# OREGON

## BICYCLE AND PEDESTRIAN PLAN

An Element of the Oregon Transportation Plan
Oregon Department of Transportation
Adopted May 19, 2016

Copies of the Oregon Bicycle and Pedestrian Plan and supporting materials can be found at the project website: http://www.oregon.gov/ODOT/TD/TP/pages/bikepedplan.aspx

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# Other Elements of the State Transportation Plan

Aviation System Plan

Freight Plan

Highway Plan

Public Transportation Plan

Rail Plan

Transportation Options Plan

Transportation Safety Action Plan

# Acknowledgement & Information

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## Policy Advisory Committee

The Oregon Department of Transportation thanks the Policy Advisory Committee for their time and insights over the course of the project. A special thanks goes to Oregon Transportation Commissioner Tammy Baney, who chaired the Policy Advisory Committee. See Appendix B for a complete list of the Policy Advisory Committee.

Additional thanks to state, regional, and local partners who participated on the Technical Advisory Committee or in stakeholder interviews and provided their comments during Plan development. ODOT would also like to thank everyone who provided public comment at the Policy Advisory Committee meetings and during the Public Review Period.

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# 2016 Oregon Bicycle and Pedestrian Plan

An Element of the Oregon Transportation Plan

Adopted by the Oregon Transportation Commission

May 19, 2016

Oregon Department of Transportation

Transportation Development Division

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# 1 Introduction

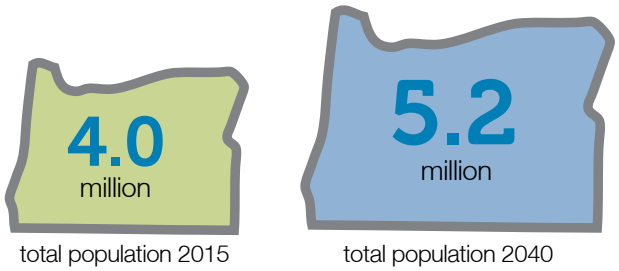
Walking and biking are essential modes of transportation, serving critical connections and offering opportunity and choice in Oregon's multimodal transportation system. Walking[1] is the most basic form of transportation, whether using a mobility device or strolling. Everyone is a pedestrian, and while some choose to take their entire trip by foot, others connect to different modes by walking, such as to and from their car or the bus stop. While walking and biking are similar in many ways, in that they are both active forms of transportation and low cost travel options, biking is also the most energy efficient form of transportation.

Oregon has demonstrated that walking and biking are viable and desirable modes of transportation and boasts one of the highest walking and biking rates in the nation (*1*). A significant number of people rely on walkways and bikeways to travel to and from home, school, and work; or to access shopping, downtowns, critical services, or other destinations. Individuals who do not drive often depend on walking or biking to meet their daily needs, and for some, these modes are the only affordable means of travel. Oregonians have recognized the health benefits, reduced environmental impacts, improved quality of life, and the cost savings that these modes offer; and many have chosen to walk or bike as their primary means of travel. Those who do not report walking or biking as their primary means of travel may still use these modes to make critical connections in a trip, such as bicyling to the nearest bus stop or walking from where they've parked to their destination.

[1]Every time the term 'walk' or 'walking' is referenced, it is inclusive of those who stroll by foot or are using a mobility device.

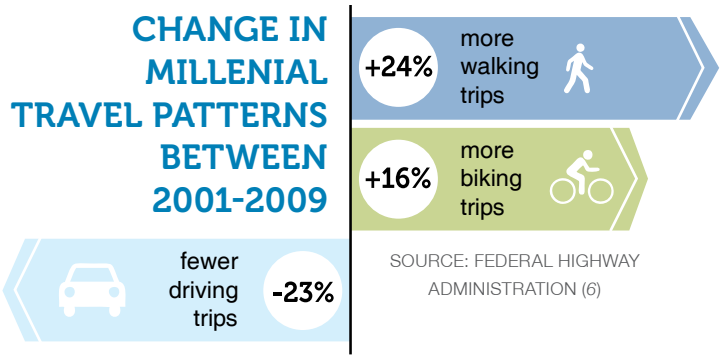
The potential for and interest in walking and biking continues to grow. Oregon's population is also expected to grow, putting greater demands on the transportation system overall. In addition, studies done in Oregon's Portland metropolitan area show around 56 percent of residents are interested in biking if concerns or barriers are overcome (*2,3*), indicating untapped potential mode share. In addition, nationally, 41 percent (*4*) of all trips are three miles or less, which walking and biking opportunities could help serve. These are important data points to consider in understanding how the use of these modes may grow among all Oregonians, and recognizing walking and biking are important travel choices for everyone. Specific to certain demographic groups, interest and potential utilization are even higher. Societal and demographic trends indicate a growing interest in and utilization of walking and biking modes. Younger generations are seeking a broader array of transportation options, and demographic trends show much higher rates of walking and biking among millennials when compared to previous generations. In addition, as people age they tend to stay in the location they live and age in place. Aging individuals who are not able to drive must still have access to medical services, daily amenities, and social activities either by walking or public transportation. Walking and biking are essential modes needed to serve different generations' interests and the needs of all Oregonians. These modes play an essential role in moving people, providing travel options, and supporting recreational travel.

**Over the next 25 years, Oregon's population is expected to increase by nearly 30%**




SOURCE: STATE OF OREGON OFFICE OF ECONOMIC ANALYSIS (*5*)

**CHANGE IN MILLENIAL TRAVEL PATTERNS BETWEEN 2001-2009**




SOURCE: FEDERAL HIGHWAY ADMINISTRATION (*6*)

In addition to being essential modes of travel, walking and biking can contribute to many personal, regional, and statewide benefits. Walkways and bikeways are critical transportation access points, connecting people to jobs and businesses. The economy is dependent on Oregonians and visitors alike that travel across the state on foot or by bike to enjoy Oregon's scenic beauty and tourist destinations. Cycle tourism is especially popular, attracting people outside Oregon to bike and spend their money locally, bringing in millions annually to support the people, places, communities, and overall economy of the state (*7*). Societal benefits are also noticeable from these carbon neutral modes. For example, walking and biking can result in improved public health. Chapter 2 further describes the benefits of walking and biking and provides evidence on the importance of these modes to the overall transportation system.

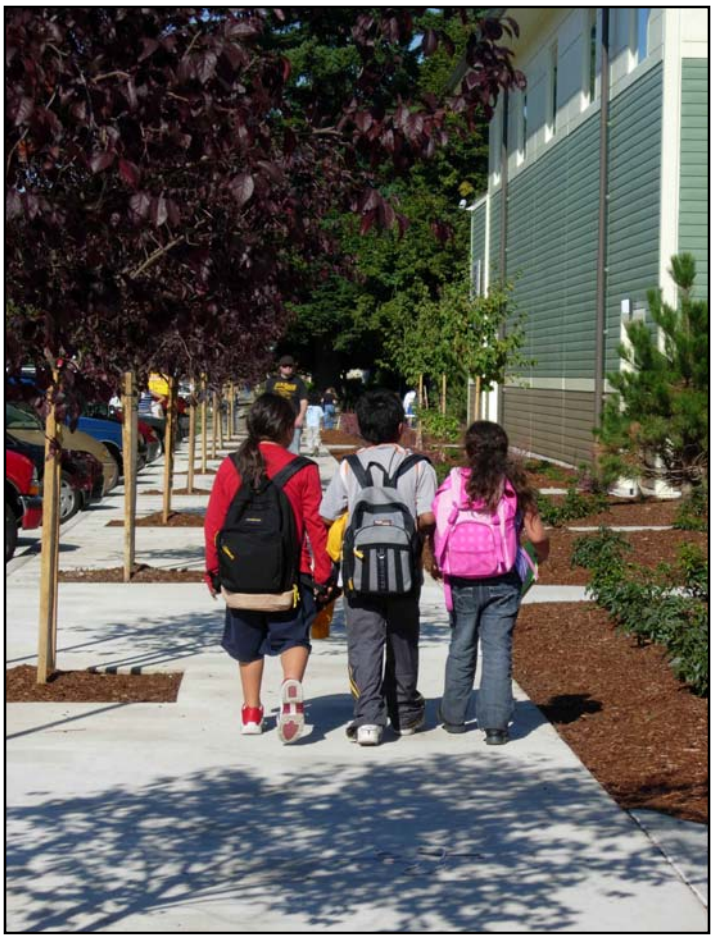
Benefits of walking and biking investments, along with increased use of these modes and removing barriers for those interested, all feed into understanding the opportunities and challenges for Oregon's walking and biking system moving forward. While Oregon is a leader among its peers and has developed a strong walking and biking culture, there are still issues, barriers, and opportunities which need to be considered in the next 25 years, and are explored in this Plan. As more Oregonians choose to walk and bike, it is imperative that safety improves for these vulnerable users. Pedestrians and cyclists are vulnerable because they have little to no protection in a crash, such as the protection offered by the exterior

of a vehicle, and are exposed to rain, snow, and other weather related factors. Recent data indicates that fatalities and serious injuries for bicyclists, and especially for pedestrians, have increased (*8*). A number of factors contribute to these safety issues, which necessitates an evaluation and revision of Oregon's approach to safe walking and biking facilities to eliminate deaths and serious injuries.[2] In addition to crashes, other safety issues and perceptions of safety or security affect the number of people who choose to walk or bike. The comfort level of walking and biking facilities often varies depending on the speed of adjacent traffic, roadway characteristics, and degree of separation from motor vehicle traffic, among other factors.[3] Recent studies show that a significant portion of Oregonians are thought to be interested in biking, but are concerned about safety, availability of facilities, or other issues (*2,11,12*). Similar barriers may exist for those interested in walking.

In addition, a reexamination of walking and biking from a systematic standpoint is needed, and is identified as the key initiative *Defining the Network* in Chapter 5. The majority of pedestrian and bicycle facilities share the public right-of-way with cars, freight trucks, and other vehicles. To ensure safety for all modes, it is important to consider the interaction between them and to strive for a seamless transportation system that minimizes conflicts. In some instances, greater separation of walking and biking facilities, design treatments, or technologies may be needed to enhance multimodal safety.

To achieve a well-connected seamless system, transportation professionals and decision makers must consider the connections between walking and biking facilities and other modes in order to improve access and provide enhanced travel options. Throughout the walking and biking network numerous gaps exist that prevent connections to other modes and destinations. For example, state and local network analysis show that the walking and biking networks are incomplete. System investments should promote continuity and provide easy transitions from one network to the next. Walking and biking trips often cross invisible boundaries of ownership. A user may take a city's neighborhood greenway to a sidewalk or bike lane on a state highway and then to a county trail, unaware that ownership of their route changed. Opportunities exist to coordinate between neighboring jurisdictions that will help to achieve a more seamless walking and biking network.

In recognizing benefits and challenges, the state as a whole can determine how to best achieve a safer and efficient pedestrian and bicycle system, through prioritization processes, partnerships, and strategic investments. This will help to further integrate these modes as vital parts of the transportation network.



[2]This language is consistent with the Federal Highway Administration's 'Vision Zero – Toward Zero Deaths' referring to the "vision of eliminating fatalities and serious injuries on our Nation's roadways," affirming that "even one death on our transportation system is unacceptable (9)."

[3]This is reflected in the Multimodal Level of Service (MMLOS) methodology, Level of Stress analysis, as well as pedestrian level of comfort indices in the research (*10*).

# Overview of the Oregon Bicycle and Pedestrian Plan

The Oregon Bicycle and Pedestrian Plan provides a decision making framework for walking and biking efforts in the State within the context of the overall transportation system.

The Plan is part of a suite of statewide policy plans, under the Oregon Transportation Plan (OTP), that facilitate an integrated and interconnected transportation system to meet the diverse and changing needs of system users (see sidebar). The policies and strategies herein direct the work of the Oregon Department of Transportation (ODOT) and guide a variety of entities throughout the state. Local, regional, and state agencies all have important roles in implementing the Plan and achieving its vision. Regional and local plans must be consistent with the Oregon Bicycle and Pedestrian Plan policies and strategies.

Regional and local plans are important documents contributing to the overall implementation of the Oregon Bicycle and Pedestrian Plan. They address bicycle and pedestrian user and system needs through the identification of specific actions and projects. Together, with this plan, they form a comprehensive framework for decision making.

The Plan examines walking and biking from an infrastructure and user perspective and recognizes issues, opportunities, and needs. It includes all aspects of delivering a transportation system, including policies and strategies that cover planning, investing, constructing, and maintaining walking and biking facilities and programs. The Plan recognizes that Oregon is a geographically large and diverse state, with communities ranging from small coastal cities and rural counties in Eastern Oregon to urbanized metropolitan areas in the Willamette Valley. Policies and strategies apply to varied contexts across the state and as a result, the scale of solutions or design treatments may vary. When fully implemented, the Plan envisions a future that builds upon Oregon's strong existing foundation by further increasing walking and biking connections to critical destinations and other modes of transportation. In turn, this will help bring about a safer system for all users that leverages opportunities to enhance the system and creates more equitable access for all users.

The **Oregon Bicycle and Pedestrian Plan** encapsulates the bike and walk modal elements of the OTP. The policies and strategies in this plan are written to refine the OTP and be consistent with the other mode and topic plans, such as the Oregon Highway Plan (OHP). For example, while the OHP has policies and strategies for driveway distances, this Bicycle and Pedestrian Plan enhances those policies by including a strategy to minimize sidewalk elevation changes at driveway locations. In this way, the suite of mode and topic plans under the OTP complement and build upon one another and provide comprehensive policy direction for the state.

# THE VISION

## *Specifically by 2040, the Plan envisions that:*

**"In Oregon, people of all ages, incomes, and abilities can access destinations in urban and rural areas on comfortable, safe, well connected biking and walking routes. People can enjoy Oregon's scenic beauty by walking and biking on a transportation system that respects the needs of its users and their sense of safety. Bicycle and pedestrian networks are recognized as integral, interconnected elements of the Oregon transportation system that contribute to our diverse and vibrant communities and the health and quality of life enjoyed by Oregonians."**

### The Plan establishes nine goal areas that support the vision:

- Safety
- Accessibility and Connectivity
- Mobility and Efficiency
- Community and Economic Vitality
- Equity
- Health
- Sustainability
- Strategic Investment
- Coordination, Cooperation, and Collaboration.

A description of these nine goal areas is included in Chapter 3: Policies and Strategies.

### ODOT developed the Plan through extensive stakeholder involvement and public outreach.

A Policy Advisory Committee (PAC) was formed to guide the process and review plan content. Elected officials, local agency representatives, business people, the Oregon Transportation Commission (OTC), walking and biking advocates and other stakeholders across the state, including statewide, urban, suburban, and rural interests comprised the 15-member PAC. The Technical Advisory Committee (TAC) included regional and local transportation agency staff and other practitioners serving various areas of the State, including local jurisdiction staff, public health officials, equity, and other interests. The public outreach and involvement included early and frequent input through statewide listening meetings, surveys, and interviews to inform issues and opportunities for policy development; presentations to the Area Commissions on Transportation (ACT); and a formal public review period of the draft Plan. A description of the public involvement processes are further detailed in Appendix B: Plan Development Process and Stakeholder Outreach.

# 2 Background

Oregon has built a strong foundation for walking and biking through investments in infrastructure and programs. Moving forward, it is recognized that network gaps exist and system needs remain. Addressing these gaps and needs for walking and biking not only helps to increase the utilization of these modes, but also improve the safety, accessibility, and mobility of current and future users of the system.

To provide context for how Oregon continues to support and advance walking and biking, it is important to understand the benefits of these modes, as well as challenges and opportunities, all of which frame what needs to be achieved moving forward (the vision) and how to get there (policies and strategies). This chapter describes the recognized benefits of walking and biking investments and mode choices; provides an overview of existing conditions and trends; identifies who is walking and biking; who could be and who wants to be; and discusses the condition of Oregon's walking and biking networks. This information informs the opportunities and challenges, which act as the drivers for the policies and strategies included in Chapter 3.

# Benefits of Walking & Biking

Walking and biking are vital to Oregon's transportation system, helping to provide travel choices that support people, places, and the economy.

Investing in walking and biking can help create a safer, more connected, and accessible system. There are also statewide, regional, local, and personal benefits, and while most benefits are universal, solutions may vary in urban and rural parts of Oregon. In some ways, benefits may be greater in smaller towns and cities, where transportation options may be limited and walking and biking are essential modes of travel. Benefits can also occur on a statewide scale, such as overall improvements to the environment, to the economy, or to public health.

Existing literature was reviewed to identify demonstrated benefits to the local economy, as well as to health, safety, sustainability, and accessibility resulting from walking and biking networks.

**Research in the Portland metropolitan area found that people who bike or walk may spend more money locally, through more frequent trips to the store, when compared to their car-driving counterparts.**

SOURCE: CLIFTON (*13*)

A 2012 study, commissioned by Travel Oregon, found that Oregon bicycle tourism brought in $400 million and supported 4,600 jobs within the state. According to the report, the share of total travel expenditures (of bike-related travel) is 4.4% statewide. However, this figure varies across the state—expenditures from bike-related travel make up 11.6% of travel expenditures in Central Oregon and 14.8% of travel expenditures in the Gorge/Mt Hood area. The same study also found that in 2012 the statewide bicycle industry employed 2,645 jobs, with total gross earnings of $83.8 million.

SOURCE: TRAVEL OREGON (*7*)

## Economic Growth Benefits

A growing body of research has shown that walking and biking can contribute to a healthy economy. Benefits range from relatively direct impacts for users, such as reductions in travel costs, to more indirect impacts, such as growth in businesses related to the bike industry or congestion relief for converting short trips to walking or biking. Increases in walking and biking have potential direct and indirect impacts to the state or local economy through:

- Growth in active transportation related industries (e.g. bike shops, bike and walking tour companies) (*7*).
- Jobs created through design and construction projects related to pedestrian and bicycle improvements (*14*).

*"Providing facilities for walking or bicycling increases the comfort and opportunities of residents to walk or bike to employment opportunities or to more readily access transit to increase employment options."*

SOURCE: METRO, M.P.O (15).

- The ability for people to access employment through what may be their only source of transportation (*16*).
- Increased ability for some industries to attract and retain employees due to the presence of transportation choices (*17*).
- The attraction of out-of-state spending from visitors who participate in walking or bicycle tourism (*1*).
- Improved livability and community attractiveness (*15*).

## Health Benefits

Walking and biking modes are often collectively referred to as "active transportation," because people who walk or bike are engaging in physical activity. Physical inactivity is known to be a strong risk factor for chronic disease and premature death in the U.S. (*18*). The Centers for Disease Control and Prevention (CDC) recommends at least 30 minutes of moderate physical activity five days per week. This threshold is often unmet, as illustrated by 2009 data which showed that 44 percent of Oregon adults did not meet the minimum physical activity recommendations (*19*).

The main health benefits of physical activity include improved personal health and increased life expectancy (*20,21*). Investing in pedestrian and bicycle infrastructure, supporting educational and encouragement programs, and supporting active transportation options help to encourage physical activity for better health and may reduce health care costs by decreasing rates of chronic disease. This can be particularly beneficial when educating and encouraging youth to participate in these activities so they can learn to be more active at an early age. In addition to walking and biking, connections to transit are also essential to health, as access to transit is critical in helping those who cannot or choose not to drive reach needed health services such as medical care.

## HEALTH FACTS

25-33% of Oregon adults have chronic disease preconditions and over 40% of Oregon adults do not meet CDC physical activity recommendations.

SOURCE: OREGON HEALTH AUTHORITY (*22*)

A 2011 study estimated that Portland, OR could see between $388 and $594 million in health cost savings attributable to new bicycle infrastructure and programs by 2040. Every $1 invested in bicycling yields $3.40 in health care cost savings. When the statistical value of lives is considered, every $1 invested yields nearly $100 in benefits.

SOURCE: ALLIANCE FOR BIKING & WALKING, GOTSCHI (*1,23*)

For older adults, accessibility is a critical issue. This need will continue as the population of older adults is expected to increase significantly across the state. By 2040, the population over 75 years of age is predicted to increase anywhere from 70 percent (Baker County) to 400 percent (Deschutes County) (*24*). In addition, having places for older adults to walk and bike may help to maintain their muscle mass, which can prevent falls and reduce hospitalizations.

Beyond access to health services and the benefits of physical activity, access to walking or biking can be important in creating transportation options that allow for increased mobility and reduce the possibility of isolation which can lead to mental and physical health issues.

Safety also plays a role in overall community health and health care costs, where safety improvements can help to reduce personal injuries and deaths.

Other important findings about the correlation of walking and biking to improved health include:

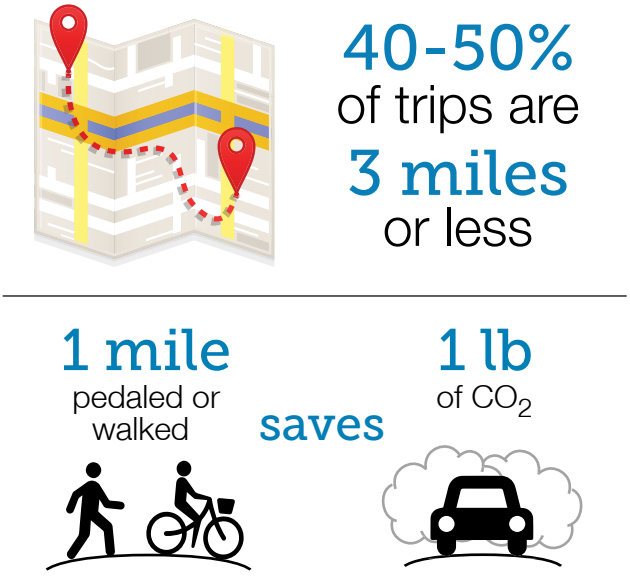
- Active transportation facilities that are designed to be comfortable, safe, accessible, and near desirable destinations are more likely to attract a wide range of users, including people who suffer from an increased health risk due to inactivity (*23*).
- Physical activity and health care cost benefits are greatest if people with increased health risks use walking and biking facilities (*25*).

## Environmental Benefits

Walking and biking are zero emission modes that play an important role in reducing fuel consumption, air and noise pollution, and carbon emissions. Increasing walking and biking for transportation is a key strategy in helping Oregon achieve its greenhouse gas (GHG) reduction goals (*26*). As transportation is one of the highest emitting sectors, contributing to about one-third of all GHG emission in the state (*27*), approaches for reducing transportation-related emissions are essential.

ODOT's *Statewide Transportation Strategy: A 2050 Vision for Greenhouse Gas Reduction (STS)* identifies walking and biking as having measurable GHG reduction benefits (*27*). To achieve the substantial reductions envisioned in the STS, several different reduction strategies are needed, including advancements in fleets and fuels, pricing mechanisms, land use changes, and transportation options like walking and biking. No one solution achieves Oregon's GHG reduction goals, but in combination they lead to substantial reductions.

For pedestrian and bicycle strategies, the STS estimates the potential for people to walk or bike shorter distances is great, and that it would take approximately 40 percent of people who currently drive shorter distances to walk or bike instead in order to achieve the GHG reduction levels shown in the STS vision. According to the US Environmental Protection Agency (EPA), for every one-mile pedaled or walked




SOURCE: ENVIRONMENTAL PROTECTION AGENCY (*28*)

instead of driven, nearly one pound of carbon dioxide is saved (*28*).

The role walking and biking can play in reducing emissions is further emphasized in research which shows that motor vehicle trips contribute to disproportionately high levels of per-mile emissions (*29*) and if short trips shift from driving to walking or biking, the amount of air pollutants can be reduced.

## Mobility Benefits

For pedestrians and cyclists, high levels of mobility result from safe and appropriate facilities that offer direct connections to destinations and routes, and provide end-of-trip accommodations such as bicycle parking. Improving or preserving ease of movement on walking and biking networks also promotes accessibility to key destinations and improved connectivity to other modal systems, such as public transportation (*16*).

Transportation disadvantaged, including but not limited to, mobility-limited individuals, low-income households, communities of color, seniors, youth, persons with disabilities, and those with limited English proficiency, often do not have access to a car or cannot drive. In Oregon, over 7 percent of the population does not have access to a car, 16 percent of the population is in poverty (*30*), 15 percent of the population is over aged 65 (*5*), and over 15 percent of the population is documented to have a disability (*31*), making the availability of walking and biking options critical to meeting these populations' needs.

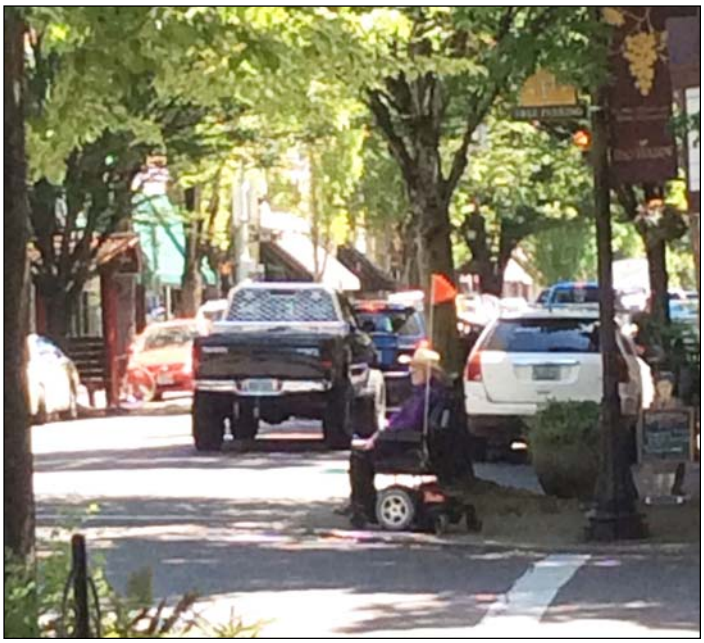
The availability, quality, and connectivity of walking and biking facilities is especially important for older adults and people with disabilities. These individuals may not drive due to issues of poor health, limited physical

or mental abilities, concerns with safety, or because they have no car. Access to modes of travel other than driving is essential to not only their mobility, but also their independence. These non-driving groups are more isolated than their driving counterparts, especially those living in rural or suburban communities and/or communities of color (*32*).

For youth, it is important to recognize the benefits of having a safe and well connected network to access schools and other frequent destinations, such as neighborhood parks. Since school aged children often rely on walking and biking to access destinations, it is important to build a safe and robust walking and biking network so that younger populations are able to use the transportation system.

To ensure pedestrians' mobility, the transportation system requires frequent and safe crossings and short distances between desirable origins and destinations. For cyclists, enhanced mobility may result from dedicated protected bike lanes, bicycle parking, and other transit-oriented amenities that make it easier to integrate a bicycling trip with use of public transportation, which can be essential in making longer trips.

To further assure mobility for all users, the Americans with Disabilities Act (ADA) is instrumental in setting forth design requirements and regulations to make walking and biking options available and accessible to all.



# The Plan in the Context of State and Federal Laws

The Oregon Bicycle and Pedestrian Plan is a modal element of the Oregon Transportation Plan, adopted by the Oregon Transportation Commission, providing policy direction to ODOT and guiding and coordinating transportation activities across the state under Oregon Revised Statute (ORS) 184.618.[4] Local jurisdictions must be consistent with the Oregon Bicycle and Pedestrian Plan in their planning documents as required by Oregon Administrative Rule (OAR) 660-012. In addition to the plan policies and strategies, biking and walking decisions are guided by other important federal and state laws, namely the American's with Disability Act and the Oregon "Bike Bill" (ORS 366.514), described below. Additional information on the legal context for the plan is provided in Appendix F.

## Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) in the context of biking and walking decision making assures people with disabilities have the same opportunity as everyone else to use walkways or bikeways. The Act facilitates mobility for all users, including requirements specific to design and keeping routes free of obstructions. ADA requirements are not repeated in this Oregon Bicycle and Pedestrian Plan, as policies and strategies are intended to support and build upon this law. Together, ADA requirements and this Plan work to make walking and biking options available and accessible to all.

## Oregon Bike (and Pedestrian) Bill (ORS 366.514)

Most popularly referred to as the "Bike Bill," ORS 366.514 was passed by the Oregon Legislature in 1971, and applies to ODOT, cities and counties. It requires the inclusion of facilities for pedestrians and bicyclists whenever a road, street or highway is built, rebuilt, or relocated, and directs at least one percent of the State Highway Fund dollars be invested in projects that support biking and walking within the right-of-way of public roads, streets, or highways open to motor vehicle traffic.

The Bill is triggered during construction, reconstruction, and relocation when the roadway is being built or upgraded. It does not necessarily apply for incidental work such as signal or signing improvements and landscaping, and during preservation projects where overlays result in resurfacing only. The Law also allows for a series of reasonable exemptions based on safety, cost, and absence of need. Justification must be clearly made and well documented, allowing opportunities for public review and input.

The Oregon Bicycle and Pedestrian Plan builds upon the law, highlighting approaches for filling system gaps and building out the system, calling for specific design considerations, priorities, and partnerships, among other policies.

[4] Duties of commission in preparing and implementing state transportation policy.

# Walking and Biking in Oregon Today

Many of the benefits of walking and biking mentioned in the section above are, in part, responsible for driving the investments Oregon has made to date. In addition, the Oregon Bike Bill (ORS 366.514) applies to ODOT, cities, and counties and has been instrumental to the advancement of investments in walking and biking over the past four decades. The bill requires that walkways and bikeways be constructed whenever a road, street, or highway is built, rebuilt, or relocated and directs at least one percent of the State Highway Fund dollars to be invested in projects that support walking and biking. Another foundational driver of walking and biking is the Oregon Bicycle and Pedestrian Advisory Committee (OBPAC), which serves as a statewide committee to discuss pedestrian and bicycle issues and provides advice to ODOT about the regulation of pedestrian and bicycle traffic and the establishment of walkways and bikeways. Other groups such as Oregon Walks, the Bicycle Transportation Alliance, Cycle Oregon, and Travel Oregon also support walking and biking in the state, primarily through promotional and/or advocacy efforts.

Through these investment drivers, decision making processes, and user interest groups, Oregon has evolved its walking and biking networks and culture to what it is today. Looking at existing conditions helps to illuminate who uses the system, how they use it, and the current state of the walking and biking system. This knowledge is essential for understanding the issues, opportunities, and gaps that exist today, and what needs to be addressed moving forward.

**Biking is successful in different communities across Oregon**

**The City of Corvallis, with a population of 54,000, ranks #1 in the country in bicycle commuting with 10 percent of residents regularly commuting by bicycle.**

**Within the city, 98 percent of arterial and collector streets have bike lanes, totaling 46 miles; and there are 18 miles of off-street bike paths.**

SOURCE: OSTI TOOLKIT (35)

## Influencing Factors and Perceptions

Many different factors influence the mode choices of Oregon residents, and affect a person's decision to walk or bike. The density of the built environment, the distance between destinations, and the availability of convenient, well-connected, and safe facilities greatly influences mode choice. Most walking trips are less than a quarter mile, while the majority of bicycle trips are two miles or less (*33*). Studies in places like Portland, Oregon (*34*), however, found that many people bike longer distances, which is why ODOT's STS selected a biking threshold of 20 miles or less round trip (*27*). Additionally, the terrain and amount of hills impact people's choices to walk and bike as does the weather.

Beyond physical factors, perceptions about walking and biking play a role in people choosing to use those modes. The 2015 Oregon Transportation Needs and Issues survey, a statewide random sample survey of Oregonians conducted by ODOT every two years, found that most respondents feel they have the necessary facilities to walk safely in their community (65%), but less than half feel they have the necessary facilities to bike safely (44%). If improvements were made to walking or biking routes within their community, 35 percent of respondents in the same survey said they would consider walking or biking to school or work. This sentiment was strongest in more populated areas, where respondents were twice as likely to indicate that their mode choices would change.

*Support for investing in walking and biking facilities is very high, with 75 percent of respondents indicating it is important to fund improvements to walking and biking facilities on existing streets. Support for investments was highest among the lowest income groups.*

*Source: ODOT Needs and Issues Survey*

TRENDS

# A PROFILE OF USERS

Oregon's provision of walking and biking travel choices has helped elevate Oregon to the walk commute mode share of 4.0 percent (*1*), and the highest bicycle commute mode share of any state at 2.4 percent. Higher rates of walking and biking were found in Oregon's metropolitan areas (Portland, Salem-Keizer, Corvallis, Central Lane, Bend, and Rogue Valley MPOs), where 12.5 percent of weekday trips were made by walking and 3.1 percent were made by bicycling.

This data, representing a snapshot of travel habits of Oregon residents, was further analyzed to understand the characteristics of those who walk and bike today according to various factors such as urban or rural environment, gender, age, race, and income. The following profile of walkers and cyclists in Oregon emerges (only those results found to be statistically unique are shown):

### Location

Urban households walk and bike at higher rates than households in rural areas (urban: 21% walk and 7% bike; and rural: 16% walk and 3% bike).

### Gender

Women make walking trips at a slightly higher rate than men, especially in urban areas, while men are twice as likely as women to make a bicycle trip.

### Age

School aged people from 10-15 years old account for 22% of all walking trips made on a typical weekday, while the age of people making bicycle trips is evenly distributed from people in their early teens to those in their fifties.

### Ability

In rural areas, people with a disability make more walking trips than those without a disability, while the converse is true in urban areas.

### Income

Walking trips are more common among households with higher (above $75,000) and lower (below $15,000) incomes, while bicycle trips are more common among mid to upper income households.

### Housing

Household members who rent are more likely to make a walking trip than those who own their home, and members of households living in single family homes or duplexes are more likely to make a bicycle trip.

SOURCE: CLIFTON AND SINGLETON, OREGON HOUSEHOLD ACTIVITY SURVEY ANALYSIS (*13*)

**In rural areas, walking and biking options are important for community and economic vitality and are critical for many Oregonians. This plan recognizes the needs and uses in rural areas too, where policies and strategies are generally meant to apply across urban, suburban, and rural context.**

PHOTO: CITY OF ELGIN

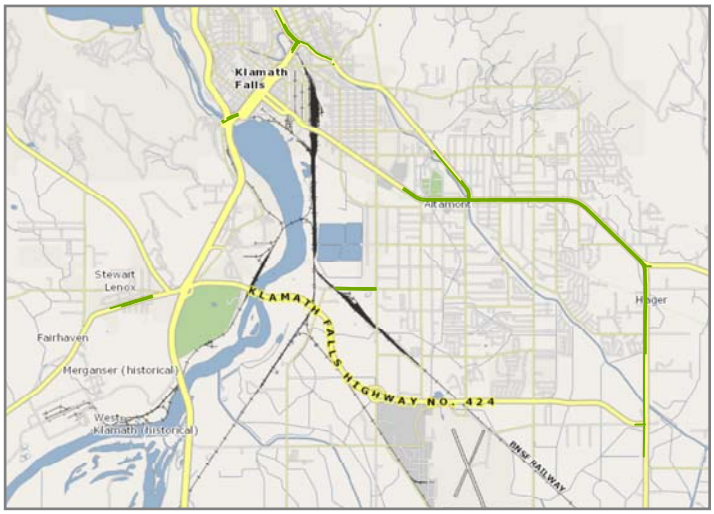
PHOTO: CITY OF BROOKINGS

# The Existing System

Oregon's urban pedestrian and bicycle systems are comprised of sidewalks, crosswalks, pedestrian signals, bike loop detectors, marked bike lanes, shared-use paths, and other facilities on local streets, county roads and state highways. In rural areas, highway shoulders often serve as walkways and bikeways, and bike lanes and sidewalks may or may not be present in rural communities. In addition, parts of the State have shared-use paths, which serve non-motorized travelers in both urban and rural areas. Even urban and suburban areas, residential neighborhoods, commercial areas, and industrial centers may lack sidewalks or have incomplete sidewalk coverage, and there are recognized gaps in walking and biking networks. These system gaps exist across the state, making overall completeness of the walking and biking system a top consideration. The existing network of walkway and bikeway facilities influences the overall safety of users and their ability to access recreational or key destinations such as school, work, medical services, and local businesses.

The presence, condition, and accessibility of walkways and bikeways not only impact the ability of people to walk or bike on these routes, but also impacts access to other modes, such as transit. High quality, well-connected walkways, bikeways, and crossings can increase the distance people are willing to travel to reach a transit stop (*36,37,38*), thus increasing the potential for ridership.

A long standing performance measure for ODOT is the coverage of walkways and bikeways in urbanized areas. ODOT collects inventory data on the state urban system, consisting of the presence or absence of sidewalks, bike lanes, and curb ramps that meet minimum dimensional and condition standards.[5] This data is used to support the performance measure as well as statewide mapping and inventory efforts. Around 1,000 miles of urban state highways have been inventoried for bikeways, walkways, and curb ramps. Approximately 976 miles of bicycle facilities and 630 miles of sidewalks are complete. Maps of the inventory data can be found on ODOT TransGIS website at: https://gis.odot.state.or.us/transgis/.




