improved crossings	$80,000/crossing	1551	$124,080,000
Total new and upgraded ATP projects			$1,997,097,750
Total cost of new ATP facilities			$1,549,833,750
Total cost of upgraded facilities			$447,264,000
Total			$1,997,097,750
2035 RTP bike, ped, trail projects			$1,283,000,000
Total			$3,280,097,750

Appendix 3: Transportation System Plans, Bicycle and Pedestrian Plans

Jurisdiction	Date	Title of Plan
Beaverton	2011, June	2035 TSP, Chapter IV of the Comp Plan
Clackamas County	2001	Transportation System Plan
Clackamas County		ClackCo. Regional Center Bicycle and Pedestrian Plan
Clackamas County		Connecting Clackamas Critical Bikeway Connections
Clackamas County	in progress	ClackCo. Active Transportation Plan
Clackamas County	2004	Pedestrian Master Plan
Clackamas County	2003, December	Bicycle Master Plan
Cornelius	2009, Ocotober	Parks Master Plan
Cornelius	2005, June	Transportation System Plan
Damascus	Due 2013	Transportation System Plan
Durham	2005, December	Comprehensive Park and Recreation Plan
Fairview	2000, August	Transportation System Plan
Forest Grove		Comprehensive Plan
Forest Grove	2010	Transportation System Plan
Forest Grove	2007, September	Trails Master Plan
Forest Grove	2002, May	Park, Recreation and Open Space Master Plan
Gladstone	1995, June	Transportation System Plan
Gresham	2010	Bicyle Wayfinding Sign Locations
Gresham	2002	Transportation System Plan
Happy Valley	2009, June	Happy Valley Ped System and Trail Master Plan
Happy Valley	2011, January	Happy Valley Transportation System Plan
Hillsboro	2011, Feb	Parks Master Plan (incl. trails)
Hillsboro	2011, May	Transportation System Plan Update
Johnson City		
King City		Comprehensive Plan
Lake Oswego	2003, June	Lake Oswego Trails and Pathways Master Plan
Lake Oswego	1997, July	Lake Oswego Transportation System Plan
Maywood Park		n/a
Metro		Regional Transportation Functional Plan
Metro		Regional Intertwine Signage Plan
Metro	1992, July	Metropolitan Greenspaces Master Plan
Metro	2004, January	Regional Trail System Plan
Metro	2010, June	2035 RTP
Milwaukie	2007, December	Transportation System Plan
Milwaukie	2009	Bicycle Wayfinding Signage Plan
Multnomah County	1990, August	Bicycle Master Plan
Multnomah County	2005, June	TSP for Urban Pockets of Unicorporated Mult.Co
Multnomah County	1996, April	Pedestrian Master Plan
North Clackamas Parks and Rec.	2004	NCPRD Master Plan
Oregon Dept. of Transportation	1995, June	Bicycle and Pedestrian Design Guide
Oregon State Parks	2004, May	Trail Plans
Oregon City	2004, Oct	Oregon City Trails Master Plan
Oregon City	2001, April	Transportation System Plan
Portland	2012	Portland Plan
Porland		Transportation System Plan
Portland	1998, June	Pedestrian Master Plan
Portland	2010, February	2035 Bicycle Master Plan
Portland	2009, May	Trail Design Guidelines for Portland's Park System
Portland		Southwest Urban Trails
Portland	2006, June	Recreational Trails Strategy: 20 Yr Vision

Appendix 3: Transportation System Plans, Bicycle and Pedestrian Plans

Jurisdiction	Date	Title of Plan
Rivergrove	2011, June	Comprehensive Plan
Sherwood	2005, March	Transportation System Plan
Sherwood	2011, January	Comprehensive Plan
Tualatin Hills Park and Rec.	2006, October	Trails Plan
Tigard	2011, April	DRAFT Tigard Greenway Trails System Master Plan
Tigard	2010, December	Transportation System Plan
Tigard	2005, December	Urban Renewal Plan
TriMet	2012	Transit Investment Plan
TriMet	2012, January	Pedestrian Network Analysis
Troutdale	2005, August	Transportation System Plan
Tualatin		Greenway Plan
Tualatin	2001, June	Transportation System Plan
Washington County	2005	Transportation System Plan
Washington County	2012, draft	Bicycle Faciltiy Design Toolkit
Washington County	2012, draft	Bicyle and Pedestrian Prioritization Project
Washington County	2010, Aug	Pedestrian and Bicyle Plan
West Linn	Pending	Transportation System Plan
West Linn	In Progress	Trails Master Plan
Wilsonville	2003	Transportation System Plan
Wilsonville	2008	Transit Master Plan
Wilsonville	2006, Dec	Bicycle and Pedestrian Master Plan
Wood Village	2012, May	Transportation System Plan
ODOT	2006	Oregon Transportation Plan
ODOT	1995	Oregon Bicycle and Pedestrian Plan
ODOT	2011	Transportation Safety Action Plan
ODOT	1997	Oregon Public Transportation Plan
ODOT	1999	Oregon Highway Plan
ODOT		Statweide Transportation Improvement Program
ODOT		Oregon Statewide Transportation Strategy

