Appendix 2: Pedestrian/ Bicycle Commute Mode Shares , Portland Region Area

City or area	Workers over age 16	Number of workers bicycling to work	Percentage of workers bicycling to work	Number of workers walking to work	Percentage of workers walking to work
Aloha CDP, Oregon	22,888	251	1%	342	1%
Beavercreek CDP, Oregon	2,314	0	0%	0	0%
Beaverton city, Oregon	45,335	514	1%	1,970	4%
Bethany CDP, Oregon	8,737	63	1%	74	1%
Bull Mountain CDP, Oregon	4,529	16	0%	15	0%
Cedar Hills CDP, Oregon	4,240	34	1%	94	2%
Cedar Mill CDP, Oregon	7,152	41	1%	68	1%
Cornelius city, Oregon	4,828	55	1%	62	1%
Damascus city, Oregon	4,814	32	1%	46	1%
Durham city, Oregon	721	16	2%	44	6%
Fairview city, Oregon	4,195	16	0%	189	5%
Forest Grove city, Oregon	9,125	70	1%	624	7%
Gaston city, Oregon	291	0	0%	6	2%
Gladstone city, Oregon	5,684	15	0%	90	2%
Gresham city, Oregon	46,193	136	0%	1,147	2%
Happy Valley city, Oregon	5,238	7	0%	13	0%
Hillsboro city, Oregon	43,063	547	1%	1166	3%
Johnson City city, Oregon	293	0	0%	0	0%
King City city, Oregon	848	0	0%	0	0%
Lake Oswego city, Oregon	17,483	124	1%	300	2%
Maywood Park city, Oregon	402	0	0%	4	1%
Milwaukie city, Oregon	10,525	75	1%	267	3%
North Plains city, Oregon	939	3	0%	16	2%
Oak Grove CDP, Oregon	7,383	65	1%	167	2%
Oak Hills CDP, Oregon	5,425	63	1%	46	1%
Oregon City city, Oregon	14,588	173	1%	644	4%
Portland city, Oregon	291,842	15,871	5%	15,727	5%
Raleigh Hills CDP, Oregon	3,038	12	0%	222	7%
Rivergrove city, Oregon	132	0	0%	3	2%
Rockcreek CDP, Oregon	5,117	72	1%	126	2%
Sherwood city, Oregon	8,037	0	0%	237	3%
Stafford CDP, Oregon	819	0	0%	13	2%
Tigard city, Oregon	24,603	293	1%	546	2%
Troutdale city, Oregon	7,415	54	1%	36	0%
Tualatin city, Oregon	12,999	101	1%	367	3%
West Linn city, Oregon	12,600	54	0%	254	2%
Wilsonville city, Oregon	8,680	3	0%	404	5%
Wood Village city, Oregon	1,657	7	0%	39	2%

Source: 2006-2010 American Community Survey 5-year Estimate

Appendix 3

CDC Recommendations for Improving Health through Transportation Policy

Centers for Disease Control and Prevention

The U.S. transportation system has been shaped by multiple policy inputs and concrete actions which have arisen from transportation and community planners, funding agencies and others at Federal, state and local levels. Today, the system is designed to move people and goods efficiently; however, there is a growing awareness across communities that transportation systems impact quality of life and health. Government and non-government agencies are seeking innovative policies and programs that protect and promote health while accomplishing the primary transportation objectives.

The Opportunity

Expanding the availability of, safety for, and access to a variety of transportation options and integrating health-enhancing choices into transportation policy has the potential to save lives by preventing chronic diseases, reducing and preventing motor-vehicle-related injury and deaths, improving environmental health, while stimulating economic development, and ensuring access for all people.

With this goal in mind, the Centers for Disease Control and Prevention (CDC) has identified transportation policies that can have profound positive impact on health. CDC supports strategies that can provide a balanced portfolio of transportation choices that supports health and reduces health care costs. Transportation policy can:

- Reduce injuries associated with motor vehicle crashes
- Encourage healthy community design
- Promote safe and convenient opportunities for physical activity by supporting active transportation infrastructure
- Reduce human exposure to air pollution and adverse health impacts associated with these pollutants
- Ensure that all people have access to safe, healthy, convenient, and affordable transportation

Rationale

The current U.S. transportation infrastructure focuses on motor vehicle travel and provides limited support for other transportation options for most Americans.

- Physical activity and active transportation have declined compared to previous generations. The lack of physical activity is a major contributor to the steady rise in rates of obesity, diabetes, heart disease, stroke and other chronic health conditions in the United States.
- Motor vehicle crashes continue to be the leading cause of injury-related death for many age groups. Pedestrians and bicyclists are at an even greater risk of death from crashes than those who travel by motor vehicles.
- Many Americans view walking and bicycling within their communities as unsafe because of traffic and the lack of sidewalks, crosswalks, and bicycle facilities.

- Although using public transportation has historically been safer than highway travel in light duty vehicles, highway travel has grown more quickly than other modes of travel.
- A lack of efficient alternatives to automobile travel disproportionately affects vulnerable populations such as the poor, the elderly, people who have disabilities and children by limiting access to jobs, health care, social interaction, and healthy foods.
- Although motor vehicle emissions have decreased significantly over the past three decades, air pollution from motor vehicles continues to contribute to the degradation of our environment and adverse respiratory and cardiovascular health effects.
- Transportation accounts for approximately one-third of all U.S. greenhouse gas emissions contributing to climate change.

Recommendations
The following are key recommendations for bringing public health considerations into transportation issues.

Reduce injuries associated with motor vehicle crashes
Motor vehicle travel has become safer over time, but motor vehicle crashes are still the leading cause of death for people ages 1–34. Improving the safety and efficiency of motor vehicles and their occupants is critical to improving transportation policy and the public's health. Transportation policies are needed to improve the safety of motor vehicles and their occupants to prevent crashes, and advances in medical care are needed to increase the survivability of victims of crashes that do occur.

Recommendations:

- Provide incentives to states that implement, strengthen, and/or continue to use effective interventions that improve road traffic safety. Examples of interventions include:
    - Primary seatbelt laws
    - Child safety seat and booster seat laws
    - Alcohol-impaired driving countermeasures
    - Motorcycle and bicycle helmet laws
    - Distracted driving laws
    - Lower speed limits and other efforts to reduce speeding within communities.
    - Comprehensive graduated driver licensing systems
    - Roadway design measures such as installation of centerline rumble strips
    - Education on safe driving, bicycling, and walking
    - Community designs that promote reduced traffic speeds in neighborhoods
- Increase support for new and existing technologies to improve the safety of motor vehicles. Examples include:
- Technologies that enable vehicles to withstand crashes with lower risk of injuries to occupants
- Vehicle designs and technologies that lower risk for non-occupants

  - Technologies to prevent alcohol impaired driving

- Study the effectiveness of providing incentives for Americans to reduce vehicle miles traveled by using alternatives to single occupancy vehicle travel. Examples of strategies include:
  - High occupancy vehicle lanes
  - Congestion pricing
  - Parking pricing
  - Carpools, vanpools, and improved public transportation
- Bring health, transportation and community planners together to address roadway safety issues through community design.
- Ensure access to trauma care for victims of motor vehicle crashes in order to improve survival outcomes after a crash.

Improve Air Quality

Transportation-related air pollutants are one of the largest contributors to unhealthy air quality. Exposure to traffic emissions has been linked to many adverse health effects including: premature mortality, cardiac symptoms, exacerbation of asthma symptoms, diminished lung function, increased hospitalization and others. Motor vehicles are a significant source of air pollution in urban areas.

Recommendations:

- Reduce human exposure to transportation-related air pollution and the adverse health impacts associated with air pollutants by:
  - Retrofitting existing diesel vehicles with current pollution control measures to reduce emissions.
  - Requiring effective inspection and maintenance programs for medium- and heavy-duty vehicles.
  - Providing incentives for motor vehicle drivers to purchase vehicles with technologies designed to control pollution and reduce emissions.
  - Strengthening congestion mitigation and air quality programs.
  - Seeking solutions to reduce pollution generated by ports, high-volume roadways and railroads
- Improve the respiratory and cardiovascular health of the U.S. population by improving air quality. Possible strategies include:
  - Promoting transportation choices and innovative transportation measures that reduce emissions
  - Shifting to active transportation and public transportation modes
  - Reducing vehicle miles traveled per capita
- Support policies that reduce environmental pollution (including greenhouse gas emissions) by changing to renewable energy sources, strengthening fuel efficiency

policies, and expanding programs that reduce the number of vehicles in the fleet with poor fuel economy.

Expand Public Transportation

Public transportation systems reduce the necessity for single occupancy vehicle trips, reduce the production of automobile emissions, increase incidental physical activity, and provide necessary transportation access for people with physical, economic, or other limitations that impede their access to and use of a single occupancy motor vehicle. Policies that encourage public transportation infrastructure are needed to improve access for all people.

Recommendations:

- Explore opportunities to increase funding to strengthen the positive health impacts associated with expanded public transportation options. For example:
    - Encourage funding decisions that strengthen public transportation
    - Encourage states to increase investments in public transportation, congestion relief, air quality improvements, and other options, and to remove barriers to use of gas tax revenues for public transportation and bicycle-pedestrian improvements
    - Give state, regional, and local governments more flexibility to choose from transportation funding categories to meet local transportation needs
    - Explore the extent to which program requirements and resources can be made to be more comparable for public transportation, highways, non-motorized and rail travel alternatives to encourage investments in all modes of transportation
    - Provide incentives to support a strong network of public transportation options, including bus rapid transit and light rail, which connect housing and jobs as well as improve access to healthy foods, medical care, and other services
- Work with government and non-government organizations to develop and implement model transportation planning policies that encourage transit-oriented developments and other mixed-use development, and increase connectivity among neighborhoods and communities for all transportation modes.
- Work with federal agencies and non-governmental organizations to establish a federal policy that would promote bicycling and walking to public transportation stations by making these connecting trips easier, faster, and safer by:
    - Providing bicycle storage at public transportation stations, bus stops, and city car-share point of departure locations
    - Assessing and addressing safety hazards for pedestrians and bicyclists through safety measures such as well-lighted crosswalks and signal timing, and integrating those safety enhancements for pedestrian and bicycle access to public transportation stations, bus stops, and city car-share locations
    - Removing barriers to pedestrians and bicyclists on roads and intersections near public transportation stations and bus stops
    - Enhancing the public transportation system to accommodate bicyclists and pedestrians

Promote Active Transportation
Active transportation systems should connect the places where people live, learn, work, shop, and play by providing safe and convenient walking and bicycling facilities. The safety of all road users can increase as more people choose active transportation.

Recommendations:

- Promote safe and convenient opportunities for physical activity by supporting active transportation infrastructure, such as:
    - Well-lit sidewalks, shared-use paths, and recreational trails
    - Safe roadway crossings
    - Creation of bicycle-supporting infrastructure including shared-use paths and interventions that reduce motor vehicle traffic and vehicle speed on neighborhood streets (e.g. bicycle boulevards)
    - Safe pedestrian and bicycling connections to public transportation
    - Safe and convenient pedestrian and bicycling connections to public park and recreation areas
- Increase opportunities for physical activity by devoting increased resources to non-motorized transportation options.
- Consider incentives for states and regions that reduce vehicle miles traveled per capita and implement active living environments that promote walking and bicycling, using public transportation, and reducing air pollution (including greenhouse gas emissions).
- Provide states with tools necessary to evaluate and effectively increase investments in bicycle and pedestrian infrastructure and programming. Activities to be evaluated could include:
    - Comprehensive street design measures, such as "complete streets," which provide safe and convenient travel for all users of the street, such as expanding space for bicycle lanes and sidewalks, placing bus stops in safe and convenient locations, and making improvements accessible for disabled users
    - Complementary systems of shared-use paths connected to roadways that provide safe places to walk and bicycle for children, the elderly, and the general public
    - Bicycle-supporting infrastructure including shared use paths and interventions that reduce motor vehicle traffic and speed on neighborhood streets to provide direct, safe routes for bicyclists
    - "Safe Routes to School" initiatives including the development of sidewalks, shared-use paths and bicycle infrastructure to ensure that children can walk and bicycle safely to school. Safe Routes to School programs also include support activities, such as education, encouragement, enforcement, and evaluation
- Bring health, transportation and community planners together to develop safe, convenient, and complete pedestrian and bicycle master plans, including an inventory of current sidewalks, bicycle facilities, recreational trails, and shared-use paths, which can be incorporated into city general plans and capital improvement programs.

- Work with state and local transportation and planning officials to integrate and enforce use of pedestrian and bicycle design guidelines and evidence-based safety standards into transportation planning practice and support evaluation of innovative designs.
- Bring together specialists in transportation, energy, community planning and health to establish federally recommended guidelines for the inclusion of active transportation infrastructure in building and development efforts.
- Explore opportunities for increasing availability of funds for establishing active transportation initiatives.

Encourage Healthy Community Design

Healthy community design incorporates elements (such as transportation networks, street designs, and zoning/land use policies) that work synergistically to promote health and safety.

Recommendations:

- Work with government and non-government organizations to develop and implement model transportation and land use planning policies that encourage transit-oriented and mixed-use developments. Encourage:
    - Dense networks of connected streets which serve the needs of all transportation modes; for example, adopting measures such as "complete streets"
    - Roads that include robust infrastructure for bicycling and walking while mitigating the potential adverse effects of motor vehicle travel
- Enable state and local planners to protect residents from local air pollution and noise from high-volume roadways, ports, and airports by discouraging development (including schools) near these air pollution and noise pollution sources and, where possible, constructing barriers to reduce nearby residents' exposure.
- Support research to assist transportation agencies to develop street networks that facilitate active transportation and public transportation by increasing connectivity and limiting block size.
- Provide assistance to local planners to design and locate destinations for children (such as schools, parks, and libraries) within neighborhoods so that children can reach destinations without having to cross busy streets.
- Work with federal, state, and local transportation officials to ensure that all people have access to safe, healthy, convenient, and affordable transportation options regardless of age, income and other socioeconomic factors.
- Support policies that reduce vehicle miles traveled per capita, including land use policies that reduce vehicular travel, increase public transportation service, and increase active transportation infrastructure.

Design to Minimize Adverse Health and Safety Consequences

In some circumstances, a solution to one problem may exacerbate another problem. For example, active transportation improves health overall by providing physical activity and reducing emissions, however, the emphasis on vehicular travel in our current transportation system results in pedestrians and bicyclists to disproportionately suffer from injuries. Therefore, increasing active transportation may increase the absolute numbers of injuries unless protective and alternate mode infrastructure and policies are concurrently implemented. In addition, decreasing the size and weight of vehicles and increasing adoption of new vehicle technologies will reduce greenhouse gas and other emissions but could result in more injuries from car crashes and impact environmental health in other ways.

Recommendations:

- Support policies that protect pedestrians and bicyclists from motor vehicle crashes, such as:
    - Designing streets to reduce motor vehicle speeds and minimize pedestrian and bicycle injuries
    - Piloting and evaluating policies that assume motor vehicle driver responsibility for accidents involving child pedestrians and child bicyclists in residential neighborhoods and school zones
    - Implementing multimodal level of service indicators as performance measures for roadways that include measurements of pedestrian, bicyclists, and public transportation operability
    - Increasing the adoption of motor vehicle technologies that reduce injuries to pedestrians, such as bumpers designed to minimize pedestrian injury
    - Correcting existing hazards and enhance infrastructure for pedestrians and bicyclists
- Support policies that maximize the benefits of shifting to efficient vehicles, such as:
    - Supporting efforts to reduce size disparities in the fleet of vehicles
    - Supporting motor vehicle design efforts to incorporate features that reduce the likelihood of injury to occupants of other vehicles, bicyclists and pedestrians
    - Reducing the environmental health impact of technologies that improve fuel economy, such as recycling programs for hybrid vehicle battery systems
- Encourage states and communities to consider health impacts as part of transportation planning. Health impact assessments (HIAs) and safety audits may be a useful tool to identify the impact of a new policy, program or major transportation project on community and individual health.
- Enhance coordination with public health agencies for health assessment when such assessments are conducted as part of environmental impact statements.

Require Research and Surveillance
Data and evaluation are critical to ensure that we have robust information on the impact of transportation systems on health as well as to determine whether interventions have their intended effect.

Recommendations:

- Support national, state, and local research to better understand the relationships between transportation, health and safety outcomes.
- In coordination with federal and state transportation agencies, CDC could provide expertise in evaluating programs and activities designed to address the safety and health issues related to transportation. For example, CDC could evaluate:
    - Effectiveness of laws, policies, and programs
    - Fidelity of program implementation
    - Enforcement of transportation policies to improve health and safety outcomes
- Support public health data collection and analysis activities for active transportation and public transportation. Examples include:
    - Improved specificity of external cause-of-injury codes for transportation-related deaths, hospitalizations, and emergency department visits to capture information on traffic-relatedness, vehicle type, and occupant status
    - Comprehensive counts of deaths and improved data estimates of injuries related to all modes of transportation, including pedestrians and bicyclists
    - Systematic counts of users of all modes of transportation, including pedestrians and bicyclists
    - Targeted community level data to track the impact of policies, programs, and services
    - Enhance travel demand modeling capability to reflect all modes of transportation
- Assess the overall traveler health and safety impact of transportation migration (e.g., mode shift), of individuals switching from one form of transportation to another form, and of changing the mix in traffic.
- Encourage the inclusion of health- and safety-related questions in transportation surveys.

Support Professional Development and Job Creation
Training existing workers and enhancing their skills and abilities must be combined with bringing new workers with a variety of skill levels into the fields of public health, public policy, urban planning, and transportation engineering. A broader background will be useful to future transportation professionals.

Recommendations:

- Support the development of professionals who are committed to enhancing the relationship between public health and transportation policy through fellowship programs and development of curricula related to integration of these areas.

- Develop pilot training and technical assistance for state and local entities to conduct HIAs.
- Work with transportation agencies, professional organizations, and educators to insert training on the health effects of transportation planning and engineering into curricula for transportation planning and engineering students and continuing education for professional transportation planners and engineers. Similarly, work to insert training for public health students and practitioners on transportation policy and its effects on health.
- Provide incentives for communities and states to include environmental and public health professionals in planning activities and in implementing community development initiatives.
- Support measures to increase the capacity of traffic police to improve the enforcement of laws and education of the public related to motor vehicle, pedestrian, and bicycle safety.

Foundation for CDC's Transportation Recommendations

In 2007, representatives from CDC created a Transportation Policy Group to develop a more comprehensive approach to identifying and addressing issues related to transportation and health. Their efforts have extended to include work with the U.S. Department of Transportation, as well as non-federal partners such as the American Public Health Association (APHA) and the Healthy Eating, Active Living Convergence Partnership (Convergence Partnership).

In November 2008, CDC, APHA and the Convergence Partnership, in coordination with other government and non-government organizations, hosted "Linking Transportation Policy and Public Health", a meeting of representatives from agencies with an interest in transportation or health issues. The purpose of the meeting was to begin the process of helping these professionals learn more about the intersection of their two fields.

Work by CDC's Transportation Policy Group and the individual programs within CDC, coupled with input received during and after the "Linking Transportation Policy and Public Health" sessions and discussions with other federal agencies, forms the basis of these recommendations.

These recommendations are intended as a framework for policymakers to consider in order to strengthen transportation policies and programs by including public health and safety.

Glossary

Active transportation – any self-propelled, human-powered mode of transportation.

Complete Streets – roadways designed and operated to enable safe, attractive, and comfortable access and travel for all users, including, but not limited to, pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Specific aspects of a complete street are dependent on the context in which the roadway is located (urban, rural, heavy traffic volume, numerous pedestrian destinations, etc.), and may include: sidewalks, bike lanes (or wide paved shoulders), special bus

lanes, comfortable and accessible transit stops, frequent crossing opportunities, median islands, accessible pedestrian signals, curb extensions, and more.

Greenhouse gas emissions - gases that trap heat in the atmosphere such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Some greenhouse gases such as CO_2 occur naturally and are emitted to the atmosphere through natural processes and human activities. Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through human activities, such as CO_2, CH_4, N_2O, and fluorinated gases.

Health impact assessment (HIA) - a method by which a policy, program, or project may be judged as to its potential effects—and distribution of those effects—on the health of the population.

High occupancy vehicle lane - Exclusive road/traffic lane limited to buses, van/carpools, & emergency vehicles.

Highway Trust Fund - The United States Highway Trust Fund was established in 1956 to enable financing for maintenance of the United States Interstate Highway System and certain other roads. The fund has three accounts - the 'Highway Account', the 'Mass Transit Account' and the 'Leaking Underground Storage Tank Trust Fund'. Money in the fund is raised via a federal fuel tax per gallon on gasoline and diesel fuel and related excise taxes.

Public transportation - Transportation by bus, rail, or other conveyance, either publicly or privately owned, which provides to the public general or special service on a regular and continuing basis. Also known as "mass transportation", "mass transit" and "transit."

