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MAKING A GREAT PLACE

Metro

REGIONAL

ACTIVE TRANSPORTATION PLAN

REVIEW DRAFT

JULY 2013

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.

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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

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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 mobility device 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 our region.**

In the Portland region we make over 18% of our trips walking and by bicycle and the benefits of those trips are many. Compared to other places, our region reports better overall health, reducing health care costs and increasing worker productivity.[i] Our region has a booming $90 million plus bicycle industry. Providing transportation choices attract new businesses and skilled workers. Bicycling tourism and activities generate $89 million in annual economic activity for the region. [ii]

Drive alone trips are declining per capita, and that helps 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 successes, knitting local plans together into a regional vision to achieve our aspirations.

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.

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 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.

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 Poll, 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

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?

Our region is not achieving all of its transportation targets. While nearly 18% of trips 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.[iii] 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 (RTP) to help addresses these challenges.

Our regional road network is very near complete; while ongoing roadway maintenance and improvements to the auto and freight networks are needed, the basic infrastructure is in place. In comparison, the region's planned pedestrian and bicycle networks have major gaps. 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.

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.

At the same time, federal funding, a major source of funding for active transportation is declining.[iv] 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.

Opportunities to expand active transportation

There are several opportunities to expand the active transportation networks and 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. Improving transportation choices and providing education and encouragement increases transportation equity and makes it easier to drive less.
- **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. Metro's State of Safety Report 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.** Nearly 85% of all transit trips start as a walking or bicycling trip. 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 just 15% of short trips made by car with walking and bicycling** 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

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.

trips made by car in the region are less than 3 miles. With complete networks, education and encouragement, many short trips could be replaced.

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

- **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 have increased over 190% – the fastest growth for any mode. 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.

1 INTRODUCTION

The ATP is a regional modal plan of the RTP 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 RTP.

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:

- **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.
- **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.

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**

- **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."
- **New and updated functional classifications** for the bicycle and pedestrian networks 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.
- **Design guidelines.** Design is especially important for people walking and riding bikes on or crossing busy roadways. 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.
- **Policies and implementation actions.** The ATP recommended policies build on existing regional policies for walking and bicycling and suggest specific follow up actions to help implement policies. Implementing the recommended policies will

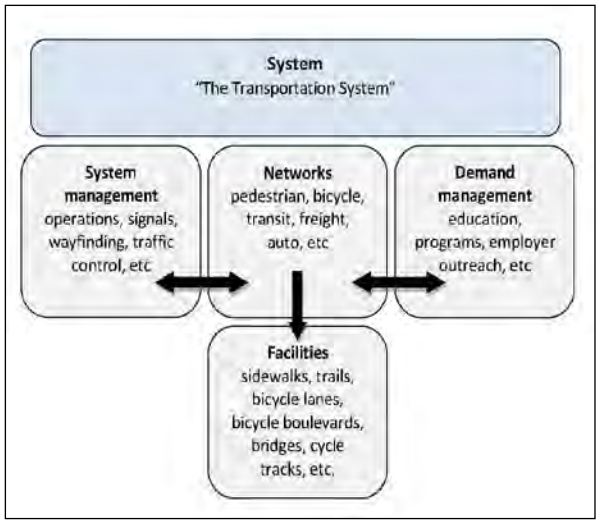
require Metro to work closely with jurisdictions, agencies and stakeholders. The follow up actions provide starting points.

- **Funding strategies** acknowledge that funding is limited and suggest ways to approach funding the regional active transportation network.
- **Implementation strategies and projects.** The RTP has a robust set of pedestrian and bicycle projects, 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.[v]

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?

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 recognized.



The regional transportation system is comprised of different networks and functions that are integrated.

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."*[vi]

How was the ATP developed?

Development of the ATP was guided by a Stakeholder Advisory Committee composed of staff from local 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. Refer to the Planning Process and Stakeholder Engagement section for additional information.

How does the ATP move forward?

The draft ATP will be refined with stakeholder input, and will be integrated into the RTP 2014 update and update of the next policy update of the Metropolitan Transportation Improvement

Plan (MTIP). Once adopted into the RTP, local plans will be updated (during regularly scheduled updates) to be consistent with the RTP. Implementation activities identified in the recommended policies section will occur over time and as funding and resources are available. Recommended projects will be available for jurisdictions and agencies to add to the RTP project list. Changes to the Regional Transportation Functional Plan (RTFP) will be considered in the 2018 update of the RTP.

"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

2 THE 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 Portland metropolitan 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. [vii] Below are a few of the benefits associated with investing in the regional pedestrian and bicycle networks.

- **Investing in the active transportation network improves public health and lowers health care costs associated with inactivity.** People in the Portland region are more active and have lower rates of obesity compared to national and state levels.[viii] However, 26% of adults in the Portland-Vancouver area are obese. [ix]Improvements planned to the regional pedestrian and bicycle networks result in increased levels of active transportation.[x] 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. [xi]

- **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.[xii] Investments in active transportation have been shown to reduce all crashes. [xiii] 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.[xiv] Over $81 million of the costs are associated with pedestrian and bicycle crashes alone.

- **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).[xv] For every 1-mile pedaled or walked rather than driven, nearly one pound of carbon dioxide is saved.[xvi] Investing in the active transportation network in low-income and minority neighborhoods will result in better air quality in these areas, where air pollution is often an issue.

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 Mortality Weekly Report, Vol. 58, No. RR-7, July 2009.

- **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.[xvii] 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. [xviii]The Portland region already keeps an estimated $800 million circulating in the local economy every year due to less driving. [xix]

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!

- **Investing in the active transportation network is cost effective.** Active transportation projects are cheaper to build and maintain compared to auto related projects. Portland's entire 300+ mile bikeway network was constructed for the approximate cost of one freeway interchange $60 million ($2008).[xx] Constructing active transportation related projects creates more jobs than traditional roadway projects. [xxi]

- **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.[xxii] And the bicycle industry brings $90 million and 1,500 jobs to Portland.[xxiii] In Portland, 68% of businesses involved in the SmartTrips Business program said that promoting biking and walking helped them market their business. [xxiv]And, the region benefits from nearly $100 million a year in bicycle related tourism.

- **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.[xxv] People are willing to pay more for homes that allow them to walk or bike rather than drive. [xxvi]

- **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.[xxvii]

- **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 projects are planned and developed impact on the environment must be taken into consideration. Sensitive habitats and resources, such as wetlands, should be avoided. 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 benefits 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 can have multiple safety and operational benefits for autos, as well as pedestrians and cyclists.[xxviii]

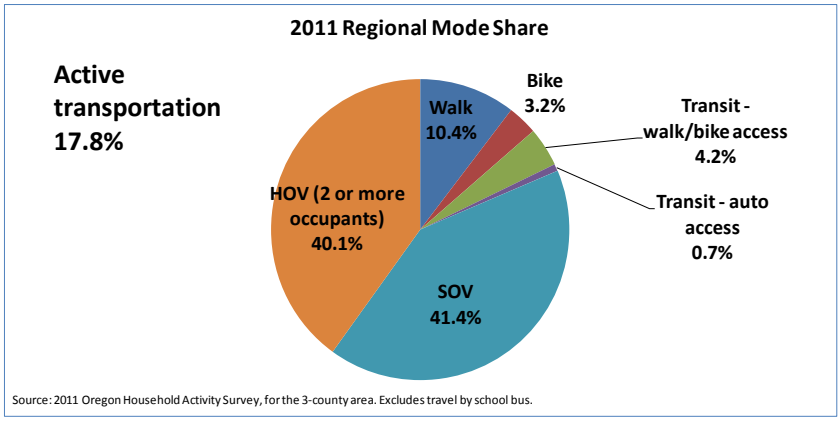
- **Potential for more walking and bicycling crashes.** There can be a concern that encouraging people to walk and ride bicycles more often and improving infrastructure to make it easier will expose people to a greater risk of being hit by a car. Studies show that in most cases more walking and bicycling can lower crash rates and make the system safer for all users. As well, the need for managing roadways to be safe for all users will enhance the safety of all.

