



The Case for Federal Support for Bicycle and Pedestrian Improvements in the City of Portland and Portland Metropolitan Region



Rails to Trails Conservancy Proposal Cooperators

Metro	Multnomah County
City of Beaverton	Washington County
City of Cornelius	North Clackamas Parks and Recreation
City of Estacada	Tualatin Hills Park and Recreation District
City of Fairview	Portland General Electric
City of Forest Grove	Oregon Department of Transportation
City of Gresham	Oregon State Parks and Recreation Service
City of Happy Valley	National Park Service
City of Hillsboro	United States Fish and Wildlife Service
City of Hillsboro Parks & Recreation	United States Forest Service
City of Lake Oswego	40-Mile Loop Land Trust
City of Milwaukie	Barlow Trail Association
City of Oregon City	Bicycle Transportation Alliance
City of Portland	Columbia Slough Watershed Council
City of Portland Water Bureau	Friends of Baltimore Woods
City of Portland Department of Transportation	Friends of Forest Park
City of Portland Parks & Recreation	Hillsdale Neighborhood Association
City of Sandy	npGREENWAY
City of Sandy	Portland Audubon Society
City of Sherwood	Portland Citywide Parks Team
City of Tigard	Sullivan's Gulch Trail Friends Group
City of Troutdale	Trust for Public Land
City of Tualatin	Tualatin River National Wildlife Refuge
City of West Linn	Urban Greenspaces Institute
City of Wilsonville	Washington County CPO 3
Clackamas County	

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Background

The City of Portland has been a leader in creating a walkable and bikeable city. The lessons learned are here are valuable and potentially applicable to other cities. At the same time, there is still more to accomplish to reach the highest possible mode share. The Portland metropolitan region includes 3 counties and 26 cities. The region has both accomplishments and aspirations to increase mode share. The metropolitan region and the City of Portland join together here to present our current mode share information, our investments to date and our knowledge of how to invest wisely to increase mode share.

Key Factors

Portland and the region are well positioned to serve as a national laboratory in demonstrating how to take bicycle and walking transportation in the US to a world-class level. Our foundation includes strong planning, our collaborative regional government structure, strong policies and supportive political leadership.

Portland's current bicycle mode split is estimated to be between 4-8%, with the metro region's non-motorized mode split just under 5%. We are able to show a correlation between investment in the system and increasing mode share.

Transportation cyclists can be categorized as 1) Strong and Fearless, 2) Enthused & Confident, 3) Interested but Concerned, and 4) No Way No How. We have addressed the first two categories and focus here on "Interested but Concerned", approximately 60% of the population, who would bicycle if they felt comfortable and safe.

Proposal

Our proposal is for \$50 million to increase mode share within the City of Portland and \$50 million to increase mode share within the region. Whereas the city has high density and compact land use, the

region has more dispersed population and job centers. Despite the differences we believe a common approach will be successful.

- ◆ Connecting people via their local, quiet streets to off-street trails and destinations.
- ◆ Building off-street trails that give people the safe experience they're looking for.
- ◆ Keeping existing trails and bike/facilities in good condition through repair.
- ◆ Making connections easy over major barriers, such as highways.
- ◆ Educating people about how to best take advantage of alternatives to driving.

Results

The City of Portland envisions achieving a 25% bicycle mode split and the region 8.5% mode split over the next 15 years.

INTRODUCTION

The City of Portland has long been recognized as a supremely walkable and bikeable city. In May of 2008 The League of American Bicyclists recognized Portland's accomplishments in bicycle transportation when they designated the "City of Roses" as the first large city to achieve Platinum status as a Bicycle Friendly Community. This singular award for a large city reflects the results of decades of effort in creating an environment where many of our citizens feel comfortable enough to meet their daily transportation requirements by bicycle. As recently as 2004, Portland received the "The City at Your Feet Award" from America Walks, recognizing Portland as a pedestrian-friendly city.

Portland and the Portland region are perhaps the best poised among all American cities and regions to serve as a national laboratory in demonstrating how to take bicycle transportation in the US to world-class levels.

Furthermore, Portland sits within a region that has worked closely together to develop a comprehensive system of trails, bikeways, and walkways. This vision encompasses the regional jurisdictions, linked to each other and to Portland by transit and shared use trails. Each city in the region has its own bicycle and pedestrian plan. In addition, all are linked together in planning documents such as the Regional Transportation Plan and in the Metro-led Connecting Green initiative, with the goal of creating the world's greatest system of parks, trails, and natural areas. Regional leaders have already developed cost estimates and plans for a top priority set of shared use trails, all of which will be connected to transit, schools, parks, commercial areas, and other destinations by on-street bikeways and walkways.

Many of the regional jurisdictions have significant accomplishments. For example, Beaverton has been recognized at the Bronze level as a Bicycle Friendly Community by the League of American Bicyclists since 2003. Because of the foundation we have laid with our rail system and collaborative regional government structure, we have an excellent opportunity to invest both in Portland and its neighbors to achieve maximum mode share impacts.

Both the citizens and governments of the Portland Metro area have shown a proven desire and resolve to develop a sound transportation plan that includes both bicycling and pedestrians. This has not only fostered the development and implementation of bicycle and pedestrian friendly policies, making Portland the highest bicycle mode split in the country, it has also created a bicycle culture that permeates all aspects of the city's civic, artistic, political, and corporate life.