SOURCE: KLAMATH FALLS SIDEWALK INVENTORY - ODOT TRANSGIS[6]

## State Facilities

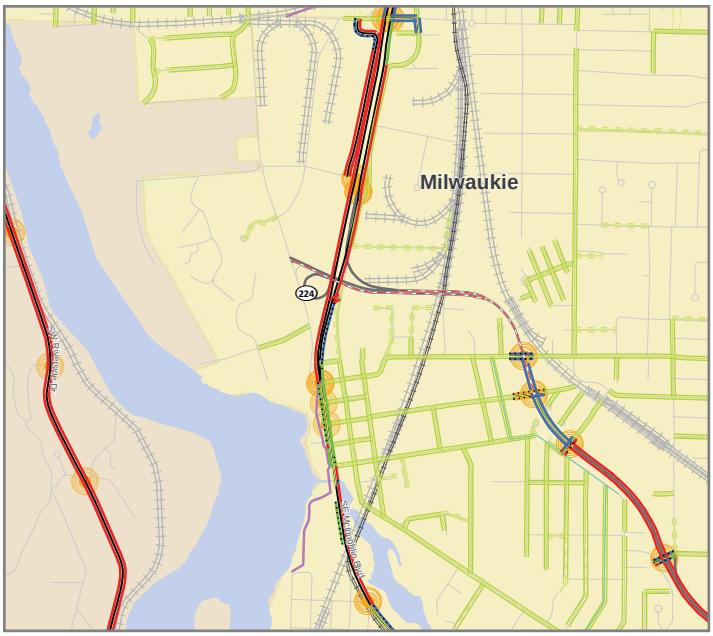
In urban areas, pedestrian and bicycle infrastructure on ODOT managed state facilities primarily consists of sidewalks, ramps, crosswalks, median refuge islands, signals, marked bike lanes, and shared use paths. In rural areas, the state highway shoulders often serve as walkways and bikeways. Historically, ODOT's focus has been to provide pedestrian and bicycle facilities primarily on urban state highways, while maintaining and improving shoulders along rural state highways as required, or as opportunities arise.

Oregon also has designated bikeways, such as the Oregon Coast Bike Route, Scenic Bikeways, and others. These routes are mapped and made available to the public and ODOT staff.

In ODOT Region 1, an Active Transportation Needs Inventory was completed to validate and supplement the existing data available. A good share of that inventory relied on existing data, but was able to secure more detailed information and start to identify more specific needs and work towards a prioritization process. Similar processes could likely be replicated on other parts of the state system but will take some

[5]Bike lane minimum standard is 6 feet. Anything less is considered a gap in the inventory. Sidewalk minimum is also 6 feet, with a 5 foot minimum allowable before a design exception is needed.

[6]Filters can be set to include biking and walking facilities; however, for illustration purposes, this map shows only the sidewalk inventory.

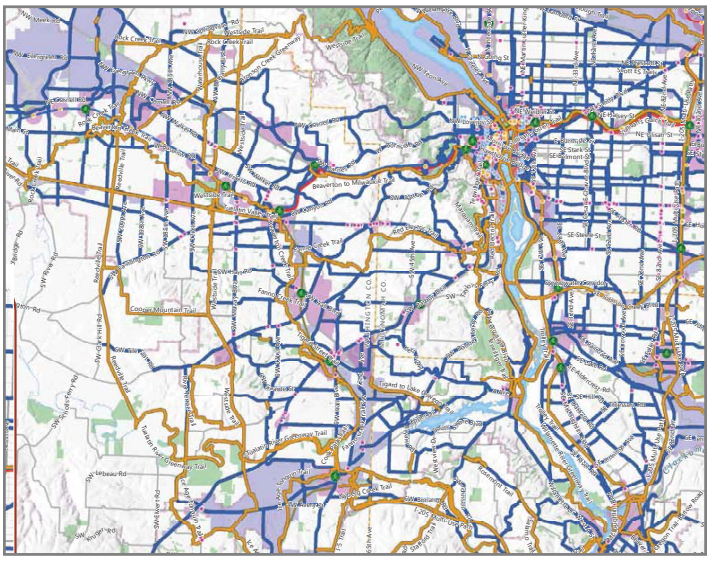



SOURCE: MAP OF ODOT REGION 1 ACTIVE TRANSPORATION NEEDS INVENTORY

time to complete. For now the data available supports a broad understanding of the existing system and the needs identified and described in Chapter 4 of this plan.

## Local Facilities

The existing local biking and walking system includes facilities similar to those described on the state system and also has known gaps and issues. The most definitive source of local existing conditions are published in local Transportation System Plans and other local documents that inventory and report on their own system. Several local jurisdictions, for example Portland Metro and Eugene-Springfield, have inventoried and designated their biking and walking network and identified priority routes and projects. Those plans are not repeated or incorporated in this document but were investigated to inform issues, opportunities, and gaps described later in this chapter and were reviewed to understand local needs on the biking and walking system, which are described in Chapter 4 of this plan.



SOURCE: METRO ACTIVE TRANSPORTATION PLAN REGIONAL BICYCLE NETWORK

## Key Components to Infrastructure

Other important walking and biking facility components include lighting, street design, and the availability of bicycle parking. Appropriate lighting can encourage a safe and secure atmosphere for pedestrians and cyclists and improve night time visibility of street crossings. Bike parking in the right locations, with well-designed racks, supports those who choose to bike. While information on the presence or absence of these components is scarce, there are recognized opportunities for adding lighting and bicycle parking in appropriate locations across the state, and identifying the right street design for the right locations, which includes the availability of safe street crossings on high volume and high speed roadways.

## Ownership

The pedestrian and bicycle systems in Oregon are owned by many jurisdictions, including state agencies, such as ODOT and the Oregon Parks and Recreation Department (OPRD), cities, counties, and private entities. The decentralized nature of ownership in transportation infrastructure can cause difficulties in planning, constructing, and maintaining facilities, resulting in system gaps or inconsistencies in quality. As with users of other modes, users of walking and biking facilities desire a seamless system with high-quality facilities, regardless of ownership.

By looking at the state of the existing system, issues, opportunities, and gaps emerge. These have been further supplemented with research reviewed as well as extensive outreach to transportation practitioners at all levels of government and the general public, which are described in the next section.

# Issues & Opportunities

A review of state and local plans, policies and programs, and a review of current literature helped identify the issues and opportunities impacting walking and biking in Oregon. This research was supplemented with stakeholder interviews, statewide listening meetings, and PAC conversations about barriers, gaps, and opportunities to better support walking and biking. Organized by the goal areas of this plan, the primary issues and opportunities are described, which form the rationale for the policies and strategies that follow in Chapter 3. While there are other issues and opportunities identified that drove policy development, the ones described below represent the primary themes.

## Safety

Safety is fundamental to the entire transportation system and carries unique connotations for those who walk and bike, especially because they are "vulnerable users." Unlike people who travel by car or bus, who are shielded from a crash by their vehicle, those who walk or bike are fully exposed. This vulnerability is one of the reasons that roadways adjacent to schools and urban centers have lower speed limits in order to reduce the severity of injury to children should an incident occur. Data has shown that the risk of fatality increases from 5 percent at 20 miles per hour (MPH); 37-45 percent at 30 MPH; and 83-85 percent at 40 MPH (*39*). Although crash frequency involving pedestrians and cyclists may be relatively low, crash severity is often a concern with higher proportions of fatalities and serious injuries among pedestrians and cyclists (*40*). Over recent years fatalities and serious injuries for bicyclists have remained fairly steady, showing a continuing concern for these roadway users. Pedestrian incidents, however, have generally been on the rise (*41*). While lack of volume data makes it difficult to determine overall pedestrian and bicycle use in relation to crash rates, it is likely that when looking at overall exposure to fatalities and serious injuries, walking and biking safety risks are relatively high. These statistics indicate that safety is a continuing and growing concern for Oregon where actions are needed to strive towards eliminating fatalities and serious injuries.

### Pedestrian Survival Rate by Speed

SOURCE: PLANNING MAGAZINE (*39*)

**From 2009-2013, there was an annual average of 52 pedestrian fatalities and 8 bicyclist fatalities in Oregon.**

SOURCE: ODOT FISCAL TRAFFIC SAFETY PERFORMANCE PLAN, 2009-2013 (*41*)

From the engineering aspect, practitioners and system users raised concerns about how the system is designed and built, ultimately affecting the safety and comfort of users. A majority of facilities are shared roads, users want to be able to move efficiently on the system while feeling safe and being seen. For example, a mother and child crossing a high traffic volume street would benefit from a well connected and safely designed intersection that includes street lighting, a marked crossing, and a rapid flash beacon to alert drivers of their crossing. In addition to system safety enhancements like visible crossings, other engineering themes included separation of facilities on higher speed routes, examination of reduced motor vehicle speeds (both design and posted speeds), and a look at roadway cross-sections for the safest multimodal designs. Walkways and bikeways are designed based upon a variety of factors, which can include the volume of motor vehicle traffic, motor vehicle speed, surrounding land uses, and/or volume of pedestrians and bicyclists. When designing these facilities, it is important to understand the context in which they apply and how to account for the type of separation needed. For example, designing a roadway to include bicycles through sharrows or bike boluevards, can be an appropriate solution for areas with low traffic volumes and low posted speeds. Whereas, an area that has high traffic volumes and high posted speeds may need a more separated facility, such as an individual bike lane, buffered bike lane, or a path that is fully separate from the roadway.

Related to enforcement, Oregon has laws to govern the safe movement of all modes and different types of devices (e.g. electric bikes) on walking or biking networks. Stakeholders raised concerns about the lack of knowledge by both practitioners and users of the system and indicated further need for enhanced law enforcement to ensure rules are followed by all users of the system. In addition to law enforcement, the idea of enforcing local codes which govern safety and security emerged. Most cities and local jurisdictions have code language that governs the placement and management of walking and biking facilities, which when enforced, can help to keep the system secure and safe. For example, local codes can enforce designated bicycle parking, so that people have a secure place to leave their bike when they reach their destination. As another example, local codes dictating maintenance policies can be enforced to ensure that sidewalks are kept clear of impediments. Further, personal security can be enhanced by 'eyes on the street,' where higher use of facilities can provide a sense of security when using the system.

Education and encouragement were also common issues raised in the plan development process. This includes education of individual groups, such as school aged children or staff at public agencies involved in transportation issues, and education on rules of the road to all users of the system. Continued funding and support for Safe Routes to School (SRTS) type programs were commonly noted, especially as these programs no longer receive dedicated federal funding. These types of programs often target school children at a young age, teaching them that they should wear a helmet when biking, cross at a crosswalk, and how to obey other laws and generally be safe walking or biking. Research has demonstrated that learning this at a young age is essential to long term behavior (*42*), creating a lasting safety culture and protecting Oregon's children. Education and encouragement are also linked, in that education about road safety could also encourage people to walk and bike more frequently. While this Plan identifies several strategies to implement and encourage SRTS type programs, it is important to note that other state plans, such as the Transportation Options Plan and the Transportation Safety Action Plan, also contain SRTS and encouragement policies of alternate modes of transportation, which extend beyond the use of walking and biking facilities. Together, these Plans cohesively outline the needs of education and encouragement of youth and other users of the system.

In addition to the issue noted above, inconsistencies in how safety influences project prioritization was a concern noted throughout the State. Some jurisdictions prioritize safety and others do not, creating a potential disconnect in how projects get selected and prioritized. Some other challenges cited included availability, consistency, or quality of data to support decision making. A need was recognized to collect data on safety perceptions, as people's sense of safety greatly impacts their willingness to walk or bike.

## Accessibility and Connectivity

Accessibility and connectivity is well supported by the state's coordinated approach to land use and transportation planning, including the requirements of the Transportation Planning Rule (TPR) and "Bike Bill," which both direct some level of coordination and consideration of pedestrian and bicycle modes. However, issues were raised relating to system gaps for both pedestrians and cyclists and the need to connect to different modes.

The incompleteness of the walking and biking system was raised as one of the top issues by stakeholders throughout the plan development process. Gaps are known to exist around schools, shopping areas, downtowns, and other critical connection points. In areas where sidewalks end abruptly, foot paths are often evident, showing the frequency of use and need for infrastructure in such locations. In other areas, space constraints may force pedestrians into travel lanes, creating safety risks in addition to connectivity issues. Even where there are well connected walking and biking infrastructure, these areas can be isolated,

leaving islands of connectivity (*11*). These types of issues and the lack of a systematic approach in planning, construction, and maintenance were mentioned in research and interviews. The construction of walking and biking facilities vary by jurisdiction resulting in confusion regarding system responsibility. At a regional scale, system gaps in connecting communities is an emerging challenge, especially for more rural communities who strive to provide additional options for community to community travel. These communities are recognizing the need for more regional pathways and trail systems that provide travel options for transportation and recreation alike.

Another key challenge is access to other modes, including public transportation and air transportation, and the need to recognize the importance of intermodal connections. People who utilize public transportation (i.e. passenger rail, buses, etc.) often need to walk or bike to the transit stop and from the stop to their destination, but may experience barriers when facilities are in poor condition or are non-existent.

### Mobility and Efficiency

Mobility and efficiency addresses how well people are able to move on the system, as opposed to accessibility which discusses how people get to the system. Background research highlighted the role that planning, project identification, construction, and maintenance play in facilitating mobility, as well as acknowledgment that different mobility devices use the walking and biking system and that mobility should be balanced between modes.

Keeping the existing system maintained so that people can easily move on it was regularly mentioned at both the local and state level. Several examples were cited where street furniture, mailboxes, or utility poles were located in the sidewalk, impacting pedestrian travel, particularly people using mobility devices. These types of impediments were sometimes traced to lack of enforcement of local codes or lack of coordination between utility companies and transportation agencies, for example.

In addition, sidewalk and roadway cracking and upheaval were cited as potentially impacting both safety and mobility. Maintenance activities, such as street sweeping and snow and ice removal, came up as key to maintaining mobility.

## Mobility for all users of bikeways and walkways

People don't just travel by foot on walkways; some use skateboards, rollerblades, scooters, and other mobility devices to roll along sidewalks. On bikeways, there is a mix of pedal and electric powered bikes, showing the diversity of users within these single systems. While this Oregon Bicycle and Pedestrian Plan does not have many specific policies directed at electric bikes or skateboards, the Plan is complemented by Rules of the Road, dictating the safe interaction among these users, and local codes, which often specify how these users will or will not operate. The Plan does recognize there is stakeholder interest in guidance and greater consistency for these users.

Stakeholders identified several other themes around the use of different devices on the walking and biking system. This not only included mobility devices such as wheelchairs, but also other methods of travel on the walking and biking system, such as skateboards, non-motorized scooters, electric bikes, or other electric devices. These challenges related to the lack of uniform application, such as communities who do or do not allow skateboards on sidewalks, or relate to the understanding of comfort for these users of the system and minimizing physical barriers when possible.

Mobility includes the balance of mobility needs between other modes, such as transit or freight, similar to the need to balance other goals across modes like safety.

## Community and Economic Vitality

Community and economic vitality, in relation to pedestrian and bicycle infrastructure, is identified in a number of state policies and is an emerging discussion point. A variety of communities throughout the state are recognizing the need to have walking and biking facilities in order to assure their community members can access jobs and services, as well as provide people choices for travel and recreation. Cycle tourism is a growing industry in Oregon and a recognized component of the economy. Communities often promote access to natural areas, and benefit from tourists passing through. Some communities also promote themselves through historic walking tours of their towns and opportunities to connect with their community on foot. Beyond tourism and recreation, the private sector is recognizing the connections of walking and biking to attracting customers and employees. For example, some realtors have advertised walk scores with house listings to help illustrate the value of the home. As another example, some shops have sought certification as "Bike Friendly Businesses," in order to bring in more customers. For employees, the availability of walking and biking options is essential, especially where other transportation options are limited. For members of the community, walking and biking are also essential for those who cannot or choose not to drive, or where public transportation options, for example, are limited.

Oregon has the only Bicycle Friendly Business program in the US that is geared toward visitors.

Walking and biking facilities can also benefit from the community landscape, conducive land uses, and the support of local codes. Communities are more commonly incorporating pedestrian and bicycle requirements within their local code to enhance walking and biking through land use or new requirements, such as bike parking. Stakeholders often noted the importance local communities play in helping Oregon be a more attractive place to walk and bike.

### Scenic Bikeways

Oregon's Scenic Bikeways program currently totals over **1,100 miles of bikeways** across the state.

- People who rode on Oregon Scenic Bikeways spent over $12 million in 2014, supporting over 150 jobs.
- Over 80 percent of Scenic Bikeway users live in Oregon.

SOURCE: TRAVEL OREGON (7)

## Equity

Equity concerns were raised in relation to differences in access to transportation options across communities with different racial, ethnic, or socio-economic compositions. When included in plans and policies, equity was generally described at a high level in documents from more urban areas, but often did not include any detailed equity analysis to inform decision making. In addition, the need to better identify transportation disadvantaged populations, defined as those who have limited options in travel, often relying on biking, public transit, or walking to get to their destination, was a consistent theme, particularly when prioritization processes were discussed. Overall, there was a general consensus on the need to be more consistent in the consideration of equity issues for transportation planning, prioritization, and project delivery.

## Health

Health is emerging as a consideration in transportation planning, but has yet to be well integrated into Oregon's transportation decision making. Topics like aging in place and the mobility of older generations were raised early in Plan development, as these issues relate to people who need to access services but are often dependent on walking to reach their destination and can be left in isolation if connections are not readily available. In addition, while connections between health and transportation have been made at the statewide level, such as through a Memorandum of Understanding between ODOT and the Oregon Health Authority (OHA), there is a lack of consistent application in transportation decision making. Opportunities noted were to continue partnerships between ODOT and OHA, increase interagency collaboration at the region and local level, share data and information, making health a goal area in transportation (considering health analysis in decision making), and communicating connections between health and transportation.

## Sustainability

Sustainability in the context of the Plan is defined as the contribution of walking and biking to the environment. The themes of financial and social sustainability are addressed in other sections, such as Strategic Investment, Equity, and Community and Economic Vitality. Walking and biking modes provide zero emission means of travel and are important for reducing transportation related GHG emissions. The Plan identifies opportunities to strengthen the link between walking and biking modes and issues of air quality and climate change, reinforcing Oregon STS's call for walking and biking solutions, among other reduction strategies.

## Strategic Investments

Strategic investments recognizes that funding for the entire transportation system is limited and that all investments should be made to get to the highest returns and greatest benefits. Being strategic is important so that the highest need investments can be made first and holistic funding needs and opportunities are considered. In this way, the idea of strategic investments for walking and biking was identified as the need to develop a project prioritization process and to secure additional funding. In times of funding uncertainty, pedestrian and bicycle projects often compete with other transportation needs, so it becomes more important to recognize the need to leverage funding with other projects or funding sources. Along with funding constraints, prioritization processes vary within agencies and between different communities, often making it difficult for decision makers and associated advisory bodies (e.g. ACTs) to best prioritize investments.

## Coordination, Cooperation, and Collaboration

Coordination, cooperation, and collaboration between municipalities and between all levels of government is of critical importance to the successful implementation of the Plan. This includes data and information sharing, collaboration, and leveraging of resources. Key issues identified by stakeholders included the need to coordinate efforts between local, regional, and state agencies at every level of project development, including planning, design, construction, and maintenance. Training among agency staff, locals and the state alike, was also noted as important, especially as leveraging projects and funds become more necessary. In addition, data collection and sharing were among key issues.

## Other Issues and Opportunities

Other Issues and opportunities were identified that cross several of the goal areas above, such as data collection and the inclusion of performance measures to track walking and biking progress. Some of the considerations raised for these issues and opportunities are described on the following page.

*Data*

This Plan recognizes that the lack of data, or the inconsistency in how existing data is collected and applied provides challenges for pedestrian and bicycle efforts, including the support of information such as: safety, transportation disadvantaged populations, critical connections and system needs, and use and volume data. While data sources for walking and biking efforts exist, data is collected sporadically and is often housed in a multitude of locations, making it difficult to find and utilize consistently across the state. Insufficient data collection and inconsistent application can hinder the identification of needs and priorities by local jurisdictions and other agencies. These groups rely on data to identify critical gaps, deficiencies, user profiles, and access to key destinations.

Opportunities identified consisted of better sharing of data between agencies, private and public alike, and using technological advancements to improve data collection. Technology is changing at a rapid rate, and as new and emerging technology improves, the availability of data will better inform system needs. Data tools and methods are being developed and improved regularly, allowing users of system to self-report on different variables, such as travel time, system gaps or deficiencies, safety issues, or their origin and destination. These mechanisms and improvements are important to recognize and better integrate into walking and biking efforts, and can lead to improved future performance measures.

*Performance Measures*

The inclusion of performance measures into planning and project delivery is an opportunity for transportation professionals and decision makers to evaluate how projects and programs support statewide goals for walking and biking. There exists a wide range of performance measures designed to evaluate programs, outcomes, and polices. However, the practice of performance-based planning and programming is emerging within the transportation industry. As a result, transportation professionals are still examining the appropriate use and context for many measures. A key challenge is the availability of data to support such performance measures and, even when available, the ability to apply such data at a statewide level. In addition, some measures cannot be applied due to data constraints, such as incomplete data and expensive data collection methods.

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# 3 Policies & Strategies

Trends, challenges, and opportunities presented in the previous chapter must be taken into account in determining how to advance walking and biking in Oregon. This section provides direction for making walking and biking integral to the State's transportation system. It contains over 20 policies and associated strategies designed to help build-out, sustain, and improve walking and biking networks, conditions, and use. The policy direction herein is long range, including policies and strategies that would need to be implemented in the short (0-5 years), medium (5-15 years), or long term (15+ years). Most of these policies and strategies are designed to inform decision making as situations arise, while others will result in specific deliverables or drive direction for investments and project selection.

The policies and strategies in this section were developed with the entire transportation system in mind. Several address modal connections or seek to enhance intermodal connections. All aspects of delivering a transportation system were considered, including planning, investing, constructing, and maintaining. The policies and strategies are the actions designed to help achieve each of the identified plan goals, which in turn refine the plan vision. The goals of the plan include:

- Safety
- Accessibility and Connectivity
- Mobility and Efficiency
- Community and Economic Vitality
- Equity
- Health
- Sustainability
- Strategic Investment
- Coordination, Cooperation, and Collaboration

Policies and strategies are organized under the most relevant goal but often relate to or benefit other goals. In particular, goals such as Equity, Sustainability, Health, and Community and Economic Vitality are benefited by most of the policies and strategies in this Plan, and the policies and strategies are written to contribute to these outcomes. Another area of significant overlap is data, although it is not a goal area. The collection, process, dissemination, and use of data are important to each of the goal areas and a singular data source can be pertinent to a variety of issues. Some specific data strategies are included under goal areas and needs are discussed more thoroughly in the Implementation chapter of this plan.

The policies and strategies below focus on confirming existing practice, setting new direction, and providing support for decision making for state, regional, and local implementation. Federal and state laws or regulations pertaining to walking and biking are not duplicated in the policies or strategies, as they are already in effect. The policies and strategies are consistent with such requirements and are intended to be supportive.

The Plan provides direction to ODOT regarding planning, programming, and maintaining the walking and biking system. This plan will frame transportation decision making across the state, and local jurisdictions will have to demonstrate consistency with the Plan when they update their local Transportation System Plans. Chapter 5 discusses more on Plan implementation.

*The policies and strategies below are intentionally written to be broad and encompassing of all transportation agencies (state and local) unless otherwise stated as "ODOT" or "local jurisdictions" (MPO, county, or city). These policies and strategies must be implemented taking into consideration the appropriateness of context in which they may apply.*

# Goal 1: Safety

Eliminate pedestrian and bicyclist fatalities and serious injuries, and improve the overall sense of safety of those who bike or walk.[7]

## Policy 1.1:

Provide safe and well-designed streets and highways for pedestrian and bicycle users.

*Strategy 1.1A:* Continue to update the ODOT Design Guidelines and Highway Design Manual to identify appropriate pedestrian and bicycle design features (e.g. type of separation, buffers, or crossing designs) suitable for different contexts, including consideration of: vehicle speed, roadway characteristics and constraints, planned land uses, users and uses, areas of pedestrian and cyclist priority, and latent demand.

*Strategy 1.1B:* Refer to the latest statewide guidance[8] when selecting roadway cross sections, determining speed and type of separation, buffers needed, or other design features. Consider vehicle speeds, volumes, facility type, adjacent land use attractors, and the safety and comfort of all users in order to facilitate multimodal use of the transportation system and desired safety outcomes.

*Strategy 1.1C:* Increase lighting for pedestrians. Consider pedestrian-scale illumination at crosswalks, transit stops, high-volume pedestrian and bicycle areas, and other locations. Develop guidance for illumination to improve visibility of bicyclists and pedestrians.

*Strategy 1.1D:* Improve visibility, especially at roadway crossings, of bicyclists, pedestrians, and motorists by assuring adequate sight distance (e.g. removing vegetation that may prevent people from seeing or being seen, or by designing roadway curvatures to straighten out or flatten alignments as appropriate or feasible), or through visibility aids (e.g. bulb outs, advanced stop bars, bike boxes, and other safety countermeasures).

*Strategy 1.1E:* Reduce pedestrian exposure time by minimizing the number of lanes crossed when possible or by minimizing crossing distances with safety aids such as bulbs outs, pedestrian islands, or other safety countermeasures.

*Strategy 1.1F:* Take into account pedestrian safety when designing intersections and crossings, and when setting signal timing. Educate users of the system how to use new crossings or crossing features.

[7]Goal language to "eliminate bicycle and pedestrian fatalities and serious injuries" encapsulates the principles of "Vision Zero" and "Toward Zero Death" initiatives at the federal and local levels.

[8]When taken with Strategy 1.1A, directing that ODOT design guidance be updated to consider the most appropriate treatments given different contexts, Strategy 1.1B points to the use of such guidance in designing or redesigning roadways.

*Strategy 1.1G:* Where pedestrian or bicycle crashes have occurred, or where there are significant safety risk factors, consider safety countermeasures whenever a road is built, rebuilt, relocated, or reconstructed.

*Strategy 1.1H:* Where speed has been a contributor to pedestrian or bicycle crashes or where it is thought to be a significant safety risk factor, use design treatments to lower vehicle speeds and improve safety. Consider intersection geometrics, lane and roadway width, on-street parking, street trees, sidewalks, planting strips, frequency of pedestrian crossings, and other street elements such as bicycle parking and public art that create visual friction.

*Strategy 1.1I:* Evaluate opportunities for and barriers to setting posted speed limits. Examine the safety and other implications of changing the way posted speeds are determined for different locations and facilities, balancing multimodal interests. Develop guidance on where and when to examine changes to posted speed and propose next steps to the way posted speeds are set based on results.

*Strategy 1.1J:* Track and implement national guidance on emerging technologies that improve pedestrian or bicycle safety (e.g. pedestrian detection in crosswalks, speed cameras, emerging methods for bicycle detection).

*Strategy 1.1K:* Strengthen the ODOT Safety Priority Index System, All Roads Transportation Safety Program, and other prioritization processes through analysis of crashes or safety risk factors involving bicyclists and pedestrians and other data sources.

*Strategy 1.1L:* Use pedestrian and bicycle crash and proxy data to identify high crash corridors and crash typologies for further analysis and prioritization. Build upon the Oregon Pedestrian and Bicycle Safety Implementation Plan, highway safety improvement plan criteria, emerging best practices, and other resources.

*Strategy 1.1M:* Explore opportunities to develop and share data for all types of pedestrian and bicycle related crashes and near misses in order to better understand the type and location of safety issues and to prioritize addressing them accordingly.

*Strategy 1.1N:* Gather data on pedestrian and bicycle safety risk by better estimating exposure (use of the system). Develop an approach for capturing pedestrian and bicycle miles traveled and implement accordingly.

## Policy 1.2:

Educate travelers on the rules of the road to promote understanding of legal rights and responsibilities and how all modes and users can safely and courteously interact with each other.

*Strategy 1.2A:* Provide education and outreach on rules of the road and personal responsibility in using the system to all road users. Identify existing materials or develop new materials as needed to address targeted audiences and seek creative distribution methods and partnerships to disseminate information to users.

*Strategy 1.2B:* Educate motorists on the risks of distracted driving, impaired driving, and speeding to bicyclists and pedestrians.

*Strategy 1.2C:* Educate pedestrians and bicyclists on the risks of distractions, such as texting, while walking or biking.

*Strategy 1.2D:* Identify and share educational materials and other best practices that support safe behaviors for bicyclists and pedestrians and their interaction with other modes. Deliver materials through traditional networks such as the Safe Routes to School, Transportation Options programs and others, and seek innovative new partnerships and mechanisms for delivery of materials to target audiences.

*Strategy 1.2E:* Research barriers, opportunities, and best practices for safely accommodating skateboarders, rollerbladers, e-bikes, and others who use similar devices on the pedestrian and bicycle system. Disseminate, and as needed, update information on how to safely operate different devices or technologies (e.g. scooters, skateboards, and motorized personal vehicles) on the pedestrian and bicycle system.

*Strategy 1.2F:* Provide information on how to safely bike or walk when new technologies are deployed or innovations constructed, such as how to use a new bike box or rapid flashing beacons, and how other modes should interact with such technologies, including connected and automated vehicles.

## Policy 1.3:

Provide education and outreach to school children about walking and biking options and how to safely use those modes and develop safe walking and biking connections to schools.

*Strategy 1.3A:* Expand the development and sustainability of Safe Routes to School type programs through funding, partnerships, model programs, and other technical assistance.

*Strategy 1.3B:* Build and maintain partnerships with local jurisdictions, schools and education districts, the Oregon Department of Education, the Oregon Health Authority, and local transportation options providers through collaborative efforts to endorse, promote and implement Safe Routes to School Programs.

*Strategy 1.3C:* Inform local school districts about Safe Routes to School eligible activities such as model projects, programs, policies, and technical materials available through the National Center for Safe Routes to School, Oregon's website, State Transportation Improvement Program eligible projects, ODOT Transportation Safety Division funding, and other state programs.

*Strategy 1.3D:* Target provision of Safe Routes to School education to all graduating elementary school students.

*Strategy 1.3E:* Prioritize filling walking and biking gaps around schools, and designing and maintaining safe facilities.

## Policy 1.4

Improve pedestrians' and bicycle users' perceived safety by supporting personal security.

*Strategy 1.4A:* Identify and share best practices to encourage and provide sufficient secure and convenient bicycle parking at key destinations.[9]

*Strategy 1.4B:* Enhance personal security through implementation of well-lit areas, maintained vegetation, adequate opportunities to leave the facility, and other mechanisms to enhance visibility of pedestrian and bicycle facilities from the roadway and nearby land uses.

[9]Major retail, grocery stores, elementary, middle and high schools, colleges, universities, hospitals, medical centers, parks and open spaces, major social service centers, government offices that serve the public, major employers, and major sports or performance venues.

*Strategy 1.4C:* Communicate need for enforcement of local codes as important for enhancing mobility and personal security, such as secure bike parking.

*Strategy 1.4D:* Communicate need for enforcement of laws as they relate to pedestrian and bicycle safety and security.

*Strategy 1.4E:* Educate and train law enforcement on risks of motor vehicle crashes to pedestrians and bicyclists.

## Goal 2: Accessibility and Connectivity

Provide a complete bicycling and pedestrian network that reliably and easily connects to destinations and other transportation modes.

### Policy 2.1:

Improve pedestrian and bicycle network connectivity through the provision of planning guidance, model programs, development code, and other technical assistance.

*Strategy 2.1A:* Provide safe and direct connections for pedestrians and bicyclists to create a robust network.

*Strategy 2.1B*: When local planning processes have, in consultation with ODOT, identified a local parallel bike route, and a bikeway on the state highway is determined to be contrary to public safety, is disproportionate in cost to the project cost or need, or is not needed as shown by relevant factors and therefore justified to be exempt from ORS 366.514 based on one of those statutory exemptions, ODOT will work with the jurisdictions to support the development of the parallel route and assure reasonable access to destinations along the state highway. ODOT and the local jurisdiction may enter into an agreement in which ODOT helps to fund, in negotiation and partnership with the local jurisdiction, construction of the bikeway in the vicinity of the state highway project that serves as an alternative or parallel route to the highway project.

### Policy 2.2:

Inventory and define walking and biking networks to aid in project prioritization.

*Strategy 2.2A:* Develop guidelines for communities to develop and adopt pedestrian and bicycle network plans.

*Strategy 2.2B:* Inventory the walking and biking system in order to identify and prioritize filling system gaps, including gaps in street crossings, and incorporate findings into relevant plans, processes, and investment decisions.[10]

[10]See ODOT Region 1's Regionwide Active Transportation Needs Inventory, which has developed and applied methodology for inventoring and prioritizing pedestrian and bicycle needs (http://www.oregon.gov/ODOT/HWY/REGION1/Pages/Region-1-Active-Transportation-Needs-Inventory.aspx).

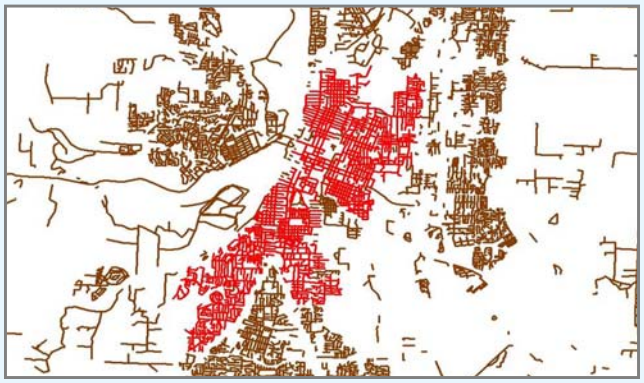
### Level of Traffic Stress Analysis

The Bicycle Level of Traffic Stress (LTS) methodology breaks road segments into four classifications for measuring the effects of traffic-based stress on cyclists. This measure of traffic stress quantifies the perceived safety issue of being in close proximity to vehicles whether on a spacing distance or speed basis. For example, a road segment with an LTS Level 1 rating would include low speeds, no more than one lane per direction with intersections easy to cross by all, and is of little stress that is suitable for most cyclists. An LTS Level 4 would be a road segment with moderate to high speeds, multi-lane with narrow or no bike lanes, and is high stress suitable for more experienced or skilled cyclists. This methodology allows a quick assessment of system connectivity without going into the data requirements (i.e. traffic volumes) and calculations of the Highway Capacity Manual Bicycle Multimodal Level-of-Service (MMLOS) method and is well suited for high-level plans such as corridor and transportation system plans.

Another significant advantage of the LTS methodology is that it allows the identification of connectivity "islands" (as shown on this map), surrounded by higher LTS streets, intersections, and other natural and physical barriers (i.e. rivers and railroads). This allows for a true connectivity look versus just considering system gaps, as one high stress location may prevent many routes or connections between adjacent neighborhoods. Improvements can be prioritized by the amount of additional low stress routes or points connected, thereby enhancing the system in addition to just gap filling.

A methodology has also been developed for Pedestrian Level of Traffic Stress (PLTS) which creates a high-level inventory and walkability/connectivity performance rating of pedestrian facilities. The PLTS methodology classifies roadway segments according to the level of pressure or strain experienced by pedestrians and other sidewalk users.

SOURCE: OREGON DEPARTMENT OF TRANSPORTATION (*43*)



*Strategy 2.2C:* Conduct pedestrian and bicycle analysis to understand physical, natural, and safety/comfort barriers which create connectivity islands, such as *Level of Traffic Stress Analysis*. Refer to ODOT's Analysis Procedures Manual for guidance and support.

## Policy 2.3:

Add pedestrian, bicycle infrastructure, and street crossings to connect system gaps, understanding the unique needs of urban, suburban, and rural communities.

*Strategy 2.3A:* Provide guidance on best practices and options for sidewalk maintenance, infill, and repair.

*Strategy 2.3B:* Improve bicyclist and pedestrian way finding signage and maps to facilitate user connections and ease of use of the system, partnering with tourism groups to develop and promote materials when possible.

*Strategy 2.3C:* Seek opportunities to retrofit existing bridges and viaducts, where pedestrian or bicycle access is limited, or provide alternative options to ensure safe and convenient connections for bicyclists and pedestrians.

## Policy 2.4:

Improve access to multimodal connections for bicyclists and pedestrians through planning, design, prioritization, and coordination.

*Strategy 2.4A:* Study opportunities for and barriers to developing successful bike share programs and establish guidelines for bike share applications in Oregon. Explore opportunities for peer to peer sharing, open bike share, or bike share at transit stations, stops, mobility hubs[11] and other locations to facilitate last-mile connections and extend the reach of transit.

[11]Mobility hubs connect a variety of sustainable modes and services through a network of physical locations or "mobile points." The points are located throughout a city or region to physically and electronically link the elements of a door-to-door trip. A mobility hub may involve any combination of transit, vehicle-sharing, carpooling and vanpooling, concentrations of land uses, and an information component.

*Strategy 2.4B:* When designing, extending, or improving pedestrian and bicycle networks, coordinate with transit agencies to ensure that existing and planned transit service is considered in facility design and identify opportunities to remove physical barriers in access to transit.

