

Portland Area Active Transportation Initiative:

This package of innovative bicycle and walking projects is designed to be transformative in nature, building on decades of groundwork to achieve breakthrough levels of bicycling and walking.

The Project is located in the Portland Region in the State of Oregon. Including Multnomah, Washington and Clackamas Counties. Congressional Districts 1, 3 and 5.

The project spans urban, suburban and rural settings.

Grant funds requested: \$98,027,388

Total Narrative = 25 pages

.... “people should have options to get to work, school, the grocery or the doctor that do not rely solely on driving. We want to **transform our transportation system** into a **truly multimodal** system with **strong alternatives to driving** in order to maximize highway capacity, combat traffic congestion, reduce our reliance on oil and decrease greenhouse gas emissions”...

DOT Secretary Ray LaHood - National Bike Summit in Washington, DC

“We must recognize that we are on the cusp of a new wave of transportation policy. ... the challenge is to take transportation out of its box in order to ensure the health, vitality and sustainability of our metropolitan areas”

Robert Puentes, Brookings Institution, A Bridge to Somewhere: Rethinking American Transportation for the 21st Century

Full application available at: www.oregonmetro.gov/activetransport

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INTRODUCTION

This proposal meets the objectives of TIGER to rapidly put federal funding to work constructing transportation infrastructure, and to create jobs in one of the most economically distressed metropolitan areas in the nation¹. The proposal, however, is not only a public works project. It is transformative in nature, building on decades of groundwork to achieve breakthrough levels of bicycling and walking. It reinforces and accelerates shifts in the way residents are beginning to think about mobility, and will result in reductions in congestion, transportation costs, pollution of our air and water, global warming and the cost of health care.

The Portland metropolitan region is uniquely positioned to put such a proposal forward. The Metro Council, a regionally-elected body with responsibility for land use and transportation policy, has managed the metropolitan urban growth boundary to reduce travel distances and encourage dynamic, mixed-use communities that are fertile ground for pedestrian and bicycle travel.

This proposal rests on planning and investment dating to the early 1990s when Earl Blumenauer, now a US Congressman, along with other civic and elected leaders, launched an ambitious strategy to make walking and cycling, along with strong public transportation, central elements of the region's transportation strategy. This groundwork makes this proposal possible.

The region's investments in bicycling and walking have already yielded significant returns. Bicycling is now a serious transportation option in the Portland region. Bicyclists now make up roughly 13 percent of the traffic on downtown Portland's four bike-friendly bridges.

These results have been accomplished using an incremental approach that has completed one relatively small project at a time as funding has allowed. Only over many generations will this yield a complete system for walking and bicycling. Given the economic, environmental, and health challenges the Portland region and our nation now face, this timeframe is unacceptable.

The Portland Area Active Transportation Initiative will accelerate the development process significantly. It will build fully-functioning active transportation corridors that support complete bicycle and pedestrian trips from origin to destination. The "complete system" approach connects people from where they live to where they work. It is cost-effective, has been tested in cities around the world, and yields high bicycle and pedestrian use.

This proposal will demonstrate results in three of the typical transportation environments that exist in the nation: urban, suburban, and rural, thus showing the potential for active transportation throughout the US.

While this proposal is submitted by the Metro council, it arises from the work of a coalition of organizations that have joined to enhance and protect the quality of life and the ecosystem health of the Portland metropolitan region. A diverse array of environmental organizations, parks providers, transportation groups, private companies, and public agencies shared in shaping this agenda and stand behind this TIGER proposal. See Appendix A for letters in support of this project.



More than 7,000 cyclists and 5,000 pedestrians use Portland's Hawthorne Bridge on a daily basis.

What is Active Transportation?

'Active transportation' refers to bike, pedestrian, and public transportation systems that are well integrated and support each other. Connectivity is key, as is supporting on-the-ground infrastructure with programming, education, marketing and evaluation.

When biking and walking are well connected and supported by land use and public transportation, you have a active transportation system that is comprehensive, safe, sustainable, convenient and fun to use. See Appendix B: "The Case for Active Transportation."

¹ According to the US Department of Labor Portland's 11.7% July unemployment rate was seventh out of fifty major US cities and its 5.8% over-the-year jobless-rate increase was the nation's third highest.

This proposal builds on decades of investment

In the early 1990s, the Portland regions' elected and civic leaders began pursuing what at the time was a fairly unconventional policy directive for the US: to make bicycling an important transportation option. The City of Portland, in particular, kicked off a bikeway planning effort that laid the foundation for almost twenty years of investment in non-motorized trails, bike lanes, bike boulevards, bike boxes, bicycle-specific signalization, bike parking, and encouragement programs.

The creation of Portland's 300-mile bikeway network required an investment of approximately \$60 million. *This is roughly equivalent to the cost of one mile of urban freeway.* City officials have taken numerous trips abroad to study best practices and innovative approaches in the world's leading cycling cities. As a result, they have begun to adapt international designs and programmatic approaches to the particular needs of an American transportation context.

As Portland has worked to make bicycling safer and more convenient, more and more residents have chosen bicycling as their preferred transportation option. The proportion of Portlanders bicycling to work has risen from fewer than one percent to more than eight percent. In inner neighborhoods, such as the northeast Portland neighborhood targeted by this proposal, eight to thirteen percent of Portlanders use a bicycle as their primary means for commuting to work and another seven to sixteen percent use a bicycle as their second commute choice.

In May of 2008, the League of American Bicyclists recognized Portland as a Platinum-level Bicycle Friendly Community, the highest honor available. Residents' enthusiasm for biking is reflected in the 4,000 annual bicycle-related events, races, rides and activities. This level of engagement is key to ensuring that investments in new facilities will achieve projected results. It has also been key to the region's success in converting its bicycling culture into an economic opportunity. Portland has become a hotbed for bicycle manufacturing and related industries, with estimated revenues of over \$100 million per year.²

The track record of hard work and accomplishment is not limited to the City of Portland, but carries through to the greater Portland region. For example, the City of Portland, the City of Gresham and Metro have worked together for 15 years and invested approximately \$11 million to develop the Springwater Corridor, a non-motorized path connecting downtown Portland with Gresham, and points beyond. The path is now one of the highest volume bicycle and pedestrian routes and provides the first leg of the "Mt. Hood Connections" portion of this proposal. A suburb to the west of Portland, Beaverton, was recently recognized by the League of American Bicyclists as a Bronze-level Bicycle Friendly Community.

Substantial gains are now possible

Portland has achieved a high bicycle mode split for an American city. However the City's, and the region's, mode share as a whole is still far below full potential. Cities worldwide that have made a serious commitment to bicycle and pedestrian travel have achieved mode of 40 percent and above. There is every reason to believe this is possible in the Portland region. There are several principles embedded within this proposal—described below—that will be the keys to achieving gains of this magnitude.

1) Build fully functioning elements of the system that support complete bicycle and pedestrian trips from origin to destination

We cannot expect to achieve full potential with incomplete bicycling and walking corridors any more than we could expect peak performance from a road system that was not fully interconnected. *If the nation's highway*



Portland is pioneering the American use of advance bike boxes, a mainstay of bike-friendly European cities.



A buffered bike lane on SW Broadway in downtown Portland provides a higher level of safety than a traditional bike lane.



Increasing numbers of women and children – a marker of a bike-friendly community – are bicycling in Portland.

² Alta Planning and Design, *Oregon Bicycling Economic Study*, 2008 <http://www.altaplanning.com/oregon+bicycling+economic+study+update.aspx>

system had been built a few miles at a time over decades, it would have taken many generations before the system was fully usable. The same is true of the bicycle and pedestrian network. User studies in the Portland region and well-documented experience from cities around the world show that safe and direct routes from origin to destination are fundamental to high bicycle and pedestrian use.

2) Demonstrate results in the urban, suburban, and rural transportation environments

The experience of cities that have succeeded in establishing bicycle transportation as a pillar of their transportation systems is consistent: the greatest levels of bicycling and walking are achieved in dynamic urban centers. Oregon's pioneering land use laws have long been used by the Metro Council to focus investment and growth in the urban nodes that lie within the greater metropolitan region. By limiting sprawl and encouraging the growth and development of urban areas, this strategy has decreased trip distances, shortened travel times, and created an environment conducive to bicycling and walking.

Urban density and the nature of the transportation network are important factors in determining the levels and nature of bicycle and pedestrian travel. However, many of the world's cities have shown that *high levels of bicycle and pedestrian travel can be achieved in suburban and rural environments, as well*. Each environment requires a unique approach. This project will demonstrate both the technique and potential of active transportation in each of these environments.



More than a billion dollars has been invested in the Clackamas County Green Line and upcoming Milwaukie LRT.

3) Integrate with other modes of travel

Bicycling and walking work best when they are fully integrated as an element of a complete transportation system. *Integration with public transit is fundamental*. The Portland region has one of the highest performing transit systems in the US. The region has consistently made light rail investments a priority. The most recent addition opened September 12th.

TriMet, the region's transit agency, has implemented policies that support bicycling, including accommodating bikes on buses and light rail and providing for safe, secure bicycle parking. This proposal builds on and extends the integration of bicycling and walking with transit.

"We want to transform our transportation system into a truly multimodal system with strong alternatives to driving in order to maximize highway capacity, combat traffic congestion, reduce our reliance on oil and decrease greenhouse gas emissions."
- Ray LaHood, United States Secretary of Transportation

4) Build a coalition

This project arises from the work of The Intertwine Alliance, a coalition of public, private and nonprofit partners working to enhance and protect the livability and ecosystem health of the Portland / Vancouver metropolitan area. The Alliance engages hundreds of private, public and nonprofit partners, ensuring that a variety of perspectives are considered and that the region's environmental and livability objectives are fully realized.