The conditions that have led the region to its current status are:

- ◆ Strong policies at the state, regional, and local levels to encourage an environment supportive of bicycling and walking
- ◆ State laws that require the provision of bikeway and walkways with all new or reconstructed roadways
- ◆ State law that provides a dedicated minimum level of funding for constructing bikeways and walkways
- ◆ Political leadership

It is also these conditions that make Portland and the region perhaps the best poised among American cities to serve as a true national laboratory and take this modest vehicle—the bicycle—and demonstrate how to realize its full potential to affordably, efficiently, effectively—and perhaps most importantly—quickly address the environmental, health, economic, and transportation issues that currently vex so many American cities and towns.

PROPOSAL

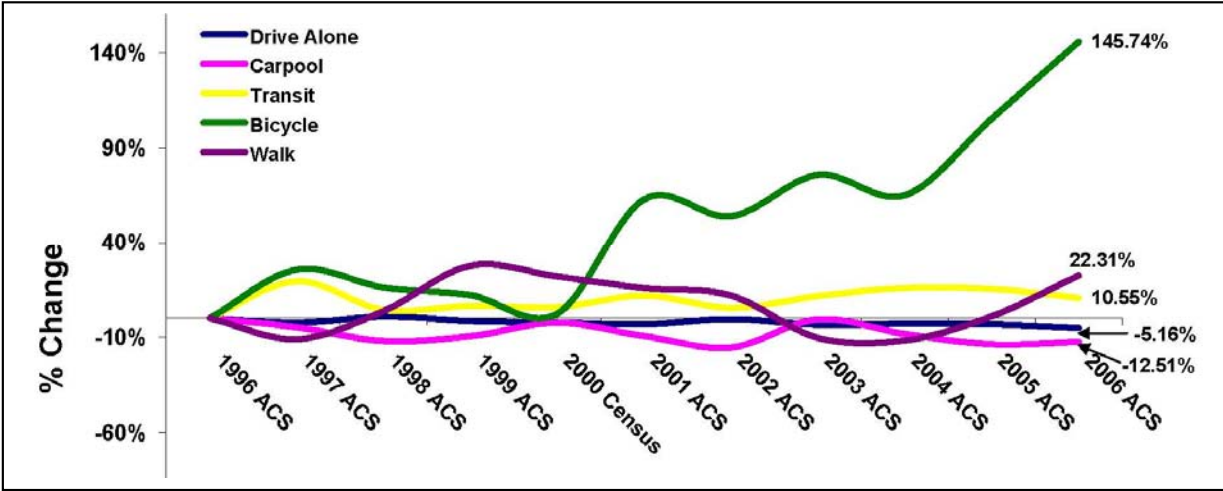
Invest \$100 million to significantly increase the mode share with three key elements:

- ◆ Get people from their houses to their destination on quiet streets with minimal car traffic;
- ◆ Connect these bike boulevards to off-street trails for longer distance travel that is safe and has a high quality experience; and
- ◆ Educate people about how to best take advantage of alternatives to driving.

Current Mode Shares

Based on a number of sources, including the US Census, American Community Survey and annual city surveys conducted by the City of Portland’s Office of the Auditor, we estimate Portland’s current bicycle mode split to be between 4-8%, with the Portland metro region’s non-motorized mode split just under 5%. Figure 1 displays how commute mode changed in Portland for bicycling, walking, transit, carpooling, and driving alone between 1996 to 2006.

Figure 1.
Portland percentage change by mode 1996-2006, compared to 1996



Accompanying this increasing ridership is a rapidly decreasing crash rate. While Portland’s ridership has quintupled since the early 1990s the number of reported crashes has held relatively steady. This combination allows us to state with confidence that Portland’s bicycle crash rate is declining precipitously (Appendix A, Figure A1). A preliminary analysis of data from the US Census, a recent study conducted by Portland State University’s Center for Transportation Studies, and in-house modeling suggests that Portland’s rate of serious bicycle crashes is less than half that of the United States on the basis of distance traveled. This result is consistent with scholarly work from around the world, including in the United States, which demonstrates that bicycling becomes safer as more and more people bicycle.

This current level of bicycling activity results primarily from Portland’s construction of a comprehensive, interconnected bikeway network designed to create conditions that feel comfortable and safe. Our development of this network over time, as well as its complete build-out as called for in our 1996 adopted Bicycle Master Plan is shown in Appendix A, Figure A2.

Along with the lines on the map showing Portland’s obvious investment in its 300 miles of developed bicycle lanes, bicycle boulevards¹ and off-street trails, we have consistently looked for and introduced

¹ A bicycle boulevard is a low-traffic volume, low-speed street that we modify to make a priority for bicycle transportation. Improvements typically include making it easier for cyclists (and pedestrians) to cross busy streets, using traffic calming to further slow traffic speeds, using traffic diversion to further reduce traffic volumes, and relocating stop signs to allow cyclists easier mobility.

civil, signal, and operational improvements unique to the United States in an effort to best serve our citizens. Our efforts are focused not only on serving current cyclists, but also more importantly on attracting to bicycling those Portlanders who are interested in bicycling but who may be concerned for their safety. Our approach has been to not simply accept what is allowed by existing designs, but rather to ask ourselves “what is the best way to do this?” As our increasing ridership and decreasing crash rates demonstrate, we are succeeding.

Investments in bicycling infrastructure – and accompanying education and encouragement programs – are the most affordable means of achieving a rapid and significant shift away from over-reliance on automobiles for personal transportation.