Safe Routes to Schools - The Safe Routes to Schools Program is a Federal-Aid program of the U.S. Department of Transportation's Federal Highway Administration, created by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Act (SAFETEA-LU). The purposes of the program are: 1) to enable and encourage all children to walk and bicycle to school; 2) to make bicycling and walking to school a safer and more appealing transportation alternative; and 3) to facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity (approximately 2 miles) of primary and middle schools (Grades K-8).

Safety audits and assessments - a method by which a policy, program, or project may be judged as to its potential effects on the safety of the population.

Shared-use paths - A path physically separated from motor vehicle traffic by an open space or barrier and either within a highway right-of-way or an independent right-of-way, used by bicyclists, pedestrians, joggers, skaters and other non-motorized travelers.

Transit-oriented development - Compact, mixed-use development near transit facilities with high-quality walking environments.

Vehicle miles traveled (VMT) - A unit to measure vehicle travel made by a private vehicle, such as an automobile, van, pickup truck, or motorcycle. Each mile traveled is counted as one vehicle mile regardless of the number of persons in the vehicle.

Appendix 4

United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations

Signed on March 11, 2010 and announced March 15, 2010

Purpose

The United States Department of Transportation (DOT) is providing this Policy Statement to reflect the Department's support for the development of fully integrated active transportation networks. The establishment of well-connected walking and bicycling networks is an important component for livable communities, and their design should be a part of Federal-aid project developments. Walking and bicycling foster safer, more livable, family-friendly communities; promote physical activity and health; and reduce vehicle emissions and fuel use. Legislation and regulations exist that require inclusion of bicycle and pedestrian policies and projects into transportation plans and project development. Accordingly, transportation agencies should plan, fund, and implement improvements to their walking and bicycling networks, including linkages to transit. In addition, DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate. Transportation programs and facilities should accommodate people of all ages and abilities, including people too young to drive, people who cannot drive, and people who choose not to drive.

Policy Statement

The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.

Authority

This policy is based on various sections in the United States Code (U.S.C.) and the Code of Federal Regulations (CFR) in Title 23—Highways, Title 49—Transportation, and Title 42—The Public Health and Welfare. These sections, provided in the Appendix, describe how bicyclists and pedestrians of all abilities should be involved throughout the planning process, should not be adversely affected by other transportation projects, and should be able to track annual obligations and expenditures on nonmotorized transportation facilities.

Recommended Actions

The DOT encourages States, local governments, professional associations, community organizations, public transportation agencies, and other government agencies, to adopt similar policy statements on bicycle and pedestrian accommodation as an indication of their commitment to accommodating bicyclists and pedestrians as an integral element of the transportation system. In support of this commitment, transportation agencies and local communities should go beyond minimum design standards and requirements to create safe, attractive, sustainable, accessible, and convenient bicycling and walking networks. Such actions should include:

- Considering walking and bicycling as equals with other transportation modes: The primary goal of a transportation system is to safely and efficiently move people and goods. Walking and

bicycling are efficient transportation modes for most short trips and, where convenient intermodal systems exist, these nonmotorized trips can easily be linked with transit to significantly increase trip distance. Because of the benefits they provide, transportation agencies should give the same priority to walking and bicycling as is given to other transportation modes. Walking and bicycling should not be an afterthought in roadway design.

- Ensuring that there are transportation choices for people of all ages and abilities, especially children: Pedestrian and bicycle facilities should meet accessibility requirements and provide safe, convenient, and interconnected transportation networks. For example, children should have safe and convenient options for walking or bicycling to school and parks. People who cannot or prefer not to drive should have safe and efficient transportation choices.
- Going beyond minimum design standards: Transportation agencies are encouraged, when possible, to avoid designing walking and bicycling facilities to the minimum standards. For example, shared-use paths that have been designed to minimum width requirements will need retrofits as more people use them. It is more effective to plan for increased usage than to retrofit an older facility. Planning projects for the long-term should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements.
- Integrating bicycle and pedestrian accommodation on new, rehabilitated, and limited-access bridges: DOT encourages bicycle and pedestrian accommodation on bridge projects including facilities on limited-access bridges with connections to streets or paths.
- Collecting data on walking and biking trips: The best way to improve transportation networks for any mode is to collect and analyze trip data to optimize investments. Walking and bicycling trip data for many communities are lacking. This data gap can be overcome by establishing routine collection of nonmotorized trip information. Communities that routinely collect walking and bicycling data are able to track trends and prioritize investments to ensure the success of new facilities. These data are also valuable in linking walking and bicycling with transit.
- Setting mode share targets for walking and bicycling and tracking them over time: A byproduct of improved data collection is that communities can establish targets for increasing the percentage of trips made by walking and bicycling.
- Removing snow from sidewalks and shared-use paths: Current maintenance provisions require pedestrian facilities built with Federal funds to be maintained in the same manner as other roadway assets. State Agencies have generally established levels of service on various routes especially as related to snow and ice events.
- Improving nonmotorized facilities during maintenance projects: Many transportation agencies spend most of their transportation funding on maintenance rather than on constructing new facilities. Transportation agencies should find ways to make facility improvements for pedestrians and bicyclists during resurfacing and other maintenance projects.

Conclusion

Increased commitment to and investment in bicycle facilities and walking networks can help meet goals for cleaner, healthier air; less congested roadways; and more livable, safe, cost-efficient communities. Walking and bicycling provide low-cost mobility options that place fewer demands on local roads and highways. DOT recognizes that safe and convenient walking and bicycling facilities may look different depending on the context — appropriate facilities in a rural community may be different from a dense, urban area. However, regardless of regional, climate, and population density differences, it is important that pedestrian and bicycle facilities be integrated into transportation systems. While DOT leads the effort to provide safe and convenient accommodations for pedestrians and bicyclists, success will ultimately depend on transportation agencies across the country embracing and implementing this policy.

Ray LaHood, United States Secretary of Transportation

APPENDIX

Key Statutes and Regulations Regarding Walking and Bicycling

Planning Requirements

Appendix 4

The State and Metropolitan Planning Organization (MPO) planning regulations describe how walking and bicycling are to be accommodated throughout the planning process (e.g., see 23 CFR 450.200, 23 CFR 450.300, 23 U.S.C. 134(h), and 135(d)). Nonmotorists must be allowed to participate in the planning process and transportation agencies are required to integrate walking and bicycling facilities and programs in their transportation plans to ensure the operability of an intermodal transportation system. Key sections from the U.S.C. and CFR include, with italics added for emphasis:

- The scope of the metropolitan planning process "will address the following factors…(2) Increase the safety for motorized and *non-motorized users*; (3) Increase the security of the transportation system for motorized and *non-motorized users*; (4) Protect and enhance the environment, promote energy conservation, improve the quality of life…" 23 CFR 450.306(a). See 23 CFR 450.206 for similar State requirements.
- Metropolitan transportation plans "…shall, at a minimum, include…existing and proposed transportation facilities (including major roadways, transit, multimodal and intermodal facilities, *pedestrian walkways and bicycle facilities*, and intermodal connectors that should function as an integrated metropolitan transportation system…" 23 CFR 450.322(f). See 23 CFR 450.216(g) for similar State requirements.
- The plans and transportation improvement programs (TIPs) of all metropolitan areas "shall provide for the development and integrated management and operation of transportation systems and facilities (including *accessible pedestrian walkways and bicycle transportation facilities*)." 23 U.S.C. 134(c)(2) and 49 U.S.C. 5303(c)(2). 23 CFR 450.324(c) states that the TIP "shall include …trails projects, pedestrian walkways; and bicycle facilities…"
- 23 CFR 450.316(a) states that "The MPOs shall develop and use a documented participation plan that defines a process for providing…representatives of users of *pedestrian walkways and bicycle transportation facilities, and representatives of the disabled*, and other interested parties with reasonable opportunities to be involved in the metropolitan planning process." 23 CFR 450.210(a) contains similar language for States. See also 23 U.S.C. 134(i)(5), 135(f)(3), 49 U.S.C. 5303(i)(5), and 5304(f)(3) for additional information about participation by interested parties.

Prohibition of Route Severance

The Secretary has the authority to withhold approval for projects that would negatively impact pedestrians and bicyclists under certain circumstances. Key references in the CFR and U.S.C. include:

- "The Secretary shall not approve any project or take any regulatory action under this title that will result in the severance of an existing major route or have significant adverse impact on the safety for nonmotorized transportation traffic and light motorcycles, unless such project or regulatory action provides for a reasonable alternate route or such a route exists." 23 U.S.C. 109(m).
- "In any case where a highway bridge deck being replaced or rehabilitated with Federal financial participation is located on a highway on which bicycles are permitted to operate at each end of such bridge, and the Secretary determines that the safe accommodation of bicycles can be provided at reasonable cost as part of such replacement or rehabilitation, then such bridge shall be so replaced or rehabilitated as to provide such safe accommodations." 23 U.S.C. 217(e). Although this statutory requirement only mentions bicycles, DOT encourages States and local governments to apply this same policy to pedestrian facilities as well.
- 23 CFR 652 provides "procedures relating to the provision of pedestrian and bicycle accommodations on Federal-aid projects, and Federal participation in the cost of these accommodations and projects."

Project Documentation

- "In metropolitan planning areas, on an annual basis, no later than 90 calendar days following the end of the program year, the State, public transportation operator(s), and the MPO shall

cooperatively develop a listing of projects (including investments in *pedestrian walkways and bicycle transportation facilities*) for which funds under 23 U.S.C. or 49 U.S.C. Chapter 53 were obligated in the preceding program year." 23 CFR 332(a).

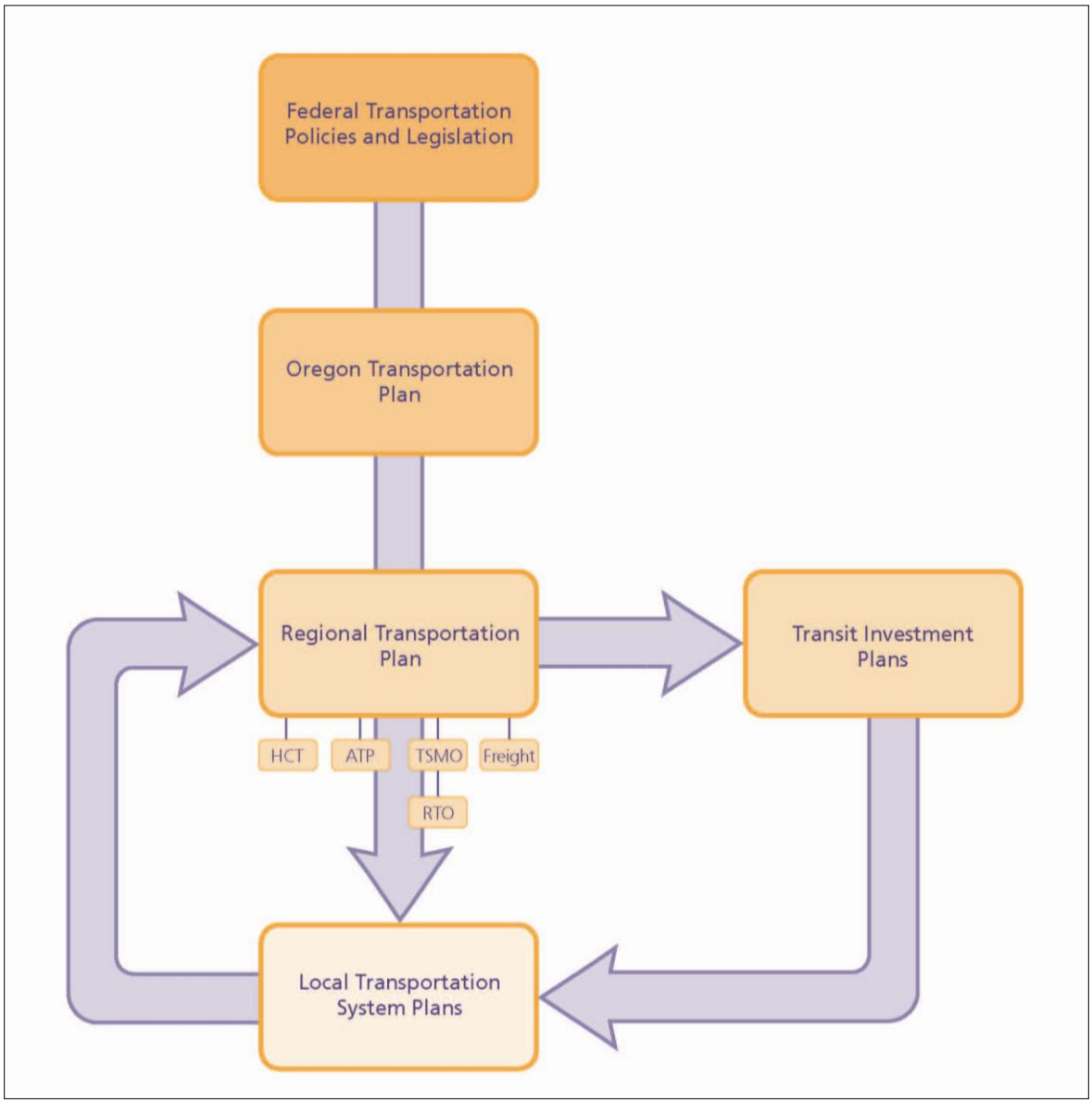
Appendix 4

Accessibility for All Pedestrians

- Public rights-of-way and facilities are required to be accessible to persons with disabilities through the following statutes: Section 504 of the Rehabilitation Act of 1973 (Section 504) (29 U.S.C. §794) and Title II of the Americans with Disabilities Act of 1990 (ADA) (42 U.S.C. §§ 12131-12164).
- The DOT Section 504 regulation requires the Federal Highway Administration (FHWA) to monitor the compliance of the self-evaluation and transition plans of Federal-aid recipients (49 CFR §27.11). The FHWA Division offices review pedestrian access compliance with the ADA and Section 504 as part of their routine oversight activities as defined in their stewardship plans.
- FHWA posted its **Clarification of FHWA's Oversight Role in Accessibility** to explain how to accommodate accessibility in policy, planning, and projects.

Appendix 5: Active Transportation Policy Framework

The Regional Active Transportation Plan is developed within a national, state and regional planning, policy and regulatory framework, illustrated in the figure below.



Transportation Planning Framework

The ATP is informed by the visions, plans, policies, goals and objectives of local jurisdictions, transit agencies, neighborhood associations, and advocacy organizations. Several current plans and planning efforts also inform and implement the ATP and should be taken into consideration in the development of the ATP. The table below identifies the active transportation laws, policies, plans and goals.

Appendix 5

ACTIVE TRANSPORTATION LAWS, POLICIES, PLANS AND GOALS	
National	The federal government adopts laws and policies that state, regional and local governments must be consistent with. **Bicycle and pedestrian legislation in Title 23 – Highways**, of the Code of Laws of the United States (the codification of the general and permanent federal laws of the United States), describes the federal funding and planning policies for walking and biking. For planning, Title 23 states "bicyclists and pedestrians shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and State in accordance with sections 134 and 135, respectively" and "Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians. Safety considerations shall include the installation, where appropriate, and maintenance of audible traffic signals and audible signs at street crossings". **Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and Executive Order 12898 on Environmental Justice** and related statutes and regulations provide requirements and guidance for planning and programming. Title VI requires that no person in the United States of America shall, on the grounds of race, color, or national origin, be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which Metro receives federal financial assistance. Metro gathers demographic and statistical data on race and ethnicity, minority groups, income level, language spoken, and sex of participants and beneficiaries of federally funded programs through census data, public opinion surveys, and self-identification on questionnaires. Metro uses this in transportation planning to 1) determine impacts and benefits of potential projects on minority and low-income neighborhoods; 2) ensure equity in evaluating project applications submitted for inclusion in the Regional Transportation Plan and the Metropolitan Transportation Improvement Program; and 3) to develop public outreach strategies. **Clean Air Act (1970)** – The Federal clean air act identifies "mobile sources" (vehicles) as primary sources of pollution and calls for stringent new requirements in metropolitan areas and states where attainment of federal air quality standards is or could be a problem. The **Americans With Disabilities Act** (ADA, 1992)– Civil rights legislation enacted by Congress in 1990 that mandates equal opportunities for persons with disabilities in the areas of employment, transportation, communications and public accommodations. Under this Act, most transportation providers are obliged to purchase lift-equipped vehicles for their fixed-route services and must assure system-wide accessibility of their demand-responsive services to persons with disabilities. Public transit providers also must supplement their fixed-route services with paratransit services for those persons unable to use fixed-route service because of their disability. TriMet's ADA transportation plan outlined the requirements of the ADA as applied to TriMet services, the deficiencies of the existing services when compared to the requirements of the new act and the remedial measures necessary to bring TriMet and the region into compliance with the act. Metro, as the region's metropolitan planning organization (MPO) is required to review TriMet's ADA Paratransit Plan annually and certify that the plan conforms to the Regional Transportation Plan. Without this certification, TriMet is not in compliance with the ADA. ADA also affects the design of pedestrian facilities being constructed by local governments. **MAP-21 Moving Ahead for Progress in the 21st Century (**June 29, 2012**)** is the current federal surface transportation legislation and updates Title 23 (Map-21 replaces the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users-SAFETEA-LU). The US DOT may be able to fund these programs.The US Department of Transportation's policy statement on **"Bicycle and Pedestrian Accommodations Regulations and Recommendations"**

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ACTIVE TRANSPORTATION LAWS, POLICIES, PLANS AND GOALS	
	(March 2010) provides additional policy guidance for biking and recommends that "because of the numerous individual and community benefits that walking and bicycling provide transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes" and "transportation agencies should give the same priority to walking and bicycling as is given to other transportation modes".
State of Oregon	The state sets statewide policies, targets, performance measures and goals that regional and local jurisdictions must be consistent with. Statewide Planning Goal 12: Transportation (Goal 12, 1974) outlines the responsibilities of jurisdictions "to provide and encourage a safe, convenient and economic transportation system". **ORS 366.460: Construction of Sidewalks Within Highway Right of Way** (1953) allows ODOT to construct sidewalks, bicycle paths and equestrian trails within the highway right-of-way, provided that the facilities will contribute to the safety of all users of the highway. **ORS 366.514, Use of Highway Fund for Footpaths & Bicycle Trails** (a.k.a **the "Bike Bill",** 1971) requires cities, counties, and ODOT to provide pedestrian and bicycle facilities on all new road construction and reconstruction projects. Preservations projects, such as resurfacing, are not required to include bicycle and pedestrian facilities. The statute also requires cities, counties, and ODOT to spend no less than 1% of the State Highway Fund (including OTIA and JTA funding) on projects that improve bicycle and pedestrian transportation. The law is the foundation of state's statutory Complete Streets policy. The state's **Bicycle and Pedestrian Program** implements ORS 366.514. **ORS 366.112: The Oregon Bicycle Advisory Committee** (1973) established an eight-member committee, appointed by the governor, to act as a liaison between the public and ODOT. In 1995, the Transportation Commission officially recognized the committee's role in pedestrian issues; the committee became the Oregon Bicycle and Pedestrian Advisory Committee. They advise ODOT in the regulation of bicycle and pedestrian traffic and the establishment of bikeways and walkways. **Article IX, Section 3A of the Oregon Constitution** (1980) limits expenditures of the State Highway Fund for use on streets, roads and highways only. The major effect this had on bicycle and pedestrian facilities was that highway funds could no longer be used for constructing paths in parks, rails-to-trails conversions or education and promotion programs **OAR 660-12, the Transportation Planning Rule** (TPR, 1991) is an administrative rule that was adopted to help jurisdictions meet Goal 12. It provides guidance on the required elements of Transportation System Plans and coordinating with Regional Transportation Plans. Two important elements of the rule are that it ties land use to transportation, and it mandates that transportation planning reduce reliance on any one mode of transportation. The TPR targets the reduction of vehicle miles traveled (VMT) by better integrating land use and transportation planning. Through consideration and planning for multimodal transportation improvements and transportation demand management solutions such as local street network connectivity and bicycle and pedestrian improvements jurisdictions may comply with the state VMT and air quality standards. Section 660-012-0035 -Evaluation and Selection of Transportation System Alternatives of the TPR specifically identifies the following three objectives that require measurable interim benchmarks: 1)In metropolitan areas of more than 1 million population reduce vehicle miles traveled per capita by 10 percent within 20-years of adoption of a plan as required by OAR 660-01 2 -0055 (1). 2) Increase the modal share of non-auto trips (transit, bicycle, pedestrian) 3)Increase average automobile occupancy (persons per vehicle)In addition, TPR Section 660-012-0045 requires the implementation of a parking plan that achieves a 10 percent reduction in the number of parking

