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TRACK CHANGES

REGIONAL ACTIVE TRANSPORTATION PLAN

REVIEW DRAFT 3

January 2014

THE INTER TWINE

Review Draft 3 Process

Comment [LSM1]: Description on refinement process added per suggestion of WorkGroup.

Review Draft 3 of the Regional Active Transportation Plan (ATP) reflects proposed edits recommended by a regional work group convened by Metro. Edits are reflected in a track changes version of the document. A summary of changes is provided in a supplemental memo. Parts of the document have also been reorganized to either accommodate the edits or to improve the narrative of the plan.

A work group was convened at the request of Metro's advisory committee's MPAC and JPACT to provide additional opportunities for local jurisdictions and other stakeholders to give input and finalize the ATP prior to the plan being proposed for adoption in July 2014. Various members of the work group met five times to provide comments. Some members also submitted written comments.

Work group members include members of the original ATP Stakeholder Advisory Committee, members of TPAC or MTAC, Regional Transportation Plan local contacts, advocacy organizations and other stakeholders.

Review Draft 3 is the third draft of the ATP. The first draft of the ATP was completed in July 2013 by the ATP Stakeholder Advisory Committee to meet the requirements of the TGM grant which helped fund development of the plan; the Stakeholder Advisory Committee concluded meeting when the first draft was released. The first draft was edited based on comments primarily from Metro's advisory committees. Review Draft 2 was finalized in August 2013 and is the draft the regional work group has been working from.

The proposed changes in Review Draft 2 and Review Draft 3 of the ATP were not reviewed or confirmed by the ATP's original Stakeholder Advisory Committee, though some members of the committee have participated in the work group. ~~The ATP will be refined with stakeholder input for integration into the RTP during the 2014 update.~~

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

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds. The contents of this document do not necessarily reflect views or policies of the State of Oregon.

Bicycle commuters turning from a bicycle boulevard onto a regional bicycle route. Photo: BikePortland.org

"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

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Comment [LSM2]: More headings added to the TOC to make navigating the plan easier. Chapter numbers and titles added to footer to aid navigation.

Some Chapters have been moved to provide a better flow of information. original chapter numbers are noted in the document organization section of the introduction if they have been changed.

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Public desire for transportation choices

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

~ Opt-In Survey, 2012

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

~ Natural Resources Defense Council, September 2012

Peninsula Crossing Trail, Photo: BikePortland.org

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Cities, Counties and Partners

Comment [LSM3]: add city and county logos if possible

Metro serves twenty-five cities and three counties. Knit together, the pedestrian and bicycle networks developed by and within these jurisdictions form the regional active transportation network. Metro partners with the following local jurisdictions and agencies as well as bicycle and pedestrian advocacy groups, the public and other stakeholders to develop the regional network and increase levels of walking and bicycling.

Beaverton
Cornelius
Damascus
Durham
Fairview
Forest Grove
Gladstone
Gresham
Happy Valley
Hillsboro
Johnson City
King City
Lake Oswego
Maywood Park
Milwaukie
Oregon City
Portland
Rivergrove
Sherwood
Tigard
Troutdale
Tualatin
West Linn
Wilsonville
Wood Village
Clackamas County
Multnomah County
Washington County
Tualatin Hills Park and Recreation District
North Clackamas Park and Recreation District
Oregon Department of Transportation
TriMet
SMART

Acronyms

ATP	Regional Active Transportation Plan
BTA	Bicycle Transportation Alliance
ECAT	Executive Council for Active Transportation
ITE	Institute of Transportation Engineers
JPACT	Joint Policy Advisory Committee on Transportation
MPAC	Metro Policy Advisory Committee
MTIP	Metropolitan Transportation Improvement Program
MTAC	Metro Technical Advisory Committee
NACTO	National Association of City Transportation Officials
ODOT	Oregon Department of Transportation
RTFP	Regional Transportation Functional Plan
RTP	Regional Transportation Plan
UGMFP	Urban Growth Management Functional Plan
SAC	ATP Stakeholder Advisory Committee
TGM	Transportation Growth Management
TPAC	Transportation Policy Alternatives Committee
TSP	Transportation System Plan

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. Photo: Metro

Executive Summary

The Regional Active Transportation Plan (ATP) provides a vision, plan and policies for communities in our region to compete more effectively for limited -funding, to develop consistent and connected pedestrian and bicycle networks integrated with transit, to achieve transportation targets and local aspirations and to make the most of investments. The ATP includes:

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

Comment [LSM4]: The Executive Summary has been reorganized; content has not been substantively altered.

Executive Summary was reorganized around the frame of vision-values-challenge-solution/opportunity

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, as shown here in downtown Lake Oswego. Photo: Metro

The ATP identifies a vision of a complete transportation network in 2035. The vision is based on shared values and the desire to achieve identified outcomes. Strategies and policies in the ATP are recommended to help achieve the vision and each of the region's adopted six desired outcomes.

Vision

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

Implementing the ATP will help the region achieve the six desired outcomes~~.~~; active transportation is:

1. A key building block of **vibrant communities**.
2. Helps achieve **equity** by providing low cost transportation choices and reducing vehicle emissions in environmental justice areas.
3. Helps reduce green house gas emissions and keeps the region's **air and water clean**.
4. Is a tool in the region's **leadership for climate change** toolkit.
5. Provides **transportation choices**.
6. Is a vital part of the region's **economic prosperity**, attracting workers, businesses and jobs, supporting tourism, local business, and niche industries, and is becoming part of the region's identity and brand marketing.

~~Promoting, encouraging and making it easy to get around actively is critical to the health, economy and well-being of our region. Whether walking, bicycling, using a wheel chair or an~~

Comment [LSM5]: The "vision" was edited based on input from Coalition for a Livable Future's equity review. This text includes those edits. See chapter 4 to review the edits.

~~electric bicycle, catching a bus, the MAX or a streetcar, pushing a stroller, skateboarding or in-line skating, active travel is a vital part of the region.Over 18% of all trips are made by walking and by bicycle within the region.[1] 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.[2] Providing transportation choices benefits the economy by attracting new businesses and skilled workers. Bicycling tourism and activities generate $89 million in annual economic activity for the region.[3]~~

Comment [LSM6]: These points are included in the benefits of active transportation chapter

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

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

Comment [LSM7]: List moved to introduction under 'values section"

Increasing the number of trips made actively reduces auto traffic and keeps roadways running smoothly. The Hawthorne Bridge is a good example of how replacing auto trips with walk, bicycle and transit trips has reduced congestion. Photo: City of Portland

~~What challenges does the ATP address?~~ Challenges

Over time communities across the region have made major strides in making it easier to walk, ride a bicycle and take transit by building facilities, creating connections and supporting programs.

~~While n~~Today, nearly 18~~%~~ percent of all trips made in the region are made by walking and bicycling, higher than most other places in America.[4~~5~~]

However communities still face challenges to increasing levels of walking and bicycling and ~~this is far below what is needed to~~ achieve~~-~~ing many of our local and regional performance targets and aspirations~~ and to continue successful trends~~. Many gaps remain on the regional network, making it harder or unsafe to walk and bicycle in some places. The region misses out on the many benefits associated with active transportation when not everyone has the option to easily make trips by walking, riding and bicycle or taking transit.

Comment [LSM9]: Information included in this footnote moved to the chapter on targets and performance measures

[4] 2011 Oregon Household Activity Survey, mode shares are for all trips in Clackamas, Multnomah and Washington counties; bicycling 3.2%, walking 10.4% and bike/walk access to transit 4.2%. The U.S. average for combined walking and bicycle trips according to the 2001 National Household Travel Survey was 9.5% of all trips.

- **Current plans and policies do not meet many transportation performance targets**; including tripling levels of walking, bicycling and transit ridership by 2035 (see Chapter 12). Meeting performance targets for active transportation has health benefits, will relieve congestion, support the economy and improve access to essential daily needs. The City of Portland estimates that if its 25 percent 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 generated by Portland residents alone.
- ~~**The region has an active transportation mode share target to triple levels of walking, bicycling and transit by 2035. Transportation modeling conducted for the ATP indicates that current policies and plans do not achieve regional mode share targets.**[6]~~

Comment [LSM10]: This table and information are included in the targets and performance measures chapter

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

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

Comment [LSM11]: These two paragraphs replaced by the following paragraphs.

- ~~**The**~~ **Major gaps exist in the region's planned pedestrian and bicycle networks impact safety and the choice to walk, bike and access transit**; increasing levels of walking and bicycling and experiencing the benefits associated with active transportation will be challenging until these gaps are completed~~ have major gaps~~. ~~These gaps~~Gaps in the network impact safety and discourage people from choosing to walk, ride a bike or take transit.

Gaps in the regional pedestrian and bicycle networks

Regional trails/multi-use-paths: 33% complete

Regional bike-~~network~~ways: 55% complete

Regional ~~pedestrian network of~~ sidewalks: 62% of all roadways in the regional pedestrian network (primarily arterials) have sidewalks on both sides of the road and 19% have a sidewalk on at least one side of the road.

- **Many people would like to walk and ride bicycles more for transportation~~,~~ but feel unsafe doing so.**[7] The fears are justified; serious pedestrian and bicycle crashes account for 20~~%~~ percent of all serious crashes in the region. Pedestrian and bicycle crash rates are higher than their share of trips. According to Transportation for America's report, *Dangerous by Design*, children, older adults, and racial and ethnic minorities experience disproportionately high fatality rates from pedestrian crashes.[8]
- **Not all communities, including low-income and minatory communities, have access to transportation options.**
- **At the current rate of funding for stand-alone bicycle and pedestrian projects in the region, approximately $10 million a year, it is estimated to take approximately 150 years to complete and expand the regional ATP network.**
- **Federal funding, a major source of funding for active transportation is declining.**[9] Approximately 80 percent of funding for regional pedestrian and bicycle projects is from federal funds. Funding for the Federal Transportation Alternatives Program, created in the MAP-21 federal transportation bill is authorized at $800 million annually, which represents a 33 percent cut from the $1.2 billion previously

Comment [LSM12]: CLF equity review

Comment [LSM13]: Add data

[7] Analysis developed by Roger Geller for the City of Portland identified that 60% of the population in Portland would like to ride bicycles more for transportation if it felt safer to do so (Geller, Roger. 2005, *Four types of cyclists,* Portland Bureau of Transportation). Recent research by Dr. Jennifer Dill has confirmed the City of Portland's four types of cyclists definition (Dill, Jennifer and Nathan McNeil. *Four Types of Cyclists? Testing a Typology to Better Understand Bicycling Behavior and Potential)*.

[8] Transportation for America. (2011). Dangerous by Design. Available at: http://www.aarp.org/content/dam/aarp/livable-communities/learn/transportation/dangerous-by-design-2011-aarp.pdf

[9] 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%. (Data: Metro 2010.)

appropriated to programs for walking and biking. And, interim guidance released by the U.S. Department of Transportation in October 2012 requires a new 20 percent state or local match for any new Transportation Alternative Program projects.[10]

Comment [LSM14]: Safe Routes to School suggested adding info on amount by which funding has decreased

Facing these challenges can be daunting in the face of declining funding and competing needs. However, the region cannot afford not to invest in active transportation; issues that the region cares about are addressed in part by making it easier to walk, ride a bike and take transit, including rising levels of obesity and related health problems, deaths and serious injuries caused to people walking and bicycling on or crossing roadways, increasing costs of transportation without options, roadway congestion, climate change caused by green house gas emissions, degraded water and air quality.

Active transportation builds community and provides independence to those who cannot drive. Women enjoy a walk along the Willamette River. Photo: Metro

~~Opportunities~~ Recommended policies and implementing actions ~~to expand active transportation~~

Comment [LSM15]: Workgroup recommended listing ATP recommendations in the Executive Summary

There are ~~several~~ many opportunities to expand the regional active transportation network~~s that are already in place~~ and ~~to~~ increase levels of active transportation. Combined with land use, pricing policies, education programs and other strategies, the following recommended policies and implementing actions were identified to ~~completing~~ complete the regional active transportation network ~~will~~ and help the region ~~address the challenges listed above~~and local communities achieve identified goals, targets and aspirations~~.~~ Refer to Chapters 12, 13 and 14

Comment [LSM16]: Recommended addition from safe route to school partnership

[10] Federal funding analysis provided by Transportation for America.

for details on the recommendations.~~The following recommendations have been identified in the ATP:~~

~~personal mobility and access, economic health, human and environmental health, safety and climate change. Complete and well designed pedestrian and bicycle facilities are part of the solution. However, investment in infrastructure alone does not automatically provide more travel options.~~

~~Our region is not achieving all of its transportation targets. The ATP was developed to target the following opportunities~~

- **Complete the active transportation networks and ~~Dramatically~~ dramatically increase safety for people walking and riding bicycles. First fill gaps and then improve deficient facilities.** In areas with high levels of walking and bicycling deficient facilities should be considered gaps and prioritized. ~~**by focusing**~~ Focus 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.~~Design facilities so that walking and bicycling is safe and comfortable for all ages and abilities.
- **Ensure that the regional active transportation network equitably serves all people.** Completing pedestrian, transit and bicycle networks and connecting them to essential destinations in areas with higher concentrations of environmental justice and underserved communities and where less investment has occurred in the past will help complete the regional active transpiration network and help reduce driving.
- **Support populations that are already driving less by making it easier to drive less~~.~~ , by developing well connected regional pedestrian and bicycle routes and districts integrated with transit and nature that prioritize safe, convenient, accessible and comfortable pedestrian and bicycle access for all ages and abilities.** 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.[11] ~~Improving transportation choices and providing education and encouragement increases transportation equity and makes it easier to drive less.~~
- **Increase levels of funding dedicated to active transportation projects and programs and develop a pipeline of projects.** Increasing funding levels will allow the regional ATP network to be completed sooner, providing more transportation options. If current funding were tripled to $30 million per year the planned regional pedestrian and bicycle networks would be upgraded, expanded and completed within fifty years. Dedicated funding for active transportation supports

Comment [LSM17]: CLF equity review, recommended addition

[11] ~~2011 Oregon Household Activity Survey.~~

development of a pipeline of projects that are 'ready to go' and can take advantage of funding opportunities.

> *Replacing 6-21% of short trips under three miles made by auto with walking and bicycling would avoid 21- 52 billion miles of driving annually in the U.S.*
>
> ~Rails to Trails Conservancy, Active Transportation for America, 2008

- **Better integrate transit, walking and bicycle networks.** Region wide, nearly 85% of all transit trips start as a walking or bicycling trip.[12] Improvements that benefit walking and bicycling benefit transit. Better access to transit allows people to access destinations without a car. ~~Integration strategies include completing the "last mile" between transit stops and regional destinations, including bicycle parking at transit stops, and coordinating wayfinding.~~

- **Replace short trips made by car with walking and bicycling by ~~-~~making walking and bicycling the most convenient, safe and enjoyable choices for short trips less than three miles.** ~~This will reduce congestion, lower green house gas emissions, lower transportation costs, reduce wear and tear on roadways and increase health in the region.~~ Nearly 45~~%~~ percent of all trips made by car in the region are less than 3 miles. [13] With complete networks and education and encouragement and other programs, many short trips made by car could be replaced with bicycle or pedestrian trips, increasing road capacity and reducing the need to expand the road system.

- **Utilize data and analyses to guide transportation investments.** Data on pedestrian and bicycle travel, needs and benefits are not always included in analyses that guide decisions about transportation investments.

- **Include bicycle and walking improvements in roadway preservation projects** whenever possible to make all streets in the region complete streets. Many bicycle and pedestrian facilities are built when new roadways are constructed and as rural arterials are widened and developed to urban arterials. However, many roadways in the region that are missing sidewalks or bike lanes are not planned to be widened. Some jurisdictions seek opportunities to include bicycle and pedestrian facilities in preservation projects, such as repaving the roadway as a way to create complete streets.

Comment [LSM18]: Recommendation safe routes to school partnership

Comment [LSM19]: Additional explanation added.

~~[12] Levels of walking, bicycling and transit ridership, and how transit is accessed, varies across the region. The 2011 Oregon Household Activity Survey provides data at the regional and county level and for the City of Portland. Survey sample sizes are too small to provide detailed data for all the cities in the region.~~

[13] 2011 Oregon Household Activity Survey. Refer to the "Existing Conditions, Opportunities and Findings (2012)" report for a table of regional trip distances.

- **Tap into the bicycling potential.** Increasing the number of bicycle trips in the region has huge potential. Since 1994, trips made by bicycle in the region have increased over 190~~%~~ percent – the fastest growth for any mode.[14] Much of the growth in bicycling occurred in the City of Portland; however, in the areas outside of Portland in Clackamas, Multnomah and Washington counties bicycling mode share increased from 0.7~~%~~ percent to 1.5~~%~~ percent, which is higher than the national average.[15] ~~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.~~

Comment [LSM20]: Moved to challenges

Communities in the region are demonstrating that investing in active transportation has multiple benefits to people, the environment and the economy. While the challenges the region faces to fill gaps and improve safety on the regional ATP bicycle and pedestrian networks and achieve the region's vision for active transportation are not insignificant, the region and the state has a strong track record supporting investments in bicycling and walking infrastructure and education. Greater levels of investment and commitment to implementing policies will be needed to achieve the transportation targets identified by local and regional leaders.

Comment [LSM21]: Closing paragraph added

[14] 2011 Oregon Household Activity Survey.

[15] Refer to Table 1 in Chapter 3

Active travel means getting to where you need to go actively such as walking and bicycling. Running is errands is easy on a bicycle in St Johns Portland. Photo: Metro

Introduction

The ATP is a modal plan of the Regional Transportation Plan and helps shape transportation policy and development of the regional pedestrian and ~~transportation network~~bicycle networks. 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 in the Regional Transportation Plan (2010). The ATP updates the pedestrian and bicycle policies, network maps, concepts, functional classifications of the Regional Transportation Plan. Development of the ATP was guided by a Stakeholder Advisory Committee and input from key stakeholders.

The Regional Active Transportation Plan (ATP) provides a vision, plan and policies for communities in our region to compete more effectively for limited funding, to develop consistent and connected pedestrian and bicycle networks integrated with transit, to achieve transportation targets and local aspirations and to make the most of investments. The ATP includes:

Active transportation defined

Comment [LSM22]: Definition of AT added

Active transportation is human-powered transportation that engages people in healthy physical activity while they travel from place to place. People walking, bicycling, the use of strollers, wheelchairs /mobility devices, skateboarding, and rollerblading are active transportation.

Walkable and bikeable communities are places where it is easy and comfortable to make an active trip. Streets are connected and integrated with walking and biking trails and paths; safe crossings of busy streets, directional signs making it easy to navigate, and a pleasant environment with places to go and things to do, including access to nature all contribute to places where active transportation thrives.

Active transportation supports public transportation because most trips on public transportation include walking or bicycling. The ATP focuses on increasing pedestrian and bicycle access to transit, making it safer and more comfortable and supporting transit ridership by improving conditions for walking and bicycling near transit stops and stations. The ATP does not plan new or different transit routes; include funding recommendations for building or operating transit or identify deficiencies and recommend transit frequency improvement areas or routes.

For brevity, the terms active transportation and "bicycling and walking" will be used throughout this report and are intended to include all active modes. Throughout the document the terms active transportation, walking and bicycling will be used for brevity.

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. Photo: Metro

ATP regional bicycling and walking network defined~~?~~

A key outcome and product of the ATP is an update of the regional pedestrian and bicycle network concepts and network maps. Network concepts describe the main elements of the regional pedestrian and bicycle networks and their function within the larger transportation system. Network maps show the elements identified in the network concepts. Chapters 7 and 8 describe the network concepts and include maps of the recommended regional bicycle and pedestrian networks.

Comment [LSM23]: WorkGroup member requested that this section be edited to more clearly define what is included in the regional network and what is not.

- The ATP recommended pedestrian and bicycle networks update and are adopted into the Regional Transportation Plan. Local networks must be consistent with the

regional network. That is, they cannot be less than the regional network, but they can have more local elements. To be included in the regional ATP network maps, pedestrian and bicycle routes and districts must be identified in an adopted local transportation system plan, bicycle, pedestrian or trail plan. Regional trails should also be included on Metro's Regional Trails Plan map. Appendix 1 provides a list of the regional ATP network routes and districts, their level of completion, gaps and deficiencies.

- Regional routes and districts shown on the maps make up the regional active transportation network and are eligible for federal funding. To receive federal funding, projects must be on the Regional Transportation Plan's project list. Non-regional routes and districts sometimes referred to as local streets and trails, may be shown on some regional maps for context, but are not considered part of the regional ATP network and are not usually eligible for federal funding.

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

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

Jurisdictions and agencies have completed many parts of the ATP regional pedestrian and bicycle networks, however, gaps and deficiencies remain; sixty-seven percent of the network's regional trails/paths are missing; forty-five percent of on-street bikeways are incomplete; and thirty-eight percent of roadways that are regional pedestrian corridors lack sidewalks.

Why active transportation is important

Comment [LSM24]: This section moved from the Executive Summary per work group suggestion

A vision of a complete, safe and connected network is founded on shared values. A vision for the future that includes active transportation as a more frequently used 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. Refer to Chapter 2 for examples of the benefits of active transportation in the region. Active transportation connects to our core values:

- It keeps us healthy and lowers health care costs.
- It makes our streets safer and more inviting.
- It helps our economy thrive and supports local businesses.
- It provides transportation options for everyone, especially for youth, seniors, low-income, disabled people and those that cannot or choose not to drive.
- It helps us fight climate change and helps keep our water and air clean.
- It provides access to nature.
- It supports vibrant and safe communities.
- It reduces household expenses.
- It is clean, efficient and easy.
- It is low cost compared to other types of transportation investments.
- It is cost effective and provides a high return on investment.
- It increases access to jobs.

Comment [LSM25]: Recommendation from CLF equity review

~~What are the elements of the ATP?~~Document organization

Comment [LSM26]: This section updated to provide more of a guide to the document.

Original chapter numbers noted below if chapter was moved.

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

- **Executive Summary** provides a brief summary of the ATP's vision for a complete transportation network, the shared values that active transportation supports and challenges and opportunities.
- **Introduction** provides an overview of what is included in each part of the ATP, defines the regional ATP network and describes the next steps for implementing the ATP.
- **Chapter 1 Planning Process and Stakeholder Engagement** describes how the plan was developed~~.~~ and who was involved.
- **Chapter 2 Benefits of Active Transportation** provides information on the benefits associated with active transportation ~~include~~ including lower health care costs, support of the local economy, lower household transportation costs and reduction in green house gas emissions.
- ~~**Chapter 3 Findings and opportunities. Understanding the successes and challenges of existing conditions helps communities make smart choices.**~~
- **Chapter ~~4~~ 3 Policy Context.** Briefly describes major state and regional plans that provide the policy framework for the ATP. ~~Goals and policies of the ATP exist within a framework of federal, state and local plans.~~

Comment [LSM27]: Previously chapter 16

Comment [LSM28]: Chapter 3 moved to chapter 12

Comment [LSM29]: Was chapter 4

- **Chapter ~~5~~ 4 ATP Vision for 2035 and Network Guiding Principles.** Describes the vision for the role active transportation can play in achieving the region's desired outcomes. ~~Benefits associated with active travel play a role in achieving adopted regional outcomes.~~
- ~~**Chapter 6 Guiding principles**~~The SAC identified a set of ten principles to guide the development of the regional ATP network. ~~to guide development of the active transportation network that will support achieving regional transportation goals. Evaluation criteria were identified to evaluate how well planned regional networks achieved Access, Safety, Equity and Increased activity.~~
- **Chapter ~~8~~5 Integrated Active Transportation Network Concept.** An integrated active transportation network is a new focus of the regional pedestrian, bicycle and transit networks. Access to transit is emphasized in the updated pedestrian and bicycle network concepts. Integration of the on-street and off-street networks is crucial to an integrated active transportation network.
- **Chapter ~~7~~ 6 Network Evaluation and Development~~Evaluation~~.** Provides a brief overview of the criteria used to evaluate ~~to guide development of the recommended regional bicycle and pedestrian networks. Using data, GIS analysis and transportation modeling,~~ potential improvements to the regional active transportation network and results from the evaluation. The pedestrian and bicycle networks were evaluated to ~~evaluate the impact of~~ measure improvements on access, safety and equity. Results were also used to update the network maps and identify the preferred regional ATP network.
- **Chapter~~s~~ ~~9~~ 7 Recommended Regional Bicycle Network Concept.** This chapter describes the updated regional bicycle network concept and functional classifications and includes maps of the network vision and the existing network. ~~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."~~
- **Chapter ~~10~~ 8 Recommended Regional Pedestrian Network Concept.** This chapter describes the updated pedestrian bicycle network concept and functional classifications and includes maps of the network vision and the existing network. ~~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,~~

Comment [LSM30]: Was chapter 5 and chapter 6. Combined into one chapter

Comment [LSM31]: Was chapter 6. Evaluation part of this chapter moved to the next chapter (now chapter 6)

Comment [LSM32]: Was chapter 8

Comment [LSM33]: Was chapter 7 and called "Evaluation summary"

Comment [LSM34]: Was chapter 9

Comment [LSM35]: Was chapter 10

with the understanding that plans and projects need to be developed in a context sensitive manner and integrate all modes. Chapters 9, 10 & 11.

- **Chapter 9 Design Guidance. guidelines** This chapter provides design guidance for developing the regional ATP network consistent with the ATP Network Guiding Principles. Considerations for developing the networks in a context sensitive manner, especially for freight, transit and sensitive environments, are included. will help achieve a consistent network across the region. Design is especially important for people walking and riding bikes on or crossing busy roadways and on trails with high volumes of users. Design can improve safety for all users and make the transportation system work better. The suggested guidelines are based on accepted best practices and are already being implemented in the region.
- **Chapter 10Modal targets Targets and Pperformance Mmeasures.** This chapter provides information on the active transportation targets and performance measures. in the 2035 Regional Transportation Plan are updated.
- **Chapter 11 Trends and Findings to Guide Policies.** This chapter provides information and data on existing conditions for active transportation in the region to frame policies and help guide future policy decisions.
-
- **Chapter 12 Recommended Policies and Implementation Implementing Actions.** The ATP recommended policies build on existing regional policies for walking and bicycling in the 2035 Regional Transportation Plan adopted in 2010 and suggest specific follow up actions for Metro to help implement policies over time. Implementing the recommended policies will require Metro to work closely with jurisdictions, agencies and stakeholders.
- **Chapter 13 Funding the Active Transportation Plan.** This chapter describes existing funding sources, current expenditures on active transportation in the region and planning level costs for upgrading and completing the regional ATP network. Funding strategies acknowledge that funding is limited and suggest ways to approach funding the regional active transportation network.
- **Chapter 15 16 Implementation Strategies and Project Prioritization.** The 2035 Regional Transportation Plan identifies many of the pedestrian and bicycle projects needed to complete the regional active transportation network. However there are gaps in the project list. The ATP identifies areas in the region where investments in active transportation will increase access to destinations and serve underserved populations and increase safety and increase pedestrian and bicycle activity. This chapter includes the ATP recommended implementation strategy, strategies for prioritizing projects, areas in the region that demonstrated good results for access, equity and increased activity in the network evaluations, and current conditions of the ATP regional network.
- **Glossary.** Provides definition of terms used in the ATP.

Comment [LSM36]: Was chapter 11

Comment [LSM37]: Was chapter 13

Comment [LSM38]: Was chapter 3, called findings and opportunities.

Comment [LSM39]: Was chapter 15

Comment [LSM40]: Chapter number did not change

Comment [LSM41]: Chapter number did not change

- **Supplemental Reports.** Lists supplemental reports that were developed as part of the ATP and that are cited throughout the plan. Supplemental reports provide additional data and details.
- **Appendices.** Three appendices are attached to the ATP. Appendix 1 provides a list of the routes and districts that make up the regional ATP network and identifies completed sections, gaps and deficiencies. Appendix 2 describes the assumptions for developing planning level cost estimates for completing and upgrading the ATP network. Appendix 3 lists local transportation, bicycle, pedestrian and trail plans that were consulted in the development of the ATP. Appendix 4 provides a list of supporting plans and policies and Appendix 5 provides a list of resources including design resources for bicycle and pedestrian facilities.

~~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."~~[16]

Comment [LSM42]: This taken from the RTP. Deleted for clarity

~~**How will different communities implement the network?**~~

Comment [LSM43]: This section moved to chapter 1: Planning process, and titled implementation, it follows the section on adoption

~~Communities identify individual needs and opportunities for their transportation networks in transportation system plans and capital improvement plans. Many cities and each of the counties have also developed stand alone pedestrian and bicycle plans.~~[17] ~~The ATP does not replace these plans, but instead attempts to provide a cohesive regional vision knitting these plans together that will support communities in achieving local goals for increasing walking and bicycling access.~~

~~The draft ATP will be refined with stakeholder input through June 2014, including a public comment period in March 2014. Changes to the Regional Transportation Plan will be proposed as part of the 2014update. The ATP will be proposed for adoption as a component of the Regional Transportation Plan in July 2014. The ATP project list, provided in Appendix 1, will be~~

[16] ~~Chapter 2, Regional Transportation Plan~~

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

~~available to cities, counties, TriMet, ODOT and the public as a resource for developing changes to the Regional Transportation Plan project list. Implementation activities identified in the recommended policies section will occur over time and as funding and resources are available. Potential changes to the Regional Transportation Functional Plan, the implementing plan of the Regional Transportation Plan may be considered in the 2018 update of the Regional Transportation Plan.~~

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

Chapter 1 Planning Process and Stakeholder Engagement

Comment [LSM44]: The ATP/RTP WorkGroup recommended moving this chapter (previously chapter 16) to the front of the document and adding more detail on how the plan, including the regional bicycle and pedestrian networks and the policies, was developed. This chapter was previously chapter 16.

~~The impetus to develop~~Development of a regional active transportation plan ~~is the outcome of the adopted 2035~~ was identified as an implementation activity in the 2010 adopted Regional Transportation Plan ~~and The Intertwine Alliance initiative, which started as Connecting Green~~ based in part on recommendations from the Metro Blue Ribbon Committee for Trails. The need to better integrate walking and bicycling projects into the Regional Transportation Plan was a recommendation of the Metro Blue Ribbon Committee for Trails in 2009 in *The Case for an Integrated Mobility Strategy: Walking and Bicycling Offer an Immediate Opportunity to Tackle Key Challenges*.~~[18]~~ The Blue Ribbon Committee recommended that development of the regional trails system should be accelerated, and that it must be done as part of a larger strategy to support active transportation~~–~~, including well integrated ~~and mutually supportive~~ regional bicycle, pedestrian and transit networks. Efforts of the Blue Ribbon Committee led to The Intertwine Alliance, a broad coalition of public agencies, private businesses and nonprofits to working to protect and improve the region's network of parks, trails and natural areas.~~Development of a regional active transportation plan was identified as a follow-up implementation activity in the 2035 Regional Transportation Plan.~~[19]

The ATP is being developed within a broader framework of Metro initiatives and activities. The ATP is informed by and contributes to Metro's regional growth concept and overarching framework of creating a great place. Current initiatives such as the Climate Smart Communities are utilizing information developed through the ATP. Additionally, the ATP was developed with the intent of providing tools to help implement the region's preferred climate scenario upon its adoption.

Planning process

The *ATP Stakeholder Communication Strategy* (February 2012) was created to provide a plan for stakeholder engagement in the planning process.[20] A "Metro Community Engagement Strategy Assessment" was completed to help determine appropriate level of engagement, including considerations of resources and funding; the ATP project had limited resources available for engagement.

Many individuals and stakeholder groups contributed to the development of the ATP. ~~Development~~ Primary development of the ATP was guided by a Stakeholder Advisory Committee (SAC) composed of staff from jurisdictions and agencies, advocates and citizens~~, and~~,

~~[18] "The Case for an Integrated Mobility Strategy: Walking and Bicycling Offer an Immediate Opportunity to Tackle Key Challenges" (2009), The Blue Ribbon Committee for Trails final report~~

~~[19] Chapter 6.~~

[20] The report is available on the Metro active transportation plan webpage.

with input from~~ stakeholder groups,~~ the Executive Council for Active Transportation, Metro's advisory committees and the Metro Council, and the public.

~~The~~ A draft plan was developed between January 2012 and June 2013. Metro received a Transportation Growth Management (TGM) grant from the Oregon Department of Transportation and the Department of Land Conservation and Development to partially fund the project.

Metro formed the ATP SAC which provided input on the scope of work and tasks for the project. Once an agreed upon scope of work was determined the SAC met eleven times with additional smaller focus group meetings between January 2012 and June 2013. Members of the SAC were provided with materials ahead of meetings and provided input and guidance on each element of the plan. Considerable effort from the SAC was given to developing the plan's guiding principles, evaluation criteria and recommended pedestrian and bicycle networks.

Early on in the process staff sought input from the SAC, Metro Council and the Executive Council for Active Transportation on what a successful planning process and outcomes would look like. Many of the responses were the same. The input was used to help refine the project and guide the planning process.

We will be successful if….

- It is not just about transportation – it is also about healthy people and environment, healthy economy
- An inclusive process that grows a broad base of support
- Regional agreement on priorities, translating into more funding and policy changes
- Leads to projects on the ground
- Equity – everyone shares in the benefits and needs of underserved are addressed
- Is an exciting, living document that tells real stories – not a plan on the shelf
- Benefits both local and regional needs, there is local buy-in
- Clear implementation plan, with projects and implementers clearly defined
- Adopted by Metro Council and JPACT, amended to the Regional Transportation Plan
- Results in more and better data on bicycling and walking
- Support is developed for future action
- Includes bold policies to prioritize bicycling and walking projects
- Health indicators are included in performance measures

We will not have succeeded if….

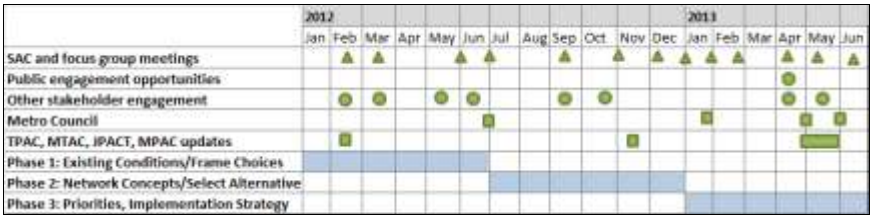
- Plan sits on the shelf, does not do anything
- Priorities are not clear
- Lack of ownership, support – plan is unfunded
- Non-inclusive process limited to the usual suspects – does not grow the base of support
- Polarizes community (e.g. bikes vs. …)
- Miss an opportunity to integrated with other projects in the region

- Project is not focused

A project webpage was developed with information and project materials. Meeting agendas, minutes and materials were posted and available throughout the project.

Metro staff provided TPAC and MTAC with overviews o f the project tasks, communication plan and timeline. Fact sheets and updates from committee chairs were provided at MPAC and JPACT meetings.

Figure 1: Snapshot of ATP engagement



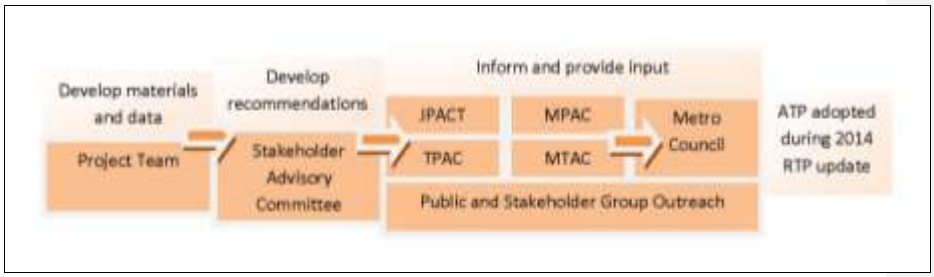
A draft plan was finalized in June 2013 to satisfy the requirements of the TGM grant. Feedback from Metro's advisory committees made it clear that additional time was necessary to provide more opportunity for feedback and input on the draft plan. Edits based on a set of initial comments from Metro's advisory committees were reflected in draft 2 of the plan. This plan was attached to a resolution passed by the Metro Council in September 2013 acknowledging the draft plan and directing staff to continue to work with stakeholders to finalize a plan that had regional support and incorporate updates to the Regional Transportation Plan.

Demographic analysis was included in the Existing Conditions, Findings and Opportunities report (2012)to provide information on the location of communities of color, limited English proficiency and low income populations, disabled, seniors and youth for planning purposes.

~~Committee and~~ Project partners and ~~S~~stakeholder involvement~~Engagement~~

This section provides a list of the p-rimary stakeholders involved in the project are described here.

Figure 2~~1~~: ATP Stakeholder Planning Process



- **Project Team** is composed of Metro staff and consultant and developed the work products and data. Metro staffed the project team and conducted most of the research, technical analysis and planning work. CH2MHill and Alta Planning and Design provided additional technical assistance and project partners provided technical expertise.
- **ATP Stakeholder Advisory Committee (SAC) and sub-committees** provided technical and policy guidance for the project and developed recommendations. The SAC met ten times. Additional small workgroups met to work on specific topics, such as development of the pedestrian and bicycle networks. The SAC membership includes bicycle, pedestrian, trail and transit planners and advocates, and representatives of elders, youth, and health. A list of members is provided in the Acknowledgement section of the ATP.
- **Joint Policy Advisory Committee on Transportation (JPACT)** is a committee of elected officials and representatives of agencies involved in transportation related needs for the region. All transportation related actions (including federal MPO actions) are recommended by JPACT to the Metro council. The Metro Council can approve the recommendations or refer them back to JPACT with a specific concern for reconsideration. Final approval of each item, therefore, requires the concurrence of both bodies. As a component of the Regional Transportation Plan, the ATP must be approved by both JPACT and MPAC before implementation. A
- **Metro Policy Advisory Committee (MPAC)** is a charter mandated committee of local government representatives and citizens. Under state law, the Regional Transportation Plan serves as the region's transportation system plan. As a result, MPAC also has a role in approving the regional transportation plan ~~, and thus the ATP,~~ as a land use action, consistent with statewide planning goals and the Metro Charter. Because the ATP is adopted by resolution and not by ordinance and is not a land use action MPAC is not required to approve the ATP. However, MPAC's approval of the ATP will be sought because of the breadth of community representation that is included in MPAC's membership.
- **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.

- **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 **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 stand alone ATP and ~~amend it to the 2035~~ changes to the Regional Transportation Plan based on the ATP during the update of the Regional Transportation Plan in 2014.
- ~~**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. A list of members is provided in the Acknowledgement section of the ATP.~~
- **Stakeholder groups** (listed below) provided input ~~at staff~~ meetings presentations on the project.
- **Public** provided valuable input at a public open house on May 23, 2013. Additionally, Metro conducted an Active Transportation Opt-In ~~poll~~ survey at the start of the project and received responses from nearly 4,000 residents in the region. 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.

Comment [LSM45]: Moved to list of stakeholders

~~Committees and Stakeholders~~ During the development of the ATP members of the project team and the SAC met with members or staff of the following stakeholder groups to provide information on the project, answer questions and receive feedback to develop the plan. members of some of these groups were represented on the SAC and/or provided written comments on the draft plan.

- ~~ATP Stakeholder Advisory Committee (advisory committee for the project)~~
- Access Recreation (group advocating for developing uniform guidelines for minimum information that should be provided about trails and outdoor recreational facilities, that would benefit people with disabilities)
- Bicycle Transportation Alliance Project Advisory Committee
- Clackamas County Bicycle and Pedestrian Committee
- Clackamas County Transportation Advisory Committee
- East Multnomah County Transportation Coordinating Committee
- East Multnomah County Transportation Coordinating Committee Technical Advisory Committee
- Elders in Action Commission (Multnomah County)
- 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. A list of members is provided in the Acknowledgement section of the ATP.

- Gresham Transportation Subcommittee
- Joint Policy Advisory Committee on Transportation (JPACT)
- Metro Council
- Metro Policy Advisory Committee (MPAC)
- Metro Technical Advisory Committee (MTAC)
- Multnomah County Pedestrian and Bicycle Advisory Committee
- OPAL – Environmental Justice Oregon
- Oregon Bicycle and Pedestrian Advisory Committee (Oregon Dept. of Transportation)
- Oregon Walks
- Portland Bicycle Advisory Committee
- Portland Freight Advisory Committee
- Portland Pedestrian Advisory Committee
- Port of Portland, staff
- Transportation Policy Advisory Committee (TPAC)
- Tualatin Hills Park and Recreation District Board of Directors
- Washington County Coordinating Committee
- Washington County Coordinating Committee - ~~TAC~~Technical Advisory Committee
- Washington County Planning Director's meeting
- Westside Economic Alliance Transportation Committee

~~Public~~ Engagement opportunities

- **ATP Stakeholder Advisory Committee meetings**
- **Metro advisory committee meetings**
- **Active Transportation Opt-In Survey** (~~,~~October 2011) over 4,000 residents of Clackamas, Multnomah and Washington Counties responded to survey questions about active transportation. Results from the survey informed the ATP workplan and project.
- **Intertwine Summit~~,~~** (October 2012), a workshop, held at the Oregon Zoo, with over 100 attendees providing input on the existing conditions analysis for the ATP.
- **Public Open House~~,~~** (May 2013), held at Metro, over 100 attendees provide input on draft elements of the ATP. Attendees provided comments on comments cards and sticky notes on draft maps and policies. Input directly influenced changes made to the draft ATP.
- **Open house materials available on-line** for extended public input.
- **Email updates** on the ATP were provided at periodic intervals to an interested parties list of over 460 people.
- **Quarterly Regional Trail Forums** – updates and presentations on the ATP provided.