In recent years we have leveraged our investments in infrastructure by turning more of our resources toward encouraging increased bicycling. Our “SmartTrips” program works annually in 20,000 household swaths of Portland, offering information about alternatives to the automobile and guided bicycle rides to familiarize those unfamiliar with our bikeway network. This program has created measurable decreases in single-occupancy automobile trips (averaging 9% per neighborhood) and increases in bicycling, walking and transit use.

Regional Mode Share

The regional mode share is just below 5% for non-motorized travel, however this number is influenced by the higher mode share numbers of Portland. Looking exclusively at the suburbs, that mode share number drops to under 3%. Table 1 shows the mode share numbers from the 2000 US Census for additional cities within the Portland-metro region.

Table 1.
Regional Commute Mode Share (2000)

City	Total Commuters	Walk/Bike	% Walking / Biking
Beaverton	107,270	2,621	2.44%
Fairview	10,140	179	1.77%
Gresham	66,731	1,377	2.06%
Lake Oswego	43,116	1,468	3.40%
Milwaukie	24,887	966	3.88%
Tigard	59,097	1,332	2.25%
Tualatin	32,859	731	2.22%
Wilsonville	10,299	302	2.93%
Total	354,399	8,976	2.53%

To increase mode share in cities where topographic challenges, lack of connectivity, and development patterns inhibit bicycling and walking as a primary transportation option for many, we have developed a strategy to focus on off-street trails connecting to transit centers, schools, neighborhoods, and employment centers throughout the Portland region. We chose the identified trails because they show high potential for increased mode share while connecting to an extensive and complementary system of on- and off-street bicycle and pedestrian facilities. The trails are distributed throughout the region, providing benefits to all residents of the greater Portland metro region.

We previously identified the many of the trails targeted in this case statement as high priority regional projects through Metro-led efforts projects. The regional government included these trails in Metro’s 2006 Natural Areas bond measure that was overwhelmingly approved by voters. The \$227.4 million bond measure provides Metro with acquisition funds for trails and natural areas.

These are solid and realistic projects. Much planning work has been completed and grassroots participation and support is strong. Working from the foundation presented here, the Portland Metropolitan Region will work over the coming months to make our case for active transportation even stronger. We are now working to further develop the case for our trail priorities, including trails

that are strong in recreation value, and to more formally engage and mobilize elected and civic leaders and formally adopt a state and federal agenda for active transportation in the Portland Metropolitan Region. This work has already begun and will continue through early 2009.

Table 2
Regional Trails Data within ½ of Trail

Trail	Total Length (miles)	% complete	Residents	Jobs	Greenspaces (acres)	Schools
Fanno Creek Greenway	18.6	59	59,566	38,779	1538	32
Gresham/Fairview Trail	5.7	56	22,247	4853	495	7
Willamette Greenway North	23.0	5	42,539	116,754	2346	19
Rock Creek Greenway	10.7	25	45,167	7,700	1154	11
Trolley Trail/ SE 17 th Ave.	7.4	0	32,962	14,171	430	16
Sullivan's Gulch	7.4	0	50,354	41,689	409	24
Tonquin Trail	18.1	0	25,044	17855	833	9
Tualatin Greenway	6.0	24	22,436	12,368	766	8
Westside Trail	21.4	18	64,200	13,225	3213	17
South Waterfront Greenway	1	10	4,288	11,202	45	2

The development cost of the total length of these trails exceeds \$50 million. Key segments would be developed

Return on Investment

The City of Portland has achieved its high level of bicycling activity despite relatively minor investments in bicycling infrastructure. Consider that the total invested in developing the City of Portland's 300-mile network of bikeways (~\$50 million in \$2008) in the three decades we have been building such facilities would not fund the construction of even one modern freeway interchange. For that minor investment, we have seen bicycling mode split rise from less than 1.0% to somewhere between 4.5%-8%. No other expenditure of transportation dollars can provide a similar return on investment in terms of mode share.

The Portland Office of Transportation (PDOT) spent only 0.7% of its capital budget on bicycling between 2000-2008². A recent PDOT analysis of Portland's 300 mile bikeway network places its value at between \$45-\$50 million (*\$2008*)³. Almost half this value arises from the construction of off-street trail projects. The value of Portland's on-street bikeway network is approximately \$25-\$30 million. The total cost of developing Portland's bikeway network reflects an average annual investment over 28 years of approximately \$3.50-\$3.80 (*\$2008*) per capita.

The total three-decade investment in Portland's 300-mile network of bikeways would not fund the construction of even half of one modern freeway interchange.

The regional trail system has been identified as a 930-mile network. The highest priority trails within the network are approximately 450 miles that, once completed, will connect within one half mile to 80 % of the region's residents (within Metro's jurisdictional boundary). Using the trail system these residents would in turn be connected to 34 town centers, 674,823 jobs and 268 schools within one half mile. Over the past fifteen years \$79 million has been invested in trails. Approximately \$60 million of this amount has been based on transportation funding, drawn from \$630 million invested annually in regional transportation. Of the \$630 million only 2.5 million is spent annually on trails despite the benefits they can provide so many residents in the region.

Because of this cost-effectiveness, investments in bicycling and pedestrian infrastructure—and accompanying education and encouragement programs—are the most affordable means of achieving a rapid and significant shift away from over-reliance on automobiles for personal transportation. Of all the multiple strategies that must be employed to reduce the transportation sector's contribution

² Between 2000-2007 PDOT spent \$380 million on capital projects; of that \$2.7 million funded bicycle capital improvements.