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ACTIVE TRANSPORTATION LAWS, POLICIES, PLANS AND GOALS	
	spaces per capita in the metropolitan area over the life of the TSP. The **Oregon Bicycle and Pedestrian Plan** (1995) is an element of the OTP and offers strategies to meet the state bicycle and pedestrian transportation goals. The Oregon Bicycle and Pedestrian Plan states that ODOT will provide appropriate pedestrian and bicycle facilities to meet the following policy goal: To provide safe, accessible and convenient bicycling and walking facilities and to support and encourage increased levels of bicycling and walking. The **Oregon Bicycle and Pedestrian Design Guidelines**, updated in 2011, provide recommendations and guidelines for project development. Projects using state and federal funds administered by ODOT must adhere to the guidelines. **ORS 291.110** requires the state to establish Oregon Benchmarks to measure progress in critical areas for Oregon's strategic vision *Oregon Shines*. The benchmarks are used widely for policymaking and budget related activities. Since they were created in 1991, the benchmarks have been evaluated and revised by the Oregon Progress Board. There are currently 90 benchmarks. The following benchmarks are impacted by active transportation: 46 – Perceived Health Status, 68-Traffic Congestion, 70 –Commuting, 71- Vehicle Miles Traveled, 75 –National Air Quality Standards, 76-Air Quality New Science, 77-Carbon Dioxide Emissions, and 79-Stream Water Quality. The **Transportation Safety Action Plan** (TSAP, 2011) is an element of the OTP that lays out a set of actions to create a safer travel environment. The document also serves as the State of Oregon's Strategic Highway Safety Plan, a document required by federal law. The plan states that "Because more people will use public transportation and the pedestrian and bicycle modes, we must provide a transportation system that is not only "balanced, efficient, accessible, environmentally sound, and connective", but also safe and secure. Specific actions are identified to increase pedestrian and bicyclist safety specifically. The Oregon Transportation Safety Plan includes targets to reduce traffic related deaths from 16.4 per 100,000 thousand to 9.25 deaths per 100,000 people in 2020 and 8.75 per 100,000 people in 2030. The safety plan includes action items to "establish tangible safety goals or targets at ODOT region and district levels. Action 23-Priority 2 of the plan specifies that a plan for pedestrian and bicycle crashes will follow development of a safety plan for crashes at intersections in 2011. **The Oregon Transportation Plan** (OTP, 2006) is a long range multi-modal plan that assesses state, regional and local and public and private transportation facilities and services. The OTP is the overarching policy document among a series of plans that together form the state transportation system plan (state TSP). The OTP starts from the assumption that "bicycle and pedestrian facilities provide needed transportation options for moving around communities". The OTP does not address facilities outside of the right-of-way, such as trails. The OTP Policy 1.1 calls for the development of an integrated multimodal transportation system and that bicycle and pedestrian networks should be developed and promoted in all urban areas to provide safe, direct and convenient access to all major employment, shopping, educational and recreational destinations in a manner that would double person trips by bicycle and walking. The **Oregon Highway Plan** (1999, reaffirmed 2006) is the long range plan for the state's highway system. The plan states that the state highways have regional and local significance and must serve both interests through the provisions of mobility and accessibility. The plan's mobility standard policy (Policy 1F), sets the congestion and safety standards that state highway facilities are expected to meet. These standards are focused on volume-to-capacity ratios that tend to benefit projects that move more cars faster. 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

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	scheduling of, transportation projects and programs. It includes projects on the federal, state, city, and county transportation systems, multimodal projects (highway, passenger rail, freight, public transit, bicycle and pedestrian), and projects in the National Parks, National Forests, and Indian tribal lands. The **Oregon Statewide Transportation Strategy** (STS)(2012) is part of a larger effort known as the Oregon Sustainable Transportation Initiative (OSTI), resulting from two bills passed by the Oregon Legislature, to help the state meet its 2050 goal of reducing transportation- related greenhouse gas emissions. The STS is not regulatory, but points to promising approaches, including increasing bicycling and walking. **ORS 195.115 Reducing barriers for pedestrian and bicycle access to schools (known as the 'Safe Routes to School Bill') 2001.** "City and county governing bodies shall work with school district personnel to identify barriers and hazards to children walking or cycling to and from school. The cities, counties and districts may develop a plan for the funding of improvements designed to reduce the barriers and hazards identified." **ORS 811.028 Failure to stop and remain stopped for pedestrian (2003).** Amended in 2011 and defined when a pedestrian is "crossing the roadway" and therefore given the legal right of way to cross. Once any part of the pedestrian's body -- such as a wheelchair, cane or crutch -- moves onto the roadway with the intent to proceed, the responsibility for a motorist to stop is triggered. **ORS 184.741 Safe Routes to School Program (2005).** The Oregon Safe Routes to School program has the legislative support of Oregon House Bill 2742. The passage of this bill created The Safe Routes to School Fund and Program in anticipation of SAFETEA-LU. The state program is administered by the ODOT Transportation Safety Division (TSD), in consultation with the Oregon Transportation Safety Committee (OTSC). **ORS 811.111 Violating a speed limit (2005).** Oregon House Bill 2840 made sweeping changes to the state's school speed zone laws to establish clear and fair standards for enforcement of school speed zones. Before the bill, speed limits in school zones were enforced 24 hours a day, seven day a week. The new speed limit law is enforced only when school zone lights are flashing or between the hours of 7 am to 5 pm during school days. **ORS 195.115 – School siting policy (2007).** "City and county governing bodies shall work with school district personnel to identify barriers and hazards to children walking or bicycling to and from school. The cities, counties and districts may develop a plan for the funding of improvements designed to reduce barriers and hazards. The school districts shall work with cities and counties when making school siting decisions to ensure that the decisions place priority on factors that facilitate walking or bicycling to and from school by children."
Region/Metro	The region provides a framework, policies and regulations, consistent with national and state laws and guidance, for guiding land use and transportation in the region. The **Regional Framework Plan** unites all of Metro's adopted land use planning policies and requirements, including the Regional Urban Growth Goals and Objectives (RUGGO), 2040 Growth Concept, Metropolitan Greenspaces Master Plan and Regional Transportation Plan, to create a coordinated, integrated Regional Framework Plan. **The 2040 Growth Concept** is the unifying concept around which the Regional Framework Plan is based. The Urban Growth Management Functional Plan provides policy to meet the goals in the 2040 Growth Concept. Planning for compact development and multi-modal transportation options are central to the regional plans.

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	The Metropolitan Greenspaces Plan (1990) provides the vision and goals for regional trails. It includes the overriding goal to "establish a system of trails, greenways and wildlife corridors that are interconnected. The plan includes the **Regional Trails Plan** which has been updated. **Street Design Guidelines (2002)** four handbooks that provide practical step-by-step methods for designing safe and healthy city streets. The guidelines included in the Complete Streets, Green Streets, and Trees for Greenstreets handbooks are allowed for implementation within the Regional Transportation Functional Plan. The Region's **Six Desired Outcomes (2010)** adopted by Metro Council in 2010 as part of the region's growth management policies. Vibrant communities, Economic prosperity, Safe and reliable transportation, Leadership on climate change, Clean air and water, and Equity. The **2035 Regional Transportation Plan (RTP) (2010)** establishes a regional transportation policy framework that holds multi-modal transportation improvements central to the region's transportation system. The plan includes Performance Target and Measures that will enable the region to track progress towards implementing active transportation. These multi-modal improvements are formed along Mobility Corridors that include highways, arterials, bicycle parkways and trails, sidewalk connections, high capacity transit, and frequent bus routes. Transit supportive growth patterns are encouraged through requirements that jurisdictions plan for a mix of uses, encourage transit users, have well-designed streets, provide safe, direct and convenient pedestrian and bicycle access and have good bicycle and pedestrian connectivity. The RTP includes Pedestrian and Bicycle Visions and network maps, and calls for promoting walking and bicycling as the primary modes for short trips, building a well connected network of pedestrian and bicycling facilities that serve people of all ages and capabilities, creating walkable and bikeable downtowns, centers, main streets and station communities and improving access to transit. The RTP includes several modal plans, including the High Capacity Transit System Plan, the Regional Freight Plan, and a Transportation System Management and Operations Plan. The RTP does not have an adopted stand-alone bicycle and pedestrian plan. The High Capacity Transit System Plan that calls for land use planning that encourages transit ridership through multimodal station access and connections. The **Regional Transportation Functional Plan (RTFP) (2010)** is the first implementing plan of the RTP and was adopted with the 2035 RTP in 2010. It directs how city and county plans will implement the RTP through their respective comprehensive plans, local transportation system plans (TSPs) and other land use regulations. The RTFP codifies existing and new requirements that local plans must comply with to be consistent with the RTP. If a TSP is consistent with the RTFP, Metro will find it to be consistent with the RTP. The **Urban Growth Management Functional Plan** (UGMFP) implements the 2040 Growth Concept and Regional Framework, and includes regional policies that require changes to city and county comprehensive plans and implementing ordinances. The **2012-17 Regional Travel Options Strategic Plan (2012)** guides Metro's Regional Transportation Options program. The **Regional Trails Signage Guidelines (2012)** provides trail sign guidelines for regional trails that are part of The Intertwine. **Metro Regional State of Safety Report (April 2012)** provides analyses of crash data in the region, findings on the state of safety and policy recommendations and actions for improving safety.

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Clackamas County	The **Comprehensive Plan** has the goals of creating a safe, efficient, and effective transportation system for multiple modes. The Transportation chapter concludes that a "greater reliance on transit, bicycles, foot traffic, carpools, and other transportation modes will be necessary, along with decreased average trip length, in order to decrease energy consumption and road congestion." The Plan directs the development of pedestrian and bicycle facilities in the County through the **Bicycle Master Plan** and the **Pedestrian Master Plan.** These plans focus policy towards the creation and promotion of a system of networked facilities for bicycling and walking; additionally, they support creation of compact, connected, and walkable neighborhoods and commercial developments. The Comprehensive Plan also directs land use as it relates to community access. In existing neighborhoods the Comprehensive Plan makes it a County goal to "provide for efficient use of land and public facilities, including greater use of public transit." Residential land use policy that supports this goal includes Policy 2.3, "land within walking distance (approximately one-quarter mile) of a transit stop should be zoned for smaller lots." **Clackamas County Pedestrian Master Plan (1996)** focus on promoting walking for transportation purposes in Clackamas County. The Pedestrian Plan describes the tasks necessary to accomplish the vision of the plan, which is to create an environment which encourages people to walk in a networked system that facilitates and promotes the enjoyment of walking as a safe and convenient transportation mode. Plan elements will be incorporated into the County Transportation Plan, Comprehensive Plan and the Zoning and Development Ordinance as necessary. The **Clackamas County Transportation System Plan (2001)** is currently being updated. Clackamas County is updating its Transportation System Plan (TSP) for unincorporated areas in the County. The two-year process covers all forms of transportation, including roads, transit, walking, bicycling, rail and air. It is tailored to Clackamas County's diverse geography and planned land uses. The TSP includes **Capital Improvement Needs** list of projects. **Clackamas County Bicycle Master Plan (2003)** **Connecting Clackamas Critical Bikeway Connections (2010)** identifies priority bicycle projects in Clackamas County. Plans for trails are identified in the **North Clackamas Parks and Recreation Master Plan (2004)** recommends working with regional partners to provide linear parks and trails to connect parks, schools, neighborhoods, and other trail systems, including a continuous public greenway along the Willamette and Clackamas Rivers. The plan includes a list of trails to acquire, develop and/or restore.
Multnomah County	The **Comprehensive Framework Plan** includes Policy 33C which instructs the County to encourage the creation of a balanced transportation system through the implementation of a bicycle and pedestrian networks that are an integrated part of the County-wide transportation system. Policy 34, Trafficways, directs the County to "develop the existing trafficway system to maximize efficiency, and to consider the mobility of pedestrians by providing safe crossings." The trafficways are to incorporate and encourage planned pedestrian, bicycle, and transit facilities. The policy, while maintaining the function of the trafficways, fosters choice of transportation modes through the provision of opportunities for non-single occupant vehicle trips. The **2005 Transportation System Plan for Urban Pockets in Unincorporated Multnomah County** **1990 Bicycle Master Plan** **1996 Pedestrian Master Plan**

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	Multnomah County Health Atlas
Washington County	The pedestrian and bicycle elements of the **2020 Transportation Plan** (2002), which is currently being updated to a 2035 plan, were adopted in 2002. These elements, along with technical appendices, maps, strategies and project lists were consolidated into the Washington County Pedestrian and Bicycle Plan in 2010. The current TSP update is considered a minor update; a more comprehensive update will be conducted in a few years once the regional Climate Smart Communities work is finalized. Policies 14 and 15 in the TSP encourage and support greater walking and bicycling activity by providing an environment in which bicycling is a safe and convenient mode of travel and walking is a safe, convenient and pleasant mode of travel. The 2020 TSP "dramatically elevates the importance of and need to support pedestrian travel from the 1988 TSP, in part because of strengthened pedestrian policies at the state and regional levels". Washington County does not have a trails plan, but does include trails in the TSP. The TSP is adopted into the **Comprehensive Plan**, which states that the County supports land use changes made through the 2040 Growth Strategy and bicycle and pedestrian developments made to support transit. The Comprehensive Plan and the Community Development Code include street connectivity policies that help promote construction of a connected local street system to augment the major street system. Policy 14. 10 states that bike and pedestrian access are best provided by the on-street system, but provides for separated paths Washington County is conducting a **Bicycle and Pedestrian Improvement Project** (2012) to prioritize projects on collector and arterial roadways. The project is utilizing a Suitability Analysis that includes social equity as a criterion. A **Bicycle Facility Design Toolkit** (2012) that is currently being developed will provide technical guidance on applying the best bicycle design for various conditions. Washington County approved an ordinance in 2010 for **New Pedestrian Crossings at Mid-Block Locations and Uncontrolled Intersections.** The ordinance allows for safe crossings on county owned roads, making trail crossings safer and more convenient. **Capital Improvement Plan and Program (CIPP) 2010-2014** inventories and prioritizes County transportation needs and matches estimated transportation capital revenue with priority projects for a five-year period. The Program is updated biennially to reflect new and completed projects as well as the most current revenue projections. At the 2010 adoption of the CIPP, staff committed to review the bicycle and pedestrian priorities and present updated rankings and programming with the biennial update. Working with the Bicycle and Pedestrian Citizen Advisory Committee, new criteria and associated numerical values were developed and applied to projects. The subsequent rankings are presented in the 2012 Update and reflected in the Capital Improvement Program.
Beaverton	The **Comprehensive Plan** includes the City's **Transportation System Plan** (TSP). The TSP is articulated through eight goals, all goals hinge upon the creation of a livable community. The creation of a balanced multimodal transportation system is stressed, making access and mobility important planning policies. These policies are to provide "a seamless and coordinated transportation system that is barrier-free, provides affordable and equitable access to travel choices, and serves the needs of people and businesses." The TSP supports, encourages and implements strategies that will move the City towards attaining Metro's 2040 Regional Non-Single Occupant Vehicle Modal Targets.
Cornelius	**Transportation System Plan (2009)** and **Parks Master Plan (2005)**

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Damascus	**Transportation System Plan (est date of completion 2013)** the city is working towards developing its first TSP.
Durham	The **Comprehensive Plan** states that in order to comply with the State Planning Rule's (TPR) vehicle miles traveled reduction goal the City has updated ordinances to provide bicycle parking throughout the city and requires safe and convenient access to new developments for bicycles and pedestrians. Title 6 of the Plan, Regional Accessibility, ensures compliance with the Regional Transportation Plan's (RTP) connectivity standards, street design standards, and transportation support systems requirements for active transportation.
Fairview	**Transportation System Plan (2000)**
Forest Grove	**Transportation System Plan (2010), Trails Master Plan (2007), and a Park, Recreation, and Open Space Master Plan (2002)**
Gladstone	**Transportation System Plan (1995)**
Gresham	The update of Gresham's **Transportation System Plan** (2002) is underway. The current TSP includes a vision to increase travel choices and take a "feet first" approach to providing a continuous, interconnected transportation system. "Policy 1: Develop and promote a balanced transportation system that provides a variety of choices and reduces reliance on automobiles." Additional policies focus on efficiency, access, safety, provision of travel options. **Gresham Bike Guide** (2010), includes wayfinding, information on safety, bike retailers.
Happy Valley	**Transportation System Plan** and **Pedestrian System and Trail Master Plan**
Hillsboro	Hillsboro's **Comprehensive Plan** (1977, amended 2012) includes Goals, Policies and Implementation Measures that support active transportation. Implementation Measure A.6 in Section 2, identifies Station Community Planning Areas as a tool to encourage walking, bicycling and transit use. Section 13, Transportation includes goals and policies for a safe, efficient, balanced, multi-modal transportation system that provides for and increases livability, accessibility and reduces motor vehicle trips. Hillsboro's **Transportation System Plan,** was adopted in 2004 and amended in 2011. The TSP includes bicycle and pedestrian master plans with projects prioritized with defined criteria. The TSP includes the same transportation goals and policies as the Comprehensive Plan. Bicycle projects are classified using the RTP's functional classification system for bicycles. The **2010 Parks Master Plan** includes a trails plan for Hillsboro. The plan is not amended to the TSP; some trails are identified on the TSPs pedestrian map, but there is not a separate trails master plan in the TSP.
Johnson City	Johnson City has a population of fewer than 800 residents. The city is exempted from developing a comprehensive and transportation system plan.
King City	In the **Municipal Code Chapter 16.212**, Neighborhood Circulation, provides standards for safe and convenient bicycle and pedestrian access to transit and details street connectivity requirements. These provisions are in accordance with the state's Transportation Planning Rule

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	and Metro's urban growth management functional plan. "This chapter is not necessarily intended to require a grid street system, but is intended to provide a development pattern, which provides choices and convenient circulation for pedestrians, bicycle users and transit users as well as motorists." Neighborhood Circulation provides a set of review standards to create development patterns that promote active transportation. The **Comprehensive Plan**'s chapter on Transportation instructs the City to strive to create a transportation system that provides "suitable facilities for all modes of transportation including walking, bicycling, and transit" and "provides for special needs for individuals who do not have ready access to automobiles or transit and encourages the use of other alternatives to the automobile by providing improvement to facilities, amenities, and programs." The Plan also instructs the City to look for opportunities to improve access for all users, provide improved crosswalks and other improvement to promote walking and bicycling.
Lake Oswego	The **Comprehensive Plan** instructs the City's transportation system development through coordinated policies. The Transportation System Plan (TSP) includes the pedestrian, bicycle and public transportation plans. These plans direct strategies to improve connections within the City and with the City of Portland. These plans aim to lower single occupant automobile trips, to lower vehicle miles traveled and to improve livability. **Lake Oswego Trails and Pathways Master Plan**
Maywood Park	Maywood Park has a population of fewer than 800 residents. The city is exempted from developing a comprehensive plan and transportation system plan.
Milwaukie	The **Transportation System Plan** (2004) guides policy and long term transportation planning by identifying and prioritizing proposed pedestrian, bicycle, transit, and motor vehicle improvements. Priorities include improving bicycle and pedestrian facilities, enhance public transit, and improve safety of crossings. The **Bicycle Wayfinding Signage Plan** (2009) provides a comprehensive guide for development and implementation of a wayfinding system to enhance existing and proposed cycling infrastructure. The plan provides design and sign placement standards. In 2007, the City updated the TSP and included planned bicycle improvements, but proposed facilities have not been adopted by City Council.
Oregon City	The **Transportation System Plan** (1997) the plan serves as a guide for the development and management of the City's transportation facilities for a period of 20 years, until 2020. It includes a bicycle, pedestrian, and a public transit plan. In the Pedestrian plan, the TSP acknowledges the importance of a multi-modal transportation system and encourages improving the bicycle and pedestrian environment. This priority is reflected in the Trails Master Plan. The **Trails Master Plan** (2004) recommends improvements to upgrade the existing trails system to fill in gaps, connect to significant environmental features, schools, public facilities, local neighborhoods, and business districts both in Oregon City and throughout the region.
Portland	Currently, the City is currently revising the **Comprehensive Plan** through the development of the **Portland Plan**. As adopted, the plan is in accordance with all state and regional standards related to active transportation. The City's **Transportation System Plan** (TSP) provides transportation choices for Portland, making it more convenient to walk, bicycle, take transit, and drive less to meet their daily needs. The TSP provides a balanced transportation system to support