*Strategy 2.4C:* Build and maintain partnerships with transit agencies to facilitate network connections with travelers walking or biking and to support first and last mile connections to transit. Focus on: ensuring transit stops are accessible for pedestrians, and bicycles, including accommodation for mobility devices and the visually impaired; supporting connections to transportation disadvantaged and high-use pedestrian and bicycle areas; and understanding the demand for bikes and mobility devices on buses and trains; as well as the need for bicycle parking at transit stops.

*Strategy 2.4D:* Improve pedestrian and bicycle connections to other modes (e.g. airports, train stations, and intercity bus stations). Support bicycle route connections to these types of facility locations and encourage the provision of supportive infrastructure such as secure bike parking and covered areas.

*Strategy 2.4E:* Incorporate design considerations linking pedestrian and bicycle facilities and existing or planned transit in future updates of the ODOT Design Guidelines.

## Policy 2.5:

Support off roadway walkways and bikeways that help to connect communities, provide alternatives to motorized travel, or promote and support walking and biking tourism.

*Strategy 2.5A:* Build partnerships through collaborative efforts to identify paths or trails. Share information among local jurisdictions regarding design innovations, funding, engaging local partners (e.g. tourism organizations, private and federal entities) and other technical information that becomes available.

*Strategy 2.5B:* Review and update guidelines and procedures for path or trail planning and design.

*Strategy 2.5C:* Develop paths as safe alternative routes that help complete the network.

*Strategy 2.5D:* Regional Paths: Identify off roadway walkways and bikeways in state facility plans, Regional Transportation Plans, or Transportation System Plans for future development, justifing need according to prioritization categories listed in Strategy 8.2A of this Oregon Bicycle and Pedestrian Plan.

In addition to the definition of "high need locations" specified in Policy 8.2A, off-roadway walkways and bikeways that meet all of the following criteria shall be considered Regional Paths that demonstrate a statewide benefit and shall be prioritized as a "critical connection."

- Is a continuous path made up of one or more connected segments that is primarily physically separated from the roadway;
- Connects two or more incorporated communities, with each community no more than 15 miles apart; or traverses through a single large community with a path that is 10 miles or longer;
- Will serve as a connection point for people commuting between communities; or is part of an officially designated walking and bicycling route, such as Scenic Bikeways, Bike Route, or US National Bike Route; and
- Is endorsed by elected bodies along path alignment.

*Strategy 2.5E:* When adding to a Regional Path that qualifies under Strategy 2.5D, prioritize those segments or improvements that enhance overall utilization of the route.

## Goal 3: Mobility and Efficiency

Improve the mobility and efficiency of the entire transportation system by providing high quality walking and biking options for trips of short and moderate distances. Support the ability of people who bike, walk or use mobility devices to move easily on the system.

### Policy 3.1:

Bring about a pedestrian and bicycle network that achieves ease of movement, especially considering the people using these modes are vulnerable users of the system.

*Strategy 3.1A:* Identify and reduce or remove physical barriers on existing walkways or bikeways, such as tree roots, utility poles, mailboxes or other factors that cause difficulties in movement.

*Strategy 3.1B:* Design driveways for sidewalks, minimizing elevation changes in order to increase ease of use for pedestrians using mobility devices, strollers, etc. and to increase overall user comfort.

*Strategy 3.1C:* Provide ODOT staff adequate training on best practices and design to enhance mobility of vulnerable populations and to ensure implementation of the Plan policies.

### Policy 3.2:

Integrate pedestrian and bicycle mobility considerations in planning, design, construction, and maintenance, understanding the unique needs of urban, suburban, and rural communities.

*Strategy 3.2A:* Determine analysis methods, criteria, or performance measures to identify needs, gaps, and deficiencies. that can be used to incorporate biking and walking needs and impacts into project development and delivery.

*Strategy 3.2B:* Work with developers and private property owners on understanding biking and walking infill needs and explore incentives and other mechanisms to encourage such infill.

*Strategy 3.2C:* Consider demographics, users and uses of the system, in addition to laws and regulations, in assessing mobility needs for setting pedestrian signal timings at street crossings and other design elements, as well as in construction and maintenance of walking and biking facilities.

*Strategy 3.2D:* When planning for bicyclist and pedestrian routes, assess areas beyond an individual roadway, looking at a geographic area (region, corridor, or community) to identify the safest, most direct, and most comfortable locations. Recognize these routes may be on a highway, county road, local street, through a park, local or regional trail, or a combination thereof for various segments of the route.

*Strategy 3.2E:* When planning to reduce motor vehicle congestion and increase reliability, consider improvements that enhance bicycling and walking as a viable choice for short- and mid-length trips.

*Strategy 3.2F*: When an existing roadway is realigned, restriped, or a cross-section modified, pedestrian and bicycle capacity should not be degraded; the width of bike lanes or sidewalks will not measure any smaller than the original width of such facility prior to roadway realigning, restriping, or cross-section modification. Develop an exception and appeal process.

*Strategy 3.2G:* Assure bicyclists and pedestrians can safely get through or around construction areas by providing safe, reasonable, alternative routes and clear signage and ensuring that construction outreach communications include information about pedestrian and bicycle route options. Utilize walking and biking information sources to get the word out, such as for cyclists on Travel Oregon's RideOregonRide.com and Oregon Parks and Recreation Department Bikeways website.

*Strategy 3.2H*: When installing new or modifying existing traffic signals, include installation of bicycle detection devices where feasible.[12]

*Strategy 3.2I:* Help to preserve pedestrian and bicycle mobility and safety through maintenance activities (e.g. sweeping, snow and ice removal) via maintenance guidance and priority setting. Priority setting will include considerations for pedestrian and bicycles according to the activity.

*Strategy 3.2J:* Clarify jurisdictional roles and responsibilities related to sidewalks along ODOT facilities, considering: the purchase of right-of-way, construction, illumination, and maintenance, among other issues.

## Policy 3.3:

Balance pedestrian and bicycle needs and freight mobility needs through planning and design guidance and coordination.

*Strategy 3.3A:* Research best practices and integrate into design guidelines innovative design treatments that both safely accommodate bicyclists and pedestrians and

[12]Feasibility is determined as space or existing geometry allows, or where cost is not a significant burden to the entire project.

maintain appropriate freight carrying capacity. Promote opportunities for separation that does not constrain the mobility/accessibility of either mode.

*Strategy 3.3B:* Continue to coordinate with freight stakeholders for bicycle/pedestrian projects.

## Goal 4: Community and Economic Vitality

Enhance community and economic vitality through walking and biking networks that improve people's ability to access jobs, businesses, and other destinations, and to attract visitors and tourists, new residents, and new business to the state, opening new opportunities for Oregonians.

### Policy 4.1:

Encourage local land use policies and practices that support increased bicycling and walking and add to the overall livability and vitality of communities.

*Strategy 4.1A:* Identify and share best practices and local guidance on developer sidewalk provisions and off-site improvement requirements. Explore other best practices and model codes for pedestrian and bicycle accommodations within the development process (i.e. accessible site design/orientation, parking design best practices, provision of bicycle parking).

*Strategy 4.1B:* Coordinate with local school districts, university or college campuses on the encouragement of walking and biking through school siting. Provide examples and best practices on locating schools for increased walking and biking access, building on the recommendations of the Oregon School Siting Handbook.

*Strategy 4.1C:* Consider pedestrian and bicyclist flow patterns between different types of businesses, schools, and natural attractors when determining land uses so that pedestrian and bicycle connections can be safely and conveniently made.

*Strategy 4.1D:* Site state government buildings consistent with the Department of Administrative Services Siting Policy (*44*) so they are accessible to walking and bicycling, and identify and take advantage of opportunities for local government buildings to be accessible by walking and biking.

*Strategy 4.1E:* Provide adequate long and short term bike parking to accommodate access to destinations by bicyclists, through code, incentives, and/or subsidy programs. Bike parking locations should be visible, easily accessible, and convenient for use.

*Strategy 4.1F:* Prioritize access to employment centers and commercial districts/main streets as critical connections that promote community and economic development.

*Strategy 4.1G:* Provide guidance, examples, and best practices for extending walking and biking networks into industrial districts.

### Policy 4.2

Partner, collaborate, and disseminate information encouraging pedestrian and bicycle tourism to benefit Oregon's economy and that of individual communities and areas within the State.

*Strategy 4.2A:* Continue and enhance partnerships with public agencies and private organizations (e.g. Travel Oregon, Cycle Oregon) that promote tourism and economic development through collaborative efforts to educate communities about opportunities to promote pedestrian and bicycle tourism as integral parts of Oregon's economy.

*Strategy 4.2B:* Encourage the development and dissemination of information on pedestrian and bicycle tourist activities, such as maps, websites, and other collateral materials promoting routes, scenic areas, tours, etc.

*Strategy 4.2C:* Promote existing programs (such as the Scenic Bikeways program) and share best practices from other Oregon communities, including examples of programs and communities that have successfully linked tourism, and economic development with walking and biking.

*Strategy 4.2D:* Identify the potential for historic or other walking tours within communities and promote pedestrian tourism.

*Strategy 4.2E:* Inform and engage partners, such as permitting agencies, state or local transportation officials, traffic management groups and others, as applicable, to support and promote special walking and/or biking events which may impact motor vehicle traffic, communities, or businesses.

### About the Equity Goal

Walking and biking options should be made equally available to all, without regard to age, race, income, or other demographic or community interest. The policies and strategies under this goal are designed to understand the issues that may prevent certain portions of Oregon's population from walking and biking, locating and targeting transportation disadvantaged populations, and helping to close the gap between areas served, and not served, today and into the future.

## Goal 5: Equity

Provide opportunities and choices for people of all ages, abilities, races, ethnicities, and incomes in urban, suburban, and rural areas across the state to bike or walk to reach their destinations and to access transportation options, assuring transportation disadvantaged communities are served and included in decision making.

### Policy 5.1:

Identify and define geographic areas lacking transportation options, especially for transportation disadvantaged communities and people.

*Strategy 5.1A:* Utilize mapping tools, Census data, or other information sources to identify underserved areas, looking at demographic characteristics to assess needs associated with transportation disadvantaged communities.

*Strategy 5.1B:* Identify system gaps and physical barriers to walking and biking in transportation disadvantaged communities, through historical accounting and bicycle and pedestrian inventories.

*Strategy 5.1C:* Form collaborative relationships between "Title 1" designated schools,[13] local jurisdictions, and other agencies on safe pedestrian and bicycle facilities near schools, awareness of those transportation options and other Safe Routes to School projects (both education and infrastructure).

## Policy 5.2:

Understand the disparities, barriers, and needs affecting the availability and use of walking and biking options for all Oregonians.

*Strategy 5.2A:* Develop and apply guidance on overcoming economic and cultural barriers associated with different demographic groups and communities walking and biking.

*Strategy 5.2B* - Study local and community barriers that may impact people's ability to walk or bike.

## Policy 5.3:

Integrate equity criteria into decision making and prioritize walking and biking investments in underserved areas with transportation disadvantaged populations.

*Strategy 5.3A:* Track federal policy guidance on underserved transportation disadvantaged communities as it relates to federal funding; incorporate federal guidance into ODOT policies and procedures as appropriate and disseminate to local jurisdictions to help them compete for grants.

[13]The purpose of Title I is to provide additional support for schools that serve children who have risk factors like poverty or high rates of moving (homelessness). Research has demonstrated that these factors make it more difficult for children to be successful in school. Eligible schools get an amount of money based on the number of students in the school who qualify for Free or Reduced price meals.

*Strategy 5.3B:* Utilize inventory data on system needs and research on transportation disadvantaged communities to address existing equity issues and to assure equitable distribution in new projects.

*Strategy 5.3C:* Utilize existing and developing tools to evaluate implications of policies, programs, and projects for underserved areas and transportation disadvantaged populations.

*Strategy 5.3D:* Provide equal access to walking and biking opportunities across the state by prioritizing pedestrian and bicycle investments as "critical connections" in underserved transportation disadvantaged communities.

### Policy 5.4:

Engage transportation disadvantaged populations in decision making.

*Strategy 5.4A:* Include transportation disadvantaged populations in outreach during public processes for transportation planning and investment decisions.

*Strategy 5.4B:* Utilize tools (e.g. social media, other web-based platforms, community outreach, or publications) to allow for accessible outreach and input for project development.

*Strategy 5.4C:* Understand barriers and needs for effective public engagement with transportation disadvantaged populations and deploy outreach materials accordingly.

### Policy 5.5:

Build upon local jurisdiction partnerships, relationships, and projects to leverage investments and opportunities to ensure pedestrian and bicycle connections in underserved areas.

## Goal 6: Health

Provide Oregonians opportunities to become more active and healthy by walking and biking to meet their daily needs.

### Policy 6.1:

Promote walking and biking to help achieve public health goals to improve air quality, and provide opportunities for physical activity to help reduce risk of chronic diseases and other health issues.

*Strategy 6.1A:* Continue to expand upon the partnership between ODOT and the Oregon Health Authority, encouraging safe and active transportation (walking and biking), collaborating on research and data sharing and analysis, and leveraging resource opportunities.

*Strategy 6.1B:* Engage public health professionals in transportation planning through Metropolitan Planning Organizations, Area Commissions on Transportation, and local jurisdiction planning efforts to more broadly consider the impact of transportation decisions and investments on health.

*Strategy 6.1C:* Communicate to transportation practitioners, stakeholders, and the general public the value and relationship of health outcomes related to walking and biking, including the importance of pedestrian and bicycle access in health by helping people reach goods and services.

*Strategy 6.1D:* Identify geographic areas and sub-populations in Oregon (e.g., low-income communities, aging population) with higher rates of chronic diseases linked to physical inactivity or air quality, and prioritize actions to address disparities through transportation policies, plans, and project selection.

*Strategy 6.1E:* Improve data collection and sharing between transportation and public health agencies by utilizing data resources and

forming partnerships with state and local public health agencies which track community-wide health information (i.e. "population health").

*Strategy 6.1F:* Integrate health criteria into decision making and utilize existing and developing tools to evaluate health implications of policies, programs, and projects.

## Goal 7: Sustainability

Help to meet federal, state, and local sustainability and environmental goals by providing zero emission transportation options like walking and biking.

### Policy 7.1:

Promote walking and biking to help achieve local, regional, state, and federal environmental goals to reduce vehicle miles traveled, reduce greenhouse gas emissions, and improve air and water quality.

*Strategy 7.1A:* Promote zero emission technological innovations that improve interest in walking and biking, such as software applications and electric bikes and mobility devices.

*Strategy 7.1B:* Work with local jurisdictions on infrastructure investments and transportation option programs that encourage walking and biking for short and moderate distances.

*Strategy 7.1C:* Identify and utilize analysis methods that help quantify how walking and biking can help achieve environmental goals.

### Policy 7.2:

Consider climate change adaptation, walking and biking needs, and system redundancy in the face of natural disasters.

*Strategy 7.2A:* When planning for climate change adaptation and resiliency, consider needs and opportunities related to walking and biking networks.

*Strategy 7.2B:* Identify locations where walking and biking facilities can act as alternative routes connecting other disconnected components of the transportation system, which may occur in the face of a natural disaster.

## Goal 8: Strategic Investment

Recognize Oregon's strategic investments in walking and biking as crucial components of the transportation system that provide essential options for travel, and can help reduce system costs, and achieve other important benefits.

### Policy 8.1:

Seek funding to address pedestrian and bicycle transportation needs.

*Strategy 8.1A:* Explore opportunities for providing additional funding (e.g. specialty or non-profit group license plates, user fees, etc.) and seek new dedicated funding sources for pedestrian and bicycle facility investments.

*Strategy 8.1B:* Promote and encourage state and local jurisdictions to seek opportunities to leverage investments made for other projects (such as sewer or utility work) to address outstanding pedestrian and bicycle infrastructure needs.

*Strategy 8.1C:* Identify and pursue existing and new funding mechanisms and sources allowable or available to local jurisdictions for pedestrian and bicycle investments on their system.

*Strategy 8.1D:* Identify and pursue creative financing mechanisms to fund walking and biking investments such as public-private partnerships, private money, or taxing options.

*Strategy 8.1E:* Gather data and conduct research to make a business case to support walking and biking investments and to emphasize the importance of the walking and biking system.

## Policy 8.2:

Invest strategically in the overall pedestrian and bicycle system (state and local) by preserving existing infrastructure, addressing high need locations, and supporting programmatic investments.

*Strategy 8.2A:* Use the following priorities for planning, identifying, and investing in pedestrian and bicycle projects. The prioritization categories should be applied flexibly so that a jurisdiction, region, or ODOT may elevate a project in a lower priority category as one of its top priorities. Recognize that projects identified and funding allocated should be distributed among these categories in "high need locations" (i.e. transportation disadvantaged areas and surrounding schools, shopping, employment centers, medical services, connections to transit, and downtowns) first.

- *Protect the existing system and address significant safety issues* – Protect the functionality of the existing pedestrian and bicycle system through safety, connectivity, maintenance, and preservation.
- *Add critical connections and address other safety issues* – Make improvements to the existing system by providing pedestrian and bicycle connections in areas where no connections exist, such as new regional paths, or where transportation options are limited, particularly in high need locations; and to address significant safety concerns.
- *Complete the system* – Provide a complete system to enhance people's ability to walk or bike, such as through increased safety and security measures (e.g. separation, pedestrian bulb outs) and availability (e.g. bikeshare, bicycle parking).
- *Elaborate the system* – Elaborate the system through increased network connectivity, such as areas not deemed as critical connections or more recreation based uses; as well as more costly user comfort features.

*Strategy 8.2B:* Continue to support programmatic investments in Safe Routes to School type programs.

*Strategy 8.2C:* Be opportunistic in acquiring right-of-way for future potential pedestrian and bicycle facilities, and identify strategies to utilize development projects for filling gaps, particularly in potential future high need locations.

### Strategy 8.2A Explanation

In application, categories in 8.2A are important for a complete, accessible, comfortable, and long lasting bicycle and pedestrian system. This emphasizes high need locations first and seeks to recognize that investments should be protected through maintenance and preservation. It does not require maintenance be done before any new connections are added or other enhancements made. There is value in projects in each of these categories and jurisdictions are likely to have a mix of investments, with heavier focus on projects in the highest priority categories. Further description of application is outlined on page 62.

## Policy 8.3:

Identify funding priorities for state dollars and on the state system, consistent with Policy 8.2, but also recognizing the priority to fill system gaps and connect modes.

*Strategy 8.3A:* Develop a list or map of corridor segment locations on the state system categorizing locations according to the prioritization categories in Strategy 8.2A.

*Strategy 8.3B:* When developing maintenance plans on the state system, develop a priority route system to identify funding priorities for maintenance activities such as sweeping, pavement preservation, and other activities that contribute to pedestrian and bicycle use.

## Policy 8.4:

Be opportunistic in leveraging funding for pedestrian and bicycle investments improvements through various funding mechanisms or project coordination.

*Strategy 8.4A:* When developing or redeveloping a roadway, take advantage of funding not specifically targeted at a pedestrian or bicycle project to add to or enhance the adjacent pedestrian or bicycle system.

*Strategy 8.4B:* Include pedestrian and bicycle project lists in Transportation System Plans and other relevant planning documents to be eligible for or take advantage of federal, state, or local grants or programs that may become available.

*Strategy 8.4C:* Identify opportunities and leverage funds with health, transit, and tourism agencies for pedestrian and bicycle projects.

## Goal 9: Coordination, Cooperation, and Collaboration

Work actively and collaboratively with federal, state, regional, local, and private partners to provide consistent and seamless walking and biking networks that are integral to the transportation system.

### Policy 9.1:

Strengthen ongoing coordination, cooperation, and collaboration among federal, state, regional, local, and private partners to facilitate a seamless pedestrian and bicycle system.

*Strategy 9.1A:* Develop a checklist of items from the policies and strategies within the Oregon Bicycle and Pedestrian Plan that will require ongoing coordination and formalize necessary institutional relationships and communication mechanisms.

*Strategy 9.1B:* Develop guidance and procedures that increase project coordination between local utility companies when pedestrian and bicycle facilities will be impacted.

*Strategy 9.1C:* Include walking, biking, and other transportation stakeholders, as well as tourism and interest groups, in outreach during public processes for transportation planning and investment decisions, as appropriate.

### Policy 9.2:

Provide local jurisdictions with information about state and federal resources that support local capacity building.

*Strategy 9.2A:* Continue to provide and regularly update information on federal funding opportunities, grant applications, and available state resources.

*Strategy 9.2B:* Share information on workshops, design guidelines, and educational resources to support local innovations in pedestrian and bicycle planning, analysis, and design best practices.

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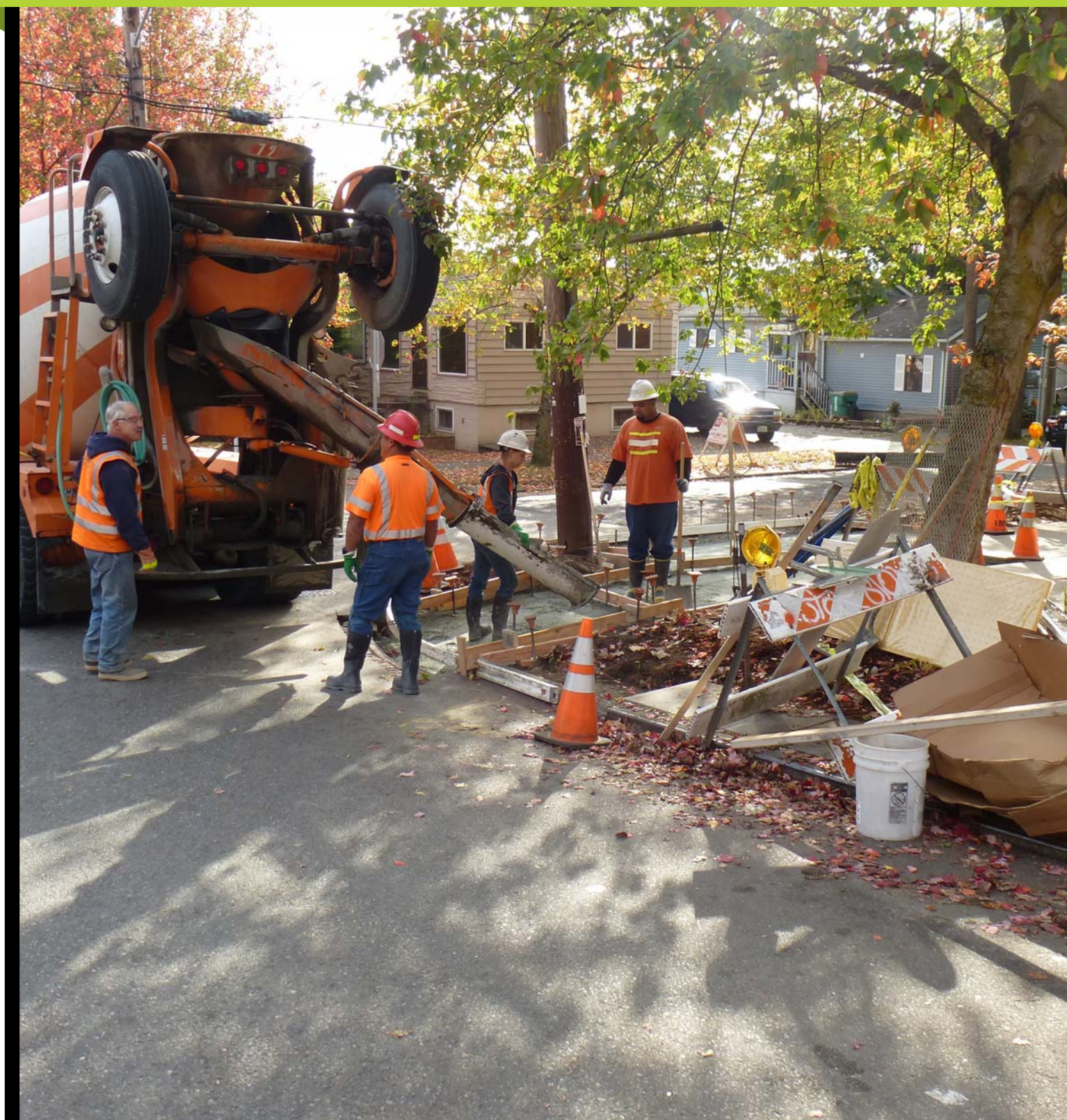
# 4 Investment Considerations



The diverse elements of Oregon's transportation system are funded through local, state and federal programs, private investments, or a combination of these sources. Oregon relies heavily on highway user fees to fund highway, road, and street improvements across the state, including investments in walking and biking facilities.

The Oregon Legislature and Congress have made significant investments in the state's transportation system in recent years, including the Oregon Transportation Investment Acts (OTIA), *Connect*Oregon, the American Recovery and Reinvestment Act (ARRA), and the Jobs and Transportation Act (JTA). Under these programs, ODOT and local governments have completed many important projects. As funding for preservation and new projects increased, so did the funding for pedestrian and bicycle improvements. However, most of these investment packages were one time infusions rather than long term, sustainable funding. Oregon faces serious funding challenges; growing debt service on bonds, rising construction costs, uncertain federal funding, and growing fuel efficiency in vehicles, which combined, reduce future resources (*45*).

This chapter discusses the framework for funding pedestrian and bicycle facilities in Oregon at both the state and local level; potential funding streams and funding opportunities are included. This will be followed by a discussion of the estimated current expenditures as well as estimated long term need. Lastly, investment decision making support is provided through an explanation of how this plan is designed to inform decisions, project prioritization and how the walking and biking system may look considering various levels of investment.

# Transportation Funding Overview

The State of Oregon's commitment to the provision of pedestrian and bicycle facilities is long-standing. In 1971, Oregon was the first state in the nation to enact a pedestrian and bicycle funding bill. This law, known as the "Bike Bill," requires ODOT, cities, and counties to install walkways and bikeways whenever a roadway is built, rebuilt, or relocated and to spend at least one percent of the State Highway Fund on projects that support walking and biking.

Federal transportation funding, prior to 1991, primarily emphasized highway improvements. With the signing of the Intermodal Surface Transportation Efficiency Act (ISTEA), the 1991-1997 federal transportation funding authorization bill, emphasis shifted to a multimodal approach, which provided state and local governments' greater flexibility in determining transportation solutions (*46*). Successor Acts have carried this forward, including the various Transportation Equity Acts and the 2012 Moving Ahead for Progress in the 21st Century Act (MAP-21). MAP-21 builds on and refines many of the programs established in the 1991 Act while reducing the number of funding programs and increasing flexibility. In 2015, the Fixing America's Surface Transportation Act (FAST Act) was signed into law and largely maintains the current programs.

Mechanisms available for walking and biking investments primarily include a mix of federal and state funding sources which can be used on state and local routes, as appropriate. Some local governments, when given the authority by the Oregon Legislature or Congress, have also been willing to impose new local taxes and fees to fund transportation improvements. Oregon cities and counties have used several methods to generate revenues for transportation improvements. These local financing opportunities, as well as overall funding streams available for walking and biking investments, are described in the following sections.

# Pedestrian and Bicycle Funding Streams and Opportunities

Pedestrian and bicycle project funding comes from a variety of local, state, and federal sources. The next two sections discuss federal and state funding sources used on the state and local transportation system, local funds used on the local system, and funding authorities and opportunities available to local governments.

## State and Federal Funds

In Oregon, during road capacity or reconstruction projects, ODOT pedestrian and bicycle facilities within street, road, or highway rights-of-way that are open to motor vehicle traffic are eligible to receive funding from the State Highway Fund. During any fiscal year, the amounts expended to provide walkways and bikeways must be a minimum of one percent of the State Highway Fund received by ODOT, a city or county.

### Statewide Transportation Improvement Program

The Statewide Transportation Improvement Program (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 multimodal projects funded by federal and state sources that can be used on the federal, state, city, and county transportation systems. It also outlines federal funds that are specific to other groups or agencies to go through their funding processes (National Parks, National Forests, and Indian tribal lands); this includes some potential grant opportunities for local governments to seek funding for walking and biking.

The current STIP approach for state and federal fund allocation falls into two categories: Enhance and Fix It. The primary objective of this categorization is to enable ODOT to take care of existing transportation assets, in line with Oregon Transportation Plan policy, while still providing a measure of funding to enhance the state and local transportation system in a multimodal way. Enhance projects are those that enhance, expand or improve the transportation system; Fix-It projects are those that maintain or repair existing highway infrastructure.

*Enhance*

Starting in the 2015-2018 STIP, the State Highway Funds that formerly went to the State Bicycle and Pedestrian grants[14] program were combined with federal dollars[15] in the STIP Enhance process.

Federal programs and program eligibility periodically change. Under MAP-21, now the FAST Act, a number of funding programs that commonly helped fund pedestrian and bicycle programs and projects were folded into a new program. Federal funds that are now included in the STIP Enhance category include:

- Transportation Alternatives Program (TAP)
- Surface Transportation Program (STP; federal flexible funds) [16]
- The federal SRTS Outreach and Education program is no longer funded by the federal government however, the Oregon Transportation Commission (OTC) has committed and will likely continue to fund the Outreach and Education component through a separate and competitive process managed by the Transportation Safety Division.[17] Separate from Enhance, these funds are available for education, encouragement, and law enforcement activities.

[14]The State Bicycle and Pedestrian grant program was developed by ODOT to make funds available to local jurisdictions, and help to assure that a minimum of one-percent of State Highway Funds be spent on walking and biking.

[15]It is of note that Transportation Management Areas (TMA) receive their population share of half of Oregon's TAP funds, after a set-aside for the Recreational Trails Program, which is allocated by the TMAs as specified in their Metropolitan Transportation Improvement Programs.

[16]In accordance with provisions of a working agreement, developed in cooperation with local jurisdictions and the FHWA, a portion of STP funds are distributed to small MPOs, cities with population above 5,000 and not in an MPO, and each of the state's 36 counties.

[17]Safe Routes to School is established in state ORS 184.740-741 and the process is in OAR737-025.

A single application process for all projects is used for state agencies, metropolitan planning organizations (MPOs)[18], and local governments to apply for Enhance funds. Project activities that are eligible for Enhance project funding include pedestrian and bicycle facilities as well as other projects such as, public transportation, SRTS infrastructure, Scenic Byways construction projects, and transportation demand management strategies. Projects must be consistent with state and local plans to be eligible. The OTC selects Enhance projects in consultation with regional and local governments, public agencies, and citizen representatives, through a process that includes specific recommendations from the Area Commissions on Transportation (ACT) to the OTC.

*Fix-It*

The Fix-It category includes the capital funding programs that maintain or fix ODOT's portion of the transportation system. Fix-It funding is for capital (non-capital maintenance is not eligible) investment that maintains or fixes part of the ODOT transportation system, including pedestrian and bicycle facilities on state routes. Fix-It projects are usually identified by using a data management system that helps analyze which infrastructure is reaching its useful life, where crashes are occurring, and where projects may lead to cost efficiencies. Among other eligible projects, repairs to pedestrian and bicycle facilities on state routes, safety improvements, and rail-highway crossings are eligible. In addition, some of the Fix-It dollars are set aside for specific types of projects, such as the Sidewalk Improvement Program (SWIP), which is used by ODOT Regions to add pedestrian and bicycle elements on other projects or as stand-alone pedestrian and bicycle investments. These funds typically are used for sidewalk infill, bike lane striping, shoulder widening, pedestrian crossings, and accessible pedestrian signals. "Quick Fix" is another set aside of Fix-It dollars, which are used on a discretionary basis for pedestrian and bicycle projects on the state system, for such projects as sidewalk infill, pedestrian crossings, and bike lane striping.

Beyond Fix-It funds for ODOT, money that was originally part of the Highway Safety Improvement Program is now part of Fix-It and is available to local jurisdictions on a competitive basis.

## Congestion Mitigation and Air Quality Improvement (CMAQ) Program

In Oregon, local jurisdictions in non-attainment areas, under the Clean Air Act (42 U.S.C. §7401 et seq. (1970), qualify for federal funding through the CMAQ Program. Eligible jurisdictions[19] receive transportation program funding under an allocation methodology developed in cooperation with ODOT, FHWA, and eligible recipients. The projects must provide a public benefit and help the area meet its air quality goals. As zero emitting modes, pedestrian and bicycle projects can be funded with these sources and help to achieve air quality goals.

## *Connect*Oregon

Pedestrian and bicycle projects became eligible for state lottery funds through *Connect*Oregon V and again in *Connect*Oregon VI. *Connect*Oregon is a legislatively approved program funding initiative that is used to provide grants to public and private entities to invest in air, rail, marine, transit, pedestrian, and bicycle infrastructure to ensure Oregon's transportation system is strong, diverse, and efficient. Since 2005, *Connect*Oregon has been funded by the legislature on a biennial basis. Pedestrian and bicycle projects, including Regional Paths and other trails, that are not an eligible use of the State Highway Fund, can vie for *Connect*Oregon funding on a competitive basis.

[18]MPOs also receive an allocated amount of federal funding specifically for their planning work (PL) funds, which are supplemented by some State STP funds and State Planning and Research (SPR) funds.

[19]CMAQ funds are currently distributed to seven areas, with Portland getting about 80-percent of the funds. The other jurisdictions include Medford, Grants Pass, Klamath Falls, La Grande, Lakeview, and Oakridge. La Grande, Lakeview, and Oakridge are guaranteed $65,000 each year.

## Other Federal and State Funding Programs

Pedestrian and bicycle projects are also eligible uses in the following Federal programs administered by ODOT:

- Federal Transit Administration Funds: Federal Transit Administration (FTA) funds allow capital program dollars to be used for pedestrian and bicycle transit integration projects.
- Transportation Investment Generating Economic Recovery (TIGER) Competitive Grant Program: These discretionary grants are highly competitive funds that are considered annually by the Federal government when they go through the appropriation process. Road, rail, public transportation, pedestrian and bicycle, port, and multimodal projects that achieve critical national objectives are eligible for this funding.

Other federal programs, not administered by ODOT, include:

- Federal Lands Access Program (FLAP) funds are intended to better connect county and state highways to national forests. Ten percent of the annual funding is dedicated to projects like trailhead amenities and interpretive signage.
- Recreational Trails Program funds come to ODOT which, in turn, chooses to pass them to the Oregon Parks and Recreation Department for distribution through their competitive Recreational Trails grant program.

# Local Funds and Authorities for Local Jurisdictions

Local jurisdictions fund walking and biking projects on their facilities, sometimes matching federal or state funds or using only their monies. For their monies, local governments can, at their discretion, use revenue from general funds, transportation impact fees, system development charges, special assessments, and state grants. Local jurisdictions have other funding authorities available to them for pedestrian and bicycle project investments if they choose to use them. These include local gasoline taxes and local vehicle registration fees (available for counties).

System development charges (SDC), and Local Improvement Districts (LID) are some of the more typical funds that local governments can use to accumulate money for improvements to infrastructure to support new development. Some local jurisdiction may choose to use these funds for transportation projects including pedestrian and bicycle infrastructure, but it is not always specified in local budgets. Other potential funding mechanisms, which locals could use for transportation, include:

- Urban Renewal Areas/Tax Increment Funds (URA/TIF)
- Transportation Utility Fees
- Reimbursement Districts
- General Fund Revenue
- Dedicated Property Taxes
- Hotel/Motel Taxes
- Community Development Block Grant
- School Bonds
- Negotiated Agreements with Developers

These and other potential financing mechanisms are discussed more fully in Appendix C. The application of local funds such as those described above, in addition to the state and federal sources are described in the next section. Such information helps to portray how these programs have helped bring about the walking and biking system in existence today.

# Historic Pedestrian and Bicycle Spending and Identified Needs

The Bike Bill, funding sources available, and general amount of funds available have impacted the way that Oregon has invested in its walking and biking system. To understand more specifics about how this has played out, a snapshot of spending levels was investigated and summarized. In addition, local jurisdiction's planning documents were reviewed to understand what future needs might exist. Together, this information helps us to understand what we are investing today, and what might be needed in the future.

## Historic Spending

A snapshot of expenditures for 2013 showed total estimated expenditures for pedestrian and bicycle facilities, from all sources, on the state and local transportation system was about $43 million. For that year, expenditures on pedestrian and bicycle facilities were unusually high due to the funding provided to ODOT by the OTIA and the JTA. The infusion of funding helped construct many important transportation projects, including pedestrian and bicycle projects.

Since recent expenditures were high, a nine year average of funds expended was used to better indicate possible future funds. Data was available for state expenditures from 2005-2013, and is shown in Table 1. The average includes state and federal sources with a 10.27 percent required minimum local match. Actual local contribution could be, and often is, higher. For instance, the local match in 2013 was 29.4 percent.

Local estimated expenditures were also examined. A total for pedestrian and bicycle infrastructure spending for 2013 was estimated using the best available data as a basis for calculation. A number of sources were reviewed to develop an estimate of current expenditures by local jurisdictions on pedestrian and bicycle infrastructure (see Appendix C). In 2013, expenditures by local jurisdictions for construction, maintenance, preservation, administration, and match for grant projects, were estimated at $23 million for pedestrian and bicycle facilities.