APPENDIX 4: SELECTED GLOSSARY OF TERMS

The Regional Transportation Plan includes a comprehensive glossary of terms related to regional transportation planning. Selected terms from the 2035 Regional Transportation Plan glossary in addition to new terms are included below. Terms not included in the current Regional Transportation Plan glossary are identified with an asterisk (*).

***Active transportation** - Non-motorized forms of transportation including walking and biking, people using wheelchairs or mobility devices and skateboarding. Transit is considered part of active transportation because most transit trips start with a walking or bicycle trip.

*** Active transportation network –** combined network of streets, trails and districts identified on the regional transportation pedestrian and bicycle network maps and identified as Pedestrian and Bicycle Parkways, Regional Bikeways, Regional Pedestrian Corridors and Regional Pedestrian and Bicycle Districts, which include station communities. The active transportation network also includes frequent bus routes, all of which are designated as Pedestrian Parkways, and high ridership bus stops.

***Arterial traffic calming** - Designed to manage traffic at higher speeds and volumes, but still minimize speeding and unsafe speeds. Treatments can include raised medians, raised intersections, gateway treatments, textured intersections, refuge islands, road diets, and roundabouts.

Bicycle boulevards - Sometimes called a bicycle priority street, a bicycle boulevard is a low-traffic street where all types of vehicles are allowed, but the street is modified as needed to enhance bicycle safety and convenience by providing direct routes that allow free-flow travel for bicyclists at intersections where possible. Traffic controls are used at major intersections to help bicyclists cross streets. Typically these modifications also calm traffic and improve pedestrian safety.

***Bicycle District** - an area with a concentration of transit, commercial, cultural, institutional and/or recreational destinations where bicycle travel is attractive, comfortable and safe. Bicycle Districts are areas where high levels of bicycle use exist or a planned. Within a Bicycle District, some routes may be designated as Bicycle Parkways or Regional Bikeways, however all routes within the Bicycle District are considered regional. A new concept for the Regional Transportation Plan and added to the regional bicycle network through the ATP. The Central City, Regional and Town Centers and Station Communities are identified as Bicycle Districts.

Bicycle facilities – A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities, all bikeways and shared roadways not specifically designated for bicycle use.

***Bicycle Routes –**Link bicycle facilities together into a clear, easy to follow route using wayfinding such as signs and pavement markings, connecting major destinations such as town centers, neighborhoods and regional destinations.

***Bicycle Parkway** - A bicycle route designed to serve as a bicycle highway providing for direct and efficient travel for large volumes of cyclists with minimal delays in different urban and suburban

environments and to destinations outside the region. These bikeways connect 2040 activity centers, downtowns, institutions and greenspaces within the urban area. The specific design of a bike parkway will vary depending on the land use context within which it passes through. These bikeways could be designed as an off-street trail along a stream or rail corridor, a cycletrack along a main street or town center, or a bicycle boulevard through a residential neighborhood.

***Bikeable -** A place where people live within biking distance to most places they want to visit, whether it is school, work, a grocery store, a park, church, etc. and where it is easy and comfortable to bike.

Bike lane – A portion of a roadway that has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Bike-transit facilities - Infrastructure that provide connections between the two modes, by creating a "bicycle park-and-ride," i.e. large-scale bike parking facility at a transit station.

***Bikeway** – Any road, street, path or right-of-way that is specifically designated in some manner as being open to bicycle travel, either for the exclusive use of bicycles or shared use with other vehicles or pedestrians.

***Cycletrack** – Bicycle lanes that are physically separated from motor vehicle and pedestrian travel.

***Cyclist** – person riding a bicycle

Essential Destinations – in the 2035 Regional Transportation Plan defined as: hospitals and medical centers, major retail sites, grocery stores, elementary, middle and high schools, pharmacies, parks/open spaces, major social service centers (with more than 200 monthly LIFT pick up counts), colleges and universities, employers with greater than 1,500 employees, sports and attraction sites and major government sites.