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

3 EXISTING CONDITIONS FINDINGS

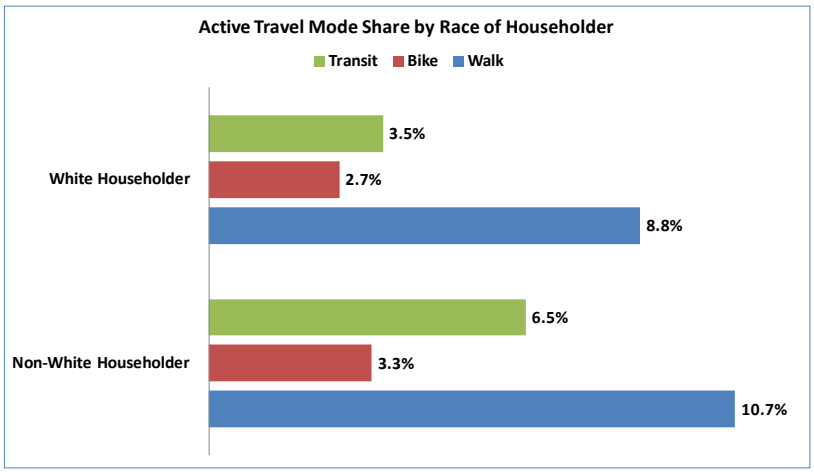
The *ATP Existing Conditions, Findings and Opportunities Report* provides information and analysis of the existing regional bicycle and pedestrian networks. Findings from the report are summarized below. Refer to the Supplemental Reports section for information on the detailed report.

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. The regional bicycle mode share increased by nearly 191%, from 1.1% to 3.2%. Walking increased by over 14%.

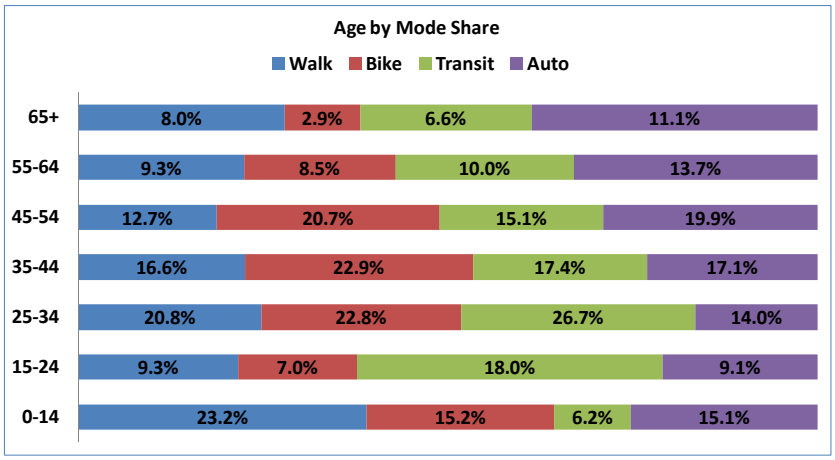


b) Lower income households in the region make more of their trips using active travel, especially walking, than do households with higher incomes. As level of income increases, so does the percentage of trips made by auto. Households with annual incomes of less than $35,000 make up to 25% of their trips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



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.

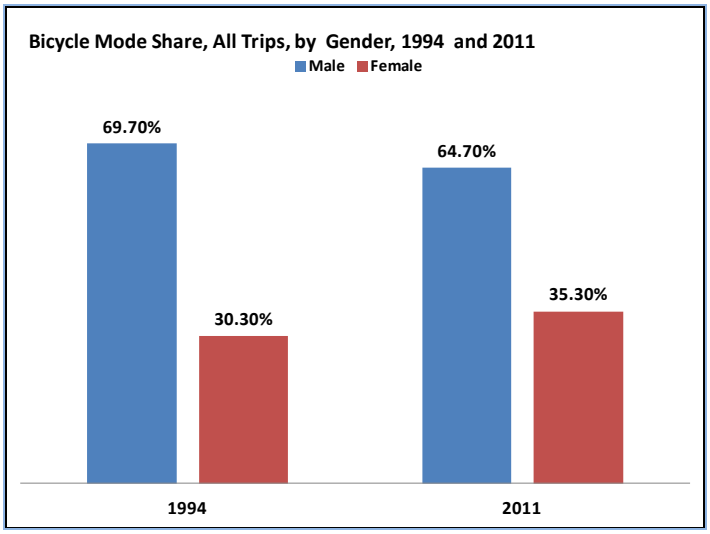
h) Current transportation plans do not achieve regional transportation targets. The 2035 RTP project list does not achieve many of the region's adopted transportation targets; including a decrease in non-drive alone trips and reductions in green house gas emissions, congestion and vehicle miles traveled and travel delay.

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

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.

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.

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 increasing up 16.5% since 1994.



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. See the Appendix, Regional Cycle Zones for a set of factors for areas in the region.

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.

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.

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 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.

r) Programs and education help reduce the number of trips made by auto in the region. Nearly 19% of the Portland area 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. Beaverton's Findley Middle 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.

s) There are areas of the region with incomplete bicycling and walking facilities, less access to essential services and destinations, and have higher concentrations of environmental equity issues and underserved communities, including communities in East Multnomah County; 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.

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.

u) Investments in active transportation have provided a high return on investment and multiple benefits to the region. Comparatively small investments in capital 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.

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 school college trips, and 16% of all errands, entertainment and social trips are made by walking or bicycling.

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

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".[xxix]
- The **2050 Oregon Statewide Transportation Strategy** provides a strategy and vision for reducing green house gas emissions.[xxx] 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." [xxxi] The ATP vision, plan, policies and actions were identified to help implement the Goals and Objectives of the RTP.
- 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.[xxxii]
- **Plans of local jurisdictions** provide visions and aspirations for communities. Local pedestrian and bicycle plans identify priorities that the ATP knits together.

"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

5 ATP 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 unattainable**, **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. 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.*

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 RTP 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. 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?

7 AN INTEGRATED ACTIVE TRANSPORTATION NETWORK

An integrated transportation network responds to needs of people, understanding that different travel modes satisfy 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:

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

Connections to regional destinations

An integrated active transportation network provides access to regional destinations by bike, foot and transit. The ATP Regional Destinations Map illustrates how the pedestrian and bicycle networks link to transit and other regional destinations.

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.
- Integrating biking, walking and transit on tools such as TriMet's trip Planner.
- Linking systems in plans.

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
Forest Grove
Cornelius
Hillsboro
Beaverton
Tigard
Lake Grove
Sherwood
Wilsonville
Milwaukie
Happy Valley
Gresham
Fairview
Damascus
Boring
Gladstone
West Linn
Oregon City
Sandy
Estacada

- 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.

0 2.5 5 Miles

8 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 'n 'Rides and include protected, secure bicycle parking. Some can include showers and bicycle repair, such as the Bike 'n' Ride in Hillsboro.

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**

The recommended regional bicycle network identifies approximately 1,400 miles of Bicycle Parkways and Regional Bikeways and seventy-four bicycle districts.[xxxiv] The network builds on the currently adopted regional bicycle network. [xxxv]

How were the routes identified? Most of the routes were already identified in the 2035 RTP. 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 RTP bicycle network map are recommended as new routes, for example Foster Road in Portland.