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	neighborhood livability and economic development. The **Pedestrian Master Plan** is amended to the TSP and establishes a framework for improvements that will enhance the pedestrian environment and increase opportunities to choose walking as a mode of transportation. This includes a list of capital projects in the study area. The **Pedestrian Design Guidelines** are an element of the plan. The **Portland Bicycle Plan for 2030** dramatically strengthens the City's policies to support bicycling, expands programs that support and encourage bicycling, and recommends the expansion of the bikeway system to grow citywide ridership to a 25% total mode-split. The plan identifies a funding and implementation strategy and performance measures. The plan is not yet amended to the TSP. **Bicycle Parking Facilities Guidelines.** Title 33.266.200 Planning and Zoning - Parking and Loading, Bicycle Parking (Bicycle Parking requirements are found on page 266-21) The Planning Bureau's **Livable City Project** focuses growth in the City towards transit stations, main streets, and pedestrian-friendly encourages infill development. **The Portland Plan** focuses on a core set of priorities: prosperity, education, health and equity. The plan emphasizes actions that achieve multiple objectives, it sets numerical targets and suggests ways of measuring progress toward them, and it includes both 25-year policies and 5-year action plans. **The Central City 2035** will update the plan and policies for downtown and central areas of Portland, Oregon. CC2035 will address challenges and opportunities in the Central City to ensure this unique economic, transportation, cultural and educational hub will be a vibrant resource for all Portlanders over the next 25 years, including mode share targets . **East Portland Action Plan (2009)** **Southwest Urban Trails Plan (2000)** **Portland Recreational Trails Strategy: 20-Year Vision (2006)** for Portland's regional trail network. **Portland Streetcar Concept Plan (2009)** **Grey to Green Initiative (2008)** and initiative in 2008 to expand stormwater management techniques that mimic natural systems, protect and restore natural areas, and improve watershed health. These investments in green infrastructure improve the quality of our neighborhoods, rivers and streams, and help us adapt to a changing climate. Green Streets is an element of the initiative. **The City of Portland and Multnomah County Climate Action Plan, 2009** provides a strategies to cut emissions by 80% by 2050 including transportation objectives and actions to increase active transportation.
Rivergrove	Rivergrove has a population of fewer than 400 people. The city's **Comprehensive Plan** (2011) is organized around the State's Land Use Planning Goals.
Sherwood	The **Transportation System Plan**'s Goal 4 instructs the City to develop complementary infrastructure for bicycles and pedestrian facilities to provide diverse range of transportation choices for city residents. Policies 4.2 states: Sidewalks and bikeways shall be provided on all arterial and collector streets for the safe and efficient movement of pedestrians and bicycle users between residential areas, schools, employment, commercial and recreational areas. 4.3: The city

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ACTIVE TRANSPORTATION LAWS, POLICIES, PLANS AND GOALS	
	will pursue development of local and regional pedestrian trail facilities, especially a trail system connection between the city and the Tualatin National Wildlife Refuge. 4.6: development of a coordinated regional bikeway system. Strategies for future pedestrian and bicycle access include the connection of key corridors to schools, parks, transit centers and activity centers. The Plan instructs the City to fill in gaps in the network and to identify connections and corridors that commuters will use.
Tigard	The City's **Transportation System Plan** (2010) Goal 3: Multi-modal transportation system includes policies to provide transportation options for non-motorized vehicles. Chapter 3 states that the City shall develop and maintain neighborhood connections and provide direct pedestrian accessibility to transit routes. The City is to design all projects to encourage pedestrian and bicycle travel and is to construct off-street trails to provide connections. Throughout the City pedestrian and bicycle facilities for all schools, parks, public facilities, and commercial areas are to be provided. The pedestrian and bicycle system plans offer the roadmap and system plans for Tigard's development of active transportation options. Tigard's 2005 **City Center Urban Renewal Plan** goals and objectives for creating a more walkable and bikeable center, and includes pedestrian and bicycle projects for implementation through the funding strategy. **DRAFT Tigard Greenway Trails System Master Plan**
Troutdale	**Transportation System Plan (2005)**
Tualatin	The City's **Development Code** includes the **Community Plan**'s Chapter 9 takes steps to allow access to the City's Green Corridors while minimizing development pressures on rural reserve areas. Chapter 11 notes that there is a lack of transit service both to downtown Portland and to Westside suburban locations and there is a lack of funding to alleviate the problems. Section 11.200 addresses bikeways, bike lanes, shared roadways and bikeway implementation priorities. Section 11.300 addresses pedestrian paths and proposes locations where greenway connections can be made and increased pedestrian access can be provided. Section 11.400 states that it is the City's goal to have every citizen within two to three block walk from a bus line. The Transportation System Plan's Chapter 3.3.1 outlines the City's goals and objectives for pedestrian transportation. To encourage walking it is recommended that continuous pedestrian facilities connect neighborhoods and employment areas. These are to be integrated with transit stops. Chapter 3.3.2 relates to bicycles and states that bicycles should be provided support facilities to make them a viable alternative to motor vehicles. Chapter 3.3.3 addresses transit availability and convenience.
West Linn	**Transportation System Plan (in progress) and Trails Master Plan (in progress)**
Wilsonville	Wilsonville is currently in the process of updating its **Transportation System Plan** (2003). The TSP constitutes the transportation element of the City's Comprehensive Plan. The TSP update will re-evaluate improvement needs for all modes, but will not re-work recently adopted transit, bicycle and pedestrian, park, and land use Master Plans. The City's Comprehensive Plan (2008) guides physical development of the City. Wilsonville's **Bicycle and Pedestrian Master Plan** (2006) is an ambitious plan that lays out a clear concept, prioritized network and projects with costs, programming, design standards and guidelines and an implementation plan. The Master Plan provides a comprehensive roadmap for

Appendix 5

ACTIVE TRANSPORTATION LAWS, POLICIES, PLANS AND GOALS	
	developing active transportation in the city. The **Transit Master Plan** (2008) provides proposals for increased and improved transit service as well as strategies to help reduce the demand on roads and parking. The plan combines transit and transportation demand (TDM) approaches. It replaces Chapters 6 and 8 of the 2003 TSP and will serve as the basis for the transit element update. SMART is currently updating its inventory of bus stops and adjacent infrastructure, evaluating access to transit and identifying any barriers to accessing the SMART transit network with regard to bicycling and walking.
Wood Village	**Transportation System Plan (1999)**
TriMet	**Transit Investment Plan** **Pedestrian Network Analysis** TriMet's **Bicycle Parking Guidelines** supplement TriMet's Design Criteria. It describes design considerations for bicycle parking at LRT stations; commuter rails stations and transit centers. **TriMet Elderly and Disabled Plan**
Advocacy Organizations	**Bicycle Transportation Alliance** The BTA **Blue Print for Bicycling** is currently updating the blueprint with new priorities for bicycling. The current blueprint identifies. **Willamette Pedestrian Coalition - Getting Around on Foot Action Plan** **Coalition for a Livable Future – Equity Atlas** **Community Cycling Center – Barriers to Bicycling Report**

Current Planning Efforts, Projects and Initiatives

Corridor projects

- Southwest Corridor Plan
- East Metro Connections Plan (EMCP)
- 172nd/190th Corridor Plan
- Sunrise Corridor Project - Hwy 212/224
- Tualatin Valley Highway Corridor Refinement Plan (2012)
- Hwy 43 bike lane study (Oct 2011)

Regional Trail Master Plans and projects

- Westside Trail Master Plan
- Tonquin Trail Master Plan
- Council Creek Master Plan
- Sullivan's Gulch Master Plan
- North Portland Willamette Greenway Master Plan
- Mt. Scott and Scouter Mountain Trails Master Plan
- Lake Oswego to Portland Trail Study Central Section (2012)

Appendix 5

- Intertwine Regional Trail Signage Guidelines

Regional initiatives

- Climate Smart Communities Scenarios
- Community Investment Strategy
- Developing funding opportunities for Regional Parks, Greenways and Trails
- TriMet, Pedestrian Network Analysis
- Metro Parking Management Study (seeking funding)

Metro programs and projects

- Metro guidance on local TSP updates
- Regional Travel Options Strategic Plan update and work plan
- Transit Oriented Development Strategic Plan and work plan
- Transportation System and Management Operations Plan implementation
- Metropolitan Transportation Improvement Program and Regional Flexible Funds

Local and other projects with regional impact

- Local TSP updates (2011-2013)
- Oregon Transportation Safety Action Plan
- Sellwood Bridge Project
- Oregon Transportation Research and Education Consortium study: Improving the Representation of the Pedestrian Environment in Travel Demand Models (2013)
- East Portland Action Plan
- Aloha-Reedville Study and Community Livability Plan/Bicycle and Pedestrian Plan (2013)
- Washington County Bicycle and Pedestrian System of Countywide Interest (part of TSP update)
- Gresham TSP Active Transportation committee
- Bicycle Transportation Alliance (BTA) Blueprint for Bicycling update (early 2012)
- Willamette Pedestrian Coalition, "Getting Around on Foot Action Plan"

Appendix 6: Additional Regional Plans and Goals Relating to the ATP

Other regional plans contain goals and objectives directly related to active transportation. Many of the goals and objectives of these plans overlap with the RTP. Only the not already reflected in the RTP are listed below.

The ***Metropolitan Greenspaces Plan*** (1990) provides the vision and goals for regional trails. It includes the overriding goal to "establish a system of trails, greenways and wildlife corridors that are interconnected", and Objective 13, Transportation:

> "The master plan facilitates development of pedestrian and trail linkages providing alternatives to automobile use and supporting many of the provisions of this objective. Coordination of master plan implementation with planned state, regional and local transportation projects may advance goals and objectives of each. Many of the trails identified in the master plan, such as the Springwater Corridor, are eligible to receive state transportation enhancement funds because they would provide efficient bicycle and pedestrian connections between destinations within the region. Environmental mitigation of the impact of planned transportation facilities on wetlands and other natural areas may natural areas may also be considered for integration into the Greenspaces system." (p.16)

The *Metropolitan Greenspaces Plan* (1990) states that "the trails network should foster a sense of community throughout the region and strengthen the connection to our cultural, historical and natural heritage" and provides the following policies for regional trails. *Metro will:* 1.14 –Coordinate efforts by appropriate local, regional, state and federal agencies and citizen based organizations to create a regional system of natural areas, open space, trails and greenways for wildlife and for people in Multnomah, Washington, Clackamas and Clark (WA) counties.

Metro and partners will:

2.6. Use existing trail systems including the 40-Mile Loop, the Willamette Greenway and trail systems in Clackamas, Clark and Washington counties as the initial framework for theGreenspaces Regional Trails System.

2.7. Connect the Greenspaces Regional Trails System to inter-regional trail systems that link the metropolitan region to destinations outside the planning area.

2.8. Link community and local trail systems to the Greenspaces Regional Trails system.

2.9. Encourage the Greenspaces Regional Trails system to be included in local planning documents.

2.10. Integrate the Greenspaces RegionalTrails System with on-road trail systems in the region.

2.11. Identify biological corridors or opportunities to establish biological corridors through restoration efforts that can potentially connect significant natural habitat areas.

Metro will:

2.12. Inventory and prepare a master map and list of trails, greenways and corridors for the region.

2.13. Provide public information on the status of trails throughout the region.

Appendix 6

2.14. Coordinate and facilitate planning, funding, acquisition, design, development, construction, operations and maintenance of the Greenspaces Regional Trails System including:
- trail standards, surfacing and signs for the regional system
- accessibility standards
- user policies
- safety standards for trail design and development

2.1S. Coordinate a standing committee composed of Metro staff, Greenspaces cooperators and citizen advocates who will periodically evaluate system development and advise Metro on prioritization of trails projects, review management guidelines, and extend the system as appropriate. (*This committee was formed but stopped meeting in 2005-06)*

Regional Transportation Systems Management and Operations Plan (TSMO)
The following goals and objectives from the TSMO plan are specific to active transportation and add to the RTP goals and objectives.

- Goal 1: Reliability Provide reliable travel times for people and goods movement.
  Objective 1.3 Implement and expand systems that improve reliability for transit, pedestrians and bicycles.
- Goal 2: Safety and Security Enhance transportation safety and security for all modes.
  Objective 2.1 Reduce crashes at signalized intersections.
  Objective 2.2 Reduce crashes resulting from weather, construction and secondary crashes from incidents.
  Objective 2.3 Reduce crashes involving vulnerable road users (pedestrians and bicycles). Objective 2.4 Provide a safe environment for transit, bicycling and walking.
  Objective 2.5 Encourage transit ridership by providing safe and secure public transportation facilities.
- Goal 3: Quality of Life Enhance the environment and quality of life by supporting state and regional greenhouse gas and air quality goals.
  Objective 3.1 Encourage transit ridership by improving transit travel times and services. Objective 3.2 Improve connections between modes to enhance traveler mobility and reduce reliance on the automobile.
- Goal 4: Traveler Information Provide comprehensive multimodal traveler information to people and businesses.
  Objective 4.1 Provide current information that may affect roadway users and travel choices across all modes.
  Objective 4.2 Enhance pre-trip and en-route traveler information tools.
  Objective 4.3 Enhance regional multi-modal trip planning tools.
  Objective 4.4 Expand traffic surveillance and transportation system condition data collection capabilities.

Regional Transportation Options (RTO) Strategic Plan

Appendix 6

The goals and objectives of the RTO program are specific to the program and support and mirror the RTP goals and objectives.

Regional Freight Plan
The Regional Freight Plan does not have any goals specific to active transportation. It does identify street design trade-offs in pedestrian areas as a key issue.

Regional High Capacity Transportation (HCT) Plan
Does not have goals and objectives in addition to the RTP.

Appendix 7

COMPLETE STREETS POLICY REPORT CARD

A 40 YEAR PROGRESS REPORT FOR OREGON

Lidwien Rahman and Sarah Bronstein
Willamette Pedestrian Coalition
2012

Appendix 7

INTRODUCTION

Oregon's statewide complete streets legislation, ORS 366.514, also known as the Bike Bill, was passed in 1972. It was the first complete streets legislation passed in the United States. Before Complete Streets was clearly articulated as a concept, Oregonians were already starting to conceive of roads as public spaces for cars, trucks, transit, bikes, and walkers. The policy was simple: any new or reconstructed roads have to accommodate bicycles and pedestrians, and 1% of state transportation funds must be dedicated to bicycle and pedestrian improvements. By enshrining mandated funding for active transportation in state policy, Oregon was leading the way for other cities and states to pass their own Complete Streets legislation.

In the time since the Bike Bill's passage, over 300 other US cities, counties and states have passed some sort of Complete Streets Policy legislation, resolution or plan. At first Oregon's policy was seen as a model, but over the last forty years policies have become more advanced and complex in response to implementation challenges and lessons learned. In 2010, the National Complete Streets Coalition (NCSC) released *Complete Streets Policy Analysis 2010: A Story of Growing Strength*. The NCSC analysis identified ten elements of an ideal complete Streets policy, and rated every existing policy using these guidelines. Among the 15 states with policies in place, Oregon ranked 11th. Minnesota, Connecticut and Hawaii took the top three spots.

Of course the story of complete streets in Oregon is more complicated than the NCSC Analysis reflects. Even the most robust policies are not always effectively implemented. In fact, Oregon's Bike Bill was effectively disregarded until a Bicycle Transportation Alliance lawsuit against the city of Portland in 1992 forced jurisdictions to adhere to the Bill and include bikeways and sidewalks on all new and reconstructed roadways. Additionally, although the Bike Bill applies statewide, there are a multitude of other plans, standards, and policies at a state, regional and local level that also influence street design, implementation and maintenance.

The purpose of this report card is to take a close, honest look at the transportation policies and practices in place at three levels of government in Oregon to critically assess how our existing policy framework might be lacking according to current best practices in Complete Streets policy. This report card is not an assessment of existing transportation infrastructure, but of the political tools at hand to change that infrastructure.

METHOD

As previously mentioned, Oregon ranked very poorly in the NCSC's 2010 policy analysis. However, the national coalition only graded the Oregon Bike Bill, even though the document included rankings for other policies around the country that were not expressly Complete Streets legislation or resolutions. The story of complete streets policy in Oregon is far more complicated than the Bike Bill alone, and a holistic look at multiple layers of government and the many transportation policies in place at all levels will give advocates, policy makers and administrators a better sense for where there are opportunities to improve both our policies and their implementation. Therefore, besides looking at Oregon state policy and practices, we also gathered regional and local information from the City of Portland, and from Metro, the Portland area regional government.

The report card was based on interviews with staff from Oregon Department of Transportation, Metro, and the Portland Bureau of Transportation, as well as advocates from the Bicycle Transportation Alliance and the Willamette Pedestrian Coalition. Throughout our research, we asked subjects to identify what

works, what doesn't, and where there is room for improvement. Interview subjects were asked to comment on the ten ideal policy elements identified by the NCSC as they appeared in the following policy documents:

- The Oregon Transportation Plan
- The Transportation Planning Rule
- The Oregon Bike Bill, ORS 366.514
- The Oregon Highway Design Manual
- The 2035 Regional Transportation Plan
- Creating Livable Streets: Street Design Guidelines for 2040
- The Portland Transportation Systems Plan

The ten elements of an ideal complete streets policy, as identified by the NCSC, are as follows:

- Includes a **vision** for how and why the community wants to complete its streets
- Specifies that **'all users'** includes pedestrians, bicyclists, and transit passengers of all ages and abilities, as well as trucks, buses and automobiles.
- Encourages **street connectivity** and aims to create a comprehensive, integrated, connected network for all modes.
- Is understood by all agencies to cover **all roads**.
- Applies to both **new and retrofit projects**, including design, planning, maintenance, and operations, for the entire right of way.
- **Makes any exceptions specific** and sets a clear procedure that requires high-level approval.
- Directs the use of the **latest and best design criteria and guidelines** while recognizing the need for flexibility in balancing user needs.
- Directs that complete streets solutions will **complement the context of the community**.
- Establishes performance standards with **measurable outcomes**.
- Includes specific next steps for **implementation** of the policy.

Although we utilized the framework of best practices used by the national Complete Streets Coalition in their 2010 policy analysis, we chose to follow a different system for assessing the effectiveness of Complete Streets Policy in Oregon. The national coalition's analysis used a numeric point system that we felt conveyed a false level of precision. Because the Oregon Complete Streets Report Card is based on qualitative data, it uses the more qualitative letter grades instead. Once qualitative data had been gathered, each of the three levels of government received a letter grade for each policy element. The ten grades were then averaged to determine a final grade for the city, the metro region and the state.

We recognize that the policies we reviewed and the NCSC framework we used are still incomplete. There are many other relevant plans and policies that we did not review, and the best practices framework has its own weaknesses and omissions. For example, the ten points make no mention of the connection between transportation and land uses. Although this report card is by no means comprehensive, and in fact may be missing some important policy aspects, the best practices of the NCSC create a useful framework to catalyze discussion.

Appendix 7

THE OREGON REPORT CARD

Vision	A
All users	A
Connectivity	C
Cover all roads	A
New and Retrofit Projects	D
Specific Exceptions	A-
Latest and Best Design Guidelines	C
Complement Community Context	C
Measureable Performance Standards	C
Implementation	C
TOTAL	C+

Vision: A
*Includes a **vision** for how and why the community wants to complete its streets.*

There are a plethora of plans at a state level in Oregon, each with their own vision statement, most of them multimodal in scope. If we lack complete streets, it is not for lack of vision statements. Oregon received an A for the multi-modal visions and goals present in the Oregon Transportation Plan (OTP) and the Transportation Planning Rule.

All Users: A
*Specifies that **'all users'** includes pedestrians, bicyclists, and transit passengers of all ages and abilities, as well as trucks, buses and automobiles.*

Oregon has a unique statewide transportation policy called the Transportation Planning Rule (TPR), adopted in 1991. The TPR mandates that all Oregon cities must adopt and periodically update a Transportation System Plan (TSP) every 5 years, in conjunction with the Regional Transportation Plan (RTP) update. The TPR mandates that TSPs include a Bicycle, Pedestrian and, where transit is available, a Transit element. The TPR also specifically states that local jurisdiction's TSPs must serve the mobility needs of the transportation disadvantaged, a designations which includes children, older adults, low income households and people of color. Between the TPR and the Bike Bill, Oregon has a clear mandate and vision of designing and building streets for all modes including walking, bicycling, travel by car and transit, as well as freight, marine, highway, air and rail networks. Because of the strong language in the

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TPR supporting planning and design for all roadway users, including the transportation disadvantaged, we gave Oregon an A for this policy standard.

Connectivity: C
*Encourages **street connectivity** and aims to create a comprehensive, integrated, connected network for all modes.*

A complete street is useless if it is isolated or discontinuous. In some ways, complete networks are more important than complete streets. The TPR requires local jurisdictions to establish standards for road network connectivity, which benefits pedestrians and cyclists by providing a denser street grid which requires less out-of-the-way travel. However, the requirements apply only to connections from new subdivisions, multi-family developments, planned developments, shopping centers, and commercial districts to adjacent residential areas and transit stops, and to neighborhood activity centers within ½ mile of the development. There is no requirement to improve connectivity in existing neighborhoods, and no attempt at the state level to look at the implementation of local street connectivity standards . For this reason, Oregon was given a C for connectivity.

Cover all Roads: A
*Is understood by all agencies to cover **all roads**.*

The Bike bill applies to all public roads in the state of Oregon, the only exception being pathways through parks, which are viewed as recreational. The state's complete streets legislation is robust in its requirement that every new or reconstructed road must accommodate bicyclists and pedestrians. Because of the strength of this requirement, Oregon was given an A for this policy standard.