Equity – In transportation, a normative measure of fairness among transportation system users.

Frequent bus – Frequent bus service offers local and regional bus service with stops approximately every 750 to 1000 feet, providing corridor service rather than nodal service along selected arterial streets. This service typically runs at least every 15 minutes throughout the day and on weekends though frequencies may increase based on demand, and it can include transit preferential treatments, such as reserved bus lanes and transit signal priority, and enhanced passenger infrastructure along the corridor and at major bus stops, such as covered bus shelters, curb extensions, special lighting and median stations.

Gap - Missing links or barriers in the "typical" urban transportation system for any mode that functionally prohibits travel where a connection might be expected to occur. A gap generally means a connection does not exist at all, but could also be the result of a physical barrier such as a throughway, natural feature, weight limitations on a bridge (e.g., Sellwood Bridge), or existing development.

***Greenways -** Greenways generally follow rivers and streams and may or may not provide for public access. In some cases, greenways may be a swath of protected habitat along a stream with no public access. In other cases, greenways may allow for an enviro9nmentally compatible trail, viewpoint or canoe launch site. The greenways that are identified in Metro's regional trails plan do not presently offer public access. Usage of the term "greenway" can be ambiguous because it is sometimes used interchangeably with the word "trail." For example, "Fanno Creek Trail", "Fanno Creek Greenway", and "Fanno Creek Greenway Trail" are used with equal frequency. Trail and greenway professional prefer to make the technical distinction that the "trail" refers to the tread or the actual walking service, while the "greenway" refers to the surrounding park or natural corridor. The term is also ambiguous because the City of Portland recently began referring to its bicycle boulevards as "neighborhood greenways." Neighborhood greenways differ from traditional greenways in that they general do not follow an open space corridor aside from local streets.

Local Bikeways - Trails, streets and connections not identified as regional bicycle routes, but are important to a fully functioning network. Local bikeways are the local collectors of bicycle travel. They are typically shorter routes with less bicycle demand and use. They provide for door-to-door bicycle travel.

Local Pedestrian Connectors – All streets and trails not included on the regional network. Local connectors experience lower volumes of pedestrian activity and are typically on residential and low-volume/speed roadways or smaller trails. Connectors, however, are an important element of the regional pedestrian network because they allow for door-to-door pedestrian travel.

Mobility corridor – Mobility corridors represent sub-areas of the region and include all regional transportation facilities within the subarea as well as the land uses served by the regional transportation system. This includes freeways and highways and parallel networks of arterial streets, regional bicycle parkways, high capacity transit, and frequent bus routes. The function of this network of integrated transportation corridors is metropolitan mobility – moving people and goods between different parts of the region and, in some corridors, connecting the region with the rest of the state and beyond. This framework emphasizes the integration of land use and transportation in determining regional system needs, functions, desired outcomes, performance measures, and investment strategies.

Modal targets – Targets for increased walking, biking, transit, shared ride and other non-drive alone trips as percentages of all trips. The targets apply to trips to, from and within each 2040 Design Type. The targets reflect mode shares for the year 2040 needed to comply with Oregon Transportation Planning Rule objectives to reduce reliance on single-occupancy vehicles.

Mode – A type of transportation distinguished by means used (e.g., such as walking, bike, bus, single- or high-occupancy vehicle, bus, train, truck, air, marine).

Mode choice – The ability to choose one or more modes of transportation.

Mode split – The proportion of total person trips using various modes of transportation.

Multi-modal – The movement of people or goods by more than one mode.

***Multi-modal level of service -** Multimodal level of service (MMLOS) is an analytical tool that measures and rates users' experiences of the transportation system according to their mode. It evaluates not only drivers' experiences, but incorporates the experiences of all other users, such as cyclists and pedestrians.

***Network –** Connected routes forming a cohesive system.

Non-motorized - Generally referring to bicycle, walking and other modes of transportation not involving a motor vehicle.

Pedestrian – A person on foot, in a wheelchair or in another health-related mobility device.