- **Oregon Active Transportation Summit** – (April 2013, Salem) information table and presentation, April 2013 on the ATP. Over 300 attendees at the Summit.
- **Project web page** – a project webpage maintained throughout the project with project information and materials.
- **Project fact sheets** – four project fact sheets were developed to provide information on the project.
- **Public comments (letters and emails)** from individuals and stakeholder groups included feedback and recommended changes that considered and most often made to the draft ATP.

Metro Workgroup Coordination
Climate Smart Scenarios

Making the Greatest Place Group

SW Corridor

Comment [LSM46]: Moved to start of chapter, second paragraph

Adoption of the ATP and updates to the Regional Transportation Plan

Comment [LSM47]: This section was added at the request of the workgroup to provide more detail on the proposed adoption of the ATP.

It is proposed that the ATP be adopted by resolution by the Metro Council. Recommendation for adoption will be requested from JPACT and MPAC. Adoption by resolution expresses the intent of the Metro Council and the region to implement the ATP.

The parts of the ATP that are included in the Regional Transportation Plan update in 2014 are adopted by ordinance. The following elements of the ATP are proposed for incorporation into the 2014 Regional Transportation Plan. Chapter numbers identify where these elements are in the ATP.

1. Pedestrian and bicycle network concepts and functional classifications (Chapters 7 and 8). Descriptions of the pedestrian and bicycle network concepts and functional classifications in Chapter 2 of the Regional Transportation Plan are updated based on the ATP.
2. Pedestrian and bicycle network maps (Chapters 7 and 8). Maps depicting the regional bicycle and pedestrian maps in Chapter 2 of the Regional Transportation Plan are updated by the ATP bicycle and pedestrian maps.
3. Performance targets (Chapter 10)
4. Pedestrian, bicycle and transit policies (Chapter 12)
5. Policy implementing actions that are specific to the Regional Transportation Plan (Chapter 12)

Comment [LSM48]: These will be called out in chapter 12.

The majority of the changes proposed by the ATP are reflected in Chapter 2 of the Regional Transportation Plan. A regional work group was convened to provide input and guidance on edits to the Regional Transportation Plan from ATP recommendations.

Potential changes to the Regional Transportation Functional Plan, the implementing plan of the Regional Transportation Plan may be considered in the 2018 update of the Regional Transportation Plan. The nature of these changes would focus on ensuring that pedestrian and bicycle networks are completed consistently across the region.

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

family rides on a constructed section of the Tonquin Ice Age Trail that runs along bicycle lanes on SW Boeckman Road connecting to Graham Oaks Nature Park. Photo: Metro

Chapter 2 Benefits of Active Transportation

There are numerous economic, social, health and environmental benefits of active transportation. With relatively low levels of investment the region has constructed miles of pedestrian walkways, bikeways and trails, often connected to transit. Though the regional pedestrian and bicycle networks are incomplete, they already provide a substantial return on investments.

~~These i~~Investments~~,~~ in active transportation combined with land use ~~patterns~~ management 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. With continued and increased investment in infrastructure, education and programs the region will continue to experience the many benefits of active transportation.

Walking and bicycling- transportation ~~or~~ and 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!

~~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.~~ [21] ~~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 region are more active and have lower rates of obesity compared to national and state levels.**[22] However, at least 26~~%~~ percent of adults in the Portland-Vancouver area are obese and only 54-55~~%~~ percent of adults in Clackamas, Multnomah and Washington counties meet the Center for Disease Controls recommendations for physical activity. [23] Transportation modeling analysis conducted for the ATP indicates that ~~Improvements planned to the~~levels of walking and bicycling increase when the miles of pedestrian and bicycle facilities increases. ~~regional pedestrian and bicycle networks result in increased levels of active transportation.~~[24] 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. [25]

- **Seniors have more options for active aging and aging in place in the region.** Research shows that after the age of 55, fewer than five percent of Americans will change residences. This means thousands of older adults throughout our region are aging in place. As our older populations cease to drive, accessible active transportation alternatives become essential in supporting these individuals in accessing resources, facilitating social connections, and staying active.[26]

- ~~**Investing in the active transportation network improves safety and reduces the cost of crashes**~~**People in the region experience fewer bicycle and pedestrian crashes.** Filling sidewalk gaps, constructing trails, adding improved crossings and separated bicycle

Comment [LSM49]: Table with this info will be added

Comment [LSM50]: CLF equity recommendation

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

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

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

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

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

[26] Frey, William H. (2007), "Mapping the Growth of Older America: Seniors and Boomers in the Early 21st Century." The Brookings Institution, Washington, D.C.

facilities ~~will~~ reduces crashes ~~in the region~~.[27] Investments in active transportation have been shown to reduce all crashes.[28] Metro's 2012 *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.[29] Over $122 million of the costs are associated with pedestrian and bicycle crashes alone.[30]

- **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~~%~~percent of the region's green house gas emissions).[31] For every 1-mile pedaled or walked rather than driven, nearly one pound of carbon dioxide is saved.[32] 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.

- **~~Investing in the~~Access to active transportation ~~network~~ increases access to destinations.** ~~New connections~~Filling gaps in the regional pedestrian network ~~would substantially~~ increase the number of people that are within a safe and protected ~~1~~ one-mile walk of transit, jobs, schools, parks, food, civic, health, and retail locations. The recommend regional bicycle network contains 60~~%~~percent greater network mileage than the current network. The increased network density and connectivity will put more people in the region within access of destinations.[33] 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~~People that drive less have ~~lowers household~~lower household transportation expenses; this ~~and~~ keeps more money circulating in the region's 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

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

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

[29] Metro State of Safety Report, 2012.

[30] Metro State of Safety Report, 2012.

[31] Regional Greenhouse Gas Inventory, Metro 2010.

[32] 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.

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

housing costs for the typical household. [34]The region already keeps an estimated $800 million circulating in the local economy every year due to less driving. [35]

- **~~Investing in the active transportation network is cost effective. Active~~ Building active transportation projects ~~are cheaper to build and maintain compared to auto related projects,~~create more construction jobs ~~while providing a high return on investment~~.** ~~Regionally, approximately 3% of federal and state transportation funding for capital projects is spent on pedestrian and bicycle projects, while 18% of all trips are made by walking and bicycling.[36] The City of Portland estimates that its current 300+ mile bikeway network was constructed for the approximate cost of one freeway interchange- $60 million.[37] Other jurisdictions have documented even lower costs for building bicycle projects.[38]~~ Constructing active transportation related projects creates more jobs than traditional roadway projects. [39]

- **Active transportation projects provide a high return on investment.** Regionally, approximately 3percent of federal and state transportation funding for capital projects is spent on pedestrian and bicycle projects, while 18percent of all trips are made by walking and bicycling.[40] The City of Portland estimates that its current 300+ mile bikeway network was constructed for the approximate cost of one freeway interchange- $60 million.[41] Other jurisdictions have documented even lower costs for building bicycle projects.[42]

Comment [LSM51]: Will add n specific number

[34] *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.

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

~~[36] Metro, Existing Conditions, Findings and Opportunities report, 2012.~~

~~[37] The Oregonian *PolitiFact Oregon, 2011 and* Build it and they will come, April 2011. Roger Gelller, City of Portland.($2008).~~

~~[38] 2011 Draft- Cost Analysis of Bicycle Facilities (in the Portland metropolitan region), Initiative for Bicycle and Pedestrian Innovation (IBPI).~~

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

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

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

[42] 2011 Draft- Cost Analysis of Bicycle Facilities (in the Portland metropolitan region), Initiative for Bicycle and Pedestrian Innovation (IBPI).

- **~~Investing in the active transportation network supports tourism~~Bicycling tourism contributes $89 million a year to the region's economy.**[43] A recent state-wide study sponsored by Travel Oregon found that travelers who participated in bicycle-related activities while traveling in Oregon spent nearly $400 million in 2012, representing about 4.4 percent of the direct travel spending in the state. Table 1, taken from the study, shows that the Portland region has the most trips in the state.

Table 1: Oregon Bicycle Related Travel – Trips by Travel Region, 2012

Trips by region	Total	Overnight	Day
Portland Metro	287,000	60,000	227,000
Willamette Valley	279,000	78,000	201,000
Gorge/Mt.Hood	187,000	41,000	146,000
Central	147,000	93,000	54,000
Coast	131,000	66,000	65,000
Southern	95,000	44,000	51,000
Eastern	25,000	20,000	5,000
Total	**1,151,000**	**403,000**	**748,000**

Notes: Day trips include travel with bicycle activity 50 miles or more from home (one way). Trips include only day and overnight trips where bicycling activity was primary or one of the reasons for a trip.
Source: Dean Runyan Associates.

- **~~jobs and industry in the region.~~ New businesses and skilled workers are attracted to the region's bikeways and public transit.** Providing active transportation infrastructure has been identified as a crucial element to attracting a skilled and quality workforce and new businesses to the region.[44]

- **Local businesses benefit when people shop by foot or bike.** In Portland, 68~~%~~percent of businesses involved in the SmartTrips Business program said that promoting biking and walking helped them market their business. [45] A study of several different communities in the region, both urban and suburban, found that ~~found that~~ while car drivers spend more at supermarkets and restaurants than the other transport modes, walkers, bikers, and public transport users visit the locations more frequently, and thus, over the space of a month, spend more.[46]

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

[44] *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.

[45] 2011 City of Portland Smart Trips Business Annual Report.

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

- ~~And, the region benefits from $89 million a year in bicycle related tourism.[47]~~

- **~~Investing in the active transportation network supports d~~Development is more successful~~evelopment~~.** ~~A Metro supported study found that public i~~nvestment in high quality streetscapes, bicycle facilities, and transit service can "tip the scale" in the direction of development feasibility.[48] People are willing to pay more for homes that allow them to walk or bike rather than drive. [49] Every point greater than 70 on Walk Score, the website rating the walkability of any address in America, results in increased rent of 90 cents per square foot for commercial property and a rise in value of $20 per square foot for residential property. Part of what is fueling this trend is the documented preference of the millennial generation to live in walkable neighborhoods along with growing interest from seniors in active lifestyles.[50]

- **~~Investing in the active transportation network increases~~People have more transportation choices in the region with increased investment in active transportation.** Completion of the recommended regional pedestrian and bicycle networks would increase transportation choices, including the ~~choice for transportation~~choice of taking transit, walking, and bicycling for many more people in the region. Seventy-five percent of respondents to ~~an~~ the ATP Opt-In poll indicated that more dedicated bicycle lanes would encourage bicycle riding for transportation on a more frequent basis.[51]

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.

Comment [LSM52]: Moved to separate bullet point

Comment [LSM53]: Addition suggested by Safe Routes to School

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

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

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

[50] *Walking as a Way of Life: Movement for Health and Happiness.* By Jay Walljasper. EverybodyWalk.org

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

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

~~Are there negative impacts associated with active transportation?~~Considerations when implementing the ATP network

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. Chapter provides additional detail on the consideration of impacts to freight, transit and wildlife habitat. Common concerns include:

- **Environmental impact of new facilities on habitat and wildlife in environmentally sensitive areas.** As transportation projects are planned and developed impact on the environment must be taken into consideration along with safety and other impacts. Sensitive habitats and resources, such as wetlands, should be avoided when possible. Where not possible, sensitive design should be used to mitigate and reduce impacts.
- **Health impacts on people walking and bicycling in close proximity to auto exhaust.** Breathing polluted air impacts health. Recent Health Impact Analysis for the Climate Smart Scenarios project found that the benefits of increased physical activity outweighs the adverse effects of more exposure to auto pollution. Adding buffers of landscaping and trees along walking and bicycling routes help clean the air, reduce noise pollution, make the experience more pleasant and sometimes add habitat connectivity.
- **Reduced roadway capacity for auto and freight.** Adding missing pedestrian and bicycle facilities to roadways can impact other transportation modes, including transit and freight. These impacts should be minimized and the goal should be to integrate all modes so that all can function well. ~~"~~Road d~~D~~iets~~"~~ 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 typically reduce the number of lanes from an even number, such as four or six , with two, three, or more lanes traveling in each direction, to a an odd number of lanes, such as three or five, with a center turn lane, and usually allocate removed travel lane width to bicycle and pedestrian facilities. Road diets can have multiple safety and operational benefits, such as reducing the number of rear-end collisions, for autos, as well as pedestrians and cyclists.[52]

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

- **Potential for more walking and bicycling crashes.** There can be a concern that encouraging people to walk and ride bicycles more often and improving infrastructure to make it easier will expose people to a greater risk of being hit by a car. However, s~~S~~tudies show that in most cases more people walking and bicycling in greater numbers ~~can~~ lowers crash rates and makes the system safer for all users.[53] Streets that are safer for walking and bicycling are typically safer for people driving too.[54]
- **Low prioritization of pedestrian and bicycle networks.** In order to insure that the implementation of new sidewalks or bicycle facilities are in alignment with community priorities, communities being considered for active transportation improvements should be engaged from the early stages of planning, with real opportunities to influence decision-making.

Comment [LSM54]: Suggested edits from Safe Routes to School, and suggestion to added cited references

Comment [LSM55]: CLF equity review

[53] Jacobsen, P. L. (2003). *Safety in numbers: More walkers and cyclists, safer walking and bicycling.* Injury Prevention, 9, 205-209. The report found that the likelihood that a given person walking or bicycling will be struck by a motorist varies inversely with the amount of walking or bicycling. This pattern is consistent across communities of varying size, from specific intersections to cities and countries, and across time periods. Since it is unlikely that the people walking and bicycling become more cautious if their numbers are larger, it indicates that the behavior of motorists controls the likelihood of collisions with people walking and bicycling. It appears that motorists adjust their behavior in the presence of people walking and bicycling. There is an urgent need for further exploration of the human factors controlling motorist behavior in the presence of people walking and bicycling. A motorist is less likely to collide with a person walking and bicycling if more people walk or bicycle. http://injuryprevention.bmj.com/content/9/3/205.full.pdf+html

[54] Wesley E. Marshall, Norman W. Garrick . *Evidence on Why Bike-Friendly Cities Are Safer for All Road Users.* Environmental Practice 13:16–27 (2011). The study analyzed 11 years of road safety data in 24 California cities. The study found that overall, cities with a high bicycling rate among the population generally show a much lower risk of fatal crashes for *all* road users when compared with other cities in the study. The analysis strongly suggests that the crashes in cities with a high bicycling rate are occurring at lower speeds, agreeing with the finding that street network density was one of the most notable differences found between the safer and less safe cities. Portland increased its bicycle mode share from 1.2% in 1990 to 5.8% in 2000. At the same time, the number of road fatalities went from averaging over 60 per year in 1990 to fewer than 35 per year since 2000. http://files.meetup.com/1468133/Evidence%20on%20Why%20Bike-Friendly.pdf

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

Promoting, encouraging and making it easy to get around actively is critical to the health, economy and well-being of our region. Over 18 percent of all trips are made by walking and by bicycle within the region. [55] 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.[56] Providing transportation choices benefits the economy by attracting new businesses and skilled workers. Bicycling tourism and activities generate $89 million in annual economic activity for the region. [57]

Community profiles – the ATP on the ground

Comment [LSM56]: This section is intended to demonstrate the successes of communities in the region.

Section is still being developed and some images are placeholders – section will be completed for the public review draft

[55] 2011 Oregon Household Activity Survey. Mode share is for urban and rural areas of Clackamas, Multnomah and Washington Counties. Bicycling 3.2%, walking 10.4% and walk-bicycle access to transit 4.2%. Mode shares are higher for all trips less than three miles made within the urban growth boundary: bicycling 5.1% and walking 19% (2010 Metro transportation modeled data).

[56] 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).

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

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

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

Beaverton – Farmington separated bikeway

Photo: BikePortland

Cornelius

Damascus

Durham

Fairview

Forest Grove

Gladstone

Gresham SE Division and SE185th in Gresham, buffered bicycle lanes

Happy Valley

Hillsboro

Johnson City

King City

Lake Oswego – Pedestrian Walkways on Ave A

Maywood Park

Milwaukie – Pedestrian Connector
Adams Street between Main Street and 21st Ave. is currently 2-way street that will be closed to vehicular traffic and turned into a pedestrian walkway from Main Street to the new Light Rail Station. This project will be completed by July 2014 and is funded with Regional Flexible Funds.

Image: City of Milwaukie

Oregon City McLoughlin Blvd.

Portland Multnomah Blvd. Cycle track

Rivergrove

Sherwood Ice Age Tonquin Trail connections to downtown

Tigard

Troutdale

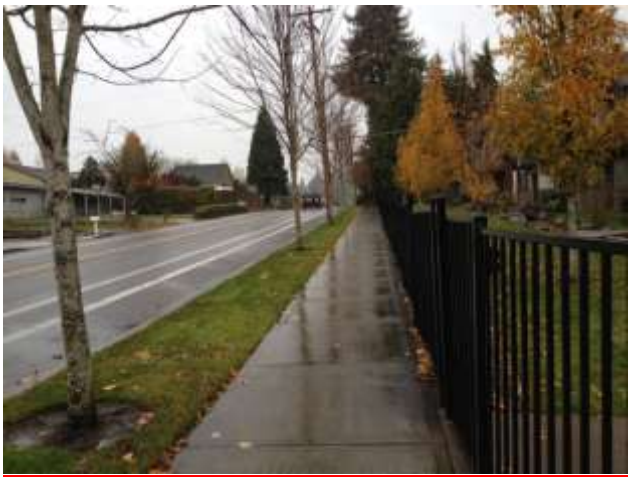
Tualatin

West Linn

Wilsonville – Green Bikelanes, Villebois pedestrian connections

Wood Village

Clackamas County – 132nd Ave Pedestrian Corridor
South of Sunnyside Road



Multnomah County

Washington County

SW Tualatin-Sherwood Rd. buffered bike lanes (W. of Baler Way to Teton Ave; three-lane section) Regional Bikeway and Pedestrian Corridor

Oregon Department of Transportation – Greening the I-205 Multi-use Path

ODOT received a Metro Nature in Neighborhoods grant to plant 1,300 native trees and 16,000 native shrubs along the 16.5-mile path that parallels the freeway.

TriMet Bike & Ride, Beaverton Transit Center

SMART Wilsonville Bike and Walk Map

Maps help people get to where they need to go by walking, bicycling and transit. SMART's maps are available for free at Wilsonville City Hall, Community Center, Library, and Visitor's Center. This effort was funded through a partnership between Metro regional Travel Options and the City of Wilsonville.

Comment [LSM57]: The information in this section was integrated into the next chapter on the planning process and stakeholder engagement.

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

"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

Chapter 3 Policy Context

Comment [LSM58]: Was chapter 4 in Review draft 2

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, network 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.- Refer to Appendix 5 for a list of policies and plans that support active transportation. ~~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.~~

Figure 3: Transportation Planning Framework for the ATP

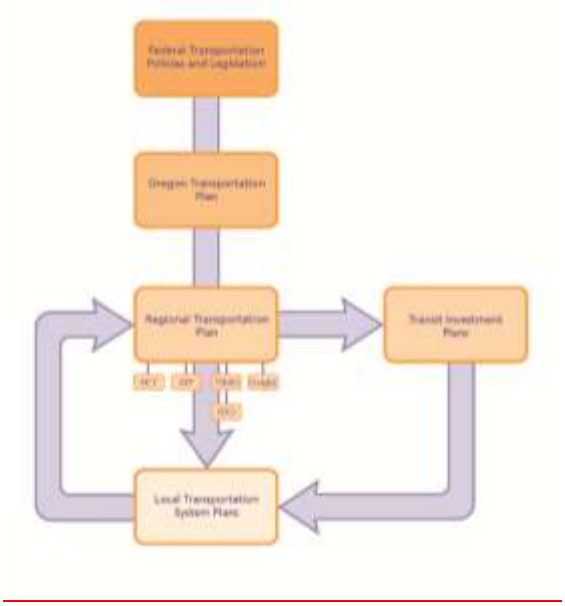


Figure 2, above, shows the ATP as a modal plan of the Regional Transportation System Plan, similar to the region's High Capacity Transit Plan (HCT), Freight Plan, Transportation System Management and Operations Plan (TSMO) which includes the Regional Transportation Options Strategy (RTO). Federal transportation policies and legislation acknowledge the importance of walking and bicycling as part of a complete transportation network, dictate the level of federal funding available for active transportation, and set national design standards.

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".[58] Oregon's landmark law ORS 366.514- Use of Highway Fund for Footpaths & Bicycle Trails often referred to as the 'bicycle bill' has helped make Oregon one of the most friendly pedestrian and bicycle states in the country.

The **2050 Oregon Statewide Transportation Strategy** provides a strategy and vision for reducing green house gas emissions.[59] 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." [60] The ATP vision, plan, policies and actions were identified to help implement the g~~G~~oals and o~~O~~bjectives of the ~~2035~~ Regional Transportation Plan and the region's six desired outcomes. The goals and objectives of the Regional Transportation Plan serve as the goals and objectives of the ATP. The Regional Transportation Functional Plan is the implementing plan of the Regional Transportation Plan. Changes to the functional plan based on the ATP may be considered in 2018.

Climate Smart Communities Action Plan

Comment [LSM59]: Text will be added. Work Group recommended adding and adding more context.

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.[61] SMART's **Transit Master Plan** provides a vision where "transportation and recreation are critical facets of life" and when "planned in unison, these elements offer complete connectivity and interrelated opportunities". [62]

~~Plans~~ **Transportation, pedestrian, bicycle and climate action plans of local jurisdictions** provide visions and aspirations for communities. Local pedestrian and bicycle plans identify priorities that the ATP knits together.

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

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

[60] 2035 Regional Transportation Plan, Chapter 2.3.

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

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

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

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

~Neil McFarlane, TriMet General Manager

Chapter 4 ATP Vision ~~for 2035~~and Network Guiding Principles

Comment [LSM60]: Was chapter 5 and 6 in review draft 2. Combines vision and guiding principles chapters in order to simplify and reduce number of chapters, per suggestion of work group

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

Vision

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

Comment [LSM61]: CLF equity review

Network guiding principles

~~Chapter 5 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 and achieve the transportation vision. -Development of a connected, safe and comfortable network is a key element of achieving the 2035 vision for active transportation and Regional Transportation Plan transportation goals and targets. Future evaluations and performance measures can refer to the guiding principles to evaluate how well we are implementing the vision.

The recommended bicycle and pedestrian networks (Chapters 7 and 8), the design guidance (Chapter 9) and the recommended policies and implementing actions (Chapter 12) were identified and developed to be consistent with the ATP Network Guiding Principles in mind.

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

Comment [LSM62]: Changes recommended by Safe Routes to School

Comment [LSM63]: CLF recommended using consistent terms throughout for low income, senior, youth, etc…

~~Chapter 6~~Chapter 5 Integrated Active Transportation Network Concept

Comment [LSM64]: Was chapter 8 in review draft 2

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

Focus on the integration of the pedestrian, bicycle and transit networks is a major outcome of the ATP. The ATP recommended policies and implementation strategies were developed to help achieve a fully integrated active transportation network, not least by emphasizing the need to coordinate projects and funding to achieve multiple outcomes.

The ATP networks described in Chapters 7 and 8 were developed to provide an integrated active transportation network. The completed recommended networks will:

- Provide access to the transit network;
- Provide access to regional destinations, including jobs, regional and town centers, schools, parks and essential daily services;
- Improve safety for walking and bicycling;
- Increase~~s~~ walking and bicycling access for ~~underserved populations~~low-income, minority, youth and seniors;~~[63]~~
- Increase levels of walking and bicycling to achieve regional and local transportation plans, goals and targets.

Comment [LSM65]: Definition in glossary

Integrating walking, bicycling and transit puts the region at your feet. The new undercrossing at Division Street makes for easy transit connections between Line 4-Division and the MAX Green Line station. Photos: Metro and TriMet

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

~~Connections to regional destinations~~Integration increases access

An integrated active transportation network ~~provides access to regional destinations by bike, foot and transit~~increases walking, bicycling and transit access. The following ATP Regional Destinations Map illustrates how the recommended pedestrian and bicycle networks link to the transit network ~~transit~~ and other regional destinations. ~~Evaluation of improvements to the regional pedestrian and bicycle networks included evaluating how improvements increased access to these destinations.~~The destinations shown on the map were identified by the SAC. The map also illustrates how local connections to regional pedestrian, bicycle and transit routes are sometimes needed to complete the 'last mile' for door-to-door travel.

~~New and updated functional classifications for the ATP regional bicycle and pedestrian networks clarify how regional active transportation routes function in the broader transportation network. The classifications are intended to develop thresholds for the functioning of active transportation network, focusing on corridors and districts where people want to access regional destinations by walking and riding bicycles.~~

~~The next three chapters describe the pedestrian and bicycle network concepts and functional classifications. Access to the regional public transportation network is highlighted on the network maps, emphasizing that public transit is a vital part of the active transportation network.~~

Linking Transit, Biking and Walking

~~Pedestrian~~ Good pedestrian and bicycle connections ~~to bus and train stations helps extend~~extends the reach of the transit network~~,~~ making trips made by transit feasible for more people. There are many ways to support the pedestrian, bicycle transit connection:

- 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.

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Public transit, walking and bicycling work together

Public transportation and active transportation are mutually supportive. Almost all trips on transit include a walking or bicycle trip. Five percent of all trips made in the region are made by transit. Of those trips, 84 percent of them start as a walking or bicycle trip.

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.

Making it safer and more comfortable to walk and ride a bike increases access to public transportation and encourages the use of public transportation. The region's public transportation systems, operated by TriMet and SMART, are an integral part of the regional active transportation system and enable long distance active transportation trips. The region has an adopted High Capacity Transit system plan (2010) and TriMet and SMART have plans for transit system improvements which were considered throughout the development of the ATP.

[Insert Regional destinations map]

Special role of trails

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

The regional trail network connects to places beyond the urban growth boundary.

Comment [LSM66]: This section added based on recommendation from Metro trail staff. More work needed. Add description of how finished trail network forms complete connected loop. Add info on the destinations that trails connect to.

Map of trails will be added.

[new map – insert map of regional and inter-regional trails] map will show connections to outside of the region including:

Vancouver, Columbia River Historic Highway Trail, Sauvie Island, Banks Vernonia Trail and communities, Wapato lake, champoeg state park, Beaver Lake

Chapter 6 Network Evaluation and Development

~~Criteria for evaluating and identifying recommended networks~~

Metro and the ATP Stakeholder Advisory Committee conducted an extensive process to identify the recommended regional ATP pedestrian and bicycle networks. Results from an evaluation using Geographic Information Systems (GIS) analysis and Metro's bicycle modeling tools provided information that was used to determine the network concepts, where routes missing and the functional classification of routes. The recommended regional pedestrian and bicycle networks are described in the next two chapters.

Evaluation results also provided information on where investments in the networks would increase access for the most people, increase pedestrian and bicycle access in areas with underserved populations and increase levels of walking and bicycling. Chapter 14 lists areas in the region that stood out in the evaluation; this information provides direction on ways that the region and communities can strategically invest in active transportation in the future. ~~The ATP evaluated improvements to the regional pedestrian and bicycle networks to provide information on where and how improvements to the networks would impact access to destinations, safety, transportation equity and increased walking and bicycling activity. A description and results from the evaluation are summarized below. Detailed results from the evaluations are provided in the *2013 Regional Pedestrian Network Analysis and 2013 Regional Bicycle Network Evaluation*.[64] The evaluation was used to develop the recommended pedestrian and bicycle networks described in Chapters 8, 9 and 10. Input from agencies, jurisdictions and stakeholder was also used to develop the recommended networks.~~

~~Potential improvements to the pedestrian and bicycle networks were evaluated using Metro's transportation model and Geographic Information Systems (GIS) analysis. Improvements included completing sidewalks on the regional pedestrian network, completing regional trails, adding separated bicycle facilities on roadways with high traffic volumes and speeds, bridges and improved crossings. Data used in the analysis included population and employment densities in 2010 and 2035, U.S. Census tracts with high percentages of underserved populations, regional bicycle and pedestrian networks and locations of essential and regional destinations.[65]~~

Evaluation and network identification process

1. **SAC decided on criteria.** Staff provided overview of criteria used in local transportation system funds, for regional flexible funds and ODOT. SAC wanted a limited

Comment [LSM67]: Was chapter 7 ; chapter title updated criteria and evaluation combined in this chapter

Comment [LSM68]: Work group recommendation to provide more detail on the process used to develop, evaluate and identify the network concepts.

A schematic flow chart will be developed to illustrate the process

~~[64] 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.~~

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

number of criteria. The purpose of the criteria was to evaluate alternate pedestrian and bicycle network concepts and to evaluate the effect of improvements made to the 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?.
-

2. **SAC developed network guiding principles.** Building on principles developed by the Blue Ribbon Committee for Trails the SAC added to and refined the principles. The principles were used to guide the development of the pedestrian and bicycle network concepts and are intended to guide the build out of the recommended networks.
3. **SAC developed pedestrian and bicycle network concepts.** The pedestrian and bicycle network maps in the Regional Transportation Plan were used as the base maps for developing the network concepts.

   Three alternate bicycle network concepts were evaluated to identify the preferred network concept; the purpose of evaluating the bicycle network concepts was to identify the bicycle parkway network, the spine of the entire bicycle network. The three concepts evaluated were a grid network, a spiderweb network and a parkway in each regional mobility corridor. The three alternate network concepts were developed after a review and discussion of different regional bicycle network concepts from around the world.

   The SAC decided not to develop or evaluate alternate pedestrian network concepts and instead evaluated one pedestrian network concept. The primary reason for this was that the SAC agreed that the regional pedestrian network needed to mirror the regional transit networks, urban centers and station communities. Development of the pedestrian network concept primarily consisted of refining it, adding all frequent and almost frequent transit routes and new station communities.
4. **SAC reviewed and refined draft network concept maps.** Three rounds of maps of the pedestrian network concept and the three bicycle network concepts were reviewed and marked up by the SAC.
5. **SAC developed a methodology to evaluate the pedestrian network concept and the three bicycle network concepts.** Extensive input was given to develop methodologies and data for a technical evaluation of the network concepts. The methodologies and data used are outlined in technical memos developed by Metro and Alta Planning and Design.

6. **Input on the network concepts was sought from stakeholders.** Input on the draft network concepts was provided at a public open house, at from transportation coordinating committee TACs and other stakeholder groups.

7. **Three bicycle network concepts and pedestrian network concept were evaluated to identify the recommended regional ATP pedestrian and bicycle networks.** To measure the potential effect of the network concepts it was assumed that each of the three bicycle network concepts and the pedestrian network were complete. The evaluation was conducted using geographic information system (GIS) analysis and bicycle modeling tools. Results from the evaluation helped the SAC determine what the preferred network concepts should be.- Results from the evaluations are provided in the *2013 Regional Pedestrian Network Analysis* and *2013 Regional Bicycle Network Evaluation.*

   Results from the evaluation provided information on the effect of improvements such as completing sidewalks, filling gaps in trails and adding pedestrian and bicycle crossings on different areas on the networks. The evaluation results show where improvements provided access for the most people and jobs; provided access for underserved populations, increased safety and increased levels of walking and bicycling. This information is intended to help local jurisdictions, agencies and other stakeholders prioritize future investments.

8. **SAC decided on and refined the recommended regional pedestrian and bicycle network concepts.** It also helped identify recommended pedestrian and bicycle route classifications. Chapters 7 and 8 cover the recommended ATP regional bicycle and pedestrian networks.

~~The Stakeholder Advisory Committee developed a set of criteria that were used to~~

Regional bicycle network evaluation

Three different bicycle network concepts were evaluated to help determine the recommended regional bicycle network in Chapter 7; the existing 2010 bicycle network and the planned bicycle network identified in the 2010 adopted Regional Transportation Plan were also evaluated. Detailed descriptions of each of the networks evaluated and the evaluation results are provided in the *2013 Regional Bicycle Network Evaluation*.~~Various improvements to the regional bicycle network were analyzed using~~

~~Metro's bicycle modeling tools and GIS. All bicycle and trail projects currently programmed in the 2035 Regional Transportation Plan were included as improvements. In addition to these projects, the impact of additional projects and improvements not currently programmed in the 2035 Regional Transportation Plan in the were analyzed, including regional trails, separated and complete bicycle routes on major roadways that serve as key bicycle connections, bicycle boulevards and crossings of current barriers.~~ Findings provided guidance to identify the recommended network.

- The evaluation found that as the density of the bicycle network increased so did the level of bicycle activity. In response to this finding, the recommended regional bicycle network is denser than the three network concepts evaluated~~Areas of the region that increased bicycle network density in 2035 saw an increase in bicycle activity. Areas with less density saw less of an increase~~.
- ~~Bicycle~~ The evaluation found that bicycle mode share ~~increases~~ increased the most for commuting trips, indicating the need to connect bicycle routes to jobs. The recommended network connects job centers with population centers.
- ~~In~~ The evaluation found that in general ~~,~~ planned investments in the 2010 adopted Regional Transportation Plan ~~regional bike network (in the 2010 adopted Regional Transportation Plan)~~ showed an increase in bicycle network density in areas with above average underserved populations (in 2010). However, the analysis revealed that several areas with underserved populations continue to have lower bike network density, compared to other parts of the region~~:~~. The recommended network increased the planned network in these areas. Appendix 1 identifies projects that could be added to the Regional Transportation Plan and Capital Improvement Plans. ~~Forest Grove~~
- ~~Cornelius~~
- ~~Hillsboro South~~
- ~~Hillsboro Central~~
- ~~Beaverton – East/Raleigh Hills/Washington Square~~
- ~~Beaverton- South /Aloha South~~
- ~~Tigard~~
- ~~Milwaukie – North/ Clackamas Regional Center~~
- ~~N. Portland – St. Johns~~
- ~~NE Portland – Cully/Rose City Park/Rocky Butte~~
- ~~Happy Valley~~
- ~~Central Gresham/Wood Village/Fairview~~

Comment [LSM69]: Repetitious. This list is in chapter 14

- Household and job density provided information on where regional bicycle routes were needed. Density of jobs and households matched up closely with urban centers and indicated the need for adding regional bicycle districts to the network concept.
- ~~Protected~~ The evaluation found that as~~bicycle facilities increase safety. As~~ the miles of protected bicycle facilities increased~~s,~~ such as trails and cycletracks, the number of bicycle miles traveled on those types of facilities ~~increases~~increased, while the number of miles of bicycle facilities on standard ~~five foot~~ bicycle lanes or routes with no separated facilities ~~decreases~~decreased. This indicates an increase in bicycling safety since more miles traveled by bicycle are on facilities more fully separated from traffic. ~~An increase in safety can be translated into a reduction crash~~

~~related costs.~~ The ATP Stakeholder Advisory Committee recommended a regional bicycle network that provides a bicycle parkway approximately every two miles forming a spine for the region's bicycle network. Regional bikeways connect to the bicycle parkways to create a spider web and grid of regional bikeways. The recommended approach to developing these routes is -to strive for separation from traffic and use best practices in design to move more bicycle trips to separated facilities. ~~While investment in trails and cycle tracks see a high return on the number of bicycle miles traveled on those facilities, it is important to note that even under the most ambitious scenarios, standard bicycle lanes still account for 55% of bicycle network facilities.~~

- ~~Bicycle~~ In the evaluation bicycle parkways ~~have~~ had about 2.5 times more bicycle traffic than the average bicycle facility, indicating that the importance of these routes on the recommended network. ~~routes and the importance of separated facility designs.~~
- Routes on the perimeter of the urban growth boundary ~~have~~ showed lower volumes of bicycle travel due to population levels. ~~However, these routes provide key connections that get people to the higher demand routes.~~This information helped determine the functional classification and density of regional bikeways on the recommended network.~~Trails and cycle tracks are highly desirable facility types. Trails and cycle tracks that are in denser population and employment areas and connect to destinations tend to attract more bicycle trips.~~
- ~~Diagonal~~ The evaluation found that diagonal routes, such as Sandy Blvd. and Foster Road in Portland, Barbur Blvd./Hwy 99 in Portland and Washington County, and the Gresham MAX Path, ~~also~~ showed a high level of demand for bicycle trips and the potential to increase bicycle travel if they are improved. Many diagonal routes were identified as bicycle parkways~~.~~ on the recommended network.
- ~~Land~~ The evaluation confirmed that land use is a key factor in the demand and use of bicycle routes. Bike routes in areas with a lot of destinations show higher volumes of trips; even when no bicycle facilities exist or they are unimproved. ~~This indicates the need to provide bicycle facilities in areas that are destination rich.~~The recommended network is denser in areas that currently or are planned to have more households, jobs and destinations.
- The evaluation identified areas in the region that showed very high levels of ~~the highest level of~~ bicycle activity ~~(other areas show substantial activity, and all areas of the region show bicycling activity).~~ currently and in the future. This information helped determine the location of routes on the recommended network. ~~Downtown Portland~~
- ~~Inner SE Portland~~
- ~~Outer East Portland/West Gresham~~
- ~~Central Gresham/Wood Village/Fairview~~

Comment [LSM70]: Workgroup member requested diagonal be defined.

- ~~SW Portland~~
- ~~Beaverton - South/Aloha-South~~
- ~~Beaverton North~~
- ~~Tigard~~
- ~~SE Portland – Eastmoreland/Woodstock/Foster~~
- ~~Inner NE Portland~~
-
- Facilities added that overcome barriers saw a relatively large number of bicycle trips. All bridges, existing and added, showed demand for bicycle trips. This information helped determine the location of routes on the recommended network.
- Routes identified in the East Metro Connections Plan were included in the recommended network.

Comment [LSM71]: Repetitious. This list is included in chapter 15.

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

Regional pedestrian network evaluation

The regional pedestrian network concept was evaluated to help develop the recommended network in Chapter ~~9~~ 8 and to identify areas where investments in the network would impact access, safety and equity. Evaluation results are provided in the *2013 Regional Pedestrian Network Analysis*.

Geographic information systems analysis estimated the impact of potential improvements to the regional pedestrian network on walking. The analysis compared the potential for walking based on existing pedestrian infrastructure (e.g. sidewalks, trails, signalized crossings) with a future scenario in which gaps and deficiencies in the pedestrian network have been addressed through pedestrian facility projects.

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

- The analysis identified ~~Areas~~ areas where there are concentrations of people (jobs and housing) within close proximity to destinations. The recommended regional network provides at least one regional pedestrian route in these areas. ~~but that lack walking facilities to connect them were identified in the analysis.[66] Areas where the improvements provided access to the most people were identified:~~
- ~~Top pedestrian districts include Tigard, Washington Square, and Millikan Way. Millikan Way, Beaverton Creek and Gateway are in the top 10 for increased access and also have a high percentage of underserved populations.~~
-
- ~~Top pedestrian corridors include Beaverton to Tualatin, Hillsboro to Cedar Mill, and SW Oleson Rd./SW Greenburg Rd. Beaverton to Tualatin, Hillsboro to Cedar Mill, and Powell Boulevard are in the top 10 for increased access and also have a high percentage of underserved populations.~~
-
- ~~Top regional trails include Fanno Creek Trail, I-205 Corridor, and Beaverton Creek Trail. I-205 Corridor, Beaverton Creek Trail, Columbia Slough Trail and Highway 217 Trail are in the top 10 for increased access and also have a high percentage of underserved populations.[67]~~

~~[66] The top 10 corridors, districts and trails that provide the greatest increase in the number of people with walking access to destinations are provided in Table 2 in the Regional Pedestrian Network Analysis report, June 2013.~~

~~[67] Hwy 217 Trail is not included on the ATP networks as it has not yet been since it is not identified oninclude in Beaverton's Transportation System Plan. It is included on the Regional Trails and Greenways map.~~

- The analysis identified areas where adding pedestrian crossings increase access to jobs and destinations for people. Appendix 1 includes projects that could be added to the Regional Transportation Plan or Capital Improvement Plans.
- The analysis identified the percentage of census block groups within each pedestrian area (district, corridor, and trail) that contain an above average share of underserved populations. This allows ~~for the analysis~~ the ATP to identify, for example, where areas with high potential to improve access would also serve significant populations of underserved groups.[68]~~,[69]~~ It is important to note that pockets of low-income or minority communities reside in areas that are that in a broad brush equity analysis are 'washed out' and do not pop out as areas to pay attention to for equity. Local knowledge and input from communities is necessary for determining investments that improve transportation equity.
    - ~~Pedestrian districts with the highest percentage of underserved populations include Beaverton Creek, 148th Ave. and Rockwood. Nearly all of the "top scoring" districts also score highly in the access and cost per person with increased access metrics. The exception is Hillsboro, which scores low in the access metric because a large percentage of the population is already within walking access to destinations.~~
    - ~~Pedestrian corridors with the highest percentage of underserved populations include Forest Grove to Cornelius (Tualatin Valley Highway), SE 155th/Milmain, and Aloha to Beaverton. Many also score highly in the access and cost per person with increased access metrics.~~
    - ~~Regional trails with the highest percentage of underserved populations include the Highway 47 Trail, Council Creek Trail, and MAX Path. Many, though not all, of the trails also score highly in the access and cost per person with increased access metrics.~~
- Identification of areas in the region ~~Sub-areas~~ with the greatest projected increase in *total walking trips* between 2010 and 2035 helped guide refinement of the regional pedestrian network. The areas that showed the greatest increase ~~-~~are: Urban Clark County (78,207), Portland Central City (76,109), North Washington

Comment [LSM73]: Moved from footnote into body of text

Comment [LSM74]: Repetitious. This information is included in chapter 14, implementation strategies.