As part of the Intertwine initiative, the Metro Council convened the Blue Ribbon Committee (BRC) for Trails in May 2008. This committee was charged with determining whether the region should increase its commitment to active transportation and, if so, to design a strategy for investment that would achieve significant results. The Blue Ribbon Committee found that active transportation offered significant potential for the region and recommended that the region build a set of premier, high performing, projects in "urban," "suburban" and "urban to nature settings" as a way to demonstrate the economic, environmental and public health outcomes that can be achieved.

The BRC concluded meeting in November 2008. Over half of the members of that committee elected to reconvene as the Executive Council for Active Transportation, with the mission to champion the region's strategy to complete the regional active transportation bicycle and pedestrian network. This TIGER proposal implements that strategy. The Council is comprised of health care providers, business owners, corporate executives, elected officials and non-profit representatives. A list of the members is included in Appendix C.

THE PROJECT

The Metro Council appointed the Executive Council for Active Transportation to identify and recommend four projects for a demonstration package that meets the TIGER grant selection criteria. Each project on its own merits will provide enormous benefits for the communities in which they located. The four projects are tied together by regional trails and light rail lines; together, their benefits are far-reaching and extraordinary.

Each project is a key part of building the regional active transportation network and is identified in an existing adopted or soon-to-be adopted Transportation System Plan, Master Plan, or The Regional Transportation Plan.

Project Package Selected to Deliver Greatest Impact

Four projects were selected based on their readiness to proceed, alignment with the principles outlined above, and potential to deliver dramatic increases in bicycle and pedestrian travel. See Figure 1, on the next page for the overall project map.

Urban: North/Northeast Bikeway Network, Portland

This project will implement 54.7 miles of planned bikeways in a moderate density urban travel shed of 100,000 residents. The project will demonstrate how a dense network of world-class cycling facilities, in conjunction with encouragement programs, can reduce driving and increase bicycling to levels seen in the world's best cycling cities.

Suburban: The Last Mile Bike-Transit Connection, Hillsboro

The project connects light rail with some of the region's largest employers, serving more than 60,000 employees. The project will link areas of housing to employment centers with direct, accessible, comfortable, enjoyable, and safe bicycle and pedestrian connections. The project demonstrates how an integrated transit/active transportation linkage can generate high levels of walking, bicycling, and transit use in a suburban area.

Suburban: Active Access to Industrial Jobs, Milwaukie and Clackamas County

This project leverages the \$575 million investment in the new Max light rail green line, linking neighborhoods with major eastside commercial, industrial and retail centers. The proposed improvements will provide 'last mile' access to over 40,000 industrial jobs, providing travel options that are simply not available today.

Urban to Rural: Mount Hood Connections, Boring and Unincorporated Clackamas County

This project completes a key section of the 40-mile Springwater Corridor connecting downtown Portland and the suburban City of Gresham with recreation on the Clackamas River and the beginning of the West Cascades Scenic Byway. It is part of a long-term plan that will connect Portland with Mt. Hood, creating one of the premier long- distance bicycle and walking tour opportunities in the U. S.

Encouragement Programs

In addition to the infrastructure components described below, each project includes an extensive outreach/encouragement program, as described in Appendix D.



The world's best bikeway design, like the Copenhagen cycle track, will be adapted to the American context.

Benefits

Economic Benefit	Short-Term 1 - 5 Years	Long-Term 20 Years
Reduced Emissions Costs (including CO2)	\$1,092,095	\$12,913,107
Reduced Economic Costs of Oil Imports	\$846,801	\$6,469,926
Reduced External Costs of Vehicle Travel	\$22,388,369	\$171,056,807
Reduced Healthcare Costs	\$10,546,908	\$86,792,824
Household Transportation Savings	\$26,451,455	\$243,291,605
Total Economic Benefits	\$61,325,629	\$520,524,269

This project, comprising more than 83 miles of bikeways and walkways, will be completed for a lower construction and maintenance cost than two miles of urban freeway.

Economic benefits will serve urban, suburban and rural communities in the region.

These projects are part of a regional active transportation system, which is connected by light-rail transit. The comprehensive network provides transportation options, access to jobs, mobility to shopping and services, as well as other transportation benefits.

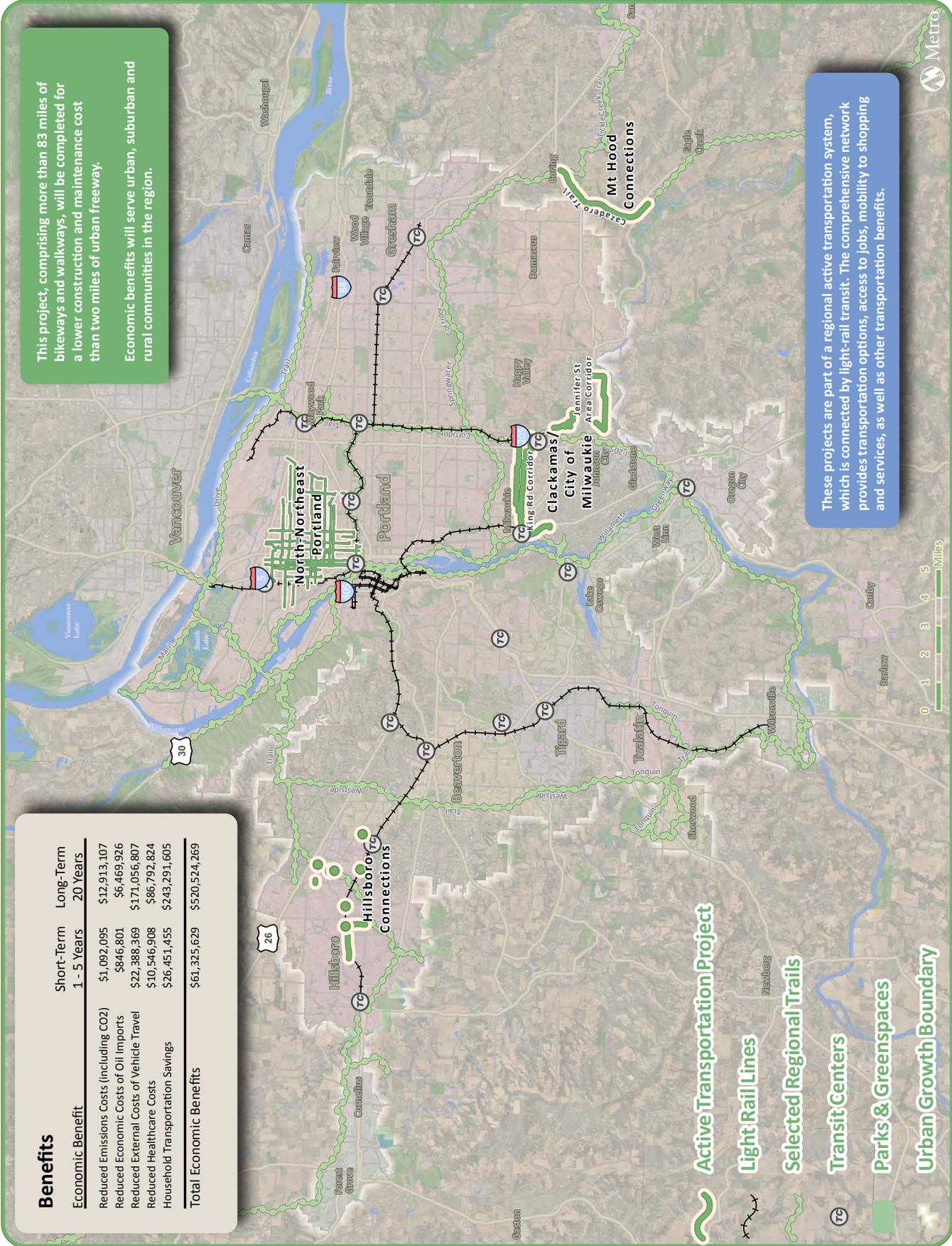


Figure 1: Portland Area Active Transportation Initiative Projects

Keys to Making the Portland Area Active Transportation Initiative Work

Together, these three intertwined scenarios – maximizing the urban potential, retrofitting built suburbs, and making the urban to nature link - will create a great future for the Portland region. But it is not just the infrastructure elements that will spell success. Encouragement, education, and evaluation are important elements that must be included for success.

Encouragement and Education

As a region we have learned that building complete streets, bikeways, and walkways is not enough. Sure, some people will use the infrastructure. If you build it, they will come. But, if you build it, and you encourage people to use it, in ways that are meaningful to their daily lives, they will come in droves, flocks, and stampedes. Portland's award-winning Smart Trips³ and Metro's Regional Travel Options programs have shifted nine to 13 percent of drive alone trips to bicycling, walking, and transit.⁴ **Each of the individual projects in the package will be accompanied by a strong encouragement program.**

See Appendix D for a description of individual encouragement and education programs for each project.

Evaluation

The success of the package can only be determined by careful evaluation. Portland State University's groundbreaking Initiative for Bicycle and Pedestrian Innovation (IBPI)⁵ and the Oregon Transportation, Research, and Education Consortium (OTREC)⁶ will partner in collecting and evaluating pre- and post-implementation data. Key evaluation components will include:

- Before and after bicycle, pedestrian, and transit usage
- Air quality, safety, and health impacts
- Success of innovative bikeway design treatments

OTREC/IBPI will also be collecting and reporting on the overall project performance. This evaluation will measure near and long-term performance of each of the Active Transportation pilot projects as they relate to the long-term outcomes (state of good repair, economic competitiveness, livability, sustainability, and safety) and economic recovery measures (direct, indirect and induced job creation.) The economic recovery reporting will be consistent with the Office of Management and Budget Updated Implementing Guidance for the American Recovery and Reinvestment Act of 2009. OTREC will also post-evaluate the benefit-cost analysis provided in the proposal. This evaluation will critique the assumptions made in this proposal and update benefits and costs projections with measured quantitative and qualitative data.