³ Other bikeway expenditures were in Portland were made by Portland Parks & Recreation, the Oregon Department of Transportation, the Port of Portland, Portland's Bureau of Environmental Services and the Portland Development Commission.

to greenhouse gas emissions, to reduce congestion, to improve people’s health and to keep more money circulating in our local economies, bicycling offers the best return on investment.

Transportation System Needs

Despite our achievements in bicycle and pedestrian transportation, like most US regions, automobile use still dominates the transportation landscape. Also like most US regions, the Portland metro area’s transportation infrastructure is largely built. There are few opportunities to create new roadway systems or to widen existing roads to serve more automobiles—even if we could afford to do so or desire to do so on a system-wide scale. Instead, Portland has worked to create viable choices for people in how they move about the city and the region. Table 3 shows the most recent commute information available for Portland and the Portland Metropolitan Region from two main sources: the U.S. Department of Commerce (Census and American Community Survey data) and the City of Portland’s Office of the Auditor. As Table 3 also shows, there are many households throughout the region without automobiles, making alternatives to the auto essential for these residents’ mobility. This is especially true in the City of Portland.

Table 3.
Commuting in Portland and in the Portland Metropolitan Region

	US Department of Commerce				Portland City Auditor’s Office
	US Census 2000		American Community Survey 2006 (2007?)		
	City of Portland	Portland Metropolitan Region	City of Portland	Portland Metropolitan Region	City of Portland (2007)
Walking Mode Split					
as <u>primary</u> means of commuting	5.5%	3.1%	5.5%	3.4%	4%
as <u>primary & secondary</u> means of commuting					9%
Bicycling Mode Split					
as <u>primary</u> means of commuting	1.8%	0.8%	4.4%	1.7%	6%
as <u>primary & secondary</u> means of commuting					16%
Transit Mode Split					
as <u>primary</u> means of commuting	12.9%	6.6%	13.5%	6.8%	10%
as <u>primary & secondary</u> means of commuting					27%
Households w/o motor vehicles	14.0%	8.1%	15.2%	7.9%	

Approach

The region’s approach is based on both an understanding of our potential “market” for cycling and our analysis of where we’d achieve the best return for future investments in bicycling. We’ve placed residents along a continuum based on their willingness and concerns about using a bicycle for transportation (as opposed to bicycling only for recreation). This continuum identifies four types of cyclists: the “strong and fearless,” the “enthused and confident” the “interested but concerned” and the “no way, no how.” This continuum is graphically displayed in Figure 2.

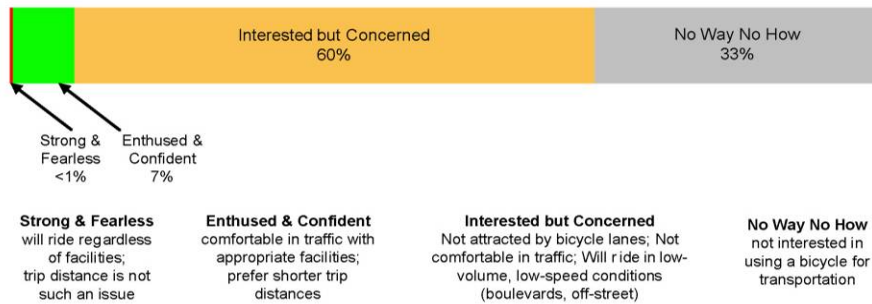


Figure 2.
Four Types of Transportation Cyclists by Proportion of Population

While most US cities and regions are still working to attract “enthused and confident” cyclists to their streets, Portland has largely succeeded with this group and is focused more on the “interested but concerned” cyclist, as that is where the majority of potential cyclists fall on the spectrum. These “interested but concerned” cyclists are just that. They are average people—the same people using a bicycle for transportation in cities around the world—who would bicycle if they felt comfortable and safe when riding and if using their bicycles was more appealing to them than driving.

Surveys, interviews, focus groups, countless studies, a reading of the literature from the US and around the world and the day-to-day staff interaction over years identifies as the primary reason why people in the “interested but concerned” group will not ride is concern for their safety. If we are to effectively increase bicycle use to the levels seen in jurisdictions around the world, then we must address this understandable concern for safety. Bicycle lanes on busy streets—a very standard US bicycle traffic design—will not suffice. People in the interested but concerned group have told us again and again that they just do not feel comfortable enough to ride a bicycle on busy streets, even in the presence of bicycle lanes. However, what we have heard and experienced is that people interested in bicycling feel quite comfortable on off-street trails and on quiet local streets that have been improved to work better for bicycle transportation (otherwise know as “bicycle boulevards”).

This understanding of where our target market lies and the nature of their needs have led Portland and the region to place a stronger emphasis on improving our existing bicycle boulevards and constructing many more miles of them as well as more off-street trails.

In addition to understanding the design needs of potential transportation cyclists, we also need to understand what areas of the city currently has the best existing conditions for bicycling as well as those areas with the highest potential for future bicycle use. We divided the city into 32 “cycle zones” in order to better identify constraints and opportunities in each distinct part of Portland. We evaluated each cycle zone based on the quality of the existing bikeway network, the density and connectivity of the roadway network, geographic and man-made barriers to cycling, proximity to retail and commercial destinations, and slope. The results of this analysis are shown in Appendix A, Figures A3 and A4. This tool provides the city with two important pieces of information: how to focus our efforts in each part of the city in order to address the constraints within each of the 32 “cycle zones,” and where we’re likely to achieve the highest return on investments in infrastructure and encouragement programs.