REGIONAL BICYCLE NETWORK CONCEPT

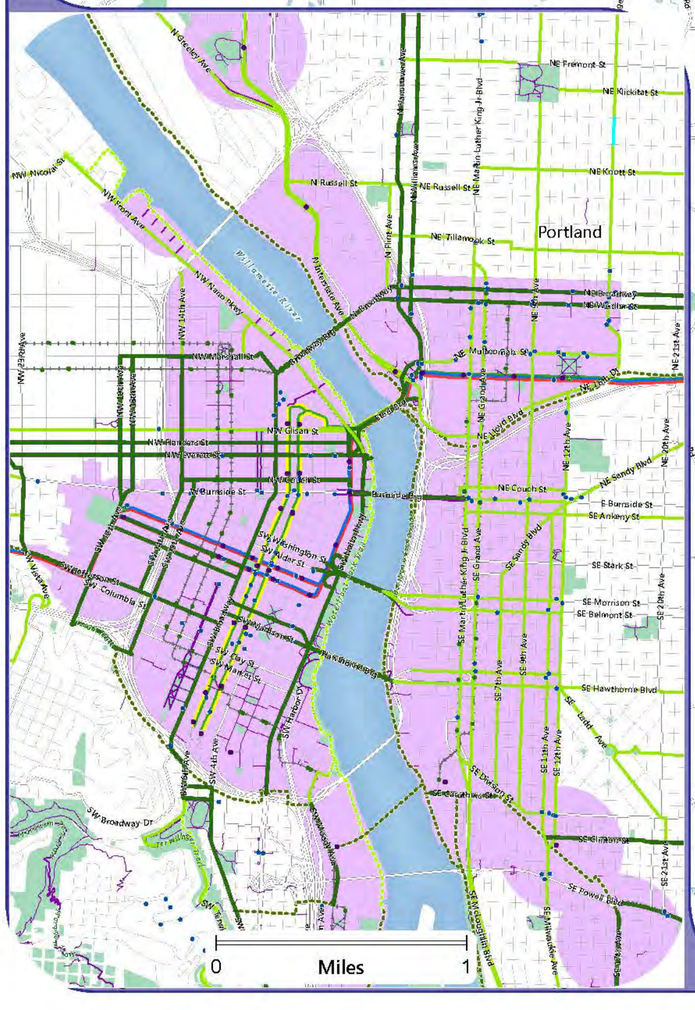
Three separate bicycle network concepts were developed and evaluated to identify the preferred regional bicycle network concept. A description of the evaluation is provided in the supplemental ATP report *Regional Bicycle Network Evaluation Report*, April 2013.

Based on the evaluation of the bicycle network, a recommended bicycle network concept was identified. The recommended concept combines elements of the Spiderweb concept and the Grid concept. 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.

Active Transportation Plan

Recommended Regional Bicycle Network

D R A F T 1.3



Bicycle Parkway
- On street
- Off street

Regional Bikeway
- On street
- Off street

Local Bikeway
- On street
- Off street

Transit
- Bike transit facility
- LRT stops
- Street car stops
- High ridership bus stops
- LRT lines
- Portland street car

- Regional Bicycle Districts
- Parks and natural areas
- county_line
- ugb

0 Miles 9.5

Regional Bicycle Network Functional Classifications

Bicycle Parkways form the spine of the regional bicycle network and are connected by Regional Bikeways. Bicycle Parkways and Regional Bikeways connect to and through Bicycle Districts. The recommended regional bicycle network identifies Bicycle Parkway and Regional Bikeway routes that demonstrate a high level of demand in 2010 and 2035, provide connections to jobs, transit and destinations and serve areas with average 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. The functional classification system described below replaces the current bicycle network classification system in the RTP. Location of frequent and almost frequent transit stops and bicycle transit facilities are included on the network.

Bicycle Districts 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.[xxxvi] 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.

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

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

the regional network should also be considered for expansion as Bicycle Districts, as well as other areas.

Bicycle Parkways are a new functional class for bicycles and are the highest functional class for bicycle facilities. 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. Parkways can be any type of facility designed to parkway standards. Facility types can include shared use paths, separated in-street bikeways and bicycle boulevards. Separated in-street bikeways can be designed in many ways ranging from stripped buffered lanes, to using parking as a buffer to a raised path alongside the road. Bicycle boulevards are typically low traffic streets that use traffic calming to prioritize pedestrian and bicycle travel.

Bicycle Parkways are spaced approximately every two miles, 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). Each Mobility Corridor within the urban area has an identified Bicycle Parkway.

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.

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. The new route must provide 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 RTP (ATP map changes will be incorporated into the RTP) are updated during each RTP update. The maps in the draft ATP are draft until finalized during the 2014 update of the RTP.

"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

9 RECOMMENDED REGIONAL PEDESTRIAN NETWORK

The ATP recommended regional pedestrian network is an interconnected network off-street trails and pedestrian corridors that link pedestrian friendly districts. The recommend network is shown on the Recommended Regional Pedestrian Network map. The map identifies Pedestrian Districts, Pedestrian Parkways, Pedestrian Corridors, Pedestrian Connectors and the location of frequent and almost frequent transit. Districts, parkways and corridors are all part of the regional network. Pedestrian connectors are local streets and trails that are identified to illustrate the important role they have for a complete walking network.

The recommended regional pedestrian network identifies approximately 1245 miles of pedestrian routes and seventy four Pedestrian Districts. See the Appendix for map keys of the districts, Pedestrian Parkways and trails.

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? Most of the routes were already identified in the 2035 RTP. The recommended network identifies 57 miles of new Pedestrian Parkways and 242 new miles of Regional Pedestrian Corridors. 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.

The majority of the new on-street routes are urban arterials that are part of the existing RTP 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. The added streets were evaluated in the *Regional Pedestrian Network.*