A more detailed description of the proposed evaluation methodology is included as Appendix E.

³ Women in Transportation Seminar, Project of the Year 2007. Association of Pedestrian and Bicycle Professionals, 2007.

⁴ City of Portland SmartTrips program: www.portlandonline.com/transportation/index.cfm?c=43801. Metro Regional Travel Options program: www.oregonmetro.gov/index.cfm/go/by.web/id=454

⁵ Initiative for Bicycle and Pedestrian Innovation: www.ibpi.usp.pdx.edu

⁶ Oregon Transportation, Research, and Education Consortium: www.otrec.us/content/

Project Budget Summary

The total package budget is summarized below in Table 1. Detailed project budgets are included in Appendix F. These projects are leveraging other multimodal projects in progress.

Table 1: Portland Area Active Transportation Initiative Summary Budget

Project Name	Construction	Soft costs	Inflation/ Contingency	Total Project Request	Project Leverage (Existing Network Match)
<i>N/NE Portland Bikeway Network</i>	\$21,529,000	\$11,834,292	\$5,072,122	\$38,435,414	\$5,650,000 15%
<i>Hillsboro Bike to Transit Commute Connections</i>	\$12,750,000	\$4,390,000	\$3,210,000	\$20,350,000	\$3,500,000 17%
<i>Clackamas County Milwaukie Active Access to Jobs</i>	\$12,368,418	\$4,360,103	\$3,724,702	\$20,453,223	\$10,200,000 50%
<i>Mt. Hood Connections - Urban Access to Nature</i>	\$11,167,188	\$2,823,438	\$2,798,125	\$16,788,751	\$3,646,891 22%
Subtotal				\$96,027,388	\$22,996,891 24%
Program	<i>Regional Education and Encouragement Program</i>			500,000	
	<i>Project Evaluation and Analysis</i>			1,500,000	
Subtotal				2,000,000	
TOTAL				\$98,027,388	\$22,996,891

Note: detailed project budgets and schedules are included in Appendix F

Table 2: Summary benefit-cost analysis of the Portland Area Active Transportation Initiative

Project	Year	2010	2011	2012	2013	2030	Payback Period (years)
	Project Year	0	1	2	3	Total	
N/NE Portland Bikeway Network	Cost	\$15,374,166	\$15,374,166	\$7,687,083	\$0	\$38,435,414	
	Benefit	\$0	\$4,180,604	\$6,769,225	\$9,068,419	\$317,737,361	
	Cumulative Benefit	\$0	\$4,180,604	\$10,949,828	\$20,018,247	\$317,737,361	\$279,301,947 4.6
Hillsboro Bike to Transit Commute Connections	Cost	\$8,140,000	\$8,140,000	\$4,070,000	\$0	\$20,350,000	
	Benefit	\$0	\$857,376	\$1,827,757	\$2,752,282	\$150,046,803	
	Cumulative Benefit	\$0	\$857,376	\$2,685,133	\$5,437,415	\$150,046,803	\$129,696,803 6.3
Clackamas County Milwaukie Active Access to Jobs	Cost	\$8,181,289	\$8,181,289	\$4,090,645	\$0	\$20,453,223	
	Benefit	\$0	\$198,000	\$410,734	\$620,922	\$41,129,675	
	Cumulative Benefit	\$0	\$198,000	\$608,735	\$1,229,656	\$41,129,675	\$20,676,452 13.7
Mt. Hood Connections - Urban Access to Nature	Cost	\$6,715,500	\$6,715,500	\$3,357,750	\$0	\$16,788,751	
	Benefit	\$0	\$49,258	\$1,006,623	\$1,835,406	\$32,052,792	
	Cumulative Benefit	\$0	\$49,258	\$1,055,881	\$2,891,286	\$32,052,792	\$15,264,041 11.2
All Projects	Project Cost	\$38,410,955	\$38,410,955	\$19,205,478	\$0	\$96,027,388	
	Education & Evaluation	\$0	\$100,000	\$100,000	\$100,000	\$2,000,000	
	Total Cost	\$38,410,955	\$38,510,955	\$19,305,478	\$100,000	\$98,027,388	\$442,939,243
	Benefit	\$0	\$5,285,238	\$10,014,339	\$14,277,028	\$540,966,631	6.3
	Cumulative Benefit	\$0	\$5,285,238	\$15,299,577	\$29,576,605	\$540,966,631	

Note: A complete table with cost and benefits for each year is included in Appendix G

The Urban Opportunity: Realizing the Full Benefits of a Complete Bikeway System Based on International Best Practices

Project Sponsor: City of Portland

Cost: \$38.4 million

Expected mode shift: 20 percent

The North/NorthEast Portland Bikeway Network has been on the drawing board since the early 1990s. This project will implement 54.7 miles of planned bikeways in a critical urban travelshed at an accelerated pace. Complementing existing infrastructure, the planned bikeways will demonstrate how development of a connected and comprehensive network of world-class cycling facilities can provide real active transportation options that reduce driving and increase bicycling and walking. The project will boost bicycle use in this area of over 100,000 demographically and economically diverse residents from its current estimated level at 15 percent of trips to more than 35 percent of trips. This project will demonstrate the “art of the possible” in achieving world-class levels of non-motorized mode splits.

It is precisely because Portland starts from a strong base of success in that the city is poised to realize the levels of active transportation that are achievable with concerted investment. Portland will demonstrate that an American city can indeed achieve a one-third bicycle mode split in its urban areas.

Project Specifics

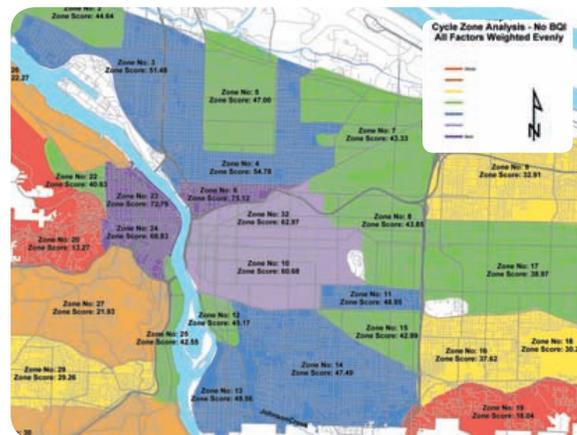
The project area encompasses 13 square miles. Within this area are 32 private and public primary schools, two colleges, 12 pre-schools and training centers, 30 parks, and nine supermarkets. More than 80,000 residents in the project area are within three miles – an 18 minute bicycle ride - of the Lloyd District and Hollywood Town Center, two of the region’s densest commercial areas.

Low volume bike boulevards:

The project will develop 39.9 miles of low-volume, traffic-calmed streets called bicycle boulevards⁷ on which the movement of bicycles is given priority. The nearly 40 miles of new bicycle boulevards and retrofits of existing boulevards will be built to the highest standards. All arterial crossings will be treated to create easy, safe and comfortable conditions. Automotive speeds and volumes on the boulevard routes will be minimized. A resident in this area will generally never be more than 750 feet (three blocks) from a world-class bikeway.

Separated bikeways, or Cycle Tracks:

The project will develop 4.2 miles of separated bikeways called cycle tracks⁸ on the one-way couplet of Williams and Vancouver a busy street with 7,200 to 28,000 average daily traffic. A cycle track combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. Cycle tracks provide space that is intended to be exclusively or primarily for bicycles, and are separated from vehicle travel lanes, parking lanes and sidewalks.



Portland’s groundbreaking Cycle Zones Analysis (CZA) approach shows the N/NE travelshed as having the highest potential for bicycle use in the entire City. The completion of the N/NE Bikeway Network will allow this area to realize its full potential. See <http://www.portlandonline.com/TRANSPORTATION/index.cfm?a=215045&c=34816> for more information.



The Harrison/Lincoln Bicycle Boulevard was once an auto-dominated collector street. Thanks to traffic diverters, speed bumps and circles, signage, and markings, Lincoln is now the City’s premier bicycle boulevard, enjoyed by more than 3000 daily cyclists and less than 1000 motorists.