Much of the Portland Metropolitan Region surrounding the City of Portland is suburban, and even rural in nature. For that reason, this document emphasizes both the dense relatively urban areas of Portland, as well as the suburban areas of the region. This second area is particularly important as much of American development is suburban and we need to find ways to make those areas work for bicycling, too.

Plan

The following plan for achieving a maximum bicycle mode split in The City of Portland and the Metropolitan Region is based on and supported by several local and regional planning efforts

currently underway. First is an update to Portland’s Bicycle Master Plan. The city’s Bicycle Master Plan was originally adopted in 1996 and identified a bikeway network of more than 600 miles that emphasized bicycle lanes on major roadways. This update, underway for the past 18 month will focus more on bicycle boulevards and using better bikeway designs for existing and new facilities in order to appeal to the “interested but concerned” demographic.

Metro, the regional governmental body, is engaged in two activities supporting this plan. First is an update to the Regional Transportation Plan (RTP). This update is similarly refocusing regional policies to favor development of bicycle boulevards and off-street trails. The Metro Council is also spearheading a regional effort, Connecting Green Trails identify a full range of funding options to build a 400-mile regional trail network that will cost approximately \$1 billion.⁴

Our plan is strategically selected with the support of regional partners, designed to be a synergistic effort in applying the lessons learned in the urban laboratory to the outlying suburbs while building on the successes within Portland to maximize mode share throughout the region.

The key components are:

- ◆ Build and repair bicycle and pedestrian facilities including regional trails to be high quality and meet the safety test of the “interested but concerned” population
- ◆ Connect facilities at key points including trails with on-street bike facilities and both with bridges across major obstructions
- ◆ Educate people about and encourage people to use facilities to increase the mode split

Table 4
Portland Metropolitan Regional Transportation Plan

Build: We will build the missing portions of the regional trails identified in Table 2 We selected these trails because they have maximum potential for increased mode share.	\$50 million
Build: We will build 100 miles of bicycle boulevards within the city of Portland so that Portland’s existing 30 miles of boulevards will expand to 130 miles throughout the entire city. With 130 miles of bicycle boulevards 80% of Portland’s citizens will be within one-half mile of these popular, family-friendly bikeways.	\$21 million
Connect: We will improve on-street connections that link to the trails identified in Table 2 and trailheads in the region through improved crossing, bike boulevards, signage, signals, crosswalks, etc.	\$5 million
Repair: We will improve existing bikeways in the City of Portland —bringing our existing bicycle boulevards to a higher standard, improving crossings, slowing traffic, widening bicycle lanes, and fixing the 50 worst intersections in Portland	\$6 million
Repair: We will repair and upgrade existing regional trails to bring them up to a higher standard.	\$2 million
Connect: We will build two bicycle-pedestrian bridges to eliminate barriers that currently prevent two Portland neighborhoods from having good bicycle and pedestrian access to our primary bikeway network.	\$7 million
Educate: We will expand our nationally-recognized Portland Smart Trips and Regional Transportation Options encouragement program to provide more information more frequently to more people throughout the region about how to best take advantage of alternatives to driving.	\$9 million

⁴ 198 miles of this network have already been constructed.