[68] The top 10 corridors, districts and trails with the highest percentage of underserved populations are provided in Table 4 in the Regional Pedestrian Network Analysis report, June 2013. Since it is not possible to forecast the distribution of future populations by sub-group, the analysis assumes a distribution of population sub-groups for 2035 (the year used for this analysis) similar to 2010.

~~[69] It is important to note that concentrations of underserved populations may still be present in areas with low equity scores. This is especially the case for Pedestrian Corridors, whose length may pass through areas with above average numbers of underserved populations, but due to the length of the corridor the Equity score gets 'washed out.' Examples of these corridors are: Murray Scholls to Cedar Mill (#10); Halsey (#40); Fremont (#49), Sandy (#52), Cully (#53), Powell (#57), Troutdale to Gresham (#60). The potential for investments in different areas to improve access for people with physical disabilities is illustrated in Appendix E of the Pedestrian Analysis Report, which identifies the frequency of lift deployments at TriMet bus stops.~~

County Suburbs (34,765), Clackamas Eastside Suburbs (28,830) and Portland SE to I-205 (20,767).[70]

- Identification of areas in the region ~~Sub-areas~~ with the greatest projected increase in *percentage* of walking trips between 2010 and 2035 helped guide refinement of the regional pedestrian network. The areas that showed the greatest increase ~~-~~are: Portland East of I-205 (20.4% increase), Portland North (11.8%), Clackamas Eastside Suburbs (11.7%), North Washington County Suburbs (9.2%), and South Multnomah County Suburbs (8.9%).
- Urban arterials identified in the 2010 adopted Regional Transportation Plan were recognized as being important corridors in the regional pedestrian network because of the destinations and transit they provide. Urban regional arterials identified in the Regional Transportation Plan were therefore added to the regional pedestrian network.
- Analysis identified frequent and almost frequent transit routes that were not identified on the regional pedestrian network. The SAC recommended that all frequent and almost transit routes should be on the regional pedestrian network and identified as pedestrian parkways, the highest functional classification on the ATP recommended regional pedestrian network.
- Regional trail additions were identified through the update of the Metro Regional Trails and Greenways Map. Some of these trail additions to the recommended network filled gaps in the regional pedestrian network in areas with few urban arterials and no frequent transit routes.
- Routes identified in the East Metro Connections Plan were included in the recommended network.

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

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

~Philip Wu, MD, Kaiser Permanente Northwest Region

Chapter 7 Recommended Regional Bicycle Network Concept

Comment [LSM75]: Was chapter 9 in review draft 2

The ATP recommended regional bicycle network concept is an interconnected network of ~~off-street trails and on-street separated bikeways linking~~ bikeways and districts linking every center in the region and destinations including schools, jobs, services, shopping areas, parks and natural areas. The recommended regional bicycle network knits together the major bicycle networks of local jurisdictions and~~The recommended network~~ is shown on the Recommended Regional Bicycle Network Functional Classification Map at the end of this chapter. The ATP bicycle network concept updates the bicycle network map in the 2010 adopted Regional Transportation Plan.[71] All elements included on the recommended regional bicycle network are eligible for federal funding.

Bicycle Districts	74
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**

A major outcome of the ATP is the development of new functional classifications and addition of bicycle districts for the regional bicycle network concept. Functional classifications are no longer tied to facility type (i.e. trail and on-street) and the placement of bicycle parkways, the highest functional class of regional bicycle routes, were carefully considered based on guidance from the SAC and the network evaluation described in the previous chapter.

The recommended regional bicycle network concept includes:

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

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

Geographic boundaries for the ATP bicycle network concept are consistent with the urban growth boundary. Connections to major bike routes outside of the regional boundary are shown on the Regional Trails Map in Chapter 5. ~~The map shows Bicycle Parkways, Regional Bikeways, Bicycle Districts, transit stops and bicycle transit facilities. Bicycle transit facilities are often referred to as Bike & Rides and include protected, secure bicycle parking. Some can include showers and bicycle repair, such as the Bike & Ride in Hillsboro.~~

Comment [LSM76]: Moved to functional classifications section, below

XX miles of the regional bicycle network are completed and xx miles of gaps remain. Completed routes and gaps are shown on the Existing Regional Bicycle Network Map at the end of this chapter.

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

Regional bicycle network concept development

The ATP recommended regional bicycle network identifies seventy-four bicycle districts approximately 1,400 miles of bikeways. Approximately 220 miles of new routes were added (a 19 percent increase), of which 70 miles are trails and 150 miles are on-street. ~~Most of the routes were already identified in the 2035 Regional Transportation Plan.~~ New bikeway routes were identified through a process involving the ATP Stakeholder Advisory Committee and other stakeholders and a technical evaluation of three alternate networks. The regional bicycle network shown in the 2010 adopted Regional Transportation Plan provided the base network and starting place.[72]

Comment [LSM77]: This section updated based on a comment to provide more detailed information on how the recommended ATP regional bicycle network was identified.

Three separate bicycle network concepts were developed and evaluated to identify the preferred regional bicycle network concept. Chapter 6 describes the evaluation process and

[72] Fig. 2.22 in Chapter 2.

findings that guided development of the recommended network. The recommended network concept provides a denser network of bicycle parkways than the three scenarios tested. Evaluation findings indicated that a denser regional network connecting to more destinations and with more bikeways separated from traffic resulted in more travel by bicycle and more travel on safer facilities. Subsequent to identification of the recommended regional bicycle network, meetings with local jurisdictions and agencies were held to refine the recommended bicycle network and ensure that the regional network reflected major local bikeways and priorities.

In the process of developing the ATP updates were made to regional trail alignments, the trails database and bicycle network data in the Regional Land Information System (RLIS).

~~and from recommendations of the Stakeholder Advisory Committee and other stakeholders. Information from the existing conditions and bicycle network analysis guided the development of the Regional Bicycle Network Concept.[73] 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. and refined and local jurisdictions and stakeholders had the opportunity to add or remove trails to the network and map. Additional roadway routes were identified by local jurisdictions. Routes that showed a high level of demand, but that are not currently on the 2035 Regional Transportation Plan bicycle network map are recommended as new routes, for example Foster Road in the City of Portland.~~

~~Regional bicycle network concept~~

~~The regional bicycle network knits together local bicycle routes into a cohesive, connected regional network. Bicycle parkways and regional bikeways connect to and through bicycle districts. Routes and districts on the regional bicycle network are areas where high levels of bicycling exist or are planned. Many destinations, such as transit, schools, parks, jobs, shops, entertainment and essential services that people want to bicycle to are located in districts or along or near parkways and bikeways. The regional bicycle network is well integrated with the regional transit networks and is safe, direct, and enjoyable to use. Connections to transit are convenient and safe, waiting areas are comfortable and safe.~~

~~The recommended network concept includes:~~

- ~~A bicycle parkway in each of the region's Mobility Corridors within the urban growth boundary.~~

~~[73] Regional Bicycle Network Evaluation, 2013 and Existing Conditions, Findings and Opportunities report, 2012.~~

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

Regional bicycle network functional classifications

Two functional classes are applied to regional bicycle routes and replace the existing functional classes in the ~~2035~~ Regional Transportation Plan adopted in 2010. Applying functional classifications to identified routes helps achieve coherent, continuous, recognizable and easy to follow routes, especially when consistent design practices as described in Chapter 9 are used.

The regional bicycle network has a functional hierarchy similar to that of a street network. Bicycle parkways are the highest functional classification for regional bicycle routes. They form the spine of the regional bicycle network and are connected to and by regional bikeways, the second functional classification for regional bicycle routes. Bicycle parkways and regional bikeways connect to and through bicycle districts**.**

The recommended regional bicycle network identifies bicycle parkway and regional bikeway routes that demonstrated a high level of demand in 2010 and 2035 in the network evaluation (summarized in Chapter 6), provide connections to jobs, transit and other destinations and serve underserved populations (in 2010). Routes on the edge of the urban area showed less activity compared to other areas. Therefore, routes on the edge of the urban areas are designated as regional bikeways. Regional bikeways may experience less demand than bicycle parkways; however they provide key routes and connectivity on the regional network.

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

Bicycle districts

Comment [LSM78]: Section on bicycle districts edited for clarity based on various comments from the workgroup

Regional bicycle districts have not been identified in ~~are a new concept for the~~ Regional Transportation Plan before. They are being ~~and were~~ added to the regional bicycle network for the first time through the ATP. ~~As a starting place, the Central City, Regional and Town Centers and Station Communities are identified as~~ Bicycle ~~Districts~~districts correspond with 2040 Growth

Concept Design Types - the Central City, Regional and Town Centers and Station Communities; bicycle and pedestrian districts are the same.[74]

A bicycle district is an area with a concentration of transit, commercial, cultural, educational institutional and/or recreational destinations where bicycle travel is intended to be attractive, comfortable and safe. Bicycle districts are also areas ~~where~~ with current or planned high levels of bicycle ~~use exist or a planned~~activity. ~~Within a Bicycle District, some routes may be designated as Bicycle Parkways or Regional Bikeways, however a~~All bicycle routes within ~~the~~ bicycle districts are considered regional and are eligible for federal funding. Bicycle facilities in bicycle districts should strive to be developed consistent with the design guidance described in Chapter 9.

~~Which areas are designated as Bicycle Districts~~ Which areas are designated as bicycle districts should be considered further ~~and is identified in the implementing activities of the policy section;~~ in future Regional Transportation Plan and ATP updates. ~~Bicycle Districts may need to be added or removed. Since all Station Communities are currently identified as Bicycle Districts,~~ For example, areas around bus stops with high ridership ~~could also~~should be ~~considered~~ evaluated as potential b~~B~~icycle d~~D~~istricts (light rail station areas are currently identified as bicycle districts~~.~~) ~~Additionally~~, some Main Streets on the regional network ~~could~~ may ~~also~~ be considered for expansion as bicycle districts, as well as other areas.

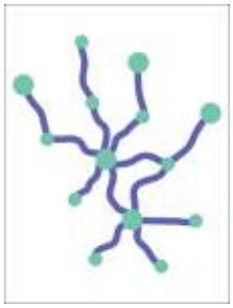
Bicycle transit facilities are often referred to as Bike & Rides and include protected, secure bicycle parking. Some can include showers and bicycle repair, such as the Bike & Ride in Hillsboro. In addition to existing bike and ride facilities at Beaverton Transit Center, Sunset Transit Center and Gresham Transit Center, Trimet is working in partnership with city and county jurisdictions to apply for funding to build additional bike and rides with current planning focusing on enhanced bike parking facilities in areas such as Gateway Transit Center in East Portland, Orenco/NW 231st Ave. in Hillsboro, Beaverton Creek in Beaverton, Goose Hollow in Portland and Park Ave. and Tacoma stations as part of the Portland-Milwaukie light rail line.

Comment [LSM79]: More detail added from TriMet

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

Bicycle districts can include elements such as bike corrals such as this one in NE Portland. An added benefit of the bicycle corral is the buffer it provides for outdoor seating. Photo: BikePortland.org

Bicycle parkways



Regional bicycle parkways are a new functional class for the regional bicycle network and are the highest functional class for bicycle routes. Bicycle parkways are high quality routes and make up the spine of the bicycle network – the highways of bicycle travel. The schematic at the right provides a conceptual representation of bicycle parkways connecting to bicycle districts.

Bicycle parkways ~~They~~ provide safe, comfortable and efficient bicycle travel within and between centers. They provide connections to key destinations and routes outside of the region. Based on current research and evaluation of the regional bicycle network bicycle parkway routes were identified because they:[75]

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

[75] Regional Bicycle Network Evaluation, April 2013.

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

Parkways can be any type of facility, such as a bicycle lane, cycle track, bicycle boulevard, or trail, which provides an enhanced bicycle experience that feels safe and comfortable. Design ~~guidelines~~ guidance outlined in Chapter ~~11~~ 9 provide examples of the types of designs that can be used to develop bicycle parkways. Bicycle facilities on bicycle parkways should provide separation from traffic and apply best practices in design. Separated in-street bikeways can be designed in many ways including bicycle lanes, wide bicycle lanes, buffered lanes, passing bicycle lanes, ~~-~~and colored bicycle lanes, using parking as a buffer to a raised path alongside the road. Bicycle boulevards are typically low traffic streets that use traffic calming and wayfinding to prioritize pedestrian and bicycle travel, and can serve as parkways if they are direct, have protected crossings, and route signage. Trails should ensure adequate separation between people riding bicycles and walking and should provide convenient and safe crossings of streets.

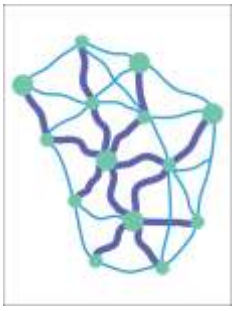
Bicycle parkways are spaced approximately every two miles on the regional bicycle network, and connect to and through every urban center, many regional destinations and to most employment and industrial land areas and regional parks and natural areas ;all areas are connected by regional bikeways, the next functional class of regional bicycle routes). Refer to the Regional Destinations map. Each Mobility Corridor within the urban area has an identified Bicycle parkway.[76]

[76] There are twenty-four transportation, or Mobility Corridors, in the region. The corridors are sub-areas that include all regional transportation facilities within the subarea as well as the land uses served by the

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



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. The schematic at the right provides a conceptual representation of regional bikeways connecting to bicycle parkways and bicycle districts to complete the regional bicycle network.

regional transportation system. This includes freeways and highways and parallel networks of arterial streets, regional bicycle parkways, high capacity transit, and frequent bus routes.

Example of a regional bikeway. Regional bikeways connect to bicycle parkways. Photo: Metro

Local bikeways

Local bikeways are bikeways that are not part of the regional ATP bicycle network. Local bikeways can be trails, streets and connections. Local connections 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~~ network providing for door to door bicycle travel. Projects on local bikeways are typically not eligible for federal funding nor are they typically included in the Regional Transportation Plan list of projects. The schematic at the right provides a conceptual representation of local bikeways connecting to the regional bicycle network.

Indentifying alternate ~~or~~ parallel routes ~~if identified routes turn out to have too many constraints~~

It is anticipated that as plans and projects develop bicycle parkway and regional bikeway routes could change, including moving from a regional arterial to a parallel route of low-stress streets. Bicycle parkways and regional bikeways can make use of various types of facility designs, including off street trails, low traffic side streets and major urban arterials. If routes are changed, the new route must provide the same direct, easy access to destinations, prioritize bicycle travel, and provide separation from auto traffic on roadways with higher levels of traffic and speeds.

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

Regional bicycle network maps

The following maps illustrate the bicycle network concept and functional classifications, show which regional bicycle routes are on-street and which are trails and show completed parts of the networks and gaps.

1. Regional Bicycle Network Functional Classifications Map shows the functional classifications assigned to bicycle routes on the regional ATP bicycle network. Routes are either bicycle parkways or regional bikeways. Shows the location of regional bicycle districts.
2. Regional Bicycle Network On-Street and Trails Map shows which routes on the regional bicycle network are on-street and which are off-street trails/multi-use paths.
3. Existing Regional Bicycle Network shows parts of the regional bicycle network that are completed and gaps.

"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

[insert regional bicycle network functional classification map]

[insert regional bicycle network on-street and trails map]

[insert existing regional bicycle network map]

Chapter 8 Recommended Regional Pedestrian Network Concept

Comment [LSM80]: Was chapter 10 in review draft 2

The ATP recommended regional pedestrian network concept is an interconnected network of ~~off-street trails and pedestrian corridors~~pedestrian routes that link pedestrian friendly districts and provide access to destinations including transit, schools, jobs, services, shopping areas, parks and natural areas. -The regional pedestrian network mirrors the regional transit network reflecting the important relationship of a complete walking network and transit.

The regional pedestrian network is safe, comfortable, accessible and enjoyable. People walking feel welcomed and prioritized. Key elements of the regional pedestrian network include complete sidewalks, multi-use paths and trails, safe street crossings at regular intervals, illumination and streetscape details.

Pedestrian Districts	74
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**

The recommended network is shown on the Recommended Regional Pedestrian Network Functional Classification Map at the end of this chapter. A major outcome of the ATP is the development of new functional classifications for the regional pedestrian network concept and the addition of new routes. The recommended regional pedestrian network updates the pedestrian network map and functional classifications in the 2010 adopted Regional Transportation Plan. Districts and routes included on the regional pedestrian network are eligible for federal funding. Geographic boundaries for the ATP pedestrian network are consistent with the urban growth boundary. ~~The map identifies Pedestrian Districts, Pedestrian Parkways, and Pedestrian Corridors and transit stops and stations. Local streets and trails, identified as Pedestrian Connectors are also shown for context and to illustrate the important role they have for a complete walking network.~~

Approximately xxx miles of the pedestrian network are completed and xx miles of gaps remain. Completed routes and gaps are shown on the Existing Regional Pedestrian Network Map at the end of this chapter.

Most walking trips in the region are approximately half a mile in length. While the regional pedestrian network identifies continuous routes a majority of pedestrian activity will occur in specific pockets along these corridors, for example when a corridor passes through a town center, station area or serves as a main street. The nature and design of the pedestrian routes will change according to where it is located and the destinations and uses it serves.

Regional pedestrian network concept development ~~Developing the pedestrian network and identifying routes~~

The recommended regional pedestrian network identifies approximately 1,245 miles of regional pedestrian routes and seventy-four pedestrian districts. Chapter 6 describes the evaluation process used to identify the recommended network.

~~Many of the routes were already identified in the 2035 Regional Transportation Plan. New routes were identified in local plans and corridor plans and from recommendations of the Stakeholder Advisory Committee and other stakeholders. Information from the existing conditions and pedestrian network analysis guided the development of the regional pedestrian network concept. The~~The recommended network identifies ~~57~~ 299 miles of new ~~Pedestrian Parkways and 242 new miles of Regional Pedestrian Corridors~~pedestrian routes. ~~[77]~~The majority of the new on-street routes are urban arterials that are part of the ~~existing~~ Regional Transportation Plan ~~regional~~ arterial system but not previously identified as part of the regional pedestrian network. Missing frequent or almost frequent transit routes were added. Additionally, a few non-arterial streets were added to provide a regional pedestrian connection where there was none. ~~Approximately~~ Of the 299 added miles, approximately 208 miles ~~of~~ were regional trails ~~were added to the network~~. Regional trail additions were identified through the update of the Metro 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.

After a draft network was identified meetings with local jurisdictions and agencies were held to refine the recommended pedestrian network and ensure that major local walkways and priorities were reflected. As part of development of the ATP the regional sidewalk inventory data was updated in the Regional Land Information System (RLIS).

~~Regional pedestrian network concept~~

~~The regional pedestrian network is safe, comfortable, accessible and enjoyable. People walking feel welcomed and prioritized. Key elements of the regional pedestrian network include complete sidewalks, multi-use paths and trails, safe street crossings at regular intervals, illumination and streetscape details.The regional pedestrian network links local pedestrian networks together into a cohesive regional network. It is comprised of pedestrian parkways and regional pedestrian corridors linking into and through pedestrian districts. Pedestrian parkways, districts and corridors are areas with current or anticipated high levels of walking activity. Many destinations, such as transit, schools, parks, jobs, shops, entertainment and essential services that people want to walk to are located in districts or along or near pedestrian parkways and~~

Comment [LSM81]: Covered in chapter 6

Comment [LSM82]:

Comment [LSM83]: Information included in chapter 6

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

~~corridors; often the Districts, Parkways and Corridors are often destinations themselves. The regional pedestrian network is well integrated with the regional transit networks and is safe, direct, and enjoyable to use. Connections to transit and transit stops are conveniently located, safe and comfortable.~~

~~Most walking trips in the region are approximately half a mile in length. While the regional pedestrian network identifies continuous, long corridors, it is understood that a majority of pedestrian activity will occur in specific pockets along these corridors, for example when a corridor passes through a town center, station area or serves as a main street. As part of the 2014 Regional Transportation Plan update, a new pedestrian parkway concept graphic will be developed.~~[78]

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

[78] ~~Page 2-70.~~

Regional pedestrian network functional classifications

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

Pedestrian districts

Pedestrian districts shown ~~in~~ on the ~~ATP~~ ATP pedestrian network map are the same are those shown on the ~~2035~~ 2010 Regional Transportation Plan pedestrian network map ~~in Chapter 2~~. Additionally, several station communities along the Portland Milwaukie and the Portland Clackamas light rail lines were added.[79] ~~The~~ Pedestrian districts on the ATP pedestrian network map correspond with 2040 Growth Concept Design Types - the Central City, Regional and Town Centers and Station Communities ~~are identified as Pedestrian Districts~~; pedestrian and bicycle districts are the same~~.~~[80] A pedestrian district is an area with a concentration of transit, commercial, cultural, educational, 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 and are eligible for federal funding. Pedestrian facilities in pedestrian districts should strive to be developed consistent with the design guidance described in Chapter 9.

[79] Fig. 2.25, Chapter 2, Page 2-69, 2010 Regional Transportation Plan.

[80] ~~These are 2040 Growth Concept Design Types identified in the 2035 2010 Regional Transportation Plan.~~

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

Which areas are designated as pedestrian districts may be reevaluated as part of an update of the 2040 Growth Concept Map or separately. New pedestrian districts may need to be added. Since all station communities are currently identified as pedestrian districts, bus stops with high ridership should be considered as potential pedestrian districts. Additionally, some Main Streets on the regional network should also be considered for expansion as pedestrian districts, as well as other areas. For example, Villebois in the City of Wilsonville, or Mississippi Avenue in North Portland could be considered as a regional pedestrian district.

Pedestrian parkways

Regional pedestrian parkways are a new functional class for the regional pedestrian network concept and pedestrian routes ~~and the~~ ; they are the highest functional class for pedestrian routes on the regional ATP pedestrian network. ~~They~~ Pedestrian parkways are intended to be ~~are~~ high quality and high priority routes for pedestrian activity. Pedestrian parkways are major urban streets that provide frequent and almost frequent transit service (existing and planned) or regional trails.[81] Adequate width and separation between pedestrians and bicyclists should be provided on shared use path parkways. Pedestrian facilities on pedestrian parkways should provide

[81] All regional trails classified as pedestrian parkways are also bicycle parkways.

separation from traffic and apply best practices in design. The schematic at the right provides a conceptual representation of pedestrian parkways connecting to and through pedestrian districts.

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. Photo: Metro

Regional pedestrian corridors

~~is~~ Regional pedestrian corridors are the second highest functional class of the regional pedestrian network. ~~On-street~~ Regional p~~P~~edestrian c~~C~~orridors are any major or minor arterial street or regional trail~~on the regional urban arterial network~~ that is not designated as a Pedestrian parkway. ~~Regional trails that are not Pedestrian Parkways are Regional Pedestrian Corridors.~~ These routes are also expected to see a high level of pedestrian activity, such as school pedestrian traffic ~~though not as high as the Parkways.~~. The schematic at the right provides a conceptual representation of regional pedestrian corridors connecting to pedestrian parkways and pedestrian districts.

Comment [LSM84]: Recommended addition by safe routes to school

Regional pedestrian corridors are all urban arterials and trails that are not parkways. This arterial in Portland is an example of a regional pedestrian corridor, which includes transit and could benefit from a greater level of separation from traffic. Photo: Metro

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

Local pedestrian connectors

On the regional ATP pedestrian network, local pedestrian connectors are ~~all~~ streets and trails ~~not included~~not part of on the regional ATP network. Local connectors may experience lower volumes of pedestrian activity and are typically on residential and low-volume/speed roadways or smaller trails, though some may be busier ~~,~~ roadways. ~~Connectors~~Though not part of the regional ATP network, connectors~~, however,~~ are an important element of the regional pedestrian network because they allow for door-to-door pedestrian travel. The schematic at the right provides a conceptual representation of local pedestrian connectors connecting to the regional pedestrian network.

Regional pedestrian network maps

The following maps illustrate the pedestrian network concept and functional classifications, show which regional pedestrian routes are on-street and which are trails and show completed parts of the networks and gaps.

4. Regional Pedestrian Network Functional Classifications Map shows the functional classifications assigned to pedestrian routes on the regional ATP pedestrian network. Routes are either pedestrian parkways or regional pedestrian corridors. Shows the location of regional pedestrian districts.
5. Regional Pedestrian Network On-Street and Trails Map shows which routes on the regional pedestrian network are on-street and which are off-street trails/multi-use paths.
~~1.~~6. Existing Regional Pedestrian Network shows parts of the regional pedestrian network that are completed and gaps.

High levels of walking, bicycling and transit activity are one indicator that pedestrian and bicycle routes are accessible and safe. Photo: Metro

[insert Regional Pedestrian network functional classifications map - this map shows the pedestrian network concept and functional classifications (parkways, corridors and districts). On-street and trails are not distinguished; a separate map shows on-street and off-street]

[insert Regional Pedestrian network on-street/off-street map - this map shows which routes are On-street and which are trails are not distinguished; a separate map shows on-street and off-street]

[insert existing conditions pedestrian network map] this is a new map and will show what is completed on the network

Chapter 9 ~~Design Guidelines~~ Design Guidance

Design helps make walking and bicycling easy, safe, comfortable and attractive. This chapter provides design guidance for completing, extending and improving the regional active transportation network, highlighting design elements to develop the regional active transportation network consistent with the ATP Guiding Principles described in Chapter 4.

Building on the ATP design guidance, Metro plans to update and expand its street design handbooks to provide additional design guidance for regional pedestrian, bicycle and trail facilities, including addressing interaction with freight and transit movement.[82]

Filling gaps to complete the regional ATP pedestrian and bicycle networks is the highest priority for developing the regional active transportation network. However, the design of facilities is also important.

As gaps are filled and existing facilities are improved the design of those facilities will affect comfort and access. While having any facility is better than nothing, designing facilities to substantially increase safety and make the experience comfortable and enjoyable leads to an increase in active travel.

Design of facilities is especially important for improving bicycle and pedestrian safety and comfort along or crossing roadways with high traffic volumes and speeds~~, crossing barriers such as rivers or rail roads and on trails with high volumes of users~~.

> 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.
>
> *~ Excerpt from the 2010 United States Department of Transportation's Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations*

In 2010 the U.S. Department of Transportation emphasized the importance of pedestrian and bicycle design issuing a policy statement recommending going beyond minimum design

Comment [LSM85]: This was chapter 11 in review draft 2

Comment [LSM86]: This chapter has been extensively reorganized and rewritten in response to input from the ATP/RTP WorkGroup.

The term guidelines is being replaced by guidance, with a shift in focus from specific guidelines to a focus on design elements and outcomes.

Comment [LSM87]: Acknowledgment that closing gaps is highest priority.

[82] Updates to the Best Design Practices in Transportation handbooks will add information on low-volume bicycle boulevards, alternate designs for high volume arterial streets (e.g. cycle tracks) and regional trails. The handbooks will add information on and address guidelines for transit and bicycle interaction, such as transit stops and stations and along light rail and streetcar routes, and include best practices and successful case studies integrating bicycle, pedestrian and freight facilities, especially within constrained roadways.

standards. In 2013, the Federal Highway Administration issued a memorandum supporting taking a flexible approach to bicycle and pedestrian facility design and the use of new guides, such as NACTO's *Urban Bikeway Design Guide* and ITE's *Designing Urban Walkable Thoroughfares*. Metro may want to consider revising Title 1 of the Regional Transportation Functional Plan to allow for maximum design flexibility for pedestrian and bicycle facility design.

Design of facilities is especially important for improving bicycle and pedestrian safety and comfort along or crossing roadways with high traffic volumes and speeds, crossing barriers such as rivers or rail-roads and on trails with high volumes of users. Photo: BikePortland.org

Purpose of the ATP design guidance

Regional bicycle, pedestrian and transit routes connect across jurisdictional boundaries. Wayfinding and facility design emphasize the connectedness of the network and support door to door bicycle, walking and transit trips in the region. While local jurisdictions are strongly encouraged to employ the ATP design elements they are not requirements.

The purpose of the ATP design guidance is to:~~The ATP provides a set of suggested design guidelines for completing, extending and upgrading the region's bicycle and pedestrian networks. The recommended designs are currently being applied in the U.S. and in the region. When applied to pedestrian and bicycle facilities the designs have been shown to help to make walking and bicycling easy, safe, comfortable and attractive. The purpose of the design guidelines is to provide a check-list of the highest possible standards being used today~~

Comment [LSM88]: New section providing more detail on the purpose of and how the designs will be used. Incorporates wording provided by Washington County staff.

Comment [LSM89]: Purpose of design guidance put into list format. Comments from Washington County were used to develop the list.

1. Provide guidance to encourage construction of the highest quality facilities that create safe, comfortable and attractive conditions for walking and bicycling, especially in regional pedestrian and bicycle districts and on routes classified as parkways on the ATP pedestrian and bicycle network maps in Chapters 7 and 8.
2. Provide a design framework to support development of the regional active transportation network in a consistent and comprehensive manner across jurisdictions.
3. -Describe current best practices to implement the regional active transportation network according to the ten ATP Network Guiding Principles defined in Chapter 4.
4. Provide a checklist of key design elements for local jurisdictions when they scope, design, construct, maintain and/or operate pedestrian and bicycle facilities that are part of the regional network.
5. Provide a checklist of key design elements for local jurisdictions when they create pedestrian and bicycle network concepts and project lists in transportation system plans.
6. Provide direction to Metro and JPACT on pedestrian and bicycle design elements that could be applied to projects funded with Regional Flexible Funds.[83]

   Provide direction to Metro when reviewing local transportation plans or other transportation actions that require Metro review; Metro may provide suggestions that relate to the ATP design guidance.[84]

[83] Criteria for Regional Flexible Funds are a policy decision and are agreed on each MTIP funding cycle by JPACT and the Metro Council. The ATP does not set this policy. In the past design criteria for Regional Flexible Funds have been applied with the understanding that design is context sensitive and designs may need to be modified in constrained rights-of- way or other extraordinary conditions.

[84] This role may be codified in the 2018 update to the Regional Transportation Functional Plan, in which the Pedestrian System Design and Bicycle System Design sections may be modified to require local jurisdictions to acknowledge ATP design guidance when developing system elements and project lists.

Design elements at this Hillsboro MAX station make getting to and waiting for the train a pleasant experience. Photo: City of Hillsboro

Design guidance sources

Many manuals and guidelines provide information for planning, design, construction, maintenance, operation, management and signage for pedestrian, bicycle and paths/trails. Design resources specific to this region or recommended by the Federal Highway Administration are listed below. The~~with the understanding that not all projects will be able to or need to use the designs.~~ ATP design guidance highlights~~The guidelines were drawn from the~~ key elements of best practices in design; design manuals and resources~~following sources~~ should be referred to for specific facility design types, options for constrained environments and special circumstances, cross-sections and other information. ~~:~~

- *Metro Creating Livable Streets: Street Design Guidelines for 2040* are outdated for bicycle designs but have ~~(for~~ pedestrian design elements~~)~~ for the Regional Transportation Plan's regional street design classifications. Development of the Best Design Practices for Transportation will update regional bicycle design guidelines.
- *National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide* provides a variety of examples in different contexts and designs are being tested and revised around the country. Trainings are available for engineering and planning staff. Washington County has developed a Bicycle Facility Design Toolkit which utilizes many of the NACTO designs. Clackamas County is developing similar design guidance as part of the Clackamas County Active Transportation Plan.

Comment [LSM90]: Additional description added on the design resources; this list may be moved to the new Appendix 5

Comment [LSM91]: Hyperlinks added or being added

- *National Association of City Transportation Officials (NACTO) Urban Street Design Guide* focuses on the design of city streets and public spaces. While other national manuals, such as AASHTO's A Policy on Geometric Design of Highways and Streets, provide a general discussion of street design in an urban context, the Urban Street Design Guide emphasizes city street design as a unique practice with its own set of design goals, parameters, and tools.
- *Oregon Department of Transportation Bicycle and Pedestrian Design Guide* was recently developed and provides comprehensive design guidelines for pedestrian, bicycle and trail facilities.
-
- *Institute of Transportation Engineers* Designing *Walkable Urban Thoroughfares: A Context Sensitive Approach* provides very thorough and up-to-date designs for pedestrian facilities. The designs are consistent with achieving the region's 2040 land use vision.
- AASHTO Guide for the Development of Bicycle Facilities, 4th Edition is newly revised and includes designs for trails.
- *Designing for Truck Movements and Other Large Vehicles in Portland* (adopted October 8, 2008) provides specific guidelines for maintaining access and mobility in the design of intersections and roadways. This resource includes a helpful section on design considerations in different urban environments. Also included are design considerations for pedestrian, bicycle and transit in freight districts. A checklist of basic engineering and development review considerations to assist roadway designers are applicable both in and outside Portland.
- *Metro Green Trails: Guidelines for Environmentally Friendly Trails*
- *Parks and Recreation Trail Design Guidelines for Portland's Parks*
- *Tualatin Hills Park and Recreation District Trail Master Plan* provides guidance on developing and designing regional trails.
- *Intertwine Regional Trails Signage Guidelines* (Metro 2012) provides guidelines for designing and fabricating wayfinding signage for regional trails in the Portland-Vancouver area.
- *2010 ADA Standards for Accessible Design*

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

Importance of context in design

Comment [LSM92]: Even more emphasis on context

The ATP design recommendations are intended to be applied in a context sensitive manner. In some instances the design recommendations will need to be modified because of constraints, the desires of the community, specific needs, safety concerns and other elements that are project specific.

~~Design has been shown to improve safety for all roadway users and make the entire transportation system work better.~~ Considering the context of a project's location, its purpose and the desires of the community is extremely important when determining the type of design for any transportation project. As projects are developed the following types of contextual information should be taken into consideration. For example, a route that could have high levels of pedestrian and bicycle activity, located in a Regionally Significant Industrial Area, on a roadway with high auto traffic volumes and with connections to jobs and services could warrant a greater degree of physical separation between pedestrians, bicyclists and auto traffic.~~,~~

The following list provides examples of some of the elements that are typically considered and balanced as projects are designed and developed. ~~such as~~

- Planned~~anticipated~~ level of bicycle and pedestrian activity~~,~~
- ~~land~~Land use zoning ~~use~~ and 2040 land use designations~~,~~
- Riparian and upland wildlife habitat
- Right-of way

- Property impacts
- Topographical constraints
- ~~nearby~~ Nearby destinations including transit, schools, jobs, parks and businesses
- Current and planned ~~frequency~~ level of transit service~~,~~
- ~~vehicle~~ Auto traffic volumes and speeds ~~and~~ ~~level~~
- Level of freight ~~activity,~~activity
- Incidences of bicycle and pedestrian crashes with autos
- Needs and desires of the community

Comment [LSM93]: Provided it list format to better highlight context and constraints that should be considered

Source: FDOT Quality/Level of Service Handbook

~~should be considered as routes are designed and planned to achieve the appropriate level of design.~~ Tools such as a Comfort Index or multi-modal level-of-service ratings which indicate the quality of convenience, comfort and security experienced by pedestrians, cyclists, transit users and drivers can be used during design to help determine how designs in different contexts will impact different users.

Universal access

Comment [LSM94]: New section added based on WorkGroup input

Inherent in the ten ATP Guiding Principles (Chapter 4) is that the regional active transportation network should be designed to be accessible to all ages and abilities, including youth, seniors and people with disabilities. ATP design recommendations for the pedestrian and bicycle

networks are intended to help achieve universal access. Universal access, or universal design, refers to transportation facilities and services that accommodate the widest range of potential users, including people with mobility and visual impairments (disabilities) and other special needs.[85] Designs that promote universal access are comprehensive, meaning that they result in seamless mobility options from origin to destination for the greatest possible range of potential users. Designing a transportation system that works for the widest range of potential users can benefits all users.

Development of the regional active transportation network should be guided by best practices and emerging research that maximize investments and create streets with universal access. As new facility designs and approaches to creating complete streets are constructed many jurisdictions and research agencies are conducting studies to evaluate facilities and improve designs. One area in particular that is benefitting from evaluation is the operation of cycle tracks and buffered bicycle lanes. Currently the Green Lane Project is assessing built cycletracks with Portland State University and the Federal Highway Administration has contracted a study of cycletrack planning and design.[86]

Comment [LSM95]: Added text on the importance of evaluation to improve designs for all users.

Example of pedestrian crossing improvements that make it easier for everyone, including people that need more time, to cross the street. Photo: Portland Bureau of Transportation.

[85] The federal Americans With Disabilities Act (ADA) includes standards for Accessible Design. Information on these standards is available from the Access Board (www.access-board.gov) and the USDOT Accessibility Website (www.dot.gov/accessibility).

[86] http://www.peopleforbikes.org/green-lane-project and

Regional bicycle network design guidance

ATP recommended design guidance for the regional bicycle network is derived from best practices, especially the NACTO *Urban Bikeway Design Guide*. Designs that emphasize separation of bicycles and auto traffic, improve connectivity and directness of routes, increase comfort and ease of using the bicycle network and increase the attractiveness of bicycling have been shown to encourage bicycling and to increase travel by bicycle.

The ATP regional bicycle network identifies routes on high traffic streets, low traffic streets and regional trails. Design elements for each of these situations are briefly described below. As noted above the context in which a project is planned and designed should always be considered.

Development of regional bicycle routes classified as bicycle parkways on the ATP regional bicycle network map should especially strive to apply greater separation from traffic and best design practices; this will ensure that a spine of regional bicycle routes approximately every two miles provides for prioritized bicycle travel.

Design elements for regional bicycle routes on high traffic streets

High traffic streets are defined as streets with average daily traffic (ADT) greater than 6,000 autos a day, and/or where the posted speed is 35 miles per hour or higher, and/or a high volume of heavy truck traffic. Design elements emphasize separating bicycle and auto traffic, increasing the visibility of bicyclists to autos, and making it easier and more comfortable for people traveling by bicycle to access these routes and the destinations along them.

Separation and protection from traffic A high degree of separation from vehicle traffic is critical on high traffic streets and makes the roadway safer for all users. Where feasible protected cycle tracks, a separate parallel path or buffered bicycle lanes should be used. For regional bicycle routes the preferred width for buffered bicycle lanes is a 6' lane with a 3' buffer. Shown here is a cycletrack in Amsterdam. The bikeway is distinguished with different color pavement and is separated from auto traffic by paving stones. Pedestrians and bicyclists are separated with trees. Cycle tracks may be a good option where there is constrained right of way on busy roadways; because they are physically separated the bikeway may be narrower than a buffered bike lane or a two-way cycle track on one-side of the street may be the most efficient use of limited space.

Comment [LSM96]: Design guidelines have been restructured. Guidelines have been separated from the functional classifications and more emphasis has been put on the desired outcomes. More emphasis added on need for flexibility and context sensitivity

Formatted: Not Different first page header

Comment [LSM97]: Added language to emphasize the connection between best practices and development of spine of bicycle parkways

Safe street and driveway crossings Attention to treatment of intersections and driveways is critical. Crossing treatments that make it easier and safer to cross a roadway or driveway allow for more efficient, safer and faster bicycle travel. Crossing treatments include bicycle hawk signals, user activated signals, medians, warning signs and pavement treatments. Lighting of intersections is critical. Shown here is a treatment on 33rd Avenue Portland which makes it safer for bicyclists and pedestrians to cross the busy roadway.

Preferential bicycle treatments Preferential bicycle treatments are design elements that prioritize bicycle travel on bicycle routes. They are especially necessary on high volume bicycle routes where additional guidance for drivers and bicycles is needed to increase safety. Treatments such as green pavement coloring, bike boxes, bike signals, turn queue boxes, and advance stop lines should be used as appropriate.