“Bicycle boulevards are becoming so popular that some appear to carry more bikes than cars along certain stretches and have become a central part of neighborhoods’ ambience.”
– Jeff Mapes, The Oregonian, June 16, 2006

⁷ For more information on bicycle boulevards, see The Bicycle Boulevard Planning and Design Guidebook: <http://www.ibpi.usp.pdx.edu/guidebook.php>

⁸ For more information on cycle tracks, see Cycle Tracks: Lessons Learned, by Alta Planning + Design: <http://www.altaplanning.com/cycle+tracks.aspx>

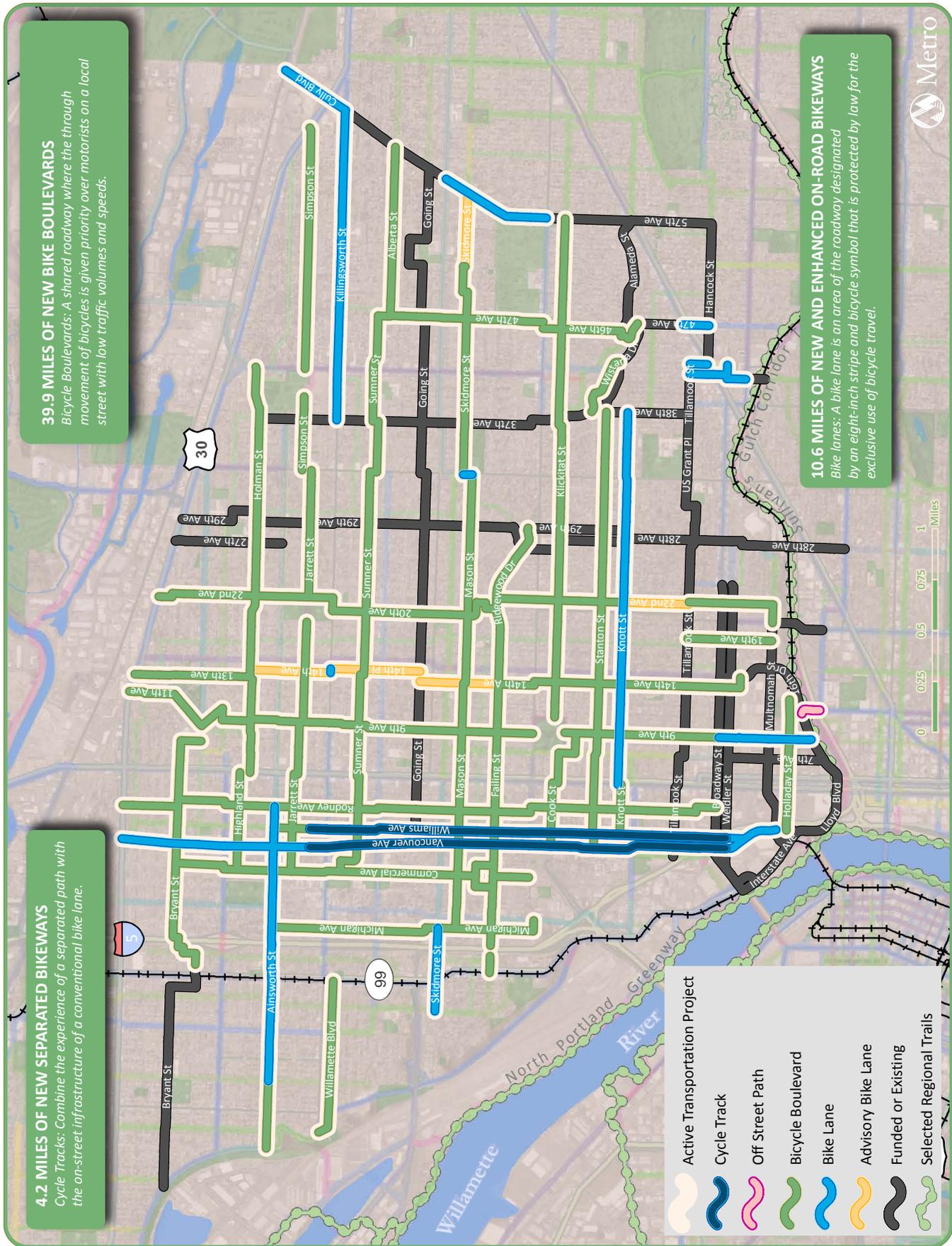


Figure 2: Urban North/Northeast Portland Complete Bikeway Network

Improved bike lanes:

The project will also include new and/or improved bicycle lanes on collector streets. As shown on the project map (Figure 2), more than 10 miles of bicycle lanes will be added or improved on important corridors in the area, as well as on the crossings of major barriers (I-5 and I-84). The project will also focus on gateways to the project area, especially from the south where the crossings of I-84 are substandard. The project may also include an additional two miles of dashed “advisory bike lanes” streets where roadway width will not allow for standard bike lanes but bike boulevards are not sufficient.

Enhanced pedestrian infrastructure:

The walking environment will be improved throughout the project area with specific attention to key crossings and commercial areas

Benefits:

First among the North/Northeast Bikeway System benefits is the potential to achieve dramatic shifts in mode split toward active means of transportation. The reasons for this include the density of residential neighborhoods in close proximity to dense commercial development, an existing well-connected roadway grid, relatively high existing bicycle use and awareness of the bicycle as a legitimate option for transportation, and the high potential for bikeway infrastructure improvements.

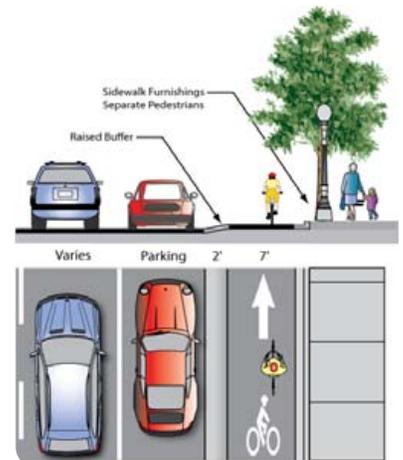
As shown in Table 3, just five years after implementing the North/Northeast Portland Bikeway network⁹, the project will have generated \$43 million in benefits, more than \$300 million in 20 years. This long-term figure includes the prevention of 200,000 tons of climate change-causing carbon dioxide emissions, an impact currently valued at \$6 million. Using active transportation, residents will net nearly \$50 million in health care savings. Households will save \$150 million on transportation costs by reducing their spending on gasoline, insurance premiums, insurance and other vehicular expenses.

As shown in Table 4, residents of North and Northeast Portland will avoid driving 40 million miles in the first five years of the project, preventing 35 million pounds of carbon dioxide emissions. With safer routes to school, over 300 new elementary, middle and high school students will ride their bicycles to school, getting regular exercise that will improve their health, with over 3,000 riding by year 20. By reducing the number of cars on the road, fewer car crashes will save society \$56 million over 20 years, including \$8 million in the first five. Also through reduced car traffic, society will avoid \$20 million in lost productivity to traffic congestion over the long term. Local governments will save \$30 million on road maintenance costs through reduced wear on streets and bridges.

By year five, this project will have generated enough economic savings to equal the cost of implementation.

Beyond the City: Demonstrating the Potential for the Suburbs of America

The fate of any region is deeply intertwined with the fate of cities and surrounding suburbs, ex-urbs, and rural areas. We cannot just invest in urban bikeways and walkways to achieve a truly sustainable transportation future. Most cities and suburban environments have traditionally been built around the private automobile for transportation. In that respect, Portland region’s suburbs are no different than those nationwide.



Cycle tracks and timed “greenwave” signalization on the one-way couplet of N. Vancouver and Williams will provide high capacity, world-class bikeways through the heart of the N/NE travelshed. With more than 6000 cyclists using this corridor on a daily basis, Vancouver/Williams will set the standard nationally for the highest level of bikeway design innovation.



Bike lanes are a good way to encourage bicycle use among experienced and confident cyclists.

⁹ For the benefits model the project area was restricted to just the north/northeast neighborhoods, bound by the Willamette River to the west and 57th Avenue to the east, Burnside to the south and Highway 30 to the north.

Table 3: Summary benefits for the N/NE Portland Bikeway Network

Economic Benefits Summary	Period	Cumulative
Short Term Years 1-5	\$43,951,461	\$43,951,461
Long Term Years 16-20	\$95,251,476	\$317,737,361
Total		\$317,737,361

Economic Benefits Summary	Yearly Average	20-Year Total
Reduced Carbon Dioxide Costs	\$299,607	\$5,992,141
Other Reduced Emissions Costs	\$93,309	\$1,866,185
Reduced Economic Costs of Oil Imports	\$201,807	\$4,036,134
Reduced External Costs of Vehicle Travel	\$5,335,518	\$106,710,364
Reduced Healthcare Costs	\$2,449,066	\$48,981,326
Houshold Transportation Savings	\$7,507,560	\$150,151,210

Table 4: Selected project benefits for the N/NE Portland Bikeway Network

Project Benefits Summary	Short Term (Year 5)	Long Term (Year 20)
New children biking to school	359	3,230
Carbon emissions reduced (pounds)	35,052,589	438,100,928
VMT reduced	43,088,311	538,534,521
Congestion costs prevented	\$3,076,864	\$19,988,973
Crash costs prevented	\$8,676,756	\$56,368,904
Maintenance costs prevented	\$4,672,099	\$30,352,487

**Discounted values*

Readiness to Proceed:

The N/NE Bikeway Project builds on two decades of planning, public outreach, and design. Staff are currently working on technical design, permitting, and final details to be ready for execution upon TIGER grant award.

Key Partnerships:

- Bicycle Transportation Alliance
- Neighborhood Associations
- Lloyd District Transportation Management Association
- Travel Portland
- Portland Safe Routes to School Program
- Portland Development Commission
- Bureau of Environmental Services

Key Leveraged Projects:

- The Twenties and Fifties Bikeway Projects
- N/NE Going Bicycle Boulevard
- NE Cully Green Street/Cycle Track
- Sullivan’s Gulch Feasibility study
- N. Bryant Bike Boulevard
- North Portland Greenway
- Eastside Streetcar Extension
- Columbia River Crossing

The results of suburban reliance on the private automobile has created a myriad of problems. Recent studies have shown that if you build houses far from work, groceries, parks, and schools, and provide no mass transit service, bikeways, or walkways, people will drive for every trip. When people drive instead of walking or biking, rates of obesity and stress climb. Regardless of gender, age, education level, and smoking and eating habits, the odds of being obese are higher in the suburbs.¹⁰

Pollution levels are higher in sprawling areas. Statistically, per capita traffic fatalities increase as land use patterns become more sprawled.¹¹ At a young age, kids get used to auto transportation and really can’t imagine bicycling or walking to school or a corner store.

Communities around the region are committed to creating a different future for their residents. In this, they offer tremendous hope for modeling how auto-oriented suburbs can be retrofitted toward active transportation. As can be seen in Figure 3, page 15, the City of Portland’s building blocks are now being realized in the suburbs.