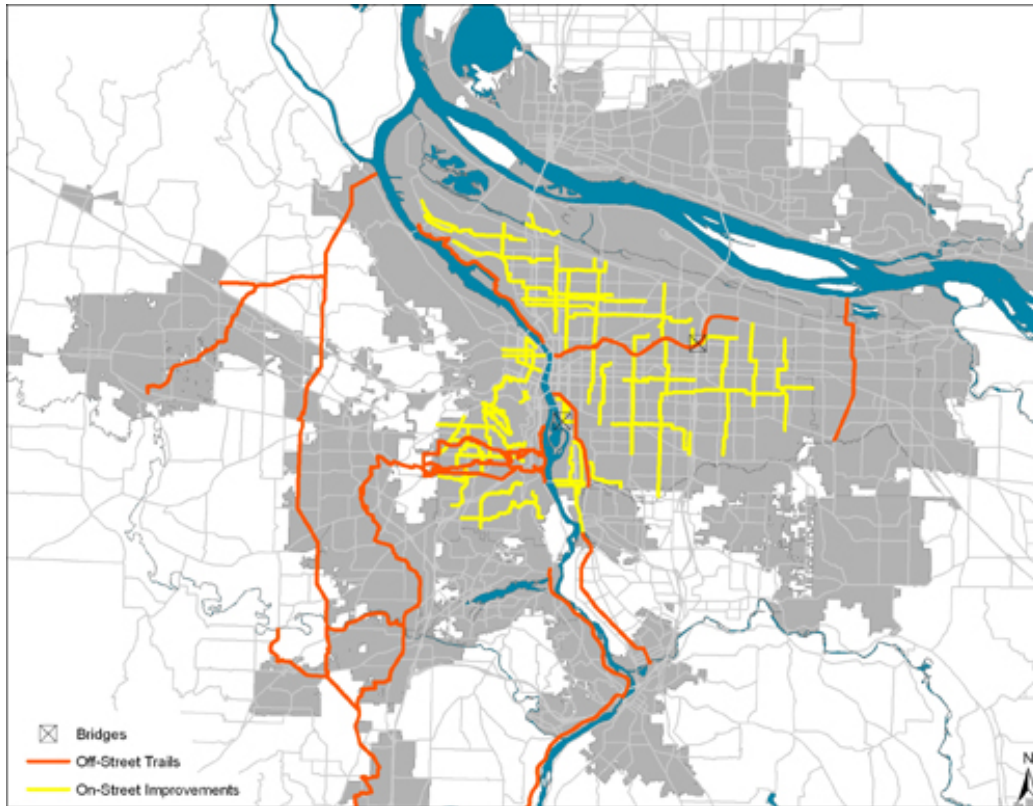


Figure 3.
Map of Proposed Regional Investments

The total of these above improvements (Figure 3) is \$100 million, and represent only a fraction of a more comprehensive package of more than a billion dollars in identified in bicycle and pedestrian improvements ultimately needed. However, this simple plan represents more than a 10-fold increase above current expenditures in the Portland metro area for bicycling. Implementing this plan will put the Portland region well on its way to achieving a 25% overall mode split for bicycling. This level of expenditure, though high by American standards, would be more in line with what cities across the world spend to support bicycling as a significant means of transportation (Appendix A, Figure A5).

Benefits

Creating a bikeway and trails system that will dramatically increase bicycle use offers many obvious and recognized benefits.

Health. The Federal Center for Disease Control and Prevention recommends increased activity for Americans as the primary means to address the serious problems of adult and childhood obesity and the accompanying epidemic of diabetes. The CDC has also long identified that “automobile trips that can be safely replaced by walking or biking offer the first target for increased physical activity in communities.” Why is this important? Consider that in 2000 the total direct and indirect costs of obesity to the US were estimated to be \$117 billion, mostly due to diabetes, heart disease and hypertension⁵.

Creating urban and suburban areas in which people can transport themselves using their own power for those trips under 3 miles will be sufficient to provide us with the 30 minutes of daily physical activity public health professionals recommend. We are fortunate that the majority of trips in this country are 3 miles or less. This length trip requires a bicycle ride of approximately 18 minutes at a

⁵ US Department of Health and Human Services, “The Surgeon General’s Call to Action to Prevent and Decrease Overweight and Obesity; Economic Consequences,” December 31, 2007, http://www.surgeongeneral.gov/topics/obesity/calltoaction/l_3.htm

“no-sweat” pace of 10 miles per hour. While such a trip requires no special equipment—other than a bicycle—it still provides a level of daily activity sufficient to improve and maintain personal health.

Environmental. In the Portland region, as in much of the country, the transportation sector contributes mightily to the emission of greenhouse gases. In the Portland metro area, transportation is responsible for 40% of overall climate change gases. Many scientists believe that in order to reduce the threat of global climate change we must, by 2050, reduce greenhouse gas emissions nationwide to 20% of 1990 levels. As part of our local strategy in achieving this goal, Portland will reduce emissions from the transportation section to 10% of 2006 emission levels. This ambitious goal requires changes at the federal, state and local levels. One of the most cost-effective changes we can make will be to create conditions under which more people can bicycle for their daily transportation needs.

Reducing greenhouse gases will not be the only environmental benefit to accrue to the Portland region from increased bicycling. Achieving a bicycle mode split of 25% within Portland and 8.5 % regionally in the next 15 years will also help reduce pollution from particulates and other air toxins produced by the burning of gasoline. More than two dozen community health studies since 1987 have linked particulate pollution to reductions in lung function, increased hospital and emergency room admissions, and premature deaths. Recently, two major epidemiological studies (by the American Cancer Society and Harvard University) showed that people living in more polluted cities had an increased risk of premature death compared to those in cleaner cities. One of the best ways the transportation sector can contribute to reducing particulate pollution is to switch trips from auto to non-polluting means.

While the air pollution produced by automobiles is clear, less obvious but no less serious is the water pollution resulting from deposition from automobiles. Automobiles drip oil, antifreeze, grease and metals on streets and driveways that then find their way to streams, rivers and lakes. Even materials emitted as gas, including nitrogen and other contaminants, eventually settle in water. Each year Americans dump enough oil to contaminate about 1.5 trillion gallons of water. Reducing car use helps reduce this level of pollution, as well.

Transportation. One of the principal transportation issues facing any urban area is congestion of the roadways. One of the most cost-effective means of reducing congestion in an urbanized area is to successfully shift trips away from the automobile. With very limited resources Portland has been successful at achieving the highest bicycle mode splits of any large city in the US. At the same time, we’ve seen the proportion of automobile commute trips drop (see Figure 1). While many strategies are needed to address congestion—including focused roadway improvements—developing a successful system for bicycling will always offer the best return on investment.

Economic. While recent rises in the cost of oil and gasoline have brought this point home more than ever before, driving and supporting and maintaining an automobile is expensive. Much of the money spent to keep an automobile running typically is sent to countries able to pump oil out of their lands. In Portland, which neither refines oil nor builds cars, most of the annual expenditures on automobiles leaves our region.

A recent study by a nationally recognized economist⁶ determined that because our citizens drive less than the national average the Portland Metropolitan Area annually keeps more than \$800,000,000 circulating in our local economy that would have otherwise left the region. That money, which supports local businesses, would instead have been sent to those places in the world that either produce oil or build cars. We expect the effect to our local economy to be even bigger under this plan for several reasons. First is that with increased bicycle use will come higher savings as bicycling costs even less than transit. Second is that more people using alternatives to the automobile will collectively produce a higher savings than was estimated for existing conditions. Third is that with the rising cost of gasoline there is simply more money to be saved.