Arterial traffic calming On high traffic streets arterial-type traffic calming is desirable. Arterial-type traffic calming reduces traffic speeds and can increase safety for all roadway users. Traffic calming designs are very context sensitive and should be carefully evaluated; some designs are better for low speed/high volume roadways, while others are better for high speed/low volume roadways. Arterial-type traffic calming treatments include designs such as raised medians, raised intersections (appropriate for high volume/low speed roadways), gateway treatments, textured intersections, refuge islands, road diets and roundabouts. Shown here is a newly installed median along the Going Bicycle Blvd. in Portland, crossing Martin Luther King Blvd.

Design elements for bicycle routes on low traffic streets

Low traffic streets are defined as streets with average daily traffic (ADT) of less than 6,000 autos per day, and/or where posted speed is 30 miles per hour or less. Where the ADT is less than 3,000 autos per day, bicycle boulevard treatments including traffic calming and diversion measures may be appropriate. Design elements on low traffic streets emphasize prioritizing

bicycle travel, creating a seamless and safe travel experience with crossing treatments and making routes easy to identify and follow.

Traffic calming, separation and protection from traffic On very low traffic streets autos and bicycles may share the roadway and traffic calming and auto diversion are used to prioritize bicycle travel on the bicycle boulevard. Where traffic volumes are higher and bike boulevard treatments are not used, 7' bike lanes with bicycle symbol markings, or a 5' bike lane with a 2' buffer, are the preferred design. Shown here are traffic calming treatments that also provide a bioswale along a bicycle boulevard route.

Roadway intersection crossings Attention to treatment of intersections is critical. Bicycle routes on low traffic streets are disconnected and less effective when intersections with busy roadways are not safe and comfortable. Crossings at collector and arterial roads should receive the highest attention. Crossing treatments include bicycle hawk signals, user activated signals, medians, warning signs and pavement treatments. Lighting of intersections is critical. Even simple and inexpensive treatments such as the traffic diverter shown here create seamless routes and provide safe crossings of busy roadways for bicyclists and pedestrians.

Design elements for all regional bicycle routes and bicycle districts

Lighting along bikeways and especially at intersections is critical for bicyclists and driver safety. Poor lighting contributes significantly to crashes between bicyclists and autos. Lighting can also contribute to a perceived and actual personal safety. Shown here is a cycletrack and roadway intersection in Denmark that is well lit for dark winter days.

Wayfinding Marking routes with on-street markings and/or signs makes navigating the bicycle network easier. Wayfinding signage is an inexpensive way to help develop routes and increase connectivity of the network. Using consistent wayfinding street markings and sign design across is necessary to link local routes together. Beaverton, Gresham, Milwaukie, Clackamas County

and Portland are installing the wayfinding signs shown here. The goal is to sign the entire regional bikeway network. Several regional trails, are also installing Intertwine trail signs. Special bicycle boulevard wayfinding .

Public outreach, marketing, education and programs are essential to making the most of infrastructure investments so that the public understands the significance of a connected network of regional bikeways and learns how to find regional bicycle routes. Supporting materials such as maps, apps for mobile devices and on-line mapping make using the developed network easy.

Comment [LSM98]: Add text

Regional pedestrian network design guidance

ATP recommended design guidance for the regional pedestrian network is derived from best practices, especially the Metro *Creating Livable Streets: Street Design Guidelines for 2040* and ITE's *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*. Metro's *Creating Livable Streets* handbooks provides design guidance for different design types of regional streets, such as main streets and boulevards.

Designs that buffers pedestrians from auto traffic, that increase safety and comfort crossing roadways, that improve connectivity and connections to destinations, that improve comfort and ease of walking, and that increase the attractiveness of walking have been shown to encourage and increase travel by walking and transit.

Many of the regional pedestrian corridors are on busy roadways that also serve as transit routes. As noted above, the context in which a project is planned and designed should always be considered. Development of regional pedestrian districts and pedestrian routes classified as pedestrian parkways a on the ATP regional pedestrian network map should especially strive to apply greater separation from traffic and best design practices; this will support pedestrian access to transit and destinations along these corridors and in the districts.

Design elements for pedestrian routes on high traffic streets

High traffic streets are defined as streets with average daily traffic (ADT) greater than 6,000 autos a day, and/or where the posted speed is 35 miles per hour or higher, and/or a high volume of heavy truck traffic. Design elements emphasize separating pedestrians from auto traffic, increasing the visibility of pedestrians especially crossing the street, and making it easier and more comfortable for people walking to access destinations along and connected to pedestrian corridors.

Separation and protection from traffic A high degree of separation from vehicle traffic is critical to safe and comfortable pedestrian travel. For high traffic streets, and especially in areas where there transit service and anticipated higher level of pedestrian traffic the preferred width of separation from traffic is approximately 17'; this width can be provided by the combined width of the sidewalk and on-street parking, landscape buffer, furnishing zone and/or a physically separated bicycle facility such as a raised cycle track. Some sort of physical barrier from traffic, such as parked cars or trees, is ideal. Street trees between the roadway and pedestrian clear zone are desirable. Buffers reduce noise, exhaust and reduce the possibility of autos hitting pedestrians on the sidewalk. On the sidewalk a pedestrian clear zone of 6' or more is preferred to provide adequate space.

Comment [LSM99]: Design guidelines have been restructured. Guidelines have been separated from the functional classifications and more emphasis has been put on the desired outcomes.

This section replaces the table on page 68 of review draft 2

Comment [LSM100]: Added language to emphasize the connection between design and developing the regional pedestrian parkways.

Comment [LSM101]: The ATP/RTP design group discussed whether or not buffered bicycle lanes (without a physical separation such as bollard) should count a part of a pedestrian buffer. Metro staff looked at best practices and other plans and based on that review and lack of any studies or evidence that demonstrates that a bicycle lane provides adequate separation, recommends not including it as part of the design elements.

Crossings and driveways Using context sensitive placement, marked crosswalks provided approximately every 530 feet along pedestrian corridors provide desired regional pedestrian connectivity. Crossing features such as refuge islands, curb extensions, raised crosswalks, raised intersections, and beacons or signals added where appropriate make it easy and safe to cross the street. Lighting at all crosswalks is essential. All signals should have pedestrian countdown heads which let pedestrians know how much time they have to cross the street. Short signal cycle lengths of 90 seconds or less, pedestrian-friendly signal timing, and lead pedestrian intervals at signals are desirable. Medians are desirable along corridors with 4 or more lanes. The number and width of driveways along regional pedestrian corridors should be minimized. The photo shown here is of a pedestrian activated signal on Tualatin Valley Highway. -(Photo: The Oregonian)

Arterial traffic calming Context-based traffic calming on arterials is desirable le for pedestrian travel because it slows traffic speeds and makes crossing the street safer and easier. Arterial traffic calming includes treatments such as raised medians, raised intersections (for low speed/high volume roadways), gateway treatments, textured intersections, refuge islands, road diets and roundabouts. The photo here from the Federal Highway Administration shows a roundabout that accommodates large vehicles and slows traffic in a residential neighborhood.

Design elements for pedestrian routes on low traffic streets

Low traffic streets are defined as streets with average daily traffic (ADT) of less than 6,000 autos per day, and/or where posted speed is 30 miles per hour or less. Where the ADT is less than 3,000 autos per day, bicycle boulevard treatments including traffic calming and diversion measures may be appropriate.

Separation and protection from traffic Preferred combined minimum width for sidewalk and buffer-10' Buffer width can be provided by on-street parking, landscape buffer, furnishing zone, raised cycle track, and/or buffered bike lane. Pedestrian clear zone of 6' or more. Street trees between roadway and pedestrian clear zone are desirable. 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. Shown here, West Tualatin View students, walk past the wet cement of a new sidewalk in Cedar Mills. (Photo: The Cedar Mill News)

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

Comment [LSM102]: More context will be added here.

Design guidance for all regional pedestrian routes and districts

Walkable areas, including transit routes and pedestrian districts, include elements that increase the safety, comfort and ease of walking. PStreet-fronting retail uses and on-street parking is desirable in centers and along Main Streets.

Lighting along pedestrian walkways is important for safety and comfort. Pedestrian-scale lighting should be provided along regional pedestrian corridors and especially at intersections. Pedestrian-scale lights improve walkway illumination for pedestrian traffic and enhance community safety and business exposure. Typically, this lighting is positioned over the sidewalk, rather than the street, at about 12 to 15 feet above the sidewalk.

Wayfinding As appropriate, wayfinding should be part of the regional pedestrian network. Pedestrian wayfinding is especially helpful in urban centers and business districts and for connecting people to transit. Wayfinding can help residents and tourists better navigate communities. Wayfinding also adds to a sense of place. Including wayfinding increases the cohesiveness and integration of the regional pedestrian network.

Public outreach, marketing, education and programs are essential to making the most of infrastructure investments in the pedestrian network so that the public understand how to use the network. Supporting materials such as maps, apps for mobile devices and on-line mapping make using the developed network easy.

Comment [LSM103]: Add text

Design guidance for bicycle and pedestrian routes on shared use paths/trails

Multi-use paths or trails as they are commonly referred to in this region, can provide an exceptional travel experience for bicycling and walking. Many of the region's trails connect to transit and other regional destinations and form an important part of the regional active transportation network. Trails can provide access to nature while commuting to school or work, blurring the line between transportation and recreation. Most trails are multi-use; providing adequate space for pedestrians, bicyclists and other users is necessary.

Design elements of trails such as width, wayfinding and access points should carefully consider where the trail is located, the anticipated number of users and environmental and topographical constraints. Ideally trails on the regional bicycle network are designed to provide a reliable and practical transportation route while maintaining a unique trail-like experience.

Trail width Regional trails are generally between 10' and 12' wide. Number of anticipated users should guide trail width. In some instances wider widths will be needed, for paths in denser urban areas with a high numbers of users, for bridges, where trails intersect or converge, and in places where users may stop. In these instances the preferred minimum width is 14' and additional width and bifurcation where expected demand warrants preferred. If 14' width is not possible design approaches such as pavement markings, signage, or pull outs could be applied to minimize conflicts among high volume of users. Separation of pedestrians and bicyclists is especially important on trails with a high number of users and on trails that are high bicycle commute corridors. Providing seating and pull outs provides places for people to "pull over" and avoid conflicts and enhances the experience of the trail. (Photo: OregonLive.com).

Crossings of roadways/mid-block crossings Marked high-visibility crosswalks with lighting at all crossings of collector and arterial roads, additional crossing features should be added where appropriate. Bike signals and detection at signals are desirable to allow for uninterrupted travel. The photo here shows a marked signalized crossing of the Rock Creek Greenway Trail in Washington County, a pedestrian and bicycle parkway. The trail is crossing Evergreen, also a bicycle and pedestrian parkway. (Photo Washington County.)

Lighting of trails and paths that serve as transportation corridors is desirable. Lighting increases safety and comfort and expands the use of the path. Low impact lighting should be used as necessary to avoid impacts on neighbors and wildlife. Lighting paths can be expensive, but can make a path more accessible and useful for transportation purposes. Shown here is lighting along the Chicago Waterfront Path. A summary of existing best practices and costs for trail and path lighting is needed to provide guidance to trail developers in the region.

Wayfinding -help provide a better experience on the trail and help integrate the trail into the on-street network and connect to transit and other destinations. Metro developed the *Intertwine Trails Signage Design Guidelines.* Theses design guidelines should be used on all regional trails. Using consistent wayfinding across the region creates a sense of connectivity.

Bike parking, benches, water fountains and other services provided along regional trails increase the accessibility and use of paths and provide a more comfortable and enjoyable experience. The photo here shows the integration of a path, bicycle parking and a bus stop in the Netherlands (Photo: David Hembrow)

~~In addition to the design guidelines identified in the above sources, the ATP Stakeholder Advisory Committee recommended fourteen feet as the~~

~~preferred minimum width for Regional Pedestrian and Bicycle Parkway trails. This design width may not be possible in some cases due to available right-of-way, environmental constraints or other reasons. In instances where it is not possible to construct or upgrade trail, other approaches that minimize conflicts between people walking and riding bicycles and other uses can be explored.~~

~~Road diets can have multiple safety and operational benefits for autos, as well as pedestrians and cyclists. On existing roadways, separated in-roadway facilities may be implemented by narrowing existing travel lanes, removing travel lanes, removing on-street parking or widening the roadway shoulder. If constraints, such as narrow existing right-of-way, prohibit providing optimally desired bicycle facility widths, then interim facility improvements can be used~~

Comment [LSM104]: Parts of this paragraph moved to the section below on trails

Comment [LSM105]: This definition moved to the glossary

~~Interim pedestrian and bicycle facility improvements~~Design considerations for freight, transit and the environment

Many regional pedestrian and bicycle projects will occur in constrained environments with finite right-of-way and surrounded by buildings, structures, yards, parking areas, trees, vegetation and other features typical of a developed area. Some planned regional trails intersect with high quality land and riparian areas. In addition, jurisdictions typically want to make the most of limited available funds, balancing optimal design with longer project extents and connectivity. In these types of instances, a basic facility is preferred to no facility, provided it meets the minimum standards of local jurisdictions identified in local plans. However, for the regional network, which serves as the spine for entire bicycle and pedestrian system, this should be a last resort and not a default approach. ~~As regional pedestrian and bicycle corridors and districts are developed it may not be feasible, for a variety of reasons, to construct the ultimate preferred pedestrian or bikeway facility. Sufficient funding may not be immediately available or a desired improvement may be constrained by external factors. In such instances, an interim facility is preferred to no facility, provided it meets the minimum standards of local jurisdictions identified in local plans. However, this should be a "last resort" and not a default approach.~~

Comment [LSM106]: This wording and additional context and wording added based on suggestions from Washington County

Comment [LSM107]: Deleted based on recommendations from Workgroup

~~Environmental impact of new facilities on habitat and wildlife in environmentally sensitive areas should be considered early in the planning stages; identifying places where projects can benefit wildlife, habitat, and water quality, by replacing a culvert or providing new vegetation, should also be considered. Involving conservation experts in the planning process early is important. Where there are significant physical constraints, such as steep slopes, landslide hazards, or regionally significant lands or riparian areas, alternative routes may be appropriate.[87] The maps included in this chapter illustrate the location of high quality land and riparian areas and the regional active transportation networks. Sensitive habitats and resources, such as wetlands, should be avoided. Sensitive design should be used to enhance watershed and ecosystem health and mitigate and reduce impacts.~~

Comment [LSM108]: Content of this section moved to the environmental considerations section

~~Adding missing pedestrian and bicycle facilities to roadways can impact other transportation modes, including transit and freight. These impacts should be minimized and the goal should be to integrate all modes so that all can function well. Location of transit routes and routes with heavy volumes of trucks should be considered in planning new routes, and interaction with buses and trucks should be addressed, especially when designing for bicycles. "Road Diets" are one way to reconfigure limited roadway space in a way that allows for the inclusion of wider sidewalks and separated bicycle facilities such as buffered bicycle lanes, which can provide space for all users to operate safely an in their own "zones". Road diets can have multiple safety~~

Comment [LSM109]: This wording copied in next section 'freight and transit operation considerations'

~~[87] The Regional Conservation Strategy for the Greater Portland Vancouver Metropolitan Area, Intertwine and Metro, identifies high quality land and riparian areas in the region. Refer to maps in this chapter.~~

~~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 netwo~~

Comment [LSM110]: Reference to road diets deleted. Definition of road diets is included in the glossary

Freight and transit operation considerations

Comment [LSM111]: Most of the content in this section is new and responds to work group requests to add more information on freight context and considerations

Adding or improving pedestrian and bicycle facilities to roadways can impact other transportation users such as transit and freight. As shown in the following two maps, many of the recommended regional pedestrian and bicycle routes overlap with freight routes. When designing pedestrian and bicycle facilities on these routes, local jurisdictions must facilitate safe and reasonably efficient vehicle operations for freight trucks along with safe and comfortable pedestrian and bicycle travel. Transit buses can encounter come of the same needs as freight trucks and share many of the same routes. Key factors for efficient and safe freight and bus movements are adequate lane widths, buffering between large vehicles and people walking and cycling, visibility through these buffers, turning radii, horizontal and vertical clearance and over-dimensional freight. In some instances it may be preferable to identify an alternate, parallel route for bicycle travel.Emerging best practices and up-to-date research in roadway design and case studies of what is working should be used to minimize negative impacts for all transportation users with a goal to create complete streets that are safe and functional.

Comment [LSM112]: Placeholder photo, will update.

Heavy trucks and bicycles share the road on N. Interstate in Portland. Photo: BikePortland.org

The region has several good examples where streets have been upgraded to make active travel safer and more comfortable while maintaining freight movement and transit.

North Marine Dive near Bybee Lake Road. Photo: Google Earth.

- A stretch of North Marine Drive in Portland is a 5-lane roadway with bike lanes, a sidewalk on the north side, a multi-use path on the south side, and a median with trees. It is a regional freight route, regional bikeway and regional pedestrian corridor.

NE Cornell Road in front of Orenco Station. Photo: Washington County

- North Cornell Road at Orenco Station in Hillsboro is a 4-lane roadway with a median and trees, bike lanes and sidewalks with wide planter strips that provide a buffer. It is a regional freight route, a frequent transit route, a regional bikeway and a regional pedestrian parkway.

Example of a truck apron, extending the curb making it easier for pedestrians to cross the street, but maintains the turning radius for large trucks which can mount curb. Photo: Michael McKisson.

- The St Johns truck strategy in Portland improved a regional truck route while also maintaining or improving the neighborhoods livability with facility improvements such as curb aprons (an area around curbs that truck can drive over but still indicates or provides separation from traffic for pedestrians)mountable curbs and pillows at intersections.

[Insert bike /freight network overlap maps]

[Insert pedestrian /freight network overlap maps]

Wildlife, habitat and riparian considerations

As with all transportation projects, impacts to wildlife, habitat and the environment need to be considered when planning, designing and implementing bicycle and pedestrian facilities. Trails especially can intersect with areas of high quality upland and riparian areas. Experts such as conservation scientists, biologists and ecologists should be consulted early on in the planning process to identify ways in which trail development can also provide opportunities for restoration, enhancing sensitive habitats and watershed and ecosystem health, or wildlife crossings and to ensure that high quality lands and riparian areas are protected.

Trails like the Fanno Creek Trail can provide unique opportunities to connect with nature. At the same time, trails should be designed and located in ways to protect and if possible enhance wildlife and riparian habitats. Photo: Metro

Bicycle and pedestrian projects can sometimes provide opportunities to benefit wildlife, habitat, and water quality, by replacing a culvert, adding a wildlife crossing or providing new vegetation. These types of opportunities should be looked for and included in projects when possible. Biologists can help determine whether sensitive species such as amphibians, turtles or salmon are present in the trail planning area.

Where there are significant physical environmental constraints, such as steep slopes, landslide hazards, or high value natural resource upland and/or riparian areas, identifying alternative routes should be considered to protect habitat, water quality and reduce landslide hazards. The maps included in this chapter illustrate the location of high quality upland and riparian areas and the regional active transportation networks. High value habitats and resources, such as wetlands, should be avoided as much as possible.

Comment [LSM113]: This replaces the green call out box in draft 2 on page 72 called "environmental considerations for trails" – broadened to include all bike and ped projects not just trails. Specific comments on wording from Carol Chesarek incorporated

Comment [LSM114]: This section reviewed by and comments incorporated from Metro conservation scientists

Active transportation and impacts to wildlife must be carefully balanced. To the greatest extent possible impacts should be avoided, minimized and/or mitigated. For example, avoiding major impacts could include routing the trail along roadways or in lower value habitat; minimizing impacts could include making the trail as narrow as possible, limiting stream crossings and avoiding bisecting large habitat areas. If impacts on high value habitats are unavoidable, minimize the damage and thoughtfully make up for it nearby.

Resources for planning and developing environmentally sensitive and habitat friendly trails and other pedestrian and bicycle projects should be utilized throughout the planning process.

Resources for planning and developing environmentally sensitive and habitat friendly trails

- Green Trails: Guidelines for environmentally friendly trails (Metro)
- Wildlife crossings: Providing safe passage for urban wildlife (Metro, 2009)
- 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 (The Intertwine Alliance and Metro)
- For local planning, resources such as Title 13, local wetland inventories, and local tree cover maps are useful. A new online planning tool is available at www.regionalconservationstrategy.org

Top 10 Natural Resource Considerations for Trails Planners (Metro 2014)

1. Engage natural resource experts and professionals early and often.
2. Identify natural resource information sources.
3. Do you really need a trail there?
4. Early reconnaissance on what non-human species you might disturb – what surveys will you need?
5. Use complementary funding sources to incorporate more wildlife considerations.
6. Engage wildlife experts for surveys and site-specific information.
7. Avoid impacts on fish, wildlife and their habitats. If you can't avoid it, minimize the harm and make up for the damage.
8. Stay out of the water.
9. Some animals need large, private homes; avoid habitat fragmentation.
10. Fish and wildlife need "trails," too; explicitly consider wildlife corridors and barriers.

The following maps show areas with high quality land and riparian areas that intersect with the recommended regional pedestrian and bicycle networks.

[insert bike and Regional Conservation Strategy overlap maps]

[insert Pedestrian and Regional Conservation Strategy overlap maps]

Chapter 10 Targets and Performance Measures

Comment [LSM115]: This was chapter 13 in review draft 2

Performance measures and targets are important for measuring progress and maintaining accountability. A target is a specific level of performance that is desired to be achieved within a certain timeframe; a performance measure is a metric used to assess progress toward meeting an objective or target and provides an indicator of outcomes.[88]

The ATP updates targets and performance measures related to active transportation in the Regional Transportation Plan.

Measuring performance is now required in regional transportation plans. Moving Ahead for Progress in the 21st Century (MAP-21) is the most recent surface transportation funding legislation and a fundamental element of the legislation is its focus on performance management. The legislation creates new requirements for state transportation departments, transit agencies, and metropolitan planning organizations to track and report performance for safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduction of project delivery delays.[89] Performance outcomes related to active transportation in the region will play a role in achieving these targets.

Targets

~~The~~ Chapter 2 of the ~~2035~~ 2010 adopted Regional Transportation Plan ~~developed~~ includes four performance targets ~~and measures directly measuring~~ directly related to ~~with~~ active transportation~~:~~.[90]

1. Active Transportation
2. Safety
3. Basic Infrastructure
4. Access to Daily Needs

Additionally, achieving nearly all of the Regional Transportation Plan performance targets relies on increasing trips made by modes other than driving and are therefore partially dependent on meeting active transportation targets.

[88] Definitions drawn from the Federal Highway Administration *Performance-Based Planning and programming Guidebook* (September 2013)

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

[90] 2010 Regional Transportation Plan, Chapter 2, Section 2.3.1.

Active transportation target

The ATP recommends maintaining the ~~current~~ Active T ~~T~~ransportation ~~Mode Share and Safety Target~~target as described in the Regional Transportation Plan ~~s, as described below,~~ with updated the data reference points.[91]

Comment [LSM116]: Moved footnote into body of text

> *By2035, triple the walking, biking and transit mode shares for all trips compared to 2010 modeled mode shares within the urban growth boundary.*

- The current 2010 adopted Regional Transportation Plan active transportation mode share target uses 2005 modeled transportation data as the data reference points. The ATP recommends using the 2010 transportation modeled data. The 2010 modeled mode share estimates for walking and bicycling are assumed to be better because of new data from the 2011 Oregon Household Activity Survey and the development of Metro bicycling modeling tools.
- The ATP also recommends measuring pedestrian, bicycle and transit mode shares within the urban growth boundary. Because so few walking, bicycling and transit trips occur outside of the urban growth boundary area including those areas in the performance measure can give a less accurate measure. Table 2 includes mode shares for both the 4-county area and the area within the UGB illustrates the difference.

Modeled transportation data suggests that the 2010 adopted Regional Transportation Plan is not meeting the Active Transportation target. Table 2 illustrates that based on modeled transportation data the region is not meeting the mode share targets for walking, bicycling or transit in 2035. Mode share for bicycling increases slightly on the ATP recommended network, walking remains the same and transit decreases slightly.

Current policies and investments may not be aggressive enough to reach the active transportation target. Additionally, modeled data should be taken as only one piece of data. Incorporating pedestrian and bicycle modes into transportation models is still evolving; as models become more sophisticated and better at reflecting pedestrian and bicycle behavior modeled mode share results may change. Recent analysis conducted by the City of Portland demonstrated that some areas of Portland have the potential to achieve bicycle and pedestrian mode shares that achieve regional targets.

Table 2: ATP target and current and potential active transportation mode shares for all trips within the 4-county area and the urban growth boundary

Comment [LSM117]: Based on input from policy workGroup :

Table reorganized , table headings rewritten, mode shares for within UGB added, new column added showing mode shares for ATP recommended networks

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

~~Active transportation mode~~	**Current:** ~~2010 modeled mode~~ 2010 modeled mode share for all trips ~~(~~within the 4-county area~~)~~ and within the UGB on the existing transportation network	**ATP Target:** Triple 2010 modeled mode share for walking, bicycling and transit trips within the UGB	~~**2035 modeled mode**~~ **2035 RTP Network:** modeled mode share for all trips~~-~~ within the 4-county area and within the UGB ~~-~~on the ~~full build out of~~ 2035 ~~State~~ state ~~RTP~~ Regional Transportation Plan n~~N~~etwork	**ATP Network:** modeled mode share for all trips within the 4-county area on the recommended ATP networks
Transit	3.8% (UGB 4.4%)	**13% (in UGB)**	4.9% (UGB 6.2%)	4.8% (UGB 6.1%)
Walking	8.9% (UGB 8.8%)	**27% (in UGB)**	9.6% (UGB 9.7%)	9.6% (UGB 9.7%)
Bicycling	2.8% (UGB 3.1%)	**9% (in UGB)**	3.1% (UGB 3.6%)	3.2% (UGB 3.7%)

Data: Metro, 2013 Transportation Model

An important consideration when measuring progress towards the mode share target is that different parts of the region will have higher or lower walking, bicycling and transit mode shares depending on factors such as land use and population and employment density. The ATP technical reports *2013 Regional Pedestrian Network Analysis and 2013 Regional Bicycle Network Evaluation* include mode shares for subareas within the region.

Chapter 2 of the Regional Transportation Plan also includes regional modal targets.[92] The non-drive alone modal target combines walking, bicycling, transit and trips made by auto with two or more passengers (high occupancy vehicles); increases in non-drive alone trips are used to demonstrate compliance with per capita auto trip reductions required by the State Transportation Planning Rule. The non-drive alone target is less useful for measuring active transportation performance because it includes trips made by auto.

Evaluation in the Regional Transportation Plan found that system wide non-drive alone trips did not increase by more than 2 percent by 2035.[93] This is consistent with the findings for the active transportation target described above.

Table 3: Non-drive alone modal targets

Comment [LSM118]: Added reference to modal targets per workgroup recommendation

2040 Design Type	Non-drive alone modal target
Portland central city	60-70%
Regional centers Town centers Main streets	45-55%

[92] Page 2-18.

[93] Regional Transportation Plan, Chapter 5, page 5-32.

Station communities Corridors Passenger intermodal facilities	
Industrial areas Freight intermodal facilities Employment areas Inner neighborhoods Outer neighborhoods	40-45%

Safety target

The ATP recommends maintaining the current Safety target as defined in the Regional Transportation Plan with updated the data reference points.

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

It is recommended that base year data be provided by the *Metro State of Safety Report* (April 2012), which includes data for 2007-2011. Table 3 shows the number of crashes for all modes. Pedestrian and bicycle crashes involve a motor vehicle.

Comment [LSM119]: Recommendation from workgroup member to note that bike and ped crashes involve a motor vehicle

Crash data from the *Metro State of Safety Report* provides baseline data by which to measure progress towards the target. Metro's *Regional Transportation Safety Plan* (May 2012) provides short and long term recommendations to accomplish the Regional Transportation Plan target for reducing fatalities and serious injury crashes by 50 percent. Many of the recommendations include actions that make walking and bicycling safer and would reduce the number of people struck by autos when walking or bicycling.

Table 4: Number of serious and fatal crashes by mode, within Urban Growth Boundary

	All Modes	Pedestrian/motor vehicle crash	Bicycle/motor vehicle crash	Motor vehicle crash
2007-2011	496	63	35	398

Data: Metro State of Safety 2012 Report

Basic infrastructure and access to daily needs targets

Basic Infrastructure and Access to Daily Needs are placeholder targets in the 2010 adopted Regional Transportation Plan.

Comment [LSM120]: As part of the finalization of the ATP and update of the RTP Metro hopes to develop these two targets.

Basic infrastructure target

> *By 2035, increase by 50 percent the number of essential destinations accessible within30 minutes by trails, bicycling and public transit or within 15 minutes by sidewalks for all*

residents compared to 2005.~~" This target and the Access target below will be updated in the update of the Regional Transportation Plan~~.

By 2035, increase by XX percent the miles of completed trails, bikeways, sidewalks and transit stops on the regional pedestrian and bicycle networks compared to 2010.

Comment [LSM121]: Target and table below included for discussion purposes

Mileage needs to be updated based on final ATP networks

Comment [LSM122]: Target and table below included for discussion purposes

Mileage needs to be updated based on final ATP networks

	Miles in planned network	Percent of network complete 2010	Miles complete 2010	Percent complete ATP 2035 target	Miles in ATP 2035 target
Regional trails	460	33%	152	50%	228
Regional bikeways	972	55%	450	82%	675
Regional sidewalks (corridors and districts)	1695	62%	706 (sidewalks on both sides)	93%	1059

Access to Daily Needs

By 2035, increase by 50 percent the number of essential destinations including jobs and education accessible in less than 30 minutes by transit the number of essential destinations accessible within 30 minutes by bicycling and public transit for low income, minority, senior and disabled populations compared to 2005.

Comment [LSM123]: Performance measure work group needed to recommend data and methodology. Target should be simplified

Performance measures

In addition to ~~transportation~~ the ~~-~~performance targets, the ~~, the 2035~~ Regional Transportation Plan ~~provides two~~identifies ~~sets of~~system evaluation measures ~~for evaluating the overall transportation system:~~ and system monitoring performance measures intended to monitor the regional transportation system between updates of the plan.

The 2010 adopted Regional Transportation Plan does not meet several transportation performance targets. Refer to Chapter 5 of the 2010 adopted Regional Transportation Plan for details.

1. Total average weekday vehicle miles traveled increases. However, vehicle miles traveled 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.
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

~~**RTP System Evaluation Measures and RTP System Monitoring Performance Measures**~~

Comment [LSM124]: List of performance measures deleted because they do not provide additional useful information.

~~**Current 2035 Regional Transportation Plan System Evaluation Measures**~~[94]

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)~~

[94] ~~Chapter 5, 2035 Regional Transportation Plan~~

~~11. Percent of projects that intersect high value habitat areas~~

~~**Current Proposed Regional Transportation Plan System Monitoring Performance Measures**[95]~~

~~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. [The ATP recommends changing this to measurement to per vehicle mile traveled.]~~
~~13. Average household combined cost of housing and transportation~~
~~14. Tons of transportation-related air pollutants (e.g. CO, ozone, and PM-10)~~

Additional performance measures recommended for the ATP

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

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

~~5.~~4. Percent of regional pedestrian netowrk with low Pedestrian Comfort Index improved.

Comment [LSM125]: Performance measure work group needed to review and agree to these measures

Comment [LSM126]: Should be covered in the access target

~~[95] Chapter 5, 2035 Regional Transportation Plan~~

~~6.~~5. Increase in density of regional bicycle network~~ region-wide and by mobility corridor~~.

~~7.~~6. Increase in connectivity of regional bicycle and pedestrian networks~~ region-wide and by mobility corridor~~.

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

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Chapter 11 ~~Findings and Opportunities~~Trends and Findings to Guide Policies

~~The~~ Development of the supplemental report *ATP Existing Conditions, Findings and Opportunities Report* (August 2012) indentified existing conditions and trends that guided the development of the ATP recommended policies and implementing actions in the next chapter, and that should be considered as policy decisions are made. ~~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.~~

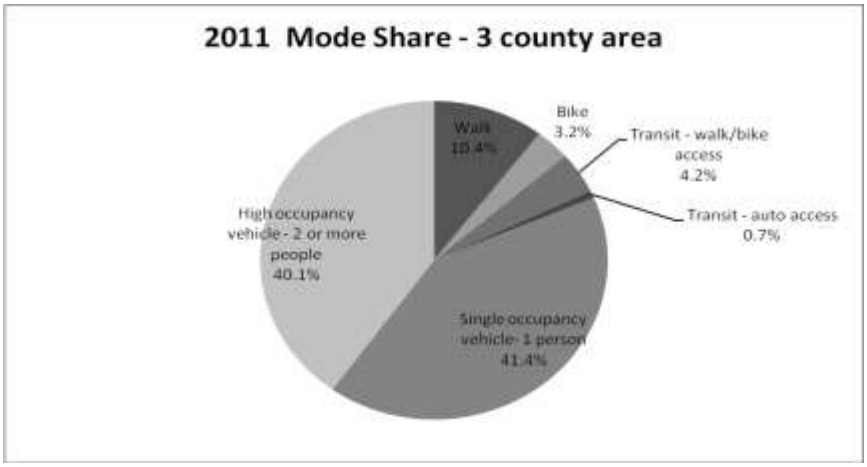
a) **Regional levels of active transportation are increasing, especially bicycling; continue positive trends with increased investments.** One in six of all trips in Multnomah, Clackamas and Washington counties are made by active transportation~~;~~ and 84~~%~~ percent of all transit trips are accessed by foot or bicycle. The regional active transportation mode share increased 36~~%~~ percent between 1994 and 2011, from 13.1~~%~~ percent to 17.8~~%~~ percent of all trips.[96] The regional bicycle mode share increased by nearly 191~~%~~ percent, from 1.1~~%~~ percent to 3.2~~%~~ percent. Walking increased by over 14~~%~~ percent. ~~The graphic below~~Figure 1 shows regional mode share levels in 2011. The majority of trips made in the region are made by auto.[97] However, continuing and increasing investments in active transportation infrastructure and programs supports positive trends.

Comment [LSM127]: This was chapter 3: Findings and Opportunities. It was moved because it was recognized that this chapter contains strategies and was recommended that it be grouped with the policies and funding strategies.

[96] 2011 Oregon Household Activity Survey and 1994 Travel Behavior Survey.

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

Figure 4: 2011 Transportation Mode Share for the 3-County area



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

b) **Levels of walking ~~and~~ , bicycling and transit vary from community to community and are highly dependent on existing land use and population and employment densities. Different communities will require different funding and implementation strategies.** Table 1, below provides additional detail on levels of walking, bicycling and transit use in the region.

Comment [LSM128]: This point was separated out as a strategy in response to WorkGroup comments that not all communities in the region are the same and will require different strategies.

Table 5: Mode Share by Place of Residence, 1994 and 2011

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

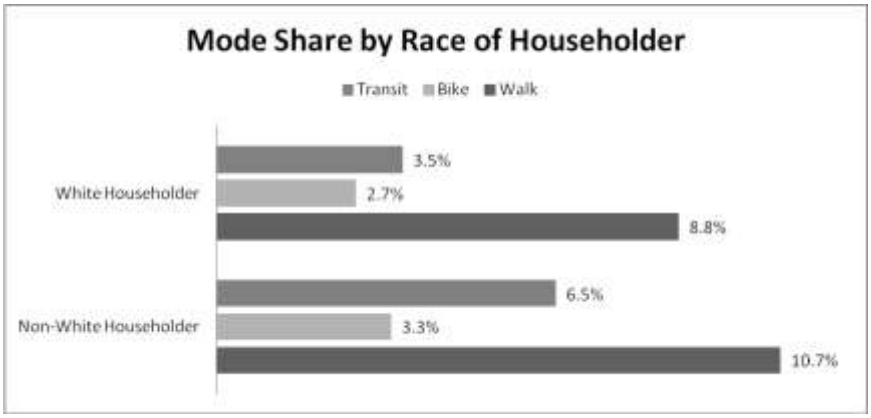
*Source: Metro, Travel Behavior Survey and 2011 OHAS. *There were insufficient bike samples in subarea 4 (Portland -North) in 1994-95. Combining bike and walk trips, the bike-walk mode share for subarea 4 households in 1994-95 was 13.1%.*

c) **Lower income households in the region make more of their trips using active travel, especially walking, than do households with higher incomes. Support continuation of these trends by improving facilities and services in areas with low income populations.** 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% percent of their trips walking, bicycling and taking transit.

Comment [LSM129]: Strategy added to finding.

d) **Non-white householders in the region make a greater percentage of their trips by walking, bicycling and transit than white householders. Support continuation of these trends by improving facilities and services in areas with minority populations.** Non-white householders make 20.5% of all their trips by walking and bicycling and transit, while white householders make 15% percent of all their trips by walking and bicycling and transit.

Figure 5: Transportation Mode Share by Race, 4-county area



Source: 2011 Oregon Household Activity Survey

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

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

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

for individuals with mobility impairments is hindered by incomplete sidewalks and curb cuts.

Comment [LSM130]: CLF equity review

f) **The majority of all trips made by auto in the region are for short trips.** Over 66% percent of all trips made by autos within the 4-county area are less than six miles in length, nearly 44% percent are less than three miles in length, and nearly 15% percent are less than one mile in length. 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.[98]

f)

g) **Current transportation plans do not achieve regional transportation targets.** The 2035 Regional Transportation Plan project list adopted in 2010 does not achieve many of the region's adopted transportation targets, including a decrease in drive alone trips and reductions in greenhouse gas emissions, congestion and vehicle miles traveled and travel delay. An increase in active transportation would help achieve all of these targets.[99]

h) **Levels of investment in active transportation do not match demand or need.** Nearly 18% percent 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% percent of transportation capital funds.[100]

i) **Many of the region's busiest and widest 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.[101]

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

[98] Rails to Trails Conservancy, Active Transportation for America, 2008

[99] 2035 Regional Transportation Plan performance targets and measures.

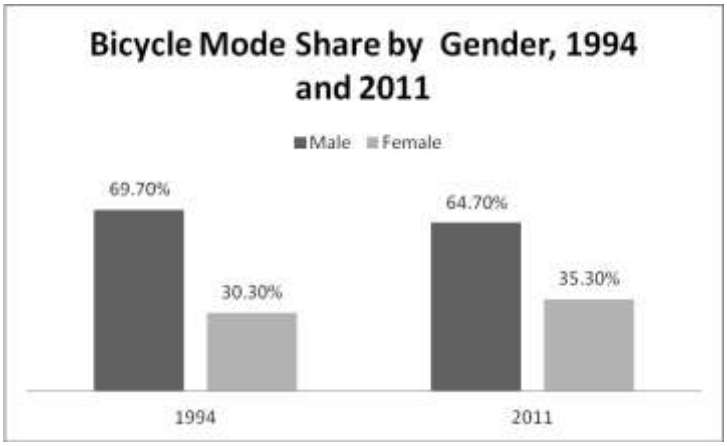
[100] 2010 Metro.

[101] 2012 Regional Transportation Safety Plan.

pedestrian crashes occur at intersections and mid-block crossings and 52~~%~~ percent of serious and fatal bicycle crashes occur at intersections.[102]

k) **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~~%~~ percent of their trips by bicycle, compared to 4~~%~~ percent for men. However, the proportion of women riding bicycles is up 16.5~~%~~ percent since 1994.

Figure 6: Bicycle Mode Share by Gender, 1994 and 2011, 4-county area



Travel Behavior Survey and 2011 Oregon Household Activity Survey

l) **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.[103]

m) **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.[104]

[102] Ibid.

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

[104] Ibid.

n) **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~~%~~ percent of respondents in each county were interested in using a bicycle more often for transportation and between 70-79~~%~~ percent stated that they were interested in walking more for transportation purposes.[105]

o) **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.

p) **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.[106]

q) **Programs and education help reduce the number of trips made by auto in the region.** Nearly 19~~%~~ percent of the region's population has reduced their car trips as a result of Drive Less Save More, resulting in a conservative estimated 21.8 million reduction in vehicle road miles, which translates into a reduction of about 10,700 tons of CO2. The City of Beaverton's Findley Elementary School reduced the number of autos dropping and picking up students from 800+ a day to 400 cars by introducing a Safe Routes to School Program.[107]

r) **There are areas of the region with incomplete bicycling and walking facilities, less access to essential services and destinations, and higher concentrations of environmental equity issues and underserved communities,** including communities in East Multnomah County; City of Portland east of I-205; areas of North Portland; areas along McLoughlin Blvd. and 82nd Avenue; areas of unincorporated Clackamas County; including the North Clackamas Revitalization Area; Forest Grove; Cornelius; Aloha and Beaverton.[108]

[105] Metro Opt-In Survey, 2011

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

[107] Ibid.