¹⁰ For every 50-point increase on the sprawl index the body mass index (BMI) of residents rises .17 points, or more than an average of one pound per person, report Barbara McCann and Reid Ewing, *Measuring the Health Effects of Sprawl, Smart Growth America: Surface Transportation Policy Project* (September 2003).

¹¹ The most compact urban cities in the US average 5.6 traffic fatalities per 100,000 population while the most sprawled average 26.3, nearly five times as high. Todd Litman, *If Health Matters: Integrating Public Health Objectives into Transportation Decision-Making*, *Victoria Transport Policy Institute* (2004).

Light rail lines are in place or underway, politicians and staff are working closely to change the transportation paradigm, and the public is increasingly aware of, supportive, asking for, even demanding active transportation. *What is crucially missing is concerted financial investment in infrastructure and promotion.*

Integrating bicycles with transit combines the long-distance coverage of light rail with the door-to-door convenience of bicycle riding. Transit use can overcome large obstacles to bicycling, including distance, hills, riding on busy streets, night riding, inclement weather, and breakdowns. Improving the bikeway network close to transit stops can increase the feasibility of transit in lower-density suburban areas, where transit stops are beyond walking distance. People are often willing to walk only a quarter- to half-a-mile to a transit stop, while they might bike as much as two or more miles.

The Portland Area Active Transportation Initiative includes investment in two critical suburban travelsheds. The completion of these two projects provides a direct complement to the proposed City of Portland package.



Bike lanes, median refuge islands, and marked crosswalks make large, suburban roads more pedestrian and bicycle friendly.

“I agree with Transportation Secretary Ray LaHood’s inclination to hold up the Portland area as a model for the future of transportation. The Portland area’s Active Transportation initiative is a good example for others to follow.”
- David Bragdon, Metro Council President

The Last Mile Bike-Transit Connection

Project Sponsor: City of Hillsboro

Cost: \$20.3 million

Improved Job Access: 60,477 employees within a three mile (18 minute) bicycle ride from transit

The project is located in the community of Hillsboro west of the City of Portland. The project is designed to alleviate barriers to bicycle and pedestrian access to light rail stations and key large employment sites. There are over 22,000 jobs within the immediate project area. Highlighting the importance of linking bicycling and transit in low-density areas, the City of Hillsboro’s package of strategic investments will help demonstrate that American suburbs can indeed be retrofitted toward daily active transportation. The project will link areas of housing to employment centers, with direct, accessible, comfortable, enjoyable, and safe bicycle and pedestrian connections to existing Light Rail stations.

Project Specifics

Hillsboro’s major employment centers are concentrated in the north/northeast areas of the City, adjacent to an 18-mile light rail corridor, which opened in 1998. The line connects Hillsboro to adjacent suburbs and downtown Portland. This connection allows residents from the whole region to access large high-tech employers, such as Intel, without the use of a car. Crucially missing is the last of bike and walk access to transit. See Figure 4 for project map.

The project is focused on three north-south multi-modal commute corridors around four major light rail stations. The projects were selected from bicycle and pedestrian projects. The project contains the following elements:



Hillsboro’s Quantama LRT station has the potential to be a hub for bicyclists.

“I am very proud of the employment base we provide for the State of Oregon and the region and am confident that the Hillsboro Bike-Transit Connection Package will help us achieve our livability goals.”
- Mayor Jerry Willey, City of Hillsboro

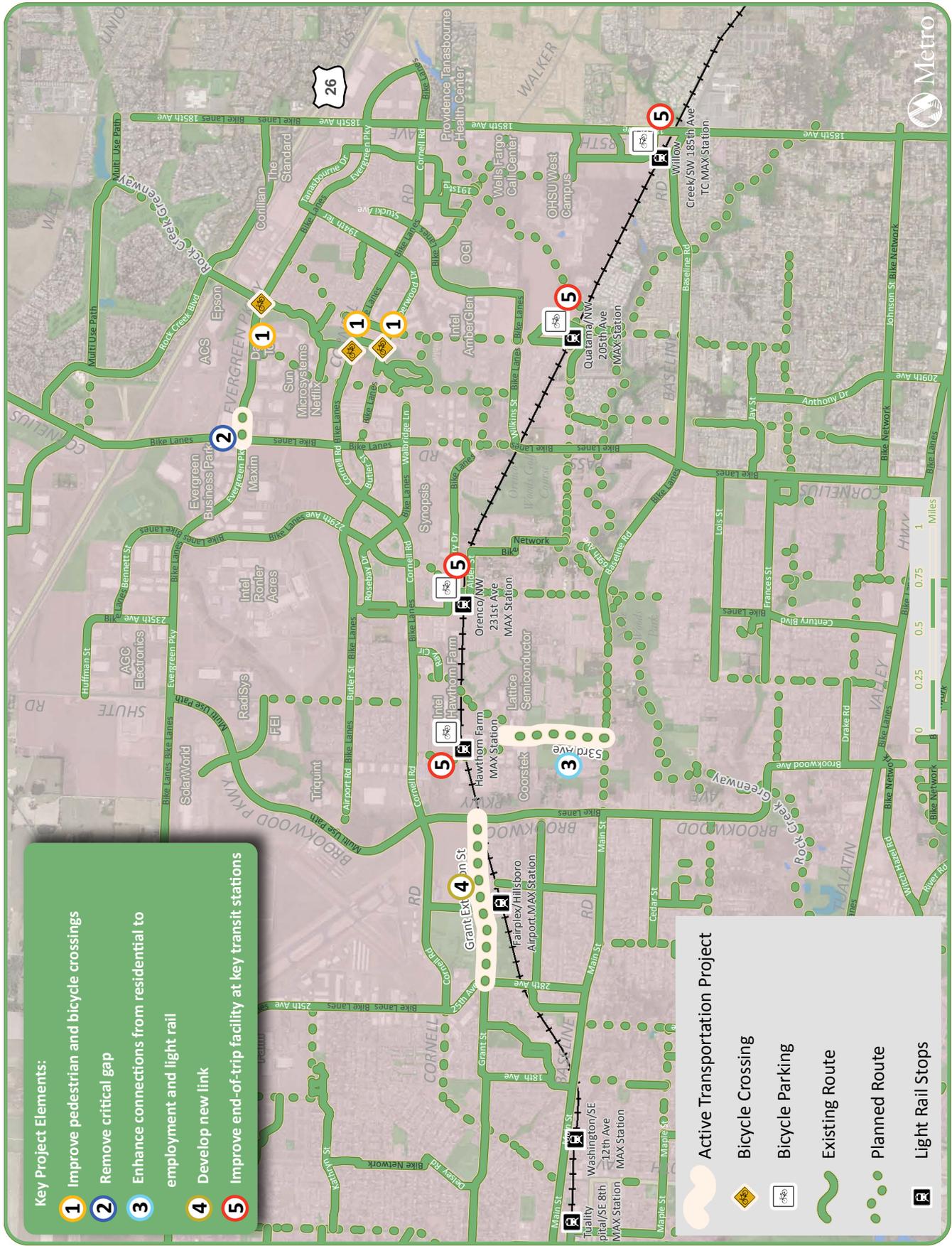


Figure 4: Suburban Hillsboro Last Mile Bike-Transit Connections

Improve critical crossings on key corridors:

The project develops safe mid-block crossings of the Rock Creek Regional Trail over major arterial streets and one collector street, which, when combined with completion of the extension of the trail from Orchard Park to NW Wilkins Street, will allow access to the Quatama/205th Avenue LRT Station from large residential neighborhoods north of the Sunset Highway through the major employment center located in the East Hillsboro Multi-modal Commute Corridor. The proposed design includes high visibility crossings designed to improve awareness of bicyclists and pedestrians as well as approaching motorists.

Address significant gaps:

The Evergreen Parkway Bike Gap removes a physical hazard consisting of at-grade rail tracks and a bike lane gap that prevent employees of Intel and 15 major employers from reaching work.

Enhance connections:

The 53rd Avenue Bike Lane is the main connector between residential neighborhoods to three major employers, commercial development, and the Hawthorn Farm LRT Station to the north and a 43-acre community park. Improvements will add bike lanes and other improvements that will provide safer bicycle routes and pedestrian connections across the park.

Develop new link:

The Grant Street extension will extend the current bike boulevard, and includes a landscaped buffer between cyclists and pedestrians, street trees and other landscaping. The extension will connect the future redevelopment of the Fairgrounds, with ball fields and tennis courts, the Fair Complex/Hillsboro Airport LRT Station, the Shute Library, Park and Aquatic Center, and major employers on Brookwood Parkway. The extension provides a safer and greener alternative to the dismal connection to Cornell Road/10th Ave.

Improve supporting facilities:

The project will improve end-of-trip facilities and connection with transit by providing more long and short-term bike parking, way finding, signs, and maps.

Benefits:

The Hillsboro package of projects strategically addresses the last mile connection issue by improving key corridors for commuting to and from transit to major employers. As shown in Table 5, the Hillsboro Bike to Transit Commute Connections project will generate an average of \$7 million in annual benefits, totaling \$150 million over 20 years. The community will save \$47 million in prevented traffic congestion, car crashes and road damage as well as \$27 million in healthcare costs and \$3 million in pollution costs.

Over 20 years, Hillsboro residents will drive 260 million fewer miles by replacing vehicle trips with bicycle trips, as shown in Table 5. With new safe and convenient routes bike to school, 500 local children - the equivalent of more than seven school buses full - will begin using their bicycle as transportation in the first five years of the project. Fewer car crashes will save the community \$25 million over 20 years, and less wear on local streets and highways will save \$13 million in roadway maintenance. Reduced vehicle congestion will help increase the efficiency of freight traffic, and in the long-term, will save \$8 million in lost productivity.