Pedestrian connection – A continuous, unobstructed, reasonably direct route between two points that is intended and suitable for pedestrian use. Pedestrian connections include but are not limited to sidewalks, walkways, accessways, stairways and pedestrian bridges. On developed parcels, pedestrian connections are generally hard surfaced. In parks and natural areas, pedestrian connections may be soft-surfaced pathways. On undeveloped parcels and parcels intended for redevelopment, pedestrian connections may also include rights-of-way or easements for future pedestrian improvements.

Pedestrian Corridor - the second highest functional class of the regional pedestrian network. On-street Regional Pedestrian Corridors are any major or minor arterial on the regional urban arterial network that is not a Pedestrian Parkway. Regional trails that are not Pedestrian Parkways are Regional Pedestrian Corridors. These routes are also expected to see a high level of pedestrian activity, though not as high as the Parkways.

Pedestrian district – A comprehensive plan designation or set of land use regulations designed to provide safe and convenient pedestrian circulation, with a mix of uses, density, and design that support high levels of pedestrian activity and transit use. The pedestrian district can be a concentrated area of pedestrian activity or a corridor. Pedestrian districts can be designated within the following 2040 Design Types: Central City, Regional and Town Centers, Corridors and Main Streets. Though focused on providing a safe and convenient walking environment, pedestrian districts also integrate efficient use of several modes within one area, e.g., auto, transit, and bike.

Pedestrian facility – A facility provided for the benefit of pedestrian travel, including walkways, crosswalks, plazas, signs, signals, illumination and benches.

*** Pedestrian Parkway** – are a new functional class for pedestrian routes in the Regional Transportation Plan and the highest functional class. They are high quality and high priority routes for pedestrian activity. Pedestrian Parkways are major urban streets that provide frequent and almost frequent transit service (existing and planned) or regional trails. Adequate width and separation between pedestrians and bicyclists should be provided on shared use path parkways.

Pedestrian-scale – An urban development pattern where walking is a safe, convenient and interesting travel mode. The following are examples of pedestrian scale facilities: continuous, smooth and wide walking surfaces, easily visible from streets and buildings and safe for walking; minimal points where high speed automobile traffic and pedestrians mix; frequent crossings; and storefronts, trees, bollards, on-street parking, awnings, outdoor seating, signs, doorways and lighting designed to serve those on foot; all well-integrated into the transit system and having uses that cater to pedestrians.

Performance measures – Also called indicators. A measure of how well the transportation system is performing that is used to evaluate the success of the objective with quantitative or qualitative data and provide feedback in the plan's decision-making process. Some measures can be used to predict the future as part of an evaluation process using forecasted data, while other measures can be used to monitor changes based on actual empirical or observed data. In both cases, they can be applied at a system-level, corridor-level and/or project level, and provide the planning process with a basis for evaluating alternatives and making decisions on future transportation investments. They can also be used to monitor performance of the plan in between updates to evaluate the need for refinements to policies, investment strategies or other elements of the plan.

Regional Bike-Transit Facility - the hub where the spokes of the regional bikeway network connect to the regional transit network. Stations and transit centers identified as regional bike-transit facilities have high-capacity bike parking and are suitable locations for bike-sharing and other activities that support bicycling. Criteria for identifying locations are found in the TriMet Bicycle Parking Guidelines.

***Regional bikeway** (updated from current RTP definition) – Designated routes that provide access to and within the central city, regional centers and town centers. These bikeways are typically located on arterial streets but may also be located on collectors or other low-volume streets. These bikeways should be designed using a flexible "toolbox" of bikeway designs, including bike lanes, cycle tracks (physically separated bicycle lanes) shoulder bikeways, shared roadway/wide outside lanes and bicycle priority treatments (e.g. bicycle boulevards).

***Regional destinations –**include the following types of destinations: employment sites with 300 or more employees (includes regional sports and attraction sites such as Oregon Zoo, OMSI, Jen Weld, Rose Stadium); high ridership bus stop locations; regional shopping centers; Major hospitals and medical centers; Colleges, universities and public high schools; Regional parks; major government centers; Social services; Airports; and Libraries.

Regional multi-use trails with transportation function – Paved, off-street facilities connections that accommodate pedestrian and bicycle travel and meet the requirements of the Americans with Disabilities Act. These connections are likely to be used by people walking or bicycling to work or school, to access transit or to travel to a store, library or other local destination. Regional multi-use trails that support both utilitarian and recreational functions are included as part of the regional transportation system. These trails are generally located near or in residential areas or near mixed-use centers. Bicycle/pedestrian sidewalks on bridges are also included in this definition. Multi-use trails are physically

separated from motor vehicle traffic by open space or a barrier. Bicyclists, pedestrians, joggers, skaters and other non-motorized travelers use these facilities.