[108] Ibid.

s) **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.[109]

t) **Investments in active transportation have provided a high return on investment and multiple benefits to the region.** Comparatively small investments in active transportation projects and programming have benefitted the region on multiple levels, including cleaner air and water, healthier people, lower transportation costs, increased development feasibility and safer streets.[110]

u) **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~~%~~ percent of all trips to work, 15~~%~~ percent of all trips to school, and 16~~%~~ percent of all errands, entertainment and social trips are made by walking or bicycling.[111]

[109] Metro State of Safety Report, 2012.

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

[111] 2011 Oregon Household Activity Survey.

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

~~Chapter 11~~Chapter 12 Recommended Policies and Implementing Actions

Comment [LSM131]: Was chapter 12 in review draft 2

The ATP recommends **five policies** ~~listed below build on existing~~. P-edestrian, bicycle and transit policies ~~identified~~ in the ~~2035~~ 2010 adopted Regional Transportation Plan will be edited to reflect the spirit and intent of the ATP recommended policies. Edits to the policy language in Chapter 2 of the 2010 adopted Regional Transportation Plan are based on the five ATP recommended policies and are reflected in the 2014 Regional Transportation Plan.

Comment [LSM132]: For clarity the 2035 RTP is being referred to as the 2010

Comment [LSM133]: Work group comment to provide information on how ATP policies will update RTP policies

The purpose of the ATP policies is to help communities in the region achieve active transportation targets, aspirations and desired outcomes in adopted state, regional and local plans, including the performance targets described in the previous chapter.

The policies respond to information and analysis from the existing conditions review, the evaluation of the regional network concepts, input from the ATP Stakeholder Advisory Committee, the public and other stakeholders and a review of current regional active transportation related policies. Active transportation plans in other parts of the country were reviewed to identify policies that other places are adopting to increase levels of walking and bicycling and achieve active transportation related outcomes. ~~These policies are intended to help communities achieve adopted local and regional goals, outcomes, objectives and targets.~~

Future bicycle boulevards in Milwaukie will provide connections to trails, transit, schools and urban centers and will help complete the regional active transportation network. Photo: Bike Milwaukie

Corresponding **policy implementing actions** ~~to implement the policies have been identified. Unless otherwise noted, Metro is identified as the lead agency for the actions~~identify steps and

actions that Metro, working in partnership with cities and counties, jurisdictions, agencies and stakeholders can take to implement the regional pedestrian, bicycle and transit policies~~.~~. ~~-~~Many of the implementing actions will require ~~further~~ engagement and discussion ~~with stakeholders and will be implemented over time~~. Policy implementing actions that relate directly to implementation of the Regional Transportation Plan, as opposed to the work program of the Metro Active Transportation Program, are recommended for inclusion in Chapter 6 of the 2014 Regional Transportation Plan.

Policy 1. Make walking and bicycling the most convenient, safe and enjoyable transportation choices for short trips less than three miles. Over 40 percent of all trips made in the region are less than three miles in length and most trips made by walking and bicycling are short. Replacing short trips made by auto with walking, bicycling and transit is a huge opportunity for the region to reduce the number of auto trips. Walking trips account for 19 percent and trips made by bicycle account for 5 percent of all trips less than three miles within the urban growth boundary. Increasing the comfort and perceived and real safety of walking, bicycling, and access to transit will make it easier for people to drive less and walk, bicycle and take transit more often for short trips.

Comment [LSM134]: Recommended word addition by policy workgroup and safe routes to school

Comment [LSM135]: The ATP/RTP Policy focus group recommended adding an explanatory paragraph for each policy.

Metro, working with partners, should take the following actions to help implement Policy 1.

1.1 Support jurisdictions and agencies with regional planning, technical assistance in best practices, regional data, transportation modeling and jurisdiction and agency coordination, to implement the regional active transportation network according to the Guiding Principles for the Regional Active Transportation Network. ~~and encourage use of the ATP design guidelines.~~

Comment [LSM136]: Separate action created – 1.8 – recommend moving this action to Policy 2.

1.2 Work with jurisdictions, agencies and other stakeholders to identify ~~and encourage the implementation of~~and add ~~-~~projects to the Regional Transportation Plan that connect people to destinations that serve essential daily needs, including access to transit, schools, jobs, parks and nature~~, transit~~, services and urban centers, especially in areas where there is a high level of demand for walking, bicycling and transit service and/or underserved communities.

Comment [LSM137]: CLF equity review

~~1.1~~1.3 Work with jurisdictions, agencies and other stakeholders on corridor plans, the Regional Transportation Plan project lists, local transportation system plans and other efforts to ~~support~~ develop projects and plans to include ~~way-finding~~ wayfinding, street markings and clear connections to make the regional pedestrian and bicycle networks consistent, easy to navigate on foot ~~or~~ , by bicycle and transit. ~~Provide data in an open format to support third-party mobile application and map development.~~

Comment [LSM138]: Moved to Policy 5

~~1.2~~1.4 Work with jurisdictions, agencies and other stakeholders ~~partners~~ to seek opportunities to implement the recommendations ~~for pedestrian and bicycle safety improvements identified in the~~of Metro's *2012 Regional Transportation Safety Plan*, including supporting regional safety workgroups, maintaining and analyzing data, developing safety performance measures, research best practices for pedestrian and bicycle facility lighting, adding safety projects to the Regional Transportation Plan and incorporating Metro design best practices into new projects. ~~including lighting, crossing improvements and protected bicycle facilities.~~

~~1.3~~1.5 Encourage jurisdictions and agencies to include education and encouragement in transportation projects in order to raise awareness, increase safety and increase the use of completed projects.

~~1.4~~1.6 Utilize data developed for the ATP and work with ~~partners~~ jurisdictions, agencies and other stakeholders to identify opportunity areas in regional and local transportation system plans where short trips made by auto might be easily replaced by walking, bicycling and transit ~~and~~. S~~s~~upport funding and policies for the development of pedestrian and bicycle projects, especially those that connect to transit, and programs, such as Drive Less Save More, Safe Routes to School and Bike Share, in those areas. ~~Short trips are generally defined as one-way trips less than three miles.~~

1.7 Work with jurisdictions ~~and~~, agencies and other stakeholders to improve bicycle, pedestrian and transit integration by supporting ~~provide~~development of bicycle parking plans, pedestrian network analysis, and processes to prioritize bus stop ~~shelters~~ shelter improvements and safe crossings at transit stations and stops ~~where applicable~~.

~~1.5~~1.8 Provide technical assistance to local jurisdictions and agencies and encourage use of the ATP design guidance in planning and project development.

Policy 2. Develop ~~a~~ well-connected regional pedestrian and bicycle routes and districts~~networkcomplete streets and off-street paths~~ integrated with transit and nature~~, and that prioritizing~~ prioritize safe, convenient, accessible and comfortable pedestrian and bicycle access for all ages and abilities. Well connected pedestrian and bicycle routes and districts do not have gaps and are comfortable and safe for people of all ages and abilities to walk, bicycle and access transit. Routes connect to and through urban centers and make accessing transit, businesses, schools, and other destinations safe. Regional trails and transit function better because they are integrated with pedestrian and bicycle routes. Wherever possible, routes connect to and through nature and trees and other green elements are planted along routes. Design the network for universal access, prioritizing safe, convenient, accessible and comfortable access for all ages and abilities.

Comment [LSM139]: Added specific recommendations from the safety plan

Comment [LSM140]: More specificity on Metro actions

Comment [LSM141]: Recommended deletion

Comment [LSM142]: Moved from action 1.1. Policy group suggested creating a separate policy action.

Comment [LSM143]: Workgroup recommended adding explanatory text after each policy.

Comment [LSM144]: CLF equity review

Comment [LSM145]: Safe Routes to School Partnership recommended adding a policy action item "Prioritize making all town centers and business districts walkable, as places that people need to go for commerce, choose to visit for tourism, and can access services and social interaction."

Metro, working with partners, should take the following actions to help implement Policy 2.

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

2.2 ~~Partner~~ Work with with local jurisdictions and lead agencies on transportation plan updates, corridor plans and policy making to prioritize pedestrian~~ and~~, bicycle and access to transit projects in plans and for funding -in areas where the state~~ and~~, region and local jurisdictions are actively trying to encourage multi-modal travel.

2.3 Work with jurisdictions, agencies and other stakeholders to ~~emphasize the need for~~ identify locations in plans and facilitate the implementation of infrastructure that facilitates safe and comfortable walking, bicycling an access to transit such as physically separated, landscaped and buffered -pedestrian and bicycle facilities, improved crossings, lighting and other safety features especially on roadways with high traffic speeds, volumes, or heavy truck traffic. Work with jurisdictions on updates of transportation system plans to include these projects, add them to capital improvement plans, system development charges improvement lists and the Regional Transportation Plan. ~~Physically separated bicycle facilities include standard bicycle lanes, buffered bicycle lanes and cycletracks.~~ In instances where enhanced safety designs are not feasible~~, lead agencies should work to identify~~ alternate routes that provide a safe, direct and parallel alternative should be identified.

2.4 ~~Endorse~~ Encourage jurisdictions and agencies to endorse the use of new flexible bicycle and pedestrian design guidelines in transportation system plans. Consider adding language to the Regional Transportation Functional Plan that allows for the use of emerging flexible and context sensitive design.

~~2.5 the use of the National Association of City Transportation Officials Bike Design Guide and Washington County Bike Design Tool Kit as best bicycle design practices.~~

~~2.6~~2.5 ~~Develop~~ Work with TriMet, SMART, Portland State University, jurisdictions and other stakeholders to develop design guidelines for transit and bicycle interaction in transit corridors and~~, especiall~~ at transit stops and stations~~ and along light rail and streetcar tracks~~. Guidelines do not currently exist and are needed as bicycle facilities become more sophisticated and carry larger volumes of cyclists.

Comment [LSM146]: Safe Routes to School partnership recommends adding language that would require the use of checklists to be used prior to receiving funding from Metro.

Comment [LSM147]: Suggestion to move to glossary

Comment [LSM148]: Recommend moving to policy 2.

Comment [LSM149]: Recommended by safe routes to school partnership

Comment [LSM150]: ibid

Comment [LSM151]: ibid

Comment [LSM152]: work group suggested adding more specific actions that Metro would take

Comment [LSM153]: Definition included in glossary

Comment [LSM154]: Recommended to remove since action 1.8 recommends use of ATP guidance and adoption of the ATP is effectively an endorsement of that design guidance which includes these two resources.

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

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

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

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

2.112.10 Work with jurisdictions, agencies and other stakeholders to identify and consider add adding pedestrian and , bicycle and access to transit projects to the Regional Transportation Plan project lists during Regional Transportation Plan updates that will complete the recommended ATP pedestrian and bicycle networks. Utilize the *ATP Network Completion, Gaps and Deficiencies List* in Appendix 1 to identify and track projects.

2.12 Encourage and wWork with state and local jurisdictions and other stakeholders and agencies to updateon- transportation system plans and comprehensive plans plan updates to be consistent with the ATP regional bicycle and pedestrian networks adopted in the Regional Transportation Plan. and include the regional pedestrian and bicycle network routes.

2.132.11

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

2.152.12 Coordinate Provide outreach and engagement to inform partners about Metro's Regional Transportation Option program grants; encourage jurisdictions and agencies to seek opportunities to combine planned pedestrian, bicycle and transit investments with the Regional Transportation Option program and grants. Combining investments in facilities with education, marketing and outreach to makes projects more successful and delivers complete corridors for active travel. Provide outreach and engagement to inform partners about RTO grants.

2.162.13 Keep partners informed about opportunities with Metro's Transportation System Management Options program; Coordinate work with

Comment [LSM155]: Recommended from safe routes to school and work group

Comment [LSM156]: TSPs need to be consistent with the RTP.

Comment [LSM157]: Policy group recommended removing and suggested that the draft RTP include an implementation action to consider criteria for projects added to the RTP

partners through the TSMO committee and other avenues to seek funding for TSMO projects and coordinate pedestrian, bicycle and transit investments with the Transportation System Management Options program ~~and~~ grants to deliver complete corridors for active travel.

~~2.17~~2.14 Work with partners, including the Oregon Department of Transportation ~~and~~ , TriMet~~,~~ and SMART during the next policy update of the Metropolitan Transportation Improvement Plan (MTIP) to consider implementing recommendations of the ATP through development of the MTIP project list and Regional Flexible Funds policies.

Policy 3. Ensure that the regional active transportation network equitably serves all people. All people in the region, regardless of race, income level, age or ability should enjoy access to the region's walking, bicycling and transit networks and the access they provide to essential destinations including schools and jobs. -Currently the regional active transportation network is incomplete in many areas of the region, including areas with low-income, minority and low-English proficiency populations. Transportation is the second highest household expense for the average American; providing transportation options in areas with low-income populations helps address transportation inequities. Future planning, design and construction of the networks must include consideration of the benefits and burdens of transportation investments to underserved and environmental justice populations.

Comment [LSM158]: Workgroup recommended adding explanatory text after each policy.

Metro, working with partners, should take the following actions to help implement Policy 3.

3.1 Share Metro's *Public Engagement Guide* with partners and continue to d~~D~~evelop best practices on engaging underserved communities on topics related to active transportation ~~projects~~.

3.2 Work with jurisdictions, agencies, Transportation Management Associations, Safe Routes to School programs and other partner organizations to seek funding to provide awareness programs and address physical, economic, cultural and ~~barriers~~other barriers to active transportation.

Comment [LSM159]: Safe routes to school partnership

3.3 Work with ~~cities, counties, agencies and~~ jurisdictions, agencies and other stakeholders to identify and encourage the implementation of pedestrian and bicycle projects that increase safety and access to transit and destinations such as schools, jobs, parks and services in areas with minority, low income, youth and ~~elders~~seniors, disabled and low English proficiency populations.

Policy 4. Complete the regional pedestrian and bicycle networks. Nearly thirty percent of roadways on regional pedestrian corridors are lacking complete sidewalks, only thirty-three percent of the planned regional trail network is complete and only fifty-five percent of the identified regional bicycle network has a completed bicycle facility. Gaps in the networks limit

Comment [LSM160]: Workgroup recommended adding explanatory text after each policy.

safe and easy access to transit, jobs and other destinations. This policy identifies completing gaps as a priority.

Metro, working with partners, should take the following actions to help implement Policy 4.

4.1 Work with ~~partners~~ jurisdictions, agencies and other stakeholders in the 2014 and future updates of the Regional Transportation Plan to refine existing Regional Transportation Plan performance measures and targets to better meet active transportation goals and new federal performance measure requirements under MAP-21, the federal transportation bill.

4.2 ~~.~~[112] ~~Consider d~~Work with jurisdictions, agencies and other stakeholders to develop~~ing~~ and adopt~~ing~~ 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.

Comment [LSM161]: Policy work group members provided input that consider was too soft

~~4.1~~4.3 Work with jurisdictions, agencies and other stakeholders to identify and increase funding for active transportation at a level consistent to achieve desired mode shares for walking, bicycling and transit.

Further develop data and methodologies for Metro's regional Bicycle Comfort Index and Pedestrian Comfort Index~~-~~ developed in the existing conditions review for the ATP 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 to access transit and other destinations.

4.4

~~4.2~~4.5 Work with jurisdictions and other stakeholders to explore developing a policy in the Regional Transportation Plan and Regional Transportation Functional Plan to complete pedestrian and bicycle networks through ~~maintenance~~ roadway maintenance projects.

Policy 5. Utilize data and analyses to guide transportation investments. Metro, local governments and research institutions coordinate and work in partnership to collect and maintain pedestrian and bicycle related data. Consistent, timely and accurate data is essential for ~~-~~making informed decisions. State, regional and local governments are working towards utilizing more pedestrian and bicycle related data for planning and developing active transportation projects and programs.

Comment [LSM162]: Workgroup recommended adding explanatory text after each policy.

Metro, working with partners, should take the following actions to help implement Policy 5.

[112] ~~See Chapter 13.~~

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

- working with jurisdictions, agencies, research institutions and other 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 and other planning and project activities;
- developing a method to count and estimate pedestrian activity to support development of regional pedestrian modeling tools and other planning and project activities;
- continuing to support and develop Metro's leadership on regional trail counts;
- providing data in an open format to support third-party pedestrian, bicycle and transit mobile applications and map development.

Comment [LSM163]: Moved from action 1.3

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

5.3 Work with ODOT and other partners to fund and support the Oregon Household Activity Survey~~ and to~~ ; ~~include~~ increase~~the~~ survey questions related to ~~of~~ pedestrian and bicycle activity, including the relationship between bicycle and transit travel~~ in the region~~ and travel to school.

5.4 ~~Partner~~ Work with local jurisdictions and agencies, ~~with~~ health organizations and other stakeholders to explore collecting data, ~~measuring~~ measurements, analysis such as Health Impact Analysis and ~~possibly~~ incorporating health outcomes, such as levels of physical activity ~~in~~to inform regional plans.

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

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

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

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

Secure bicycle parking at Wilsonville's SMART Central Station and WES Commuter Rail Service. Bicycle parking is a key element to making an integrated active transportation network work. Photo: Wilsonville

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

~Katherine Kelly, City of Gresham Transportation Planning Manager

~~Chapter 12~~Chapter 13 Funding the Active Transportation Plan

~~As a regional government Metro has a unique role in developing the regional pedestrian and bicycle networks.~~Funding for developing and maintaining pedestrian and bicycle facilities and programs -comes from a variety of federal, state, regional and local revenue sources. Typically, various revenue streams are combined to plan, build and maintain projects and fund programs. Active transportation projects and programs are more dependent on federal funding than many other transportation projects. Federal funding for active transportation was targeted for cuts in the most recent federal transportation bill MAP-21. Other states, regions, cities and counties in America are increasingly identifying local revenues to fund active transportation projects and programs.

Approximately 3 percent of federal and state transportation funding allocated for capital projects in the region each year is dedicated to active transportation projects. This equals out to roughly $10 million per year out of $433 million spent on capital transportation projects in the region.[113]Demonstrating a high return on investment, since 1994 bicycling mode share increased 191 percent, walking increased 14 percent and transit mode share increased 52 percent.[114] However, to reach Regional Transportation Plan active transportation targets and triple current levels of walking, bicycling and transit higher levels of investment are needed.

Comment [LSM164]: Workgroup indicated that funding chapter should stress the need for funding.

Safe Routes to School partnership recommended adding a paragraph about current levels of funding at the start of the chapter.

Metro's role

Metro coordinates the Metropolitan Transportation Improvement Program, or MTIP, the federally required documentation of transportation investments scheduled for the region during a four-year cycle. The MTIP comprises projects and programs administered by Metro, ODOT, TriMet and SMART. The MTIP is incorporated without change into the State TIP, or STIP, which identifies the state's four-year transportation capital improvements.

Pedestrian and bicycle routes and districts identified on the regional ATP maps are eligible for federal funding, including Regional Flexible Funds. To receive federal funding active transportation projects must be on the Regional Transportation Plan project list.

Metro allocates federal funding that historically has provided over 40~~%~~ percent of all funding for regional trails and over 20~~%~~ percent of all funding for other regional pedestrian and bicycle projects. Metro also uses regional bond revenues to acquire right-of-way for trails. Metro's regional focus provides an opportunity to link local efforts together into a comprehensive

[113] Costs are general estimates based on average annual revenue allocations in the region between 1995 and 2010. Revenues for active transportation projects include funds specifically dedicated to pedestrian, bicycle and trail projects.

[114] 2011 Oregon Household Activity Survey. Mode shares for all trips within Multnomah, Clackamas and Washington Counties.

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.

Investments in active transportation, such as the Fanno Creek Trail in Tigard, provide benefits beyond increasing access to destinations. Benefits such as better health, access to nature and community building. Photo: Metro.

Funding strategy approach

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% percent of all funding for active transportation projects in the region is from federal sources.[115] 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)

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

rather than tacking them on at the end will maximize efficient use of tax payer dollars.

- **Develops a pipeline of projects.** Projects need to be lined up to receive funding for the next stage of development, either from regional flexible funds or other opportunities. Lack of projects that are "shovel ready" – or a pipeline of projects - has been cited by agencies as a barrier to applying for competitive federal grants such as the federal TIGER program or federal sustainability and health related programs.[116] 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 e~~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. Different funding and implementation strategies are needed for urban areas where most roads are already built but may be deficient for walking and bicycling and urbanizing areas where new local roads are being built as part of new subdivisions and arterials are being widened from rural to urban multi-modal.

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

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

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 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~~%~~ percent of gas tax revenues dedicated to bike and ped) are organized into two main programs, Enhance and Fix-it.[117] 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. Retrofitting roadways to add pedestrian and bicycle facilities are not funded under this program. 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, such as sidewalks and bike lanes to improve safety. These types of projects are not currently eligible for Fix-it and would require a change in policy. Non-infrastructure funding, including transportation education programs such as Safe Routes to school, is allocated through ODOT's Transportation Safety Division.

   State gas tax funds cannot be spent outside the road right-of-way; projects, such as trails, use flexible funds. The Statewide Transportation Improvement Plan, known as the STIP, is Oregon's four-year transportation capital improvement program. It is the document that identifies the funding for, and scheduling of, transportation projects and programs. It includes projects on the federal, state, city, and county transportation systems, multimodal projects (highway, passenger rail, freight, public transit, bicycle and pedestrian), and projects in the National Parks, National Forests, and Indian tribal lands.

3. **Statewide trail funding programs.** Though MAP-21, the federal transportation bill, eliminated the federal Recreational Trails Program (RTP), states could choose to continue funding for the program. Oregon chose to continue the program which is administered by Oregon State Parks. The Oregon Department of Transportation administers the Urban Trail Fund. The Urban Trail Fund is currently unfunded, but along with the Recreational Trails Program, presents an opportunity to seek new funding for regional trails. For the first time active transportation projects are eligible for Connect Oregon funds (funds generated by the lottery). Approximately $42 million is available in Connect Oregon V and pedestrian and bicycle projects not in the road right of way are eligible for funding.[118] ODOTreceived 108 proposals totaling $129 million.

Comment [LSM165]: Addition recommended by Safe Routes to School partnership

Comment [LSM166]: Text added on recommendation of workgroup

[117] 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.

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

Demonstrating demand across the state, bicycle and pedestrian project requests accounted the largest funding request by mode - $47.5 million.

Comment [LSM167]: Safe routes to school recommendation

4. **Transit related funding.** TriMet and SMART directly receive and allocate federal funding from the Federal Transportation Authority (FTA). Under new FTA rules, pedestrian and bicycle projects within a 3-mile radius of transit stops are eligible for some of these funds, particularly New/Small Starts funding. This funding presents an opportunity to support access to transit. Because these funds are managed by transit agencies and incorporated into larger transit capital projects, the costs of administering the projects can be lower than smaller stand alone pedestrian/bicycle capital projects. Identification and consideration of pedestrian and bicycle access to transit needs by agencies and project partner local agencies during planning and project development is important to increasing progress of the active transportation network.
5. **Regional Flexible Funds.** Metro allocates federal funds, including Congestion Management and Air Quality (CMAQ) funds and Transportation Alternative Program (TAP) funds, which fund a substantial amount of active transportation projects in the region. Strategically utilizing these types of funds is key to a successful funding strategy. The funds present the opportunity to develop a pipeline of projects and to complete and expand the existing network to reach regional and local goals. Funding continuity and certainty can help develop a pipeline of projects. Regional Flexible funds have been used in this way to implement complex transit projects in the region.
6. **Special and short term funds.** These types of funds are usually one-time fees, taxes or bond measures that target specific projects and outcomes. They can include property taxes, bond measures, and local improvement districts. ~~Developing a regional active transportation fund has been raised as one way to increase~~Creating new funding sources may be a possibility in the future to support development of active transportation projects~~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.

~~6.~~

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. Figure 4 below illustrate how heavily the region depends on federal funds for active transportation. Local funding revenues for transportation (including trails) include sources such as:

Comment [LSM168]: Workgroup recommended providing more detail and examples for local funding.

   - C~~c~~ity and county allocations of the statewide gas tax~~,~~. Cities and counties are required to dedicate 1 percent of the gas tax for bicycle and pedestrian projects. The funds can be used for capital construction or maintenance. Cities and counties are not prohibited from allocating more than 1 percent of statewide gas tax revenues to bicycle and

pedestrian projects. This source of funding has been instrumental in developing the region's bicycle and pedestrian network.

- ~~include~~ S~~s~~ystem development charges (SDCs) ~~which~~ are tied to new development and can be used for a wide range of projects, including transportation, parks and trails.
- ~~;~~ ~~t~~Traffic impact fees (TIFs~~);~~)
- S~~s~~treet utility fees~~;~~
- R~~r~~egistration fees~~;~~
- V~~v~~ehicle parking fees
- ~~;~~ Urban renewal funds ~~and p~~
- Property taxes. Washington County's MSTIP funds are an example of property taxes used for funding.

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 pedestrian and bicycle project 'need rate' for local funding sources to include identified pedestrian, bicycle and transit stop capital projects as part of local transportation system fee structures.

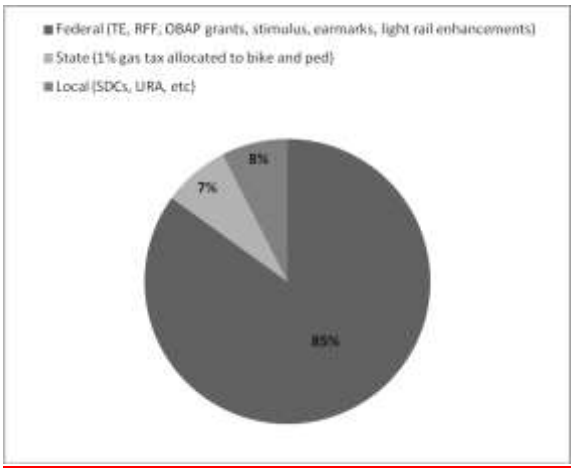
~~7.~~ **Development community** also provides funding for pedestrian and bicycle improvements through conditions of approval, right-of-way dedication and frontage improvements. These are an important way that communities improve areas for walking and bicycling. The value of pedestrian and bicycle improvements provided by developers by frontage improvements are difficult to determine.

8.

9. **Pedestrian and bicycle projects part of larger roadway or transit projects.** Pedestrian and bicycle projects can be funded and built as part of larger projects. Oregon's landmark 'bicycle bill' states that roadway projects that increase capacity for auto travel must include pedestrian and bicycle facilities. It is difficult to tease out the amount of funding that goes to the active transportation elements of these projects.

Comment [LSM169]: need to add example and more details

Figure 7: Breakdown of federal, state and local funding sources for active transportation, 1995-2010, Portland metropolitan region



Source: Metro, 2010

Cost ~~estimates~~ assumptions for the regional active transportation network

Planning level cost estimates for developing the regional pedestrian and bicycle networks were developed for the ATP. The planning level cost estimates provide very general costs for completing, improving and extending the planned regional network. The purpose of the cost estimates is to provide a general cost target to guide investment assumptions and funding decisions.

Shown in Table 2, the estimated total cost of the ATP networks was developed by adding the cost of the pedestrian, bicycle and trail projects identified in the 2010 adopted Regional Transportation Plan with planning level cost estimates developed through the ATP.[119] Also included is a cost estimate for improving existing on-street bicycle and regional trail facilities that are parkways.[120] The total estimated cost for completing, improving and expanding the regional ATP pedestrian and bicycle networks is approximately $3 billion.

[119] Cost estimates were only for routes identified as parkways on the ATP networks.

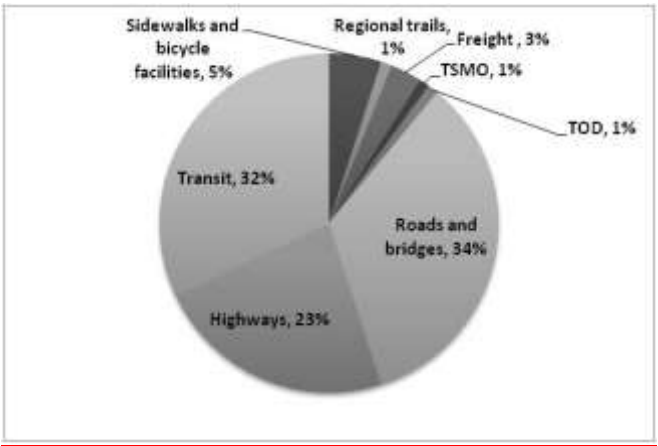
[120] While it is known that many of the existing sidewalks on regional pedestrian parkways are deficient insufficient regional data on sidewalk quality prohibited developing cost estimates for improving existing sidewalks on pedestrian parkways.

The cost of bicycle, pedestrian and trail projects included in the 2014 Regional Transportation Plan by jurisdictions and agencies is approximately $2 billion and includes projects on both the financially constrained 'federal' list and the state list. Most, but not all, of these projects are on the ATP networks.[121] Bicycle and pedestrian projects that are constructed as part of a larger roadway or transit project are not included.[122] Programmed stand-alone Bbicycle, pedestrian and trail projects project costs account for approximately 6% percent of the $20 billion of projects identified in the 2035 2010 Regional Transportation Plan.[123] Figure 4 shows investments by transportation mode in the Regional Transportation Plan (2010).

Comment [LSM171]: If feasible these numbers will be updated with the costs from the 2014 RTP

Figure 8: Investments by Mode and Share of Total Cost, Regional Transportation Plan (2010)

Comment [LSM172]: Figure added for context. Update with 2014 RTP data



Source: Regional Transportation Plan, adopted 2010

Thesse projects 2014 Regional Transportation Plan represent includes a substantial number of the pedestrian, bicycle and trail projects needed to complete the regional active transportation network., hHowever, the list does not include all of the projects needed to complete the ATP networks. The estimated cost of completing the ATP parkway networks is $1.5 billion; the estimated cost of improving existing on-street bicycle and regional trail facilities that are parkways is $0.5 billion.[124]

[121] Over time effort should be made to reconcile the bicycle, pedestrian and trail projects in the Regional Transportation Plan with the ATP network; ideally, the Regional Transportation Plan project list is completing the ATP networks.

[122] See Chapter 3 of the 2010 Regional Transportation Plan, Table. 3.7 on page 3-28.

[123] 2035 Regional Transportation Plan, financially constrained and state project lists. Standalone projects are bicycle, pedestrian and trail projects that are not included as part of a larger roadway or transit project. Refer to Chapter 3 of the 2035 Regional Transportation Plan.

[124] Includes built and planned projects.

for a complete regional pedestrian and bicycle network developed according to the Guiding Principles identified in Chapter 6.

To better understand the funding needs for developing out the regional network, the ATP developed general planning level cost estimates for completing, upgrading and expanding the regional active transportation network.[125] CPer mile cost assumptions used to develop the planning level cost estimates can be found in Appendix 2. The status of routes and districts on the ATP network is provided in Appendix 1.Cost estimates are general per mile or per pedestrian/bicycle crossing (costs were not developed for specific projects) in order to provide a ball-park figure of the potential cost of completing the network.

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

Table 6: Planning Level Cost Estimates for the ATP Regional Active Transportation Network

Projects	Cost (millions)
2035 RTP sidewalks, bike facilities and trailsCost of bicycle, pedestrian and trail projects in the 2014 Regional Transportation Plan (federal and state lists)[126][127]	$1,283 1,966 M
New ATP sidewalks, improved crossings, bike facilities and trails Cost of developing 700 miles of ATP pedestrian and bicycle parkways and 1,551 pedestrian and bicycle crossings not included in the 2014 Regional Transportation Plan federal and state project lists[128]	$1,550 M

Comment [LSM173]: Deleted for clarity

Comment [LSM174]: Information in this paragraph moved to start of section

Comment [LSM175]: Text in table edited for clarity based on workgroup recommnedation. Cost of RTP projects updated to reflect the 2014 RTP

Comment [LSM176]: Costs have been updated to reflect project lists from the draft 2014 Regional Transportation Plan (instead of the 2010 RTP)

[125] At this time, planning level cost estimates are identified only for the Bicycle and Pedestrian Parkways. Cost estimates include building new facilities not already identified in the 2035 2010 Regional Transportation Plan project list and improving upgrading existing facilities (those already built or that have a project in the 2035 2010 state Regional Transportation Plan project list). The cost estimates assume a high level of design.

[126] Projects identified as an active transportation project in the 2014 Regional Transportation Plan financially constrained (federal) and state project lists. Financially constrained ($1,443,611,200), state ($523,107,473), total ($1,966,718,673)

[127] See Chapter 6, 2035 of the 2010 Regional Ttransportation Plan.

[128] Cost assumptions are planning level only and include sidewalks, regional trails, separated bicycle facilities such as cycle tracks and buffered bicycle lanes, bicycle boulevards and pedestrian/bicycle crossings. Acquisition of right-of-way is not included. Refer to Appendix 2 for more information.

~~Projects~~	Cost (millions)
~~New upgrade to existing bike and trail projects~~ Cost of improving 265 miles of existing bicycle and trail parkway facilities[129]	$447 M
Total	$~~3,280~~3,963 M

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

Comment [LSM177]: This section replaces the "project list section in what was Chapter 15.

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

Comment [LSM178]: Deleted for clarity; replaced with updated text

Current ~~expenditures on active transportation~~levels of funding

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

Federal and state capital transportation investments represent an important source of funding for active transportation. ~~From 1995–2010 the region invested a~~Approximately $10 million~~/ year~~ is spent annually on~~in~~ stand-alone pedestrian, bicycle and trail projects~~s, or~~ ,3~~%~~ percent of ~~all~~ the $433 million federal and state capital transportation funds spent annually on transportation in the region.[130] Additionally, local jurisdictions allocate between 1~~%~~ percent and 6~~%~~ percent of local transportation dollars, such as gas tax revenues, system development charges or urban renewal funds, to bicycle and pedestrian projects.

Many pedestrian and bicycle projects are also completed as part of larger roadway projects or as part of complete streets projects. Determining the level of funding going towards active transportation elements included in larger projects is challenging. Some jurisdictions assume that pedestrian and bicycle elements account for approximately 25~~%~~ percent of the total project cost. Better data is needed to adequately understand the level of investment going towards

[129] Example projects include improving or widening trails or converting a standard bicycle lanes into buffered bicycle lanes. Costs for upgrading sidewalks is not included; lack of regional data on sidewalk condition prevented analysis of where sidewalk upgrades may be needed (e.g. narrow, no curb cuts, etc).

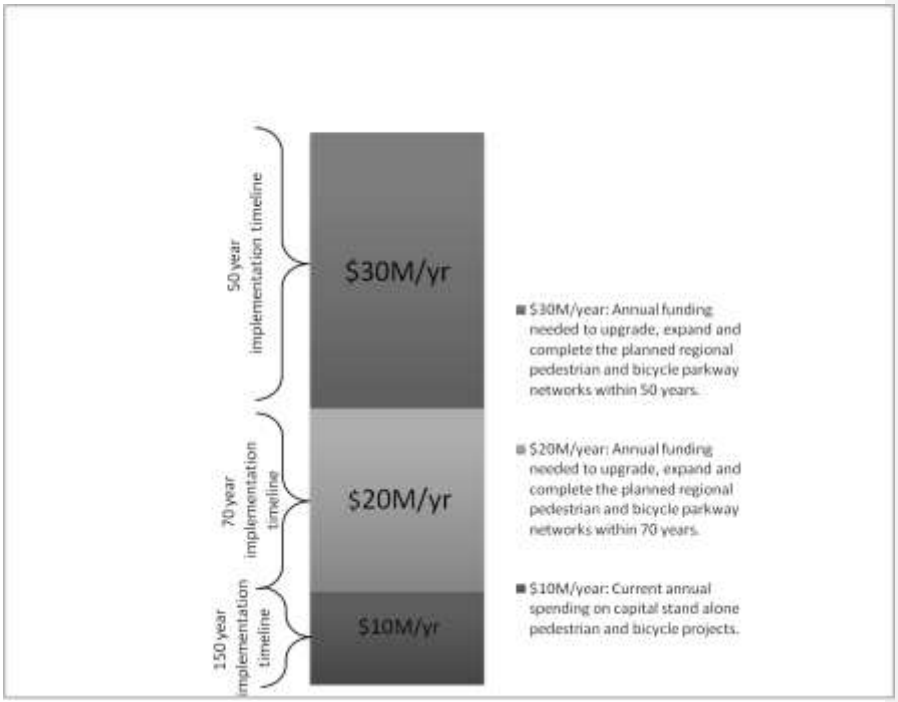
[130] Metro, 2010. Based on historical funding 1995-2010. Refer to *Existing Conditions, Findings and Opportunities Report for the ATP, August 2012, Chapter 9: Current Funding.*

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

At the current rate of funding for stand-alone bicycle and pedestrian projects in the region, approximately $10 million/ a year, it is estimated to take approximately 150 years to complete and expand the regional pedestrian and bicycle ATP network. Figure 6 illustrates how increasing funding levels will allow the regional ATP network to be completed in seventy or even fifty years. If current funding were tripled to $30 million per year the planned regional pedestrian and bicycle networks would be upgraded, expanded and completed within fifty years.

As funding increases for walking and bicycling infrastructure and programs so do levels of walking and bicycling, providing a high return on investment; people drive less in the region than in most other places in the country.

Figure 97: Funding Level Scenarios and Implementation Timelines for the Regional Active Transportation Network



Source: Metro, 2013.Funding levels are in 2013 2 dollars.

Maintenance costs

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~~ Maintenance of pedestrian and bicycle facilities is an important part of encouraging and supporting walking and bicycling and providing good access to transit.

Average maintenance costs vary depending on the type and design of the facility and how much maintenance a jurisdiction performs. Annual maintenance costs for sidewalks can range from $1,000 to $4,000/mile, bicycle lane maintenance can average at about $2,000/mile, and shared use paths/trails can average between $2,000 and $8,000/mile.[131] These costs are often folded into general street maintenance costs. For general network cost discussions the following planning level per mile maintenance costs were developed. Using an average cost of $2,000/per mile for sidewalks, bicycle facilities (e.g. bike lane, bike boulevard), and trails a general estimated cost to provide maintenance for the existing regional active transportation network is approximately $3 million per ~~/~~year~~.~~[132] in 2012 dollars.

Table 7: Estimated Annual Maintenance Costs, Existing 2010 Regional Pedestrian and Bicycle Network

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

Using the same approach, estimated maintenance costs for the completed active transportation network in 2035 are approximately $6 million per ~~/~~year in 2012 dollars.[133] The estimated cost in 2035 would be approximately $12 million per year.

Table 8: Estimated Annual Maintenance Costs~~,~~, Planned 2035 Regional Pedestrian and Bicycle Network

	Sidewalks	Trails	Bikeways
Miles in regional network	1462	460	972

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

~~[132] In 2012 dollars~~

~~[133] The estimated cost in 2035 would be approximately $12 million/year.~~

Cost at $2,000/mile	$2,924,000	$920,000	$1,944,000	
Total				$5,788,000

Bicycling along the Trolley Trail. Multiple partners and funding opportunities were needed to complete this regional trail connecting Milwaukie to Portland, Gladstone and Oregon City. Photo: BikeMilwaukie

Chapter 14 Implementation ~~Strategies~~ Strategy ~~and Projects~~ and Project Prioritizaton

Comment [LSM179]: Was chapter 15 in review draft 2

Focusing limited investments strategically to get the highest return on investment is important. Strategic investments often require that projects be prioritized. ~~However, in many ways~~Most local jurisdictions have identified priority pedestrian and bicycle projects for their communities and these can be added to the Regional Transportation Plan project list to be eligible for state and federal funding. Projects added to Capital Improvement Plans are identified as the highest priority since they are much more guaranteed to be funded.

Bicycle and pedestrian projects added to the Regional Transportation Plan project list and routes on the ATP bicycle and pedestrian network maps reflect regional priorities~~ the region has not yet reached a decision place of~~ Additional prioritization that develops a pipeline of projects may help to develop the ATP networks, especially projects that are more challenging and will require regional cooperation and support to complete.

Walking along the Fanno Creek Trail. Photo: Wendy Kroger

Recommended implementation strategy

The ATP recommends the following implementation strategy for completing the recommended regional ATP networks.

~~8. **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.**~~

1. **~~The overall recommended approach of the ATP is that completion of the entire regional pedestrian and bicycle networks,~~ The first priority in the implementation strategy should be to add facilities where none exist today so that they are connected and safe~~,~~.** This should be one of the region's highest overall transportation priorities and key focus for transportation improvements in the region. To the greatest extent possible facilities should follow best design practices (see Chapter 9 Design Guidance or Appendix 5 for a list of design resources).

~~1.~~2. **Gaps in areas where a high demand for walking and bicycling and transit use exist should be prioritized first.** In instances where pedestrian and bicycle levels and demand exceed the capacity of an existing facility and impact safety, deficient facilities should be considered gaps and prioritized.

3. **~~should be a high priority and key focus of transportation improvements in the region.~~ The next highest priority should be to focus investments on improving and upgrading deficient facilities so that they are safe and comfortable for all ages and abilities.** Areas where a high demand for walking and bicycling and transit use already exist should help guide investments in upgrading deficient facilities.

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.