Today, Hillsboro's bikeway network is incomplete.



Lack of safe crossings has inhibited walking to and from the transit station. A well-marked two-stage pedestrian crossing will dramatically improve pedestrians comfort and safety, while sending a signal that walking to transit is encouraged.

Key Partnerships:

- Westside Transportation Alliance
- Major employers within the area such as Intel and Kaiser Permanente
- Hillsboro Chamber of Commerce
- Washington County

Key Leveraged Projects:

- Funding for reconstructing NE 28th Avenue, adding bike lanes. Beginning in 2010, connects to Grant Street extension project.

Table 5: Summary benefits for the Hillsboro Bike to Transit Commute Connections

Economic Benefits Summary	Period	Cumulative
Years 1-5	\$13,525,419	\$13,525,419
Years 16-20	\$56,351,502	\$150,046,803
Total		\$150,046,803

Economic Benefits Summary	Yearly Average	20-Year Total
Reduced Carbon Dioxide Costs	\$144,407	\$2,888,142
Other Reduced Emissions Costs	\$41,770	\$835,397
Reduced Economic Costs of Oil Imports	\$90,339	\$1,806,773
Reduced External Costs of Vehicle Travel	\$2,388,442	\$47,768,831
Reduced Healthcare Costs	\$1,391,566	\$27,831,320
Household Transportation Savings	\$3,445,817	\$68,916,340
	\$7,502,340	\$150,046,803

Table 6: Selected project benefits for the Hillsboro bike to transit commute connections

Project Benefits Summary	Short Term (Year 5)	Long Term (Year 20)
New children biking to school	530	4,588
Carbon emissions reduced (pounds)	10,069,764	212,592,283
VMT reduced	12,378,234	261,328,557
Congestion costs prevented	\$871,347	\$8,948,052
Crash costs prevented	\$2,457,198	\$25,233,507
Maintenance costs prevented	\$1,323,107	\$13,587,273

**Discounted values*

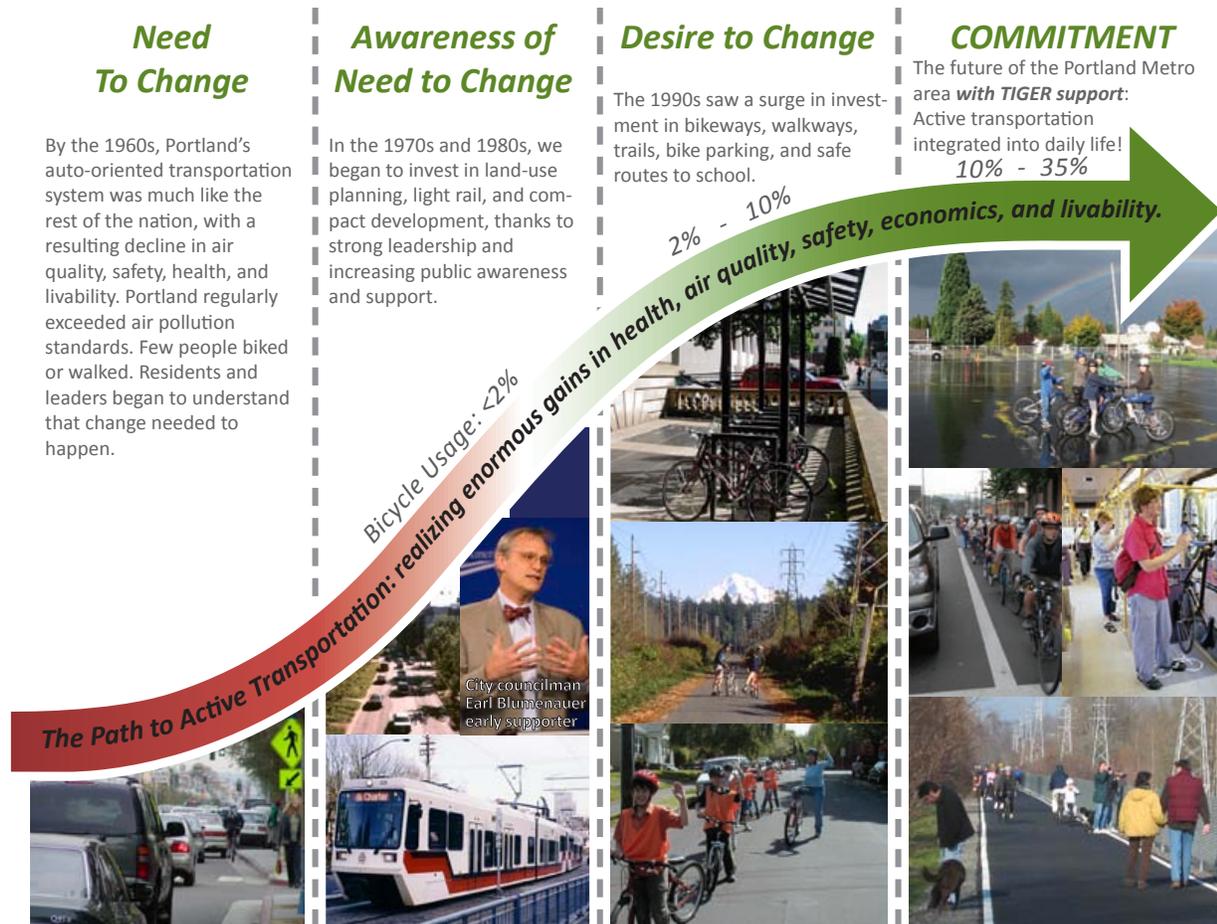


Figure 3: The Portland Region's Progress Toward Active Transportation

Suburban Clackamas County and Milwaukie Active Access to Industrial Jobs

Project Sponsors: Clackamas County/City of Milwaukie

Cost: \$20.4 million

Jobs accessed: 40,000 jobs

The second dynamic suburban project will complete two corridors providing active transportation access to a new light rail line, two new light rail stations, a retail and regional commercial center with two recently completed light rail stations and over 40,000 jobs. This project is leveraging two new light rail lines and is demonstrating a forward-thinking approach to improving multimodal conditions. Completion of pedestrian and bicycle infrastructure in this area would provide travel options to industrial jobs that are simply not available today. This project will help to build the transition to a multimodal system.

Project Specifics:

To the south and east of Portland, Clackamas County and the city of Milwaukie is a growing area for homes and employment. The impending opening of two light rail lines, each of which – and together – have a potential similar to Hillsboro to maximize the bike/walk/transit connection. The project is focused on two primary corridors including King and Monroe streets spanning the City of Milwaukie into unincorporated Clackamas County and Jennifer Street in an industrial commercial zone. These corridors are located adjacent to the new “Green Line” LRT – which runs north/south through Clackamas County. The I-205 multi-use trail runs parallel to the LRT corridor, providing an excellent opportunity to link east/west active transportation to transit. Completing the missing links of bike lanes and sidewalks will provide thousands of employees an alternative to driving their cars. They can combine several modes of transportation including light rail, transit, biking and walking to reach employment sites. From west to east, more than 40,000 employees¹² will gain bicycle and pedestrian access to their jobs. See Figure 5 for detailed project map.

Critical corridor enhancement:

A complete active transportation from the Park Avenue and Lake Road light rail stations in the City of Milwaukie east to the Fuller Road and Clackamas Town Center light rail stations along King and Monroe Streets.

Jobs access from LRT:

Bikeway and walkways from the Fuller Road and Clackamas Town Center light rail stations to employers in the job-intensive industrial area along Jennifer Street.

Connection to nature:

Connections to the 183-acre Mt. Talbert Regional Park from the transit stations and I-205 multi-use path. Stretching from Portland’s Rocky Butte southward to the Clackamas River, a group of extinct volcanoes and lava domes lend unique geographic character to the region’s east side, providing important wildlife habitat and panoramic vistas. Mount Talbert is the largest of these undeveloped buttes in northern Clackamas County. The nature park includes the top of the former lava dome as well as the west-facing slopes visible to the tens of thousands of people that travel I-205 every day or shop at the Clackamas Town Center. Visitors enjoy miles of new hiking trails, information about the park’s cultural and natural resources, and greater access to nature close to home.

¹² Some of the major employers in this area include Warn Industries (450 employees), Oregon Ironworks (400 employees), Fred Meyer Distribution Center (498 employees), Safeway Distribution Center (980 employees), and Cornell Pump (200 employees)

“The Clackamas County Active Transportation Package is sorely needed to connect residents to jobs. We’re investing more than a billion in local and federal funds in light rail. We see this package as a necessary and practical set of complementary improvements that will benefit generations to come.”
- Clackamas County
Commissioner Lynn Peterson



More than a billion dollars has been invested in the Clackamas County Green Line and upcoming Milwaukie LRT.



Upgrades will make Jennifer Street more bicycle and pedestrian friendly.



Monroe Street has tremendous potential to become a bicycle boulevard.

Benefits:

For the benefits model, the project area was defined as a 1.5 buffer around the project corridors.

As shown in Table 7, from preventing greenhouse gas emissions to reducing road maintenance costs, car crashes and traffic congestion, the Clackamas County Active Access to Industrial Jobs project will create \$41 million in long-term benefits. Local households will save a total of nearly \$1 million per year in transportation spending, and regular exercise will help community members save \$8 million on health care over 20 years.

Table 8 shows that within 20 years of the project, over 1,000 local school children will use their bicycles to ride to and from class. Residents will drive 72 million fewer miles in the long term, while preventing over two million pounds of carbon dioxide emissions in the first five years. Through reduced driving, the project will also prevent nearly \$7 million in costs from car crashes and more than \$3 million in road maintenance for local government.