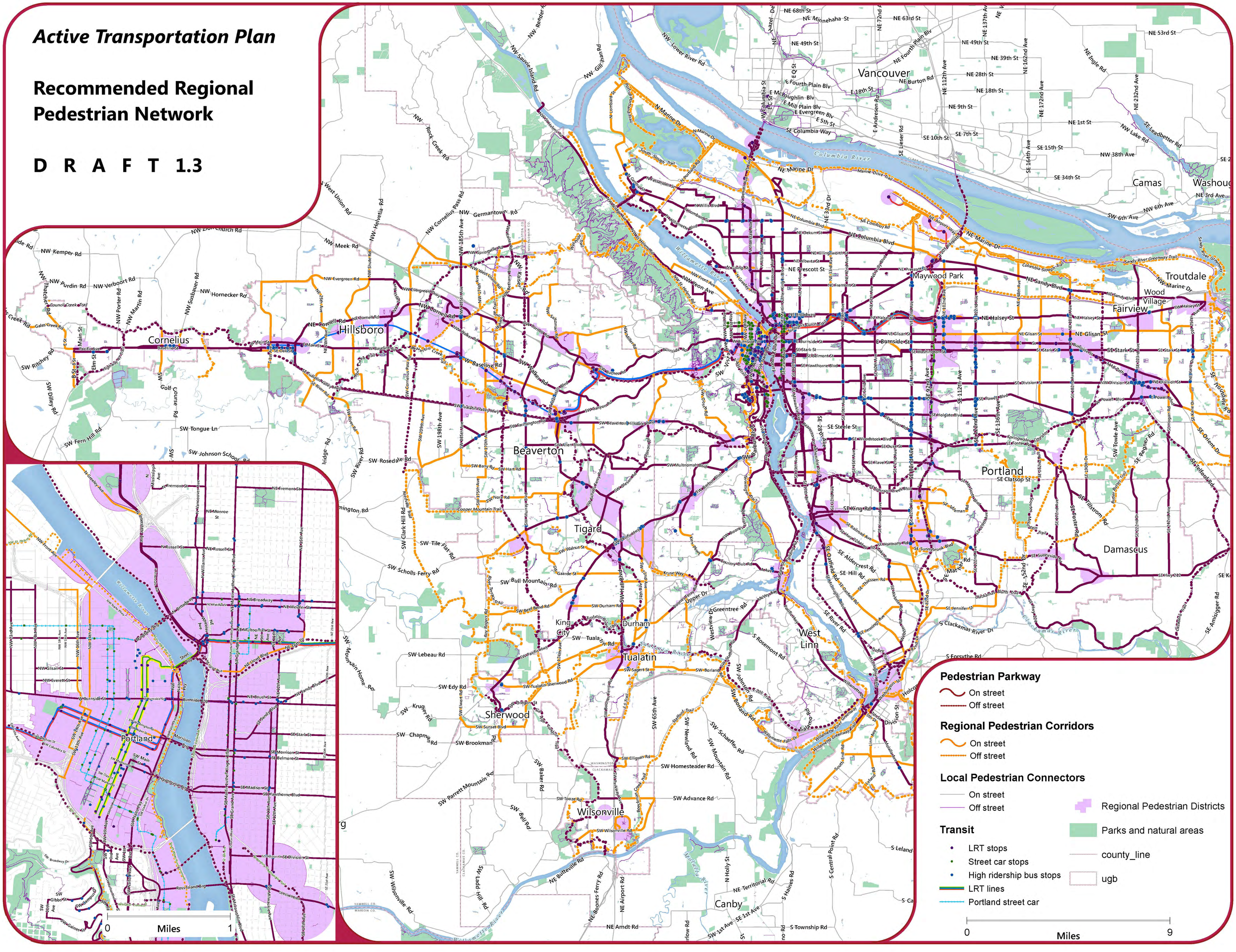
REGIONAL PEDESTRIAN NETWORK CONCEPT

The Principal Regional Pedestrian Network is comprised of Pedestrian Parkways linking into and through Pedestrian Districts and forms the spine of the entire regional pedestrian network. Regional Pedestrian Corridors are urban arterials that serve as key destinations. The regional pedestrian network is organized into functional classes; this is the first time the regional pedestrian network has provided functional classes for pedestrian facilities.

Active Transportation Plan

Recommended Regional Pedestrian Network

D R A F T 1.3



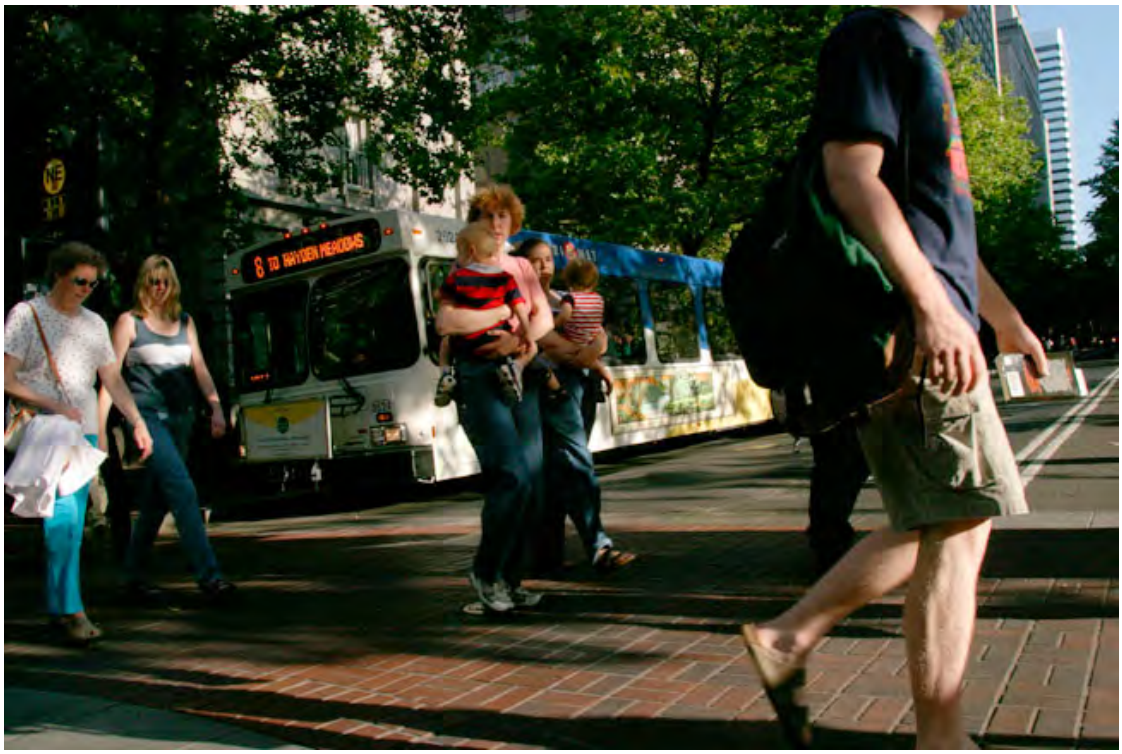
Regional Pedestrian Network Functional Classifications

Pedestrian Districts identified in the ATP are those currently identified on the 2035 RTP pedestrian network map. The Central City, Regional and Town Centers and Station Communities are identified as Pedestrian Districts.[xxxvii] 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 concepts 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 bicycle districts. Additionally, some Main Streets on the regional network should also be considered for expansion as Pedestrian Districts, as well as other areas. For example, Villebois in the City of Wilsonville could be considered as a regional Pedestrian District.

Pedestrian Parkways are a new functional class for pedestrian facilities and the highest functional class for pedestrian facilities. 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) and regional trails that are also Bicycle Parkways. Adequate width and separation between pedestrians and bicyclists are provided on shared use path parkways. The principal pedestrian network provides the spine for regional pedestrian corridors and local pedestrian corridors to make a complete regional pedestrian network.



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.

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 arterial network that is not a Pedestrian Parkway. Regional trails that are not Pedestrian Parkways are Regional Pedestrian Corridors. Regional Pedestrian Corridors experience lower transit frequency.

Local Pedestrian Connectors are all streets and trails 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. Connectors, however, are an important element of the regional pedestrian network because they allow for door-to-door pedestrian travel.

"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

10 DESIGN GUIDELINES

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 help to make walking and bicycling easy, safe and comfortable. Local jurisdictions can choose to meet the optional guidelines or to implement projects using minimum requirements. The purpose of the design guidelines is to illustrate the potential, with the understanding that constraints and tradeoffs will be addressed as projects are designed.

The guidelines provided here are a checklist and should be used in conjunction with fully developed design guidelines such as those listed below. Note that Metro's guidelines recommend wider widths for shared use paths and separated bikeways.

- 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

> 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

Design is especially important for people walking and riding bikes on busy roadways. Design can improve safety for all users and make the transportation system work better. 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. Many active transportation routes are also routes used by freight and transit. 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 and integrate all modes, and that design will vary from project to project. Refer to the Appendix for maps that show where bicycle, pedestrian and freight routes overlap and intersect, and for Key Elements of the Regional Active Transportation Network, which provides images of design treatments.

Functional Class 1 (FC-1): Pedestrian Parkway and Pedestrian District Highest functional class of pedestrian facilities for the regional network. Roadway corridors mirror frequent transit routes. Districts and corridors are areas with current or planned higher levels of pedestrian activity. Functional class 1 off-street shared use paths are also regional bicycle parkways.	**Functional Class 2 (FC-2): Regional Pedestrian Corridor** Second highest functional class of the regional pedestrian network. On-street community pedestrian corridors are major or minor arterials on the regional arterial network that are not Regional Pedestrian Parkways. Off-street community pedestrian corridors are regional trails that are not Pedestrian Parkways.	**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.
FC-1 Design Type A: Off-street shared use path • Minimum width of 14'; additional width and bifurcation where expected demand warrants. • 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.	**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.	**FC -3 Design Type A: Off-street shared use or pedestrian only path** • Local standards apply.
FC-1 Design Type B : Low traffic street, (ADT <12,000 and posted speed is 35 or less) • Minimum sidewalk plus buffer width of 10'. • Buffer width includes width of on-street parking, landscape buffer, furnishing zone; cycle track can serve as a buffer. • Pedestrian clear zone of 6' or more. • Street trees between roadway and pedestrian clear zone. • 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.	**FC-2 Design Type B: Low traffic street, (ADT <12,000 and posted speed is 35 or less)** • Minimum sidewalk plus buffer width of 10'. • Buffer width includes width of on-street parking, landscape buffer, furnishing zone; cycle track can serve as a buffer. • 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.	**FC-3 Design Type B: Low traffic street** • Local standards apply.
FC- 1 Design Type C: High traffic street, (ADT >12,000 or posted speed is 40 or more) • Minimum sidewalk plus buffer width of 17'; raised cycle track can serve as buffer. • Buffer width includes width of on-street parking, landscape buffer, furnishing zone. • Pedestrian clear zone of 6' or more. • Street trees between roadway and pedestrian clear zone. • 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, including raised medians, raised intersections, gateway treatments, textured intersections, refuge islands, road diets, and roundabouts.	**FC- 2 Design Type C: High traffic street, (ADT >12,000 or posted speed is 40 or more)** • Minimum sidewalk plus buffer width of 14'; raised cycle track can serve as buffer. • Buffer width includes width of on-street parking, landscape buffer, furnishing zone. • Pedestrian clear zone of 6' or more. • Street trees between roadway and pedestrian clear zone. • 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, including raised medians, raised intersections, gateway treatments, textured intersections, refuge islands, road diets, and roundabouts.	N/A