Making places more walkable and bikeable is a strategy to increase active transportation. Photo: Metro

~~Strategically investing funding will help achieve desired outcomes sooner and more efficiently and effectively. The ATP evaluated provides informationimprovements 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 activityThe results of the evaluation can be found in the ATP "2013 Regional Pedestrian Network Analysis" and "2013 Regional Bicycle Network Evaluation" supplemental reports. The evaluations provide broad brush results at a regional scale. Implementation strategies outlined below are intended to be implemented by Metro in partnership with agencies, jurisdictions and other stakeholders.~~

~~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~~ Recommended s~~s~~trategies to prioritize projects

1. **Prioritize all transportation modes together in local and regional plans.** 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, prioritize projects ~~complete routes~~ that connect to and along transit routes and ~~support routes~~ that provide the most connected and direct bicycle travel.** The diversity of communities, land uses, roadway network patterns and population and employment densities in the region requires that a wide range of approaches be employed to make active transportation feasible. Many communities that have suburban style land use patterns are experiencing success with active transportation.[~~134~~] Disconnected roadway networks can be one of the biggest hurdles to bicycle travel; constructing trails or protected facilities along major roadways can provide convenient connections.

3. **~~Fill~~ Prioritize projects that fill gaps in the ATP bicycle network in areas that showed high to moderate levels of modeled bicycling activity in 2035 with a complete network. ~~s that increase access for the most people and increase levels of walking, bicycling and access to transit.~~** Evaluation of improvements to the regional ~~pedestrian and~~ bicycle network~~s provides information on areas (routes, corridors and districts) where improvements increase access for the most people. T~~described in the *ATP Regional Bicycle Network Evaluation* a~~nd the *ATP Regional Pedestrian Network Analysis* identify~~ identified ~~corridors and districts on the regional pedestrian and bicycle networks~~ areas in the region ~~where adding improvements will increase access and activity~~with high to moderate levels of bicycling activity when the ATP bicycle network was completed. It is assumed that filling gaps and fixing deficiencies would support increased levels of bicycling and increased access to destinations.

4. **Prioritize projects that fill gaps in the ATP pedestrian network in areas that showed a high number of people with increased access to destinations in 2035 with a complete pedestrian network.** Evaluation of improvements to the regional pedestrian network, filling sidewalk gaps, completing regional trails and adding pedestrian crossings, identified areas in the region where improvements increased access for the most people. The *ATP Regional Pedestrian Network Analysis*

Comment [LSM180]: Comment: specificity of example seems out of place.

Comment [LSM181]: Pedestrian projects separated out into a separate strategy - #4 below

Comment [LSM182]: Lists of projects moved to a separate new section following this section

Comment [LSM183]: Was part of strategy #3 originally. Separated out into its own point.

[~~134~~] ~~Suburban areas of Assen, Germany provide excellent examples of suburban communities that have successfully integrated active transportation.~~

describes the evaluation and includes maps and tables detailing the results of the analysis.

5. **~~Support~~ Prioritize projects that increase access and safety for underserved populations.** The *ATP Regional Bicycle Network Evaluation* and the A*TP Regional Pedestrian Network Analysis* identify ~~corridors, districts and~~ areas ~~on the regional pedestrian and bicycle networks~~in the region where adding improvements ~~will~~ have the potential to increase access ~~to~~ for underserved populations.[135] Increasing access improves safety, especially when projects address issues such as those identified in the Metro *2012 Regional Transportation Safety Plan*, including crosswalk and intersection lighting, pedestrian crossings on arterials and multi-lane roadways and protected bicycle facilities along roadways with high motor vehicle traffic volumes, speeds and/or high volumes of trucks.

Comment [LSM184]: Was strategy #4

6. **~~Focus~~ Prioritize projects that ~~active transportation investments to~~ improve access to transit~~, utilizing~~. Refer to ~~the~~ priorities identified in TriMet's *Pedestrian Network Analysis and access to transit priorities identified in SMART's -Transit Master Plan*.** TriMet, in partnership with jurisdictions, agencies and stakeholders, identified ten initial focus areas for improving access to transit.[136] 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.

Comment [LSM185]: Was number 5

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

Comment [LSM186]: Was number 6

[135] 2010 U.S. Census data was used to identify census tracts with underserved populations. Minority, low-income and low English proficiency populations may move and the distribution in census tracts may change by 2035.

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

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

    - New light rail bridge in downtown Portland
    - Lake Oswego to Portland Bridge
    - Hwy 26 Trail
    - Trolley Trail Bridge
    - Sellwood Bridge
    - St. John's Bridge
    - Steel Bridge
    - Broadway Bridge
    - Morrison Bridge
    - Burnside Bridge
    - Hawthorne Bridge
    - Crossings of Hwy 26, including the Westside Trail
    - Gaps in the I-205 Trail
    - Crossings of I-84
    - Crossings of I-205

9. ~~Include~~ Fund **education programs, encouragement programs and initiatives such as Bike Share and Safe Routes to School programs.** Just as important as on-the ground projects are programs that make it easier for people to walk, ride bikes and access transit. Funding decisions should consider the importance of these types of programs and pair them with infrastructure projects.

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

Comment [LSM187]: Was number 7

Comment [LSM188]: Was number 8

Comment [LSM189]: Was number 8

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

Project investment areas

The ATP network evaluation described in Chapter 6 provides information on where in the region access to destinations, access for underserved populations and levels of activity would increase if the regional pedestrian and bicycle networks were completed and expanded. The evaluations provide broad brush results at a regional scale and can provide general guidance as projects are prioritized by local jurisdictions and Metro.

Bicycle

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

- Forest Grove
- Cornelius
- Hillsboro South
- Hillsboro Central
- Beaverton – East/Raleigh Hills/Washington Square
- Beaverton- South /Aloha South
- Tigard
- Milwaukie – North/ Clackamas Regional Center
- N. Portland – St. Johns

- NE Portland – Cully/Rose City Park/Rocky Butte
- Happy Valley
- Central Gresham/Wood Village/Fairview

Areas *in the region that show the highest level of bicycle activity in 2035 with a completed ATP bicycle network -(other areas show substantial activity, and all areas of the region show bicycling activity):*

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

Bikeway routes *that show high to moderate bicycle volumes in 2035-with a completed ATP bicycle network-:*

- 17th Ave. connection between Trolley Trail and Springwater Corridor
- 40's and 50's Bikeways, Portland
- Barbur Blvd./99 W in Portland and Washington County
- Burnside in East Multnomah County
- Capitol Highway and Kerr Parkway, Portland and Washington County
- Clinton Bike Boulevard in inner SE Portland
- Cully Blvd. Portland
- Division Street, Portland to Gresham
- Downtown Portland
- Foster Road in Portland
- Going Street, Portland
- Hall Blvd. Beaverton to Fanno Creek Trail, Washington County
- Hogan Road, Multnomah County
- Iron Mountain Road, Lake Oswego/Washington Count (parallel Surf to Turf Trail)
- Kruse Way, Washington County (assumed crossing over I-5)
- Lake Road in Milwaukie
- Main Street, Hillsboro
- Monroe Blvd. Clackamas County
- NE 15th Ave and 20's Bikeway, Portland
- NE Airport Way
- NE Halsey, Multnomah County
- NW Evergreen Rd, Washington County
- Pacific Hwy/Willamette Falls Drive, Clackamas County

- Pimlico Drive, West Linn
- Powell Blvd., especially in inner SE Portland
- Sandy Blvd. in Portland
- Scholls Ferry Road, Washington County
- SE 122nd Ave, East Multnomah County
- SE 136th Multnomah County
- SE 148th Ave, East Multnomah County
- SE 162nd, Multnomah County
- SE 181st Ave, East Multnomah County
- SE Hawthorne Blvd. Portland
- SE Johnson Creek Road, connecting to I-205 Path, Clackamas County
- SE Lincoln, SE Market, SE Mill, Portland/East Multnomah County
- SE Linwood Ave. Clackamas County
- SE Stark St., I-205 to SW 257th, Multnomah County
- SE Sunnyside Road, Clackamas
- SE Thiessen Rd., Clackamas County
- SW 257th, Multnomah County
- SW 5th and 6th Avenues, Beaverton
- SW 72nd, Washington County, between SW Bonita and 99W
- SW Baseline, Washington County
- SW Beaverton Hillsdale Hwy.
- SW Boones ferry Road, Fanno Creek to Wilsonville
- SW Brockman St. Washington County
- SW Canyon Road
- SW Cedar Hills Blvd., Washington County
- SW Dosch Road, Washington County
- SW McDonald, SW Gaard St, Washington County
- SW Multnomah Blvd. Portland/Washington County
- SW Oleson Road, Washington County
- SW Tualatin Sherwood hwy.
- SW Western Ave., Beaverton
- Tualatin Valley Highway, Washington County
- Warner Milne Road, Linn Ave, Central Point Road, Oregon City
- Williams/Vancouver, Portland

Trails *that show high to moderate bicycle volumes in 2035:*

- Beaverton Creek Greenway, Washington County
- Bronson Creek Greenway, in the North Hillsboro/Bethany areas
- Council Creek Trail
- East Buttes Powerline Corridor Trail, Clackamas, connecting to the Gresham Fairview Trail
- Fanno Creek Trail, Washington County
- Gresham MAX Path
- Gresham-Fairview Trail
- Hwy 26 Trail connecting Portland and Washington County
- I-205 Path

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

Pedestrian

Pedestrian d~~D~~istricts *that when the pedestrian network is completed show a high number of people with increased access to destinations ~~via the pedestrian network~~within a 1 mile walk in 2035:*

- 122nd Ave. Station
- 148th Ave. Station
- Aloha Town Center
- Beaverton Creek Station
- Beaverton Town Center
- Cedar Mill Town Center
- Clackamas Town Center
- Cornelius Town Center
- Division St. Station
- Elmonica Station
- Expo Center Station
- Forest Grove Town Center
- Fuller Rd. Station
- Gateway Town Center
- Gresham Town Center
- Hawthorn Farm Station
- Hayden Island Station
- Hillsdale Town Center

- King City Town Center
- Lake Grove Town Center
- Merlo Rd Station
- Millikan Way Station
- Milwaukie Town center
- Murray/Scholls Station
- Oregon City Town Center
- Orenco Station
- Overlook Station
- Park Ave P&R
- Parkrose Station
- Portland Central City
- Powell Blvd. Station
- Raleigh Hills Town Center
- Rockwood Town Center
- Sherwood Town Center
- Sunset Transit
- Tacoma P&R
- Tanasbourne Station
- Tigard Town Center
- Troutdale Town Center
- Tualatin Town Center
- Washington Square Town Center
- West Portland Town Center
- Willow Creek Station

Pedestrian c~~C~~orridors *that when the pedestrian network is completed show a high number of people with increased access to destinations ~~via the pedestrian network:~~within a 1 mile walk in 2035:*

- 122nd Ave. Portland (SE Foster to NE Sandy)
- 181st/182nd Ave. Portland (Powell to NE Sandy)
- 5th/Warner Milne/Beavercreek Rd.
- 82nd Ave. Portland/Clackamas County
- Aloha to Beaverton – Hwy 8 (SW 185th to Hwy 217)
- Aloha to Hillsdale – Beaverton Hillsdale Hwy (Hwy 10)
- Barbur Blvd./99W (SW Hall to Downtown Portland)
- Beaverton to Barbur Blvd. (SW Allen, SW Garden Home Rd, SW Multnomah Blvd)
- SW Canyon Road (Beaverton to Hwy 26)
- Beaverton to Tualatin (SW Hall Blvd, SW 85th, SW Boones Ferry Rd.)
- Boones Ferry Road (Pilkington Rd. to SW Macadam Ave)
- Burnside, Portland to Gresham
- Capitol Hwy – SW 49th in West Portland to SW Macadam Ave.
- Cedar Mill to Portland – (SW Barnes Road/W Burnside Rd)., NW Cornell Rd to NW 23rd.
- Clackamas TC to Damascus –(SE Sunnyside Rd/Hwy 212 (Clackamas Boring Hwy)) from I-205 to Hwy 212 at UGB

- Division – SE Grand Ave to NE Kane Drive
- Forest Grove to Cornelius (Hwy 8) – Pacific/19th Ave to Cornelius
- Halsey St. – Hollywood District to Troutdale
- Hillsboro TC to Willow Creek MAX station – (E Main Street/W Baseline Rd) from SW Oak St (Hillsboro) to SW 185th Ave.
- Hillsboro to Aloha (Hwy 8)
- Hillsboro to Cedar Mill –(NE Cornell Road) to SW Murray Blvd in Cedar Mill
- Holgate – 99 E to SE Powell Blvd. via 136th
- Hwy 43 - Portland to Oregon City- 99 E to SE Powell Blvd.
- HWY 8 to Orenco (NW 231st Ave.)
- Interstate Ave. (N Denver Ave, N Interstate Ave, N Russell) Steel Bridge to Hayden Island
- Johnson Creek Blvd. - SE Harney Drive to SE 92nd Ave
- N/NE Killingsworth - N Greeley Ave to Cascade Hwy (NE 82nd Ave)
- Kruse Way - Tigard at I-5 to Boones Ferry Rd.
- McLoughlin Blvd. (UGB to SE Powell)
- Milwaukie to Clackamas TC (SE Harrison/Milwaukie Expy/SE Harmony/SE Sunnyside/SE Lake Rd./SE McLoughlin) 99E at Holgate to 1-205 Clackamas TC
- Molalla Ave - 99E/7th Ave Oregon City to Hwy 213
- Murray Scholls to Cedar Mill – (SW Murray Blvd.) HWY 210 to NW Cornell Rd.
- Murray Scholls to Raliegh Hill - Hwy 210 (Scholls Ferry Rd) SW Murray Blvd. to Hwy 10
- NW Bethany Blvd. - NW German Town Rd to NW Cornell
- NW Evergreen
- Orenco to Tanasbourne – (NW 229th/Evergreen) NE Brookwood Pkwy to NW Cornell Rd
- Portland to Damascus (SE Foster Rd.) SE Powell Blvd. to SE Sunnyside Rd.
- Portland to Oregon City – (SE 52nd/SE Flavel/SE Linwood/Webster Rd.) SE Powell Blvd. to SE McLoughlin Blvd. (99E)
- Powell Blvd. – Ross Island Bridge to Gresham
- Prescott – NE 42nd Ave to NE 122nd Ave
- Sandy Blvd. NE Couch to SW 257th Ave.
- SE 155th/Milmain
- Sherwood (99W, SW Sherwood Blvd, SW Oregon St.) Tualatin Sherwood Road to SW Oregon St at SW Murdock Rd.
- Sherwood to Tigard (99W) - Tualatin Sherwood Road to SW Hall Blvd
- SE Stark St. (w/SE Washington couplet) SE 50th Ave to NE Kane Drive.
- SW 185th Ave. to PCC – (SW 185th Ave) Aloha at Hwy 8 to NW Springville Rd. to NW Bethany Blvd.
- SW 206th
- SW Cedar Hills Blvd. Beaverton at SW Farmington Rd. to Hwy 26, Cedar Mill
- SW Oleson Rd./SW Greenburg Rd - Washington Square at Hall Blvd to 99W
- SW Parkway Ave to Wilsonville - SW Boones Ferry at SW Day Rd to SW Town Center Loop
- SW Scholls Ferry Rd.

- Swan Island to St John's Bridge – (Going, Greeley, N Peninsula, N Willis, N Alaska, Fesseden, N Lombard) Going St on Swan Island to St John's, Lombard and N Commando Ave
- Tanasbourne to Beaverton (Walker Road) - SW 185th Ave to SW Canyon Rd.

Trails *that when the pedestrian network is completed show a high number of people with increased access to destinations within a 1 mile walk in 2035:*

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

Pedestrian d~~D~~istricts *with higher percentages of underserved populations in 2010:*

- 122nd Ave. Station
- 148th Ave. Station
- 82nd Ave. Station
- Aloha Town Center
- Beaverton Town Center
- Beaverton Creek Station
- Bethany Town Center
- Clackamas Town Center
- Cornelius Town Center
- Division St. Station
- Elmonica Station
- Fairview Town Center
- Flavel St. Station
- Forest Grove Town Center
- Fuller Rd. Station
- Gateway Town Center
- Gresham Town Center
- Happy Valley Town Center
- Hillsboro Town Center
- Hillsboro Airport Station
- Killingsworth Station
- King City Town Center
- Lents Town Center
- Merlo Rd. Station
- Millikan Way Station
- Overlook Station
- Parkrose Station
- Pleasant Valley Town Center
- Powell Blvd. Station
- Prescott Station
- Rockwood Town Center
- St. Johns Town Center
- Troutdale Town Center

Pedestrian corridors *with higher percentages of underserved populations within one mile in 2010:*

- 122nd Ave. Portland (SE Foster to NE Sandy)
- 181st/182nd Ave. Portland (Powell to NE Sandy)
- 52nd to MLK via Columbia
- 82nd Ave. Portland/Clackamas County
- NE Alberta – NE MLK to NE 33rd Ave
- Aloha to Beaverton – Hwy 8 (SW 185th to Hwy 217)
- Aloha to Hillsdale – Beaverton Hillsdale Hwy (Hwy 10)
- Beaverton to Hwy 26 (SW Canyon Road)
- Beaverton to Tualatin (SW Hall Blvd, SW 85th, SW Boones Ferry Rd.)
- Burnside (Portland to Gresham)
- Clackamas Hwy (Hwy 224)- Hwy 212-224 to Eagle Creek Hwy

- Clackamas TC to Damascus –(SE Sunnyside Rd/Hwy 212 (Clackamas Boring Hwy)) from I-205 to Hwy 212 at UGB
- Division – SE Grand Ave to NE Kane Drive
- (Fairview to Gresham – (NE 223rd Ave.) - NE Sandy Blvd to E Powell Blvd
- Forest Grove to Cornelius (Hwy 8) – Pacific/19th Ave to Cornelius
- NE Glisan - Sandy Blvd. to NE 102nd Ave
- N Going St.- N Interstate Ave to NE MLK
- NE Halsey St. - Hollywood to Troutdale, SW 257th Ave
- Hillsboro TC to Willow Creek MAX station – (E Main Street/W Baseline Rd) from SW Oak St (Hillsboro) to SW 185th Ave.
- Hillsboro to Aloha (Hwy 8) - Hillsboro UGB to SW 185th Ave
- Hillsboro to Cedar Mill –(NE Cornell Road) to SW Murray Blvd in Cedar Mill
- Holgate – 99 E to SE Powell Blvd. via 136th
- N/NE Killingsworth - N Greeley Ave to Cascade Hwy (NE 82nd Ave)Kruse Way
- N Lombard St., N Columbia- St John's Bridge, West end to NE Martin Luther King Blvd.
- Mississippi/Albina - Fremont and Vancouver to Mississippi to Lombard
- N 1st Ave.
- SW Naito/NW Naito Parkway - SW Barbur to Steel Bridge
- NE 25th/SE 32nd
- Portland to Damascus (SE Foster Rd.) SE Powell Blvd. to SE Sunnyside Rd.
- Powell Blvd. – Ross Island Bridge to Gresham
- Prescott – NE 42nd Ave to NE 122nd Ave
- Rosa Parks, Willamette Blvd (W. Portsmuth connection to Lombard) from N Vancouver Ave to N Richmond Ave.
- NE Sandy Blvd. - NE Couch to SW 257th Ave.
- SE 155th/Milmain
- SE 172nd – SE Foster to Hwy to Hwy 212
- SE 242nd Ave - SE Butler Rd. to SE Roberts Rd.
- SE 242nd/SE Hogan
- SE Stark St. (w/SE Washington couplet) SE 50th Ave to NE Kane Drive.
- SW 185th Ave. to PCC – (SW 185th Ave) Aloha at Hwy 8 to NW Springville
- SW 206th
- SW Cedar Hills Blvd. - Beaverton at SW Farmington Rd. to Hwy 26, Cedar Mill
- Swan Island to St John's Bridge – (Going, Greeley, N Peninsula, N Willis, N Alaska, Fesseden, N Lombard) Going St on Swan Island to St John's, Lombard and N Commando Ave.
- Troutdale to Gresham (NE Kane Drive, SW 257th) - NE Division St. to E Columbia River Hwy
- Vancouver/Williams – Rose Quarter to Rosa Parks
- Woodstock – SE 39th to SE Foster Rd.

Trails *with higher percentages of underserved populations within one mile in 2010:*

- Beaverton Creek Trail
- Clackamas River Greenway Trail

- Columbia Slough Trail
- Council Creek Trail
- East Buttes Power Line Corridor Trail
- Fanno Creek Greenway
- Gresham / Fairview Trail
- Highway 217 Trail
- Highway 47 Trail
- I-205 Corridor
- I-405 Trail
- I-84 Bike Path
- Kelley Creek Trail
- Kruse Way Path
- MAX Path
- Mt. Scott/Scouter Mountain Trails
- Pearl-Keeler Powerline Trail
- Peninsula Crossing Trail
- Phillips Creek Trail
- Southwest Portland Willamette Greenway Trail
- Springwater Corridor
- Sunrise Multi-Use Path
- Waterhouse Trail
- Westside Trail
- Willamette River Bridges

Current ATP conditions– completed, gaps and deficiencies

Pedestrian and bicycle routes and districts that make up the ATP network are listed in Appendix 1. Gaps and deficiencies for each route and district are identified. Also identified are projects in the Regional Transportation Plan that address a gap or deficiency.

Comment [LSM190]: Add miles of gaps and deficiencies.

Potentially move existing conditions maps here.

Add BCI bike map

The purpose of the gaps and deficiencies, or network status list, is to provide more detail on what is needed to complete the ATP pedestrian and bicycle networks. Historically, number of miles of gaps in the network has been the primary data for measuring needs for the regional active transportation network. Data for identifying gaps and deficiencies is provided by the ATP existing conditions analysis, local transportation system plans and the Regional Transportation Project list.

The ATP gaps and deficiencies list assigns a unique ID to each ATP route or district; identifies where they are located; the owner of the facility(ies); the route or district name and extent; the ATP functional classification and Regional Transportation Plan, adopted in 2010, map classification if any; the status of the route or district; related Regional Transportation Plan projects that address a gap or deficiency and ATP recommendations to address gaps and deficiencies.

Bicycle Comfort Index and Pedestrian Comfort Index

~~ATP Project List~~

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

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

Comment [LSM191]: This section replaced by the one above

Glossary

Comment [LSM192]: Terms have been added based on suggestions from work group. Additional terms may need to be added. Some terms have not yet had definitions added.

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

Accessibility – The ability or ease to reach desired goods, services, activities and destinations with relative ease, within a reasonable time, at a reasonable cost and with reasonable choices. Many factors affect accessibility (or physical access), including mobility, the quality, cost and affordability of transportation options, land use patterns, connectivity of the transportation system and the degree of integration between modes. The accessibility of a particular location can be evaluated based on distances and travel options, and how well that location serves various modes. Locations that can be accessed by many people using a variety of modes of transportation generally have a high degree of accessibility.

Active Living - Lifestyles characterized by incorporating physical activity into daily routines through activities such as walking or biking for transportation, exercise or pleasure. To achieve health benefits, the goal is to accumulate at least 30 minutes of activity each day.

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

*** Active transportation network –** combined network of streets, trails and districts identified on the regional transportation pedestrian and bicycle network maps and identified as pedestrian and bicycle parkways, regional bikeways, regional pedestrian corridors and regional pedestrian and bicycle districts, which include station communities. The active transportation network also includes frequent bus routes, all of which are designated as pedestrian parkways, and high ridership bus stops.

Arterial – A class of street. Arterials are intended to provide general mobility for travel within the region. Correctly sized arterials at appropriate intervals allow through trips to remain on the arterial system thereby discouraging use of local streets for cut-through travel. Arterial streets are usually spaced about one mile apart and are designed to accommodate bicycle, pedestrian, truck and transit travel.

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

Barrier – A condition or obstacle that prevents an individual or a group from accessing the transportation system or transportation planning process. Examples include a physical gap or impediment, lack of information, language, education and/or limited resources.

Bicycle – A vehicle having two tandem wheels, a minimum of 14 inches in diameter, propelled solely by human power, upon which a person or persons may ride. A three-wheeled adult tricycle is considered a bicycle. In Oregon, a bicycle is legally defined as a vehicle. Bicyclists have the same right to the roadways and must obey the same traffic laws as the operators of other vehicles.

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

***Bicycle comfort index (BCI) -** analyzes the auto volumes, auto speeds and number of auto lanes on existing bikeways and within defined 'cycle zones' and assigns a comfort rating to the bikeway. Generally off-street paths receive the highest rating because they are completemy separated from auto traffic. Results help identify existing bikeways on the regional bicycle network that could be upgraded to increase bicyclists comfort. Metro's BCI analysis was used in the existing conditions step of developing the ATP. Additional data would be useful to refine the tool.

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

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

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

***Bicycle Parkway** - A bicycle route designed to serve as a bicycle highway providing for direct and efficient travel for large volumes of cyclists with minimal delays in different urban and suburban environments and to destinations outside the region. These bikeways connect 2040 activity centers, downtowns, institutions and greenspaces within the urban area. The specific design of a bike parkway will vary depending on the land use context within which it passes through. These bikeways could be designed as an off-street trail along a stream or rail corridor, a cycletrack along a main street or town center, or a bicycle boulevard through a residential neighborhood.

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

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

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

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

***Congestion Mitigation and Air Quality Improvement (CMAQ) Program –** A federal transportation funding program. The MAP-21 provides just over $2.2 billion in CMAQ funding for each year of the authorization-2013 and 2014. While project eligibility remains basically the same, the legislation places considerable emphasis on diesel engine retrofits and other efforts that underscore the priority on reducing fine particle pollution (PM 2.5).

Complete Streets - a transportation policy and design approach where streets are planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation.

Creating Livable Streets handbook – Developed by Metro provides specific tools that complement strategies and policies identified in the Regional Transportation Plan and the 2040 Growth Concept. Street design elements such as sidewalks, crosswalks, bikeways, street trees, landscaping that separates the sidewalk from the street, street lighting, bus shelters and corner curb extensions provide a safer environment that can slow traffic and encourage walking, bicycling and transit use. Some of the designs are now outdated.

***Cycletrack –** Bicycle lanes that are physically separated from motor vehicle and pedestrian travel. A cycle track is an exclusive bike facility that has elements of a separated path and on-road bike lane. A cycle track, while still within the roadway, is physically separated from motor traffic and is distinct from the sidewalk. Cycle tracks may be one-way or two-way, and may be at

road level, at sidewalk level, or at an intermediate level. They all share in common some separation from motor traffic with bollards, car parking, barriers or boulevards.

***Cyclist** – person riding a bicycle

Environmental justice populations - People living in poverty, people with low-income as determined annually by the U.S. Department of Health and Human Services Low-Income Index, people of color, elderly, children, people with disabilities, and other populations protected by Title VI and related nondiscrimination statutes.

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

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

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

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

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

greenways differ from traditional greenways in that they general do not follow an open space corridor aside from local streets.

Health Impact Analysis (HIA) - A combination of procedures, methods, and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of these effects within the population.

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

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

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

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

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

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

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

Metropolitan Transportation Improvement Program(MTIP) - The MTIP includes all federally funded transportation projects in the Portland Metropolitan area, including projects planned by TriMet, the Oregon Department of Transportation and local agencies receiving federal funds allocated by Metro. The MTIP is incorporated in the Statewide Transportation Improvement Program (STIP), which identifies the state's four-year transportation capital improvements.

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

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

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

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

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

***Pedestrian comfort index (PCI)-** uses data such as auto volumes, auto speeds, number of auto lanes, sidewalk existence and width, number of pedestrian crossings on existing roadways and assigns a comfort rating for pedestrians. Results help identify roadways on the regional pedestrian network that could be upgraded to increase bicyclists comfort. Metro has collected and analyzed initial data for the regional pedestrian network but has not created a PCI. Additional data and analysis is needed.

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

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

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

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

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

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

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

Physically separated bicycle lanes– these types of facilities provide a physical buffer between a person riding a bicycle and auto traffic and can be referred to as cycle tracks, trails, paths and buffered bicycle lanes. Buffers can be provided by parked cars, landscaped strips, raised pavement, bollards, planters, etc.

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

***Regional bikeway** ~~(updated from current RTP definition)~~ – Designated routes that provide access to and within the central city, regional centers and town centers. These bikeways are typically located on arterial streets but may also be located on collectors or other low-volume streets. These bikeways should be designed using a flexible "toolbox" of bikeway designs,

including bike lanes, cycle tracks (physically separated bicycle lanes) shoulder bikeways, shared roadway/wide outside lanes and bicycle priority treatments (e.g. bicycle boulevards).

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

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

Regional Flexible Funds

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

Regional Trails and Greenways Map

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

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

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

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

Regional Conservation Strategy for the Greater Portland Vancouver Metropolitan Area, Intertwine and Metro - identifies high quality land and riparian areas in the region.

Right-of-way

***Road diets** - Road Diets are one way to reconfigure limited roadway space in a way that allows for the inclusion of wider sidewalks and separated bicycle facilities such as buffered bicycle lanes, which can provide space for all users to operate safely an in their own "zones". Road diets can have multiple safety and operational benefits for autos, as well as pedestrians and cyclists. On existing roadways, separated in-roadway facilities may be implemented by narrowing existing travel lanes, removing travel lanes, removing on-street parking or widening the roadway shoulder. If constraints, such as narrow existing right-of-way, prohibit providing optimally desired bicycle facility widths, then interim facility improvements can be used.

Regionally Significant Industrial Area (RSIA) – 2040 land use designation; RSIAs are shown on Metro's 2040 map. Industrial activities and freight movement are prioritized in these areas.

Regional Transportation Options (RTO)-

Regional Transportation Plan (RTP) and Network Maps

Safe Routes to School – Safe Routes to School is a national program that works to nationally, regionally and locally to create safe, healthy, and livable urban, suburban and rural communities. The program works with parents, school districts, local governments, government, police and community partners to make it easy and safe for kids to walk and bike to school.

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

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

Stakeholders – Individuals and organizations with an interest in or who are affected by the transportation planning process, including federal, state, regional and local officials and

jurisdictions, institutions, community groups, transit operators, freight companies, shippers, the general public, and people who have traditionally been underrepresented.

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

State Transportation Investment Plan (–STIP) - identifies the state's four-year transportation capital improvements.

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

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

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

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

Underserved communities – Populations that have historically experienced a lack of consideration in the planning and decision making process. It describes communities of concern in addition to those that are defined in the federal definition of Environmental Justice. These populations are seniors, persons with disabilities, youth, communities of color, low-income communities, and any other population of people whose needs may not have been full met in the planning process.

***Universal access-** Universal access is the goal of enabling all citizens to reach every destination served by their public street and pathway system. Universal access is not limited to access by persons using automobiles. Travel by bicycle, walking, or wheelchair to every destination is accommodated in order to achieve transportation equity, maximize independence, and improve community livability. Wherever possible, facilities are designed to allow safe travel by young, old, and disabled persons who may have diminished perceptual or ambulatory abilities. By using design to maximize the percentage of the population who can travel independently, it becomes much more affordable for society to provide paratransit services to the remainder with special needs.

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

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

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

***Wayfinding-** Wayfinding helps people traveling to orient themselves and reach destinations easily. Wayfiding includes signs, maps, street markings, and other graphic or audible methods used to convey location and directions to travelers.

List of Supplemental Reports and Materials

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

~~2.~~1 Existing Conditions, Findings and Opportunities Report, August 2012

~~3.~~2 Pedestrian Network Analysis Report, June 2013

~~4.~~3 Regional Bicycle Network Evaluation, April 2013

~~5.~~4 Benefits of Active Transportation & Considerations for Implementation, June 2013

~~6.~~5 Intertwine Trail Use Snapshot Report, June 2013

~~7.~~6 Active Transportation Survey Results, Opt-In Survey, October 2011

~~8.~~7 Stakeholder Communication Strategy for the ATP, February 2012

~~9.~~8 Regional Transportation Safety Plan, May 11, 2012

9 Metro State of Safety Report, April 2012

10 Bicycle Network Map Book

11 Pedestrian Network Map Book

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Appendices

1 ~~ATP Project List~~ Active Transportation Network Status - Completion, Gaps and Deficiencies

Lists bicycle and pedestrian routes and districts on the ATP networks. Identifies gaps and deficiencies in the network, 2014 Regional Transportation Plan projects that address gaps and deficiencies and recommends projects if no project is listed in the 2014 Regional Transportation Plan.

Comment [LSM193]: Workgroup members advised that this appendix is less of a project list and more of a status of the ATP network that provides direction on project needs

2 Planning Level Cost Estimate Assumptions for the ATP

Describes the assumptions and unit costs used to develop planning level costs for gaps and deficiencies on the ATP networks that do not currently have projects identified in the 2014 Regional Transportation Plan.

3 Transportation System Plans, Bicycle and Pedestrian Plans

List of state and local transportation system plans and bicycle and pedestrian and trail plans reviewed in development of the ATP.

4 Supporting Policies and Plans

Comment [LSM194]: New

5 List of Facility Design Resources

A list of design guides and other resources of best practices for developing bicycle and pedestrian facilities.

Comment [LSM195]: Suggested addition by workgroup. Will be added for public review copy

~~Glossary of Selected Terms~~

Appendix 1: ATP Network Completion, Gaps and Deficiencies

ATP ID #	RTP network	County	Jurisdiction(s)	Route or district facility owner	ATP bicycle and pedestrian route and district name	Route/district extent - from	Route/district extent -to	ATP functional classificaton and proposed RTP map designation	2010 RTP map designation	Status	Related RTP projects that address route/district gap or deficiency	Recommendations to address gap or deficiency
	Bike	Washington			Hall Blvd	SW Durham	Fanno Creek Trail (north intersection)	Regional Bikeway	Regional Bikeway		10630	
	Bike	Washington	Forest Grove	Forest Grove	B-Street	Hwy 47	19th Ave	Regional Bikeway	Regional Bikeway		10782	
T2	Bike/Ped	Washington	Forest Grove	Forest Grove	Hwy 47 Trail	Pacific Ave.	Hwy 47/B street	Bicycle/Pedestrian Parkway	New	Trail constructed; improvements needed	10783	Add projects for wayfinding, surface
B63	Bike	Clackamas	Oregon City	Oregon City	Oregon City spine, Bridge, 5th Ave, Warner Milne, Beavercreek Road	Oregon City Bridge	Beavercreek road past Community College	Bicycle Parkway		Parts of the route have bicycle lanes; improvments needed	None	Route signage, signals, increase seperation of cyclists and auto traffic.
B19	Bike	Clackamas	Clackamas County, Milwaukie	Clackamas County	Lake Road/ SE Harmony Rd/ SE Sunnyside Road	Trolley Trail (near SE McLoughlin and SE 17th)	Scouter Mtn. Trail	Bicycle Parkway	Regional Bikeway		10003 (Clackamas) Harmony Road Improvements, Hwy 224 to SE 84th, Widen to three lanes, add bike lanes and sidewalks where needed. 10094	Project to upgrade existing bicycle facilities from Oatfield to intersection with Scouter Mtn. Trail - current facilities have low BCI.
P54	Ped	Multnomah / Clackamas	Portland, Clackamas County	ODOT	SE 82nd Ave.	Clackamas RC at SE Sunnyside Rd.	NE Killingsworth	Pedestrian Parkway	Pedestrian Corridor		10014 (Clackamas County): Widen to add sidewalks, lighting, central median, planting strips and landscaping, Clatsop to Montery Ave. 10018 (Clackamas County): Improve multi-modal access within the Clackamas Regional Center (Montery to Sunnybrook); 10291 (Portland): Schiller to Portland City limits, Expand into fully curbed, 4-lane, 60-foot wide roadway w/ continuous left-turn lane, sidewalks, street trees, storm drainage improvements, street lighting, & ROW acquisition. 11326: ? 10187 (Portland): lents Center Improvements. 10228 (Portland) intersection at Columbia Blvd.	Add bus stop improvement projects. Add pedestiran sidewalk improvements

Appendix 1: ATP Network Completion, Gaps and Deficiencies

ATP ID #	RTP network	County	Jurisdiction(s)	Route or district facility owner	ATP bicycle and pedestrian route and district name	Route/district extent - from	Route/district extent -to	ATP functional classificaton and proposed RTP map designation	2010 RTP map designation	Status	Related RTP projects that address route/district gap or deficiency	Recommendations to address gap or deficiency
P27	Ped	Clackamas /Multnomah	Portland, Milwaukie, Oregon City, Clackamas and Multnomah Counties	ODOT	McLoughlin Blvd. /99E	SE Powell Blvd., Portland	UGB (Old Canemah Park), Oregon City	Pedestrian Parkway	Pedestrian Corridor		10024 Milwaukie to Gladstone (Clackamas Co); 10118 10th to Railroad tunnel in Oregon City (Oregon City); 10146 Dunes Drive to Clacakams River Bridge;(Oregon City); 11186 S 2nd Street to UGB (Oregon City); 11189 multi use path from Singer Hill to Tumwater in Oregon City (Oregon City); 11198 shared-use path in the McLoughlin right-of-way between 17th Avenue and the Springwater Corridor Trail, (Portland); 10145 upgrade to Blvd from 10th t0 1-205 (Oregon City). 10098 (Milwaukie) Kellogg creek Bridge to River Road, Construct sidewalks and bike lanes, median strips, planter strips, and pedestrian scale lighting. Reconfigure or construct new signal for entrance to Riverfront Park.	Add project(s) for bike and ped improvments consistent with the Mcloughlin Area Plan
	Bike	Multnomah/ Clackamas	Portland, Milwaukie, Clackamas County, oregon City	ODOT	McLoughlin Blvd. /99E	SE Powell Blvd., Portland	UGB (Old Canemah Park), Oregon City	Regional Bikeway	Regional Bikeway		10024 Milwaukie to Gladstone (Clackamas Co); 10118 10th to Railroad tunnel in Oregon City (Oregon City); 10146 Dunes Drive to Clacakams River Bridge;(Oregon City); 11186 S 2nd Street to UGB (Oregon City); 11189 multi use path from Singer Hill to Tumwater in Oregon City (Oregon City); 11198 shared-use path in the McLoughlin right-of-way between 17th Avenue and the Springwater Corridor Trail, (Portland); 10145 upgrade to Blvd from 10th to 1-205 (Oregon City). RTP projects listed include ped/bike improvements, access to transit and sections of multi-use paths.	Add project(s) for bike and ped improvments consistent with the Mcloughlin Area Plan
	Ped	Multnomah			SW Stafford Rd.	N State Street, via McVey Rd	SW Borland Rd.	Regional Pedestrian Corridor	NEW (urban arterial)		10029 (Clackamas) - Stfford Rd. Improvements, I-205 to Rosemont, widen to 3 lanes and include bike and ped.	Also regional Bikeway and urban arterial
B62	Bike	Clackamas	Clackamas County	Clackamas County	SW Stafford Road	Willamette River Trail via McVey	Tualatin River Greenway	Bicycle Parkway	Regional Bikeway		10029 (Clackamas) - Stfford Rd. Improvements, I-205 to Rosemont, widen to 3 lanes and include bike and ped. Related project 10132 (Wilsonville) Boeckman Road - I-5 overcrossing improvements - Stafford Road connection	Needs project for segment from Rosemont to to Willamette River Trail and I-205 to I-5 Trail in Wilsonville. Add bike elements to RTP 10030 - I-205 to Boeckman Road. Include route signage, signals. May be developed as on-street or parallel trail.
P72	Ped	Clackamas	Clackamas	Clackamas	Clackamas Hwy	Hwy 212-224	Eagle Creek Hwy	Pedestrian Parkway	Pedestrian Corridor		10041 (Clackamas Co.): Construct a new 2-2 lane roadway with intersection improvements at Hwy-212 and 162nd. 11349 (ODOT): Construct 3rd WB lane on HWY 212. 10061 (Clackamas Co.): Widen to 3 lanes to address safety and improve connectivity	
T44	Bike/ped	Clackamas	Clackamas County	Clackamas County	Phillips Creek Trail			Regional Pedestrian Corridor/Bikeway	Regional Trail		10067 (Clackamas Co.): build trail through Clackamas Town Center for access to light rail. Related project: 10069 (Gresham): Build trail linking Gresham and the	
T48	Bike/ped	Clackamas	Gresham	Gresham	East Buttes Power Line Corridor Trail			Bicycle/Pedestrian Parkway	Regional Trail		10069 (Gresham): trail within Gresham city limits	

Appendix 1: ATP Network Completion, Gaps and Deficiencies

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T49	Bike/Ped	Clackamas	Clackamas	Clackamas	Mt. Scott/Scouter's Mt. Trails			Bicycle/Pedestrian Parkway	Regional Trail		10070 (blank): trail connecting Mt. Talbert with Springwater. 10071 (blank): trail to/on Scouter's Mt. Although the start and end locations are Springwater Corridor. 10082 (Happy Valley): improvements to streets leading to Mt. Scott but no mention of bike/ped facilities.	
T46	Bike/Ped	Clackamas	Lake Oswego, Milwaukie	Lake Oswego, Milwaukie	Lake Oswego to Milwaukie Trail (Bridge) across the Willamette River	lake Oswego	Milwaukie	Bicycle/Pedestrian Parkway	Regional Trail		10085 (Lake Oswego): Build bridge linking Lake Oswego to Milwaukie.	
T39	Bike/Ped	Clackamas	Milwaukie, Gladstone, Clackamas	North Clackamas Park and	Trolley Trail	17th Ave (connects to 17th Ave Path)	Oregon City, including proposed bridge connecting to	Bicycle/Pedestrian Parkway	Regional Trail		10085 (Lake Oswego): Build trail linking Lake Oswego to Milwaukie. 10151 (Oregon City): Regional trail would connect the proposed Trolley Trail to the	
T25	Bike/Ped	Clackamas /Multnomah	Portland/Lake Oswego	ODOT	Portland to Lake Oswego Willamette Greenway Trail/Hwy 43 Corridor	Ross Island Bridge	Lake Oswego, A Ave	Bicycle/Pedestrian Parkway	Regional Trail		10087 (Lake Oswego): Portland to Lake Oswego trail along the river. 11172 (Lake Oswego): Hwy 43 bike connection, Terwilliger to McVey, Bike Lanes north and south bound. Improve access and connectivity to the Foothills area to enhance the future operation of the streetcar. 11286 (Lake Oswego) G Ave. to 500 ft. past Terwilliger, Improve bike/ped and vehicular access and safety. 10127 (West Linn) Holly St. to Arbor Dr., fill bike and ped gaps.	Bicycle and pedestrian improvements along Hwy 43
P67	Ped	Clackamas /Multnomah	Portland, Milwaukie, Clackamas	Portland, Milwaukie, Clackamas	SE Harrison/Milwaukie Expressway/SE Harmony/SE Sunnyside/SE Lake Rd./SE McLoughlin	SE McLoughlin Blvd (99E) at Holgate, with loop around Eastmoreland to SE 46th Ave.	I-205 Clackamas TC	Pedestrian Parkway	Pedestrian Corridor		10094 (Milwaukie) Lake Rd. Improvements SE 21st to Hwy 224 - address gap in bike and ped system. 1000 (Clackamas County) grade separated crossing of UPRR at Harmony and Linwood. Related project - 10109 Kellog Creek Bike/Ped Bridge	Project for sidewalks and ped improvements on SE Harmony from Lake Road to SE Fuller. Add project(s) for bike and ped improvments on McLoughin consistent with the Mcloughlin Area Plan. Project on Milwaukie Expressway (Hwy 224) (See RTP 11350).
	Bike	Clackamas	Milwaukie	Milwaukie	Monroe Bicycle Boulevard	Trolley Trail	Sellwood Ave	Regional Bikeway	NEW?		10099: (Milwaukie) 21st Ave to Linwood Ave.	None
P26	Ped	Clackamas	Oregon City	Oregon City	Molalla Ave	99E/7th Ave Oregon City	Hwy 213	Pedestrian Parkway	Pedestrian Corridor		10121 (Oregon City): OC transit center to Clack Comm College - improve access to transit. 10125 (Oregon City): Beavercreek to Hwy 213, phase 4 Streetscape improvements. 10124(Oregon City): phase 3 streetscape improvements	None
T17	Bike/Ped	Clackamas	Lake Oswego, West Linn, Clackamas County	Lake Oswego, West Linn, Clackamas County	Lake Oswego to West Linn Trail - Willamette River Greenway Trail			Regional Pedestrian Corridor/Bikeway	Regional Trail		10129 (West Linn)	Segments of trail built.