Benefits Calculation - Clackamas County Active Access to Jobs**Table 7: Summary benefits for the Clackamas County Active Access to Jobs**

Economic Benefits Summary	Period	Cumulative
Years 1-5	\$3,091,890	\$3,091,890
Years 16-20	\$17,033,801	\$41,129,675
Total		\$41,129,675

Economic Benefits Summary	Yearly Average	20-Year Total
Reduced Carbon Dioxide Costs	\$40,133	\$802,655
Other Reduced Emissions Costs	\$11,262	\$225,232
Reduced Economic Costs of Oil Imports	\$24,356	\$487,126
Reduced External Costs of Vehicle Travel	\$643,950	\$12,879,000
Reduced Healthcare Costs	\$398,219	\$7,964,379
Houshold Transportation Savings	\$938,564	\$18,771,283
	\$2,056,484	\$41,129,675

Table 8: Selected project benefits for the Clackamas County Active Access to Jobs

Project Benefits Summary	Short Term (Year 5)	Long Term (Year 20)
New children biking to school	131	1,129
Carbon emissions reduced (pounds)	2,269,679	59,247,927
VMT reduced	2,789,998	72,830,373
Congestion costs prevented	\$196,303	\$2,412,493
Crash costs prevented	\$553,576	\$6,803,230
Maintenance costs prevented	\$298,079	\$3,663,277

**Discounted values*

Key Partnerships:

- City of Milwaukie
- Major employers within the Clackamas Industrial Area such as Oregon Ironworks, Safeway Distribution Center, Fred Meyer Distribution Center, Warn Industries, Cornell Pump, etc.
- North Clackamas Chamber of Commerce
- Clackamas Transportation Management Association
- Oregon Department of Transportation

Key Leveraged Projects:

- Future Max Green Line Light Rail and Orange Line Light Rail
- Existing bus transit services in Milwaukie and the Clackamas Industrial employment areas
- Road system improvements connecting 98th Ct. to 102nd Ave. and Hwy 224 (\$10 M)
- City of Milwaukie Bike Sign Plan and Bike Boulevard Plan signage directing riders to schools, parks, light rail stations, bus transit and other destinations.
- The Railroad Avenue pedestrian/bicycle improvement project -37th Ave. to Linnwood Ave.

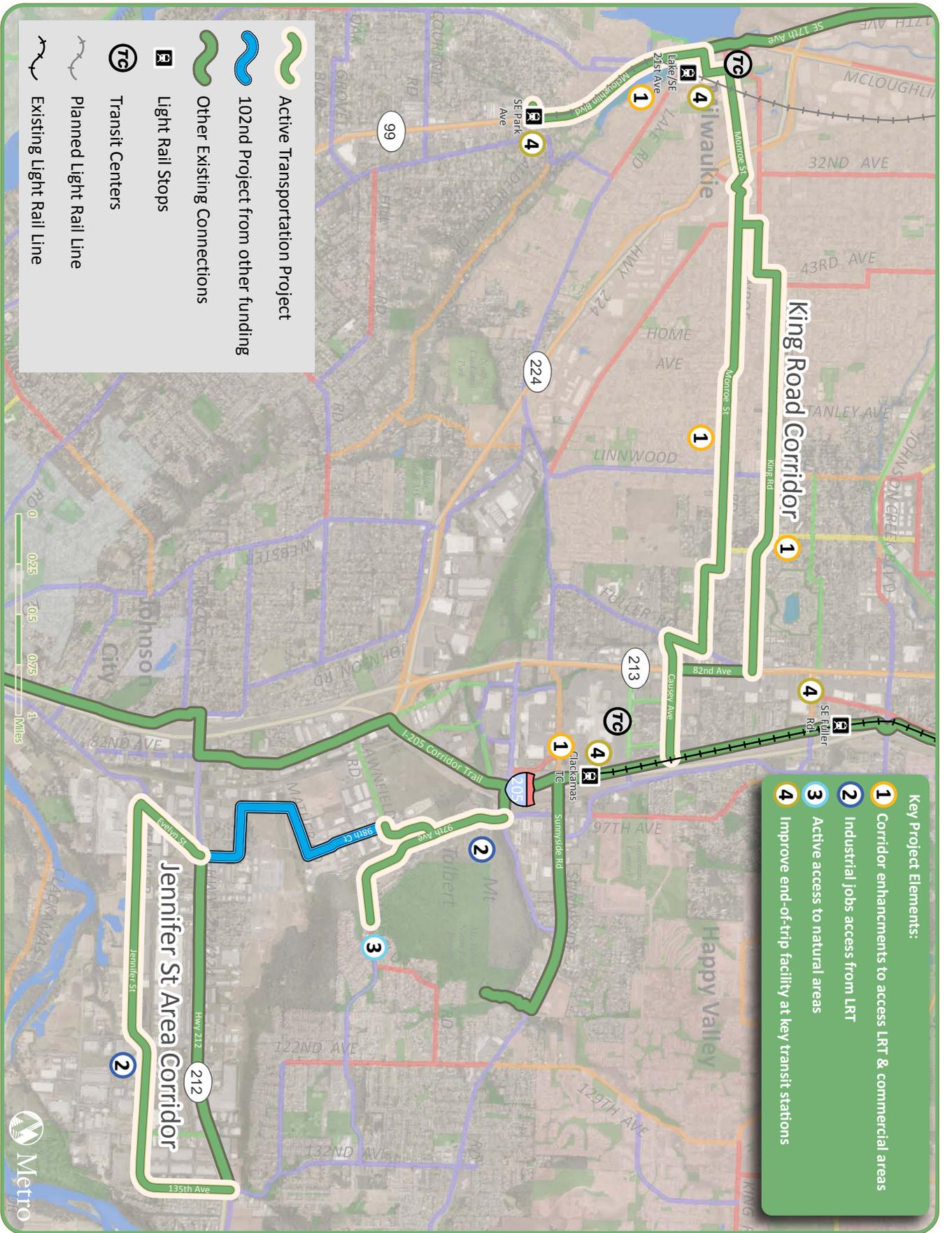


Figure 5: Suburban Clackamas County/City of Milwaukie Bike-Transit Connections to Industrial Jobs

Nature in our Backyards: Mt. Hood Connections - The Cazadero Trail

Connecting inner-city residents to natural areas via healthy, active transportation

Project Sponsor: Oregon State Parks

Cost: 16.8 million

Estimated Yearly Use: 300,000 users

The city and the suburbs are not the only places people walk and bike nor represent the complete vision we offer the nation. We need to connect our fertile rural areas, the heartland of America, via active transportation. City dwellers need nature, while rural residents need connections to urban and suburban markets for their products. Again, the building blocks – political leadership, baseline infrastructure, government and public support – are in place.

The Cazadero Trail is part of a larger vision connecting Portland’s urban residents through the Mount Hood Connections trail and greenway corridor. This corridor will provide a critical link between downtown Portland and the natural treasures found on the flanks of Oregon’s majestic icon, Mt. Hood. The vision for the corridor is to link Portland’s 21-mile long urban Springwater Trail system with trails that run along salmon-rich wild and scenic rivers, through old growth forests, to viewpoints that offer spectacular vistas of Mt. Hood and the surrounding National Forest. This project will finish the Springwater-Cazadero trail connection from Portland to the Clackamas River. See Figure 6 for project map.

Project Specifics:

The Cazadero Trail project will develop a 4.25-mile section that will provide access to the spectacular Clackamas River. The corridor follows the North Fork of Deep Creek in a lush canyon that has little development. The project connects with the Springwater Trail at the town of Boring and will build the most challenging section of this long envisioned-project.

Construct trail surface:

The project will construct four miles of eight-foot wide paved trail with two foot adjacent soft surface trail, including the use of a Clackamas County-owned railroad spur. This trail will make a direct connection to Barton Park, with fishing, camping, and access to the Clackamas River.

Enhance Pedestrian Crossings:

An enhanced pedestrian crossing and 150-feet of sidewalks will allow users to safely cross Highway 212.

Construct bridges:

The project will develop two new bridges over Deep Creek. The first is a 436-foot bridge over the North Fork of Deep Creek and the second is 1240-foot bridge. Both bridges will be approximately 80-feet above the creek and offer spectacular views up and downstream.

Safe highway crossing:

In partnership with Oregon Department of Transportation, the project will implement a new safe over-crossing of Highway 224.

A detailed development plan for the Cazadero Trail is included in Appendix F

Prior to the opening of the paved bike trail, I employed two part-time workers and consistently grossed \$225,000 per year. The year the trail opened, I had to move to a larger facility to meet consumer demand, now I hire one full-time employee and four part-time employees and consistently gross \$450,000 in sales. The growth of my business is directly related to my investment of time to create these facilities.

- *Mississippi Retailer*, responding to Bikes Belong Survey (2006)



“Looking around [the Springwater Corridor] it’s hard to believe you’re in the middle of a bustling city.” – Grant Butler, *The Oregonian*, June 8, 2007. The Cazadero Trail will provide a critical link between downtown Portland and majestic Mt. Hood.

Benefits:

The Cazadero Trail is expected to draw bicycle tourists from around the region. As this trail has a primarily recreational function and is completely new facility, a trail demand model was completed to assess potential uses and benefits. The model is outlined in detail in Appendix G.

Trail Demand Model

The Mt. Hood connections project will link urban residents to natural recreation sites. Serving both transportation and recreation needs and appealing to residents and tourists, 327,000 trips annually are projected. Many of the users will access the trail coming from the Springwater Corridor, the cities of Portland, Damascus, Gresham, and neighboring communities, but there will also be significant use from adjacent communities.