Functional Class 1 (FC-1): Bicycle Parkway and Bicycle District The highest functional class for bicycle facilities. High quality routes, the highways for bicycle travel, connecting to and through regional centers. Parkways can be any type of facility designed to parkway standards, including off-street shared use paths, separated in-street bikeways and bicycle boulevards. Shared use path bicycle parkways are also pedestrian parkways.	**Functional Class 2 (FC-2): Regional Bikeway** High-quality routes with seamless connections to bicycle parkways. Regional bikeways can be any type of facility, including off-street trails, bike lanes and bicycle boulevards. On-street regional bikeways located on arterial and collector streets are designed to provide separation from traffic on streets with higher auto speeds and volumes.	**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.
FC-1 Design Type A: Off-street shared use path • Minimum width of 14’; additional width and bifurcation where expected demand warrants. • 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.	**FC-2 Design Type A: Off-street** • 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 and bike parking are included.	**FC-3 Design Type A: Off-street** • Local standards apply.
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 are preferred; 6’ bike lanes are minimum treatment. Crossing treatments at all crossings of collector and arterial roads. • Context-based traffic calming is desirable. • Lighting along bikeway and at intersections.	**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 are preferred; 5’ bike lanes are minimum treatment • Crossing treatments at all crossings of arterial roads. • Context-based traffic calming is desirable. • Lighting along bikeway and at intersections.	**FC-3 Design Type B: Low traffic street** • Local standards apply.
FC-1- Design Type C: High traffic street, (ADT >6,000 or posted speed is 35 or more) • Separation from vehicle traffic is critical. Use cycle tracks, buffered bike lanes (minimum 6’ lane, 4’ 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.	**FC-2 Design Type C: High traffic street, (ADT >6,000 or posted speed is 35 or more)** • Separation from traffic is critical. Buffered bike lanes (minimum 6’ lane, 4’ buffer) or 7’ bike lanes are preferred; 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. • Lighting along bikeway and at intersections.	N/A

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

Considerations for design guidelines

Applying higher design standards to active transportation projects can raise concerns about the impact to other transportation modes or the environment. These concerns are valid and should be addressed as projects are planned and developed.

- Environmental impact of new facilities on habitat and wildlife in environmentally sensitive areas should be addressed as projects are built. As projects are planned and developed impact on the environment must be taken into consideration. Sensitive habitats and resources, such as wetlands, should be avoided. Sensitive design should be used to 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. "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 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.

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.

In some cases, 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.

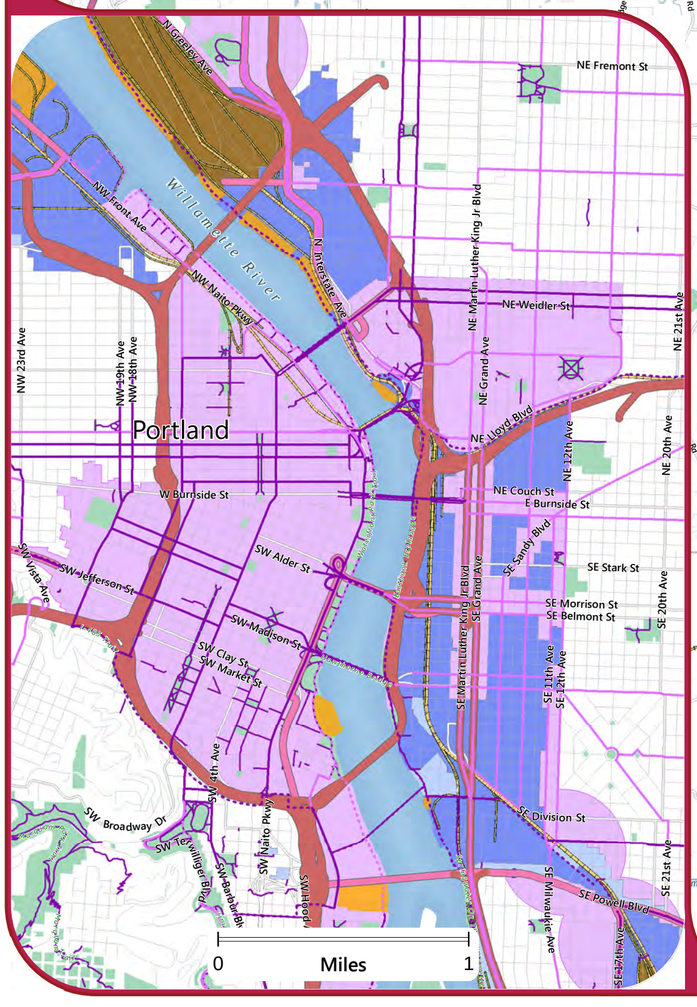
Resources for planning and developing environmentally sensitive and habitat friendly trails

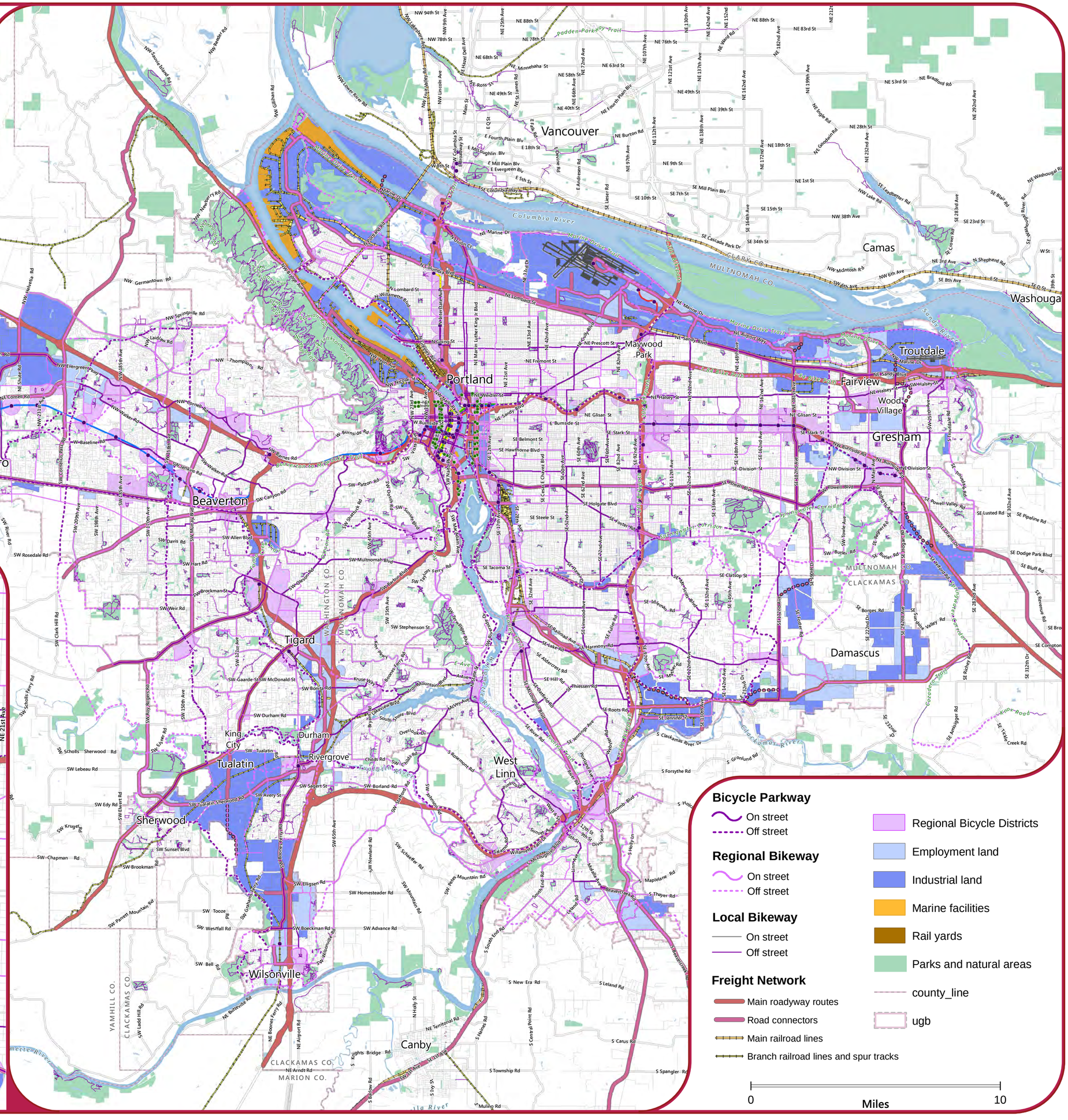
- Green Trails: Guidelines for environmentally friendly trails. Metro.
- Planning Trails with Wildlife in Mind: A handbook for trail planners. Colorado State Parks.
- For regional data, Regional Conservation Strategy for the Greater Portland Vancouver Metropolitan Area. Intertwine and Metro.
- For local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