New and Retrofit Projects: D
*Applies to both **new and retrofit projects**, including design, planning, maintenance, and operations, for the entire right of way.*

This policy standard highlights the Bike Bill's greatest weakness. As the Bike Bill is written, it is only triggered as a mandate for *new and reconstruction* projects, i.e. when a new road is built or when an existing road is scraped to the base and rebuilt. Most of ODOT's spending goes towards repaving roads, which is considered Preservation funding and does not require the street to be complete. Oregon uses primarily asphalt, a thinner, cheaper substance that requires frequent repaving. This means that the majority of Oregon Department of Transportation's spending is on maintaining the existing roadway quality at fair or better. The current emphasis on maintaining the existing system presumes that the state roadway system is essentially complete, but does not acknowledge that there are in fact serious gaps in the bicycle and pedestrian elements of the state's highways. Repaving brings with it the opportunity to take steps towards completing the street, but preservation funding is not currently used for this. Because these opportunities are being squandered in the current system, Oregon received a D for its existing policies as applied to both new and retrofit projects.

Specific Exceptions: A-
***Makes any exceptions specific** and sets a clear procedure that requires high-level approval.*

This policy element was frequently misunderstood in interviews to refer to special exceptions which allow for innovative bicycle and pedestrian designs. However, the intention of the national coalition was to state the importance of making it difficult to avoid or ignore the complete streets policy. Because the

policy should apply to new and retrofit projects for all roads, there must be explicit rules outlining when it does not apply. Oregon's Bike Bill includes language to this effect. Jurisdictions may build new or reconstructed streets without accommodations for bicycles and pedestrians:

- *Where the establishment of paths and trails would be contrary to public safety;*
- *If the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use; or*
- *Where sparsity of population, other available ways or other factors indicate an absence of any need for such paths and trails.*

Oregon earned higher marks in this category because of the clarity of these exceptions, although some advocates indicated in interviews that they had witnessed these exceptions being abused.

Latest and Best Design Guidelines: C

*Directs the use of the **latest and best design criteria and guidelines** while recognizing the need for flexibility in balancing user needs.*

ODOT recently released a new Bicycle and Pedestrian Design Guide, which includes recommendations for mid-block crossing treatments, as well as progressive design standards such as 6-foot bike lane widths. The design guide recommends that automobile Level of Service be subordinate to bicycle and pedestrian needs in certain areas, such as schools or downtown retail districts. While these design guidelines are fairly good, they are recommended, not mandatory. The Transportation Planning Rule also requires that jurisdictions amend their local codes to require sidewalks and bike lanes on all arterial and collector streets, street connectivity, transit orientation, and street designs that encourage the use of alternative modes of transportation.

One particularly important element of roadway design is design speed, an area where Oregon policy is weak in its support of bicyclists and pedestrians. Currently, roadway design speeds are based on the 85th percentile of observed speed for a roadway. Although roadways design speeds can now be set equal to the posted speed, posted speed is based on observed speed. Because many motorists drive above posted speeds, this means that roadways must be designed to safely accommodate speeding. By accommodating higher speeds, roadways designs also become less safe and appealing to pedestrians and cyclists.

Considering both Oregon's strengths and weaknesses in bicycle and pedestrian design standards, the state received a C in the category of design criteria and guidelines.

Complement Community Context: C

*Directs that complete streets solutions will **complement the context of the community**.*

The Oregon Transportation Plan and Oregon Highway Plan include several policies that support transit, bicycling and walking and that recognize that state highways must be managed in a way that complements various land use and environmental contexts, e.g. through the designation of Special Transportation Areas (STAs) where alternative modes and access to local designations are given priority over mobility for through traffic. The Oregon Bicycle and Pedestrian Plan and Oregon Highway Design manual include guidelines and standards for the design of urban arterials that accommodate transit, bicycles, and pedestrians. The Oregon Department of Transportation (ODOT) has a program in place called Practical Design that encourages consideration of context-sensitive design features. In practice, however, there is frequently tension in highway design between access and mobility. Because of the

difficulty in practice for communities to compromise auto mobility on state highways for pedestrian safety, Oregon received a C for this policy standard.

Measureable Performance Standards: C
*Establishes performance standards with **measurable outcomes**.*

While the Oregon Highway Plan includes a number of policy statements supportive of active transportation, only the Mobility Policy has specific performance standards, expressed as a set of vehicle capacity (v/c) standards. These v/c standards have become the primary standards both for the design and operation of state highways and for the evaluation of land use amendments for consistency with the planned capacity and performance of state highways. These performance standards do not address the safety and needs of other roadway users besides automobiles, and may even conflict with the needs of pedestrians and bicyclists.

The Transportation Planning Rule mandates that all Transportation System Plans must work towards reducing reliance on any one mode of transportation; towards this end urban areas must meet an adopted goal of a 10% reduction of vehicle miles traveled within 20 years after adoption, and a 20% reduction within 30 years. This standard is difficult to measure and poorly enforced. One planner at ODOT indicated that few TSPs are projected to meet this standard. The Transportation Planning Rule is bold in its requirements and vision, but because it is not meaningfully enforced, Oregon received a C for measureable performance standards.

Implementation: C
Includes specific next steps for **implementation** of the policy.

The Bike Bill is remarkable in its establishment of explicit funding for bicycle and pedestrian improvements. This funding mechanism, in combination with mandatory language, should ensure implementation. However, the reality of transportation planning and implementation is far more complicated. First, many planners and advocates expressed frustration that 1% of state funds, although a minimum rather than a maximum amount, is not enough. Second, projects can only be implemented if they are included in Transportation System Plans or Regional Transportation Plans. There is currently no mechanism to prioritize the selection of projects in order to complete our street network. In addition, when projects do include a bicycle and pedestrian component, they are frequently designed to the minimum requirements outlined in the Oregon Highway Plan, not with newer design guidelines.

Great policies mean nothing if they do not result in action on the ground. Because of the lack of priority at a state level for funding and building complete streets, Oregon received a C for implementation.

RECOMMENDATIONS:

1. The Bike Bill should apply to preservation funds.
Oregon's Bike Bill should be applied to include maintenance projects. Any time a street is resurfaced, there is an opportunity to add sidewalks or fill in sidewalk gaps, to restripe the roadway to include bike lanes, or to implement a road diet. If maintenance is where most of the money is being spent, then completing the streets should be a required component of every maintenance project.

2. Oregon needs a performance standard for Complete Streets in plans, project selection and project design.

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The Oregon Transportation Plan (OTP) and the Oregon Highway Plan (OHP) should include a performance standard such as % of network completed, based on a definition of what constitutes a complete street in various land use contexts, functional classifications, and roadway ownerships. Rather than mandating that all users be accommodated in all situations, a more nuanced standard could establish standards which prioritize different users in different contexts, but require a complete network for each user group or mode.

This standard for complete streets or networks needs to extend to project prioritization and selection, and also to project design. Any time a jurisdiction touches a roadway, it should have to take steps towards completing it. This may require combing funding sources to allow the addition of missing street elements to preservation and maintenance projects. One example of a tool that addresses this need in project design is the City of Seattle's Complete Streets Checklist. For every project, the checklist asks project managers to consider all relevant standards and plans in place.

3. The process of setting posted and design speeds should be changed.
The current process for setting design speeds at the 85th percentile of observed speeds and at or above posted speeds encourages roadway design that is often lethal to bicyclists and pedestrians. This process should be changed to allow cities to build traffic calming features such as curb bulbs, on street parking, street trees and pedestrian crossings to improve safety along streets that have been identified as multimodal complete streets.

Appendix 8:Pedestrian and Bicycle Plans Best Practices Checklist - Draft

Several pedestrian and bicycle plans in local TSPs and stand alone bicycle and pedestrian plans were reviewed for Metro's Existing Conditions, Findings and Opportunities Report for the ATP. The purpose of the review was to provide a high level understanding of current local bicycle, pedestrian and trail planning practices.

A Best Practices Checklist was developed to aid in the review, organize information and provide a snapshot of bicycle and pedestrian planning. The checklist provided here is still in draft form and will benefit from additional information.

The elements of the Best Practices Checklist were developed based on a variety of sources:

- Review of the plans themselves; many of the plans presented elements which were recognized as best practices. These were added to the checklist.
- "5 minute bike plan assessment" Bicycle Network in Victoria, AUS http://www.bicyclenetwork.com.au/general/bike-futures/10209/
- Pedestrian and Bicycle Information Center – "General Implementation Considerations" and "Policy and Planning Strategies to Support Bicycling and Walking" http://www.bicyclinginfo.org and http://www.walkinginfo.org
- Creating a Roadmap for Creating and Implementing a Bicycle Master Plan, by Peter Lagerway. http://www.bikewalk.org/pdfs/BMP_RoadMap.pdf
- Input from staff and stakeholders

Review Caveats

- Local jurisdictions are in the process of updating their TSPs to comply with the 2035 RTP; many of the TSPs have not yet been updated and therefore do not reflect the outcomes based planning approach, performance targets and measures, etc. that were developed in the 2035 RTP.
- Each plan is unique, responding to the specific needs of the jurisdiction. The review did not attempt to compare plans, but instead focused on trying to identify the best practices within each plan. The checklist does not capture the subtleties or specific
- Many jurisdictions have limited resources for developing plans, which can prohibit including elements in the plan beyond requirements.

Key to Checklist

- Meets: when plans had requirements for implementing the policy.
- Partially meets: when policies are identified but are not required
- Recommended for future plans: elements are identified as important for future policies

Checklist Definitions

Top 5 Best Practices

1. Projects prioritized with planning level cost estimates: looks for a list of prioritized projects with identified costs. Looks for bike and ped projects prioritized with other transportation.

2. Funding plan for prioritized projects: funding sources and timeline identified.
3. Concept level design for prioritized projects: concept drawing, picture of site, description of project, constraints identified, etc. Information that could be used to secure funding and advance project.
4. Performance targets/measures for active transportation (e.g. health, mode share): quantifiable measures that progress can be measured against.
5. Programming and education addressed: identified as important; programs are implemented, funding for Safe Routes to School, transportation options etc has been secured.

Requirements

- Spacing of bike routes identified (e.g. bike route every 800 ft.): a measure to determine density and connectivity of bicycle route. Some plans recommend a grid, which is more specific than "connected" routes.
- Spacing of safe crossings identified (e.g. every 530 ft.) for streets with higher traffic volumes and speeds.
- Trails, bike and /ped required with new development; trails on Comp Plan map: new development must include planned bike and ped; trails are included in Comp Plan and trigger development review.
- Bike parking ordinance in place: this is a TPR requirement for multi-use developments
- Progressive parking maximums in place
- School Siting Policy: affects proximity of households to schools, walkability and bikeability

Policies

- Stand alone Bicycle/Pedestrian Plan(s) amended to TSP
- Stand alone Trail Plan amended to TSP
- TSP includes entire trails plan
- Recognition of US DOT bike/ped recommendations: some cities in the nation are adopting these recommendations by resolution - http://www.dot.gov/affairs/2010/bicycle-ped.html
- Routine accommodation and/or or Complete Streets Checklist, beyond "Bike Bill": routine accommodation is upgrading a street to include bicycle and pedestrian facilities when the street is re-paved, widened, etc. Checklists have been used effectively to ensure that all road projects are complete street projects. Seattle uses this version: http://www.seattle.gov/transportation/docs/ctac/2011_04_19Final%20Draft%20Checklist.pdf or Design for Health Checklist for Transportation, Bicycle and Pedestrian Plans www.designforhealth.net
- Design standards beyond minimum that increase comfort for pedestrians: adoption and requirements of design standards such as wider sidewalks.
- Design standards beyond minimum that increase comfort for bicyclists: adoption and requirements of design standards such as the NACTO bicycle design guidelines, or Washington County's Bicycle Design Toolkit.
- Wayfinding plan: developed and adopted
- Inclusion of Bicycle Boulevards in plan

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Measurement

- Bike and Ped data collection program to support evaluation and measurement: primarily regular counts of pedestrian and bicycle activity, before and after data for project evaluation.
- Plan implementation measures: measures to evaluate plan effectiveness and implementation.
- Use of Latent Demand Score analysis for bike/ped: data collected and methods used to forecast demand of bicycle and pedestrian demand
- Bicycle/Pedestrian Friendly Community status: from the League of American Bicyclists and Pedestrian and Bicycle Information Center

Implementation

- Funding, beyond 1%, dedicated to active transportation: from local sources, such as Washington County's MSTIP or THPRD's bond measure, which has helped fund trail construction
- Mid-block crossing ordinance in place: for seamless trail

Prioritization

- Priority investment areas identified: increases potential to develop projects within that area
- Equity or EJ criteria for prioritizing and funding projects, to serve underserved areas
- Access to transit emphasized
- Priority to "unbundle" bike and ped projects from larger road projects: enables bike and ped facilities to be completed sooner and meet current needs without needing to wait for long-term road widening projects.

Programming and Staff key to implementation of the plans

- Bicycle/Ped Advisory Committee(s)
- Trails Advisory Committee
- TDM strategies: are strategies identified to support bike and ped
- Bike and/or Pedestrian Coordinator: identified staff, full or part time, that focus on bike and ped
- Business owners/citizens can request bike rack from jurisdiction or TMA

Appendix 8

DRAFT Pedestrian and Bicycle Plans Best Practices Checklist	Wash Co	Clack Co	Mult Co	Beaverton	Cornelius	Damascus	Forest Grove	Gresham	Happy Valley	Hillsboro	Lake Oswego	Milwaukie	Oregon City	Portland	Sherwood	Tigard	Troutdale	Tualatin	West Linn	Wilsonville	Durham	Fairview	Gladstone	Johnson City	King City	Rivergrove Maywood Park	Wood Village
Top 5 Best Practices																											
Projects prioritized with planning level cost estimates	◕	●		●	●		●	●		●	●	●	●	●		●			●	●							
Funding plan for prioritized projects				●							◑	●		●					●	●							
Concept level design for prioritized projects											◑		◕	●						●							
Performance targets/measures for active transportation (e.g. health, mode share)														●		◑											
Programming and education addressed	◑	◕					◑	●		◑	◑	◑		●						●							
Requirements																											
Spacing of bike routes identified (e.g. bike route every 800 ft.)		◑												●													
Spacing of safe crossings identified (e.g. every 530 ft.)																			◕								
Trails, bike and /ped required with new development, trails on Comp Plan map		●			◑					◕				◕													
Bike parking ordinance in place	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
Progressive parking maximums in place				◕				◕	◕	●	◕			●		◑											
School Siting Policy	?	?	?	?	?	?	?	?	?	?	?	?	?	●	?	?	?	?	?	?							
Policies																											
Stand alone Bicycle/Pedestrian Plan(s) amended to TSP		●	●				●							●						●							
Stand alone Trail Plan amended to TSP		◕			●									●						●							
TSP includes entire trails plan					●		●																				
Recognition of US DOT bike/ped recommendations																											
Routine accommodation and/or or Complete Streets Checklist, beyond "Bike Bill"																											
Design standards beyond minimum that increase comfort for pedestrians								◑						●		◑											
Design standards beyond minimum that increase comfort for bicyclists	●													●		◑				●							
Wayfinding plan	◑	◕					◑	●				●		●		◑											
Inclusion of Bicycle Boulevards in plan	●			●			●			●		●		●		●			●								
Measurement																											
Bike and Ped data collection program to support evaluation and measurement	◑	◑												◕													
Plan implementation measures								◕												●							
Use of Latent Demand Score analysis for bike/ped										◕																	
Bicycle/Pedestrian Friendly Community status				●				●						●													
Implementation																											
Funding, beyond 1%, dedicated to active transportation	◕							●						●		◕											
Mid-block crossing ordinance in place	●									●																	
Prioritization																											
Priority investment areas identified	●			●				◕		●	●	●							●								
Equity or EJ criteria for prioritizing and funding projects, to serve underserved areas	●										◑			●		●			◕								
Access to transit emphasized	●	●						●		●		◑		●		●											
Priority to "unbundle" bike and ped projects from larger road projects	◕									◕		◑		●													
Programming and Staff																											
Bicycle/Ped Advisory Committee(s)		●	●	●				◕		◕	◕		◕	●		●		◕		●							
Trails Advisory Committee		●														◕											
TDM strategies			●					●			●	◑	●	●		●			◕								
Bike and/or Pedestrian Coordinator	●													●						●							
Business owners/citizens can request bike rack from jurisdiction or TMA														●													

Not included in review

Key

Meets ●

Partially meets ◕

Recommneded for future plan ◑

Appendix 8

DRAFT Inventory of Transportation System Plans and Stand Alone Bicycle, Pedestrian and Trail Plans

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

Appendix 8

DRAFT Inventory of Transportation System Plans and Stand Alone Bicycle, Pedestrian and Trail Plans

Jurisdiction	Adoption Date	Title of Plan	Type of Plan
Porland		Transportation System Plan	
Portland	1998, June	Pedestrian Master Plan	Ped
Portland	2010, February	2035 Bicycle Master Plan	Bike
Portland	2009, May	Trail Design Guidelines for Portland's Park System	Trail
Portland		Southwest Urban Trails	Trail
Portland	2006, June	Recreational Trails Strategy: 20 Yr Vision	Trail
Rivergrove	2011, June	Comprehensive Plan	Comp
Sherwood	2005, March	Transportation System Plan	TSP
Sherwood	2011, January	Comprehensive Plan	Comp
Tualatin Hills Park and Rec.	2006, October	Trails Plan	Trail
Tigard	2011, April	DRAFT Tigard Greenway Trails System Master Plan	Trail
Tigard	2010, December	Transportation System Plan	TSP
Tigard	2005, December	Urban Renewal Plan	
TriMet	2012	Transit Investment Plan	Transit
TriMet	2012, January	Pedestrian Network Analysis	Ped
Troutdale	2005, August	Transportation System Plan	TSP
Tualatin		Greenway Plan	
Tualatin	2001, June	Transportation System Plan	TSP
Washington County	2005	Transportation System Plan	TSP
Washington County	2012, draft	Bicycle Faciltiy Design Toolkit	Bike
Washington County	2012, draft	Bicyle and Pedestrian Prioritization Project	Bike/Ped
Washington County	2010, Aug	Pedestrian and Bicyle Plan	Bike/Ped
West Linn	Pending	Transportation System Plan	TSP
West Linn	In Progress	Trails Master Plan	Trail
Wilsonville	2003	Transportation System Plan	TSP
Wilsonville	2008	Transit Master Plan	Transit
Wilsonville	2006, Dec	Bicycle and Pedestrian Master Plan	Bike/Ped
Wood Village	2012, May	Transportation System Plan	TSP
Statewide	2006	Oregon Transportation Plan	OTP
Statewide	1995	Oregon Bicycle and Pedestrian Plan	Bike/Ped
Statewide	2011	Transportation Safety Action Plan	TSAP
Statewide	1997	Oregon Public Transportation Plan	
Statewide	1999	Oregon Highway Plan	
Statewide		Statweide Transportation Improvement Program	STIP
Statewide		Oregon Statewide Transportation Strategy	

Appendix 9: Trails with an RTP Transportation Function

For transportation projects and programs to receive federal – and some state – funding, they must be in the RTP. For the 2035 update of the RTP, Metro worked with local jurisdictions to screen regional trails identified in Metro's *Metropolitan Greenspaces Master Plan* against criteria to evaluate whether they serve a RTP regional transportation function. Federal Guidance on what constitutes "transportation function" states that the trail must "serve as a connection between origins and destinations."[1] All trail projects included in the RTP must serve primarily a transportation purpose. Metro staff used the following criteria to demonstrate a transportation function:

The trail must connect to a mixed-use area (regional center, town center, station area or corridor), an industrial area, an employment area or an intermodal facility within Metro's Urban Growth Boundary.

AND 3 of the following:

-Travels within ½ mi. of a school or library
-Travels within ½ mi. of a residential area
-Travels within ½ mi. of a park and ride
-Travels within ½ mi. of a transit center or light rail station
-Travels within ½ mi. of a regional park, a regional trail or multiple local parks
-Travels within ½ mi. of significant habitat areas

DRAFT Trails with an RTP Transportation Function	
Trail Name	**Description**
Clackamas Bluffs Trail	Beginning at Mt. Talbert, this route will extend south and east along the bluffs of the Clackamas River. It will join the Clackamas River Greenway at the confluence of Rock Creek.
Columbia Slough Trail	From Kelley Point Park, this trail route heads east to Blue Lake Regional Park. In many sections, the route runs on top of a levee on the north side of the slough.
Council Creek Trail	This trail is planned from the end of the westisde MAX light-rail line in Hillsboro west to Banks via Cornelius and Forest Grove, with an additional short trail extension south connecting to the Tualatin River.
Cross Levee Trail	Proposed as a north-south trail segment of the 40Mile Loop Trail connecting the Lewis and Clark Discovery Greenway Trail to the Columbia Slough Trail near Northeast 143rd Avenue.
East Buttes Loop Trail	Located in the area south of the Springwater Corridor, this trail will begin at Powell Butte, loop through a number of recently acquired open space properties and back to the Springwater Corridor.