## Long Range Needs

Identifying statewide pedestrian and bicycle needs is a necessary component in the development of the Plan. Oregon's TPR and federal authorizing acts, such as the FAST-Act, require that a minimum 20 year needs analysis be conducted. Needs were identified for the state and local system based on a variety of inventories and project lists included in adopted plans. Note that there is variability in the methodologies and processes used to identify needs and projects across the state, and that estimated needs may or may not align with direction in this plan or money that can reasonably be expected (i.e. financially constrained). Overall, the data shows that estimated walking and biking investment needs far outpace available funding, that needs are likely to grow in the future, and that with less or no increases in funding, these gaps will continue to grow.

### State Needs

Today's biking and walking infrastructure on the state system consists of walkways and bikeways in urban areas and often shoulders in rural areas. There are gaps where sidewalks or bike lanes do not exist today and other deficiencies that remain barriers to a safe and efficient walking and biking system. State

*Table 1: 2005 - 2013 Average State Annual Expenditures ($Million 2013 Dollars)*

| | Total | State Share | Local Match | Federal Share |
|---|---|---|---|---|
| Administration & Publications | | $0.2 | | |
| Average | $19.6 | $7.5 | $1.2 | $10.7 |

inventory data for urban areas pinpoints system gaps and is used to identify the facility need described below. In addition, this plan calls for design guidelines to be updated and other work to define the network. This will help identify and refine needs based upon a more detailed system inventory in the future.

Historically, ODOT measures progress in providing pedestrian and bicycle facilities by looking at system coverage. The analysis assumes that bikeways are needed on 100 percent of the highway system within urban growth boundaries, and that sidewalks are needed where adjacent development is likely to generate pedestrian activity. This assumption of coverage focus may evolve over time, but currently serves as a useful way to assess needs. Overall, the performance measures help articulate the objective of completing the system to close walking and biking network gaps. Estimates for 2013 are shown in Tables 2 and 3.

*Table 2: Roadside Miles of Pedestrian and Bicycle Facilities on State Highways in Cities and Urban Areas (2013)*

| Feature | Total Roadside Miles Needed | Miles Completed | % Complete |
|---|---|---|---|
| Bicycle Facilities | 1,597 | 976 | 61% |
| Sidewalks | 997 | 630 | 63% |

*Source: 2014 State of the System Report (45)*

*Table 3: 25 Year State Highway Pedestrian and Bicycle Facility Needs*

| Facility | Estimated Cost (Millions) |
|---|---|
| Bikeways | $ 216 |
| Sidewalks | $ 748 |
| Pedestrian Crossings | $ 67 |
| **TOTAL** | $1,031 |

## Local Needs

Locally owned and managed pedestrian and bicycle facilities in urban areas primarily consist of sidewalks, crosswalks, median refuge islands, signals, marked bike lanes, bicycle boulevards, and multi-use paths among other facilities. In rural areas, with low vehicle traffic, roadway shoulders often serve as walkways and bikeways. While levels of investments are bound to vary across the State, it should be noted that investments in smaller, rural areas, are often less due to extremely tight and therefore less flexible budgets. In a review of city and county budgets, some of the smaller jurisdictions have to accumulate the funds for a single project over many years. In some of the smallest jurisdictions, the funds have to be used to simply maintain the system.

To understand local needs, city and county TSPs were reviewed. These documents are not required to be financially constrained, so the total amount of funding needed for the projects listed therein could outpace the funds that those jurisdictions might receive. Using this data, the local jurisdiction 25 year needs estimate from the long range plans equals about $2.8 billion,[20] this equates to an average annual need for local pedestrian and bicycle facilities of approximately $112 million (2013 dollars).

As the needs identified in TSPs are not financially constrained, the TSP-identified need could fit their local vision but may not be reasonably achievable within the plan horizon. The significant disparity between estimated current annual expenditures of around $23 million and the average annual need from the TSP-based analysis of approximately $112 million, required the needs identified in TSPs to be moderated. Given that current expenditures are estimated, and recognizing that current revenue is insufficient to achieve their local vision, the Plan assumed that something close to double the current spending would be required to address highest priority projects. The $23 million in current annual spending by cities and counties was multiplied by the 25 year plan horizon; this equated to just over half a billion dollars. A 100 percent increase was projected, making the 25 year total for local government need for pedestrian and bicycle facilities approximately $1 billion (2013 dollars). While not likely to encompass all the needs to assure their vision, this amount could address some of the key needs, issues, and opportunities on the local walking and biking system.

# Policy Support for Making Walking and Biking Investments Moving Forward

Moving from an understanding on investments today and needs tomorrow, the policy foundation in this Plan is designed to bring about changes in how investments and decisions are made that help to achieve Oregon's shared vision. How the Plan's framework plays out will depend on the amount of funding available, the situations encountered, and evolving pedestrian, bicycle, and multimodal transportation system needs. In addition to this plan, decision making is affected by laws and guidelines, such as Americans with Disabilities Act (ADA) requirements and the Oregon Bike Bill.

While many variables impact investment in transportation, this Plan helps to illuminate agreed upon statewide priorities for walking and biking, and support for decision making. The policies and strategies herein are comprehensive to all aspects of delivering walking and biking systems and facilitating those modal options, including: planning, investing, constructing, operating, and maintaining. Many are designed to guide decisions as certain situations or opportunities arise (e.g. minimizing sidewalk elevation changes at driveways) that do not necessarily require substantial investments. Others focus on actions that create specific deliverables (e.g. guidance documents), while the rest require funding to implement (e.g. filling system gaps or installing a rapid flashing beacon at a pedestrian crossing) and need to be prioritized. In this way, the Plan is not intended to be a wish list of actions or activities that cannot be fulfilled under current funding. Rather, it is a framework for making decisions and trade-offs recognizing the challenges and opportunities Oregon faces today and that are likely to be faced in the future.

[20]The total needs represent an estimate for all local governments based on their TSPs. RTPs were examined but the basis for the needs number was TSPs. Since this analysis was complete, the Metro 2014 Regional Active Transportation Plan was adopted. If this were included, need would increase to an additional $1 billion to the bicycle and pedestrian capital. See Appendix C for more information.

Specific to investment decision making, the following goals, policies, strategies, or key initiatives help to illuminate a prioritization framework for supporting walking and biking in Oregon.

## Defining the Network

One of the foundational elements of the Plan is the recognition that there needs to be greater consideration and consistency of how walking and biking systems are constructed under different circumstances, such as assuring greater separation when needed, and adding cycle tracks where appropriate. This concept is especially important when considering the ability to fund walking and biking investments, and the recognition that Oregon cannot likely afford to have a fully separated walking and biking network in all locations across the State. Policies such as Strategy 1.1A, calling for continued updates to the ODOT Design Guidelines and Highway Design Manual, are central to the idea of "defining the network." In Strategy 1.1A, a number of variables are called out which should be considered in identifying the appropriate design features, including: vehicle speed, roadway characteristics and constraints, planned land uses, users and uses, and latent demand. These variables are likely to dictate what is most appropriate for different parts of the walking and biking system. Overall, work around defining the network is further called out in the Implementation Section of this plan as a Key Initiative. This recognizes that the definition of the appropriate walking and biking solutions, identified as appropriate to unique contexts and circumstances, is foundational for all aspects of this plan, especially investment needs.

To accompany a definition of appropriate design treatments, the existing system must eventually be assessed against what is there today to what should be there tomorrow. These inventories and associated network definitions will be critical for both truly understanding system needs as well as helping to apply the prioritization framework established in the Plan and discussed next.

## Prioritization Framework

The policies and strategies under the Strategic Investment goal of this plan seek to provide decision making support for investment choices. One of the key policies therein is Strategy 8.2A, establishing a prioritization framework for walking and biking investments. Strategy 8.2A emphasizes the priority order of investments needed, while also allowing flexibility for ODOT, regions, and locals to define investments in lower categories as their top priority. However, in any given funding cycle investments should be tied to the prioritization categories listed in Strategy 8.2A, with more focus on addressing maintenance needs, safety issues, and critical connections, than on completing the system and beneficial but elaborative investments. Strategy 8.2A guides ODOT investment priorities but is also designed to influence regional and local investments towards these priorities as well.

Similar to established prioritization frameworks in the OTP and OHP,[21] Strategy 8.2A emphasizes protecting the existing system (funding maintenance, preservation, and significant safety issues) and critical connections as the top priorities. Unique to walking and biking investments, projects under this category may also include infill efforts, especially where safety of pedestrians and cyclists is a concern. Filling system gaps is a key issue for a functional walking and biking system, and while the stewardship of infrastructure is key to making investments in the first place, bringing about a complete system is also a top priority.

In line with this sentiment, and different from the prioritization framework of the OTP and OHP, the next listed bullet in Strategy 8.2A is about capacity expansion to complete critical connections. While there might be gaps in the roadway network, those for biking and especially walking are evident and numerous. The language around "critical connections" is designed to point investments to those gaps where transportation options are few or in underserved areas (to target transportation disadvantaged populations) and locations that people need to reach, such as around schools, in

[21] Oregon Highway Plan (1999) Policy 1G.1 on major investments for highways directs that priority go to protecting the existing system first, before improving efficiency and capacity of existing highway facilities, before adding capacity to the existing system, all before adding new facilities (*47*).

downtowns, near shopping or employment centers, and connections to public transportation. Another "critical connection" location is those off-system paths that meet the criteria of Strategy 2.5D, demonstrating a regional and statewide benefit as a "Regional Path." Although not a set designation, the locations meeting the criteria of 2.5D could justifiably be prioritized above paths that may be more local or recreational in nature.

The remaining two prioritization categories under Strategy 8.2A mimic OTP and OHP priorities, focusing on completing the existing system next (e.g. separated systems, bicycle parking), prior to investments that are elaborate (e.g. recreational trails, bike/walk bridges).

Similar to how parallel investment frameworks in the OTP and OHP have informed planning, as well as project identification for the STIP and other funding programs, those in Strategy 8.2A of this plan should help direct funding priorities in individual investment program screening criteria. It also will be helpful in supporting established advisory bodies and decision making processes around investments.

## Programmatic Investments

While Strategy 8.2A of the Oregon Bicycle and Pedestrian Plan helps to establish a prioritization framework, it primarily does so for infrastructure focused investments. Those more programmatic in nature, such as Safe Routes to School, are also recognized in the plan (Strategy 8.2B) as important mechanisms to achieve the plan vision and therefore should be funded. Such programs tend to focus on education and encouragement around walking and biking, critical to both the safety and viability of those modes.

## Leveraging Funding Sources

While not necessarily specific to any one policy or strategy, the plan recognizes that state and local funding sources beyond those most commonly sought for walking and biking improvements can be tapped. Particularly, as critical connections are identified which link walking and biking to public transportation, transit funding could help to support infill and associated pedestrian and bicycle infrastructure. Another potential source can be CMAQ funds, where reducing pollutants targeted by CMAQ also has the added benefit of reducing GHG. Where active transportation and health benefits align, opportunities may exist to utilize health dollars for transportation investments. In addition, opportunities may exist to leverage project development with walking and biking projects, facilitating multimodal investments.

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# Walking and Biking Outlook Given Different Levels of Investment: Funding Scenarios

While the policy foundation of this plan is important to support investment decisions for walking and biking, it is propelled or constrained by the amount of funding available. As funding increases or decreases, various program categories are not necessarily increased or decreased uniformly. Difficult choices are necessary under constrained funding; frequently none of the choices are satisfactory. This lack of adequate funding requires state and local governments to consider how to best minimize the short and long term impacts to Oregon's economy and quality of life.

The funding scenarios below identify how the walking and biking system might be impacted under different levels of investment of state and federal funds. The intent of the scenarios is to further assist decision makers with priorities and to be transparent about the negative and positive consequences of funding levels. The descriptions themselves focus on statewide funding programs and associated local match requirements. Should grant programs become available or other local financing mechanisms pursued, improvements to the existing walking and biking system would be likely.

As much of the walking and biking system is under the authority of local jurisdictions, those areas will need to identify their own funds that will enhance the outlook of the scenarios described below. Further, opportunities to leverage funds may exist and enhanced coordination and collaboration may result in more strategic investments across walking and biking infrastructure.

# Scenario 1: Triage

## Reduced Funding of up to $18.5M Annually (up to $440M total from 2016-2040)

Statewide transportation funding levels decline over time due to debt service, inflation and other issues; and federal funding decreases. Of those funds available, the majority is focused on maintenance and preservation of the existing system. OTP policies, management systems for pavement and bridges and associated federal performance measures drive investments towards safety and preservation of infrastructure. Preservation projects for these areas[22] are likely to have walking or biking elements, including added connections that fill previous system gaps. In this way, maintenance and preservation projects for other modes will help infill the walking and biking network but still fall far short of addressing system gaps and needs. There is opportunity in prioritizing roadway preservation projects to more broadly consider multimodal needs, and take into account walking and biking gaps when selecting the roadway locations with the greatest maintenance and preservation needs. This is of importance in light of the fact that walking and biking facilities are relatively low cost improvements that can help enhance mobility of the system. Specific to investments targeting walking and biking maintenance and preservation, infill may also occur through funds such as SWIP, investing ODOT dollars in filling sidewalk gaps on state highways. In addition, where connectivity issues are a safety concern, such as sidewalks missing around a school, safety related preservation funds can help to make those critical connections. Both from a preservation and enhancement perspective, slow buildout of the walking and biking network would occur.

Across modes, only the most urgent maintenance and safety issues are fixed and the condition of the entire system declines. For walking and biking, this would likely materialize as vegetation encroachment, cracks and upheavals, impacting safety and connectivity in some cases and possibly resulting in reduced mobility. Addressing sidewalk ramps would be a priority for the state, but funding levels would fall short of needs. Across the state, new walkways and bikeways will be built or older ones preserved where the most critical safety issues exist.

Beyond preservation and safety, enhancements to the transportation system would be limited, with only a small portion of the shrinking pot available for additions or modifications. The mandated minimum of one percent would still go towards walking and biking investments but that dollar figure would be smaller given the overall amount of funds available for transportation would be smaller. Some jurisdictions may choose to spend more than the one percent and opportunities exist for leveraging funds and local financing. Focus would be placed on the investments that achieve the most cost effective and greatest benefit for the overall system and for the state. Walking and biking investments would compete with public transportation and transportation options programs, in addition to auto-oriented improvements. Safety would be prioritized above other investments, but even when focused, the limited funding available would only start to address some of the most severe safety issues. Expansion of any of the transportation systems (roadway, biking, walking, or public transportation) beyond that described above would be minimal and rare. Critical gaps in the walking and biking network would remain, and gap infill would slow, leaving areas disconnected and underserved. As congestion would likely increase on roadways, more people might have interest in walking or biking but options would remain limited in areas that are limited today.

[22]Policies, management systems, and performance measures are structured to help prioritize high needs areas first, taking into account the severity of safety issues and risks, destinations and associated uses (such as a school), and amount of use on a given facility.

# Scenario 2: What we have to do

## Same Funding of up to $29M[23] Annually (up to $700M total from 2016-2040)

Statewide transportation funding levels would remain relatively flat or decrease slightly for years to come. Resources may or may not keep pace with inflation, potentially eroding the buying power of the amount available. Preservation of the existing system would continue at its current pace, which is insufficient to prevent deterioration of the walking and biking networks, resulting in more areas of disrepair. Paving and resurfacing projects could focus on the most highly used areas, considering multimodal needs. In these areas, preservation projects would likely enhance walking and biking conditions by filling in gaps, adding sidewalk ramps and improving pavement condition for cyclists, with potential for minor striping changes within existing right-of-way, leading to areas of restored mobility and safety. Spending focused on fixing walking and biking infrastructure would likely target safety issues and sidewalk ramps across the state and address impediments in highly utilized areas or areas serving critical connections. Other parts of the system could have continuing or increasing mobility challenges due to the inability to maintain the infrastructure. Some local jurisdictions which are able to secure additional funding, or have increased growth and can require developers to put in or update infrastructure, may be able to maintain higher levels of mobility.

Remaining funds for enhancements to the transportation system may allow for small incremental improvements to facilitate multimodal transportation choices, including walking, biking, and taking public transportation. First and foremost would be addressing critical safety issues across modes. Making the walking and biking networks more efficient through the expansion of existing infrastructure would be difficult, but select improvements could be made to connect critical gaps or resolve issues on high-use facilities. Filling in these gaps would be a top priority with available funding and help to improve equity by starting to reach more transportation disadvantaged populations. However, funding would only spread so far between safety and making critical connections, resulting in the persistence of moderate to small safety concerns and several areas of the walking and biking network remaining disconnected.

[23]For Scenario 2, average annual expenditures for 2005-2013 were taken into account, looking at a combination of federal and state spending with required local match. This amount was roughly $20 million per year. In 2013 alone, spending was around $30 million due to the availability of increased funding through opportunities such as federal grant programs. Increases in the Oregon gas tax that took effect in 2010 means more funds may be available for bicycle, pedestrian and other investments, potentially raising the average annual expenditure above $20 million.

# Scenario 3: Phase I of what we need to do

## Additional Funding of up to $38M[24] Annually (up to $900M from 2016-2040)

Statewide funding levels increase and stabilize. This increase may result from additional funding from other federal, state or local resources, changes in funding structures, or creative local financing mechanisms, which increases the overall amount of funds available. More paving and resurfacing projects would be expected, resulting in improvements to walking and biking facilities including sidewalk ramps. Those investments targeting walking and biking could consider a broader array of maintenance issues, including prioritizing safety concerns, connections, and mobility impediments. Fixes should continue to focus on well used areas and those serving critical connections. Maintenance issues would still persist on the system, but would likely be infrequent and dispersed. Overall performance of the existing system would improve.

Investments in the system could move beyond addressing known issues at individual locations to systematic improvements that enhance walking and biking overall. With more funding available for completing the system, new construction and reconstruction would be likely across the entire transportation system, equating to new and added walking and biking connections. Filling in critical system gaps would continue and a minimal number of other important connections would be made. With new connections added, longer term maintenance costs would also be borne. In addition to continuing to prioritize critical safety issues, broader safety and security approaches could be supported, such as pedestrian bulb outs and separation, as appropriate. Increasing system safety and security would likely help to address real or perceived barriers to walking and biking, resulting in more people choosing those modes of travel. Overall system accessibility would be improved through connectivity investments, providing additional opportunities to walk and bike. Investments in the transportation system as a whole would likely improve connectivity between modes, for which walking and biking are critical as first and last mile connections to driving and taking public transportation.

[24]For Scenario 3, a 30-percent increase in funding above current spending levels is estimated. This increase is fairly consistent with needs identified in Transportation System Plans in cities with a population over 100,000. Because these TSPs fall inside a Metropolitan Planning Organization (MPO), which is responsible for a financially constrained Regional plan, the needs were considered to be relatively reasonable.

# Scenario 4: Phase II of what we need to do

## Funding Need of up to $105M Annually (up to $2.5B total from 2016-2040)

Less based on the availability of funds and more on needs, this funding scenario conservatively estimates funding needs in excess of $2 billion, meaning that future phases of investment would be needed to achieve the plan vision. Need estimates, identified in local TSPs and other documents, total $2.8 billion[25] by 2040 and conservative state needs were estimated at $800 million. A more conservative assumption was made commensurate with projected State system needs at around $800 million and city and county needs around that amount within more urbanized areas.

With increased, but feasible funding, the ability to maintain and enhance the system is viable. Maintenance issues would become infrequent and dispersed, likely isolated to areas less used or those facilities not serving critical connections.

The roadway system will also see improvements, with more ability to keep up with increasing population, which should bolster pedestrian and bicycle facility system safety. Enhancements would allow for a fairly well connected pedestrian and bicycle network, with gaps existing in less critical, utilized, or populated areas. This may allow for the system to be more fully funded including network connectivity for recreation and other areas not deemed as critical connections. More costly improvements that promote comfort features, like bridges for pedestrians and bicycles only, may be considered.

The level of investment discussed in this scenario would be needed to help achieve the Plan vision, but even more would be needed long term. Benefits from this level of investment would allow the system to mostly keep pace with estimated population growth, help to support system safety and accessibility, thus contributing positively to the livability and economic vitality of the state.

[25]The total needs represent an estimate for all local governments based on thier TSPs. RTPs were examined but the basis for the needs number was TSPs. Since this analysis was complete, the Metro 2014 Regional Active Transportation Plan was adopted. If this were included, need would increase to an additional $1 billion to the bicycle and pedestrian capital. See Appendix C for more information.

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# 5 Implementation
## Considerations

Oregon's walking and biking network traverses state highways, county roads, city streets, parks, and other lands. Each of these areas includes unique ownership and authorities. Effective Plan implementation depends on the support of multiple agencies and organizations. The following section describes various implementation avenues and identifies which public agency and private sector partners have key roles in implementing Plan policies and strategies. Additionally, this section highlights how the Plan can be implemented in all stages of project development and system management, from planning and maintenance, to education and outreach.

To achieve the Plan vision, the policies and strategies herein need to be implemented by a variety of partners, that include state, regional, and local governments, as well as the private sector.

This section:

- Identifies state, regional, and local stakeholders and their roles as "implementation avenues" in order to carry out the Plan's policy recommendations;
- Discusses key initiatives to move the Plan forward;
- Identifies opportunities and challenges in achieving the Plan vision; and outlines mechanisms to track progress toward Plan goals, including pedestrian and bicycle performance measures.

# Implementation Avenues

## Aspects of Implementation

### Planning

The Plan policies and strategies provide an overall framework for planning decisions, including several that are focused on other aspects of implementation. Most directly, the Plan calls for the identification and prioritization of system gaps within planning processes. Further guidance is provided through the definition of critical connections and strategic funding prioritization categories. Other issues like safety needs and mobility challenges should be captured in planning. As an example, ODOT develops an ADA Transition Plan which outlines steps to address physical barriers that limit accessibility on ODOT managed buildings, streets, and walkways; other entities should develop similar documents that help to illuminate key issues. In addition to safety and mobility, the Plan emphasizes that equity be considered in planning and investment decisions, and highlights the need to broadly consider the impact of transportation decisions on health. In a broad sense, the Plan calls for a holistic approach to planning, considering the needs for walking and biking in the context of the entire transportation system, understanding gaps and issues within the system, promoting walking and biking connections to other modes, and considering modal interactions. Other state, regional, and local plans will further refine the policies and strategies in this document as appropriate to the applied context.

### Programming (Investing)

To meet existing and evolving walking and biking needs, investments are required at state, regional, and local levels, requiring implementers to prioritize pedestrian, bicycle, and multimodal transportation projects. A primary goal area of this Plan is strategic investment, recognizing that funding is limited and there is a responsibility to use public dollars as efficiently as possible. As such, guidance is provided for project prioritization based on what is perceived to be the highest needs and greatest benefit. The categories listed in Strategy 8.2A prioritize safety, preserving existing infrastructure, funding critical connections, enhancements, and then other more elaborate investments. This framework will inform investment program discussions and should guide the STIP and other funding program investment decisions. In addition, Plan strategies framing regional paths (Strategy 2.5D) as “critical connections” will help direct investment priorities towards those routes that serve regional and statewide interests, especially for funding programs like *Connect*Oregon. The Plan also calls for the need to be opportunistic about funding, leveraging roadway enhancement projects with walking and biking improvements, and looking for the nexus between funding for health and transportation.

## Design

Plan strategies point to ongoing updates to State design guidelines that reflect consideration of various uses, users, and contexts, as well as relevant elements of the latest national guidelines on appropriate and safe walking and biking design features. Implementation of design policy should be a coordinated effort between various parts of ODOT and federal, regional, and local jurisdictions and consider the balance between consistency and the need for flexibility across urban, rural, and suburban contexts.

## Project Development and Delivery

A key consideration for Plan implementation will be leveraging opportunities to institutionalize pedestrian and bicycle transportation within the project development and delivery processes. Plan strategies identify the need for developing project check lists, where explicit walking and biking needs are considered in project development, or including health criteria into project development processes. Building on existing policies and best practices, implementation will consider approaches to integrate walking and biking needs into planning, design, construction, and maintenance.

## Maintenance

Facility maintenance is important to the functionality and safety of existing and new facilities. As called for in Plan strategies, prioritizing maintenance activities across the system will be important to assuring a mobile and accessible system, and looking for opportunities to develop maintenance plans will be needed.

## Education, Outreach, and Training

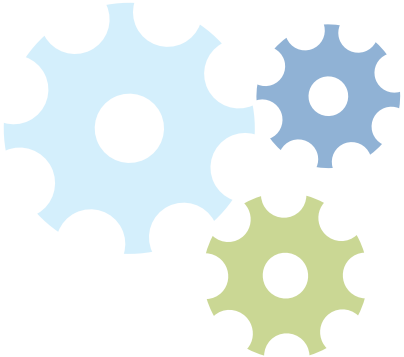
Several Plan policies and strategies recommend providing opportunities for cross-discipline education and training on local, regional, and state levels. These include: guidance on bicycle and pedestrian elements of TSPs (Strategy 2.2A); cross-training with law enforcement staff; education of drivers and cyclists on the rules of the road; outreach around the public health aspects of active transportation systems; or education about maintenance issues associated with walking and biking safety. Implementation of these actions should consider staff capacity and technical expertise in order to ease implementation.

## Roles and Responsibilities

The organizations listed below have a role or responsibility in helping achieve the Plan vision. Others not listed, but who do have critical funding, technical, and support roles, include partners such as the Federal Highway Administration (FHWA). While this role is integral to achieving the plan vision FHWA is not an implementer of the plan itself, but does provide support for funding walking and biking improvements and develops directives and guidance to implementing agencies and organizations. The roles and responsibilities of implementing organizations are described below.

### Oregon Department of Transportation

ODOT has several key statewide responsibilities for Plan implementation. Within ODOT, the Plan provides direction for how ODOT will plan, program, deliver, and maintain the state walking and biking system. Implementation will require support and coordination among many of ODOT's business units. ODOT roles in Plan implementation include:



#### Statewide policy direction:

Implementing and integrating Plan policy recommendations, strategies, and key initiatives into Department guidance, planning, programming, project development, maintenance processes, and practices; including other modes and systems.

#### Statewide design direction:

Continuing to update Department design policies, standards, and guidance, considering system contexts and basing decisions on the latest federal guidance and best practices.

#### Technical assistance:

Encouraging opportunities for training, technical assistance, and understanding best practices in the planning, design, construction, and maintenance of safe and comfortable walking and biking facilities.

#### Safety and education:

Working with partners to provide safety education for all users through existing or new materials and messaging, working with state agency partners, and providing information to local partners.

#### Data collection, analysis and research:

Assessing statewide walking and biking needs through system inventories. Continuing to monitor implementation through Plan performance measures and supporting the collection of walking and biking data, as appropriate.

#### Investment, prioritization, and project development:

Leveraging federal and state funding sources to improve walking and biking networks. Institutionalizing walking and biking across the state through project development processes; and working with partners on efforts such as project prioritization.

#### Operations and maintenance:

Ensuring the effective use of resources by setting maintenance priorities and updating guidelines to support walking and biking safety and mobility based on local and national best practices.

#### National coordination:

Continue to monitor United States Department of Transportation (USDOT), Transportation Research Board, American Association of State Highway and Transportation Officials (AASHTO), etc. on policy guidance pertaining to walking and biking, especially as it relates to federal funding and facility design.

## Other State Agencies

Plan implementation crosses many state agency authorities and requires building on existing partnerships and developing new collaborations. Although not exhaustive, this section highlights key coordination and implementation roles for Oregon state agencies.

### Oregon Health Authority

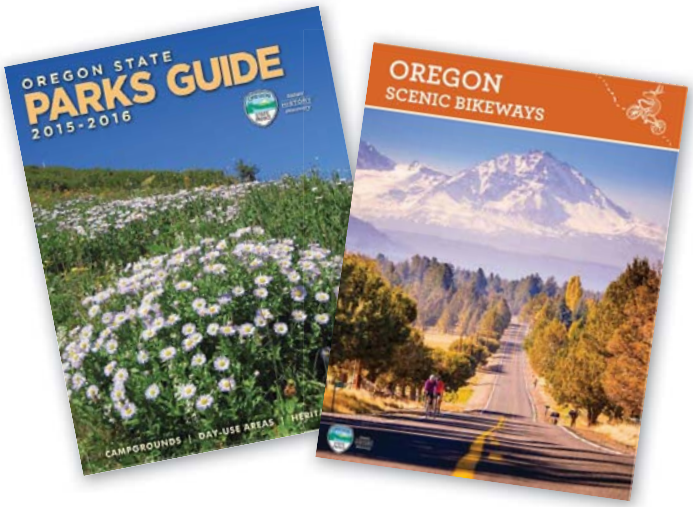
The OHA coordinates with state and local agencies to support their shared goals of promoting livable, healthy, and safe communities. Opportunities for OHA include:

- Working with ODOT on an ongoing basis to implement the existing partnership and encourage active transportation.
- Supporting efforts to engage public health and transportation professionals in education, technical assistance, and training through partnering with local governments, MPOs, ACTs, and other organizations.
- Continuing efforts on active transportation related data collection and research, and exploring approaches to enhance data sharing with other partners.

### Oregon Department of Land Conservation and Development

DLCD administers Oregon's statewide land use planning program and coordinates land use and transportation planning. Opportunities for DLCD include:

- Partnering with ODOT on issues relating to pedestrian and bicycle planning in land use and transportation (TPR, TSPs, TGM).
- Continuing to provide local technical assistance and best practices on issues such as land use, development, and model codes as they relate to pedestrian and bicycle design, planning, and policy issues.




### Oregon Parks and Recreation Department

The OPRD manages several programs related to statewide trail planning, design, and implementation. Opportunities for OPRD include:

- Providing planning and technical assistance on the development of regional paths and trails.
- Working with partners and programs to support pedestrian and bicycle tourism.
- Leveraging funds (e.g. Recreational Trails Program) to support development of walking and biking trails.
- Coordinating with ODOT to ensure compatibility between this Plan and the Statewide Trail Plan, as well as statewide trail and pedestrian and bicycle facility design guidance.
- Identify and prioritize regional paths consistent with Policy 2.5.

### Travel Oregon

Travel Oregon is often also considered a state agency as it was created by the Oregon Legislature in 2003. It's objective is to enhance Oregonians' quality of life by strengthening economic impacts of the state's tourism industry, including advertising, marketing and publication development, state welcome centers, and research and industry relations. Opportunities for Travel Oregon include:

- Outreach on walking and biking routes, including mapping, promotion, and marketing.
- Special walking and biking events to support cycle tourism or walking tours.
- Promotion of recreational walking or biking travel in Oregon.

## Metropolitan Planning Organizations

MPOs are tasked with multi-jurisdictional planning, coordination, and determining regional priorities. Opportunities for MPO's include:

- Developing the pedestrian and bicycle element of Regional Transportation System Plans that include inter-jurisdictional connections, regional paths, and increased access to transit, as appropriate.
- Defining regional walking and biking networks by working with local partners on network inventory, defining need, and prioritizing projects.
- Assessing regional walking and biking needs through system inventories.
- Developing safety action plans with pedestrian and bicycle elements to help identify safety issues.
- Continuing to collect and share analysis resources and walking and biking data with local jurisdictions.
- Supporting opportunities for training, technical assistance, and the understanding of best practices for the planning, design, construction, and maintenance of safe and comfortable walkways and bikeways.
- Working with state agency partners and supporting local efforts within the MPO area to provide safety education for all users through existing or new materials and messaging.
- Identifying additional funding opportunities for walking and biking planning, design, and construction.

## Cities and Counties

Local agencies play important roles in Plan implementation. The majority of walking and biking trips occur within urban areas, while counties are the primary agencies responsible for ensuring local transportation access in rural areas. Opportunities for cities and counties include:

- Developing local pedestrian and bicycle plans (stand alone or within TSPs) and implementing local pedestrian and bicycle projects. This includes safety, education, and enforcement that is consistent with this and other ODOT statewide policy plans.
- Defining local walking and biking networks and working with adjacent jurisdictions to ensure needed connections. This includes local assistance in identifying and prioritizing gaps and overall local needs.
- Assessing local walking and biking needs through system inventories.
- Developing safety action plans with pedestrian and bicycle elements to help identify safety issues.
- Facilitating walking and biking travel through adoption and implementation of local ordinances related to new and re-development requirements for walking and biking infrastructure.
- Enforcing ordinances, particularly bike parking requirements.
- Continuing to collect walking and biking data for use in project development and local network and project prioritization. Sharing information on local best practices (innovative plans, projects, funding, etc.) and supporting training opportunities on pedestrian and bicycle planning, design, and construction.
- Partnering with community groups to support pedestrian and bicycle programs, events, and educational opportunities.
- Working with state agency partners, to provide safety education for all users through existing or new materials and messaging.
- Actively pursuing recognition from the Bicycle Friendly Community and Walk Friendly Community programs and encouraging and assisting applications to the Bike Friendly Business programs.
- Coordinating with local school districts, as schools redevelop or relocate, to encourage more walkable and bikable school siting.
- Identifying additional funding opportunities for walking and biking planning, design, and construction.

## Public Transportation Agencies

Public transportation agencies provide services to regions, cities, and counties and are an important partner in connecting walking and biking trips to major destinations. Opportunities for public transit agencies include:

- Partnering with transportation agencies to enhance walking and biking access to transit stops and stations.
- Accommodating for bicycles and other mobility devices on public transportation vehicles through planning, design, and project implementation.
- Coordinating with local jurisdictions during the development of local and/or regional pedestrian and bicycle plans, transit development plans, long-range transit service planning, and near term improvements such as bike parking.
- Identifying funding opportunities for, and providing, travel options outreach.

## Private Entities and Non-profit Organizations

Private partners, including non-profit organizations, play a key role in implementing the Plan, particularly in coordinating private projects and initiatives with local and state agencies. Their major opportunities in Plan implementation are:

- Supporting and encouraging people to walk and bike, participating in walk and bike to work events, holding bike rallies and other events, and providing education opportunities for individual communities.
- Encouraging and assisting communities and businesses to create walking and biking improvements.
- Helping communities or businesses receive recognition by the Bicycle Friendly Community, Walk Friendly Community, and Bike Friendly Business programs.
- Partnering with state and local agencies and community organizations to support pedestrian and bicycle tourism programs.
- Exploring opportunities to partner with public agencies on pedestrian and bicycle project development (innovative funding strategies).
- Partnering with employers who provide shuttle service to provide bicycle parking and access to park and ride locations.
- Working with state agency partners, MPOs, and local partners to provide safety education for all users through existing or new materials and messaging.

These partners all play critical roles in Plan implementation. Participation in future efforts will enhance opportunities to carry the Plan vision forward. The following sections outline the opportunities and challenges of implementation, key initiatives to move the Plan forward, and how to measure overall Plan success.

# Implementation Opportunities and Challenges

Plan implementation will require effort among a variety of partners and it is important to recognize the opportunities and challenges which exist in moving the Plan forward.

### Demographic Trends

Recent research indicates that changing demographic and economic trends, along with changes in consumer choices, will increase the demand for walking and biking over the 25-year plan horizon. This will create opportunities for increasing walking and biking trips, but also would create greater demands on the existing system and the need to serve areas that are currently disconnected. These trends will need to be monitored over time to assure that evolving demographic needs are considered.

### Data Collection and Performance Measurement

Data and performance measurement provide an opportunity to track the success of Plan policies, strategies, and implementation. Data-driven strategies will be useful to track performance toward the vision of safe, accessible walking and biking networks. Availability and inconsistency of data remains a challenge, specifically where data can be sparse and not provide a holistic view. For example, data that is reported only on trip commutes is missing information on those who may choose to walk or to bike for a variety of other purposes. In addition, consistency related to data reporting may vary among agencies or jurisdictions. For existing data and information, finding the appropriate data source and how the information

OREGON'S

## DEMOGRAPHIC TRENDS

Oregon's population increased by **2.5 times since 1950,** and is expected to reach **5.2 million by the year 2040.**

Oregon's population is graying. **MEDIAN AGE** of the population has increased.

| 30.3 | 38.3 | 39.7 |
|---|---|---|
| 1980 | 2010 | 2020 |

In the long run, **Oregon's growth rate is expected to remain higher** than the U.S. rate.

**The 65+ age group will continue a dramatic increase as baby-boomers continue to enter retirement age.**

SOURCE: STATE OF OREGON OFFICE OF ECONOMIC ANALYSIS *(49)*

will be used to support future active transportation decision making will be challenging, as data sources selected will need to be balanced with available data and technical capacity of implementation. Opportunities exist for sharing data between agencies, understanding how different data sources can inform project development, and technological advances in data collection and reporting.

### Authority, Responsibility, and Coordination

There are many different entities responsible for planning, building, and maintaining walking and biking infrastructure. Within their individual authorities, these entities make unique decisions that impact the continuity and seamlessness of the walking and biking system. As local jurisdictions are required to be consistent with the Oregon Transportation Plan, and supporting mode plans, they implement this Bicycle and Pedestrian Plan when they update their local Transportation System Plans. Opportunities exist to better coordinate between jurisdictions and look at regions or corridors to determine area-wide objectives, projects, and priorities. In addition, there are opportunities to link walking and biking routes to public transportation, through coordination among state, regional, and local jurisdictions with public transportation agencies.