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T45	Bike/Ped	Clackamas	Oregon City	Oregon City	Oregon City Loop			Regional Pedestrian Corridor/Bikeway	Regional Trail		10148 (Oregon City): regional trail would generally follow Oregon City UGB. 10147 (Oregon City): regional trail to follow Oregon City-Molalla interurban railroad bench on east side of Newell Creek Canyon. 10149 (Oregon City): regional trail from Clackamas Community College to Beaver Lake. 11187 (Oregon City): sidewalk infill improvements	Possibly, but the loop is an extensive project spanning multiple street segments.
D73	Bike	Multnomah	Portland	ODOT, Portland, Multnomah	St. Johns Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10182(Portland): improve access to transit	
D60	Bike	Multnomah	Portland	Portland	Lents Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10187 (Portland): Implement Lents Town Center Business District Plan with new traffic signals, pedestrian amenities, wider sidewalks, pedestrian crossings, street lighting, and on-street parking as appropriate. 10185 (Portland): Implement Lents Town Center Business District Plan with new traffic signals, pedestrian ameneities, wider sidewalks, pedestrian corssings, street lighting, increased on-street parking. 10186 (Portland): Implement Lents Town Center Business Distric Plan with new traffic signals, pedestrian amenities, wider sidewalks, pedestrian crossings, and street lighting.	
B15	Bike	Washington / Multnomah	Portland/ Beaverton	Portland/ Beaverton	SW Scholls Ferry Road/SW Oleson Rd	Schools Ferry from Hwy 26 to BH Hwy	SW Oleson from BH Hwy to Hall Blvd.	Bicycle Parkway	Regional Bikeway		10188: Humphrey to County line, multimodal improvements. Upgrade existing bike lanes on SW Oleson from Hall to BH Hwy	Need project from County line to Beaverton Hillsdale Hwy. Bike lanes on Schools Ferry from Hwy 26 to Sheridan.
P51	Ped	Multnomah	Portland, Gresham	Portland, Gresham	Division	SE Grand Ave. (99E)	NE Kane Drive.	Pedestrian Parkway	Pedestrian Corridor		10192: (Portland) SE 6th to SE 39th, Streetscape improvement; 10193: (Portland) grand to SE60th, multi-modal improvements; 10290 (Portland) Division St., SE (I-205 - 174th): Multimodal Improvements, Phase II; 10440: (Gresham) Wallula to West City limits, multi-modal improvements	
B21	Bike	Multnomah	Portland	Portland	SE Division Street	SE 50th	I-205 Path	Bicycle Parkway	Regional Bikeway		10193: (Portland) Grand to SE 60th, multi-modal improvements	

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P43	Ped	Multnomah	Portland	Portland	Interstate Ave	Steel Bridge	Hayden Island	Pedestrian Parkway	Pedestrian Corridor		10194: Construct street improvements to improve pedestrian connections to Interstate MAX LRT and to establish a main street character promoting pedestrian-oriented activities.	
B16	Bike	Multnomah	Portland	Portland	Downtown Portland Parkways			Bicycle Parkway	Regional Bikeway		10232: Bicycle Facility on Flanders, NW (Steel Bridge to Westover)	
T31	Bike/Ped	Multnomah	Portland, Fairview, Troutdale, Port of Portland	Portland, Fairview, Troutdale, Port of Portland	Columbia Slough Trail			Regional Pedestrian Corridor/Bikeway	Regional Trail		10234 (Portland)	Fills gaps in system
B20	Bike	Multnomah	Portland	ODOT/ Portland	SE Powell/ Foster	SE 17th Ave	I-205 Path	Bicycle Parkway	NEW		10259 (Portland): Ross Island Bridge to SE 92nd. Retrofit existing street with multimodal and safety improvements including enhanced pedestrian and bicycle crossings, pedestrian and bike activated signals, median islands with trees, redesign of selected intersections and stormwater management facilities	
P57	Ped	Multnomah	Portland, Gresham	ODOT	SE to SW Powell Blvd	Ross Island Bridge (W end)	Gresham, intersection with Burnside	Pedestrian Parkway	Pedestrian Corridor		10259 (Portland): Ross Island Bridge to SE 92nd. Retrofit existing street with multimodal and safety improvements including enhanced pedestrian and bicycle crossings, pedestrian and bike activated signals, median islands with trees, redesign of selected intersections and stormwater management facilities. 10858 (Portland) intersection of 174th and Powell	120th to 180th
	Bike	Multnomah	Portland	ODOT	SE Powell Bikeway	SE 52nd	I-205 Multi-use path	Regional Bikeway	NEW		10259 (Portland): Ross Island Bridge to SE 92nd. Retrofit existing street with multimodal and safety improvements including enhanced pedestrian and bicycle crossings, pedestrian and bike activated signals, median islands with trees, redesign of selected intersections and stormwater management facilities	
B34	Bike	Multnomah	Portland	Portland	Going Street	Interstate	Basin	Bicycle Parkway	Regional Bikeway		10267: Interstate to Basin	
P31	Ped	Multnomah	Portland	Portland	Capitol Hwy	SW 49th Ave. in West Portland	SW Macadam Ave (Hwy 43)	Pedestrian Parkway	Pedestrian Corridor		10273: (Portland) Capitol Hwy, SW (Terwilliger - Sunset): Multi-modal Improvements - Construct sidewalks, crossing improvements for access to transit and bike improvements, and install left turn lane at the Capitol/Burlingame intersection.	
D22	Bike	Multnomah	Portland	ODOT, Portland, Multnomah	Hillsdale Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10274 (Portland), 10278 (Portland):improvemetns to Hillsdale district. RTP projects cover Portland segments.	
	Bike	Multnomah	Portland	Portland	Beaverton Hillsdale Hwy	SW Oleson Road	SW Barbur Blvd.	Regional Bikeway	Regional Bikeway		10274 (Portland), 10278 (Portland):improvemetns to Hillsdale district. RTP projects cover Portland segments. Project(s) needed for rest of corridor, 10279	

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P11	Ped	Washington /Multnomah	Portland, Beaverton, Washington County	ODOT	HWY 10 (Beaverton Hillsdale Hwy) and 185th and SW Farmington Triangle	SW 185th to Kinnaman at SW Farmington	SW Farmington, Beaverton Hillsdale Hwy to SW Capitol Hwy	Pedestrian Parkway	Pedestrian Corridor		10274, 10279. RTP: Beaverton-Hillsdale /Bertha/Capitol Hwy, SW: Intersection Improvements. 10278: improvemetns to Hillsdale district	Need project on BH between Beaverton and Portland.
B14	Bike	Washington / Multnomah	Portland, Tigard, Washington County	ODOT	Barbur Blvd. /Pacific Hwy (99 W)	Portland	Tonquin Trail in Sherwood	Bicycle Parkway	Regional Bikeway		10283 (Portland): Construct Improvements for transit, bikes and pedestrians. Transit improvements include preferential signals, pullouts, shelters, left turn lanes and sidewalks. SW 3rd-Terwilliger. 11205 (Portland): SW Portland sidewalk infill includes Barbur; 10282 (Portland): Construct safety improvements, including traffic signals, at the intersection of Capitol Hwy, Taylors Ferry, Huber, and Barbur. Provide better sidewalks and crossings. 11324 (Portland): Barbur Bridges. 10287 (Portland) improvements to West Portland town center	Upgrade exisitng bike lanes, complete bridges.
D21	Bike	Multnomah	Portland	Portland	West Portland Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10287: (Portland), West Portland Town Center, SW: Pedestrian Improvements	
	Bike	Multnomah	Portland, Gresham	Portland, Gresham	Division Street	I-205 Path	NE 223rd Ave	Regional Bikeway	Regional Bikeway		10290 (Portland) Division St., SE (I-205 - 174th) Multimodal Improvements, Phase II; 10440: (Gresham) Wallula to West City limits, multi-modal improvements	
D58	Bike	Multnomah	Portland	Portland	Division St. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		10290 (Portland) Division St., SE (I-205 - 174th): Multimodal Improvements, Phase II	
P44	Ped	Multnomah	Portland	ODOT	Lombard	St John's Bridge, West end	NE MLK	Pedestrian Parkway	Pedestrian Corridor		10299 (Portland): Lombard, I-5 to N Denver, Establish a landscaped boulevard to promote pedestrian-oriented uses and to create a safe, pleasant pedestrian link over I-5 w/ new traffic light and road access to Fred Meyer development.	
P82	Ped	Multnomah	Portland	ODOT, Portland	Going, Greeley, N Penninsula, N Willis, N Alaska, Fesseden, N Lombard	Going St on Swan Island	St Johns; Lombard and N Commando Ave	Pedestrian Parkway	Pedestrian Corridor		10299 (Portland): Lombard, I-5 to N Denver, Establish a landscaped boulevard to promote pedestrian-oriented uses and to create a safe, pleasant pedestrian link over I-5 w/ new traffic light and road access to Fred Meyer development.	

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D42	Bike	Multnomah	Portland	Portland	Prescott Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		10300: Prescott station area improvements	
P48	Ped	Multnomah	Portland	Portland	Prescott	NE 42nd Ave.	NE 122nd Ave.	Pedestrian Parkway	Pedestrian Corridor		10300: Prescott station area improvements	
P61	Ped	Multnomah	Portland	Portland	Holgate	99E (McLoughlin)/ Springwater Corridor Trail	SE 136th	Pedestrian Parkway	Pedestrian Corridor		10306: (Portland) SE 39th to SE 52nd, improve pedestrian facilities	Sidewalk gaps east of SE 120th
	Bike	Multnomah	Portland	Portland	Holgate	99E (McLoughlin)/ Springwater Corridor Trail	SE 136th	Regional Bikeway	Regional Bikeway		10307: (Portland) McLoughlin to SE 39th, bicycle facilities10305 and 10306: (Portland) SE 39th to SE 52nd and SE 52nd to I-205, improve bicycle facilities.	
T20	Bike/Ped	Washington /Multnomah	Portland, Washington County	Portland, Washington County	Red Electric Trail (Fanno Creek Trail)	SW Oleson Rd.	Willamette River Greenway	Bicycle/Pedestrian Parkway	Regional Trail		10354 (Portland) - SW Dover to Willamette Park, construct trail	Need projects for rest of route
	Bike	Multnomah	Gresham	Gresham	NW Division Street	NE kane Drive (257th)	UGB	Regional Bikeway	Regional Bikeway		10422(Gresham) 257th to 268th, multi-modal improvements	
P70	Ped	Clackamas	Clackamas County	Clackamas County	SE 222nd Dr	Between SW Butler and SE Borges Rd	Hwy 212 (Clackamas Boring Hwy)	Pedestrian Parkway	Pedestrian Corridor		10427 (Gresham): add ped/bike facilities, improves Regner/Butler intersection	
D67	Bike	Multnomah	Gresham	Gresham, ODOT, Multnomah	Gresham Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10429 (Gresham) Powell Valley area improvements	
T54	Bike/Ped	Multnomah	Gresham	Gresham	Gresham / Fairview Trail			Bicycle/Pedestrian Parkway	Regional Trail		10437 (Gresham)	
	Bike	Washington	Washington County	Washington County	NW Cornell Road	NW Saltzmann	NW 24th Ave	Regional Bikeway	Regional Bikeway		10558: project from 113th to 107th	
	Ped	Washington	Beaverton		NW Cornell Road	NW Saltzmann	NW Miller Road	Regional Pedestrian Corridor/Bikeway	New (RTP arterial)		10558: project from 113th to 107th	
P6	Ped	Washington	Hillsboro		NE Cornell/NW Cornell	Hillsboro , E Main St.	Cedar Mill at SW Murray Blvd.	Pedestrian Parkway	Pedestrian Corridor		10559, 11090, 10824. RTP projects: Widen to 5 lanes	
B7	Bike	Washington	Beaverton	Beaverton	NW Cornell/SW Barnes	Evergreen	Hwy 26 Multi Use Path connection	Bicycle Parkway	Regional Bikeway		10559: widen to 5 lanes from Murray to Hwy 26	
P18	Ped	Washington	Washington County	Washington County	Scholls Ferry Rd (Hwy 210)	SW Murray Blvd.	Beaverton Hillsdale Hwy (Hwy 10)	Pedestrian Parkway	Pedestrian Corridor		10577: Road widening with bike lanes and sidewalks from BH Hwy to Allen Blvd.	
	Bike	Washington	Washington County	Washington County	SW Schools Ferry Road	Beaverton Hillsdale Hwy	SW Hall Blvd.	Regional Bikeway			10577: Road widening with bike lanes and sidewalks from BH Hwy to Allen Blvd.	
B2	Bike	Washington	Washington County	Washington County	NW Evergreen	NE Jackson School Rd.	NW Cornell Road	Bicycle Parkway	Community Bikeway		10597, 10814	Consider adding bikeway project
D14	Bike	Washington	Beaverton	Beaverton	Beaverton Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10619/10616: Biggi extension, crescent St. Multi-modal extension; 10646: Hall Blvd. / Watson Ave.	
B10	Bike	Washington	Beaverton	Beaverton	SW Hall Blvd	SW Broadway	Fanno Creek Trail, south of Hunziker	Bicycle Parkway	NEW (Crescent Connection		10619: Crescent extension, 11220	Critical on road section of the Crescent Connection.
B8	Bike	Washington	Beaverton	Beaverton	SW Cedar Hills BLvd.	SW Barnes	Walker	Bicycle Parkway	Community bikeway		10634: Farmington to Walker	

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P14	Ped	Washington	Beaverton		SW Cedar Hills Blvd.	Beaverton at SW Farmington Rd.	Hwy 26, Cedar Mill	Pedestrian Parkway	Pedestrian Corridor		10634: Walker to Farmington	
P16	Ped	Washington	Beaverton, Tigard, Tualatin		Hall Blvd; includes SW Hunzikier Rd spur; via Washington Square and Tigard	SW Farmington	SW Sagert St.	Pedestrian Parkway	Pedestrian Corridor		10646: Hall Blvd. / Watson Ave., add pedestrian improvements at intersections and amenities (lighting, plazas). RTP 11220: Tigard, Locust to Durham. 10630:	
B11	Bike	Washington	Beaverton	Beaverton	SW Greenway/SW Brockman/ SW Beard/SW Nora	Hall Blvd /Fanno Creek Trail	Westside Trail	Bicycle Parkway	Community Bikeway		10654:Project on Nora, sidewalks/ bikelanes; exisitng bikelanes on Broackman and Beard	
P21	Ped	Washington /Multnomah	Portland, Tigard, Washington County, Multnomah	ODOT	99 W/ Barbur Blvd. (Tigard to Portland)	SW Hall Blvd (as Pacific Coast Hwy)	Downtown Portland, Hawthorne Bridge	Pedestrian Parkway	Pedestrian Corridor		10703 (Portland), 11324 (Portland): Barbur Bridges. 10287 (Portland) improvements to West Portland town center.	Projects for sidewalks and pedestrian improvmeents/access to transit. Many included in SW Corridor plan.
P20	Ped	Washington	Sherwood, Tigard, Washington County	ODOT	Pacific Coast Hwy (99 W) - Sherwood to Tigard	Tualatin Sherwood Road	SW Hall Blvd (Tigard)	Pedestrian Parkway	Pedestrian Corridor		10703: Pedestrian upgrades, new sidewalks, sidewalk infill a Old Pacific Hwy. connecting to Sherwood town center. 10707 (Sherwood)Ped/bike bridges over 99W at Sunset, Meinecke, Edy. 10706 (Sherwood) gaps in ped system on 99 W. 10743 (Tualatin) Install sidewalks from Cipole to Tualatin River.	
T10	Bike/Ped	Washington /Clackamas	Tualatin, Washington County	Tulatain	Tualatin River Greenway Trail (segment)	Westside Trail	Willamette falls Drive	Bicycle/Pedestrian Parkway	Regional Trail		10742: (Tualatin) Ped/bike bridge over the river at SW 108th Ave connecting trail to neighborhoods	
T9	Bike/Ped	Washington / Multnomah	Washington County, Beaverton, Tigard, King City, Portland, THPRD, Clean Water Services,	THPRD, Tigard, Washington County	Westside Trail	Rock Creek Trail (south of NW Springville Road)	99W/Tualatin River Greenway Trail	Bicycle/Pedestrian Parkway	Regional Trail		10766: (Tigard) trail gaps in multiple regional trails. 10810: (THPRD) complete trail from Hwy 26 to THPRD nature park. 10813 (THPRD): complete trail Farmington to Scholl's Ferry Road. 11134 THPRD): complete trail from Bronson Creek to Rock Creek Trail. 11210 (THPRD) grade separated crossing of trail at TV Hwy. 11211 (THPRD) bridge crossing of Hwy 26. 11212 (THPRD) crossing of Farmington Road. 11213 (THPRD) bridge crossing of Scholl's Ferry Road. 11214 (THPRD) Westside Trail/Watershouse Trail Connection	Clarify locations for RTP 10766. Add missing project for segments through Washington County.
D1	Bike	Washington	Forest Grove	Forest Grove	Forest Grove Bicycle and Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10784, 10783, 10782, 10781: RTP projects improve connectivity to the town center, additional projects needed within town center to fill sidewalk and bikeway	
P1	Ped	Washington	Forest Grove, Cornelius, ODOT	ODOT, Forest Grove, Cornelius	Pacific Ave, 19th Ave; N Adair St./Baseline St.	Forest Grove, C St.	Cornelius - to Hillsboro city limits	Pedestrian Parkway	Pedestrian Corridor		10805 (Cornelius) ped sidewalk infill on TV hwy. 11094 (Foreset Grove) Boulevard/pedestrian treatments in sidewaklks on baseline. 10779, 10846.	

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T1	Bike/Ped	Washington	Forest Grove, Cornelius, Hillsboro, Washington County,	Forest Grove, Cornelius, Hillsboro, Washington County,	Council Creek Trail	NW Thatcher Road (connects to segment to Banks)	TV Hwy	Bicycle/Pedestrian Parkway	Regional Trail		10806: Master lanning for trail underway	project needed for next phase of development.
T4	Bike/Ped	Washington	Hillsboro, Washington County /Aloha, Beaverton	THPRD	Beaverton Creek Trail	SW Broadway	SW Jenkins	Bicycle/Pedestrian Parkway	Regional Trail		10811 (THPRD)	
T4	Bike/Ped	Washington	Beaverton	THPRD	Beaverton Creek Trail	SW Cornelius Pass Road	SW Jenkins	Regional Pedestrian Corridor/Bikeway	Regional Trail		10811 (THPRD)	None
B1	Bike	Washington	Washington County	Washington County	Jackson School Road	Evergreen	Council Creek Trail/TV Hwy	Bicycle Parkway	New		10826: Road project	Roadway will be improved in next five years; consider adding bike/ped project to road project.
B4	Bike	Washington	Hillsboro	Hillsboro	NE Grant/NE Veterans	NE Jackson School Rd.	Brookwood	Bicycle Parkway	NEW		10833: construct new road connecting to Brookwood.	Project for upgrading Grant needed.
B3	Bike	Washington	Cornelius, Hillsboro, Beaverton, Aloha	ODOT	Tualatin Valley Hwy (Hwy 8)	Council Creek Trail (TV Hwy Trail) connection at S 1st Ave	Westside Trail	Bicycle Parkway	Regional Bikeway		10846: project covers Hillsboro section. Related project: 11210 (THPRD) grade separated crossing of TV Hwy by Westside Trail	new project(s) needed to address continuous bicycle parkway connecting jurisdictions. Segments of corridor may be updated with refined parallel routes.
T18	Bike/Ped	Clackamas	Lake Oswego, Clackamas County	Lake Oswego, Clackamas County	Lake Oswego Willamette River Trail			Regional Pedestrian Corridor/Bikeway	Regional Trail		11044-(Metro) develop master plan for project	Some parts of trail are built. Need project development project
	Bike	Clackamas /Multnomah	Lake Oswego/Portland	Lake Oswego/Portland	SW Boones Ferry Road/SW Taylors Ferry Road	Iron Mtn. Road	SW Macadam	Regional Bikeway			11081: bike lanes to north city limits. 10308:Terwilliger - City Limits, Bikeway	
	Bike	Washington	Hillsboro	Hillsboro	NE CornellRoad/10th Ave.	NW 206th Ave.	TV Hwy	Regional Bikeway	Regional Bikeway		11090, 10824: project from Baseline to 25th, and Arrington to Main	
D2	Bike	Washington	Cornelius	Cornelius	Cornelius Bicycle and Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		11095, 10785, 10788, 10795, 10796, 10797, 10798, 10799, 10800, 10801, 10802. RTP projects: main street improvements and road extensions; RTP 10804: bike lanes on 50 blocks. Consider separate bike/ped distirct improvements	
B6	Bike	Washington	Hillsboro	Hillsboro	Brookwood	Evergreen	Rock Creek Trail	Bicycle Parkway	Regional Bikeway		11140: project includes parallel bicycle path.	Extend project to include extent of Parkway.
	Ped	Washington	Hillsboro		Brookwood	Hwy 26	TV Hwy	Regional Pedestrian Corridor/Bikeway	NEW		11140: project includes pedestrian path from Ihly to Cornell. Extend project to include extent of Parkway.	
	Bike	Clackamas	Milwaukie	Milwaukie	SE 29th & SE 40th	SE King Road	Springwater Corridor Trail	Regional Bikeway	Regional Bikeway		11174: project for adjacent streets, not Regional Bikeways: 29th/40th/42nd Bike Boulevard Intersection Improvements	

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D33	Bike	Clackamas	Oregon City	Oregon City	Oregon City Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		11185 (Oregon City): Downtown Ped Improvements. Sidewalk, ramp, and streetscape. 10122 (Oregon City): Oregon City TMA Startup Program, implements a transportation management association program with employers.	
B12	Bike	Washington	Beaverton/ Portland	Beaverton/ Portland	Scholls Ferry Rd.	Tile Flat	Hall Blvd.	Bicycle Parkway	Regional Bikeway		11213:Bridge crossing of Scholls Ferry Road by the Westside Trail.	Need project from Westside trail to Tile Flat. Upgrade existing bike lanes from Hall to Westside Trail.
B5	Bike	Washington	Washington County	Washington County	NW Walker	Amberglen	SW Canyon Road	Bicycle Parkway	Community bikeway		11233, 11235: projects widens Walker from two to five lanes with bike lanes from 185th to Hwy 217.	Update project to include bicycle parkway.
T47	Bike/Ped	Clackamas	Clackamas County	Clackamas County	Sunrise MultiUse Path	I-205	Rock Creek Junction	Bicycle/Pedestrian Parkway	NEW		11347 (Clackamas County) Sunrise Multi-Use Path	Add bike as secondary mode to RTP project list. Add multi-use path to ODOT project 11301 to ensure that project is completed with throughway project.
B13	Bike	Washington /Multnomah	Portland/ Multnomah County	Portland	Multnomah Blvd./SW Garden Home	SW Oleson	SW Barbur	Bicycle Parkway	Community bikeway		11351: Reconstruct street to urban standards, including curbs, sidewalks, storm sewers and upgraded street lights, Barbur to 45th Ave.	Upgrade exisitng bike lanes.
P25	Ped	Clackamas /Multnomah	Lake Oswego, Portland, Oregon City, Clackamas County	ODOT	Hwy 43 - Portland to Oregon City	99E in Oregon City	SE Powell Blvd. (Hwy 26)	Pedestrian Parkway	Pedestrian Corridor		1172 (Lake Oswego): Terwilliger to McVey, Bike Lanes north and south bound. Improve access and connectivity to the Foothills area to enhance the future operation of the streetcar. 11286 (Lake Oswego) G Ave. to 500 ft. past Terwilliger, Improve bike/ped and vehicular access and safety	
	Ped	Multnomah			SE 242nd/SE Hogan (segment)	NE sandy Blvd	SE Lusted Rd	Regional Pedestrian Corridor	NEW		Bicycle Parkway and urban arterial	
	Ped	Washington	Washington County, Hillsboro		N 1st Ave.			Regional Pedestrian Corridor	NEW		Bicycle Parkway and urban arterial	
	Ped	Washington	Washington County	Washington County	NW Evergreen			Regional Pedestrian Corridor	NEW		Bicycle Parkway and urban arterial	
	Ped	Washington	Beaverton	Beaverton	B-5 SW Brockman/SW Beard	Westside Trail	Hall Blvd.	Regional Pedestrian Corridor	NEW		Bicycle Parkway and urban arterial	
	Ped	Washington /Multnomah	Beaverton	Beaverton	SW Scholls Ferry Rd.	Hwy 26	Hillsdale Hwy	Regional Pedestrian Corridor	NEW		Bicycle Parkway and urban arterial	
	Ped	Multnomah			SE 155th/Milmain SE 162nd Ave	I-84 Trail	SE powell	Regional Pedestrian Corridor	New		Commu nity Bikeway and urban arterial	
T22	Ped	Multnomah	Portland	Portland	Marquam Trail (Pedestrian Only)			Regional Pedestrian Corridor/Bikeway	NEW		Constructed	Constructed

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B38	Bike	Clackamas	Milwaukie	Milwaukie	SE King Road/SE Harrison	I-205 Path	Trolley Trail	Bicycle Parkway	Regional Bikeway; extension to I-205 path is new		None	Project to upgrade existing facilties, including connection to I-205 trail, crossings at SE 82nd Ave, and SE Harrison Ave connections into the Trolley Trail. Route signage, signals.
BTF1	Bike	Clackamas	TriMet	TriMet	PMLR Park Ave. Bicycle transit facility			Bicycle transit facility	NEW		None	Add project.
BTF2	Bike	Clackamas	TriMet, Milwaukie	TriMet	PMLR Milwaukie TC Bicycle transit facility			Bicycle transit facility	NEW		None	Add project
D25	Bike	Clackamas	Lake Grove	Lake Grove	Lake Grove Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		None	
D26	Bike	Clackamas	Lake Oswego	Lake Oswego	Lake Oswego Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		None	
D32	Bike	Clackamas	West Linn	West Linn	West Linn - Bolton Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		None	
D52	Bike	Multnomah	Portland	ODOT, Portland, Multnomah	NE 82nd Ave. Station Bicycle/Pedestrian District	On Red Line MAX at SE 82nd and I-84		Bicycle/Pedestrian District	Pedestrian District		None	
P23	Ped	Clackamas	Tigard	Tigard	Kruse Way	Tigard at I-5	Boones Ferry Rd.	Pedestrian Parkway	Pedestrian Corridor		None	
P66	Ped	Clackamas	Clackamas County	Clackamas County	Johnson Creek Blvd.	SE Harney Drive	SE 92nd Ave	Pedestrian Parkway	Pedestrian Corridor		None	
T13	Bike	Washington /Clackamas	Tigard	Tigard	Kruse Way Path (segment)	Iron Mountain Road	SW Bonita	Bicycle/Pedestrian Parkway	Regional Trail		None	Entire trail could be parkway if connection over I-5
T13	Bike/Ped	Washington /Clackamas	Tigard	Tigard	Kruse Way Path (segment)	SW Bonita	I-5	Regional Pedestrian Corridor/Bikeway	Regional Trail		None	Entire trail could be parkway if connection over I-5
T15	Bike/Ped	Washington/ Multnomah	Porltand, Beaverton, ODOT	ODOT	Hwy 26 Bike Path/Sunset Transit Center Trail	I-405 Path	SW Barnes Road	Bicycle/Pedestrian Parkway	NEW		None	Project needed for master planning, scoping
T21	Bike/Ped	Clackamas /Multnomah	Portland, Clackamas County, Lake Oswego	Portland, Clackamas County, Lake Oswego	Terwilliger Trail			Regional Bikeway/ Pedestrian Corridor	NEW		None	Constructed but unimproved. Add project to improve.
T23	Bike/Ped	Multnomah	Portland	ODOT (?) Portland	I-405 Trail			Bicycle/Pedestrian Parkway	Regional Trail		None	Need project for planning and construction
T24	Bike/Ped	Multnomah	Portland	Portland	Goose Hollow Trail			Bicycle/Pedestrian Parkway	Regional Trail	constructed?	None	
T26	Bike/Ped	Multnomah	Portland	Portland	Southwest Portland Willamette Greenway Trail	Steel Bridge	Ross Island Bridge	Bicycle/Pedestrian Parkway	Regional Trail		none	need projects for missing segments in Sotuth Waterfront and improvements up to Ross Island Bridge
T27	Bike/Ped	Multnomah	Portland	Portland	Northwest Portland Willamette Greenway Trail			Regional Bikeway	Regional Trail		None	
T29	Bike/Ped	Multnomah	Portland	ODOT	St. Johns Bridge			Bicycle/Pedestrian Parkway	Regional Trail		None	Improvements for bike and pedestrian access

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T30	Bike/Ped	Multnomah	Porltand	Portland	North Portland Willamette Greenway	Steel Bridge	Columbia Slough Trail	Bicycle/Pedestrian Parkway	Regional Trail		None	
T43	Bike/Ped	Multnomah /Washington /Clackamas	Portland, Clacakamas County	ODOT	I-205 Multi-Use Path	Columbia River	Tualatin (trail)	Bicycle/Pedestrian Parkway	Regional Trail		None	Projects to improve connectivity and safety at intercahnges, signage. Missing segments of trail. (New segment in Washington added as Trail Map update)
T5	Bike/ped	Washington	Hillsboro, Washington County	Hillsboro, Washington County	Reedville Trail (Parkway until UGB, then Regional, also known as the Pearl-Keeler Powerline Trail or BN Powerline Trail)	Rock Creek Trail	Cooper Mountain Trail	Bicycle/Pedestrian Parkway	NEW		None	Masterplanning, design, construction
T50	Bike/Ped	Multnomah /Clackamas	Gresham, Damascus	Gresham	Gresham Butte Saddle Trails	SE 172nd Ave.	Springwater Corridor Trail at SE Palmquist Rd.	Regional Pedestrian Corridor/Bikeway	Regional Trail		None	
T53	Bike/ped	Clackamas	Oregon State Parks	Oregon State Parks	Cazadero Trail			Regional Pedestrian Corridor/Bikeway	Regional Trail		None	
T55	Bike/Ped	Multnomah	Portland, Troutdale, Fairview, Wood Village, Multnomah	ODOT	I-84 Bike Path	I-205 path, intersection with Sullivan's Gulch Trail	Fairview Parkway	Regional Bikeway/ Regional Pedestrian Corridor	Regional Trail		none	Upgrade existing trail, increase access for security
	Ped	Clackamas	Milwaukie	Milwaukie	SE King Road	Trolley Trail	I-205 Path	Pedestrian Parkway	Pedestrian Corridor		None	
D29	Bike	Clackamas	Wilsonville	Wilsonville	Wilsonville WES Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None.	
D30	Bike	Clackamas	Wilsonville	Wilsonville	Wilsonville TC Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None.	
T40	Bike/Ped	Clackamas	Clackamas County	Clackamas County	Clackamas River Greenway Trail	I-205 Path	McLoughlin Blvd.	Bicycle/Pedestrian Parkway	Regional Trail		None. Related projects: 10067 (Clackamas Co.): build trail through Clackamas Town Center for access to light rail. 10069 (Gresham): Build trail linking Gresham and the Clackamas River.	
D31	Bike	Clackamas	West Linn	West Linn	West Linn - WillametteBicycle/ Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None. RLIS shows bike path on Willamette currently	
B-9	Ped	Multnomah			SW Dosch Rd.	Hwy 26 Trail	Hillsdale Hwy	Regional Pedestrian Corridor	NEW		Regional Bikeway	
P68	Ped	Clackamas	Clackamas County	ODOT	SE Sunnyside Rd/Hwy 212 (Clackamas Boring Hwy)	I-205	Hwy 212 at UGB	Pedestrian Parkway	Pedestrian Corridor		Related project - 10076 (Damascus) Sunnyside Road extension. 10073 - Hwy 212 intersections	Project from 172nd to Hwy 212 and Hwy 212 to UGB for sidewalks and ped improvements. Add bike/ped elements to RTP 10138

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	Bike	Multnomah	Portland	ODOT	US 30 Bikeway - Potland to Sauvie Island	NW St. Helen's	UGB	Regional Bikeway	Regional Bikeway		Related project - 11117 (Portland) Provide an alternative crossing of the BNSF Railroad to improve connectivity and safety between US 30 and the industrial properties served by NW Front Avenue in the Willbridge area of the NW Industrial District.	Project to upgrade existing facilities.Most of corridor has a low BCI. Trail on Regional Trails Map.
	Ped	Multnomah	Portland	ODOT	US 30 Bikeway - Potland to Sauvie Island	NW St. Helen's	UGB	Regional Pedestrian Corridor	NEW		Related project - 11117 (Portland) Provide an alternative crossing of the BNSF Railroad to improve connectivity and safety between US 30 and the industrial properties served by NW Front Avenue in the Willbridge area of the NW Industrial District.	Project to add sidewalks and access to transit/jobs. Trail on Regional Trails Map
B9	Bike	Washington	Beaverton	Beaverton	Beaverton Hillsdale Hwy	Hocken	Scholls Ferry Road	Bicycle Parkway	Regional Bikeway		RTP projects cover Portland segments. Project(s) needed for rest of corridor	
T51	Bike/Ped	Multnomah	Gresham, Troutdale	Gresham, Troutdale	Kelley Creek Trail (This is part of the sandy Rver Springwater connection)	Springwater Corridor Trail (near SE Jenner Rd.)	Gresham Butte Saddle Trails	Regional Pedestrian Corridor/Bikeway	Regional Trail		To be added	
54.a	Ped	Multnomah	Portland	Portland	72nd Ave. Loop	SE Woodstock	SE 82nd. Ave	Pedestrian Parkway	Pedestrian Corridor		Possibly 10187, 10184 because of proximity. Not enough information on exact location of loop.	
B17	Bike	Washington/ Clackamas	Wilsonville	Wilsonville	SW Boones Ferry Road	Eligsen in Wilsonville	Tualatin River Greenway	Bicycle Parkway	Regional Bikeway		None	
B18	Bike	Washington/ Clackamas	Wilsonville	Wilsonville	SW Boeckman Rd.	Tonquin Trail	SW Wilsonville Rd.	Bicycle Parkway	Community bikeway		None, but 10092 is connected to project at Tonquin Trail endpoint	
B21	Bike	Multnomah	Gresham	Portland	NW Division Street	NE223rd St.	NE Kane Drive.	Bicycle Parkway	Regional Bikeway		None	
B22	Bike	Multnomah	Gresham	Portland	NE Hogan Drive	MAX Path	Stark St.	Bicycle Parkway	Regional Bikeway		None	
B23	Bike	Multnomah	Gresham, Troutdale	Gresham	NE Kane Dr./SW 257th Ave	NE Division	SW Halsey	Bicycle Parkway	Regional Bikeway		10403 (Multnomah Co.): Ped improvements on 257th between stark & cherry park (partial extent of B23)	Ped improvements limited to intersections and mid-block crossings. Consider adding sidewalk improvements and improve existing bike facilities.
B24	Bike	Multnomah	Portland, Troutdale	Gresham, Portland	NE Halsey/NW Halsey	I-205 Path	257th in Troutdale	Bicycle Parkway	Regional Bikeway		None	
B25	Bike	Multnomah	Portland, Gresham	Portland/ Gresham	Burnside/Stark	I-205 Path to 188th to Yamhill to MAX Path	SW 257th Ave.	Bicycle Parkway			10459 (Gresham): sidewalk improvements at 172nd, 197th, glisan, and stark. 10519 (Gresham): ped improvements from 162nd/burnside to 181st/burnside	
B26	Bike	Multnomah	Portland	Portland	181st/182nd Ave	Stark St.	Springwater Corridor Trail	Bicycle Parkway	Regional Bikeway		None	
B27	Bike	Multnomah	Portland	Portland	SE Clinton	SE 50th	Clinton St. Path	Bicycle Parkway	Community Bikeway		None	
B28	Bike	Multnomah /Clackamas	Portland, Milwaukie, Clackamas	Portland, Milwaukie, Clackamas	Cully to Springwater to Harmony, via 50's bikeway and Linwood, Webster to I-205 Path	Killingsworth (NE Portland)	I-205 Path (Clackamas County)	Bicycle Parkway	Community Bikeway		10102 (Milwaukie): address bike/ped gap on Linwood from Johnson Creek to Harmony road	