[1] FHWA. "Bicycle and Pedestrian Transportation Planning Guidance", accessed 4/3/07. http://www.fhwa.dot.gov/environment/bikeped/inter.htm

Appendix 9

East Buttes Power Line Corridor Trail	Proposed as part of the Pleasant Valley Concept Plan, this trail will connect from the Springwater Corridor south to the Clackamas River Greenway following an existing powerline right of way. It also will connect to the southern end of the Gresham to Fairview Trail.
Fanno Creek Greenway Trail	This trail begins at Willamette Park on the Willamette River Greenway, just south of downtown Portland. It stretches 15 miles to the west and south through Beaverton, Tigard and Durham, and ends at the Tualatin River in Tualatin. Approximately half of the trail is complete; additional sections are under construction.
Gales Creek Connection Trail	This trail will connect the Council Creek Trail to the Tualatin River Greenway along the west and south sides of Forest Grove.
Gresham Max Path	This trail would run along the Max light rail line from Rockwood to the Cleveland Station in downtown Gresham.
Hillsdale to Lake Oswego Trail	A pedestrian-only trail will run from the Hillsdale town center in Southwest Portland to downtown Lake Oswego traversing Tryon Creek State Park along the way. It also will provide a connection to the Willamette River Greenway Trail.
I-205 Corridor Trail	Adjacent to I-205, this multi-use trail is a major north-south connection between Clackamas, Multnomah and Clark counties. The trail links Oregon City, Gladstone, Portland and Vancouver.
I-5 Bridge Trail Crossing	This trail across the Columbia River connects the regional trail system with Vancouver and Clark County trails.
I-84 Bikeway	This bikeway runs along I-84 from I-205 to Fairview.
Lake Oswego to Milwaukie Trail	This trail would connect Lake Oswego to Milwaukie using either an existing rail bridge or a new bridge. It would connect the West Willamette River Greenway trail to the Trolley Trail.
Lewis and Clark Discovery Greenway Trail	Marking the historical path of Lewis and Clark along the Columbia River, a vision for the Lewis and Clark Discovery Greenway Trail originated in 1965. Current plans encompass several existing and proposed trail segments on both sides of the Columbia River. On the south side, this includes the Marine Drive and Columbia River levee sections of the 40-Mile Loop. (For more information about this trail, see the "Vancouver/Clark County" section.)
Lower Tualatin River Greenway Trail	This trail will run along the Tualatin River from its confluence with the Willamette River west to the Tualatin River National Wildlife Refuge.
Mt. Scott Trail	Proposed as a trail that will extend north from Mt. Talbert to join the Springwater Corridor near Powell Butte. It will cross over Mt. Scott and follow Johnson Creek before intersecting with the Springwater Corridor.
North Willamette River Greenway Trail	Part of the Willamette River Greenway vision, this trail will run north along the east bank of the Willamette River through the industrial area from the Steel Bridge and Eastbank Esplanade to Swan Island and to the St. Johns Bridge.

Appendix 9

Oregon City Loop Trail	This trail will create a loop around the perimeter of Oregon City. It will cut through Newell Creek Canyon, connect to the Beaver Lake Trail and skirt the southern edge of the city on its way back to the Willamette River across from its confluence with the Tualatin River.
Westside Trail	

Results of Screening Regional Trails against Parks & Transportation Criteria

Trails NOT meeting Parks Criteria

None

Trails NOT meeting Transportation Criteria

17. Wildwood Trail
20. Hillsdale to Lake Oswego Trail (ped only)
24. Stafford Trail
25. Willamette Narrows Greenway Trail
27. Beaver Lake Trail
28. Oregon Trail-Barlow Road
N1. Crown Zellerbach Trail
N3. Cooper Mt. Trail
N7. Tickle Creek Trail
N8. City of Sandy to Bull Run/Dodge Park Trail

Appendix 10

2040 Concept Corridors, High Frequency and Almost Frequet Bus Routes Delineated for Regional Pedestrian Analysis				
#	Corridor Name	Corridor Main Facility	Extent From	Extent To
1	Forest Grove to Cornelius	Hwy 8	Forest Grove, Pacific Ave, 19th Ave	Cornelius (UGB)
2	Hillsboro to Aloha	Hwy 8	Hillsboro (UGB)	Aloha (SW 185th Ave)
3	Hillsboro TC to Willow Creek MAX	E Main Street/W Baseline Rd	SW Oak St (Hillsboro)	SW 185th Ave.
4	Aloha to Beaverton	Hwy 8	Aloha, SW 185th Ave	Beaverton, Hwy 217
5	Beaverton to Hwy 26	SW Canyon Rd.	Beaverton	Hwy 26
6	Hillsboro to Cedar Mill	NE Cornell Rd.	Hillsboro	Cedar Mill at SW Murray Blvd.
7	HWY 8 to Orenco	NW 231st Ave.	Hwy 8	Orenco
8	Orenco to Tanasbourne	NW 229th/Evergreen	NE Brookwood Pkwy	NW Cornell Rd
9	Tanasbourne to Beaverton	Walker Road	SW 185th Ave	SW Canyon Rd.
10	Murray Scholls to Cedar Mill	SW Murray Blvd.	HWY 210	NW Cornell Rd.
11	Aloha to Hillsdale	HWY 10 (Beaverton Hillsdale Hwy)	SW 185th to Kinnaman at SW Farmington	SW Farmington, Beaverton Hillsdale Hwy to SW Capitol Hwy
11.a	185th and SW Farmington Triangle	185th and SW Farmington	Kinneman to SW Farmington	to Kinneman
12	SW 185th Ave. to PCC	SW 185th Ave	Aloha at Hwy 8 to NW Springville Rd.	NW Bethany Blvd.
13	NW Bethany Blvd.	NW Bethany Blvd.	NW German Town Rd	NW Cornell
13.a	NW Union Rd./NW 143rd Ave.	NW Union Rd./NW 143rd Ave.	NW Bethany	NW Cornell
14	SW Cedar Hills Blvd.	SW Cedar Hills Blvd.	Beaverton at SW Farmington Rd.	Hwy 26, Cedar Mill
15	Cedar Mill to Portland	SW Barnes Road/W Burnside Rd.	NW Cornell Rd	NW 23rd.
16	Beaverton to Tualatin (Hall Blvd)	SW Hall Blvd, SW 85th, SW Boones Ferry Rd.	SW Farmington	SW Sagert St.
17	SW Parkway Ave to Wilsonville TC	SW Parkway Ave	SW Boones Ferry at SW Day Rd	SW Town Center Loop
18	Murray Scholls to Raliegh Hills	Hwy 210 (Scholls Ferry Rd)	SW Murray Blvd.	Hwy 10
19	SW Oleson Rd./SW Greenburg Rd.	SW Oleson Rd./SW Greenburg Rd.	Washington Square at Hall Blvd	99W
20	Sherwood to Tigard	99W (Pacific Coast Hwy)	Tualatin Sherwood Road	SW Hall Blvd
21	Barbur Blvd.	99W (SW Barbur Blvd)	SW Hall Blvd (as Pacific Coast Hwy)	Downtown Portland, Hawthorne Bridge
22	Boones Ferry	Boones Ferry Road	Pilkington Rd	SW Macadam Ave
23	Kruse Way	Kruse Way	Tigard at I-5	Boones Ferry Rd.
24	Country Club Road	Country Club Road	Boones Ferry Rd	SW Riverside Dr.
25	Hwy 43 - Portland to Oregon City	Hwy 43	99E in Oregon City	SE Powell Blvd. (Hwy 26)
26	Molalla Ave	Molalla Ave	99E/7th Ave Oregon City	Hwy 213
27	McLoughlin Blvd.	McLoughlin Blvd. (99E)	UGB	SE Powell Blvd. (Hwy 26), with Bybee Blvd, SE th loop in Sellwoo
28	SE Grand Ave	SE Grand Ave (99 E)	Powell Blvd (Hwy 26)	NE Weidler St.
29	Martin Luther King Blvd.	SE Grand Ave (99 E)	Powell Blvd (Hwy 26)	NE 6th Drive via NE vancouver Way
30	Beaverton to Barbur Blvd.	SW Allen, SW Garden Home Rd, SW Multnomah Blvd	SW Murray Blvd.	SW Barbur Blvd.
31	Capitol Hwy	SW Capitol Hwy	SW 49th Ave. in West Portland	SW Macadam Ave (Hwy 43)
32	NW 23rd Ave.	NW 23rd Ave. Portland	W. Burnside St.	NW Nickolai St.
33	21, 22, or 20th ave		W. Burnside St.	NW Thurman
34	NW Lovejoy	NW Lovejoy	I-405	NW Cornell
35	Sherwood	99W, SW Sherwood Blvd, SW Oregon St.	Tualatin Sherwood Road	SW Oregon St at SW Murdock Rd.
36	Hawthorne Blvd.	SE Hawthorne Blvd./SE 50th	Hawthorne Bridge, Downtown Portland	SE Powell Blvd. (Hwy 26)
37	Belomont St.	SE Belmont St.	Morrison Bridge, Downtown Portland	SE 50th Ave.
38	Burnside Portland to Gresham	Burnside	Burnside Bridge, Downtown Portland	Intersection with SE Powell Blvd in Gresham
39	Stark	SE Stark St. (w/SE Washington couplet)	SE 50th Ave	NE Kane Drive.
40	Halsey St.	NE Halsey St.	Hollywood	Troutdale, SW 257th Ave
41	Naito Parkway	SW Naito/NW Naito Parkway	SW Barbur	Steel Bridge
42	Weidler	NE Weidler St.	West end of Broadway Bridge	Hollywood Town Center
43	Interstate Ave	N Denver Ave, N Interstate Ave, N Russell spur	Steel Bridge	Hayden Island
44	Lombard	N Lombard St., N Columbia	St John's Bridge, West end	NE MLK
45	Killingsworth	N/NE Killingsworth	N Greeley Ave	Cascade Hwy (NE 82nd Ave)
46	Alberta	NE Alberta	NE MLK	NE 33rd Ave.
47	Going St.	N Going St.	N Interstate Ave	NE MLK
48	Prescott	NE Prescott St.	NE 42nd Ave.	NE 122nd Ave.

Appendix 10

2040 Concept Corridors, High Frequency and Almost Frequet Bus Routes Delineated for Regional Pedestrian Analysis				
#	**Corridor Name**	**Corridor Main Facility**	**Extent From**	**Extent To**
49	Fremont	NE Fremont St.	NE MLK	NE Sandy Blvd.
50	Cesar Chavez Blvd	SE 39th/NE 42nd	SE Woodstock	NE Columbia
51	Division	SE Division, NW Division	SE Grand Ave. (99E)	NE Kane Drive.
52	Sandy Blvd.	NE Sandy Blvd.	intersecton with NE Couch	SW 257th Ave.
53	Cully	NE Cully/NE 57th/SE 60th/SE 52nd	NE Killingsworth	SE Powell Blvd. (Hwy 26)
54	82nd Ave.	SE/NE 82nd Ave.	Clcakamas RC at SE Sunnyside Rd.	NE Killingsworth
54.a	72nd Ave. Loop	SE 72nd/SE Bell/ SE King	SE Woodstock	SE 82nd. Ave
54.a	Mt. Scott Blvd. spur	SE Mt. Scott Blvd.	SE 82nd Ave.	SE 112th Ave.
55	Glisan	NE Glisan St.	Sandy Blvd.	NE 102nd Ave
56	122nd Ave.	SE/NE 122nd Ave.	SE Foster Rd.	NE Sandy Blvd.
57	Powell Blvd	SE-E Powell Blvd	Ross Island Bridge (W end)	Gresham, intersection with Burnside
58	181st/182nd Ave	SE 181st/NE 182nd Ave	Powell Blvd (Hwy 26)	NE Sandy Blvd.
59	Fairview to Gresham	NE 223rd Ave	NE Sandy Blvd	E Powell Blvd
60	Troutdale to Gresham	NE Kane Drive, SW 257th	NE Division St.	E Columbia River Hwy
61	Holgate	SE Holgate	99E	SE Powell Blvd., via 136th
62	Woodstock	SE Woodstock	SE 39th	SE Foster Rd.
62.a	Duke and Flavel	Duke St. and Flavel St.	52nd Ave	Duke: 82nd., Flavel, 72nd.
63	Portland to Damascus	SE Foster Rd.	SE Powell Blvd. (Hwy 26)	SE Sunnyside Rd.
64	Portland to Oregon City	SE 52nd/SE Flavel/SE Linwood/Webster Rd.	SE Powell Blvd. (Hwy 26)	SE McLoughlin Blvd. (99E)
65	Tacoma St.	SE Tacoma St/Sellwood Bridge	West end of Sellwood Bridge	SE McLoughlin Blvd. (99E)
66	Johnson Creek Blvd.	SE Johnson Creek Blvd.	SE Harney Drive	SE 92nd Ave
67	Milwaukie to Clackamas TC	SE Harrison/Milwaukie Expy/SE Harmony/SE Sunnysid	SE McLoughlin Blvd (99E) at Holgate, with loop aro	I-205 Clackamas TC
68	Clackamas TC to Damascus	SE Sunnyside Rd/Hwy 212 (Clackamas Boring Hwy)	I-205	Hwy 212 at UGB
69	SE 172nd	SE 172nd	SE Foster Rd.	Hwy 212
70	SE 222nd Dr	SE 222nd Dr	Between SW Butler and SE Borges Rd	Hwy 212 (Clackamas Boring Hwy)
71	SE 242nd Ave	SE 242nd Ave	SE Butler Rd	SE Roberts Rd.
72	Clackamas Hwy	Hwy 224 Clackamas Hwy	Hwy 212-224	Eagle Creek Hwy
73	OHSU Loop	SW Terwiliger (frm SW Capitol to SW 6th at 3rd); SW Gaines, SW 11th, SW US Veterans Hospital Rd., SW Campus Drive		
74	NW Everett	NW Everett	I-405 bridge crossing	NW 21st
75	NW Gleason	NW Gleason	I-405 bridge crossing	NW 21st
76	NW Portland to Sauvie Island	NW Vaugn, NW St. Helen's Rd., NW 35th Ave, NW Yec	NW 23rd Ave.	NW Sauvie Island Bridge at NW Gillihan Loop Rd.
77	12th and 11th couplet	Milwaukie, 11th, 12th, NE15th,	SE McLoughline Blvd and Milwaukie	NE Dekum
78	52nd to MLK via Columbia	Columbia to Dekum,	NE 52nd Ave	NE MLK
79	Rosa Parks Lombard	Rosa Parks, Willamette Blvd (w.Portsmuth connection	N Vancouver Ave	N Richmond Ave.
80	Vancouver/Williams	Vancouver/Williams	Rose Quarter	Rosa Parks
81	Mississippi/Albina	Mississippi/Albina	Fremont and Vancouver to Mississippi	Lombard (? Does not show as bus route on google maps)
82	Swan Island to St John's Bridge	Going, Greeley, N Penninsula, N Willis, N Alaska, Fesse	Going St on Swan Island	St Johns; Lombard and N Commando Ave

Appendix 11: Cycle Zones by name and number

Cycle Zone #	Name
1.	Forest Grove
2.	Cornelius
3.	Hillsboro –South
4.	Hillsboro - Central
5.	Hillsboro - North
6.	Aloha - North
7.	Beaverton – North
8.	Bethany
9.	Northwest Heights / W.Sylvan
10.	Forest Park
11.	Portland – Downtown / Nob Hill / S.Waterfont
12.	SW Portland – Hillsdale/ Multnomah Village
13.	Beaverton – East / Raleigh Hills / Washington Square RC
14.	Beaverton – South / Aloha - South
15.	Cooper Mt
16.	Tigard
17.	Tualatin
18.	Sherwood – Industrial / Tualatin - Industrial
19.	Sherwood – Central
20.	Wilsonville
21.	Stafford
22.	Lake Oswego / Rivergrove
23.	Lake Oswego – North / Downtown / Dunthorpe
24.	West Linn
25.	Oregon City
26.	Milwaukie – Downtown / Oak Grove / Gladstone
27.	Milwaukie – North / Clackamas Regional Center
28.	SE Portland – Brooklyn / Sellwood-Moreland
29.	SE Portland – Eastmoreland / Woodstock / Foster-Powell
30.	SE Portland - Inner
31.	NE Portland - Inner
32.	Swan Island
33.	N. Portland - Central
34.	N. Portland – St Johns
35.	Rivergate Industrial Area /Smith & Bybee Lakes
36.	NE Portland – Cully / Rose City Park / Rocky Butte
37.	SE Portland – Mt Tabor / Montavilla
38.	Far East Portland / W. Gresham
39.	SE Portland – Lents/ Powellhurst-Gilbert
40.	Happy Valley
41.	Clackamas Industrial Area

Appendix 11

42.	Damascus
43.	Boring
44.	Pleasant Valley / Powell Butte / Gresham Butte
45.	Central Gresham / Wood Village / Fairview
46.	Gresham – Powell Valley / Kelly Creek
47.	Troutdale
48.	Columbia Corridor Industrial Area - East
49.	PDX Airport
50.	Damascus - South

Appendix 12

Cycle Zone Analysis - Summary Table - 8/28/12

Cycle Zone Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
General Geographical Geographic Area	Forest Grove	Cornelius	Hillsboro –South	Hillsboro - Central	Hillsboro - North	Aloha - North	Beaverton - North	Bethany	Northwest Heights / W.Sylvan	Forest Park	Portland – Downtown / Nob Hill / S.Waterfont	SW Portland – Hillsdale/ Multnomah Village	Beaverton – East / Raleigh Hills / Washington Square RC	Beaverton – South / Aloha - South	Cooper Mt	Tigard	Tualatin	Sherwood – Industrial / Tualatin - Industrial	Sherwood - Central	Wilsonville	Stafford	Lake Oswego / Rivergrove	Lake Oswego – North / Downtown / Dunthorpe	West Linn	Oregon City	Milwaukie – Downtown / Oak Grove / Gladstone	Milwaukie – North / Clackamas Regional Center	SE Portland – Brooklyn / Sellwood-Moreland	SE Portland – Eastmoreland / Woodstock / Foster-Powell	SE Portland - Inner	NE Portland - Inner	Swan Island	N. Portland - Central	N. Portland – St Johns	Rivergate Industrial Area /Smith & Bybee Lakes	NE Portland – Cully / Rose City Park / Rocky Butte	SE Portland – Mt Tabor / Montavilla	Outer East Portland / W. Gresham	SE Portland – Lents/ Powellhurst-Gilbert	Happy Valley	Clackamas Industrial Area	Damascus	Boring	Pleasant Valley / Powell Butte / Gresham Butte	Central Gresham / Wood Village / Fairview	Gresham – Powell Valley / Kelly Creek	Troutdale	Columbia Corridor Industrial Area - East	PDX Airport	Damascus - South
Road Connectivity	3	3	1	2	3	1	3	2	1	2	5	2	1	1	1	1	1	1	2	2	1	1	2	1	3	1	3	4	4	5	5	4	5	4	3	4	4	3	1	1	1	1	1	2	3	2	1	2	3	1
Road Density	3	3	2	4	2	4	4	4	3	2	5	4	3	4	2	3	2	1	4	2	2	3	3	3	3	4	3	5	5	5	5	4	5	4	2	5	5	4	4	3	2	1	2	3	3	2	3	2	2	1
Topography	4	5	5	5	5	5	4	2	1	1	4	1	2	2	1	2	3	3	3	4	2	2	1	1	3	3	4	4	5	4	5	4	5	4	5	4	4	5	5	1	4	1	2	2	4	2	3	4	4	1
Land Use	2	2	1	3	4	3	4	3	1	1	5	3	4	3	1	3	3	2	3	4	1	3	2	2	3	3	4	4	4	5	4	4	3	3	2	3	4	4	2	2	4	1	1	2	4	1	3	3	3	1
Permeability	1	1	1	2	3	2	4	3	4	3	5	4	3	4	3	3	1	2	2	2	1	3	3	2	2	1	3	3	5	5	5	3	3	1	1	4	5	4	4	2	2	2	2	4	4	2	3	1	2	1
Bikeway Connectivity	1	1	2	1	3	2	3	3	0	1	5	2	1	3	1	2	3	1	2	2	1	2	2	1	2	3	3	2	3	4	3	4	4	2	2	2	2	2	2	2	2	1	2	3	3	1	2	2	3	0
Bikeway Density	2	2	1	2	3	3	4	3	1	1	5	3	2	3	1	3	4	1	2	2	1	2	2	1	2	4	3	3	4	4	4	4	4	2	2	2	3	4	3	2	3	1	1	3	4	1	3	4	4	0
Bike Comfort	3	1	5	2	3	1	2	5	5	2	3	2	2	4	1	4	4	1	3	4	5	2	4	3	3	3	4	5	4	4	3	4	4	4	5	3	4	1	3	3	1	1	5	4	1	1	2	3	4	1