### Public Involvement

Public engagement and education is critical to Plan implementation. Practitioners and other implementers need to understand relevant and current issues and best practices that will continue to support the vision of this Plan. Public involvement also aims to keep stakeholders informed of change or needs, which in turn provide feedback and information about necessary improvements for walking and biking. Engagement efforts should include a diverse group of stakeholders and organizations, including public agencies and associated committees. Opportunities for implementation continue to include allowing for community feedback, providing information on the planning process, and education on what Plan implementation means for local, regional, and statewide stakeholders. A potential challenge will be ensuring that public engagement reaches a broad range of stakeholders and that implementation provides avenues for meaningful input.

### Staff Capacity

While this Plan provides decision making support and guidance, staff availability and expertise is required to implement and stay up to speed on existing plans, policies, and even best practices to help achieve a safe and efficient system. Creating this knowledge can be difficult to achieve, due to the need to regularly educate and train practitioners on these modes. These challenges can be amplified when staff with relevant expertise leaves an agency (i.e. retirement), less experienced staff come onboard, or when staffing shortages occur and employees take on additional workload. However, as interest in walking and biking modes continue to increase, additional opportunities for understanding these areas become more widely available. These opportunities include utilizing consultant expertise at all levels of project development, to using an array of publications, webinars, conferences, or other information sources that may require minimal effort to better understand walking and biking policy implementation.

# Next Steps

The policies and strategies in the Plan are implemented through a variety of avenues and are impacted by driving and restraining forces, as described earlier. Most function to guide decisions as certain situations or opportunities arise (e.g. selecting a roadway cross section or prioritizing projects), while others focus on actions that create specific deliverables (e.g. design guidelines). Those policies and strategies that guide decisions are implemented by all levels of government, unless otherwise specified in the policy (e.g. ODOT). They direct the work of ODOT and local jurisdictions must be consistent with them through their TSPs and other planning efforts. ODOT facility, region, and local plans refine policies and strategies to the appropriate context and identify projects and programs, which are then prioritized for investment. Implementation then continues through project development and delivery, and maintenance, as well as through education, outreach and training efforts (see Appendix F for additional information on the Legal Context of the Plan).

For the remaining policies and strategies, which call for specific deliverables, implementation plans, work programs or other work is needed in order to program the activity. These documents identify when and how strategies will be implemented over the 25 year planning horizon based on needs and available resources.

Timing may change over that period as opportunities arise to implement some actions faster or resources impact the ability to complete a deliverable as soon as desired.

Within six months following adoption of the Oregon Bicycle and Pedestrian Plan, ODOT will develop an Oregon Bicycle and Pedestrian Work Program documenting short (0-5 years), mid (5-15 years), and long term (15+ years) implementation actions to produce the deliverables in the Plan that are under the authority of the Agency. The Oregon Bicycle and Pedestrian Plan Work Program will be shared with the Oregon Transportation Commission and progress reviewed periodically. The Work Program will be updated over time as opportunities and challenges arise and as mid and long term time frames approach and may trigger updates to the Oregon Bicycle Pedestrian Plan. Other immediate ODOT actions include developing an implementation webpage to house on the Plan website to inform the public of walking and biking implementation activities and progress.

For deliverables outside the authority of ODOT, such as system inventory maps for local jurisdictions, those entities will need to determine timing and approach, as well.

To aid in directing implementation priorities for specific deliverables, or for groupings of policies and strategies, Key Initiatives have been identified and are outlined below.

## Key Initiatives

Key Initiatives are foundational activities deemed critical for Plan success. The Key Initiatives were identified by the Policy Advisory Committee and represent work items to address multiple Plan policies

and strategies within a specific effort; relevant policies are noted under each Key Initiative section. They are one of many aspects of implementation work that will follow plan adoption, but are explicitly called out in this plan as items needing to start in the short term (0-5 years following plan adoption). These initiatives are anticipated to require significant level of effort and include many subcomponents that may start or end outside the short-term timeframe. Coordination will likely be required among entities like ODOT, other state agencies, local jurisdictions, and other stakeholders, as appropriate.

### Defining the Network

This key initiative is an early concept recognizing stakeholder interests in establishing design and function expectations on the walking and biking network in order to inform needs, project priorities, and how the system is built, modified, or maintained. More work is needed to define the objectives for this work item and what the most appropriate solution will be accordingly. At a high level, this key initiative recognizes that while the motor vehicle network has been defined by state functional classifications to distinguish how different parts of the system are used as well as how they should be designed and function, the biking and walking network does not have a consistent approach for such definition. Further work is needed to understand what the best approach is to define the biking and walking network and whether a multimodal classification approach is best, one for just biking and walking, separate classifications for walking and for biking, or one that is not based on functional classifications, but rather design guidance around the most appropriate solution (e.g. protected bike lanes) given varying contexts.

The Defining a Network Key Initiative is targeted at identifying a way to differentiate the walking and biking system and provide clarity on appropriate infrastructure, design, and treatments given unique contexts, such as: vehicle speed, roadway characteristics and constraints, planned land uses, key destinations, walking and biking uses and users, and latent demand. This will provide further direction in prioritizing needs (both infrastructure and funding), identifying system gaps, developing criteria for differentiation of facility type, and refining design guidelines to support multimodal system and user needs.

Work will include identifying and updating design guidelines and conducting system inventories similiar to ODOT Region 1 Active Transportation Needs Inventory. Once that work is complete, a decision will be made as to how to establish design and function expectations for walking and biking on the transportation system.

Planning or inventory work that has already been completed on ODOT urban highways and some local jurisdictions will help to advance this key initiative. Additionally, where localities have completed this work, such as documented in Portland Metro's Regional Active Transportation Plan, the information will be used to inform how the biking and walking network is defined and prioritized as well as help align local and state interests.

*Related Plan Policies: 1.1, 2.1, 2.2, 2.3, 3.2, 8.2, 8.3*

### Data

Data is needed to support efficient and effective decision making. Use, availability, and quality of data vary across the state. This key initiative provides an opportunity to focus on finding ways to collect and standardize data that relates directly to decision making, identified Plan performance measures, and those program level performance measures to be identified in plan implementation (described in the key initiative below).

*Related Plan Policies: 1.1, 2.1, 2.3, 5.1, 5.2, 5.3, 6.1*

### Program Level Performance Measure Development

While performance measures have been identified to track progress on achieving the Plan vision, more specific performance measures may be needed to assess needs, system condition, and program performance. Prioritization performance measures are important in order to employ appropriate data to support decision making for network development and maintenance. This key initiative focuses on developing program-level performance measures that can be used in project prioritization as it relates to public investment in walking and biking. Indicators used to "define the network" may be used in prioritization performance measures, such as network connectivity, potential demand, or safety.

*Related Plan Policies: 1.1, 2.5, 5.3, 8.1, 8.2, 8.3*

## Tracking and Monitoring Plan Progress

The Plan will help to shape the future of walking and biking options in Oregon over the next 25 years. To understand how this plays out in achieving the plan vision, performance measures are needed to track and monitor implementation progress. At the Plan level, performance measures focus on ways to gauge statewide success or to help inform decision making to achieve the Plan vision. While performance measures are often specific in nature, Plan level performance measures need to be high-level, all-encompassing, and few in total number in order to be applicable and informative statewide. Plan performance measures complement and can feed into other legislative, agency, or plan performance measures, such as key performance measures (KPM). For example, the existing KPM on coverage helps to measure connectivity in complement to the safety and accessibility measure in the table below.

In the development of this Plan, several performance measures were explored. Those selected and outlined below represent performance areas that could be measured today because sufficient data exists, a methodology for how to measure has been established, and they can be evaluated statewide. The performance measures indicate if safety is improving, use of the system is increasing (assumed through overall improvements to the network), and that data needs are being understood and data collected for more robust performance measures in the future.

*Table 4: Plan Performance Measures*

| Performance Measure # | Performance Measures | Description |
|---|---|---|
| 1 Safety | Number of pedestrian and bicycle fatalities (five-year average) | Average annual number of pedestrians and cyclists killed in crashes with motor vehicles over a five-year period. |
| 2 Safety | Number of pedestrian and bicycle serious injuries (five-year average) | Average annual number of pedestrians and cyclists seriously injured in crashes with motor vehicles over a five year period. |
| 3 Safety | Perceived safety of walking and bicycling | Percent of the public that feels safe walking and bicycling in their community. |
| 4 Accessibility | Pedestrian access to transit | The percent of streets within ½ mile of a transit stop that have sidewalks. |
| 5 Data | Identifying data needs for pedestrian and bicycle performance measures | ODOT, in consultation with local jurisdictions and other agencies when appropriate, will complete the Data Key Initiative by December 31, 2020. |
| 6 Utilization | Utilization of walking or biking for short trips | Percent of commute trips less than 20 minutes that are accomplished by walking or biking. |

*Note: It is important to note that as data improves, these measures could be revisited to better reflect the Plan vision. For example, commute data is easily obtainable given existing mechanisms, but data on all trips (not currently available) may be needed to better understand mode choices or rates of mode use, or to help identify the circumstances in which users feel comfortable walking in their community.*

## Considerations for Future Evaluation

Several other performance measures that showed future potential were also considered and are detailed below for potential future use. More detailed program and implementation based performance measures will be developed as a follow up to this planning effort, as outlined in the key initiatives section. Through plan amendments or future updates Plan performance measures will be revisited, as may other parts of the plan, as more is learned through implementation. Future updates to performance measures will be considered approximately five years from date of plan adoption. Key intiatives work on performance measures are also likely to inform and enhance other legislative, agency, or jurisdictions measures, such as KPMs.

*Table 5: Performance Measures for Future Evaluation*

| Performance Measures | Description | Explanation |
|---|---|---|
| Level of traffic stress (LTS)<br><br>*and/or*<br><br>Multi-modal level of service (MMLOS) | LTS is a way to consider user comfort levels on the biking and walking system, and MMLOS looks at service levels broader than vehicular traffic, considering the needs of all users. | Analysis methodology, especially as applied at a statewide level, is still evolving. However, it is important to note that LTS/MMLOS are becoming more frequently used in transportation analysis and may be suited for a nearer term performance measure, once wider statewide use has occurred. |
| Bicycle access to transit | The percent of streets within 1 mile of a transit stop with a Bicycle LTS 2 rating. | Access to transit was determined as a good proxy for accessibility, but ultimately the Plan advisory committees thought them too specific for a Plan level performance measure. |
| Bicycle Friendly State ranking | Oregon's annual ranking in the League of American Bicyclists' Bicycle Friendly State Ranking program. | State and local rankings were viewed as important information tools, but not suited for a Plan level performance measure due to changing evaluation criteria of recognition programs and the ability or inability of different communities to apply was thought to vary. |
| Bicycle Friendly Communities | Number of local jurisdictions with a Bicycle Friendly Community Designation, at any level. | |
| Walk Friendly Communities | Number of local jurisdictions with a Walk Friendly Community Designation, at any level. | |

*Note: While recognized as important tools, the performance measures in table 5 were deemed either too detailed, or too broad, for measuring the Plan vision at time of Plan completion. However, it is important to note that these measures could be used in other efforts or could be better suited for future Plan updates once they have been further developed and tracked.*

# References


1. Milne, A., and M. Melin. *Bicycling and Walking in the United States: 2014 Benchmarking Report.* Alliance for Biking & Walking, Washington, D.C., 2014, pp. 42-45.
2. Dill, J., and N. McNeill. Four Types of Cyclists? Testing a Typology to Better Understand Bicycling Behavior and Potential. Portland State University, Portland, 2012.
3. Boldry, J. U.S. Bicycling Participation Benchmarking Study Report. People for Bikes, Boulder, 2015.
4. Litman, T. Short and Sweet: Analysis of Shorter Trips using NHTS Data. Victoria Transport Policy Institute, Victoria, 2014, pp. 4.
5. Office of Economic Analysis, Department of Administrative Services. *Long-Term Population Forecast for Oregon and its Counties, 2010-2050.* State of Oregon, Salem, Oregon, 2013.
6. Federal Highway Administration "National Household Driving Trends, 2001-2009. http://nhts.ornl.gov/index.shtml.
7. Travel Oregon. *The Economic Significance of Cycling on Oregon Scenic Bikeways, 2014.* Portland, Oregon, June 2015.
8. U.S. Department of Transportation. Safer People Safer Streets: Pedestrian and Bicycle Safety Initiative. June 2015. www.transportation.gov/policy-initiatives/ped-bike-safety/safer-people-safer-streets-pedestrian-and-bicycle-safety. Accessed Aug. 21, 2015.
9. Federal Highway Administration. Towards Zero Deaths. March 2015. http://safety.fhwa.dot.gov/tzd/. Accessed Aug. 21, 2015.
10. Ryus, P., M. Vandehey, L. Elefteriadou, R.G. Dowling, and B.K. Ostrom. Highway Capacity Manual. Transportation Research Board of the National Academies, Washington, D.C., 2010.
11. Mekuria, M.C., P.G. Furth, and H. Nixon. Low-Stress Bicycling and Network Connectivity. Publication CA-MTI-12-1005. Mineta Transportation Institute, 2012.
12. Marshall, W.E., and N.W. Garrick. Street Network Types and Road Safety: A Study of 24 California Cities. *Urban Design International*, Vol. 15, 2010, pp. 133-147.
13. Clifton. *Oregon Household Activity Survey.*
14. Garrett-Peltier, H. *Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts*. Political Economy Research Institute, University of Massachusetts, Amherst, 2011.
15. Metro *The Impact of Amenities on Development Feasibility.* Portland, Oregon, 2010.
16. Litman, T. Evaluating Active Transport Benefits and Costs. Victoria Transport Policy Institute, Victoria, 2014.
17. Metro and Oregon Department of Transportation. *Regional Active Transportation Plan: Benefits of Active Transportation and Considerations for Implementation*. Portland, Oregon, 2013, pp. 7.
18. U.S. Burden of Disease Collaborators. The State of US Health, 1990-2010: Burden of Diseases, Injuries, and Risk Factors. *Journal of the American Medical Association*, Vol 310, No. 6, 2013, pp. 591-606.
19. Oregon Department of Human Services. Health Promotion and Chronic Disease Section. *Oregon Overweight, Obesity, Physical Activity and Nutrition Facts*. Oregon Public Health Division, Portland, 2012.
20. U.S. Department of Health and Human Services, *2008 Physical Activity Guidelines for Americans.* Washington, D.C., 2008.
21. Maizlish, N. Health Co-Benefits and Transportation-Related Reductions in Greenhouse Gas Emissions in the Bay Area: Technical Report. Center for Chronic Disease Prevention and Health Promotion, Richmond, California, 2011.

22. Oregon Health Authority. *Health Promotion and Chronic Disease Prevention, 5-Year Strategic Plan*. June, 2012, pp 7.

23. Gotschi, T. Costs and Benefits of Bicycling Investments in Portland, Oregon. *Journal of Physical Activity & Health*, Vol. 8, Supplement, 2011, pp. S49-S58.

24. Oregon Department of Human Services and Oregon Health and Science University. *Healthy Aging in Oregon Counties*. Portland, Oregon, 2009.

25. Pratt, M., C.A. Macera, and G. Wang. Higher Direct Medical Costs Associated with Physical Inactivity. *The Physician and Sports Medicine*, Vol. 28, No. 10, 2000, pp. 63-70.

26. Greenhouse Gas Emissions Reduction Goals. Or. Rev. Stat. § 486A.205 (2013).

27. Transportation Development Division. *Oregon Statewide Transportation Strategy: A 2050 Vision for Greenhouse Gas Emissions Reduction, Volume 1*. Oregon Department of Transportation, Salem, Oregon, 2013.

28. Calculations and References. *U.S. Environmental Protection Agency*, July 2015. www.epa.gov/cleanenergy/energy-resources/refs.html. Accessed Aug. 25, 2015.

29. deNazelle, A., B.J. Morton, M. Jerrett, and D. Crawford-Brown. Short trips: An opportunity for reducing mobile-source emissions? *Transportation Research Part D Transport and Environment*, Vol. 15, No. 8, 2010, pp. 451-457.

30. United States Census Bureau. "DP03 Selected Economic Characteristics." *American Community Survey 5-Year Estimates, 2009-2013*. U.S. Census Bureau's American Community Survey Office, 2013. ftp2.census.gov. Accessed Oct. 6, 2015.

31. United States Census Bureau. *American Community Survey 5-Year Estimates, 2008*. Center for Personal Assistance Services.

32. Bell, J., and L. Cohen. "Health Effects of Transportation Policy." *Healthy, Equitable Transportation Policy: Recommendations and Research.* Ed. Shireen Malekafzali Policy Link and Prevention Institute, Oakland, California, 2009, pp. 21-26.

33. Federal Highway Administration. *National Travel Household Survey.* https://www.fhwa.dot.gov/policyinformation/nhts.cfm.

34. Dill, J., and J. Gliebe. Understanding and Measuring Bicycling Behavior: A Focus on Travel Time and Route Choice. Final report OTREC-RR-08-03, Oregon Transportation Research and Education Consortium, 2008.

35. Oregon Department of Transportation. *Oregon Sustainable Transportation Initiative Case Study: Corvallis, Oregon. http://www.oregon.gov/ODOT/TD/TP/docs/Toolkit/Case%20Studies/Corvallis%20Case%20Study_Final_071713.pdf.*

36. Federal Highway Administration. *University Course on Bicycle and Pedestrian Transportation Lesson 18: Bicycle and Pedestrian Connections to Transit.* FHWA-HRT-05-119, July 2006. www.fhwa.dot.gov/publications/research/safety/pedbike/05085/chapt18.cfm. Accessed Aug. 25, 2015.

37. Federal Transit Administration. *Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements under Federal Transit Law*. FTA-2009-0052, FTA. U.S. Department of Transportation, 2011.

38. Hood, J., E. Sall, and B. Charlton. A GPS-based Bicycle Route Choice Model for San Francisco, California. *Transportation Letters: The International Journal of Transportation Research*, Vol. 3, 2011, pp. 63-75.

39. Walljasper, J. The Safest Streets. *Planning Magazine*, Vol. 81, No. 5, 2015, 14-21.

40. Karsch, H.M., J.H. Hedlund, J. Tison, and W.A. Leaf. *Review of Studies on Pedestrian and Bicyclist Safety, 1991-2007.* DOT HS 811 614, NHTSA/NTI-131. National Highway Traffic Safety Administration, U.S. Department of Transportation, 2012.

41. Oregon Traffic Safety Performance Plan 2009-2013

42. Duperrex, O., F. Bunn, and I. Roberts. Safety education of pedestrians for injury prevention: a systematic review of randomised controlled trials. *BMJ*, Vol. 324 (1129), 2002, pp. 1-5.

43. ODOT's Transportation Analysis Unit. *ODOT's Analysis Procedures Manual*. September, 2015, Chapter 14, pp 22.

44. Department of Administrative Services. *Policy Manual: Facility Siting Policy 125-6-115*. Salem, Oregon, 1998, pp. 1-7.

45. Oregon Department of Transportation. *State of the System: 2014 Report on Oregon's Transportation System*. Oregon Department of Transportation, Salem, Oregon, 2014, pp. 30.

46. Schweppe, E. Legacy of A Landmark: ISTEA After 10 Years. *Public Roads Magazine*, Vol. 65, No. 3, November/December 2001. www.fhwa.dot.gov/publications/publicroads/01novdec/legacy.cfm. Accessed Aug. 25, 2015.

47. Transportation Development Division. *Oregon Highway Plan*. Oregon Department of Transportation, Salem, Oregon, 2006.

48. Pucher, John. *AARP 2014 Benchmarking Report.* http://www.aarp.org/content/dam/aarp/livable-communities/documents-2014/2014-Bike-Walk-Benchmarking-Report.pdf.

49. Office of Economic Analysis, Department of Administrative Services. *Oregon's Demographic Trends*. State of Oregon, 2012.

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# Appendix A: Acronyms & Glossary

## Acronyms

| | |
|---|---|
| **ARRA** | American Recovery and Reinvestment Act |
| **AASHTO** | American Association of State Highway and Transportation Officials |
| **ACT** | Area Commission on Transportation |
| **ADA** | Americans with Disabilities Act |
| **CDC** | Centers for Disease Control and Prevention |
| **CMAQ** | Congestion Mitigation and Air Quality program |
| **DLCD** | Department of Land Conservation and Development |
| **EPA** | Environmental Protection Agency |
| **FHWA** | Federal Highway Administration |
| **FLAP** | Federal Lands Access Program |
| **FTA** | Federal Transit Association |
| **HSIP** | Highway Safety Improvement Program |
| **ISTEA** | Intermodal Surface Transportation Efficiency Act |
| **JTA** | Jobs and Transportation ACT (HB2001) |
| **GHG** | Greenhouse Gas Emissions |
| **LID** | Local Improvement District |
| **LTS** | Level of Traffic Stress |
| **MAP-21** | Moving Ahead for Progress in the 21st Century Act |
| **MMLOS** | Multi-Modal Level of Service |
| **MOU** | Memorandum of Understanding |
| **MPO** | Metropolitan Planning Organization |
| **OBPAC** | Oregon Bicycle and Pedestrian Advisory Committee |
| **ODOT** | Oregon Department of Transportation |
| **OHA** | Oregon Health Authority |
| **OHP** | Oregon Highway Plan |
| **OPRD** | Oregon Parks and Recreation Department |
| **OTC** | Oregon Transportation Commission |
| **OTP** | Oregon Transportation Plan |
| **PAC** | Policy Advisory Committee |
| **SDC** | System Development Charge |
| **SPIS** | Safety Priority Index System |
| **SRTS** | Safe Routes to School |
| **STIP** | Statewide Transportation Improvement Program |
| **STP** | Surface Transportation Program |
| **STS** | Statewide Transportation Strategy |
| **SWIP** | Sidewalks Improvement Program |
| **TAC** | Technical Advisory Committee |
| **TAP** | Transportation Alternatives Program |
| **TIF** | Tax Increment Financing |
| **TIGER** | Transportation Investment Generating Economic Recovery |
| **TSP** | Transportation System Plan |
| **TPR** | Transportation Planning Rule |
| **TGM** | Transportation and Growth Management |
| **URA** | Urban Renewal Area |
| **USDOT** | United States Department of Transportation |

# Glossary

**Accessibility:**

- Travel: The ability to reach desired destinations with relative ease, within a reasonable time, at a reasonable cost and with reasonable choices.
- Americans with Disabilities Act: The extent to which facilities are barrier free and useable by persons with disabilities, including wheelchair users.

**Active Transportation:** Active transportation includes non-motorized forms of transportation including walking and bicycling, people using wheelchairs or mobility devices and skateboarding.

**ADA Transition Plan:** Required by the Rehabilitation Act (1973) and the Americans with Disabilities Act (ADA, 1990), which mandates self-evaluation by agencies to assess barriers to accessibility for people with disabilities traveling within the public right of way. Such a plan is a living document that identifies obstacles, describes methods to make facilities accessible, specifies costs, a schedule for completing modifications, and designates a staff person responsible for tracking project status and progress.

**Area Commissions on Transportation (ACTs):** ACTs are advisory bodies chartered by the Oregon Transportation Commission to address all aspects of transportation (surface, marine, air, and transportation safety) with primary focus on the state transportation system. ACTs play a key advisory role in the development of the Statewide Transportation Improvement Program, which schedules funded transportation projects.

**Baby Boomer:** A person born during the post-World War II population spike, between 1946 and 1964. The population increase, representing nearly 20% of the U.S. population, reinvigorated the post-war economy, and continues to have a significant impact on the economy today.

**Barrier:** A barrier is 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 resource.

**Best Practices:** The most efficient (least amount of effort) and effective (best results) way of accomplishing a task, based on repeatable procedures that have proven themselves over time for a large number of people. Best practices continually evolve, based upon new information and experiences.

**Bicycle:** A pedal-powered vehicle upon which the human operator sits. This includes three- and four-wheeled human-powered vehicles.

**Bicycle and Pedestrian Network:** The combined network of travelway intended for bicycles and pedestrians, which includes sidewalks, bicycle facilities, trails, and walkable and bikeable streets.

**Bicycle Facility:** Any facility provided for the benefit of bicycle travel, including bikeways and parking facilities as well as all other roadways not specifically designated for bicycle use.

**Bicycle Friendly Community, Business and University:** A program developed by the League of American Bicyclists to recognize communities and institutions that promote bicycling through infrastructure, encouragement programs, policies, and plans. The aim of the program is to promote bicycling as a "real transportation and recreation option for all people."

**Bike Bill:** Refers to Oregon Revised Statute (ORS) 366.514, which requires the inclusion of facilities for bicyclists and pedestrians wherever a road is being constructed or reconstructed. This statute also requires that a minimum of 1 percent of the state highway fund be used to provide walkways and bikeways to streets or highways open to motor vehicles and located within the public right-of-way.

**Bike Lane:** A portion of a roadway which has been designated by striping and pavement markings for the preferential or exclusive use of bicyclists.

**Bike Share:** A program or a system, typically developed by public agencies or public-private partnerships, to provide bicycles for short term, point-to-point rental.

**Bikeway:** A general term for any road, street, path, or way which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for exclusive use of bicycle or are to be shared with other transportation modes.

**Congestion Mitigation and Air Quality (CMAQ):** The Congestion Mitigation and Air Quality Improvement Program provides federal funding to qualifying transportation projects or programs that provide an air quality benefit. These funds assist areas that have been designated as non-attainment or maintenance areas according to the national ambient air quality standards for ozone and carbon monoxide emissions under the Clean Air Act of 1990.

***Connect*Oregon:** *Connect*Oregon was created in 2005 by the Legislature to invest the proceeds of lottery-backed bonds in grants and loans to non-highway transportation projects that promote economic development in Oregon.

**Connectivity Islands:** LTS methodology allows the identification of connectivity "islands", surrounded by higher LTS streets/intersections and other natural and physical barriers (i.e. rivers and railroads). This allows for a true connectivity look versus just considering system gaps, as one high stress location may prevent many routes or connections between adjacent neighborhoods. Improvements can be prioritized by the amount of additional low stress routes or points connected, thereby enhancing the system in addition to just gap filling.

**Department of Administrative Services Siting Policy:** An executive order (94-07) issued in 1974 by Oregon Governor Barbara Roberts that establishes priority siting for state offices in areas that are highly accessible by multiple travel modes, are pedestrian friendly, have frequent and reliable transit service, and are within urban growth centers designated by local or regional plans.

**Design Guidelines:** A set of rules or recommendations produced by industry professionals for others to use in designing infrastructure.

**Equity:** A metric that pertains to the fair distribution of public resources to all members of the community including minority populations and those traditionally disadvantaged or underserved. In transportation, this refers to a normative measure of fairness among transportation system users.

**Freight Carrying Capacity:** ORS 366.215 is a statute that limits the Oregon Transportation Commission from permanently reducing the vehicle-carrying capacity of an identified freight route, except with specific exceptions allowed by statute.

**Gap:** The missing links or barriers in the urban transportation system. A gap could be a connection that does not currently exist or could be the result of a physical barrier such as a roadway, natural feature, vehicle restrictions (such as weight limitations on a bridge), or existing development.

**Highway Safety Improvement Program (HSIP):** A core federal-aid program intended to reduce traffic fatalities and serious injuries on all public roads.

**Key Destinations:** Defined as hospitals and medical centers, major retail sites, grocery stores, K-12 school and higher education institutions, pharmacies, parks/open spaces, major social service centers, employers with greater than 1,500 employees, sports and attraction sites and major government sites.

**Last-mile Connection:** A term used to describe the first or last leg of a transit trip between a transit stop and a person's place of origin or destination.

**Level of Traffic Stress Analysis:** The methodology for calculating traffic stress at the network level for people travelling on bicycles. It is based on a set of criteria that includes number of lanes, vehicle speeds, existing bicycle infrastructure and configuration, and intersection design features.

**Metropolitan Planning Organization (MPO):** A planning body in an urbanized area of over 50,000 in population which has responsibility for developing transportation plan for the area.

**Millennial:** A term that refers to people born after 1980, who reached adulthood around the year 2000 (the millennium). The generation is considered to be strongly influenced by the technological and economic implications of the internet.

**Mobility Device:** A device designed to assist walking or improve the mobility of people with a disability. Examples include walkers, wheelchairs, and motorized scooters.

**Mobility Hub:** Mobility hubs are a place where transportation modes seamlessly connect. They usually involve transit, vehicle sharing such as car and vanpooling, concentrations of land uses, and an information component. Mobility hubs connect a variety of sustainable modes and services through a network of physical locations or "mobile points." The points are located throughout a city or region to physically and electronically link the elements of a door-to-door trip.

**Mode:** A means of transportation and could include walking, bicycle, bus, single- or high-occupancy vehicle, train, truck, air, marine, etc.

**Mode Choice:** The decision making process a person goes through to decide how they will make a trip.

**Mode or Topic Plan:** A plan that implements the broader policies of the Oregon Transportation Plan for specific modes, such as public transportation and rail, or topics such as safety, passenger or freight movement over a 20-year period.

**Mobility:** In planning terms, mobility is the ordinary movement of people and goods by any means, including by direct travel or by means which reduce the need to travel such as proximity of destinations and teleworking. In highway terms, mobility is defined as the efficient movement of vehicles.

**Moving Ahead for Progress in the 21st Century (MAP-21):** MAP-21 was signed into law by President Obama on July 6, 2012. It allocated over $105 billion for surface transportation projects in fiscal years 2013 and 2014.

**Multimodal:** The movement of goods or people by more than one transportation mode.

**Neighborhood Greenway:** Residential streets with low volumes of auto traffic and low speeds where bicycles and pedestrians are given priority.

**Network:** A series of connected routes forming a cohesive system.

**ODOT Design Guidelines Highway Design Manual:** The ODOT reference guide for uniform standards and procedures, providing guidance for all types of state highway construction projects.

**ODOT Regions:** This refers to the five geographical areas ODOT has divided the state into for operational purposes. They include: Region1: Portland Metro; Region 2: Willamette Valley, North and Mid-Coast; Region 3: Southern Oregon and South Coast; Region 4: Central Oregon; Region 5: Eastern Oregon.

**ODOT Safety Priority Index System (SPIS):** A GIS-based methodology used to identify potential safety problems on state highways, particularly segments with higher crash histories. SPIS was developed in 1986 and originally only included state highways but has been expanded to include city and county roads.

**Oregon Bicycle and Pedestrian Advisory Committee:** Comprised of eight members appointed by the governor to act as a liaison between ODOT and the public, this group advises in the regulation of bicycle and pedestrian traffic and the establishment of bikeways and walkways.

**Oregon Health Authority:** An agency whose mission is to improve health care access and delivery in the state of Oregon by lowering costs and improving quality. It oversees most of the state's health care programs including Public Health, the Oregon Health Plan, Healthy Kids, employee benefits, and public-private partnerships.

**Oregon Household Activity Survey:** This refers to an in-depth survey of household travel behavior conducted annually from 2009-2011.

**Oregon School Siting Handbook:** This handbook is an evaluative study of the state's school siting process. The handbook developed a set of recommendations which includes how school siting can best utilize existing resources and be accessible for children travelling on foot or by bike.

**Oregon Transportation Plan (OTP):** The OTP is Oregon's 25-year transportation plan that comprehensively assesses state, regional, and local public and private transportation facilities and services and serves as the policy element of the state transportation system plan.

**Pedestrian:** A person on foot, using a mobility device, or walking a bicycle.

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

**Protected Bike Lane:** An exclusive bicycle facility, separate from motor vehicle traffic and distinct from the sidewalk. It combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane.

**Rapid Flashing Beacon:** User-actuated amber LEDs that supplement warning signs at unsignalized intersections or mid-block crosswalks. They can be activated by pedestrians manually by a push button or passively by a pedestrian detection system.

**Recreational Trails Program:** This FHWA program provides funding for states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. The program is administrated through individual states.

**Roadway Characteristics:** Physical aspects of the roadway (paved portion of a highway) including the number of lanes, width of lanes, presence of turn lanes or bicycle lanes, presence of shoulders or medians, etc.

**Rural:** Encompasses all population, housing, and territory not included within an urban area as defined by the U.S. Census.

**Safe Routes to School (SRTS):** The SRTS program involves parents, school districts, planners, and health officials to improve health, reduce childhood obesity, decrease traffic congestion, improve air quality, and enhance neighborhood safety particularly around schools. Programs promote biking and walking to school through safety education classes and "walk and bike to school day" programs.

**Scenic Bikeways Program:** Unique among states, the Scenic Bikeway Program provides information about locally vetted and approved scenic bicycle routes around the state of Oregon that provide access to scenic, historic, natural and cultural resources.

**Sight Distance:** A distance a vehicular driver needs to be able to see in order to have room to stop or otherwise avoid an obstacle or collision.

**State Transportation Improvement Program (STIP):** The funding and scheduling document outlining major road, highway and transit projects scheduled in Oregon for the next four-year period.

**Statewide Trail Plan:** This is the state's adopted plan, which makes it eligible to participate in the state's Recreational Trails Program.

**Statewide Transportation Strategy (STS) - A 2050 Vision for Greenhouse Gas Reduction:** The STS examines all aspects of the transportation system, including the movement of people and goods, and identifies a combination of strategies to reduce greenhouse gas emissions.

**System Development Charge (SDC):** A reimbursement fee, an improvement fee or a combination thereof assessed or collected at the time of increased usage of a capital improvement or issuance of a development permit, building permit or connection to the capital improvement. SDCs do not include any fees assessed or collected as part of a local improvement district or a charge in-lieu of a local improvement district assessment, or the cost of complying with requirements or conditions imposed upon a land use decision, expedited land division or limited land use decision.

**Stakeholders:** Those who have a compelling and significant interest in a planning effort, or who may be affected by a planning effort.

**Transportation Alternatives Program (TAP):** Under MAP-21, Federal Recreational Trails, Safe Routes to School, and Transportation Enhancements programs were merged into the Transportation Alternatives Program. Nationwide, two percent of total highway funds are set aside for TAP.

**Transportation Disadvantaged:** Includes communities of color, the poor, older adults, youth and people with disabilities, who are at a significant disadvantage without access to convenient, safe, well integrated transportation alternatives. All of these groups are often without easy access to cars and live in locations without convenient, safe transportation alternatives.

**Transportation and Growth Management (TGM):** A joint DLCD/ODOT program to assist cities and counties with transportation planning.

**Transportation Planning Rule (TPR):** Enacted to support Oregon's Goal 12 (The Transportation Goal), the TPR seeks to promote the development of safe, convenient and economic transportation systems that reduces reliance on automobiles. The TPR describes how local governments and state agencies must conduct their transportation planning.

**Transportation Options:** Transportation options strategies, programs, and investments create choice in our state and local transportation systems, allowing people to bike, walk, take transit, drive, share rides, and telecommute. Historically, the purpose of transportation options programs and strategies (also referred to as "transportation demand management") has been to reduce reliance on single occupant vehicle travel during the busiest times of day through strategies such as carpooling, high-occupancy vehicle (HOV) lanes, and other mitigation strategies.

**Travel Oregon:** The official guide to Oregon travel and tourism information.

**Transportation System Plan (TSP):** A plan prepared for all transportation modes for a given area usually a city, county, or MPO. It includes an inventory of the existing system, proposed improvement projects, and other elements required by the Oregon Transportation Planning Rule.

**Underserved Areas:** The traditionally underserved can be defined as those specifically identified in Executive Order 12898 on Environmental Justice - that is, low-income populations and minority populations including Hispanics/Latinos, African Americans/Blacks, Asian Americans, Native American/Alaskan Natives and Native Hawaiians, and Pacific Islanders - as well as other populations recognized in Title VI and other civil rights legislation, executive orders, and transportation legislation, including those with limited English proficiency such as the foreign-born, low-literacy populations, seniors, persons with disabilities, and transit-dependent populations.

**Urban:** Urban area of 50,000 or more people.

**Vision Zero:** Vision Zero is a road traffic safety concept with the objective of creating a highway system with no fatalities or serious injuries in road traffic.

**Vulnerable Users -** Vulnerable user of a public way means a pedestrian, a highway worker, a person riding an animal or a person operating any of the following on a public way, crosswalk or shoulder of the highway: (1) A farm tractor or implement of husbandry; (2) A skateboard; (3) Roller skates; (4) In-line skates; (5) A scooter; or (6) A bicycle. [2007 c.784 §2; 2009 c.301 §1].

**Walk Friendly Community:** A program through FHWA and the UNC Highway Safety Research Center that encourages communities across the US to commit to and develop safer and more comfortable walking conditions.