Active Transportation Plan

Recommended Regional Bicycle Network and RTP Freight Network

D R A F T 1.3





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

[pedestrian/freight map – to be added]

11 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. The actions may require further engagement and discussion with stakeholders.

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.

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, 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 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 Regional Transportation Safety Plan, including lighting, crossing improvements and protected bicycle facilities.

1.5 Encourage jurisdictions and agencies to include education and encouragement in capital project scopes to raise awareness, increase safety and increase use of completed projects.

1.6 Work with partners to identify opportunity areas where short trips made by auto can be easily replaced by walking and bicycling.

1.7 Work with jurisdictions and agencies to provide bicycle parking at transit stops and destinations.

Policy 2. **Develop a well-connected regional network of complete streets and off-street paths integrated with transit 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. The City of Seattle provides an example.

2.2 Work with partners to emphasize the need for safe bicycle and pedestrian facilities on routes with heavy motorized vehicle traffic by prioritizing projects that address pedestrian and bicycle safety on a regular basis. If other policies conflict with the application of this action, seek to integrate the needs of all users while managing the transportation system. In areas where the state and region are actively trying to encourage multi-modal travel, such as multi-modal areas, urban business areas, mixed-use centers, regional boulevards, etc., lead agencies should work to accommodate pedestrian and bicycle solutions when there are conflicting policies. In other areas, seeking solutions such as parallel routes for Bicycle Parkways may be the solution.

2.3 Work with jurisdictions, agencies and stakeholders to encourage physically separated bicycle facilities on roadways with high traffic speeds and volumes. Physically separated bicycle facilities include standard bicycle lanes, buffered bicycle lanes and raised cycletracks.

2.4 Encourage and support partners to use of the Active Transportation Plan design guidelines.

2.5 Endorse the use of the NACTO (National Association of City Transportation Officials) Bike Design Guide and Washington County Bike Design Tool Kit, and other similar guidelines, as best design practices.

2.6 Develop design guidelines for transit and bicycle interaction, especially at transit stops and stations and along tracks.

2.7 Develop design and operation guidelines for regional trails as transportation facilities.

2.8 Work with jurisdictions, agencies and stakeholders to identify best practices and successful case studies integrating bicycle, pedestrian and freight facilities, especially within constrained roadways.

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

2.10 Work with jurisdictions, agencies and stakeholders to update the Regional Transportation Functional Plan, the implementing plan of the Regional Transportation Plan, to include requirements that will implement the recommended networks and policies of the ATP.

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

2.12 Encourage and work with 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.

2.13 Work with jurisdictions, agencies and stakeholders to develop prioritization criteria promoting implementation of a complete transportation network to be used in developing the project lists of local transportation system plans and the Regional Transportation Plan.

2.14 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.

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

2.16 Work with partners, including the Oregon Department of Transportation and TriMet, during the next policy update of the Metropolitan Transportation Improvement Plan (MTIP) consider: implementing recommendations of the ATP through development of the MTIP project list; updating Regional Flexible Funds polices to include active transportation elements in all projects funded with flexible funds; and, using the ATP pedestrian and bicycle network analysis to help guide project selection.

2.17 Identify opportunities to increase knowledge and understanding of the benefits and need for increasing active transportation, including participating in state and local planning, state and local pedestrian and bicycle advisory committees, holding regional forums and workshops, and providing technical assistance.

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, such as feeling safe and welcome on all pedestrian and bicycle routes.

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, especially in areas where there is a high level of demand for walking, bicycling and transit service.

Policy 4. Complete the regional pedestrian and bicycle networks.

Metro actions to implement policy

4.1 Work with partners to refine existing Regional Transportation Plan performance measures and targets to better meet active transportation goals and new federal performance measure requirements. 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, and completeness utilizes level of service measures for pedestrians, transit and bicycles. .

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.

4.3 Develop and adopt a policy in the Regional Transportation Plan and Regional Transportation Functional Plan to complete pedestrian and bicycle networks through maintenance roadway projects in addition to capital projects.

Policy 5. Utilize data and analysis 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 to accurately predict pedestrian and bicycle travel demand generated by capital and programmatic improvements and to model system performances that include bicycling and walking.

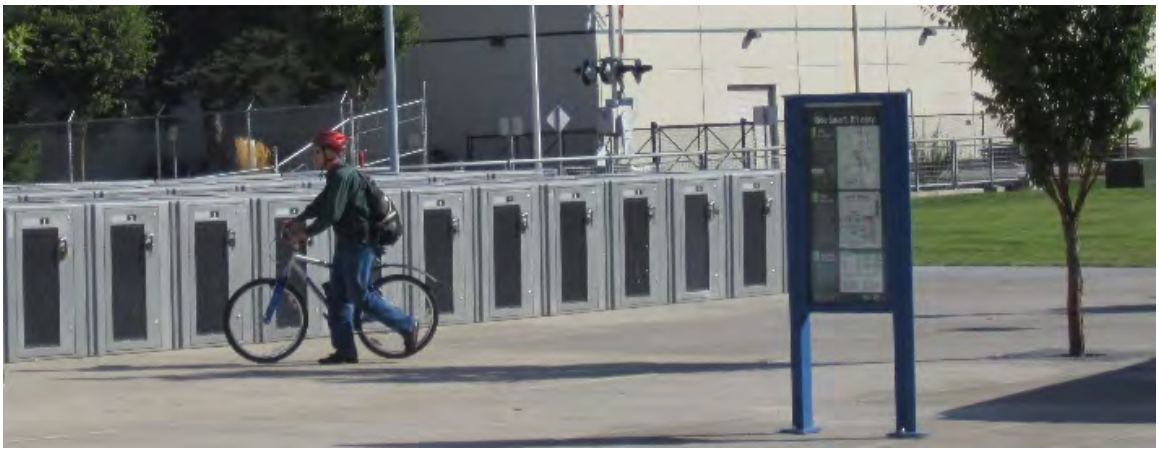
5.3 Work with partners to support the Oregon Household Activity Survey and to include the survey of pedestrian and bicycle activity, including the relationship between bicycle and transit travel in the region.

5.4 Partner with health organizations to incorporate health outcomes into planning and funding decisions.

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 traffic impact analysis tools in development review 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 in regional and corridor planning and investment strategies to address climate change and economic development.