Appendix 13: Current Prioritization Criteria

TSPs – Criteria pulled from TSP pedestrian and bicycle plans, used to prioritize projects

A. Destinations/access– prioritize projects that link to destinations such as schools, parks, public buildings, transit, community centers, places of worship, high density residential areas, regional center, industrial or employment areas (some destinations receive higher scores, such as schools or jobs)
B. Increases connectivity of routes
C. Potential use – prioritize projects that will serve more people
D. Connects to transit
E. Connects to existing network, completes existing network by filling a gap (linking or extending the network is a lower priority)
F. Benefits both bicyclists and pedestrians
G. Overcomes a barrier
H. Increases safety for bicycles or pedestrians on roads with high speeds/volumes
I. Safe Route to School – provides better, safer walking and bicycling access to schools
J. Funding available (e.g. is located in an urban renewal area)
K. Ease of implementation
L. Coordinated with a planned roadway project
M. Community support
N. Identified as a priority project in the RTP/provides regional benefits

Portland Bicycle Plan for 2030

A. Equity
B. Community support
C. Connectivity, access and barrier reduction
D. Increases visibility of bicycling
E. Demonstrates innovative design
F. Leverages other investments
G. Provides a return on investment

Multnomah County Capital Improvement Plan and Program, April 2012[1]

A. Safety improvement – solves safety problem
B. Cost effectiveness – cost/benefit
C. Project utility – serves needs, will be well used, improves access to priority destinations
D. Closes gap in the system
E. Compliments recent or future project
F. On other project will address all or some of the problem
G. Feasibility
H. Equity
I. Health
J. Bonus points for alternate funding, project readiness and community support

[1] http://web.multco.us/sites/default/files/transportation-planning/documents/criteria_comparison_bike_ped_criteria.pdf

Appendix 13

Regional Flexible Funds project selection criteria

A. Improves access to priority destinations:, centers, large employment areas, schools, services for EJ/underserved
B. Improves safety: addresses site issue(s) documented in pedestrian/bike crash data, separates pedestrian/bike traffic from freight conflicts, Removes conflicts with freight and/or provides safety mitigation for any potential freight conflicts
C. Completes the "last mile"
D. Increase in use/ridership
E. Serves underserved communities
F. Serves high density or projected high growth areas
G. Contracting opportunities for women, minority owned businesses
H. Can leverage funds
I. Reduces need for highway expansion
J. Improves access to priority destinations:, centers, large employment areas, schools, services for EJ/underserved
K. Improves safety: addresses site issue(s) documented in pedestrian/bike crash data, separates pedestrian/bike traffic from freight conflicts, Removes conflicts with freight and/or provides safety mitigation for any potential freight conflicts
L. Completes the "last mile"
M. Increase in use/ridership
N. Serves underserved communities
O. Serves high density or projected high growth areas
P. Contracting opportunities for women, minority owned businesses
Q. Can leverage funds
R. Reduces need for highway expansion

2011 TriMet Pedestrian Network Analysis – Criteria used to identify pedestrian/transit focus areas
These criteria were used to identify focus areas after transit had been screened to identify those with the most opportunities and deficiencies.

A. Geographic equity – the central city and each 2040 center should have a focus area
B. Access to destinations – grocery store, social services, multi-modal facility, parks, schools, senior housing/service, multi-modal facility
C. Pilot project on state facility - at least one ODOT facility should fall within a focus area
D. Connect to transit - each type of fixed route service in the region (WES, MAX, Frequent Service Bus, standard bus, peak service bus) should be represented in at least one of the ten focus areas
E. Equity – areas with above average low-income and minority populations should be strongly considered
F. Support local planning initiatives already underway or complete

Active Transportation Demonstration Project evaluation criteria - Criteria developed by Metro, based on Principles for Active Transportation. Used to evaluate active transportation demonstration projects
Evaluation Criteria for Active Transportation Demonstration Projects

A. Provides a good user experience - provides a safe, easy, efficient routes
B. Completes the transportation network- connects and expands, fills key gaps
C. Responds to demand and land use- serves demand, population and jobs; supports 2040 land use
D. Environmental justice - serve environmental justice communities; provide access to services, jobs and nature
E. Iconic – brings visibility to active transportation

F. Has leadership and community support
G. ROW secured
H. Technical feasible
I. Cost/ funding

ODOT Transportation Enhancement/OBPAC, notice of intent evaluation factors

A. Legacy benefit -Project of lasting value; Appropriate and cost-effective use of transportation funds
B. System benefit – benefits existing system, provides connectivity and safety
C. Community benefit - supports health, economy, livability, safety
D. User benefit – most use, expands transportation options, improves current conditions
E. Importance and need – has leadership, agency, community support; in adopted plans; urgent, high need

Willamette Pedestrian Coalition – Getting Around on Foot Action Plan, key findings for prioritizing pedestrian projects

A. Provide for safe crossings, the number one need
B. Close sidewalk gaps
C. Recognize equity
D. Projects need to be designed for all abilities and ages
E. Prioritize traffic calming projects
F. Prioritize access to transit – integrate transit, walking and rolling
G. Prioritize stand alone projects - do not wait for general street improvements to bring pedestrian environment up to standard
H. Consider urban design and connections to destinations
I. Engage communities in the process
J. Prioritize funding for pedestrian projects
K. Encourage and create partnerships

Re: streets project – criteria **http://www.restreets.org/**

A. Supports diversity of human behavior
B. Connectivity
C. Safety – do people feel safe
D. Universal accessibility – all users, all modes
E. Context sensitivity
F. Local and regional ecosystems
G. Climate – design sensitive to climate (e.g. rain)
H. Aesthetically pleasing
I. Cultural sensitivity
J. Enjoy the space
K. Temporal flexibility (e.g., markets, freight)
L. Operations and maintenance
M. Return on investment
N. Equitable distribution of costs and benefits

Appendix 14: Principles for Active Transportation

A region-wide network of on-street and off-street bikeways and walkways integrated with transit and supported by educational programs would make travel by foot and bike safe, fast and enjoyable. Such a system would take cycling well beyond the exclusive domain of avid cyclists and the courageous to become a practical and preferred option for average residents. It would provide new options for walking, including trails connected to neighborhoods and safe pedestrian crossings. The system would allow people to bike and walk to transit, schools, employment centers, parks, natural areas, and shopping. The purpose of these principles is to supplement the work completed on regional bike and pedestrian systems in the Regional Transportation Plan, creating the policy framework for integrated regional bicycle and pedestrian systems analogous to the regional systems for transit and auto travel. The principles will serve as the basis for developing and prioritizing active transportation projects. These projects will demonstrate the potential of an integrated system.

A regionwide bicycle network would be made up of on-street and off-street routes with connections to transit. In areas of higher residential or commercial density, such as city and town centers and established neighborhoods, the network will form a grid of bike lanes, bike boulevards, cycletracks, and trails spaced every 4 or 5 blocks. In less populated areas trails (off road facilities for pedestrians and bikes), bike boulevards (bike oriented roadways), cycle tracks (on-street protected facility) will serve as the backbone of the network providing streamlined routes that make active travel by bicycle fast and direct and connecting to the dense grid networks

A regionwide pedestrian network shares many of the facilities used by bicyclists, primarily trails and connections to transit. In areas of higher residential or commercial density a complete sidewalk network would support the pedestrian network, with safe and accessible connections to transit. Walking trails, with separate lanes for bikers and walkers and with many access points from neighborhoods will connect centers and provide options for walking short and long distances.

Guidelines that indicate how closely facilities should be spaced are representative of best practices. When prohibitive circumstances, such as landscape features, prevent the ideal spacing the best practices guidelines should be followed as close as possible.

Developed areas will retrofit the existing transportation system to include new routes, improve connections, and upgrade existing facilities. Developing areas grow around the network as part of their core transportation system.

Currently, the bike and walking network is developed on an opportunistic basis. Future developments should be developed as complete components, similar to how light rail projects are developed. This helps enhances usability and minimizes overhead cost.

Background

In 2008, the Blue Ribbon Committee for Trails included a set of recommended principles in *The Case for Active Transportation*. Metro, in partnership with a regional working group that included transportation and trail planners and advocates, developed these recommended principles into a set of recommended principles for developing regional active transportation corridors. The draft principles were reviewed discussed at a regional workshop on active transportation in April 2009.

Appendix 14

In May 2009, Metro issued a call for active transportation corridor projects that embodied the Principles for Active Transportation and that could be strengthened and prepared for potential funding to be developed as demonstration projects. Twenty-five potential demonstration projects were identified by August 2009. These projects, along with the Regional Trail Packages identified for the Blue Ribbon Committee for Trails comprise a portfolio of projects that the region can prepare to seek regular funding streams for biking and walking and take advantage of unique funding opportunities.

From the Principles for Active Transportation, Metro staff developed a set of criteria that will help determine the strengths of projects and how they could be improved to create better environments for users. The criteria were reviewed by staff from local jurisdictions in May 2010.

Principles

- The travel experience is seamless.
    - Users are able to travel from origin to destination without barriers in the route.
    - Connections between on-street and off-street facilities and transit are easy and practical to use.
    - The system connects residents with key destinations including central city, regional and town centers , commercial, employment, schools, and main street areas, parks and natural areas
    - Transit facilities provide bike storage and/or bike parking, options for bike rentals, and on-board accommodation of bicycles
- Routes are direct and accessible.
    - Users are able to travel from origin to destination along the most direct route possible.
    - Route spacing is appropriate to the area; the network is more closely spaced in areas of higher residential or commercial density (such as every 4-5 blocks) and less closely spaced in less dense areas (such as every 2 miles).
    - For trails, access points are frequent in urban areas (such as every ___), less frequent in rural areas (such as every_____).
- Travel is safe.
    - Facilities are designed to minimize the interaction of bikers, walkers, and auto traffic
    - For trails, the number of intersections to be crossed are minimized
    - Intersections are conveniently located, safe and easy to cross.
- Routes are intuitive.
    - Routes incorporate a wayfinding system that is consistent across different travel modes
    - Routes are designed to reflect how people use the network
    - The public are informed and educated about the integration of modes.
- Routes are easy to use.
    - When possible, routes are selected for flat, unchallenging topography
- Routes are attractive and travel is enjoyable
    - Provide the experience of nature along routes
    - Routes provide access to amenities such as shopping, restaurants, restrooms, etc.
- The system is designed with nature.
    - Incorporate green storm water and streets
    - Partner with significant habitat preservation and natural area restoration
    - Enhance wildlife corridors and provide wildlife crossings

    - Consider parks, natural areas and outstanding natural features as destinations
- The system is designed to relieve the strain on other transportation systems
    - Where traffic congestion will result in level-of-service failure, factor in high capacity protected bicycle routes.

Urban to Nature Routes

Active transportation is enhanced by using the system to experience nature. These connections provide the potential for long rides, for the enjoyment of diverse natural environments, and to introduce a wide range of people to riding and walking. Routes may be of different levels of significance. For example, some routes may tie together local parks and attractions and be of most interest to residents that live nearby. Other routes may be of national or international significance, for example the "Path to the Pacific" or "Mount Hood Connections" may one day become attractions that draw visitors from all over the world.

Principles for Urban to Nature Routes

- The Routes are inherently park-like and serve both recreation and transportation functions.
- People are drawn to these routes for their user experience. They include spectacular views and destinations, along with the quiet experiences of nature.
- Routes are sensitively planned, avoiding habitats of concern, preserving and restoring habitats.
- Special attention is paid to riparian resources with selected views coordinated with habitat and restoration concerns.
- Food, water and restrooms are available as needed for long distances as are lodging, such as bicycle camping, hostels or B&Bs.
- Some routes are designed as loops
- Trips of a variety of trip lengths are possible.

Appendix 15: Bicycle/Pedestrian Funding Programs and Eligibility

This table indicates potential eligibility for pedestrian and bicycle projects under funding programs in Map-21. Specific program requirements must be met, and eligibility must be determined on a case-by-case basis. For example, NHS funds must benefit NHS corridors, HSIP funds must benefit safety, CMAQ funds must benefit air quality, FLH funds must provide access to or within Federal lands, etc.

	NHS	STP	HSIP	SRTS	TEA	CMAQ	RTP	FTA	TE	BRI	402	PLA	TCSP	JOBS	FLH	BYW
Bicycle and pedestrian plan		X						X				X	X			
Bicycle lanes on roadway	X	X	X	X	X	X		X	X	X			X		X	X
Paved Shoulders	X	X	X	X	X	X				X			X		X	X
Signed bike route	X	X		X	X	X		X					X		X	X
Shared use path/transportation trail	X	X	X	X	X	X	X	X		X			X		X	X
Recreational trail							X						X		X	
Spot improvement program		X	X	X	X	X		X					X			
Maps		X		X		X		X			X		X			
Bike racks on buses		X			X	X		X	X				X			
Bicycle parking facilities		X		X	X	X		X	X				X			X
Bicycle share (capital costs only, operations not eligible)	X	X			X	X		X	X				X	X	X	
Bicycle storage/service center		X		X	X	X		X	X				X	X		
Sidewalks, new or retrofit	X	X	X	X	X	X		X	X	X			X		X	X
Crosswalks, new or retrofit	X	X	X	X	X	X		X	X				X		X	X
Trail/highway intersection	X	X	X	X	X	X	X						X		X	X
Signal improvements	X	X	X	X	X	X		X					X			
Curb cuts and ramps	X	X	X	X	X	X		X					X			
Traffic calming		X	X	X				X					X			
Coordinator position		X		X		X										

Appendix 15

Safety/education position		X		X							X					
Police Patrol				X							X					
Helmet Promotion		X		X	X						X					
Safety brochure/book		X		X	X	X	X				X					
Training		X		X	X	X	X				X					

KEY

NHS	National Highway System	BRI	Bridge
STP	Surface Transportation Program	402	State and Community Traffic Safety Program
HSIP	Highway Safety Improvement Program	PLA	State/Metropolitan Planning Funds
SRTS	Safe Routes to School Program	TCSP	Transportation and Community and System Preservation Pilot Program
TEA	Transportation Enhancement Activities	JOBS	Access to Jobs/Reverse Commute Program
CMAQ	Congestion Mitigation/Air Quality Program	RTP	Recreational Trails Program
FLH	Federal Lands Highway Program	FTA	Federal Transit Administration Capital Funds
BYW	Scenic Byways	TE	Transit Enhancements

Source: http://www.fhwa.dot.gov/environment/bikeped/bp-guid.htm

Appendix 16: Typical Project Costs

Administration –Include costs associated with administering/managing a grant and project. This could include salaries, consultant fees, traveling expenses, and related support activities.
Acquisition – Includes the purchase/lease of real estate, such as right-of-way.
Capital – Includes the purchase of specific assets, resources or services. This could include items such as equipment, facilities, bike racks, bus shelters, etc.
Infrastructure – Includes construction, maintenance, and restoration of actual facilities. This could include sidewalks, trails, transit facilities, bus shelters, signals, counters, etc.
Planning – Includes costs associated with the development or design of a project or program. This could include a bicycle/pedestrian plan, preliminary engineering, research, and/or related studies.
Operating and Maintenance – Includes costs associated with operating and maintaining facilities. This could include paying staff to maintain facilities, items such as paint, asphalt, mowers, and counters.
Education/Training – Includes costs associated with developing, administering, and/or distributing materials, and programs related to education and training. This could include production costs for educational, materials, conducting training classes and/or providing technical assistance.

Source: Drawn from the Transit, Bicycle and Pedestrian Mobility Funding Guide, 2012, Idaho Dept. of Transportation

Appendix 17

Federal and state capital transportation investments in the Portland region, 1995-2010					
		Breakdown by facility type			
		Bike,ped, trails (Millions)	Roads, bridges (Millions)	Transit (Millions)	Total (Millions)
ODOT	Modernization Program $13M/yr*		172	23	195
	Operations $4M/yr		60		60
	Bicycle and Pedestrian Enhancements $2-3M/yr	45			45
	OTIA I, II, III, Modernization (Freight access $123M/yr, General $351M/yr)		475		475
	Connect Oregon I, II**		58	5	63
	American Recovery and Reivestment Act	3	40	3.5	46
	Immediate Opportunity Fund		45		45
	Jobs and Transportatin Act Earmarks, Modernization		252		252
Transit (TriMet/SMART)	5309 Capital equipment $35M/yr			525	525
	Special needs $1M/yr			12	12
	Westside LRT	10		620	630
	Interstate LRT	5		253	258
	I-205/mall LRT	5		344	349
	WES	1		58	59
	Eastside Streetcar	2		72.8	75
	American Recovery and Reivestment Act	6		42	48
Metro	Interstate transfer		500		500
	Federal aid - urban $3M/yr		3		
	Regional Flexible Funds	44	121	162	328
	American Recovery and Reivestment Act	7	31		38
Local agencies	State Trust Fund/Local Bridges***	15	1485		1500
	Portland American Recovery and Reivestment Act	3	18		21
All agencies	ISTEA earmarks		12		12
	TEA-21 earmarks	2	34		36
	SAFETEA-LU earmarks	5	70		74.5
	Total 1995-2010	**153**	**3376**	**2120**	**5646**
	Total average annual amount	**10**	**225**	**141**	**376**
	Percentage of Total	**3%**	**60%**	**38%**	

Notes: **Average allocation of 2010 through 2013. Actual allocations over past 15 years will vary.*

***Connect Oregon Amounts do not include awards to aviation projects or Connect III projects*

**** Includes dedicated 1% gas tax for bicycle and pedestrian.*

Appendix 18

DRAFT Sources for Pedestrian, Bicycle and Transit Related Data									
Data Set/Source	**Agency/Org**	**Description of Data Collected**	**Updates**	**Use data**	**Facility data**	**Bike data**	**Ped data**	**Transit data**	**Other data**
U.S. Census	US DOC, BOC	Provides data on journey to work travel time and travel mode for workers age 16 and over, demographic and economic data. Data are collected in the spring of the Census year	Every 10 years	X		X	X	X	
American Community Surveys	US DOC, BOC	Asks the same question as the decennial census - "primary" method of getting to work during the previous week. The difference is that the ACS comes from a sample of the population, not from the whole population. All American Community Survey (ACS) data are estimates. Due to sample size ACS data for one-year estimates are only available for cities with population greater than 65,000. Three-year estimates are available for cities with population greater than 20,000. 5-year estimates are available for all cities	Annually	X		X	X	X	
National Household Travel Survey	US DOT, BTS	Surveys U.S. households to gather travel data. Data include mode, duration, distance and purpose of trips. Demographic and economic data are also collected.	Every 5 to 7 years	X			X		
National Survey of Pedestrian and Bicyclist Attitudes and Behaviors	US DOT, BTS	Surveys U.S. households to ascertain the scope and magnitude fo bicycle and pedestrian activity and the public's behavior and attitudes regarding bicycling and walking.	First done in 2002	X		X	X		
National Transit Database	US DOT, FTA	Collection of transit agency statistics. Over 600 of the nation's transportation providers submit data annually. Data include ridership statistics, operating expenses, and performance measures.		X				X	
Info USA, Employer database	NASDAQ (private	Provides emloyment data on location, size and type of employers, households. Data from multiple sourcescollected and telephone-verified.	Ongoing updates						
Americn Public Transportation Association (APTA)								x	
Fatality Analysis Reporting System (FARS)									**x**
National Health Interview Survey									**X**
Behavioral Risk Factor Surveillance System (BRFSS)									
National Transportation Enhancements Clearinghouse									**X**
Safe Routes to School National Partnership State of the State's Report		Funding of projects by state	annual						**X**
Omnibus Household Survey	US DOT, BTS	Surveyed approx. 1,000 randomly selected households to gauge public's satisfaction with the transportation system. Data included trip types, trip distances and modes used.	Every 2 months, survey terminated in 2003	X		X	X	X	
Oregon Household Activity Survey	ODOT, Metro, OMSC	Surveys households in Oregon to gather data on travel behavior. Data include mode, duration, distance and purpose of trips. Demographic data is collected.	Every 10 years	X		X	X	X	
Oregon Health Activity	Oregon								
Regional Land Information System (RLIS)	Metro	Geographic Information System data are created and maintained by Metro, as well as other jurisdictions and agencies throughout the region. Data include streets, trails, sidewalks, zoning, city and county boundaries, census tracts with population and employment data, rivers, watersheds and wetlands.	Varies; dependent upon data set						
ULI	Metro								
Regional Trails Data Set/RLIS	Metro	Geographic Information System data inlcude location and attributes of regional, community and local trails in the region. Part of RLIS.	Update schedule TBD		X	X	X	X	
Regional Trail Counts	Metro	Manual counts collected by volunteers at regional trail locations. Data collected include gender, mode, time of day and weather. Some intercept surveys provide information on trip purpose and length. Locations fairly consistent each year.	Annual, every September	X		X	X		