***Regional Trails -** Regional Trails are defined by Metro as linear facilities for non-motorized users that are mostly off-street and are regionally significant. The term "non-motorized" is used instead of "multi-use" or "multi-modal" because some pedestrian-only trails are considered regional trails, though most regional trails allow bikes and/or horses. "Regionally significant" typically means that a trail is long enough to pass through more than one city. While some definitions state that regional trails are paved with either asphalt or concrete, Metro's definition intentionally omits any mention of trail surface material out of consideration for sensitive habitat areas where natural surfaces may be more appropriate. Colloquially, terms like "bike path" and "multi-use path" are often used interchangeably with "regional trail", except when referring to pedestrian-only regional trails.

Regional transit system - The regional transit system includes light rail, commuter rail, bus rapid transit, frequent bus, regional bus, and streetcar modes.

Regional Transportation Functional Plan – A regional functional plan regulating transportation in the Metro region, as mandated by Metro's Regional Framework Plan. The plan directs local plan implementation of the Regional Transportation Plan.

Regional transportation plan (RTP) - The official multimodal transportation plan that is developed and adopted through the metropolitan transportation planning process for the Portland metropolitan region.

Regional transportation system – The regional transportation system is identified on the regional transportation system map(s) in Chapter 2. The system is limited to facilities of regional significance generally including regional arterials and throughways, high capacity transit and regional transit systems, regional multi-use trails with a transportation function, bicycle and pedestrian facilities that are located on or connect directly to other elements of the regional transportation system, air and marine terminals, as well as regional pipeline and rail systems.

***Short trip –** In the Regional Active Transportation Plan, generally defined as a one-way trip less than three miles.

Sidewalk – A walkway separated from the roadway with a curb, constructed of a durable, hard and smooth surface, designed for preferential or exclusive use by pedestrians.

Stakeholders – Individuals and organizations with an interest in or who are affected by the transportation planning process, including federal, state, regional and local officials and jurisdictions, institutions, community groups, transit operators, freight companies, shippers, the general public, and people who have traditionally been underrepresented.

Station Communities - Areas generally within a 1/4- to 1/2-mile radius of a light rail station or other high capacity transit stops that are planned as multi-modal, mixed-use communities with substantial pedestrian and transit-supportive design characteristics and improvements.

Traffic calming – A transportation system management technique that aims to prevent inappropriate through-traffic and reduce motor vehicle travel speeds on a particular roadway. Traditionally, traffic calming strategies provide speed bumps, curb extensions, planted median strips or rounds and narrowed travel lanes.

Transportation disadvantaged/persons potentially underserved by the transportation system – Individuals who have difficulty in obtaining important transportation services because of their age, income, physical or mental disability.

Transportation management associations (TMA) – Formally designated non-profit coalitions of local businesses and/or public agencies dedicated to reducing traffic congestion and pollution and improving commuting options for employees.

Travel options/choices– The ability range of travel mode choices available, including motor vehicle, walking, bicycling, riding transit and carpooling. Telecommuting is sometimes considered a travel option because it replaces a commute trip with a trip not taken.

***Underserved communities –** Populations that have historically experienced a lack of consideration in the planning and decision making process. It describes communities of concern that are not specifically called out in the federal definition of Environmental Justice. These populations are the elderly, persons with disabilities, children and any other population of people whose needs may not have been full met in the planning process.

Walkable neighborhood - A place where people live within walking distance to most places they want to visit, whether it is school, work, a grocery store, a park, church, etc.

***Walk Score-** an online tool that produces a number between 0 and 100 that measures the walkability of any address. Similar tools for transit and bicycling - Transit Score and Bike Score.

Walkway – A hard-surfaced transportation facility designed and suitable for use by pedestrians, including persons using wheelchairs. Walkways include sidewalks, hard-surfaced portions of accessways, regional trails, paths and paved shoulders.

Clean air and clean water do not stop at city limits or county lines. Neither does the need for jobs, a thriving economy, and sustainable transportation and living choices for people and businesses in the region. Voters have asked Metro to help with the challenges and opportunities that affect the 25 cities and three counties in the Portland metropolitan area.

A regional approach simply makes sense when it comes to providing services, operating venues and making decisions about how the region grows. Metro works with communities to support a resilient economy, keep nature close by and respond to a changing climate. Together, we're making a great place, now and for generations to come.

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