# Appendix B: Plan Development Process and Stakeholder Outreach

The Oregon Bicycle and Pedestrian Plan is built upon meaningful and continuous engagement from a broad spectrum of stakeholder groups and individuals across Oregon. The voices and perspectives captured in the Plan include representatives from ODOT, other State agencies, MPO's, city, county, and tribal governments, health and human services agencies, community groups, educational institutions, technology firms, innovators, business, and environmental groups. The following stakeholder involvement goals helped guide collection of these perspectives:

- Communicate with a broad spectrum of Oregon stakeholders
- Develop a vision for walking and biking rooted in statewide perspectives
- Collect information about walking and biking issues and opportunities
- Organize and facilitate a Policy Advisory Committee to guide plan development
- Ensure sensitivity to local needs and objectives, while developing a comprehensive statewide plan
- Coordinate with state agencies
- Comply with Title VI requirements and objectives
- Comply with the Oregon Transportation Commission's Public Involvement Policy
- Comply with the State Agency Coordination Program

## POLICY ADVISORY COMMITTEE

A diverse Policy Advisory Committee, approved by the OTC and members appointed by the ODOT Director, provided direction and guidance throughout the planning process. Comprised of 15 representative interests, the committee served as the core conduit for stakeholder input and communication. The committee's membership was drawn from urban and rural elected officials, city, county, regional, and state agencies and governing bodies, freight, and business owners. The PAC met throughout the course of the 20-month planning process to provide insights and guidance on plan development, developed the Vision and goals, reviewed key Plan products, and also served as one of the key communication conduits to provide information from their local constituencies, committees, and decision making bodies. The Oregon Bicycle and Pedestrian Plan Policy Advisory Committee included the following:

- Tammy Baney, Oregon Transportation Commission, Deschutes County Commission
- Jerry Breazeale, Rural Oregon Representative
- Craig Campbell, AAA Oregon/Idaho
- Steve Dickey, Salem-Keizer Transit
- Peter Fernandez, City of Salem
- Bob Joondeph, Disability Rights Oregon
- Mark Labhart, Tillamook County Commission
- Sid Leiken, Lane County Commission
- Gerik Kransky, Bicycle Transportation Alliance
- Jerry Norquist, Cycle Oregon
- Noel Mickelberry, Oregon Walks
- Bob Russell, Oregon Trucking Association
- Jenna Stanke Marmon, Oregon Bicycle and Pedestrian Advisory Committee, Jackson County
- Dan Thorndike, Medford Fabrication
- Phil Warnock, Cascade West COG

## TECHNICAL ADVISORY COMMITTEE

A Technical Advisory Committee was comprised of representatives throughout the State to assist in the technical components of Plan development and focus on implementation to ensure the Plan will work in daily practice. The 15 member committee met five times throughout the project to help identify issues and opportunities, discuss draft policies and strategies, and review Plan performance measures. The Technical Advisory Committee representatives follow:

- Shane MacRhodes, Safe Routes to School Coordinator, Eugene
- Jeffery Owen, TriMet Active Transportation Planner
- Chris Monser, PSU Professor
- Mike Cosgrove, Lower John Day Area Commission on Transportation
- Becky Knudson, ODOT Senior Transportation Economist
- Lake McTighe, Metro Active Transportation Planner
- Julie Warncke, City of Salem Transportation Planning Manager
- Shelley Oylear, Bicycle and Pedestrian Coordinator
- Robin Lewis, Bend City Traffic Engineer
- Alex Phillips, OPRD Bicycle Recreation Coordinator
- Heather Gramp, Health Policy Specialist, OHA
- Mike Jaffe, MWV COG Transportation Planning Director
- Loree Pryce, City of Brookings Director of Public Works
- Bandana Shrestha, Director of Community Engagement, AARP
- Evan MacKenzie, Planner, City of Pendleton Community Development Department

## STAKEHOLDER INTERVIEWS AND SURVEYS

The outreach process began with in-person, phone, and web-based interviews or surveys of statewide stakeholders representing community groups; the public sector including local, regional, and state representatives; and the private sector. Information gathered provided a baseline understanding key issues and opportunities of the Oregon's walking and biking system and helped the PAC develop a vision for biking and walking for the State. Initial input derived from internal and external ODOT conversations included:

- ODOT Active Transportation
- ODOT Regional and Area Managers and Planners
- ODOT Transportation Safety
- Oregon Health Authority
- Oregon Department of Parks and Recreation
- Local and statewide health and transportation advocacy groups (e.g. Oregon Walks, Bicycle Transportation Alliance)
- Local Transportation Committees (e.g. Area Commissions on Transportation, Bicycle and Pedestrian Advisory)
- MPO Representatives
- OTC Commissioners

The stakeholder interview process helped to develop the Bicycle and Pedestrian Plan vision and supporting goals, policies, and strategies.

## LISTENING MEETINGS

Listening meetings were conducted throughout the state to gather feedback from stakeholders on issues and opportunities that informed policies and strategies developed for the Bicycle and Pedestrian Plan. Meeting attendees were asked to identify their top safety concerns related to bicycle and pedestrian use in their community, opportunities for improving system connections, and allowed for general feedback. Meetings were held in Bend, Eugene, Medford, Portland, and La Grande. A total of over 200 people participated in the five listening meetings.

## VIRTUAL OPEN HOUSE

In addition to the listening meetings, a virtual open house was developed for stakeholders unable to attend meetings in person. The virtual open house provided information on the Plan and asked respondents identical questions as the listening meetings related to safety and system connections, while also allowing for general feedback to inform Plan development. An additional 143 people filled out the virtual meeting survey, with over 200 having visited the site.

## OTHER OUTREACH

ODOT staff advertised the Plan's development by providing updated project information on the project's website: http://www.oregon.gov/ODOT/TD/TP/pages/bikepedplan.aspx. The website also housed fact sheets which were updated throughout the course of the project as a simple way for people to stay up to date on project development.

Through Govdelivery, an online email subscription service, stakeholders received notification of upcoming involvement opportunities and draft documents for review.

ODOT staff, the project team, and the PAC kept key elected and appointed public bodies updated of the Plan's progress. ODOT governance and advisory committees received updates throughout the process to coordinate with other planning efforts, advance Intermodal Oregon efforts inside of ODOT, and to keep decision makers well informed of the Plan's progress. Updates were provided to the following groups and committees:

- Oregon Transportation Commission
- Oregon Public Transit Advisory Committee
- Oregon Freight Advisory Committee
- Oregon Bicycle and Pedestrian Advisory Committee
- ODOT Area Commissions on Transportation
- Metropolitan Planning Organizations

## PUBLIC REVIEW PERIOD

Formal public review of the Bicycle and Pedestrian Plan began when the Oregon Transportation Commission released the Draft Oregon Bicycle and Pedestrian Plan for review on November 13, 2015 with comments due from the public on February 18, 2016. ODOT staff distributed press releases and other notices announcing the public review period and provided presentations on the Plan throughout the state.

A complete log of public review comments along with ODOT's responses is included in the OTC Adoption Packet.

# Appendix C: Strategic Investment - Estimated Need and Current Spending, State and Local Infrastructure

## Introduction

Identifying statewide pedestrian and bicycle needs is a necessary component of development of the Oregon Bicycle and Pedestrian Plan. The Transportation Planning Rule (TPR) and federal authorizing act, Fixing America's Surface Transportation Act (FAST Act) require that a minimum 20 year needs analysis be conducted.

This estimate of current spending and long range need is developed for comparison purposes. It reflects a snap shot in time, based on current and historical funding practices. It does not limit one to these practices in the future. For this analysis, staff gathered the best currently available data and historical trend data of state funding. The local system estimates also used the best currently available data, a sample of transportation system plans (TSP) based on a stratification of population that was then factored up to represent the total local system. The information in this document represents 2013 data. If earlier data than 2013 had to be used, it was adjusted to reflect 2013 dollars. Historical data is provided for state expenditures, as the 2013 funding was higher than usual because of the influx of bonded funds related to the Jobs and Transportation Act (2009) and the Oregon Transportation and Investment Acts (2001, 2002, 2003 & 2005).

## State System Needs Analysis Methodology

A state pedestrian and bicycle facility inventory was completed in 2012 and it will be updated again in 2015. The estimates for state pedestrian and bicycle facility needs were developed based on the system inventory, applying average unit cost, and engineering judgment. Bikeway needs include bike lanes, multi-use paths, and under certain circumstances, mainly in rural areas where traffic volumes are low, shoulders and shared travel lanes. The estimates take into consideration the type of bicycle facility appropriate for the location. Pedestrian safety crossing need was developed using the same combination of average unit cost depending on the complexity of the crossing type, statewide system facility inventory, and engineering judgment.

### State Systems Facility Status

*Table 1: Roadside Miles of Pedestrian and bicycle Facilities on State Highways in Cities and Urban Areas*

| Feature | Total Miles Needed | Miles Completed | % Completed |
|---|---|---|---|
| Bicycle Facilities | 1,597 | 976 | 61% |
| Sidewalks | 997 | 630 | 63% |

*Source: 2014 State of the System Report*

In urban areas pedestrian and bicycle infrastructure on state facilities consists of sidewalks, ramps, crosswalks, median refuge islands, signals, shared use paths, and marked bike lanes. In rural areas, the state highway shoulders often serve as walkways and bikeways. ODOT's focus has been to provide facilities primarily on urban state highways, while maintaining and improving shoulders along rural state highways as opportunity occurs. ODOT's Bicycle and Pedestrian Program also assists cities and counties with pedestrian and bicycle funding and planning. ODOT tracks progress in providing facilities by looking at coverage, it assumes bikeways are needed on 100 percent of the highway system within urban growth boundaries and sidewalks are needed where adjacent

development is likely to generate pedestrian activity. ODOT periodically inventories facilities through a review of state highways within urban growth boundaries. To date, it is estimated that 630 miles, or over sixty percent, of the sidewalk system on state facilities is in place, and that 976 miles, or over sixty percent, of the bicycle system on state facilities is in place. ODOT's target is to have bicycle facilities and sidewalks on at least 74 percent of highway roadside mileage in urban areas.

State pedestrian and bicycle facilities are funded through various sources including:

- State Highway Funds
- Federal Funds
- ODOT Maintenance Funds
- ODOT Administered Grant Programs
- Local Government
- Private Development

*Table 2: 25 Year State Highway Pedestrian and Bicycle Facilities Needs ($Millions 2013 Dollars)*

| | |
|---|---|
| **Bikeways** | $216 |
| **Sidewalks** | $748 |
| **Pedestrian Safety Crossings** | $67 |
| **Total** | $1,031 |

*Based on Engineering Estimates*

## State System Current Spending

The legal framework for state spending for facilities is set forth by Oregon Revised Statute 366.514 Use of Highway Funds for Footpaths and Bicycle Trails (also known as the 'Bike Bill') passed in 1971. It requires ODOT, cities, and counties to install bikeways and walkways whenever a roadway is constructed or reconstructed and to spend reasonable amounts of the State Highway Fund on walkways and bikeways. The state, cities, and counties are expected to expend no less than one percent of the highway funds applicable to highway, road or street construction, reconstruction or relocation. The statute allows three exceptions to walkway and bikeway construction:

- Where it would be unsafe;
- Where there is no need; or
- Where the cost is too high in proportion to need.

ODOT monitors compliance with ORS 366.514 through a review of all projects contracted by ODOT, plus the state funded grant programs, administrative and staff costs. The methodology used captures federal expenditures plus the requisite local match. Federal fund expenditures are monitored, but not included in the state mandated 1 percent expenditure calculations. For 2013, ODOT state expenditures were 1.3 percent, up from 1.04 percent in 2012.

Table 3 summarizes the ODOT administered expenditures by category and type of funds for 2013. 2013 expenditures are unusually high for pedestrian and bicycle facilities. The state funding increased due to the passage of the Oregon Transportation and Investment Acts (OTIA), the 2009 Jobs and Transportation Act (JTA), *Connect*Oregon, and the American Recovery and Reinvestment Act (ARRA). The infusion of funding helped construct many important transportation projects. As funding for new projects and preservation increased, so did the funding for improvements. However, much of this funding was backed by bonds that have to be repaid. As state and federal transportation revenues drop off overall, so too will funds available for improvements.

*Table 3: 2013 State Spending by Category ($Millions)*

| Spending Category | State Share | Federal Share | Local Match | Total |
|---|---|---|---|---|
| As part of Construction Projects | $4.1 | $3.6 | $0.8 | $8.5 |
| Stand Alone Bike/ Pedestrian Projects | $0.2 | $6.7 | $2.4 | $9.3 |
| Preservation Projects | $0.4 | $1.0 | $0.04 | $1.4 |
| Sidewalk Improvement Program (SWIP) | $7.7 | - | - | $7.7 |
| Grants | $2.5 | - | - | $2.5 |
| Quick Fix | $1.0 | - | - | $1.0 |
| Administration, publications, etc. | $0.2 | - | - | $0.2 |
| Total Annual Spending on State System | $16.1 | $11.2 | $3.3 | $30.6 |

Due to the unusually high level of 2013 funding, a nine year average of funds expended was used to better indicate possible future funds. This calculation shows that the average for total (state and federal) spending is $19.6 million annually. Expenditure data forms the foundation for calculating what may be available for pedestrian and bicycle funds in the future. Discussing priorities if funding decreases, which could occur when bonds are repaid and as future federal funding may decrease, is an appropriate exercise for the planning process.

Local match calculation assumes the 10.27 percent minimum required match. Actual local contribution could be, and often is, higher. For instance, the local match in 2013 was 29.4 percent.

It can be difficult to forecast future revenues, as transportation funds frequently come in lumps, and not long term sustainable funding. The key to dealing with lumps of funds may be to have prioritization criteria developed that can help determine the best use of the funds if they become available. The criteria could vary depending on funding level and any stipulation on fund usage.

# Local Government 25 Year Needs Estimate

## Methodology

Oregon's statewide planning goals, adopted in 1974, established state policies in 19 different areas; Goal 12 addresses transportation. In 1991, the Land Conservation and Development Commission, with the support of ODOT, adopted the TPR to guide local and state implementation of Statewide Planning Goal 12. The TPR requires ODOT to prepare a state transportation system plan (TSP) and identify a system of transportation facilities and services adequate to meet identified state transportation needs. The Oregon Transportation Plan and the adopted mode, topic, and facility plans are the State's Transportation System Plan. The TPR directs metropolitan planning organizations to prepare regional TSPs that are consistent with the state TSP.

In turn, counties and cities must prepare local TSPs which are consistent with the regional plans. Therefore, all regional and local TSPs must be consistent with the OTP and the adopted mode, topic, and facility plans.

Oregon has a rich history of transportation planning; data for long-range need was reviewed and calculated using adopted TSPs. Regional Transportation Plans (RTPs), were examined only to reference the TSP figures. Some jurisdictions had bicycle and/or pedestrian master plans which were reviewed for consistency with the TSP or RTP. In those instances where a jurisdiction's population was small enough that they were not required to develop a TSP the transportation element of a comprehensive plan was reviewed. A caveat to using these plans is that RTPs are required to be financially constrained (but may include illustrative lists); TSPs are not required to be financially constrained so the project lists probably include a number of projects that are not likely to be funded within the TSP planning horizon and therefore inflate anticipated funding need.

*Table 4: 2005 -2013 Average State Annual Expenditures ($Million 2013)*

| | Total | State Share | Local Match | Federal Share |
|---|---|---|---|---|
| Administration & Publications | | $0.2 | | |
| Average | $19.6 | $7.5 | $1.2 | $10.7 |

*Table 5: 2013 Local Government - 25 Year Needs Estimate ($Billion)*

| Transportation System Plan 25 Year Needs | | % Capital | % Total |
|---|---|---|---|
| Roadway Captial | $19.0 | 87% | 49% |
| Bicycle & Pedestrian Capital | $2.8 | 13% | 7% |
| Total Capital | $21.8 | 100% | 56% |
| Total* | $39.1 | | |

**Total - This total is meant to capture all the needs identified in TSPs for the roadway system, including construction, bicycle, pedestrian, maintenance, operations, preservation, administration, etc. It does not capture other transportation needs, such as public transportation. The total needs represent an estimate for all local governments. Since this analysis was complete, the Metro 2014 Regional Active Transportation Plan was adopted, which would add an approximate $1 billion to the bicycle and pedestrian capital.*

All counties were reviewed, assessed and included in the calculation. For the cities, a representative sample (based on a stratification of population) were reviewed, assessed and the total adjusted (factored up) to account for those cities not in the sample. It should be noted, in some TSPs local governments included improvements on state highway facilities and assumed they would be done; when it was evident that this was included in their estimates, staff excluded them from the local system total as those needs were already included in the total for the state system.

## Local System

In urban areas, the local system of pedestrian and bicycle facilities consists of sidewalks, crosswalks, median refuge islands, signals, marked bike lanes, bicycle boulevards, and multi-use paths. In rural areas and areas with low vehicle traffic, roadway shoulders serve as bikeways and walkways. The total number of miles of facilities in local jurisdictions is not readily available.

The total needs represent an estimate based on local TSPs, with RTPs only examined for reference purposes. The twenty-five year needs for pedestrian and bicycle estimate from local TSPs is about $2.8 billion. This

equates to an average annual need for local pedestrian and bicycle facilities of about $112 million (2013 dollars).

The estimated need and current expenditure analysis for the Oregon Bicycle and Pedestrian Plan (based on 2013 data) was completed before Metro adopted both their 2014 Regional Active Transportation Plan (ATP) and their 2014 Regional Transportation Plan in July 2014. The planning level cost estimates for "completing, improving and expanding" the 2014 Regional ATP pedestrian and bicycle network is approximately $3.3 billion dollars. The federal financially constrained project totaled about $2.1 billion with an additional estimate of $335 million for unspecified state funds equals a total of $2.4 billion in need. The costs for bicycle, pedestrian and trail projects in the 2014 Regional ATP Table 10 (page 13-172), titled "Estimated years to implement 2014 projects by mode, based on historic annual levels of federal and state capital transportation investments" shows that active transportation projects will take 208 years to implement based on the annual average investment of $10 million in state and federal funds. If you factor in the needs from Metro's 2014 Regional ATP, the total need for bicycle and pedestrian capital in Table 5 is approximately an additional $1 billion.

# Local Government Current Spending

## Methodology

A total for current infrastructure spending was estimated using the best available data as a basis for calculation. A number of sources were reviewed to develop an estimate of current spending by local jurisdictions on infrastructure. Roadway capital and total expenditures were also estimated for comparison purposes. Sources reviewed include:

- Secretary of State Audits Reports: Comprehensive Annual Financial Reports. The reports use various categories, including:
  - Street or Road Fund
  - Transportation Fund
  - Public Works Fund
  - Pedestrian and Bicycle Fund
  - Footpath and Bicycle Trail Fund
  - Bicycle Reserve Fund
- Project lists
- Jurisdiction websites
- Adopted Budgets: Generally used the current adopted budget which provides actuals for the previous year
- Capital Improvement Programs

Local pedestrian and bicycle facilities are funded through various types of revenue including:

- State Highway Fund
- ODOT Administered Grant Programs
- Federal Funds

*Table 6: Local Government Current Roadway Spending ($Million 2013)*

| Expenditure Type | | % Capital Spending | % Total Spending |
|---|---|---|---|
| Roadway Capital | $231.8 | 91% | 33% |
| Bicycle & Pedestrian Capital | $23.0 | 9% | 3% |
| Total Capital | $254.8 | | 36% |
| Total* | $711.4 | | |

**Total - This total is meant to capture all the expenditures for the roadway system, including construction, bicycle, pedestrian, maintenance, operations, preservation, administration, etc. It does not capture other transportation expenditures, such as public transportation. The total expenditures represent an estimate for both cities and counties.*

- Local Funds
- System Development Charges
- Private Development

Assessing what the local jurisdiction spends on infrastructure may not capture the total spending within each jurisdiction. Cities and counties review land use applications for consistency with local plans. Often developers must either construct or contribute funds to improve roads, streets, and sidewalks as a part of their land use approval; these improvements, called "mitigation," may not be captured in current spending. Mitigations can include improvements to pedestrian and bicycle facilities. If the city or county collects transportation system development charges (SDCs) as part of land use approvals, the money collected from the SDCs may go into a common pool that can be spent to improve the roadway system. These improvements often incorporate bicycle and pedestrian elements. SDC funds, where identified, were included in the current spending.

## Conclusion

As the needs identified in TSPs are not financially constrained, the TSP-identified need could fit their local vision but may not be reasonably achievable within the plan horizon. The significant disparity between estimated current annual expenditures of around $23 million and the average annual need from the TSP-based analysis of $112 million, required that the needs identified in TSPs to be moderated. Given that current expenditures are estimated, and recognizing that current revenue is insufficient to achieve their local vision, it was assumed that about double the current spending would be required to address highest priority projects. To adjust the need closer to likely funding, but still recognizing that greater needs exist, the $23 million in current annual spending by cities and counties was multiplied by the 25 year plan horizon; this equated to just over half a billion dollars. To close the gap between funding and unconstrained needs, a 100 percent increase was projected, making the 25 year total for local government need for pedestrian and bicycle facilities approximately $1 billion (2013 dollars).

As previously stated, this information on current revenue, expenditures, and need is provided as a basis for discussion of funding for the plan horizon (25 years). The estimate for planned infrastructure by local governments could be on the higher end of the scale, as local TSPs are not required to be constrained. In reviewing the budgets of local governments, it was noted that those in smaller, more rural areas, are often less given limited resources, many of the small jurisdictions have to accumulate funds over time to finance a project; funding for many of them is limited to State Highway Funds. In some of the smallest jurisdictions, the funds have to be used simply to maintain the system. This was not always true for the larger metropolitan areas as they have more local funds to leverage.

This information should be used by staff and consultants in developing the various funding scenarios for discussion by the committee. The estimates were developed using the best available data and current policy. The information can help inform recommendations about future policies and practices.

To accompany this analysis, a matrix of potential funding sources that local governments have the authority to assess and, at their discretion, use on transportation infrastructure, is provided in Table 7. This list is illustrative and does not infer that local governments use these funds for the system.

## Table 7: Revenue Funding Mechanisms Reviewed for Information Purposes

| Description | Example(s) | Eligible Projects | Resource(s) |
|---|---|---|---|
| **BICYCLE AND PEDESTRIAN RELATED FUNDING** | | | |
| **System Development Charge** | | | |
| System Development Charges (SDC) are a one-time fee on new developments, and redevelopments, to recover a portion of the costs from the impact of those developments. | Oregon City, Oregon | Transportation SDCs can be used for both on- and off-street facilities for bicycles and pedestrians. | Resource to calculate SDCs:<br>Institute of Transportation Engineers Trip Generation Manual<br>Oregon Revised Statute 223.297–223.314<br>The League of Oregon Cities SDC Survey Report, 2013 |
| **Local Improvement District** | | | |
| Local Improvement Districts (LIDs) are formed by a group of property owners working together to share the cost of needed local capital improvements. | City of Bend, Oregon<br><br>Portland Bureau of Transportation | LIDs can be used for local bicycle and pedestrian projects, including: street improvements, bike infrastructure, curb maintenance, and sidewalk infill, etc. | Oregon Revised Statute 223. 112–223.132 |
| **Urban Renewal Areas/Tax Increment Financing** | | | |
| Urban Renewal Areas (URAs) earmark a portion of property tax revenues to improve poorly or underdeveloped areas. | City of Salem, Oregon | Tax revenues can be used for curb repair, sidewalk infill, installation of lighting, and other right of way improvements. | Oregon Revised Statute 457.010 (1)(e) |
| **Value Capture** | | | |
| Value capture is the process by which all, or a portion, of land value increments, are recouped by the public sector. The mechanisms actually employed to collect funds may include tax increment financing, local improvement districts, and other forms of financing. | TriMet, MAX, Yellow Line, Portland, Oregon (pages 1-6) | Value capture revenues can be used for projects that improve access to transit, including bicycle and pedestrian facilities and infrastructure. | Federal HIghway Administration, Non-Road Pricing Revenue Resources<br>Methods for Financing Transportation Infrastructure |

| Description | Example(s) | Eligible Projects | Resource(s) |
|---|---|---|---|
| **Reimbursement District** | | | |
| Reimbursement Districts allow developers to recover a portion of development costs, when making improvements to the transportation system that benefit the general public. | City of Woodburn, Oregon Ordinance 2237 | Development eligible for reimbursement can include sidewalk, curb, pedestrian crossing enhancements, and other transportation system improvements. | Methods for Financing Transportation Infrastructure |
| **General Obligation Bonds** | | | |
| General obligation bonds are a traditional source of funding for capital projects, and must be voter approved. | City of Eugene, Oregon | Bond revenues can only be issued for investments with a life expectancy of more than one year, and are secured by the full faith credit of the issuing municipality. Eligible projects include municipal roadway improvements, and bicycle and pedestrian infrastructure. | Oregon Revised Statute 287A.001 |
| **Local Gas Tax** | | | |
| Local gas taxes range from 1 cent per gallon, to 5 cents per gallon. | City of Cornelius, Oregon | Gas tax revenues can be used for sidewalk improvements, streetlight installation, and roadway surface repair and preservation. | Implementing local Gas Taxes: A Survey on City Gas Tax Ordinances<br>Relevant State Laws<br>Inventory of Statewide Gas Tax Ordinances |
| **Expanded Parking Pricing** | | | |
| Expanded Parking Pricing affects when and where public parking facilities (such as on-street parking) are priced. | City of Portland, Oregon | Parking revenue can be used for Transportation Demand Management (TDM) related efforts including bicycle and pedestrian improvements. | |

| Description | Example(s) | Eligible Projects | Resource(s) |
|---|---|---|---|
| **Transportation Utility Fee** | | | |
| Transportation Utility Fees (TUFs) are assessed on utility bills of water and sewer customers. These fees are also known as Street Utility, Road User or Street Maintenance Fees. | City of Corvallis, Oregon<br>City of Ashland, Oregon | Fee revenues are designated for city transportation infrastructure projects, primarily for road maintenance. Depending on the local city code, revenues can also be dedicated to sidewalk repair, ADA improvements, and pedestrian and bicycle facilities. | TUF Solutions for Local Street Funding: A Survey on Transportation Utility Fees |
| **General Fund** | | | |
| General fund revenues can be allocated by cities to pay for transportation investments through the Capital Improvement Program. | City of Springfield, Oregon | Bond revenues can only be issued for investments with a life expectancy of more than one year, and are secured by the full faith credit of the issuing municipality. Eligible projects include municipal roadway improvements, and bicycle and pedestrian infrastructure. | |
| **Vehicle Registration Fee** | | | |
| Counties can levy a vehicle registration fee, in addition to state registration fees. | Multnomah County, Oregon | Fee revenues are predominantly used for roadway maintenance and preservation. | Oregon Revised Statutes 801.041 |
| **Hotel Tax** | | | |
| Hotel Taxes implement a transient lodging tax to fund tourism, economic development, and limited transportation improvements. | Washington County, Oregon | Tax revenues can be used for multimodal improvements, including: street, sidewalk, bridge, bikeway, and transit facility improvements. | |
| **Dedicated Property Taxes** | | | |
| A portion of property tax revenues can be dedicated to transportation improvements. | Washington County, Oregon | Tax revenues can be used for multimodal improvements, including: street, sidewalk, bridge, bikeway, and transit facility improvements. | |

| Description | Example(s) | Eligible Projects | Resource(s) |
|---|---|---|---|
| **Transportation Management Associations** | | | |
| Transportation Management Associations (TMAs) are non-profit organizations providing transportation services in a geographic area. They are generally public-private partnerships, consisting of area businesses with local government support. | Washington County, Oregon Transportation Management Association: GO LLOYD<br><br>Swan Island, Oregon Transportation Management Association: Get Here | Revenues can be used for bicycle and pedestrian transportation system improvements. | TMAs help large businesses comply with Oregon's Employee Commute Options Rule |
| **Community Development Block Grant** | | | |
| Community Development Block Grants (CDBGs) are city-managed federal funds that can be used to make improvements in low and moderate income neighborhoods, eliminate barriers for people with disabilities, create jobs, and provide affordable housing. | Clackamas County, Oregon | Grant funds can be used for projects that benefit accessibility for people with disabilities, or improve quality of life or economic development in low income communities. | Infrastructure Finance Authority: Community Development Block Grant Program |
| **Oregon Parks and Recreation Local Government Grants** | | | |
| Oregon Parks and Recreation Local Government Grants are administered through an annual competitive grant program for the acquisition, development, and major rehabilitation of public outdoor park, and recreation areas and facilities. | City of The Dalles, Oregon | Grant funds can be used for roadway improvements, parking, multimodal facilities, and recreational paths and trails. | Oregon Parks and Recreation Department: Grants Program |
| **Payroll and Self-Employment Tax** | | | |
| The Payroll and Self-Employment Tax provides revenue for mass transit, are administered and collected by the Oregon Department of Revenue and imposed directly on the employer. | Lane Transit District | Tax revenues are typically used to fund operational and capital transit improvements. It is unknown as to whether any municipalities are using these funds directly for bicycle and pedestrian improvements. | Oregon Revised Statutes 253 |

| Description | Example(s) | Eligible Projects | Resource(s) |
|---|---|---|---|
| **PUBLIC HEALTH RELATED FUNDING** | | | |
| **Healthy Communities Program** | | | |
| The Healthy Communities Program works through local, state, territory, and national partnerships to prevent chronic diseases and reduce health gaps. | Sumter County, Alabama | Funding can be used for bicycle and pedestrian infrastructure and facilities that increase physical activity, i.e. walking paths. | Centers for Disease Control: Healthy Communities Program |
| **Communities Putting Prevention to Work** | | | |
| The Communities Putting Prevention to Work program supports communities working to reduce obesity and tobacco use. | Multnomah County, Oregon | Funding can be used for bicycle and pedestrian outreach and education (i.e. Safe Routes to School), and other facilities and infrastructure improvements. | Centers for Disease Control: Communities Putting Prevention to Work |
| **State and Local Public Health Actions to Prevent Obesity, Heart Disease, and Stroke** | | | |
| The State and Local Public Health program supports work in state and large city health departments to prevent obesity, diabetes, heart disease, and stroke in adults. | City of Los Angeles, California | Funding supports community prevention strategies focused on high-risk adults, including the implementation of policy, system, and environmental change strategies to support safe and walkable streets to increase exercise. Eligibility of bicycle and pedestrian related projects is still to be determined. | Leveraging Health Funding for Active Transportation Investments |
| **Partnership to Improve Community Health** | | | |
| The Partnership to Improve Community Health uses evidence—and—practice based strategies to create environments that make it easier for people to make healthy choices. | Broward County, Florida | Funding can be used for programs and projects that increase physical activity and improve access to programs for preventing and managing chronic diseases. | Leveraging Health Funding for Active Transportation Investments |

| Description | Example(s) | Eligible Projects | Resource(s) |
|---|---|---|---|
| **Racial and Ethnic Approaches to Community Health (REACH)** | | | |
| Focuses on building capacity and implementing policy and environmental improvements in racial and ethnic communities experiencing health disparities. | City of Montgomery, Alabama | Efforts to increase physical activity, including implementing community design components, Safe Routes to School, and increasing access to local parks and schools through joint-use agreements. | Leveraging Health Funding for Active Transportation Investments |
| **A Comprehensive Approach to Good Health and Wellness in Indian County** | | | |
| The Good Health and Wellness program supports chronic disease prevention and health promotion associated with risk factors affecting American Indian tribes and Alaska Native villages. | | Funding is used for programs that improve physical activity. Active transportation as a means to increase physical activity suggests an opportunity for partnership; however, eligibility of bicycle and pedestrian related projects is still to be determined. | Leveraging Health Funding for Active Transportation Investments |
| **Programs to Reduce Obesity in High-Obesity Areas** | | | |
| Programs to Reduce Obesity in High-Obesity Areas awards funding to land grant universities in states with counties that have more than 40% prevalence of adult obesity. | 2nd Sunday, Kentucky | Funding is used for programs to improve physical activity (i.e. Open Streets Initiative). Bicycling and walking as a means to improve physical activity suggests opportunity for partnership; however, eligibility of broader bicycle and pedestrian related projects is still to be determined. | Leveraging Health Funding for Active Transportation Investments |

# Appendix D: Performance Measures

*The following discussion on performance measures was produced as a white paper. for the Oregon Department of Transportation by Cambridge Systematics, Inc. with the Toole Design Group.*

## Pedestrian and Bicycle Performance Measures

This white paper describes and recommends several performance measures for consideration in the Oregon Bicycle and Pedestrian Plan. The paper provides information needed to determine appropriate Plan performance measures that are also realistic and measurable.

Six areas of pedestrian and bicycle performance measurement are discussed below:

1) safety,
2) utilization,
3) system performance,
4) facility implementation,
5) state and local recognition, and
6) data

Taken together, these six performance measure areas will provide an assessment of progress toward Plan goals.

The *safety* performance measure area addresses the safety of walking and bicycling. Safety outcomes are an important public health concern which, along with perceptions of safety, also influence the choice to walk or ride a bicycle.

*Utilization* performance measures seek to quantify the extent to which Oregon residents use bicycling and walking for transportation. Higher utilization of walking and bicycling is needed to achieve a number of Plan goals. Additionally, utilization provides context for monitoring other performance measures such as safety outcomes.

*System performance* is concerned with measuring how well the transportation network serves the needs of pedestrians and bicyclists. Performance measures within this category reflect that the network must serve a variety of users, with differing needs and abilities, in varying contexts.

*Facility implementation* performance measures provide insight into progress made toward the creation of a comprehensive bicycling or walking network. Recommended performance measures within this category are targeted toward linkages between transit and bicycling and walking.

*State and local recognition* performance measures offer an objective third-party assessment of progress made by the state and local communities toward the creation of safe and comfortable bicycling and walking environments. These performance measures reflect a wide range of factors including infrastructure, education, and policy, among other topics.

*Data* collection, management, and analysis is critical to the ongoing success of pedestrian and bicycle planning in Oregon. Categories of data needed to enhance implementation, management, and evaluation of the plan are: serious injury and fatality data, usage data, and network data.

For each performance measure considered, a concise definition is provided, along with a brief description of its purpose, the level of effort, and any challenges involved in reporting the performance measure or set of measures. Optional reporting levels, such as by geographic region or demographic group, are also proposed for consideration, as appropriate.

In addition, emerging performance measures are discussed, where appropriate. These emerging performance measures may not be immediately feasible given current data limitations or would entail a very high level of effort, but are nonetheless worthy of consideration.

## Pedestrian and Bicyclist Safety

### *Performance Measures Considered*

- **Safety (1): Number of pedestrian fatalities (five-year average):** the average annual number of pedestrians killed in crashes with motor vehicles, over a five-year period.
- **Safety (2): Number of bicyclist fatalities (five-year average):** the average annual number of bicyclists killed in crashes with motor vehicles, over a five-year period.
- **Safety (3): Number of pedestrian serious injuries (five-year average):** the average annual number of pedestrians seriously injured in crashes with motor vehicles, in a given year.[1]
- **Safety (4): Number of bicyclist serious injuries (five-year average):** the average annual number of bicyclists seriously injured in crashes with motor vehicles, in a given year.
- **Safety (5): Perceived safety of walking:** the percent of the public that feels they have the necessary facilities to walk safely in their neighborhood.
- **Safety (6): Perceived safety of bicycling:** the percent of the public that feels they have the necessary facilities to bike safely in their community.

### *Purpose*

The safety of pedestrians and bicyclists is among ODOT's and local agencies' highest priorities. In 2013, pedestrians and bicyclists accounted for less than 2 percent of people involved in all crashes, but 17.5 percent of people killed.[2] Not only are the individual pedestrians and bicyclists involved in a crash affected, but the perceived risk of walking and bicycling can have a deterrent effect, suppressing greater use of walking and cycling and impeding achievement of other statewide goals.

The proposed performance measures track pedestrian and bicyclist safety outcomes, which will allow ODOT and other agencies to monitor progress towards creation of a safer system. Additionally, the perceived safety of walking and bicycling (as reported in the Oregon Transportation Needs and Issues Survey) accounts for factors that affect rates of walking and bicycling, but may not directly impact crash totals.

### *Level of Effort and Data Needs*

The level of effort associated with collecting and reporting the proposed pedestrian and bicycle safety performance measures is minimal. The required injury data is already reported in a convenient format by ODOT's Transportation Safety Division. Additionally, pedestrian and bicycle fatalities are reported by every state in the National Highway Traffic Safety Administration's Fatality Analysis Reporting System. The safety perception data is reported through the Oregon Transportation Needs and Issues Survey.

### *Optional Reporting Levels*

In addition to the recommended performance measures above, Oregon may wish to measure pedestrian and bicyclist safety with respect to a few additional factors. For example, it may be desirable to report pedestrian and bicyclist fatalities or crashes on a geographic basis, by population, by age or other demographic factors, or by relative crash severity (fatalities per 100 persons involved). Reporting by these factors would not require

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[1] A 'serious injury' is defined as an incapacitating injury, as reported by the responding law enforcement officer.

[2] Out of 313 traffic fatalities in 2013, there were 52 pedestrians (16.6%) and 3 bicyclists (0.95%). 2013 Oregon Motor Vehicle Traffic Crashes. Quick Facts. http://www.oregon.gov/ODOT/TD/TDATA/car/docs/2013_QuickFacts.pdf.

a great deal of additional effort and would provide additional insight into the safety of bicycling and walking; however, these measures are not strictly necessary to determine progress at a statewide level.

### *Challenges*

Although the crash data needed to report on the proposed performance measures is currently available, this data does not include crashes that do not involve a motor vehicle, such as those involving a single bicycle or a bicycle and a pedestrian. Another challenge is that some portion of all crashes (including an unknown percentage of those involving a pedestrian or bicyclist and a motor vehicle) are not reported to the state's crash database. Since Oregon relies on self-reporting of minor injury and property damage crashes, underreporting of these crashes is likely higher than in other states.