Secure bicycle parking in Wilsonville. 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

12 MODAL TARGETS AND PERFORMANCE MEASURES

Performance measures and targets are important for measuring progress and maintaining accountability. The 2035 RTP developed performance targets and measures associated with active transportation.

The ATP recommends maintaining the current Active Transportation Mode Share and Safety Targets, updating the data reference points.

- By 2035 triple walking, biking and transit mode share compared to 2010 modeled mode shares within urban growth boundary.
- By 2035, reduce the number of pedestrian, bicyclist, and motor vehicle occupant fatalities plus serious injuries each by 50% compared to 2010 levels identified in the Metro State of Safety Report.

In addition to the current RTP System Evaluation Measures and System Monitoring Performance Measures, listed below, the **ATP recommends considering the following additional performance measures to the RTP:**

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.
8. Increase in access to essential destinations via the regional pedestrian and bicycle networks region-wide.
9. Increase in access to essential destinations via the regional pedestrian and bicycle networks region-wide for environmental justice homes and communities.

Current RTP System Evaluation Measures

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 RTP System Monitoring Performance Measures

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
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
13. Average household combined cost of housing and transportation
14. Tons of transportation-related air pollutants (e.g. CO, ozone, and PM-10)

13 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.[xxxviii] 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. Lack 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. 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 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.[xxxix] 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.
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 (UTF). The UTF is currently unfunded, but along with the RTP, present an opportunity to seek new funding for regional trails.
4. **Transit related funding.** TriMet directly receives and allocates 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 TriMet 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 TriMet 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 CMAQ and Transportation Alternative Program (TAP) funds, which fund a substantial amount of active transportation projects in the region. Strategically utilizing these 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.
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.

Cost of the regional network

Stand-alone bicycle, pedestrian and trail projects account for approximately 6% of the $20 billion of projects identified in the 2035 Regional Transportation Plan.[xl] 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 network.

To better understand the funding needs for developing out the regional network, the ATP developed planning level cost estimates for completing, fixing deficiencies and expanding the pedestrian and bicycle parkways, the highest functional class of regional pedestrian and bicycle facilities. Cost estimates include building new facilities not already identified in the 2035 state

RTP project list and upgrading existing facilities (those already built or that have a project in the 2035 state RTP project list. Cost assumptions are included in the Appendix.

Conservative cost estimates representing average costs (some project cost much less, some will cost more) estimate that the total cost for completing the regional pedestrian and bicycle parkway networks is approximately $1.4 billion.

2035 Bicycle Parkway Network Planning Level Cost Estimates

Facility	Cost (millions)
New bicycle boulevard (no project in 2035 State RTP)	$1
Upgrade bicycle boulevard (built or project in RTP)	$1.5
New separated 8-10' in-roadway bikeway (no project in 2035 State RTP)	$23
Upgrade existing in-roadway bikeway to separated (built or project in RTP)	$300
New trail 12' (no project in 2035 State RTP)	$105
Upgrade existing trail (built or project in RTP)	$146
Improved or new crossings	*costs included in pedestrian parkway costs
Total cost 2035 Bicycle Parkway Network	$ 577

Source: Metro and CH2MHill, 2013. Costs are for planning purposes only.

2035 Regional Pedestrian Parkway Network Planning Level Cost Estimates

Facility	Cost (millions)
New sidewalk and buffer (parking, planted, cycle track	$684
New trail 12' (no project in 2035 State RTP)	*costs included in bicycle parkway costs
Upgrade existing trail (built or project in RTP)	*costs included in bicycle parkway costs
Improved or new crossings	$124
Total cost estimates 2035 Regional Pedestrian Network	$808

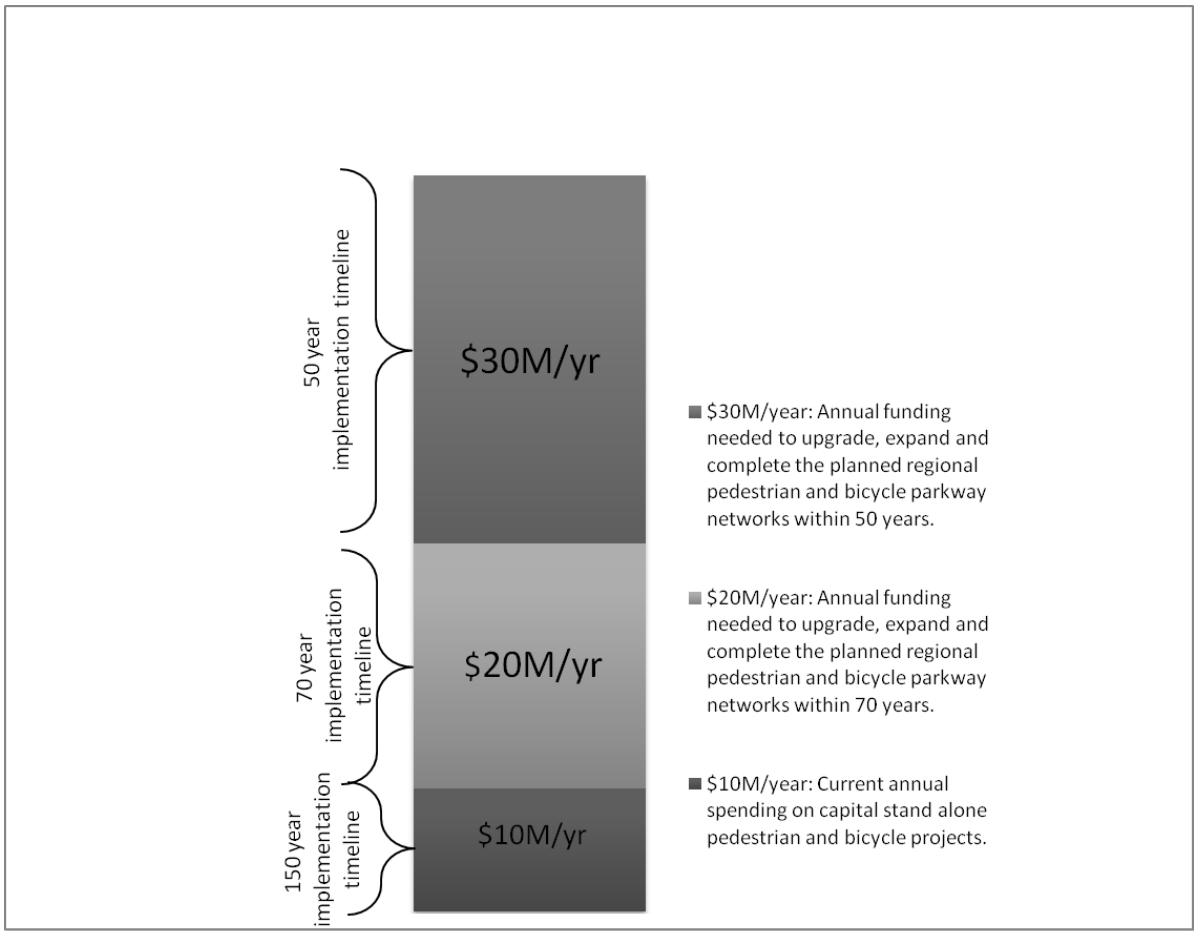
Source: Metro and CH2MHill, 2013. Costs are for planning purposes only.

To put the costs in perspective, this represents approximately 7% of the total cost of the 2035 Regional Transportation Plan (nearly $20 billion in projects). If the network is completed by 2063, 50 years from now, it would cost approximately $30 million a year or $14 per capita for 50 years, or approximately $1million per mile.

Current expenditures on active transportation

Historically, approximately 3% of all federal, state and regional transportation dollars for capital projects have been allocated to stand alone bicycle and pedestrian, an average $10 million a year.[xli] 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.

At the current rate of funding, approximately $10 million/year, it is estimated to take approximately 150 years to complete and expand the regional network of pedestrian and bicycle parkways. A funding strategy that increases levels of funding will allow the region to increase levels of active transportation and experience the benefits sooner.