⁶ Cortright, Joe, “Portland’s Green Dividend,” A white Paper from CEOs for Cities, July, 2007, <http://www.ceosforcities.org/rethink/research/files/PGD%20FINAL.pdf>

CONCLUSION

Producing these benefits requires putting the above plan into place. Fortunately, Portland and the Metropolitan Area possess the leadership, expertise, and interest to do so.

Portland is truly poised to demonstrate how an American city and American suburban region can create world-class cycling conditions. The Portland Metropolitan Region has the policy support, political leadership, engineering expertise, understanding of the cycling “market,” community desire, foundation and “bones” to take American transportation cycling to the next level. We know much about how to build transportation systems that emphasize bicycling, walking and transit. While we still have more work to do in refining and advancing our designs and policies, the thing we most lack, the one thing that most holds us back is lack of funding.

Portland will continue to be a national laboratory both demonstrating the art of the possible as well as providing encouragement through example to jurisdictions across the country.

We have the knowledge.
We have the experience.
We have the expertise.
We have the leadership.
We have the interest.
We have the foundation.

APPENDIX A. SUPPORTING GRAPHICS

Figure A1. Portland Central City Ridership and Crashes

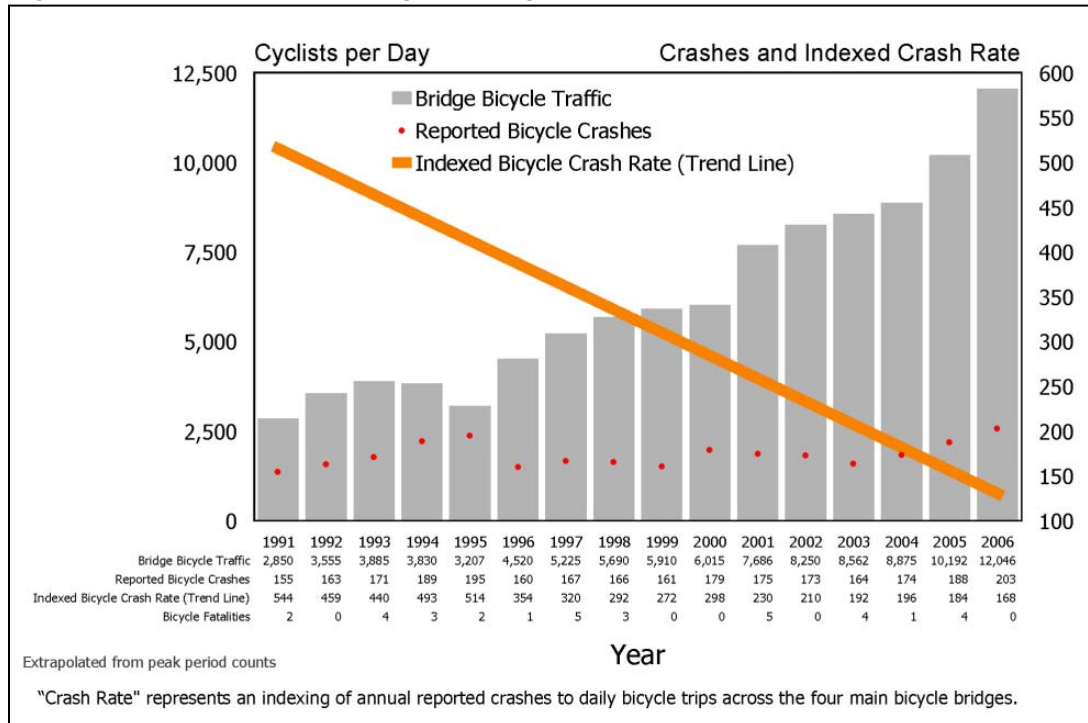


Figure A2. Portland's Bikeway Development Over Time

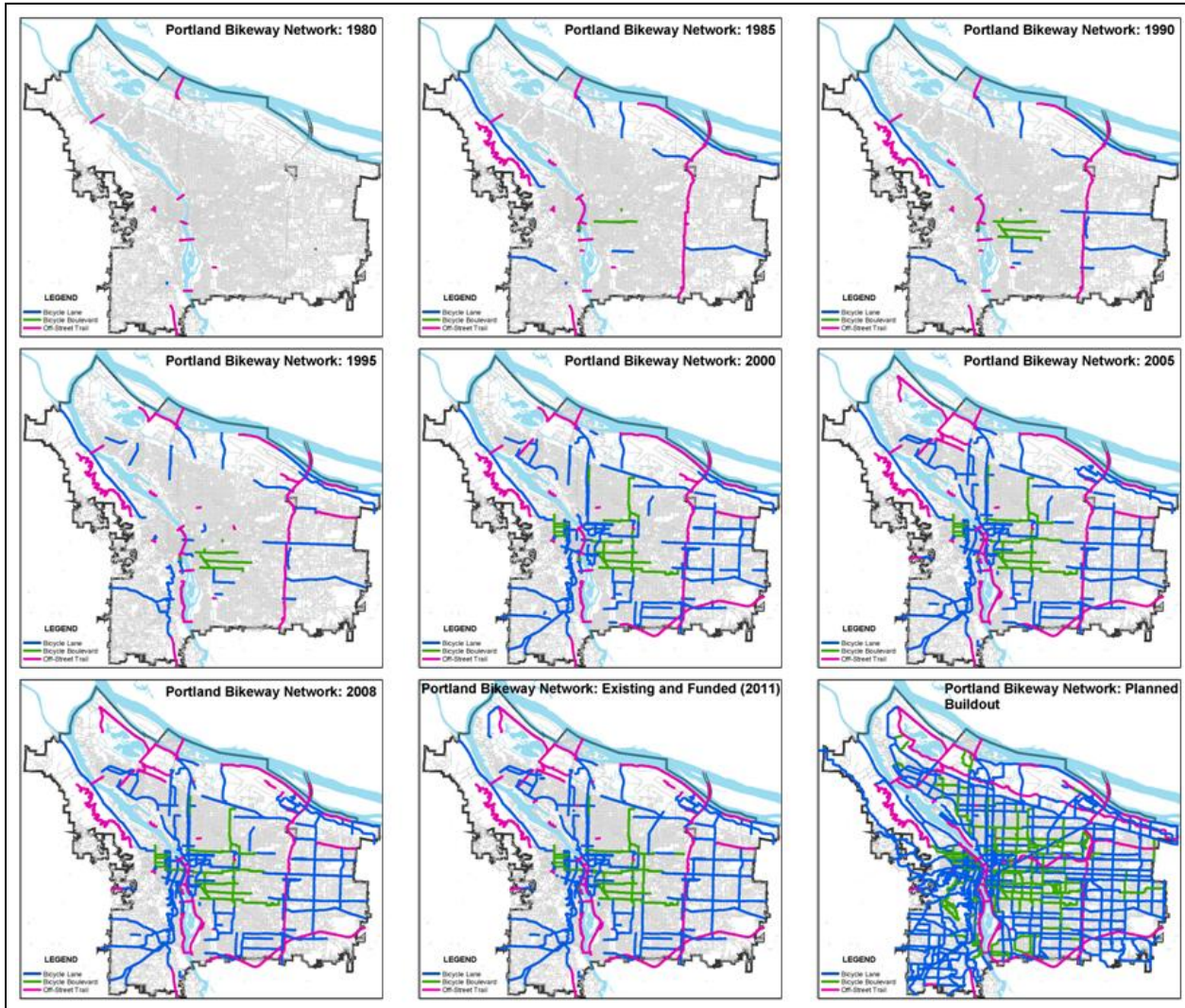


Figure A3. Existing Conditions for Bicycling in Portland

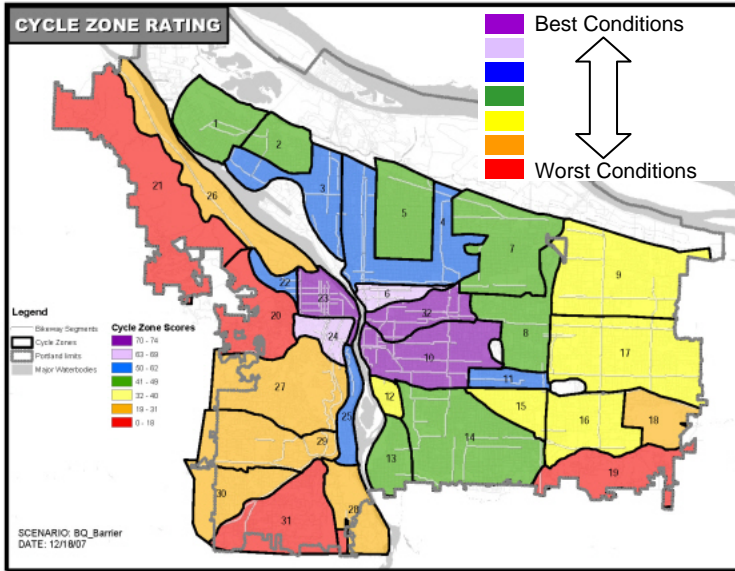


Figure A4. Map of Bicycling's Potential in Portland

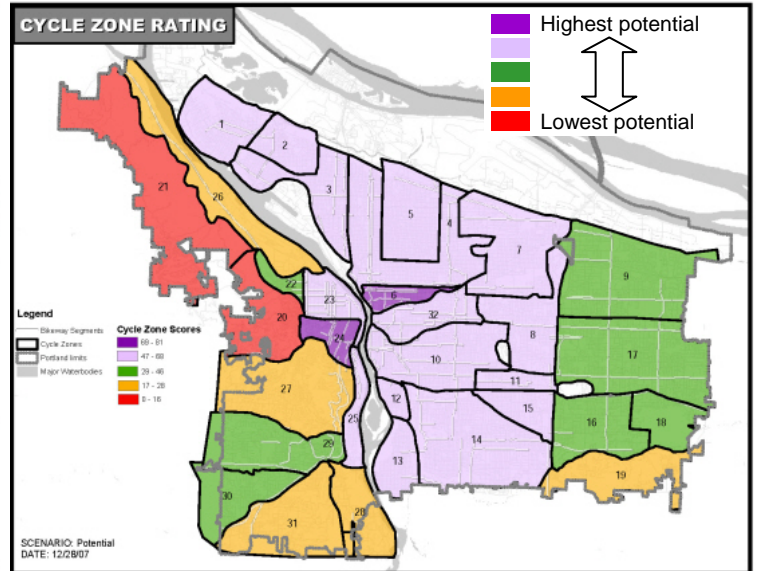


Figure A5. Annual Spending on Bicycles per capita and mode split