To fully account for these gaps, it would be necessary to collect data from EMS, trauma, and hospitalization datasets on a statewide basis. Oregon Health Authority databases include single-bike crashes and provide more accurate pedestrian and bicyclist injury data than crash data (e.g. traffic incident) alone. However, linking health data with crash reports remains a challenge throughout the country and is an emerging area of interest and opportunity. Challenges include privacy concerns, data sharing protocols, as well as data definitions and possible overlaps. Few, if any, states have successfully implemented a comprehensive program to account for all pedestrian and bicycle crashes and injuries.

An emerging area of research to address the challenge of severity reporting is developing statistical models to estimate the number of severe crashes involving a pedestrian or bicyclist (including unreported pedestrian or bicycle crashes with motorists and those not involving motorists). This specialized modeling is feasible but requires substantial expertise and data collection.

### *Emerging Performance Measures*

Accounting for exposure is another potential way to monitor progress in pedestrian and bicycle safety. Although difficult to collect, pedestrian and bicycle exposure information is needed to normalize pedestrian and bicycle crash rates across geographies and over time. As levels of pedestrian and bicycle activity increase, it is possible that the total number of crashes may increase while the actual risk of a crash declines relative to miles traveled or number of trips made. Additionally, development of pedestrian and bike fatality rates (by trip or distance) would shed light on the relative risks of bicycling or walking as compared to the risks of using other modes.

Adequately accounting for pedestrian and bicycle exposure would entail a much higher level of effort than what is required to report the above-recommended safety performance measures. Ideally, exposure would be reported on the basis of pedestrian and bicycle trips made or hours traveled.

Pedestrian and bicycle volume models have been developed in a number of cities (including Portland) and states, and could be worth exploring as a means to develop estimates of pedestrian and bicycle trips. However, as these datasets do not currently exist on a statewide basis, pedestrian and bicycle commute trips reported in the American Community Survey (ACS) could be used as a proxy for exposure, though it is not known how accurate this data would be for such a purpose.

Emerging performance measures that may be considered in the future include:

- **Pedestrian crashes per pedestrian mile traveled (or other exposure measure)**
- **Bicyclist crashes per bicycle mile traveled (or other exposure measure)**

Pedestrian and bicycle safety performance measures considered but not recommended at this time are included in Appendix A.

## Utilization

### *Performance Measures Considered*

- **Utilization (1): Utilization of walking for short trips:** the percentage of commute trips less than 1 mile that are accomplished by walking.
- **Utilization (2): Utilization of bicycling for short trips:** the percentage of commute trips less than 3 miles that are accomplished by biking.

### *Purpose*

How well the system is used can help to measure the relative success of providing people the opportunity to bike or walk. There are numerous individual and society-level benefits associated with higher levels of bicycling and walking, including better air quality, improved public health outcomes, lower individual transportation costs, and reduced congestion, among others. While the Plan focuses on biking and walking, it recognizes the need for a range of transportation choices and that biking and walking are especially appropriate for shorter trips. Spreading the demand for short trips across modes can help to reduce roadway congestion. For instance, an analysis of data from the 2011 Oregon Household Activity Survey found that 40 percent of trips in the Portland Metro region are 2 miles or less.

Although challenging to measure in a comprehensive way, the utilization of walking and bicycling are key indicators of the success of the plan. It is necessary to understand utilization in order to provide context for related goals such as improved safety and public health. For instance, pedestrian and bicyclist fatalities could be compared to utilization of these modes in order to more accurately quantify the risk of bicycling and walking. Similarly, trends in obesity rates can be compared to levels of bicycling and walking to determine whether policies that encourage these modes are having a measureable impact on reducing obesity and related health concerns.

In the absence of a comprehensive measurement of pedestrian and bicycle volume and travel distance, data from the Oregon Transportation Needs and Issues Survey can be used to provide an indication of bicycling and walking utilization. The survey asks respondents which mode they use for their commute along with the distance traveled. Since short trips offer the best opportunity for walking and bicycling, the percentage of such trips accomplished by walking or bicycling is a good measure of the willingness of commuters to walk or bike. It is a direct reflection of progress toward greater utilization of walking and bicycling.

The one- and three-mile distance thresholds proposed for evaluation of walking and bicycling trips, respectively, are reasonable and consistent from a time standpoint. A walking trip of one mile can be completed by most individuals in 20 minutes or less and a three-mile cycling trip takes a similar length of time. While many cyclists commute greater distances, a significant portion of the population cannot be expected to make a long bicycle commute on a regular basis.

### *Level of Effort and Data Needs*

The data needed to report the percentage of short trips accomplished by walking and bicycling is collected through the Oregon Transportation Needs and Issues Survey. This particular result is not reported in the published survey results, but can be computed from the raw data. As a result, reporting of the proposed utilization performance measures involves a low level of effort from ODOT.

### *Optional Reporting Levels*

Walking and bicycling utilization trends within subgroups may imply important changes with significance to the overall success of the plan. As an example, higher levels of bicycling among women is thought to indicate

significant progress in developing a system with a high level of perceived safety. The following optional reporting levels are recommended for consideration:

- Age Range
- Gender

*Challenges*

The Oregon Transportation Needs and Issues Survey provides information related only to the work or school commute trip. Nationally, such trips account for around 25 percent of all trips.[3] Additionally, respondents do not have the option of selecting multiple modes. Rather, they are instructed to choose only the mode which they used most often. As a result, multimodal trips, such as pedestrian or bike trips to transit, may be poorly accounted for in the data.

*Emerging Performance Measures*

Work is underway to develop a consolidated bicycle and pedestrian count archive in Oregon. There are approximately 50 permanent counters in place in various jurisdictions around the state and the archive would allow access to the count data from a single source. It is possible that a subset of these counts could be used to monitor facility utilization over time. Further work would be needed to determine whether such an approach would be reliable and representative of the entire state.

As an alternative to count estimates, non-motorized travel modeling is an approach that could be used to estimate system utilization. Travel modeling lends itself to other uses such as project prioritization, health assessments, and safety evaluation, but requires a significant effort.

Utilization performance measures considered but not recommended at this time are included in Appendix D-1.

## System Performance

*Performance Measures Considered*

- **System Performance (1): Bicycle level of traffic stress:** Percentage of urban collector and arterial roadway miles with a bicycle level of traffic stress rating of 3 or less.

*Purpose*

Bicycle level of traffic stress (LTS) is a measurement that can be used to quantify the perceived comfort of bicycling on a given street.[4] It is a relatively new concept and the underlying formulas may need to be tested and validated or recalibrated over time. LTS allows each segment to be assessed on a scale of 1 to 4, where LTS 1 represents streets suitable for all cyclists, including small children; LTS 2 includes streets suitable for inexperienced teen and adult cyclists; LTS 3 is reserved for experienced adult cyclists; and LTS 4 represents high stress roadways only suitable for advanced cyclists.

To encourage higher levels of bicycling and walking, streets must be designed and operated to meet the needs of a broad range of users. For instance, the '8 to 80' concept suggests that a successful bicycle and pedestrian network is good for an 8 year old or an 80 year old. By extension, it is thought that streets that serve these two ends of the spectrum are good for everyone and contribute to the creation of better cities and regions.

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[3]US DOT. Summary of Travel Trends: 2009 National Household Travel Survey. http://nhts.ornl.gov/2009/pub/stt.pdf.

[4]Oregon DOT. Analysis Procedures Manual, Chapter 14: Multimodal Analysis. http://www.oregon.gov/ODOT/TD/TP/pages/APM.aspx.

In general, lower classification streets are more comfortable for cyclists in comparison to collector and arterial streets, which can serve as a barrier to less experienced cyclists. As a result, the recommended performance measure for system performance is focused on higher classification streets. As the level of traffic stress on collector and arterial roads in urban areas declines, the network becomes easier to traverse for a broad range of users.

### *Level of Effort and Data Needs*

In comparison to other network-level evaluation measures, such as pedestrian or bicycle level-of-service, the data requirements for LTS are modest. It does not require traffic volume data (except for evaluation of high-speed rural segments), and is suitable for planning-level evaluation.

Further, LTS data is already being collected by ODOT on a statewide level. Ongoing maintenance and reporting of LTS data on a statewide basis will entail a moderate level of effort.

### *Optional Reporting Levels*

In addition to the recommended reporting of LTS on urban collectors and arterials, it would be possible to report LTS at a variety of other reporting levels, including:

- Regions
- Cities
- School Zones
- Corridors
- Other Functional Classes

### *Challenges*

Although there has been a great deal of work completed on Bicycle LTS in Oregon, some challenges associated with developing and reporting the recommended performance measure on a statewide basis remain. The data requirements are less burdensome than other network measures, but still require a detailed inventory of bike lanes, on-street parking, turn lanes, and speed limits. These inventory features may need to be estimated in certain instances to develop the performance measure across the entire urban collector and arterial roadway network.

Another challenge, or drawback, is that a pedestrian LTS has not yet been developed. ODOT has begun to develop a pedestrian LTS method, but it is not clear when such a measure will be available for use.

### *Emerging Performance Measures*

Pedestrian LTS should be considered for future use. A pedestrian LTS measure would enable the state to identify facility gaps for pedestrians and to prioritize projects that contribute to a more connected network, including those which provide access to transit.

Multimodal level-of-service (MMLOS) is another performance measure that could be considered for future development. Calculating MMLOS requires additional data relative to LTS, but may more accurately reflect walking and bicycling conditions. ODOT is currently exploring the use of a MMLOS with reduced data requirements.

System performance measures considered but not recommended at this time are included in Appendix D-1.

## Facility Implementation

### *Performance Measures Considered*

- **Facility Implementation (1): Pedestrian access to transit:** The percent of streets within ½ mile of a transit stop that have sidewalks.
- **Facility Implementation (2): Bicycle access to transit:** The percent of streets within 1 mile of a transit stop with a Bicycle LTS 2 rating.

### *Purpose*

Construction and enhancement of facilities is necessary to increase the use of bicycling and walking. While facilities are important in a variety of contexts, they are especially useful to provide and enhance access to transit stops.

Facilities that link walking and bicycling to transit expand the effective reach of transit services and afford users greater options for accessing transit. This is particularly important for the portion of the public who are unable or choose not to drive a car, including the disabled and young children. The recommended performance measures will provide a way of tracking progress toward the provision of a seamless public transit, bicycle, and pedestrian transportation system.

As explained above, Bicycle LTS 2 includes streets that are suitable for inexperienced teen and adult cyclists, whereas LTS 3 is reserved for experienced adult cyclists. Bicycle LTS 3 is recommended for the system performance measure, but Bicycle LTS 2 is proposed for the facility implementation measure since transit riders may exhibit a wider variety of skillsets as compared to those who typically bike on urban collectors and arterials. Additionally, a significant portion of streets within a mile of a transit stop are likely to be lower-volume residential streets, where a Bicycle LTS 2 rating is more appropriate and feasible.

### *Level of Effort and Data Needs*

The feasibility of calculating the proposed performance measures is dependent on the availability of transit stop, sidewalk, and bicycle LTS data. Transit agencies are likely to have stop location data in some format, but collecting and assimilating this data for the purpose of calculating the facility implementation performance measures will require a moderate to difficult level of effort.

The availability of sidewalk data is potentially more problematic. It is likely that several municipalities have completed sidewalk inventories, but the accuracy, timeliness, and completeness of those datasets is likely to vary.

As discussed above, ODOT has begun to assemble bicycle LTS data and plans to maintain this data for other purposes. As a result, there is a low level of effort associated with the collection of bicycle LTS data specifically for this performance measure.

In addition to data collection, a moderate level of effort will be required to integrate the various datasets and calculate the recommended performance measures.

### *Optional Reporting Levels*

Provision of bicycling and walking facilities in relation to transit may vary in different regions or cities, or by demographic factors. Tracking and reporting facility implementation for these different areas or groups may shed light on important equity or other policy considerations.

Implementation of walking and bicycling facilities could also be reported with respect to transit service characteristics (e.g., ridership or frequency), or by transit stop characteristics. For example, it may be desirable to track facility implementation near stops with greater ridership or that serve more routes.

*Challenges*

The availability of data is a potentially significant challenge associated with the recommended facility implementation performance measures. Additional research is needed to determine whether the performance measures can be calculated with existing data resources.

In addition to data challenges, it should be noted that giving equal weight to all transit stops may not be appropriate. Facility improvements near stops or stations with greater strategic importance are likely to be a higher priority, but additional data would be required to account for this. Along with this, data on the presence or absence of sidewalks does not account for the full range of factors that affect the comfort and safety of walking. If and when pedestrian LTS can be calculated, it may serve as a better metric for facility implementation with respect to transit stops.

*Emerging Performance Measures*

Another option for measuring bicycle and pedestrian access to transit is to calculate the percentage of transit stops that are connected to bicycle and pedestrian facilities. For bicyclists, this could be defined as 'stops that are served by streets (or paths) with Bicycle LTS 2 or lower, while for pedestrians, the measure would consider stops with sidewalk access. This would provide a more meaningful representation of access to transit from the user's perspective. It would also address accessibility concerns related to the interface between public transit and sidewalks. To develop a measure for the percentage of facilities that are connected to the bicycle and pedestrian network, additional data beyond a mere inventory of transit stops and bicycling and walking facilities would be needed.

Facility implementation performance measures considered but not recommended at this time are included in Appendix D-1.

## State and Local Recognition

*Performance Measures Considered*

- **Recognition (1): Bicycle Friendly State ranking:** Oregon's annual rank in the League of American Bicyclists' Bicycle Friendly State Ranking program.
- **Recognition (2): Bicycle Friendly Communities:** Number of local jurisdictions with a Bicycle Friendly Community Designation at any level.
- **Recognition (3): Walk Friendly Communities:** Number of local jurisdictions with a Walk Friendly Community Designation at any level.

*Purpose*

The Bicycle Friendly Community, Bicycle Friendly State, and Walk Friendly Community programs provide a third-party assessment of progress made toward improving conditions for bicyclists and pedestrians. These rankings can help Oregon understand its performance from a national perspective and to gauge the degree to which cities and towns are accommodating pedestrians and bicyclists in their infrastructure, policies, and programs. The recognition may also be used to promote community values, and to demonstrate a commitment to providing transportation choices.

The Bicycle Friendly ranking programs are part of the League of American Bicyclists' Bicycle Friendly America program, which is overseen by a National Advisory Group consisting of representatives from government agencies, advocacy organizations, and consulting companies. Every state is ranked by the League, but the Bicycle Friendly Community evaluation process is voluntary.

The Walk Friendly Community program operates in a similar fashion as the Bicycle Friendly Community program. It is administered by the Pedestrian and Bicycle Information Center and assesses progress toward the creation of better walking environments at the community level.

Each of these programs relies on an extensive questionnaire that accounts for a range of factors relating to bicycling or walking, such as education and encouragement programs, enforcement activities, evaluation, engineering, and planning. In addition to helping states and communities understand how they compare to their peers, feedback from the ranking programs can serve as a useful diagnostic tool.

### *Level of Effort and Data Needs*

Data collection for the bicycle and walk friendly ranking programs can be time-consuming for community applicants and state questionnaire respondents. Depending on staff knowledge and existing data, answering some questions could require developing new datasets (e.g., bicycle facilities or bike rack inventory) or consulting with staff from other departments or agencies.

Nonetheless, the state's level of effort to track and report on the recommended performance measures would be minimal.

### *Optional Reporting Levels*

In addition to the overall number of walk and bike friendly community programs in Oregon, the rankings could be aggregated and reported by designation level (e.g., Diamond, Platinum, Gold, etc.). Additionally, results from the state rankings could be reported for each topic area (e.g., Education & Encouragement, Legislation & Enforcement, etc.).

### *Challenges*

An overarching challenge related to the use of third-party assessments as a performance measure is that the ranking system may place a strong emphasis on factors that are beyond the control of ODOT and its partner agencies. For example, feedback from the 2014 Bicycle Friendly State ranking suggested that Oregon repeal its statute that requires bicyclists to use bicycle lanes or paths where available (ORS 814.420). The recommendations also suggest that Oregon require certain state buildings and facilities to provide bike parking. Both of these actions would require legislative changes, which ODOT may not be in a position to facilitate.

Additionally, while the Bicycle Friendly State and Community ranking programs offer guidance on how states and communities can improve their rankings, the specifics of the ranking process are not published. A related challenge specific to the Bicycle Friendly State program is that annual changes may be difficult to interpret. For example, Oregon's score fell from 57.7 in 2013 to 55.2 in 2014, but it is not known exactly what contributed to this decline.

A final consideration is that 10 communities in Oregon have already achieved a bicycle friendly community status. While there are many other cities and towns in Oregon beyond these 10, smaller communities are less likely or capable of taking the time and having the resources needed to fill out the application. As a result, the number of bicycle friendly communities may not change significantly in the coming years.

## Data

### *Performance Measures Considered*

- **Data Key Initiative (1): Bicycle Friendly State ranking:** ODOT, in consultation with local jurisdictions and other agencies when appropriate, will develop and complete the Pedestrian and Bicycle Data Key Initiative by December 31, 2020.

*Purpose*

The data key initiative will provide ODOT and partner agencies an opportunity to identify ways to collect and standardize data that relates directly to decision making, identified Plan performance measures, and those program level performance measures to be identified in Plan implementation. Enhanced data collection and analysis programs are needed to more fully understand the serious and fatal injury data, the number of people walking and biking, and the facilities available to pedestrians and bicyclists. Example considerations are:

- **Serious Injury and Fatality Data** – ODOT maintains a database of pedestrian and bicycle crashes involving motor vehicles, but it does not include single-bicycle crashes or crashes between pedestrians and bicyclists. The extent of these crash types in Oregon is currently unknown. Data collection in this category would answer the following questions: How many pedestrian and bicycle fatalities and serious injuries not involving a motor vehicle are occurring?; How many pedestrian or bicycle serious injury crashes involving motor vehicles are in trauma or emergency services databases, but unrecorded in the motor vehicle crash database? Where and why are these crashes occurring? How is this information available and how can it be integrated with data involving motor vehicles?

- **Usage Data** – There is research underway at ODOT to understand appropriate methods and equipment for counting bicycle trips and for storing and retrieving this data. Research is also necessary to understand pedestrian usage. As such there is no clarity yet around the most appropriate metrics for measuring pedestrian and bicycle usage in Oregon. There are many optional considerations such as: How many and where are pedestrians and bicyclists traveling? How long is the trip? Is the trip measured in miles, minutes? Who is using which facilities? Are these facilities shared with or separated from motor vehicles? What is the best way to collect the data – counting, user surveys, or modeling?

- **Network Data** – ODOT Region 1 is completing a comprehensive pedestrian and bicycle network inventory. This inventory will inform facility investment decision making and could serve as a model for other ODOT Regions. In order to improve the pedestrian and bicycle facilities network it will be important to understand: What is extent of bicycle and pedestrian network facilities in each Region? What are the facility conditions? Are these facilities consistent with user demands? What are the gaps? How does this vary by region?

*Level of Effort and Data Needs*

Recording progress toward completing the data key initiative will require a relatively low level of effort to assess current status and progress in developing and implementing the pedestrian and bicycle data strategic plan activities.

*Optional Reporting Levels*

As the data key initiative is undertaken ODOT and partner agencies, where appropriate, could develop additional performance measures related to progress collecting specific data elements.

*Challenges*

Data collection and compilation can be expensive. ODOT and partner agencies will need to commit to ongoing funding and management of data in order to support more enhanced analysis and/or performance measurement. Given funding constraints, ODOT and partner agencies will face competing priorities for data collection and management.

## Recommendations

The performance measures recommended for inclusion in the Bicycle and Pedestrian Plan were developed in consultation with the project Policy Advisory Committee, Technical Advisory Committee, consultant team, and ODOT project staff. The recommended performance measures are shown in Table 1.1. Table 1.2 shows performance measures which could be considered for implementation with additional data or funding. Additional measures considered are discussed in Appendix D.1 of this section.

### Table D-1.1: Recommended Performance Measures

| Performance Measure Type | Performance Measure | Description |
|---|---|---|
| Safety | Number of pedestrian and bicycle fatalities (five-year average) | Average annual number of pedestrians and cyclists killed in crashes with motor vehicles over a five-year period. |
| Safety | Number of pedestrian and bicycle serious injuries (five-year average) | Average annual number of pedestrians and cyclists seriously injured in crashes with motor vehicles in a given year. |
| Safety | Perceived safety of walking | Percent of the public that feels safe walking in their neighborhood. |
| Safety | Perceived safety of bicycling | Percent of the public that feels safe bicycling in their community. |
| Accessibility | Pedestrian access to transit | The percent of streets within ½ mile of a transit stop that have sidewalks. |
| Utilization | Utilization of walking for short trips | Percent of commute trips less than 20 minutes that are accomplished by walking. |
| Utilization | Utilization of bicycling for short trips | Percent of commute trips less than 20 minutes that are accomplished by biking. |
| Data Key Initiative | Identifying data needs for pedestrian and bicycle performance measures | ODOT, in consultation with local jurisdictions and other agencies when appropriate, will complete the Data Key Initiative by December 31, 2020. |

## Table D-1.2: Possible Future Performance Measures

| Performance Measure Type | Performance Measure | Description |
|---|---|---|
| System Performance | Level of traffic stress (LTS) or Multi-modal level of service (MMLOS) | Percent of urban collector and arterial roadway miles with a level of traffic stress rating of 3 or less. |
| Accessibility | Bicycle access to transit | The percent of streets within 1 mile of a transit stop with a Bicycle LTS 2 rating. |
| Recognition | Bicycle Friendly State ranking | Oregon's annual rank in the League of American Bicyclists' Bicycle Friendly State Ranking program. |
| Recognition | Bicycle Friendly Communities | Number of local jurisdictions with a Bicycle Friendly Community Designation at any level. |
| Recognition | Walk Friendly Communities | Number of local jurisdictions with a Walk Friendly Community Designation at any level. |

## Appendix D.1: Other Performance Measures Considered

Several potential performance measures were researched and discussed, but ultimately not recommended. These are discussed briefly below.

### *Safety*

- **Total number of motor vehicle crashes involving pedestrians or bicyclists.** The total number of crashes involving pedestrians or bicyclists is an important statistic that is already monitored by ODOT. However, as a statewide performance measure, measuring total crashes has significant drawbacks resulting from under-reporting of less severe crashes.
- **Pedestrian Score.** The ODOT Pedestrian and Bicycle Safety Implementation Plan uses a 'Pedestrian Score' to evaluate and prioritize corridors for potential implementation of safety improvements. The score takes into account crash history, traffic volume, number of lanes, posted speed, intersection and midblock crossing characteristics, the presence of signals, and the presence of transit stops. These factors were determined to have an influence on pedestrian safety through an analysis of crashes and roadway features. Applying pedestrian score as a performance measure for the Bicycle and Pedestrian Plan would entail a very high level of effort. Most importantly, it is noted in the Pedestrian and Bicycle Safety Implementation Plan that several important data elements are not available on a consistent basis (e.g., sidewalk presence, median presence, and number of lanes). Additionally, to use the pedestrian score as a performance measure, a process for aggregating scores to a higher level, such as regional or statewide, would need to first be developed. Some of the individual criteria that are used in the Pedestrian Score (e.g., number of undivided 4-lane segments) could be considered for performance measures, but more research is needed to determine their appropriateness and the level of effort required.

### *Utilization*

- **Bicycle and pedestrian counts.** Bicycle and pedestrian count programs have been established in several cities and regions in Oregon. Approximately 50 permanent counters have been installed throughout the state. While counts from these locations could be used to establish a performance measure, it is not clear that the locations are representative of the entire state or that the data collection protocols are sufficiently robust and consistent to allow this data to be used as a performance measure. An effort is currently underway to develop a centralized count repository. Upon its completion, the feasibility of using count data to measure utilization should be re-evaluated.

### *System Performance*

- **Roadway Characteristics.** Some states have considered pedestrian and bicycle performance measures based on roadway characteristics. For example, a report completed for CalTrans recommended the use of urban arterial performance measures such as the percent of signalized intersections with certain crossing features or bicycle pavement markings, and the percent of arterials with an 85th percentile speed below 25mph.[5] Performance measures such as these could be aggregated to a regional or statewide level; however, it is not clear that a single measure such as this would adequately represent walking or bicycling conditions. Additionally, data may not be available for the measures of interest.

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[5]Macdonald et al. Performance Measures for Complete, Green Streets: A Proposal for Urban Arterials in California. http://www.uctc.net/research/papers/UCTC-FR-2010-12.pdf.

- **Pedestrian Level of Service.** Pedestrian level of service (PLOS) is a quantitative measure of the perceived safety of walking. There are separate formulas for street segments, intersections, and crossings, which take into account a wide range of factors, such as traffic volume, number of lanes, lane width, presence and type of horizontal buffer, and sidewalk width, among others. In order to calculate PLOS, a substantial number of data elements are required. As a result, PLOS is not recommended as a performance measure for statewide implementation.
- **Access to transit**
  - **Street connectivity.** A 2013 research report conducted for ODOT, OTREC, and FHWA found that street connectivity (measured as the number of intersections within a quarter-mile of a given transit stop) was an important indicator variable for transit ridership.[6] This is an important finding for transit agencies that may use this information for route optimization or stop location decisions, but the measure does not lend itself well to inclusion as a performance measure in the Plan since urban street networks are largely built out and unlikely to change significantly over time.
  - **Access shed.** The term 'access shed' refers to the distance a person can travel in a set amount of time by a given mode of travel.[7] The access shed for walking and bicycling to transit is a function of the street network characteristics (connectivity and block length) around a transit stop. Although the access shed concept is very relevant to pedestrian and bicycle access to transit, its utility as a performance measure is limited for the same reasons that street connectivity is not recommended: street networks in urban areas with transit are largely already built.
  - **Bicycle boardings.** The number of transit riders who access transit by bike would provide insight into the integration of the transit and bicycle networks. Unfortunately, this data is not currently collected on a routine basis. Portland's TriMet system has very limited information about bicycle access to transit.

### *Facility Implementation*

- **Percent of projects that include pedestrian and bicycle facilities.** Inclusion of pedestrian and bicycle facilities within other roadway projects is an important part of a comprehensive effort to develop a network of facilities. For example, repaving, capacity expansion, and bridge replacement projects provide an opportunity to integrate pedestrian and bicycle facilities as part of these larger projects. Oregon's 'Bike Bill' (ORS 366.514) already requires pedestrian and bicycle facilities to be included in the construction or rebuilding of streets or highways, making this performance measure unnecessary.
- **Percent of urban state highways with bike lanes and sidewalks.** Tracking the coverage of bike lanes, sidewalks, or other facilities across the state may provide some insight into the state's progress toward developing a comprehensive network of facilities. However, without a better understanding of context, it is questionable whether facility mileage alone is a meaningful indicator of progress.
- **Sidewalk coverage and conditions.** Sidewalks are necessary for safe and comfortable walking on most streets. In order to benefit all pedestrians (including those who use mobility aids), they must also be in a state of good repair. While sidewalk condition and coverage measures would be informative, a greater understanding of context is needed to determine whether progress is being made. For instance, construction of new sidewalks that do not connect to a broader network offer little benefit to pedestrians

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[6]Schlossberg et al. 2013. Measuring the Performance of Transit Relative to Livability. http://www.oregon.gov/odot/td/tp_res/docs/reports/2013/spr735.pdf.

[7]Los Angeles Metro. First and Last Mile Strategic Plan and Design Guidelines. http://media.metro.net/docs/sustainability_path_design_guidelines.pdf.

whereas repair of a short segment in an extensive network could impact many. Along with this shortcoming, the availability, quality, and ease of reporting of sidewalk data on a statewide level is unknown.

### *State and Local Recognition*

- **Number of university campuses and businesses with a Bicycle Friendly designation.** Along with the community and state rankings, the League of American Bicyclists evaluates and recognizes businesses and university campuses that accommodate bicyclists. These designations may provide an indication of efforts being made across Oregon to accommodate bicyclists; however, since the decisions of universities and businesses are not controlled by ODOT or its partner agencies, this performance measure is not well suited for the Plan.

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# Appendix E: Compliance with Statewide Planning Goals

Adoption of the 2015 Oregon Bicycle and Pedestrian Plan (OBPP) fulfills federal and state requirements and objectives for state bicycle and pedestrian planning. The OBPP was prepared by the Oregon Department of Transportation (ODOT) that will also maintain, coordinate, and administer the Plan. The Oregon Transportation Commission (OTC), the state approval authority adopts the OBPP as part of its legal responsibility and authority under ORS 184.618. The OBPP includes policies for bicycle and pedestrian transportation planning. The OBPP is an element of the Oregon Transportation Plan (OTP), as are other mode and topic plans. Collectively, the OTP with the adopted mode and topic plan components constitute the state's transportation system plan (TSP).

## Findings of Compliance with State Agency Coordination Agreement

ODOT's State Agency Coordination Agreement (SAC) requires the OTC to adopt findings of fact when adopting final modal system plans (OAR 731-015-0055). Pursuant to these requirements, the following findings and supporting information supplements the OTC adoption of the 2015 Oregon Bicycle and Pedestrian Plan.

Coordination Procedures for Adopting Final Modal Systems Plans (OAR 731-015-0055):

(1) Except in the case of minor amendments, the Department shall involve the Department of Land Conservation and Development (DLCD), Metropolitan Planning Organizations (MPOs), and interested cities, counties, state and federal agencies, special districts, and other parties in the development or amendment of a mode or topic plan. This involvement may take the form of mailings, meetings, or other means that the Department determines are appropriate for the circumstances. The Department shall hold at least one public meeting on the plan prior to adoption.

(2) The Department shall evaluate and write draft findings of compliance with all applicable statewide planning goals.

(3) If the draft plan identifies new facilities which would affect identifiable geographic areas, the Department shall meet with the planning representatives of affected cities, counties, and Metropolitan Planning Organization to identify compatibility issues and the means of resolving them. These may include:

(a) Changing the draft plan to eliminate the conflicts;

(b) Working with the affected local governments to amend their comprehensive plans to eliminate the conflicts; or

(c) Identifying the new facilities as proposals which are contingent on the resolution of the conflicts prior to the completion of the transportation planning program for the proposed new facilities.

(4) The Department shall present to the Transportation Commission the draft plan, findings of compatibility for new facilities affecting identifiable geographic areas, and findings of compliance with all applicable statewide planning goals.

(5) The Transportation Commission, when it adopts a final modal systems plan, shall adopt findings of compatibility for new facilities affecting identifiable geographic areas and findings of compliance with all statewide planning goals.

(6) The Department shall provide copies of the adopted final modal systems plan and findings to DLCD, the Metropolitan Planning Organizations, and others who request to receive a copy.

**FINDING:**

Development of the 2015 Oregon Bicycle and Pedestrian Plan was based on an open and ongoing public involvement process which included MPOs, Area Commissions on Transportation (ACTs), cities, counties, state agencies, stakeholder interest groups, and input from interested citizens. Targeted outreach on the Draft OBPP went to DLCD, tribes, federal and state resources agencies, MPOS, ACTs, and other interested parties.

ODOT formed and worked closely with a 16-member Policy Advisory Committee (PAC) to guide plan development. The PAC was chaired by OTC Chair Tammy Baney and included representatives from local and regional jurisdictions, professional representatives of bicycle, pedestrian interests, persons with disabilities, and the auto and freight community. The PAC met 13 times over the course of plan development. PAC meetings were open to the public, with specific times identified for public comments scheduled at each meeting.

At their November 13, 2015 meeting, the OTC reviewed the Draft Bicycle and Pedestrian Plan and released the document for public review and input. The public comment period was open for an extended time of 90 days. Presentations were given throughout the state including to other state agencies (e.g. Parks), MPOs, ACTs, cities, and counties. A public hearing was held at the February 18, 2016 OTC meeting to provide the opportunity to testify directly to the Commission. Public comments were accepted until 5 pm on February 18, 2016.

The Draft Bicycle and Pedestrian Plan was made widely available for public comment, as described in the Plan's Outreach Record. In addition to guiding the Plan development, the PAC served as one of the key communication conduits to provide information to and feedback from their local constituencies, committees, and decision making bodies. They helped to notify interested parties on the availability of the Plan for comment. The public involvement and outreach process followed OTC Policy 11 – Public Involvement Policy for statewide planning processes and the Statewide Transportation Improvement Program (STIP).

The OTC took action on the proposed Bicycle and Pedestrian Plan and Draft Findings of Compliance with Oregon's Statewide Planning Goals at their May 19, 2016 meeting, which allowed for additional opportunity for public comment.

The May 19, 2016 OTC Meeting Packet included the following material and information for OTC consideration:

- OTC Cover Memorandum
- 2015 Oregon Bicycle and Pedestrian Plan, including Findings of Compliance with Oregon's Statewide Planning Goals
- Outreach Summary
- Summary of Comments Received on Draft Oregon Bicycle and Pedestrian Plan and Recommended Actions
- Compilation of Written Public Review Period Comments Received
- Executive Summary
- PAC Considerations for Implementation

Per the State Agency Coordination Agreement, and customary ODOT practice, information on the adopted Bicycle and Pedestrian Plan and final Findings of Compliance with Statewide Planning Goals will be distributed to DLCD, MPOs, interested participants from the Plan development process, and others who request a copy following adoption. The final documents will be available on the Plan Project webpage: http://www.oregon.gov/ODOT/TD/TP/Pages/bikepedplan.aspx (as posted at the time of this document).

## Findings of Compliance with Oregon's Statewide Planning Goals

The State of Oregon has established 19 statewide planning goals to guide state, regional, and local land use planning. The goals express the state's policies on land use and related topics. The findings below are based on applicability and content of the Plan.

1. **Citizen Involvement -** *The purpose of Goal 1 (660-015-0000(1) is "To develop a citizen involvement program that ensures the opportunity for citizens to be involved in all phases of the planning process."*

**FINDING:**

The Oregon Bicycle and Pedestrian Plan is built upon meaningful and continuous engagement from a broad spectrum of stakeholder groups and individuals across Oregon, demonstrated more fully in the Appendix B: Plan Development Process and Stakeholder Outreach.

The voices and perspectives captured in the Plan include representatives from ODOT, other State agencies, MPOs, city, county, and tribal governments, representatives of bicycle, pedestrian interest groups, persons with disabilities, and auto and freight stakeholders, the Oregon Bicycle and Pedestrian Advisory Committee (OBPAC), the Oregon Public Transit Advisory Committee (PTAC), and the general public. Outreach for the Draft OBPP was conducted in compliance with OTC Policy 11 - Public Involvement, which establishes public involvement objectives for the development and update of statewide plans, including modal plans, such as the Oregon Bicycle and Pedestrian Plan. Outreach activities were also conducted in compliance with relevant policies in the Oregon Transportation Plan including OTP Goal 7, Coordination, Communication and Cooperation.

Throughout the plan, there were several methods of outreach. Highlights include:

- In person, phone, and web-based interviews of over 50 statewide stakeholders representing local, regional, and state representatives; the private sector; and representatives of bicycle, pedestrian, persons with disabilities, and freight stakeholders.
- Listening meetings targeting city and county staff, other practitioners, and the general public held in each of ODOT's five Regions, and a virtual open house to gain online feedback.
- Regular updates provided on the project website with interim draft reports and information on opportunities to attend PAC meetings or offer other comments.
- Presentations on the plan provided at numerous groups throughout the course of the projects, including ACTs, MPOs, other interested groups, and at statewide conferences.
- Tabling event held at the Oregon Active Transportation Summit in March 2015.
- Notification of public review in November 2015 sent to interested state agencies, MPOs, tribal governments, Oregon counties and cities, interested advisory committees, and other interested project stakeholders.

- An extended public comment period of 90 days, with presentations or outreach events made to over 20 entities throughout the state, including MPOs, ACTs, and other interested parties.
- Online open house during public comment period to allow for broad-based online feedback on the draft plan.
- A public hearing at the February 18, 2016 Oregon Transportation Commission Meeting.

Development of the Oregon Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 1, Citizen Involvement.

2. **Land Use Planning -** *The purpose of Goal 2 (OAR 660-015-0000(2)) is "To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions."*

**FINDING:**

As a document produced by ODOT and adopted by the OTC, the Oregon Bicycle and Pedestrian Plan does not have authority over specific land use decisions. It does, however recognize the important role that land use planning has in encouraging the use of active forms of transportation. Plan policies and associated strategies encourage local land use policies and practices to support increased biking and walking through opportunities to coordinate school districts (policy 4.1), share best practices for model codes (policy 2.1), the need to enforce local codes to improve safety and security (policy 1.2), and examining local attractors when determining land uses to improve safety (policy 1.1).

Development of the Oregon Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 2, Land Use Planning.

3. **Agricultural Lands -** *The purpose of Goal 3 (OAR 660-015-0000(3)) is "To preserve and maintain agricultural lands."*

**FINDING:**

The Bicycle and Pedestrian Plan does not directly propose facilities or infrastructure that would encroach or impact agricultural lands. The plan contains policies and strategies that support walking and biking that is consistent with mobility needs of compact urban development, allowing people to access alternate forms of transportation, relieving development pressures on agricultural lands.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 3, Agricultural Lands.