Funding Level Scenarios and Implementation Timelines. Metro ATP 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.

The 2035 RTP provides cost estimates for regional street operations, maintenance and preservation of approximately $237 million in 2008 and more than $660 million by 2035. The cost estimate includes pedestrian and bicycle projects within the road right-of-way, however, the costs are not broken out by mode. Average maintenance costs vary depending on the type and design of the facility, how much maintenance a jurisdiction performs. 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.

"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

14 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.

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 *Regional Pedestrian Network Analysis* and *Regional Bicycle Network Analysis* 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.**

3. **Fill gaps in the networks that increase access for the most people.** Quickly increasing the number of people walking and riding bicycles for daily trips will help reach transportation targets. Evaluation of improvements to the regional pedestrian and bicycle networks provides information on areas where improvements increase access for the most people. The *ATP Regional Bicycle Network Evaluation* and the *ATP Regional Pedestrian Network Evaluation* identify corridors and districts on the regional pedestrian and bicycle networks where adding improvements will increase access and activity. The reports also provide information on areas where there will be more activity and serve underserved populations.

4. **Support projects that increase access and safety for underserved populations.** *The ATP Regional Bicycle Network Evaluation* and the *ATP Regional Pedestrian Network Evaluation* identify corridors, districts and areas on the regional pedestrian and bicycle networks where adding improvements will increase access to underserved populations.

5. **Focus active transportation investments to improve access to transit, utilizing the priorities identified in TriMet's *Pedestrian Network Analysis*.** TriMet, in partnership with jurisdictions, agencies and stakeholders, identified ten initial focus areas for improving access to transit.[xlii] 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 Evaluation* 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.** Projects provide crossings of major barriers are identified in the ATP project list.

8. **Support 'game changing' projects that will build on the potential to increase levels of walking and bicycling.** Support high priority projects identified in the BTA's Blueprint for Bicycling and priority areas for walking, safe crossings, access to transit and connectivity 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 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.

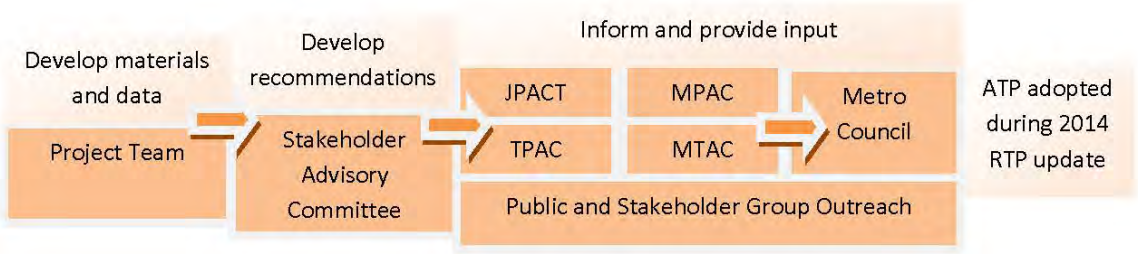
15 PLANNING PROCESS AND STAKEHOLDER ENGAGEMENT

The ATP project is a joint outcome of development of the RTP and The Intertwine initiative. The integration of off-street trails, on-street pedestrian and bicycle facilities and public transportation in plans, across agency departments, and on the ground was championed by the Metro Blue Ribbon Committee for Trails in the Case for an Integrated Mobility Strategy (2009). The Blue Ribbon Committee met in 2008 and 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 bike, pedestrian and transit networks.

The Blue Ribbon Committee's (BRC) final recommendations identified four main elements to implement such a strategy. 1) Organize leadership to champion building out the system, 2) Demonstrate Potential through pilot projects and identify funding (federal, state and local) to construct the projects, 3) Reduce Costs of building out trails and other facilities, especially when using federal funds, 4) and, Develop the System, primarily by fully integrating walking and bicycling into transportation plans. The BRC and Metro established the Executive Council for Active Transportation to organize and grow leadership, and Metro and local partners developed a set of active transportation demonstration projects to develop as funding becomes available (several elements of the projects are moving forward).

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 RTP 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. JPACT makes recommendations to the Metro Council related to transportation policy. JPACT will approve the ATP during the regular update of the RTP in 2014.
- The **Metro Policy Advisory Committee (MPAC)** is a charter mandated committee of local government representatives and citizens. MPAC will approve the ATP during the regular update of the RTP in 2014.
- 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 Poll, 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

"The Spiderweb Concept looks the best and connects the most. I'd rather have a direct route that's comfortable and safe to cycle on. The plan's recommendations are very ambitious, which is good!"

~comment from public open house

"I fully support your efforts and please keep reaching for the stars. I am a big proponent of walking and riding."

~comment from public open house

"Prioritize projects in communities that show support by way of adequate SDC collection, road user fees, transportation planning, development standards, etc. For instance if a community is not providing the resources to help build and fund projects then those communities should be less of a priority."

~comment from public open house

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 APPENDICES

Information and analyses produced for 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
2. Pedestrian Network Analysis Report
3. Regional Bicycle Network Evaluation
4. Benefits for Active Transportation and Considerations for Implementation
5. Intertwine Trail Use Snapshot Report
6. Elements of a Complete Active Transportation Network
7. Planning Level Cost Estimate Assumptions for the ATP
8. ATP Project List & Network Map Changes
9. Active Transportation Survey Results, Opt-In Poll
10. Stakeholder Communication Strategy for the ATP

ENDNOTES

[i] 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).

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

[iii] Refer to the *ATP Existing Conditions, Findings and Opportunities Report*. The current RTP does not meet several of the 2035 RTP transportation performance targets. A summary of the system evaluation is provided here:

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

[iv] 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%.

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

[vi] Chapter 2, Regional Transportation Plan

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

[viii] *ATP Existing Conditions, Findings and Opportunities Report,* 2012.

[ix] Centers for Disease Control and Prevention. SMART: BRFSS City and County Data.

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

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

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

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

[xiv] Metro State of Safety Report, 2012.

[xv] Regional Greenhouse Gas Inventory, Metro 2010.

[xvi] 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.

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

[xviii] *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.

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

[xx] Build it and they will come, April 2011. Roger Gelller, City of Portland

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

[xxii] *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.
[xxiii] *The Value of the Bicycle Related Industry in Portland*, 2008. Alta Planning and Design.
[xxiv] 2011 City of Portland Smart Trips Business Annual Report.
[xxv] *The Impact of Amenities on Development Feasibility.* December 2010. Metro and Fregonese Associates.
[xxvi] NY Times. "Now Coveted, a Walkable, Convenient Place to Live." June 5, 2012.
[xxvii] Active Transportation Survey Results, Opt-In Poll 2011
[xxviii] *ATP Benefits of Active Transportation and Considerations for Implementation* Report*,* 2013.
[xxix] Oregon Transportation Plan, Volume 1, September 2006.
[xxx] Oregon Statewide Transportation Strategy, A 2050 Vision for Greenhouse Gas Emissions Reduction, Volume 1, accepted March 2013.
[xxxi] 2035 Regional Transportation Plan, Chapter 2.3.
[xxxii] TriMet, Transit Investment Plan, FY 2012.
[xxxiii] Underserved populations include low income, low-English proficiency, non-white, elderly (over 65) and young populations (under 18).
[xxxiv] 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.
[xxxv] Chapter 2, 2035 Regional Transportation Plan, Regional Bicycle Network, page 2-62
[xxxvi] These are 2040 Growth Concept Design Types identified in the 2035 Regional Transportation Plan.
[xxxvii] These are 2040 Growth Concept Design Types identified in the 2035 Regional Transportation Plan.
[xxxviii] Existing Conditions, Findings and Opportunities Report for the ATP, August 2012, Chapter 9: Current Funding.
[xxxix] 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.
[xl] 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.
[xli] Existing Conditions, Findings and Opportunities Report for the ATP, August 2012, Chapter 9: Current Funding.
[xlii] The analysis provides a framework and methodology for identifying additional focus areas once the ten areas are improved.

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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