Appendix 18

Data Set/Source	Agency/Org	Description of Data Collected	Updates	Use data	Facility data	Bike data	Ped data	Transit data	Other data
Bike Network Data	RLIS, TRMS	Regionwide GIS feature class showing existing bicycle infrastructure (bike lanes, bike blvds, cycle tracks) and Bike There! suitability (low-traffic,med-traffic, high-traffic, caution areas) for bicycle routes without infrastructure. Also includes elevation data.	First published in 1983. Updated for every Metro Bike There map ((roughly every 3 years). IN future to be updated quarterly as part of RLIS		X	X			
Pedestrian and Bicycle Barriers	RTP	Geographic Information System feature class of features defined as barriers to pedestrian and bicycle travel, including rivers, highways, major roadways, and railways.			X	X	X		
Crash Data for pedestrian, bicycle, auto	ODOT, Metro	Data set includes crash location, type, level of severity, contributing factors, movement. Locations are digitized in GIS by Metro.	Annual			X	X		
Regional Land Information System (RLIS)	Metro	Regional Sidewalk Inventory. A GIS feature class shows existence of sidewalks. Each segment of the region's street centerlines were coded with information about presence of sidewalk, which side the sidewalk is on, and the percentage of sidewalk on each side.	Updated in 2012; original data set 2000. Update schedule TBD		X		X		
Transportation Regional Modeling System	Metro	Bicycle model tool, raffic volume, posted traffic speeds, number of lanes/roadway							
Open Street Map	TriMet	Data is provided by multiple regional partners. TriMet coordinates regional updating and QC of data. OSM contains attributes that enable it to serve as a routable network, such as presence of bike facilities, turn restrictions, directionality of streets, elevations, and more. Most, if not all, of the bike network attributes have been ground-truthed to ensure accuracy.	Quarterly		X	X	X	X	
Portland Bicycle Counts	Portland	Manual counts by volunteers at locations. Data collected include gender, helmet use, direction, time of day and weather. Some intercept surveys provide information on trip purpose and length. Locations fairly consistent each year.	Every year						
Portland Automated Bicycle Counts	Portland	24-hour automated "hose" counts on bridges and some pathways.	Ongoing	X		X			
Transit Boarding Data	TriMet	Automatic passenger counts from GPS units.	Ongoing						
Infared Trail Counts	Metro, THPRD	THPRD and Metro have two dozen infrared trail counters installed on multi-use and single use trails around the region. The data is collected constantly and downloaded quarterly. It is available from Robert Spurlock at Metro and Scott Hinderman at THPRD.		x		x	x		

Appendix 19: Sustainable Transportation Terminology

Much of the current transportation language was developed in the 1950-60s when accommodating automobiles was a priority. Priorities are changing to create a balanced, equitable, and sustainable transportation system, however, much of the transportation language has not evolved at the same pace; much of it still carries a pro-automobile bias. The following are examples of biased words and phrases and alternative, objective language. [1]

The word *improvement is* often used when referring to the addition of through lanes, turn lanes, channelization, or other means of increasing motor vehicle capacity and/or speeds. Though these changes may indeed be improvements from the perspective of motor vehicle users, they would not necessarily be considered improvements by other modes.

Biased --

- The following street improvements are recommended.
- The intersection improvement will cost $5,000.
- The motor vehicle capacity will be improved.

Objective--

- The following street modifications are recommended.
- The right turn channel will cost $5,000.
- The motor vehicle capacity will be changed.

Like improved and improvement, there are similarly biased words such as *enhance, enhancement, and deteriorate*. Suggested objective language is shown in the examples below.

Biased --

- The level of service for motor vehicles was enhanced.
- The level of service for motor vehicles deteriorated.
- The motor vehicle capacity enhancements will cost $40,000.00.

Objective --

- The level of service for motor vehicles was changed.
- The level of service for motor vehicles was decreased.
- The level of service for motor vehicles was increased.
- The increases to motor vehicle capacity will cost $40,000.00.

Upgrade is a term that is currently used to describe what happens when a local street is as a collector, or when a two-lane street is expanded to four lanes. Upgrade implies a change for the better. Though this

[1] The following examples are excerpted from a memo sent to all department directors and division heads of the City of West Palm Beach, from Michael Wright, the City Administrator (Manager), November 14, 1996

may be the case for one constituent, others may disagree. Objective language includes expansion, reconstruction, widened, or changed.

Biased --

- Upgrading the street will require a wider right of way.
- The upgrades will lengthen sight distances.

Objective --

- Widening the street will require a wider right of way.
- The changes will lengthen sight distances.

Level of service is a qualitative measure describing the operational conditions of a facility or service from the perspective of a particular set of users (motor vehicle users, cyclists, pedestrians, etc.). If the set of users is not specified, then it is a mystery as to which set is being considered. The bias enters the picture when it is assumed that, unless otherwise specified, level of service implies for motor vehicle users. The objective way to use this term is to add the appropriate modifier after "level of service".

Biased

- The level of service was "A".

Objective --

- The level of service for motor vehicle users was "A".
- The level of service for pedestrians was "A".

The word *alternative* begs the question "Alternative to what?" The assumption is alternative to automobiles. Alternative also implies that these alternative modes are nontraditional or nonconventional, which is not the case with the pedestrian, cycle, nor transit modes. Use direct and objective language such as "non-automobile" modes of transportation.

Biased --

- Alternative modes of transportation are important to downtown.

Objective --

- Non-automobile modes of transportation are important to the downtown.
- Non-motorized modes of transportation are important to the downtown.
- Alternative modes of transportation to the automobile are important to the downtown.
- Sustainable forms of transportation are important to the downtown.

Accidents are events during which something harmful or unlucky happens unexpectedly or by chance. Accident implies no fault. It is well known that the vast majority of accidents are preventable and that fault can be assigned. The use of accident also reduces the degree of responsibility and severity associated with the situation and invokes an inherent degree of sympathy for the person responsible. Objective language includes collision and crash.

Biased --

- Motor vehicle accidents kill 200 people every year in the County.

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- He had an accident with a light pole.
- Here is the accident report.

Objective --

- Motor vehicle collisions kill 200 people every year in the County.
- He crashed into a light pole.
- Here is the collision report.

Protect means shielding from harm. However, when we discuss protecting land for a right of way for a road, the intent is not to shield the land from harm, but to construct a road over it. Objective words include designate and purchase.

Biased --

- We have protected this right of way.

Objective --

- We have purchased this right of way.
- We have designated this a right of way,

Efficient is frequently confused with the word *faster*. Typically, efficiency issues are raised when dealing with motor vehicles operating at slow speeds. The assumption is that if changes were made that increase the speeds of the motor vehicles, then efficiency rises. However, this assumption is highly debatable. For example, high motor vehicle speeds lead to urban sprawl, motor vehicle dependence, and high resource use (land, metal, rubber, etc.) which reduces efficiency. Motor vehicles burn the least fuel at about 30 miles per hour; speeds above this result in inefficiencies. In urban areas, accelerating and decelerating from stopped conditions to high speeds results in inefficiencies when compared to slow and steady speeds. There are also efficiency debates about people's travel time and other issues as well.

Biased --

- The traffic signal timings were adjusted to increase motor vehicle efficiency.
- Let us widen the road so that cars operate more efficiently.

Objective --

- The traffic signal timings were adjusted to increase motor vehicle speeds.
- Let us widen the road so that it cars operate faster.

Appendix 20: Tools and Resources

Below is a selected list of tools and methodologies that support successful implementation of active transportation projects and programs. This is not a comprehensive list by any means. Tools and methodologies included have been reviewed and are considered useful. In addition to the tools and methodologies listed below, the following two resources are recommended for a comprehensive guide to data collection, tools and methodologies:

Measurement and Planning

- ***Measuring Active Transportation: Recommendations for Colorado.*** A report for Kaiser Permanente, Colorado. April, 2012. This comprehensive report includes exemplary examples of how to measure active transportation, reviews the best data collection methods, and identifies suitable indicators for performance measurement.http://www.catsip.berkeley.edu/sites/default/files/FINAL%20Report%20Measuring%20Active%20Transportion%20v3.pdf
- ***"Pedestrian and Bicycle Data Collection in United States Communities: Quantifying Use, Surveying Users, and Documenting Facility Extent",*** January 2005. The report provides an overview of national data sources and an overview of current data collection methods for bicycling and walking and a series of case studies on usage documentation, user surveys, and facility inventories. Federal Highway Administration and the Pedestrian and Bicycle Information Center http://katana.hsrc.unc.edu/cms/downloads/PBIC_Data_Collection_Case_Studies2005.pdf
- ***The benefits of bicycle and pedestrian projects, quantifying and prioritizing non-motorized transportation investments.*** Cascade Bicycle Club. 2012. http://issuu.com/cascadebicycleclub/docs/cascade-tptguide_2012
- ***Creating a Roadmap for Creating and Implementing a Bicycle Master Plan, by Peter Lagerway.*** A step-by-step how to guide. Excellent resource that could also be used for pedestrian plans. http://www.bikewalk.org/pdfs/BMP_RoadMap.pdf
- ***Alliance for Bicycling and Walking Benchmarking Reports.*** Provides data for national, state and some cities. Helpful for performance measure comparison.
- ***Analysis of Shorter Trips Using National Personal Travel Survey Data.*** 25 May 2012, Todd Litman, Victoria Transport Policy Institute. This provides helpful information on various national data for pedestrian and bicycle counts.

Tools

- **Health Economic Assessment Tool (HEAT)** http://www.heatwalkingcycling.org/
  This is an interactive tool developed by the World Health Organization. The tool calculates, for walking or cycling, "an economic assessment of the health benefits of walking or cycling by estimating the value of reduced mortality that results from specified amounts of walking or cycling". Additionally, the tool allows you to choose two points in time, when the amount of cycling or walking has changed (perhaps due to an investment), to show the benefits of an effort to increase cycling or walking by calculating economic benefits over a period of years after the change. Bicycle and pedestrian count data is needed. The tool was used by Thomas Gotschi in "Costs and benefits of bicycling investments in Portland, Oregon". *Journal of Physical Activity and Health* (2011).

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- **Benefit/Cost Calculator** http://tims.berkeley.edu/index.php
  This is an interactive tool developed by the Safe Transportation Research and Education Center (SafeTREC) and is hosted on the Transportation Injury Mapping System (TIMS) website. The tool can be used to derive a benefit/cost ratio for potential safety improvement construction projects. The b/c ratio will take into account a project's overall benefit and divide it by the project's overall cost. The tool was developed in conjunction with the California Department of Transportation's Highway Safety Improvement Program (HSIP) call for projects. Data required is crash data and cost of project.
- **Multi-Modal Level of Service Tool -** An analytical tool that measures and rates users' experiences of the transportation system according to their mode. It evaluates not only drivers' experiences, but incorporates the experiences of all other users, such as cyclists and pedestrians. The consultant firm Fehr & Peers has assembled a Multi-Modal Level of Service (MMLOS) Toolkit with 16 different LOS methods that have some level of multi-modal capabilities. http://asap.fehrandpeers.net/tools/complete-streetslayered-networks/mmlos-toolkit/ There are new software packages that for the tool, such as the CompleteStreetsLOS software program. This software implements the multimodal LOS methodology from the 2010 Highway Capacity Manuel. www.CompleteStreetsLOS.com
- **Metro Bicycle Modeling Tool -** A model that operates within the Regional Transportation Model to predict change in bicycle demand and route choice based on changes in the regional bike network.
- ***Bicycle Network Connectivity for Low Stress Travel,*** Maaza C. Mekuria, Ph.D., P.E., PTOE , Peter G. Furth, Ph.D. , Hilary Nixon, Ph. D. , February 2012. One approach to analyzing bikeway networks. http://www.axumcorp.com/SanJose_Bike_Connectivity_final_report.pdf
- ***Quantifying and Prioritizing Non-Motorized Transportation Investments***, report by the Cascade Bicycle Club, 2012. Includes resources and tools.
- **Performance Measurement.** ***Guide to Sustainable Transportation Performance Measure.*** Environmental Protection Agency (EPA). August 2011. This guide covers 12 performance measures that can be applied to transportation decision-making.
- **Design for Health Checklist for Transportation, Bicycle and Pedestrian Plans.** www.designforhealth.net This is an example of a simple checklist used to integrate health into plans.
- **Complete Streets Checklists** – an example from Seattle: http://www.seattle.gov/transportation/docs/ctac/2011_04_19Final%20Draft%20Checklist.pdf
- **Ped/Bike Cost Estimating Tools.** MTC Pedestrian Cost Estimating Tool (Excel Spreadsheet) www.mtc.ca.gov/planning/bicyclespedestrians/Ped_Districts/

Design Guidelines and Treatments

- **NACTO**
- **Wash Co Bicycle Design Toolkit**
- **AASHTO Bicycle and Pedestrian**
- **Metro Creating livable streets: Street design guidelines for 2040**: The handbook describes how communities can design streets to be people friendly and includes detailed illustrations of designs that integrate streets with nearby land uses.
- **ODOT Bicycle and Pedestrian Design Guidelines**
- **Complete Streets National Network**

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- **ITE**
- **Re:Street project**
- **Collection of Cycle Concepts 2012, Cycling Embassy of Denmark** http://www.cyclingembassy.dk/2012/05/10/cycleconcepts2012/?utm_source=Cycling%20Embassy%20of%20Denmark%20List&utm_campaign=b513accc67Collection%20of%20Cycle%20Concepts%202012&utm_medium=email
- **TriMet Bus Stops Guidelines** (2010) TriMet http://trimet.org/pdfs/publications/bus-stop-guidelines.pdf
- **PEDSAFE: Pedestrian Safety Guide and Countermeasure Selection System** (2004), U.S. Department of Transportation, Federal Highway Administration, http://www.walkinginfo.org/pedsafe/
- **Safety Benefits of Walkways, Sidewalks, and Paved Shoulders** (2011), U.S. Department of Transportation, Federal Highway Administration, http://safety.fhwa.dot.gov/ped_bike/tools_solve/walkways_brochure/walkways_brochure.pdf
- **Safety Benefits of Raised Medians and Pedestrian Refuge Areas (2011), U.S. Department of Transportation, Federal Highway Administration,** http://safety.fhwa.dot.gov/ped_bike/tools_solve/medians_brochure/medians_brochure.pdf
- **Pedestrian Safety Guide for Transit Agencies** (2008), U.S. Department of Transportation, Federal Highway Administration http://www.walkinginfo.org/training/collateral/resources/transit_guide.pdf
- **Safer Stops for Vulnerable Customers (2003), State of Florida Department of Transportation,** http://www.nctr.usf.edu/pdf/473-13.pdf
- **Evaluation of Pedestrian and Bicycle Engineering Countermeasures: Rectangular Rapid-Flashing Beacons, HAWKs, Sharrows, Crosswalk Markings, and the Development of an Evaluation Methods Report** (2011), U.S. Department of Transportation, Federal Highway Administration, http://www.fhwa.dot.gov/publications/research/safety/pedbike/11039/11039.pdf
- **Smart Transportation Guidebook: Planning and Designing Highways and Streets that Support Sustainable and Livable Communities** (2008). New Jersey and Pennsylvania Departments of Transportation http://www.state.nj.us/transportation/community/mobility/pdf/smarttransportationguidebook2008.pdf
- **Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities** (2006), Institute of Transportation Engineers, http://www.ite.org/bookstore/RP036.pdf
- U**nited States Access Board: A Federal Agency Committed to Accessible Design**, http://www.access-board.gov/
- **Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians** (2010), California Department of Transportation, http://www.dot.ca.gov/hq/traffops/survey/pedestrian/Complete-Intersections-A-Guide-to-Reconstructing-Intersections-and-Interchanges-for-Bicyclists-and-Pedestirans.pdf
- **Portland Pedestrian Design Guide** (1998), City of Portland Office of Transportation Engineering and Development, http://www.portlandonline.com/shared/cfm/image.cfm?id=84048

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Walking audits and surveys

- **A Resident's Guide for Creating Safe and Walkable Communities** (2008) U.S. Department of Transportation, Federal Highway Administration http://safety.fhwa.dot.gov/ped_bike/ped_cmnity/ped_walkguide/residentsguide.pdf
- **Sidewalks and Streets Survey: Tips, Tools, Resources for Organizers** (2010), American Association of Retired Persons (AARP) http://createthegood.org/sites/default/files/how-to/SidewalksStreets.pdf
- **Active Independent Aging: A community guide for falls prevention and active living. Chapter 16: Walkability Checklist** (2004) Community Health Research Unit, a partnership between University of Ottawa and the City of Ottawa Department of Public Health Services and Long Term Care. http://www.falls-chutes.com/guide/english/resources/handouts/pdf/WalkabilityChecklist.pdf
- **Healthy Development Checklist Walkable Communities** http://www.walkable.org/assets/downloads/healthy_development_checklist.pdf
- **Kansas City Walkability Plan Neighborhood Walking Survey** (2003) City Planning and Development Department City of Kansas City, Missouri http://ww4.kcmo.org/planning/pdf/walkability.pdf
- **Pedestrian Road Safety Audit Guidelines and Prompt Lists** (2007) U.S. Department of Transportation, Federal Highway Administration http://katana.hsrc.unc.edu/cms/downloads/PedRSA.reduced.pdf

General Resources

- **Victoria Transport Policy Institute.** www.vtpi.org
- **Pedestrian and Bicycle Information Center** - www.pedbikeinfo.org Comprehensive website that offers information and training on health and safety, engineering, advocacy, education, enforcement, access, and mobility as it relates to pedestrians and bicyclists. A list of tools and resources: http://www.walkinginfo.org/training/collateral/cgc/TOOLS.pdf. The site is funded by the U.S. Department of Transportation Federal Highway Administration.
- **International Physical Activity and the Environment Network.** *http://www.ipenproject.org/index.html* A clearing house of publications, methods, measures, studies on the relationship between the built environment and physical activity.
- Rails-to-Trails Conservancy. *Active Transportation for America. Active Transportation Beyond Urban Centers.* www.railstotrails.org

Appendix 21: Metro 2012 Sidewalk Inventory

Summary:

A GIS feature class was created to account for the existence of sidewalks. Each segment of the region's street centerlines were coded with information about presence of sidewalk, which side the sidewalk is on, and the percentage of sidewalk on each side.

The previous sidewalk inventory occurred in 2002.

Centerlines were coded based on a combination of sidewalk information provided by some jurisdictions, 2011 aerial photography, and Google's StreetView.

Jurisdictions providing data were: Beaverton, Clackamas County, Cornelius, Forest Grove, Gresham, Hillsboro, Lake Oswego, Milwaukee, Multnomah County, ODOT, Oregon City, Portland, Sherwood, Tigard, Tualatin, Washington County and Wilsonville.

Methodology:

Phase 1: The first phase of coding focused on streets that exist within the Metro-defined Pedestrian Corridors, Pedestrian Districts and the Southwest Data Collection Area. Every street that falls within these areas was observed and coded for presence of a sidewalk. Phase 1 captured and coded 33680 segments

Phase 2: A 1:1000 scale grid was created for the region. Any grid cell (outside of the Phase 1 editing area) that intersected data provided by the jurisdictions was selected and edited. Every single street in each grid cell was observed. Also captured were any street segments that intersected new subdivision plats. This phase coded 23686 segments

The remaining ~30000 segments were outside the Phase 1 and Phase 2 editing areas. A majority of these segments are within the city of Portland and/or were captured in the 2002 inventory.

Output:

The inventory resulted in a line feature class, representing the street centerline. Attributes added to the data are as follows:

"LS" – Presence of sidewalk on the LEFT side of the street
- 0 – No data (only in areas not in this inventory)
- 1 – No sidewalk
- 2 – Sidewalk exists
- 99 – Sidewalk exists, but on which side of the street is not known (only in areas not in this inventory)

"RS"– Presence of sidewalk on the RIGHT side of the street
- 0 – No data (only in areas not in this inventory)
- 1 – No sidewalk
- 2 – Sidewalk exists
- 99 – Sidewalk exists, but on which side of the street is not known (only in areas not in this inventory)

"LPCT" – Percent existing sidewalk length compared to possible full length, left side of the street

"RPCT" – Percent existing sidewalk length compared to possible full length, right side of the street

"PHASE" – Editing phase where street was captured
- 1 – Phase 1
- 2 – Phase 2

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3 – Not completed
99 – Roads that have no potential sidewalk info. These include freeways, on/off ramps, rails, trails, etc.

"CONFIDENCE" – Confidence of the data capture for the street segment
0 – No confidence. Segment was not edited and LS or RS value = 0 or 99.
1 – Confident. Segment was not edited, however, LS or RS value = 1 or 2 (from 2002 inventory)
2 – Very confident. The segment was edited in Phase 1 or 2 and coded for sidewalk presence and percentage.