4. **Forest Lands –** *The purpose of Goal 4 (OAR 660-015-0000(4)) is "To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture."*

**FINDING:**

The Bicycle and Pedestrian Plan does not directly propose facilities or infrastructure that would encroach or impact forest lands. The plan contains policies and strategies that support walking and biking that is consistent with mobility needs of compact urban development, allowing people to access alternate forms of transportation, relieving development pressures on forest lands.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 4, Forest Lands.

5. **Natural Resources, Scenic and Historic Areas, and Open Spaces -** *The purpose of Goal 5 (OAR 660-015-0000(5)) is "To protect natural resources and conserve scenic and historic areas and open spaces."*

**FINDING:**

The Bicycle and Pedestrian Plan does not directly propose facilities or infrastructure that would encroach or impact historic areas, scenic areas, or open spaces. Biking and walking facilities are of minimal impact, providing the ability to shift alignment to avoid detrimental impacts to scenic and historic areas, and open spaces. The plan also includes policies and strategies that support preservation of natural and cultural resources through expanding and supporting pathways and trails to allow for access to open spaces and scenic areas through biking and walking, and to reconnect people to the heritage of historic areas.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 5, Natural Resources, Scenic and Historic Areas, and Open Spaces.

6. **Air, Water and Land Resources Quality -** *The purpose of Goal 6 (OAR 660-015- 0000(6)) is "To maintain and improve the quality of the air, water and land resources of the state."*

**FINDING:**

The Bicycle and Pedestrian Plan promotes travel through clean, efficient modes of transportation. Goal 6 of the Plan (Health) is "Provide Oregonians options to become more active and healthy by walking and biking to meet their daily needs." And Goal 7 (Sustainability) is to "Help to meet federal, state, and local sustainability and environmental goals by providing zero emission transportation options like walking and biking." Strategies in the Bicycle and Pedestrian Plan promote walking and biking, modes which are non-polluting and do not require natural resources for operation.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 6, Air, Water and Land Resources Quality.

7. **Areas Subject to Natural Hazards -** *The purpose of Goal 7 (OAR 660-015- 0000(7)) is "To protect people and property from natural hazards."*

**FINDING:**

The Bicycle and Pedestrian Plan recognizes the challenges associated with natural hazards and the

impact on travel. In the case of natural disasters, such as earthquakes and tsunamis, biking and walking can be vital to helping people evacuate or reach desired destinations. Policy 7.2 states to 'consider climate change adaptation, walking and biking needs, and system redundancy in the face of natural disasters.' The strategies further this policy through considerations of biking and walking routes in resiliency planning in addition to using the biking and walking network to make connections in the event of a disconnected network.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 7, Areas Subject to Natural Hazards.

8. **Recreational Needs -** *The purpose of Goal 8 (OAR 660-015-0000(8)) is "To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destination resorts."*

**FINDING:**

The Bicycle and Pedestrian Plan supports Planning Goal 8 by promoting greater choices to access recreational opportunities and open spaces. Goal 2: Accessibility and Connectivity has policies and strategies that support connections to key destinations, which include recreational destinations such as parks. Policy 2.5 further states 'Support off roadway walkways and bikeways that help to connect communities, provide alternatives to non-motorized travel, or promote and support walking and biking tourism.' Goal 4: Community and Economic Vitality states 'Enhance community and economic vitality through walking and biking networks that improve people's ability to access jobs, businesses, and other destinations, and to attract visitors and tourists, new residents and new businesses to the state, opening new opportunities to Oregonians.' Within this goal, there are a variety of policies and strategies that support intermodal coordination and access to recreational areas to promote tourism within Oregon.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 8, Recreational Needs.

9. **Economic Development -** *The purpose of Goal 9 (OAR 660-015-0000(9)) is "To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens."*

**FINDING:**

The Bicycle and Pedestrian Plan supports economic development for Oregonians on many levels. Goal 4 of the Bicycle and Pedestrian Plan (Community and Economic Vitality) is to "Enhance community and economic vitality through walking and biking networks that improve people's ability to access jobs, businesses, and other destinations and to attract visitors, new residents, and new business to the state, opening new opportunities for Oregonians." The Plan discusses how bicycle and pedestrian options can provide employees cost effective access to jobs, can affect employer decisions about where to locate, can help attract and retain skilled workers, and support tourism, all which contribute to the economic vitality of local communities, areas, and the state as a whole.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 9, Economic Development.

10. **Housing -** *The purpose of Goal 10 (OAR 660-015-0000(10)) is "To provide for the housing needs of citizens of the state."*

**FINDING:**

The Bicycle and Pedestrian Plan does not have direct application to the provision of housing, but does support increased access to supporting biking and walking routes to key destinations such as residential areas or mixed use centers.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 10, Housing.

11. **Public Facilities and Services -** *The purpose of Goal 11 (OAR 660-015-0000(11)) is "To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development."*

**FINDING:**

Bicycle and pedestrian options are an integral part of creating and maintaining an efficient transportation network in urban and rural settings. Goal 3 of the Plan (Mobility and Efficiency) is "Improve the mobility and efficiency of the entire transportation system by providing high quality walking and biking options for trips of short and moderate distances. Support the ability of people who bike, walk or use mobility devices to move easily on the system." Goal 2 (Accessibility) is to "Provide a complete bicycling and pedestrian network that reliably and easily connects to destinations and other transportation modes." Strategies to create efficiency in the transportation system and integration with land uses are woven throughout the Plan, such as Strategy 4.1D 'Site state government buildings consistent with the Department of Administrative Services Siting Policy, so they are accessible to walking and biking.'

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 11, Public Facilities and Services.

12. **Transportation -** *The purpose of Goal 12 (OAR 660-015-0000(12)) is "To provide and encourage a safe, convenient and economic transportation system."*

The Oregon Bicycle and Pedestrian Plan is the bicycle and pedestrian modal element to the Oregon Transportation Plan. This Plan's 25 year vision calls for 'comfortable, safe, well-connected walking and biking routes' and that biking and walking routes are 'recognized as integral, interconnected elements of the Oregon transportation system that contribute to our diverse and vibrant communities and the health and quality of life enjoyed by Oregonians.' Goals within the plan further support this vision such as Goal 1: Safety, Goal 2: Accessibility and Connectivity, Goal 3: Mobility and Efficiency, and Goal 4: Community and Economic Vitality. Each of these goal areas contains policies and strategies to support the safe and efficient movement of cyclists and pedestrians on the transportation system.

**In addition, Goal 12 is implemented by the Transportation Planning Rule, OAR 660-012.**

The Transportation Planning Rule (TPR), includes elements to assure that statewide planning goals are considered when developing transportation plans. While most of the TPR provisions are directed to the development and coordination of local transportation system plans, some of the provisions are applicable to the development of a statewide transportation system plan. The Oregon Transportation

Plan (OTP) serves as the statewide transportation system plan, and the Oregon Bicycle and Pedestrian Plan, as a modal element of the OTP further refines and defines the policy framework for biking and walking. These findings address those rule components applicable to the development and adoption of the OTP and a statewide modal plan element. The OTP and its elements form the policy foundation for the state, providing the long-range vision and policy framework to guide state, regional, and local decisions, which refine and apply the statewide framework to identify specific locational needs and projects. Local Transportation System Plans must be consistent with the state Transportation System Plan as defined in the TPR (OAR 660-012-0045).

**Purpose, OAR 660-012-0000**

*(1) This division implements Statewide Planning Goal 12 (Transportation) to provide and encourage a safe, convenient, and economic transportation system. This division also implements provisions of other statewide planning goals related to transportation planning in order to plan and develop transportation facilities and services in close coordination with urban and rural development. The purpose of this division is to direct transportation planning in coordination with land use planning to:*

*(a) Promote the development of transportation systems adequate to serve statewide, regional and local transportation needs and the mobility needs of the transportation disadvantaged;*

*(b) Encourage and support the availability of a variety of transportation choices for moving people that balance vehicular use with other transportation modes, including walking, bicycling and transit in order to avoid principal reliance upon any one mode of transportation;*

*(c) Provide for safe and convenient vehicular, transit, pedestrian, and bicycle access and circulation;*

*(d) Facilitate the safe, efficient and economic flow of freight and other goods and services within regions and throughout the state through a variety of modes including road, air, rail and marine transportation;*

*(e) Protect existing and planned transportation facilities, corridors and sites for their identified functions;*

*(f) Provide for the construction and implementation of transportation facilities, improvements and services necessary to support acknowledged comprehensive plans;*

*(g) Identify how transportation facilities are provided on rural lands consistent with the goals;*

*(h) Ensure coordination among affected local governments and transportation service providers and consistency between state, regional and local transportation plans; and*

*(i) Ensure that changes to comprehensive plans are supported by adequate planned transportation facilities.*

**FINDING:**

The Oregon Bicycle and Pedestrian Plan supports the above list under OAR 60-012-0000 in the following ways:

(a) Is a statewide document supporting and promoting the development of biking and walking systems that serve state, regional, and local needs. Goal 5 on Equity supports the availability of biking and walking for Oregonians, specifically supporting the mobility needs of the transportation disadvantaged. Goal 5 states: 'Provide opportunities and choices for people of all ages, abilities, race, ethnicities, and incomes in urban, suburban, and rural areas across the state to bike or

walk to reach their destinations and to access transportation options, assuring transportation disadvantaged communities are served and included in decision making.

(b) Puts biking and walking on equal par with other modes through the creation of a modal plan element of the Oregon Transportation Plan. The Oregon Bicycle and Pedestrian Plan is designed to enhance the availability and encourage utilization of biking and walking options. The Plan promotes walking and biking, in addition to the coordination with other modes, to support individual transportation choices.

(c) Identifies safety and access as two explicit goal areas of the Plan. Goal 1: Safety focuses on safety through investments in infrastructure, education, and training. This includes education of all system users and training of practitioners. Goal 2: Accessibility and Connectivity is about providing a connected network of bicycle and pedestrian facilities, which not only connect with one another, but also with other modes of transportation.

(d) Facilitates safe, efficient and economic flow of freight by spreading demand across modes and easing areas of motor vehicle congestion, as well as through consideration and coordination of biking and walking decisions with freight mobility needs. Goal 3: Mobility and Efficiency states: Improve the mobility and efficiency of the entire transportation system by providing high quality walking and biking options for trips of short and moderate distances. Further, Goal 3 has policies and strategies that support ease of movement for biking and walking, but also highlights the importance of efficient movement of all modes, including freight (Policy 3.3)

(e) Protects functions of the system as part of the Oregon Transportation Plan and associated mode and topic plans, which include statewide policies that describe the function of facilities by way of classifications and designations. This Oregon Bicycle and Pedestrian Plan acknowledges that these contexts must be taken into consideration when applying the policies therein. As a statewide modal plan, the document is not specific to any one facility, corridor, or site.

(f) Draws a nexus between transportation and land use (comprehensive) planning, including policies under Goal 4: Community and Economic Vitality. Being a modal plan, the plan does not identify specific transportation facilities or construction improvements, but includes policies and strategies to ensure that existing and planned facilities continue either through implementation of the bike bill or through policies supported in the plan, such as policy 3.2, which states: 'Integrate pedestrian and bicycle mobility considerations in planning, design, construction, and maintenance, understanding the unique needs of urban, suburban, and rural communities.

(g) Is comprehensive of rural lands and areas. The plan identifies and notes the importance of understanding all community types, including urban, suburban, and rural. Each goal area highlights specific language to understand the importance of biking and walking to rural communities, including the importance of paths or trails that connect communities of all sizes, including rural. In addition, Goal 4: Community and Economic Vitality has policies and strategies that support the needs of rural communities as it relates to biking and walking.

(h) Ensures coordination through goal language. Goal 9: Coordination, Cooperation, and Collaboration has policies and strategies that ensure coordination among affected governments and transportation service providers. In addition, Goal 9 encourages private/public partnerships that can enhance walking and biking efforts throughout the state. For consistency, local plans were reviewed to inform development of the Oregon Bicycle and Pedestrian Plan, and as the statewide plan, regional and local plans must be consistent with it, according to the TPR.

(i) Draws connections between transportation planning and comprehensive plans in Chapter 5: Implementation, which identifies opportunities to integrate biking and walking into planning processes, such as comprehensive plans.

### Definitions, OAR 660-012-0005

**FINDING:**

The definitions section of the OAR details the meaning of specific transportation terms. The Bicycle and Pedestrian Plan is written with the same understanding of terms such as "walkway" and "transportation system plan" as defined in the OAR.

### Transportation Planning, OAR 660-012-0010

> *(1) As described in this division, transportation planning shall be divided into two phases: transportation system planning and transportation project development. Transportation system planning establishes land use controls and a network of facilities and services to meet overall transportation needs. Transportation project development implements the TSP by determining the precise location, alignment, and preliminary design of improvements included in the TSP.*
>
> *(2) It is not the purpose of this division to cause duplication of or to supplant existing applicable transportation plans and programs. Where all or part of an acknowledged comprehensive plan, TSP either of the local government or appropriate special district, capital improvement program, regional functional plan, or similar plan or combination of plans meets all or some of the requirements of this division, those plans or programs may be incorporated by reference into the TSP required by this division.*
>
> *(3) It is not the purpose of this division to limit adoption or enforcement of measures to provide convenient bicycle and pedestrian circulation or convenient access to transit that are otherwise consistent with the requirements of this division.*

**FINDING:**

Section 0010 of the TPR recognizes that the state TSP is comprised of a number of elements as described in ODOT's State Agency Coordination Program. The SAC states, "(1)(a) The state TSP shall include the state transportation policy plan, modal systems and transportation facility plans as set forth in OAR 731, Division 15." The OTP is the state TSP and the Bicycle and Pedestrian Plan, as with other modal/topic plans, is an element of the OTP.

### Preparation and Coordination of Transportation System Plans, OAR 660-012-0015

*Section 0015 of the TPR conveys that the state TSP shall include the state transportation policy plan, modal systems plans and transportation facility plans.*

**FINDING:**

The Bicycle and Pedestrian Plan is a modal plan element of the OTP. As noted above, the state policy plan (OTP), and modal and topic plan elements, are separate plans that collectively make up the state TSP. Facility plans are incorporated into the Oregon Highway Plan through amendments, becoming part of the state TSP.

**Complying with the Goals in Preparing Transportation System Plans; Refinement Plans, OAR 660-012-0025**

*(1) Except as provided in section (3) of this rule, adoption of a TSP shall constitute the land use decision regarding the need for transportation facilities, services and major improvements and their function, mode and general location.*

*(2) Findings of compliance with applicable statewide planning goals and acknowledged and comprehensive plan policies and land use regulations shall be developed in conjunction with the adoption of the TSP.*

**FINDING:**

As a modal plan that is part of the state TSP, many of the requirements of section 0025 do not apply to the Bicycle and Pedestrian Plan. However, TPR Section 0025, Subsection 2 states "Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies and land use regulations shall be developed in conjunction with the adoption of the TSP." This requirement is addressed through development of this "Findings" document and its supporting information.

**Determination of Transportation Needs, OAR 660-012-0030**

*Section 30 of the TPR requires that TSPs identify transportation needs relevant to the planning area and the scale of the transportation network being planned including state, regional and local transportation needs.*

**FINDING:**

Statewide transportation needs were identified through data analysis using inventory information on the state system, a review of projects and needs identified in local Transportation System Plans, and extensive public engagement including surveys, an online open house, and listening meeting across the state to identify issues, opportunities, and challenges that characterize biking and walking transportation needs. This process is described through the Plan Chapter 2 which provides the background of biking and walking in Oregon. This provides an overview of existing conditions throughout the state, which includes existing sidewalk and bike lane miles, demographic information of who is using the facilities, and the challenges/opportunities for the biking and walking network. The Strategic Investment Chapter 4 further highlights identified funding need for walking and biking and existing annual expenditures for both state and local spending. As a statewide plan, determination of needs was derived from data across the state and consistent with the scale of the transportation network being planned.

**Transportation Financing Program, OAR 660-012-0040**

*Section 0040 of the TPR applies to the development of a transportation financing program for documents with planned transportation facilities or improvements.*

**FINDING:**

While the OBPP does not identify specific facilities or improvements, it does describe the types of investments needed and a framework to identify, prioritize, and fund biking and walking projects, programs, and investments throughout the plan. Specifically Goal 8 (Strategic Investment) of the Plan,

states “Recognize Oregon’s strategic investments in walking and biking as crucial components of the transportation system that provide essential options for travel and can help reduce system costs and achieve other important benefits.” In addition, the plan identifies different existing funding sources within Chapter 4: Investment Considerations, such as the STIP, which has specific funding allocations including those for walking/biking projects. Chapter 4 also includes funding scenarios, describing the types of investments and associated outcomes under different levels of funding.

The Bicycle and Pedestrian Plan is a modal element of the OTP. The OTP informs the STIP which in turn identifies specific projects in need of financing. The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 12, Transportation.

13. **Energy Conservation -** *The purpose of Goal 13 (OAR 660-015-0000(13)) is “To conserve energy.” Goal 13 declares that “land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles.”*

**FINDING:**

The Bicycle and Pedestrian Plan does not propose specific land use development, but promotes accessing destinations using active transportation modes. The Plan recognizes the inherent fuel and related emission efficiencies that walking and bicycling promote. Goal 7: Sustainability also states: ‘Help to meet federal, state, and local sustainability and environmental goals by providing zero emission transportation options like walking and biking.’

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 13, Energy Conservation.

14. **Urbanization –** *The purpose of Goal 14 (OAR 660-015-0000(14)) is “To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.”*

**FINDING:**

Walking and biking are a common form of transportation in urban areas where destinations are in closer proximity. For these reasons, the Plan promotes integration with transportation and mixed land uses, such as Policy 4.1 which encourages land use policies and practices that support increased biking and walking.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 14, Urbanization.

15. **Willamette River Greenway -** *The purpose of Goal 15 (OAR 660-015-0005) is “To protect, conserve, enhance and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands along the Willamette River as the Willamette River Greenway.”*

**FINDING:**

The Bicycle and Pedestrian Plan does not plan for specific uses on lands protected in the Willamette River Greenway. However, there are some Strategies in the Plan which seek to connect Oregonians and visitors with natural and scenic places through biking, walking, and Regional Paths, such as Policy 2.5.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 15, Willamette River Greenway.

16. **Estuarine Resources -** *The purpose of Goal 16 (OAR 660-015-0010(1)) is "To recognize and protect the unique environmental, economic, and social values of each estuary and associated wetlands; and to protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity and benefits of Oregon's estuaries."*

**FINDING:**

The Bicycle and Pedestrian Plan does not plan for specific land uses on estuarine resources. However, the Bicycle and Pedestrian Plan recognizes that transportation modes such as biking and walking require less paved infrastructure and help preserve the health of streams, rivers, and other water resources.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 16, Estuarine Resources.

17. **Coastal Shorelands -** *The purpose of Goal 17 (OAR 660-015-0010(2)) is "To conserve, protect, where appropriate, develop and where appropriate restore the resources and benefits of all coastal shorelands, recognizing their value for protection and maintenance of water quality, fish and wildlife habitat, water-dependent uses, economic resources and recreation and aesthetics. The management of these shoreland areas shall be compatible with the characteristics of the adjacent coastal waters; and to reduce the hazard to human life and property, and the adverse effects upon water quality and fish and wildlife habitat, resulting from the use and enjoyment of Oregon's coastal shorelands."*

**FINDING:**

The Bicycle and Pedestrian Plan does not plan for specific land uses on coastal shorelands. However, the Bicycle and Pedestrian Plan recognizes that transportation modes such as biking and walking require less paved infrastructure and help preserve the health of streams, rivers, and other water resources.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 17, Coastal Shorelands.

18. **Beaches and Dunes -** *The purpose of Goal 18 (OAR 660-015-0010(3)) is "To conserve, protect, where appropriate develop, and where appropriate restore the resources and benefits of coastal beach and dune areas; and to reduce the hazard to human life and property from natural or man-induced actions associated with these areas."*

**FINDING:**

The Bicycle and Pedestrian Plan does not plan for specific land uses or infrastructure that would impact beach and dune resources. Goals 6 and 7 emphasize the role that biking and walking have in enhancing human and environmental health. Balancing environmental and community impacts with access and mobility needs represent an important and ongoing discussion within the plan.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 18, Beaches and Dunes.

**19. Ocean Resources -** *The purpose of Goal 19 (OAR 660-015-0010(4) is "To conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social value and benefits to future generations."*

**FINDING:**

The Bicycle and Pedestrian Plan does not plan for specific land uses or infrastructure that would impact ocean resources. Goals 6 and 7 emphasize the role that biking and walking have in enhancing human and environmental health. Balancing environmental and community impacts with access and mobility needs represent an important and ongoing discussion within the plan.

The Bicycle and Pedestrian Plan is in compliance with and supportive of Statewide Planning Goal 19, Ocean Resources.

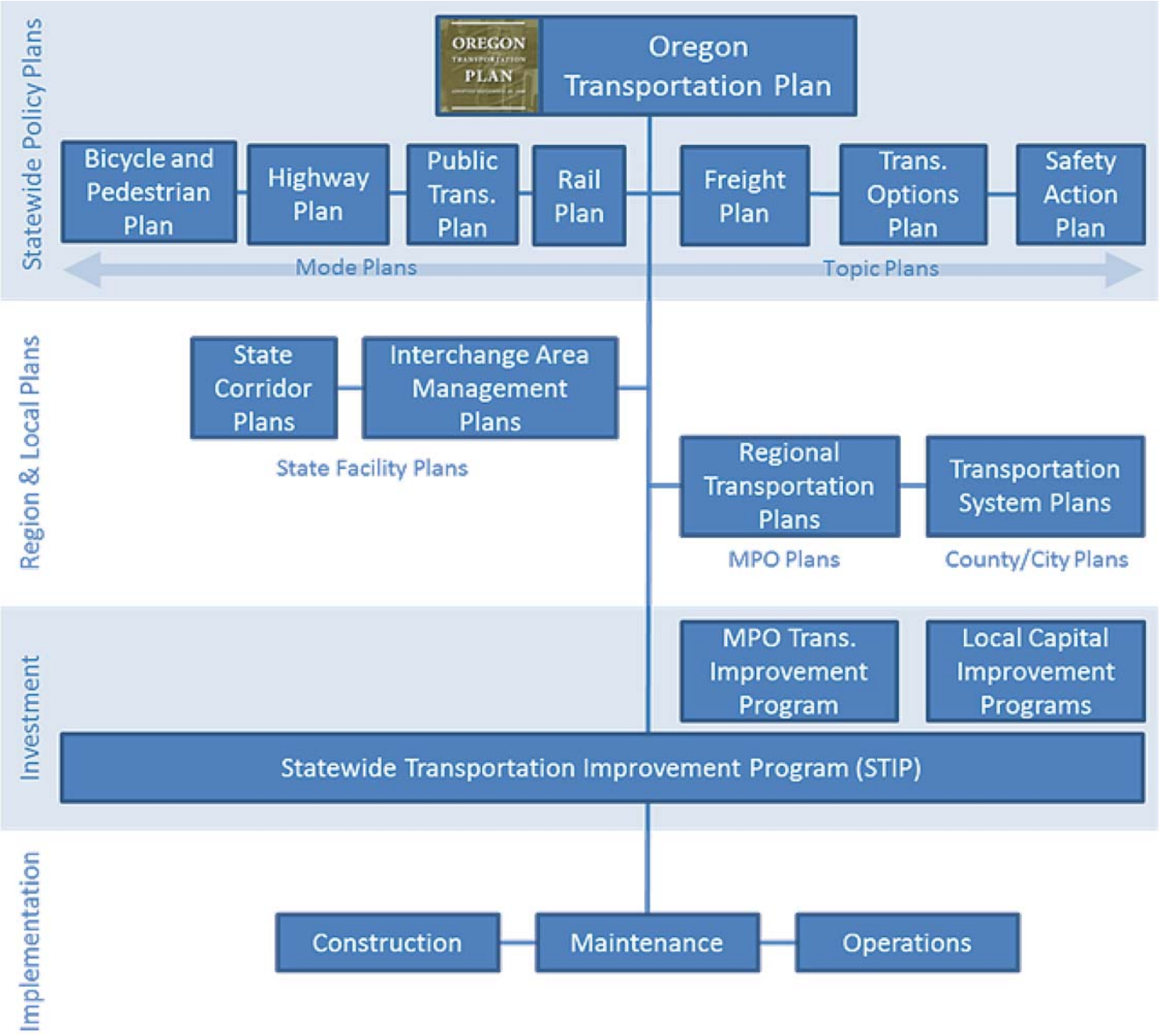
## Conclusion

The Oregon Bicycle and Pedestrian Plan was developed in compliance with OAR 731-015-055, Coordination Procedures for Adopting the Final Modal Systems Plans and the Oregon Transportation Commission's Policy 11 – Public Involvement Policy. These Findings of Compliance with Statewide Planning Goals and supporting information were presented to the OTC for consideration and action at their May 19, 2016 Meeting, when the Oregon Bicycle and Pedestrian Plan was adopted.

As an element of the OTP, the state's Transportation System Plan, the Oregon Bicycle and Pedestrian Plan must be in compliance with statewide planning goals. Based on the analysis of each statewide planning goal represented by the findings in the report, the Oregon Bicycle and Pedestrian Plan is found to be in compliance with all 19 planning goals.

# Appendix F: Legal Context of the Oregon Bicycle and Pedestrian Plan

The Oregon Bicycle and Pedestrian Plan is a modal element of the Oregon Transportation Plan (OTP), the state's multimodal policy plan. Collectively, the OTP, Bicycle and Pedestrian Plan, and other mode and topic plans fulfill state and federal planning requirements, assume legal authority accordingly, and provide overall policy foundation for the state. The policies and strategies in the plans direct the work of the Oregon Department of Transportation (ODOT) and impact transportation decisions of local jurisdictions, through their Transportation System Plans (TSPs) and other planning efforts, which must be consistent with statewide policy plan direction. Region and local plans refine policies and strategies to each context as appropriate and identify projects and programs. These projects and programs are then prioritized for investment. Construction, maintenance and operational activities occur as part of implementation and are influenced or directed by earlier planning or investment decisions.



More specifics are provided in this appendix about how the OTP and its mode and topic plans (specifically the Oregon Bicycle and Pedestrian Plan) fulfill state and federal requirements and how they relate to other state laws. In addition, a discussion is provided on how the OTP and each mode and topic plan relate to one another, and how the overall statewide policy framework works.

# State Planning Requirements and Relationship to State Laws

## Oregon Transportation Commission (OTC) role - Duties and Responsibilities

ORS 184.618(1) **states:**

*As its primary duty, the Oregon Transportation Commission shall develop and maintain a state transportation policy and a comprehensive, long-range plan for a safe, multimodal transportation system for the state which encompasses economic efficiency, orderly economic development and environmental quality. The plan shall include, but not be limited to, aviation, highways, mass transit, pipelines, ports, rails and waterways. The plan shall be used by all agencies and officers to guide and coordinate transportation activities and to insure transportation planning utilizes the potential of all existing and developing modes of transportation.*

Oregon has designated the OTP, the adopted mode and topic plans (Aviation, Bicycle and Pedestrian, Freight, Highway, Public Transportation, Rail, Transportation Options, and Transportation Safety Action), and facility plans as the state transportation policy and comprehensive long-range plan. Thus the OTP and each of the mode, topic, and facility plans have legal authority.

The OTP and its modal and topic elements achieve the statutory planning requirement for the Oregon Transportation Commission and the Oregon Department of Transportation (ODOT). The OTP is the umbrella document, which is refined by the mode and topic plans. ORS 184.618(1) requires state agencies to use the OTP to "guide and coordinate transportation activities" but it does not authorize the OTC to impose OTP goals, policies and performance recommendations on other state agencies. However, the OTP operates in the legal context of the State Agency Coordination Program and the Land Conservation and Development Commission's Transportation Planning Rule (TPR) (discussed further below), which impose additional requirements and authority in the planning process for other jurisdictions. The OTP, and its elements, also must comply with federal legislation.

## Relationship to State Agency Coordination Program (OAR 731-15-0045)

The Oregon Transportation Commission adopted rules to implement ODOT's State Agency Coordination (SAC) Program in September 1990. The program establishes procedures used by the Department to ensure compliance with statewide planning goals in a manner compatible with acknowledged city, county and regional comprehensive plans.

The adoption of transportation policy falls under the requirements of the State Agency Coordination Program rules (OAR 731-15). The rules require ODOT to involve interested parties and affected jurisdictions when developing plans or adopting major amendments to plans. The Department must ensure the plan is in compliance with all applicable statewide planning goals.

## Relationship to the Statewide Planning Goals and the Transportation Planning Rule (OAR 660-012)

Oregon's statewide planning goals established state policies in 19 different areas. The TPR implements the Land Conservation and Development Commission's Planning Goal 12 (Transportation) which requires ODOT to

prepare a TSP to identify transportation facilities and services to meet state needs. The Oregon Transportation Plan and adopted multimodal, mode, topic and facility plans serve as the State TSP.

In addition to the requirements placed on ODOT, the TPR requires that metropolitan planning organizations and certain counties prepare regional TSPs consistent with the adopted state TSP. Cities and counties must prepare local TSPs that are consistent with the state TSP and applicable regional TSPs. Since the Oregon Transportation Plan, and its mode, topic and facility plans, is the adopted TSP for the state, the TPR requires that regional and local TSPs be consistent with the state TSP.

# Federal Planning Regulations

## Relationship to 23 CFR 450: Planning Assistance and Standards

The federal Fixing America's Surface Transportation ACT (FAST Act), passed in December 2015, continues many of the federal planning requirements of its predecessors, The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (2005), the Transportation Equity Act for the 21st Century (TEA-21) (1998) and the Intermodal Surface Transportation Efficiency Act (ISTEA) (1991). FAST Act establishes federal transportation policy, funding levels, and guidelines for state and metropolitan planning organization transportation planning. The statute requires states to conduct a statewide planning process that is coordinated with transportation planning activities carried out in metropolitan areas and that involves consultation with non-metropolitan areas, considering all modes of transportation.

Federal direction for the development and content of the long-range statewide transportation plan is contained in 23 CFR 450, which implements the federal transportation statutes; each state has to carry out a continuing, cooperative, and comprehensive statewide multimodal transportation planning process, including the development of a long-range statewide plan. 450.214 (a) enunciates this as:

*The State shall develop a long-range statewide transportation plan, with a minimum 20-year forecast period at the time of adoption, that provides for the development and implementation of the multimodal transportation system for the State. The long-range statewide transportation plan shall consider and include as applicable, elements and connections between public transportation, non-motorized modes, rail, commercial vehicle, waterway, and aviation facilities, particularly with respect to intercity travel.*

## Relationship to the Americans with Disabilities Act (ADA)

The following description was taken from the Department of Justice's *Information and Technical Assistance on the Americans with Disabilities ACT.*

The Americans with Disabilities Act (ADA) was signed into law on July 26, 1990. ADA is one of America's most comprehensive pieces of civil rights legislation that prohibits discrimination and guarantees that people with disabilities have the same opportunities as everyone else to participate in the mainstream of American life - to enjoy employment opportunities, to purchase goods and services, and to participate in State and local government programs and services. Modeled after the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, religion, sex, or national origin - and Section 504 of the Rehabilitation Act of 1973 - the ADA is an "equal opportunity" law for people with disabilities.To be protected by the ADA, one must have a disability, which is defined by the ADA as a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived

by others as having such an impairment. The ADA does not specifically name all of the impairments that are covered. [1]

As ADA is law, this Plan does not reiterite ADA requirements, but the policies and strategies are intended to support and build upon its requirements.

### Relationship to Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 (Title VI) is a Federal law that protects persons from discrimination based on their race, color or national origin in programs and activities that receive Federal financial assistance. [2] This Plan addresses Title VI through inclusion of 'transportation disadvantaged populations' and 'underserved areas' within the policy and strategy framework. Transportation disadvantaged is defined as communities of color, the poor, older adults, youth, and people with disabilities, who are at a significant disadvantage without access to convinent, safe, well integreated, transportation altearntives. In addition, Title VI ensures that these populations are represented in all aspects of planning and investment decision making.

## Relationship to the Oregon Transportation Plan and Other Mode and Topic Plans

The OTP is the state's long range (25 year) multimodal transportation plan. The OTP is the overarching policy document among a series of plans that together form the state transportation system plan. The OTP considers all modes of Oregon's transportation system as a single system and addresses the future needs on the system. The OTP establishes a vision, goals, policies, and strategies and initiatives that address the challenges and opportunities facing Oregon. The Plan provides the framework for prioritizing transportation improvements based on various future revenue conditions, but it does not identify specific projects for development. The Oregon Transportation Plan's goals, policies and strategies guide the development of state multimodal, mode, topic, and facility plans as well as regional and local TSPs.

The Oregon Bicycle and Pedestrian Plan is a mode plan under the OTP umbrella. Mode plans analyze a specific transportation option and establish policies, strategies, and investment priorities pertinent to that mode, refining the OTP and providing detailed policies and strategies relative to the bicycle and pedestrian system in Oregon. As an element of the OTP it has legal authority. The 2016 Oregon Bicycle and Pedestrian Plan supersedes the 1995 Oregon Bicycle and Pedestrian Plan.

In relationship to other mode and topic plans, the Bicycle and Pedestrian Plan carries equal weight. The policies and strategies in the OTP, mode and topic plans collectively represent the transportation policy framework for the state. While the plans are separate, they are in essence one, under the umbrella of the OTP. The following table includes some examples of where select policies and strategies occur in other plans that relate to the Oregon Bicycle and Pedestrian Plan. While it is not comprehensive, the table is intended to show how the plans are designed to relate to and complement one another.

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[1] Information and Technical Assistance on the Americans with Disabilities Act. United States Department of Justice, Washington, D.C. www.adad.gov/ada_intro.htm. Accessed Oct. 6, 2015.

[2] Know the Rights that Protect Us from Discrimination Based on Race, Color or National Origin. United States Department of Health & Human Services Office for Civil Rights, Washington, D.C. www.hhs.gov/ocr/civilrights/resources/factsheets/yourrightsundertitlevioftheciviirightsact.pdf. Accessed Oct. 6, 2015.

## Table F-1.1: Sample of Mode/Topic Plan Policies that Support or Complement the Bicycle and Pedestrian Plan

| Plan | Policy Themes | Description |
|---|---|---|
| Oregon Rail Plan | Rail banking | Policy foundation supports rail banking and converting unused rails to trails for pedestrian and bicycle use. |
| Oregon Transportation Options Plan | Mobility hubs<br>Safety<br>Land use<br>Linking to recreational destinations | The plan emphasizes the importance of last-mile connections and introduces the need to link walking and biking facilities to public transportation and other modes at central locations (mobility hubs).<br>Safety strategies seek to raise people's level of comfort walking or biking, including "safety in numbers" and education around safety myths.<br>Land use policy supports pairing mixed use neighborhoods with transportation options like walk and bike, "20-minute" neighborhoods, and working with employers on adequate bicycle parking.<br>The plan also highlights the need to access tourist and traveler destinations by multiple modes, and by linking modes, such as taking a bus to a trail to ride a bike. |
| Oregon Public Transportation Plan | Connectivity | Similar to transit linkages discussed in the Bicycle and Pedestrian Plan, the Public Transportation Plan will include policy and strategy support for how transit can better link to walking and biking and the importance of first and last mile connections. |
| Oregon Transportation Safety Action Plan | Enforcement | All of the mode and topic policy plans provide a policy foundation for transportation agencies in the state. Law enforcement agencies are a different branch of government and as such there is little ability in the statewide plans to cover the topics. |
| Oregon Freight Plan | Freight routes | Similar to the Oregon Highway Plan, the methodology for selecting freight networks is established in the Freight Plan. This methodology may be modified in future updates to the plan and processes are in place that seek to balance multimodal needs and interests. |

| Plan | Policy Themes | Description |
|---|---|---|
| Oregon Highway Plan | Roadway classificiations and designations<br>Driveway spacing | Roadway classifications and designations play a role in speeds set on Oregon's highways. The Bicycle and Pedestrian Plan identifies the need to look at lowering speeds for significant safety concerns, looking at the appropriateness of doing so based on many factors including roadway classification or designation. The process for highway classification is established in the Oregon Highway Plan and roadways may be modified according to its methodology. Together the Bicycle and Pedestrian Plan and Oregon Highway Plan allow for opportunities to re-evaluate roadway function, multimodal use, and speeds.<br>When paired with the Bicycle and Pedestrian Plan, the Oregon Highway Plan standards for driveways become multimodal by helping to eliminate elevation changes on sidewalks that cross driveways in order to maintain better pedestrian and bicycle mobility and comfort. |

## Table F-1.2: Other Documents that Support or Complement the Bicycle and Pedestrian Plan

| Document | Correlation | Description |
|---|---|---|
| Oregon Statewide Transportation Strategy | Greenhouse Gas Emissions Reduction | While the Statewide Strategy does not have regulatory authority, the document still contains an array of strategies that supports walking and biking as sustainable forms of transportation that can help reduce greenhouse gas emissions statewide. |