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B29	Bike	Multnomah	Portland	Portland	Sandy	Sullivan's Gulch Trail	Hogan Rd. in Troutdale	Bicycle Parkway	Regional Bikeway		None	
B30	Bike	Multnomah	Portland	Portland	Broadway/Wiedler	Vancouver/Willams	NE 38th crossing	Bicycle Parkway	Regional Bikeway		None	
B31	Bike	Multnomah	Portland	Portland	50's Bikeway	SE Powell Blvd.	Broadway	Bicycle Parkway	Community Bikeway		None	
B32	Bike	Multnomah	Portland	Portland	NE 9th and 9th Ave crossing of I-84	Caruthers (Willamette River Bridge Crossing)	Mason Bikeway	Bicycle Parkway	NEW		None. Related to B65	
B33	Bike	Multnomah	Portland	Portland	Vancouver/Williams	Rose Quarter	MLK Blvd. to I-5 Bridge	Bicycle Parkway	Regional Bikeway		None	
B35	Bike	Multnomah	Portland	Portland	20's (28th)	Broadway	Powell	Bicycle Parkway			None	
B36	Bike	Multnomah	Portland	Portland	72nd, 71st, 76th, 74th	Sullivan's Gulch Trail	Springwater Corridor Trail	Bicycle Parkway	Regional Bikeway		None	
B37	Bike	Multnomah/ Clackamas	Clackamas	Clackamas	SE Johnson Creek Blvd.	Springwater Trail/SE Bell Ave.	I-205 Path	Bicycle Parkway	Regional Bikeway		None	
B39	Bike	Multnomah	Portland	Portland	Interstate Ave	Going St	Lombard	Bicycle Parkway			None	
B60	Bike	Clackamas	Lake Oswego	Lake Oswego	Iron Mtn. Road/SW Boones Ferry Road	N State Street, via A Ave	Tualatin River Greenway	Bicycle Parkway	Regional Bikeway		11081 (Lake Oswego): SW Boones Ferry Rd to North city limits	Route signage, signals.
B61	Bike	Clackamas	West Linn	West Linn	Salamo/Pimico	Willamtte Drive	Willamette falls Drive	Bicycle Parkway	Regional Bikeway		None	Route signage, signals.
B64	Bike	Washington	Beaverton	Beaverton	SW 6th & 5th	Westside Trail	Crescent Connection	Bicycle Parkway	New			
B65	Bike	Multnomah	Portland	Portland	122nd	Stark St.	Springwater Corridor Trail	Bicycle Parkway	Community Bikeway		10223 (Portland): at-grade ped crossing improvements	
B65	Bike	Multnomah /Portland	Portland	Portland	9th Ave	Clinton St. path	Mason	Bicycle Parkway	New		None. Related to B32	
D10	Bike	Washington	Beaverton	Beaverton	Merlo Rd Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D11	Bike	Washington	Beaverton	Beaverton	Beaverton Creek Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D12	Bike	Washington	Beaverton	Beaverton	Millikan Way Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D13	Bike	Washington	Beaverton	Beaverton	Aloha Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		None	
D15	Bike	Washington	Beaverton	Beaverton	Cedar Mill Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		Possibly 10809 (THPRD): trail from bronson creek trail from bronson creek park/cornell rd to laidlow rd	
D16	Bike	Washington	Beaverton	Beaverton	Sunset Transit Center Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		None	
D17	Bike	Washington /Multnomah	Hillsboro	Hillsboro	Raleigh Hills Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	

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D18	Bike	Washington	Portland	Portland	Washington Square Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10749 (Tigard): sidewalk and trail infill to access transit. 10763 (Tigard): complete gap in washington square loop trail. 10766 (Tigard): infill gaps in regional trail system including washington square.	
D19	Bike	Washington	Portland	Portland	Murray/Scholls Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D20	Bike	Washington	Tigard	Tigard	Tigard Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10760 (Tigard): Tigard Town Center ped improvements like sidewalks, lighting, crossings, bus shelters, and benches. Related to D18, 10749, 10763, & 10766 (Washington Square improvements)?	
D23	Bike	Multnomah	Portland	Portland	Washington Park Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D24	Bike	Washington	King City	King City	King City Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		None	
D27	Bike	Washington	Sherwood	Sherwood	Sherwood Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10706 (Sherwood): complete ped gaps on 99w. 10707 (Sherwood) 99w ped/bike bridges over 99w at sunset, meinecke, edy. Possibly 10854 (Metro): Tonquin Trail?	
D28	Bike	Washington	Tualatin	Tualatin	Tualatin Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10737 (Tualatin): Central Design District Pedestrian Improvements. Possibly 10745 (Tualatin): ped trail from 65th to martinazzi	
D3	Bike	Washington	Hillsboro	Hillsboro	Hillsboro Bicycle and Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10847 (Hillsboro): Regional Center Ped Improvements, infill and enhance missing ped sidewalks and lighting	
D34	Bike	Clackamas	Gladstone	Gladstone	Gladstone Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D35	Bike	Clackamas	Milwaukie	Milwaukie	Park Ave Park and Ride, Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D36	Bike	Clackamas /Multnomah	Milwaukie	Milwaukie	Milwaukie Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10100 (Milwaukie): streetscape reconstruction in downtown station area on 21st and Main. 11126 (Milwaukie): streetscape and bike/ped improvements on main, harrison, and 21st in milwaukie town center. Maybe, 10098 (Milwaukie): address gaps in regional bike and ped system on 99E between Kellog Creek Bridge and River Rd. Maybe 10099 (Milwaukie): bike blvd on Monroe between 21st and Linwood Ave.	
D37	Bike	Multnomah	Portland	Portland	Tacoma P&R Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		10295 (Portland): bike/ped improvements on milwaukie between yukon and tacoma	

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D38	Bike	Multnomah	Portland	Portland	Bybee Blvd. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		10295 (Portland): bike/ped improvements on milwaukie between yukon and tacoma	
D39	Bike	Multnomah	Portland	Portland	Holgate Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	Incomplete sidewalks within district
D4	Bike	Washington	Hillsboro	Hillsboro	Hillsboro Airport Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D40	Bike	Multnomah	Portland	Portland	Downtown Portland Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District			
D41	Bike	Multnomah	Portland	Portland	Overlook Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D43	Bike	Multnomah	Portland	Portland	Killingsworth Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		10200 (Portland): ped improvements for Killingsworth ped district. Maybe 10296 (Portland): ped improvements to Killingsworth bridge over I-5	
D44	Bike	Multnomah	Portland	Portland	Rosa Parks Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D45	Bike	Multnomah	Portland	ODOT, Portland	Lombard Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		10299 (Portland): ped improvements on Lombard between I-5 and Denver	
D46	Bike	Multnomah	Portland	Portland	Kenton Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D47	Bike	Multnomah	Portland	Portland	Delta Park/Vanport Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D48	Bike	Multnomah	Portland	Portland	Expo Center Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D49	Bike	Multnomah	Portland	Portland	Hayden Island Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D5	Bike	Washington	Hillsboro	Hillsboro	Orenco Station Bicycle and Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D50	Bike	Multnomah	Portland	Portland	Hollywood Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10268 (Portland): Hollywood ped district	
D51	Bike	Multnomah	Portland	Portland	60th Ave. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D53	Bike	Multnomah	Portland	Portland	Portland Airport Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		Maybe 10330 (Portland): bike improvements on 148th between marine dr and glisan	

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D54	Bike	Multnomah	Portland	Portland	Mt Hood Ave. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D55	Bike	Multnomah	Portland	Portland	Cascades Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D56	Bike	Multnomah	Portland	Portland	Parkrose Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D57	Bike	Multnomah	Portland	Portland	Gateway Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10205 (Portland): Gateway Regional Center collector street and ped improvements	
D59	Bike	Multnomah	Portland	Portland/ TriMet	Powell Blvd Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		Possibly 10271 (Portland): 92nd ave from Powell to city limits. Sidewalks, crossings, and bike lanes	
D6	Bike	Washington	Hillsboro	Hillsboro	Tanasbourne Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10848 (Hillsboro): tanasbourne/amerglen ped improvements. Infill missing ped sidewalks	
D61	Bike	Clackamas	Portland	Portland	Flavel St. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D62	Bike	Clackamas	Portland	Portland	Fuller Rd. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D63	Bike	Multnomah	Portland	Portland	Clackamas Regional Center Bicycle and Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		10017 (Clackamas): bike/ped connections in regional center	
D64	Bike	Multnomah	Portland	Portland	122nd Ave. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D65	Bike	Multnomah	Portland	Portland	148th Ave. Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None	
D66	Bike	Multnomah	Gresham	Gresham	Rockwood Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		None	
D68	Bike	Multnomah	Fairview	Fairview	Fairview Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		None	
D69	Bike	Multnomah	Troutdale	Troutdale	Troutdale Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		None	
D7	Bike	Washington	Hillsboro	Hillsboro	Bethany Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		10554 (Washington) bike/ped improvements on bethany between kaiser and west union road. 11120 (Washington County): bike/ped improvement on bethany between west union road and bronson	

Appendix 1: ATP Network Completion, Gaps and Deficiencies

ATP ID #	RTP network	County	Jurisdiction(s)	Route or district facility owner	ATP bicycle and pedestrian route and district name	Route/district extent - from	Route/district extent -to	ATP functional classificaton and proposed RTP map designation	2010 RTP map designation	Status	Related RTP projects that address route/district gap or deficiency	Recommendations to address gap or deficiency
D70	Bike	Multnomah	Pleasant Valley	Pleasant Valley	Pleasant Valley Bicycle/Pedestrian District	Center		Bicycle/Pedestrian District	Pedestrian District		Multiple road/bridge projects with bike/ped facilities for improving access to and congestion relief for Pleasant Valley (10451, 10463-10466, 10468-10471, 10530, 10533-10543) not highlighted/marked on RT_ATPproject list	
D71	Bike	Clackamas	Happy Valley	Happy Valley	Happy Valley Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None. Not certain where Bike/Ped District is.	
D72	Bike	Clackamas	Damascus	Damascus	Damascus Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District		None. Not certain where Bike/Ped District is.	
D74	Bike	Washington	Hillsboro	Hillsboro	Hawthorn Farm Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District			
D8	Bike	Washington	Hillsboro	Hillsboro	Willow Creek Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District			
D9	Bike	Washington	Beaverton	Beaverton	Elmonica Station Bicycle/Pedestrian District			Bicycle/Pedestrian District	Pedestrian District			
P10	Ped	Washington			SW Murray Blvd.	HWY 210	NW Cornell Rd.	Pedestrian Parkway	Pedestrian Corridor			
P11.a	Ped	Washington			185th and SW Farmington Triangle	Kinneman to SW Farmington	to Kinneman	Pedestrian Parkway	Pedestrian Corridor			
P12	Ped	Washington			SW 185th Ave.	Aloha at Hwy 8 to NW Springville Rd.	NW Bethany Blvd.	Pedestrian Parkway	Pedestrian Corridor			
P13	Ped	Washington			NW Bethany Blvd.	NW German Town Rd	NW Cornell	Pedestrian Parkway	Pedestrian Corridor			
P13.a	Ped	Washington			NW Union Rd./NW 143rd Ave.	NW Bethany	NW Cornell	Pedestrian Parkway	Pedestrian Corridor			
P15	Ped	Washington /Multnomah			SW Barnes Road/W Burnside Rd.	NW Cornell Rd	NW 23rd.	Pedestrian Parkway	Pedestrian Corridor			
P17	Ped	Washington /Clackamas			SW Parkway Ave	SW Boones Ferry at SW Day Rd	SW Town Center Loop	Pedestrian Parkway	Pedestrian Corridor			
P19	Ped	Washington			SW Oleson Rd./SW Greenburg Rd.	Washington Square at Hall Blvd	99W	Pedestrian Parkway	Pedestrian Corridor			
P2	Ped	Washington	Hillsboro, Washington County /Aloha	ODOT	Tualatin Valley Hwy	Hillsboro (UGB)	Aloha (SW 185th Ave)	Pedestrian Parkway	Pedestrian Corridor			
P22	Ped	Clackamas /Multnomah	Clackamas	Clackamas	Boones Ferry via Lake Grove	Pilkington Rd	SW Macadam Ave	Pedestrian Parkway	Pedestrian Corridor			
P24	Ped	Clackamas	Lake Oswego	Lake Oswego	Country Club Road to downtown Lake Oswego	Boones Ferry Rd	SW Riverside Dr.	Pedestrian Parkway	Pedestrian Corridor			
P28	Ped	Multnomah	Portland	Portland	SE Grand Ave	Powell Blvd (Hwy 26)	NE Weidler St.	Pedestrian Parkway	Pedestrian Corridor			
P29	Ped	Multnomah	Portland	Portland	Martin Luther King Blvd.	Powell Blvd (Hwy 26)	NE 6th Drive via NE vancouver Way	Pedestrian Parkway	Pedestrian Corridor			

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P3	Ped	Washington	Hillsboro	Hillsboro	Baseline, E. Main St., W. Baeline Rd.	SW Oak St (Hillsboro)	SW 185th Ave.	Pedestrian Parkway	Pedestrian Corridor			
P30	Ped	Washington /Multnomah			Beaverton to Barbur Blvd.	SW Murray Blvd.	SW Barbur Blvd.	Pedestrian Parkway	Pedestrian Corridor			
P32	Ped	Multnomah	Portland	Portland	NW 23rd Ave.	W. Burnside St.	NW Nickolai St.	Pedestrian Parkway	Pedestrian Corridor			
P33	Ped	Multnomah	Portland	Portland	NW 21, 22, 20th ave	W. Burnside St.	NW Thurman	Pedestrian Parkway	Pedestrian Corridor			
P34	Ped	Multnomah	Portland	Portland	NW Lovejoy	I-405	NW Cornell	Pedestrian Parkway	Pedestrian Corridor			
P35	Ped	Washington	Sherwood		99W, SW Sherwood Blvd, SW	Tualatin Sherwood Road	SW Oregon St at SW Murdock Rd.	Pedestrian Parkway	Pedestrian Corridor			
P36	Ped	Multnomah	Portland	Portland	Oregon St.	Hawthorne Bridge, Downtown Portland	SE Powell Blvd. (Hwy 26)	Pedestrian Parkway	Pedestrian Corridor			
P37	Ped	Multnomah	Portland	Portland	Belomont St.	Morrison Bridge, Downtown Portland	SE 50th Ave.	Pedestrian Parkway	Pedestrian Corridor			
P38	Ped	Multnomah	Portland	Portland	Burnside	Burnside Bridge, Downtown Portland	Intersection with SE Powell Blvd in Gresham	Pedestrian Parkway	Pedestrian Corridor			
P39	Ped	Multnomah	Portland	Portland	Stark	SE 50th Ave	NE Kane Drive.	Pedestrian Parkway	Pedestrian Corridor			
P4	Ped	Washington	Washington County /Aloha, Beaverton		Tualatin Valley Hwy	SW 185th Ave (Aloha)	Hwy 217 (Beaverton)	Pedestrian Parkway	Pedestrian Corridor			
P40	Ped	Multnomah	Portland	Portland	Halsey St.	Hollywood	Troutdale, SW 257th Ave	Pedestrian Parkway	Pedestrian Corridor			
P41	Ped	Multnomah	Portland	Portland	Naito Parkway	SW Barbur	Steel Bridge	Pedestrian Parkway	Pedestrian Corridor			
P42	Ped	Multnomah	Portland	Portland	Weidler	West end of Broadway Bridge	Hollywood Town Center	Pedestrian Parkway	Pedestrian Corridor			
P45	Ped	Multnomah	Portland	Portland	Killingsworth	N Greeley Ave	Cascade Hwy (NE 82nd Ave)	Pedestrian Parkway	Pedestrian Corridor			
P46	Ped	Multnomah	Portland	Portland	Alberta	NE MLK	NE 33rd Ave.	Pedestrian Parkway	Pedestrian Corridor			
P47	Ped	Multnomah	Portland	Portland	Going St.	N Interstate Ave	NE MLK	Pedestrian Parkway	Pedestrian Corridor			
P49	Ped	Multnomah	Portland	Portland	Fremont	NE MLK	NE Sandy Blvd.	Pedestrian Parkway	Pedestrian Corridor			
P5	Ped	Washington	Beavertson		SW Canyon Road	SW Beaverton Hillsdale Hwy	Hwy 26	Pedestrian Parkway	Pedestrian Corridor			
P50	Ped	Multnomah	Portland	Portland	Cesar Chavez Blvd	SE Woodstock	NE Columbia	Pedestrian Parkway	Pedestrian Corridor			
P52	Ped	Multnomah	Portland, Fairview, Troutdale	Portland, Fairview, Troutdale	Sandy Blvd.	intersecton with NE Couch	SW 257th Ave.	Pedestrian Parkway	Pedestrian Corridor			
P53	Ped	Multnomah	Portland	Portland	Cully	NE Killingsworth	SE Powell Blvd. (Hwy 26)	Pedestrian Parkway	Pedestrian Corridor			

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P54.a	Ped	Multnomah	Portland	Portland	Mt. Scott Blvd. spur	SE 82nd Ave.	SE 112th Ave.	Pedestrian Parkway	Pedestrian Corridor			
P55	Ped	Multnomah	Portland	Portland	Glisan	Sandy Blvd.	NE 102nd Ave	Pedestrian Parkway	Pedestrian Corridor			
P56	Ped	Multnomah	Portland	Portland	122nd Ave.	SE Foster Rd.	NE Sandy Blvd.	Pedestrian Parkway	Pedestrian Corridor			
P58	Ped	Multnomah	Gresham	Gresham	181st/182nd Ave	Powell Blvd (Hwy 26)	NE Sandy Blvd.	Pedestrian Parkway	Pedestrian Corridor			
P59	Ped	Multnomah	Gresham/ Fairview	Gresham/ Fairview	NE 223rd Ave - Fairview to Gresham	NE Sandy Blvd	E Powell Blvd	Pedestrian Parkway	Pedestrian Corridor			
P60	Ped	Multnomah	Gresham	Gresham	NE Kane Drive, SW 257th	NE Division St.	E Columbia River Hwy	Pedestrian Parkway	Pedestrian Corridor			
P62	Ped	Multnomah	Portland	Portland	Woodstock	SE 39th	SE Foster Rd.	Pedestrian Parkway	Pedestrian Corridor			
P62.a	Ped	Multnomah	Portland	Portland	Duke and Flavel	52nd Ave	Duke: 82nd., Flavel, 72nd.	Pedestrian Parkway	Pedestrian Corridor			
P63	Ped	Clackamas /Multnomah	Portland, Clackamas County	Portland, Clackamas County	SE Foster Rd.	SE Powell Blvd. (Hwy 26)	SE Sunnyside Rd.	Pedestrian Parkway	Pedestrian Corridor			
P64	Ped	Clackamas /Multnomah			SE 52nd/SE Flavel/SE Linwood/Webster Rd.	SE Powell Blvd. (Hwy 26)	SE McLoughlin Blvd. (99E)	Pedestrian Parkway	Pedestrian Corridor			
P65	Ped	Multnomah	Portland	Portland	Tacoma St.	West end of Sellwood Bridge	SE McLoughlin Blvd. (99E)	Pedestrian Parkway	Pedestrian Corridor			
P69	Ped	Clackamas /Multnomah	Portland	Portland	SE 172nd	SE Foster Rd.	Hwy 212	Pedestrian Parkway	Pedestrian Corridor			
P7	Ped	Washington			NW 231st Ave.	Hwy 8	Orenco	Pedestrian Parkway	Pedestrian Corridor			
P71	Ped	Clackamas /Multnomah	Gresham	Gresham	SE 242nd Ave	SE Butler Rd	SE Roberts Rd.	Pedestrian Parkway	Pedestrian Corridor			
P73	Ped	Multnomah	Portland	Portland	OHSU Loop			Pedestrian Parkway	Pedestrian Corridor			
P74	Ped	Multnomah	Portland	Portland	NW Everett	I-405 bridge crossing	NW 21st	Pedestrian Parkway	Pedestrian Corridor			
P75	Ped	Multnomah	Portland	Portland	NW Gleason	I-405 bridge crossing	NW 21st	Pedestrian Parkway	Pedestrian Corridor			
P76	Ped	Multnomah	Portland	Portland	NW Vaugn, NW St. Helen's Rd., NW 35th Ave, NW Yeon Ave, to NW St Helen's Rd.	NW 23rd Ave.	NW Sauvie Island Bridge at NW Gillihan Loop Rd.	Pedestrian Parkway	Pedestrian Corridor			
P77	Ped	Multnomah	Portland	Portland	Milwaukie, 11th, 12th, NE15th,	SE McLoughline Blvd and Milwaukie	NE Dekum	Pedestrian Parkway	Pedestrian Corridor			
P78	Ped	Multnomah	Portland	Portland	52nd to MLK via Columbia, Columbia to Dekum	NE 52nd Ave	NE MLK	Pedestrian Parkway	Pedestrian Corridor			

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ATP ID #	RTP network	County	Jurisdiction(s)	Route or district facility owner	ATP bicycle and pedestrian route and district name	Route/district extent - from	Route/district extent -to	ATP functional classificaton and proposed RTP map designation	2010 RTP map designation	Status	Related RTP projects that address route/district gap or deficiency	Recommendations to address gap or deficiency
P79	Ped	Multnomah	Portland	Portland	Rosa Parks, Willamette Blvd (w.Portsmuth connection to Lombard)	N Vancouver Ave	N Richmond Ave.	Pedestrian Parkway	Pedestrian Corridor			
P8	Ped	Washington	Washington County	Washington County	NW 229th/Evergreen	NE Brookwood Pkwy	NW Cornell Rd	Pedestrian Parkway	Pedestrian Corridor			
P80	Ped	Multnomah	Portland	Portland	Vancouver/Williams	Rose Quarter	Rosa Parks	Pedestrian Parkway	Pedestrian Corridor			
P81	Ped	Multnomah	Portland	Portland	Mississippi/Albina	Fremont and Vancouver to Mississippi	Lombard	Pedestrian Parkway	Pedestrian Corridor			
P9	Ped	Washington	Washington County	Washington County	NW 229th/Evergreen	SW 185th Ave	SW Canyon Rd.	Pedestrian Parkway	Pedestrian Corridor			
T11	Bike/Ped	Washington /Clackamas	Sherwood, Wilsonville, Tigard, Washington County	Sherwood, Wilsonville, Tigard, Washington County	Ice Age Tonquin Trail (segment)	Downtown Sherwood	SW Boeckman Rd in Wilsonvillle	Bicycle/Pedestrian Parkway	Regional Trail			
T12	Bike/Ped	Washington /Clackamas	Tigard, Beaverton	THPRD, Tigard, Washington County	Fanno Creek Greenway	SW Denny Road	Tualatin River Greenway	Bicycle/Pedestrian Parkway	Regional Trail			
T3	Bike/Ped	Washington	Hillsboro	THPRD, Hilsboro	Rock Creek Trail			Bicycle/Pedestrian Parkway	Regional Trail			
T32	Bike/Ped	Multnomah	Portland	Portland	Peninsula Crossing Trail			Regional Pedestrian Corridor/Bikeway	Regional Trail			
T33	Bike/Ped	Multnomah	Portland, Port of Portland	Portland, Port of Portland	Marine Drive Trail			Regional Pedestrian Corridor/Bikeway	Regional Trail			
T34	Bike/Ped	Multnomah	Portland	ODOT	I-5 Bridge Trail			Bicycle/Pedestrian Parkway	Regional Trail			
T35	Bike/Ped	Multnomah	Portland	Portland	Southeast Portland Willamette Greenway	Steel Bridge	Springwater Corridor Trail	Bicycle/Pedestrian Parkway	Regional Trail			
T36	Bike/Ped	Multnomah/ Clackamas	Portland	Portland	Milwaukie LRT Trail	New Willamette River Light Rail Bridge	Springwater Corridor Trail	Bicycle/Pedestrian Parkway	Regional Trail			
T37	Bike/Ped	Multnomah	Portland	Portland	Sullivan's Gulch Trail	Steel Bridge	I-205 Path	Bicycle/Pedestrian Parkway	Regional Trail		None	
T38	Bike/Ped	Multnomah	Portland, Gresham, Clackamas County	Portland, Gresham, Clackamas County	Springwater Corridor (along	Sellwood Bridge	Hwy 212	Bicycle/Pedestrian Parkway	Regional Trail			
T42	Bike/Ped	Multnomah	Portland	Multnomah County	Hawthorne Bridge			Bicycle/Pedestrian Parkway	Regional Trail			
T42	Bike/Ped	Multnomah	Portland	Multnomah County	Steel Bridge River Walk			Bicycle/Pedestrian Parkway	Regional Trail			
T42	Bike/Ped	Multnomah	Portland	Multnomah County	Morrison Bridge			Bicycle/Pedestrian Parkway	Regional Trail			

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T42	Bike/Ped	Multnomah	Portland	Multnomah County	Sellwood Bridge Trail	Springwater Corridor	Southwest Portland Willamette Greenway Trail	Bicycle/Pedestrian Parkway	Regional Trail			
T42	Bike/Ped	Multnomah	Portland	Multnomah County	Ross Island Bridge Trail			Not currently on ATP maps	Regional Trail			
T56	Bike	Multnomah	Gresham	Gresham	MAX Path			Bicycle/Pedestrian Parkway	Regional Trail			
T57	Bike	Multnomah	Gresham, Troutdale	Gresham	Sandy River Connections (Sandy River to Springwater)	NE Sandy Blvd	Springwater Corridor Trail	Regional Pedestrian Corridor/Bikeway	NEW			recommendation from East Metro Connections Plan. This is on S/SE Troutdale Road but designated as off-street connection
T58	Ped	Multnomah	Gresham	Gresham	Beaver Creek Canyon Trail (Sandy River to Springwater) (Pedestrian only)			Regional Pedestrian Corridor	NEW			
T59	Ped	Multnomah	Gresham	Gresham	Kelly Creek Greenway Trails (Sandy River to Springwater) (PED Only part of the Sandy River to Springwater Connection)			Regional Pedestrian Corridor	NEW			
T6	Bike/Ped	Washington			Cooper Mountain Trail	Reedville Trail	Westside Trail	Regional Pedestrian Corridor/Bikeway	Regional Trail			
T7	Bike/Ped	Washington	Beaverton, Washington County	THPRD	Bronson Creek Greenway (Intersects with the Waterhouse Trail. Potentially pedestrian only)	Beaverton Creek Trail	Westside Trail	Regional Pedestrian Corridor/Bikeway	Regional Trail			
T8	Bike/Ped	Washington	Beaverton, Hillsboro	THPRD	Waterhouse Trail	Beaverton Creek Trail/Westside Trail at SW Jenkins Road	SW Springville Road	Bicycle/Pedestrian Parkway	Community Trail			
	Bike	Clackamas	Clackamas, Milwaukie	ODOT	Milwaukie Expressway Bikeway	McLoughlin	SE 82nd. Ave	Regional Bikeway	Regional Bikeway			Bikeway project needed from McLoughlin to I-205 crossing
	Bike	Clackamas	Clackamas, Damascus	ODOT	Hwy 212	UGB	I-205 Multi-use path	Regional Bikeway	Regional Bikeway			Project for missing bicycle facilities between intersection with Sunnyside Road and Clackamas Hwy (Hwy 224). Project to improve existing bikeways, have low BCI. Add bike/ped elements to RTP 10138 (Damascus)
	Bike	Clackamas/ Multnomah			17th Ave	Springwater Trail	McLoughlin	Regional Bikeway	Regional Bikeway			
	Bike	Multnomah	Portland	Portland	122nd	Stark St.	NE Airport Way	Regional Bikeway	Community Bikeway			
	Bike	Multnomah	Portland		Burnside Couch Couplet	Sandy	Burnside Bridge	Regional Bikeway	NEW			
	Ped	Multnomah	Troutdale	Troutdale	Cherry Creek Road	SW 257th	S Troutdale Road	Regional Pedestrian Corridor	NEW			

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	Ped	Multnomah /Washington /Clackamas	Multiple	Multiple	Urban arterials			Commnity Pedestrian Corridor	Urban arterials on RTP Arterial and Throughway Network			Designate existing urban arterials identified on the RTP Arterial and Throughway Network system map as Regional Pedestrian Corridors
	Bike	Multnomah /Washington /Clackamas			Community and Regional Bikeways identified on 2035 RTP Bicycle Network Map			Regional Bikeway	All community and regional bikeways not designated as Bicycle Parkways			
	Ped	Washingon				SW Barnes Road	NW Cornell	Regional Pedestrian Corridor	New (RTP arterial)			
	Bike	Washington	Forest Grove, Cornelius	ODOT	Hwy 8 Bikeway	Hillsboro city limits	UGB in Forest Grove	Regional Bikeway	Regional Bikeway			Add bicycle project. Bikeways on bridges particularly important.
	Bike	Washington			Hall Blvd (New road)	SW Durham	Fanno Creek Trail (south intersection)	Regional Bikeway	NEW			
	Bike	Washington			Hall Blvd	SW Greenway	Cedar Hills Blvd.	Regional Bikeway	Regional Bikeway			
	Bike	Washington/ Clackamas	Wilsonville		Barber Bikeway							Add Barber Bike/Ped Bridge crossing of I-5
	Bike/Ped	Washington/ Multnomah	Tualatin	Tualatin	Tualatin River Greenway Trail			Regional Pedestrian Cooridor/ BIkeway				Need project for (1) segment from Westside Trail to Roy Rogers Road, (2)

Appendix 2:

Planning Level Cost Assumptions for the Active Transportation Network

Planning level cost estimates for developing the regional pedestrian and bicycle networks were developed for the Regional Active Transportation Plan (ATP). The planning level cost estimates provide a very general sketch level of the costs of completing, improving and extending the planned regional network.

Table 1: Planning Level Cost Estimates for the Regional Active Transportation Network

Projects	Cost (millions)
Currently planned pedestrian and bicycle listed in the 2014 Regional Transportation Plan federal and state lists[1]	$1,966 M
Additional pedestrian and bicycle projects identified in the Regional Active Transportation Plan, including upgrades to existing facilities and planned projects[2]	$1,997 M
Total	$3,963 M

1. Costs are in 2012 dollars for consistency with the 2014 update of the Regional Transportation Plan.

2. Cost assumptions identified Table 1 include construction, design, engineering and contingency, and costs are federalized, that is, additional administrative costs incurred by federally funded projects are included in the assumption. Costs assume the highest level of design feasible to provide for a fully functioning, safe and comfortable regional bikeway or walkway. Cost assumptions *do not include* acquisition of right of way, drainage/stormwater management, maintenance, or education or programs, or elements such as landscaping (e.g. trees in sidewalk buffer or along trails), lighting, bicycle parking, wayfinding, benches, etc. that contribute to complete bicycle and pedestrian routes are not included in the planning level costs.

Table 1. Planning level federalized capital cost assumptions for bikeways and walkways not included in the 2014 Regional Transportation Plan

Improvement	Cost per mile, 2012$	Costs can include
New 8-10' sidewalk and 7' buffer (parking or planter strip)	$2 million/side	Sidewalk and parking or planter strip buffer, grading, a few sections with walls, landscaping, wayfinding, signage, seating. Drainage/stormwater management system already in place.
Upgrade existing sidewalk to 8-10' sidewalk and 7' buffer (parking or planter strip)	$1 million/side	Sidewalk upgrade and addition of parking or planter strip buffer if needed, grading, a few sections with walls, landscaping, wayfinding, signage, seating. Drainage/stormwater management system already in place.

[1] Chapter 6, 2035 Regional transportation Plan

[2] Example of upgrades to existing facilities is upgrading a bicycle lane to a buffered bicycle lane. Example of upgrades to planned projects includes upgrading a planned bicycle lane to a buffered bicycle lane.

Improvement	Cost per mile, 2012$	Costs can include
New 12' regional trail	$3 million	Trail, intersection crossings, mitigation, access points, bridge crossings, trailheads, signage and lighting. Assumes some ROW may be needed.
Upgrade existing trail in 2035 network to 12-14',	$1.5 million	Widen existing trails 4' from 8' to12' or 10' to 14', repave if needed, lighting, signage, intersection crossings, improved access points.
New bicycle boulevard	$250,000	Signage, markings, speed humps, traffic diversion, crossing elements, lighting, bicycle parking and any other elements to develop a complete bicycle boulevard.
Upgrade existing bicycle boulevard	$100,000	Improve crossings, add signage, fix identified, deficiencies, etc.
New or upgraded separated 8-10' in-roadway bikeway	$1 million/side	Costs include signal timing, lane reconfigurations, striping, signage, bicycle parking, lighting, raised curbs, no drainage needed.
Improved or new crossings	$80,000/crossing of five lane arterial	Costs are for a typical 4-5 lane arterial, includes treatments such as rapid flash beacons, curb ramps, median island, signage, lighting striping.

Included in Sidewalk Cost Assumption

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

Table 2: Sidewalk Costs

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

Included in Trail Cost Opinion

Planning level per mile unit costs for trails are an average per mile cost of twenty trails in the Portland region developed by Alta Planning and Design and described in the 2009 report "Connecting Green Trails, Cost Estimates, Benefits and State of Development for Twenty Regional Trails". The report estimated 229 miles of trail gaps for the twenty trails. The cost opinion for capital was estimated at $518,140,636. The federalized cost opinion estimate was $673,585, 827.

The cost opinion for acquisition was $507,414,959. The cost opinion for administrative costs was $7,535,000. Using the federalized cost opinion plus the administrative cost opinion divided by the 229 miles of trail gaps Metro developed a per mile cost opinion of $3,000,000 for federalized capital costs. The following table provides the costs Alta Planning and Design used to determine the cost estimates for the twenty trails. Elements such as seating, signage, lighting and landscaping are not broken out, but could be accommodated in the cost/mile estimate for many projects.

Table 3. Regional Trail Costs

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

Alta Planning and Design, 2009

Table 4. Cost Opinion Summary, Twenty Regional Trails

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

Alta Planning and Design, 2009

Included in bikeway costs

Costs for bicycle boulevards and separated in-roadway bikeways are based on per mile project cost estimates used in the *Portland Bicycle Plan for 2030*, costs (Chapter 5 and Appendix A) and a report developed by the Initiative for Bicycle and Pedestrian Innovation (IBPI) *Draft Report - Cost Analysis of Bicycle Facilities*, (November 2011). The table below provides examples of the range of costs for bicycle boulevards and cycle tracks. Portland has developed the most bicycle boulevards in the region. Costs range from $70,000/ mile to 200,000/mile. In planning for new cycle track facilities the City or Portland is using an estimate of $275/FT or $1.5M/mile. Elements such as signage, lighting, bicycle parking and landscaping are not broken out, but could be accommodated in the cost/mile estimate for many projects.

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

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

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

Table 6. Raised Concrete Cycle Track Costs

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

Cost assumptions do not include right-of-way

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

instances where bicycle and pedestrian projects are developed on new ROW, the ROW was acquired to expand capacity for autos. It is safe to assume that this trend will continue and that the addition of separated on-street bikeways and sidewalk expansions will, in most circumstances, need to be accommodated in existing ROW through roadway reconfigurations or as part of larger roadway projects.

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

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

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

Appendix 3: Transportation System Plans, Bicycle and Pedestrian Plans

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

Appendix 3: Transportation System Plans, Bicycle and Pedestrian Plans

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

Appendix 5 Supporting Policies and Plans

National Policies

- MAP-21 Moving Ahead for Progress in the 21st century
- Title 23 – Highways, Code of Laws of the U.S.
- Americans With Disabilities Act (ADA, 1992)
- Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users Bicycle and Pedestrian Accommodations Regulations and Recommendations
- Clean Air Act, 1970
- Title VI of the Civil Rights Act of 1964
- Civil Rights Restoration Act of 1987
- Executive Order 12898 on Environmental Justice
- U.S. DOT Policy Statement on Bicycle and Pedestrian Regulations and Recommendations, March 2010
- Centers for Disease Control and Prevention Recommendations for Improving Health Through Transportation Policy

State Policies

- Statewide Planning Goal 12: Transportation
- OAR 660-12, The Transportation Planning Rule
- ORS 366.460, Construction of Sidewalks Within Highway Right of Way
- ORS 366.514, Use of Highway Fund for Footpaths & Bicycle Trails
- ORS 366.112, The Oregon Bicycle Advisory Committee
- SB 636 - Oregon Benchmarks
- ORS 291.110, Oregon Benchmarks
- ORS 195.115, Reducing barriers for pedestrian and bicycle access to schools (Safe Routes to School Bill)
- ORS 811.028, Failure to stop and remain stopped for pedestrians, 2003
- ORS 184.741 Safe Routes to School Program, 2005
- ORS 811.111 Violating speed limit, 2005
- Executive Order (EO) on Sustainability
- Oregon State Senate Bill 315 the “Stop and Stay Stopped” Law
- House Bill 3712 (known as the ‘Safe Routes to School Bill') 2001
- HB 2742, Safe Routes to School, 2005
- SB 962, School Siting, 2007
- HB 2840, School Zone Speed Limits

State Plans and Programs

- Oregon Transportation Plan
- Oregon Bicycle and Pedestrian Plan
- Transportation Safety Action Plan, 2011
- Oregon Public Transportation Plan
- Oregon Highway Plan, 2006
- Statewide Transportation Improvement Program
- Oregon Statewide Transportation Strategy
- ODOT Bicycle and Pedestrian Design Guide
- ODOT sign standard
- Oregon State Parks Trails Plan

Appendix 5 Supporting Policies and Plans

Regional Plans, Visions, and Guidelines

- 2040 Growth Concept
- Urban Growth Management Functional Plan
- Region's Six Desired Outcomes
- 2035 Regional Transportation Plan
- Regional Transportation Functional Plan
- Climate Smart Communities Action Plan (*underway)*
- High Capacity Transit System Plan
- Metropolitan Greenspaces Master Plan
- Regional Trails and Interregional Trails Plan
- Regional Freight Plan
- Transportation System Management and Operations Plan
- Regional Travel Options Strategic Plan, 2012
- Regional Transportation Functional Plan
- Regional Trail System Map
- Intertwine Trail Sign Guidelines
- Metro Regional Safety Plan
- TriMet Investment Plan
- TriMet Elderly and Disabled Plan
- TriMet Bicycle Parking Guidelines
- SMART Transit Master Plan
- Climate Action Plan, City of Portland and Multnomah County, 2009

Local Transportation System Plans

- Portland Transportation System Plan
- Tigard Transportation System Plan
- Tualatin Transportation System Plan
- Sherwood Transportation System Plan
- Lake Oswego Transportation System Plan
- Beaverton Transportation System Plan
- Fairview Transportation System Plan
- Forest Grove Transportation System Plan
- Gladstone Transportation System Plan
- Gresham Transportation System Plan
- Happy Valley Transportation System Plan
- Milwaukie Transportation System Plan
- Oregon City Transportation System Plan
- Troutdale Transportation System Plan
- Tualatin Transportation System Plan
- Wilsonville Transportation System Plan
- Wood Village Transportation System Plan
- Multnomah County Transportation System Plan
- Washington County Transportation System Plan
- Cornelius Transportation System Plan
- Damascus Transportation System Plan

Appendix 5 Supporting Policies and Plans

- West Linn Transportation System Plan

Local Bike, Pedestrian and Trail Plans

- Multnomah County Pedestrian Master Plan
- Portland Pedestrian Master Plan
- Washington County Pedestrian and Bicycle Plan
- TriMet Pedestrian Network Analysis
- Multnomah County Bicycle Master Plan
- Portland 2035 Bicycle Master Plan
- Durham Comprehensive Park and Recreation Plan
- Lake Oswego Trails and Pathways Master Plan
- Portland Trail Design Guidelines for Portland's Park System
- Portland Recreational Trails Strategy: 20 Yr Vision
- THPRD Trails Plan
- Tigard Greenway Trails System Master Plan (DRAFT)
- Portland - Southwest Urban Trails
- City of Tualatin Greenway Plan
- SW Community Plan
- Clackamas County Bicycle Master Plan
- Clackamas County Pedestrian Master Plan
- North Clackamas Parks and Recreation Master Plan
- Connecting Clackamas Critical Bikeway Connections
- Milwaukie Bicycle Wayfinding Signage Plan
- Wilsonville Bicycle and Pedestrian Master Plan
- West Linn Trails Master Plan
- Hillsboro Parks Master Plan
- Happy Valley Pedestrian System and Trail Master Plan
- Forest Grove Trails Master Plan
- Forest Grove Park, Recreation, and Open Space Master Plan
- Cornelius Parks Master Plan

Other Local Plans, Policies, Ordinances, Projects, and Tools

- Clackamas County Capital Improvement Plan
- Clackamas County Comprehensive Plan
- Multnomah County Comprehensive Framework Plan – Policy 33C; Policy 34
- 2005 Transportation System Plan for Urban Pockets in Unincorporated Multnomah County
- Multnomah County Health Atlas
- Washington County Comprehensive Plan
- Washington County 2020 Transportation Plan
- Washington County Bicycle and Pedestrian Improvement Project
- Washington County Bicycle Facility Design Toolkit
- Washington County Ordinance (2010): New Pedestrian Crossings at Mid-Block Locations and Uncontrolled Intersections
- Washington County Capital Improvements Plan
- Beaverton Comprehensive Plan
- Durham Comprehensive Plan

Appendix 5 Supporting Policies and Plans

- Gresham Bicycle Wayfinding Locations Map
- Hillsboro Comprehensive Plan
- King City Comprehensive Plan
- Lake Oswego Comprehensive Plan
- King City Municipal Code Chapter 16.212
- City of Portland Planning Bureau's Livable City Project
- Portland Comprehensive Plan
- The Portland Plan
- East Portland Action Plan
- Rivergrove Comprehensive Plan
- Tigard's City Center Urban Renewal Plan
- Tualatin Development Code – Community Plan
- Wilsonville Comprehensive Plan
- Wilsonville Transit Master Plan
- Regional Urban Growth Goals and Objectives

Advocacy Group Plans

- Willamette Pedestrian Coalition, Getting Around on Foot Action Plan
- Bicycle Transportation Alliance, Blueprint for Bicycling