As shown in Tables 9 and 10, increased bicycling in communities near the Cazadero Trail will generate over \$3 million of savings in avoided car crashes, reduced traffic congestion, and prevented road damage. Local residents also stand to save over \$5 million on transportation costs and \$2 million in healthcare costs. Visiting trail users will spend about \$1 million annually.

With increased options for safe and comfortable bicycling routes to school, 75 children will begin bicycling to local schools in the first 5 years of the project. Local residents will drive 20 million fewer miles over the long term, saving \$1 million in wear on roads and bridges and preventing over 17 million pounds of carbon dioxide emissions.

Key Leveraged Projects:

- Over \$3.7 M in planned investments from other sources, including funds to connect this trail to Estacada, Oregon.
- Completion of Springwater Trail Corridor to Boring
- Acquisition and planning of Tickle Creek Trail segment from Boring to Dodge Park

Key Partnerships:

- Metro
- City of Sandy
- City of Estacada
- Estacada Parks and Trails Committee
- Portland General Electric
- US Forest Service
- City of Portland Parks
- City of Portland Water Bureau
- City of Gresham
- Clackamas County
- Boring Community and Grange
- Barlow Trail Association
- Bureau of Land Management
- Villages of Mount Hood

Table 9: Summary benefits for the Cazadero Trail

Economic Benefits Summary	Period	Cumulative
Years 1-5	\$6,436,560	\$6,436,560
Years 16-20	\$9,041,020	\$32,052,792
Total		\$32,052,792

Economic Benefits Summary	Yearly Average	20-Year Total
Reduced Carbon Dioxide Costs	\$11,934	\$238,672
Other Reduced Emissions Costs	\$3,234	\$64,683
Reduced Economic Costs of Oil Imports	\$6,995	\$139,894
Reduced External Costs of Vehicle Travel	\$184,931	\$3,698,612
Reduced Healthcare Costs	\$100,790	\$2,015,799
Household Transportation Savings	\$272,639	\$5,452,771
Trail-Generated Economic Activity	\$1,022,118	\$20,442,362
	\$1,602,640	\$32,052,792

Table 10: Selected project benefits for the Cazadero Trail - urban access to nature

Project Benefits Summary	Short Term (Year 5)	Long Term (Year 20)
New children biking to school	75	861
Carbon emissions reduced (pounds)	569,199	17,676,577
VMT reduced	699,686	21,728,890
Congestion costs prevented	\$49,273	\$692,824
Crash costs prevented	\$138,949	\$1,953,762
Maintenance costs prevented	\$74,819	\$1,052,026

**Discounted values*

TOTAL PACKAGE BENEFITS

The project package will help achieve a range of key national goals. In an era of diminishing transportation resources and growing population, this project will demonstrate how, for pennies on the dollar, a major transportation region can effectively, healthfully, and sustainably serve mobility needs.

Job Stimulus

With an overall package cost of \$98 million, we estimate that these projects will create over **1300 new construction jobs**.¹³ Because many of the bicycle treatments are groundbreaking, they will require significant engineering and design rather than simple heavy material costs, thus increasing the number of jobs per dollar.

Economic stress – very high unemployment:

Our region has been hit particularly hard by the recession. Unemployment in the Portland Region was 11.3 percent, while unemployment 11.9 percent statewide, the fourth highest in the nation in July 2009. The region is nearly two points higher than the national unemployment.¹⁴ The immediate jobs created by this ambitious project would help stabilize the region and put at minimum 1300 people back to work.

Bicycling supports our local economy:

Bicycle-related activity contributes more than 1000 jobs and \$100 million annually to the local economy.¹⁵ The Pacific region bicycling recreation economy contributes \$15 billion annually, supports 135,000 jobs across the region, generates \$1.9 billion in annual state and federal tax revenues, and produces \$10.4 billion annually in retail sales and services.¹⁶ Additional investments in bicycling and walking infrastructure will support jobs in a growing, green industry.

Bicycle Tourism:

Both nationally and internationally communities that have promoted bicycle tourism have found it to be a good investment. In 2007, approximately 576 thousand visitors bicycled (on-street or mountain) while visiting the Portland metropolitan region, generating about \$61 million in revenues.

“We stand ready to put our trained workforce into action for Metro’s Active Transportation package. We’re excited to be part of a more sustainable transportation future.”

- John Willis, Area Manager, CH2M HILL, a global leader in engineering, construction, and operations

“Portland’s commitment to building a bike-friendly city has been great for tourism—investment in cycling infrastructure enhances our reputation as a sustainable destination.”

- Veronica Rinard, Travel Portland, Community Relations



Bicycle tourism, including bike camping, brings in sorely needed revenue to rural communities. The Cazadero Trail will be a key link in our increasing tourist economy.



Tourist destinations include the Clackamas River, Mt. Talbert, and other gorgeous scenery. See www.rideoregonride.com for more information on Oregon’s bicycle tourism activities.



More than 25,000 riders take to Portland’s bridges for the annual BridgePedal.

13 To estimate the potential number of short term jobs created from the project, we employed a standard used by the Oregon Department of Transportation at 14 jobs/\$1 million + additional jobs from secondary impacts.

14 Oregon Employment Department. (2009). Local Area Employment Statistics. Retrieved from: <http://www.qualityinfo.org/olmisj/labforce>

15 Alta Planning + Design. (2008). The Value of the Bicycle-Related Industry in Portland.

Retrieved from: http://www.altaplanning.com/App_Content/files/fp_docs/2008%20Portland%20Bicycle-Related%20Economy%20Report.pdf

16 Outdoor Industry Foundation. (2006). The Active Outdoor Recreation Economy: A \$730 Billion Annual Contribution to the U.S. Economy.

Retrieved from: <http://www.outdoorfoundation.org/research.recreation.html>

LONG TERM OUTCOMES

Investment in active transportation is a sound return on investment. In order to estimate the benefits of the projects, a benefits model was developed. See Appendix G for details. The results of this model show that economic savings are significant, with close to \$460 billion in benefits realized over a twenty year timeframe. See Table 2, page 7. Other significant benefits include:

State of Good Repair

Improve life cycle costs of infrastructure:

Bicycle and pedestrian infrastructure can expand the use of existing facilities, creating better mobility at the local level, all at a fraction of the cost.

Economic Competitiveness

Growth, congestion and the economy:

Annual Routine Maintenance Costs per centerline mile	
Four-Lane Urban Arterial	\$58,500
On-Road Bike Route	\$560
Off-Road Shared Use Path	\$26,300

In the Portland region, peak commuting periods account for approximately 36 percent of total daily trips. Over 98 percent of regional daily traffic is cars. Reducing the number of passenger cars on the street will improve travel time and mitigate congestion.

Improved mobility for freight:

The City of Portland acts as a gateway and distribution center for domestic inland and international markets. Local industries are dependent on the roadway system. The largest impact of congestion on businesses is the variability of travel times, as freight dispatchers cannot predict when trucks will arrive at their destinations.

Interstates 5 and 84 through Portland carry more than the average amount of freight regionally. North/Northeast Portland is home to the Port of Portland, Portland International Airport, Interstate 5 that provides mobility from Mexico to Canada, and Interstate 84, with access through the Cascades to central and eastern parts of the country. Trucks account for five percent of all vehicles in the Portland region but account for 10 percent of the traffic on I-5 north of the city, 15 percent south of the city, and 22 percent on I-84 east of the city.

Increased bicycling and walking will mitigate some of the impacts of increasing congestion directly by replacing cars on short trips or indirectly by increasing the convenience of public transit and by stimulating local forms of compact, mixed-use development which results in destinations that are closer to each other, thereby shortening travel distances for all modes. According to the 2001 National Household Travel Survey, 48 percent of all trips were three miles or less and 24 percent were one mile or less. A modest scenario assuming eight percent of trips less than a mile and six percent of trips under three miles in length switched to bicycling, as well as three percent of trips under 15 miles switched to public transit, would result in 69 fewer miles driven.¹⁷ The package has the potential to reduce both short and longer commute trips by car in key corridors. This reduction in vehicle miles traveled will result in mobility advantages on key regional freight routes.

“The more we shift auto trips to bicycling and walking, the less wear and tear we will see on our roadways. Along with the added benefits of lowering vehicle emissions and keeping local dollars in the local economy, it’s a bargain by any measure.”

- Portland Mayor Sam Adams

¹⁷ Rails-to-Trails Conservancy. (2008). Active Transportation for America: The Case for Increased Federal Investment in Bicycling and Walking. Retrieved from: http://www.railstotrails.org/resources/documents/whatwedo/atfa/ATFA_20081020.pdf

Livability

Decrease transportation burden:

In Portland, 15.1 percent of household expenditures are spent on transportation, compared to 19.1 percent in the U.S. overall. The ability to modify transportation costs through the use of transit, bicycling, walking and lower vehicle ownership can make the combined costs of housing and transportation lower in even the most expensive markets. Auto ownership, a household's highest transportation expense, is generally lower in cities with larger transit systems.

The household transportation saving from the project are estimated to be \$26.5 million in just the first five years, expanding to \$243 million in the 20 year time horizon. This direct household savings allows additional discretionary spending in the local economy and provides options for low income families.

Sustainability

Energy independence:

Active transportation is virtually petroleum free, which reduces the nation's dependence on foreign oil. As noted in the benefits summary, expected savings on cost of imported oil this project is expected to be \$6.5 million in 20 years.

Climate change:

These projects are estimated to eliminate 868,402,000 pounds of CO2 and other greenhouse gases for a savings of \$13 million in 20 years.

Safety and Health

Reduced crash rates for all modes types:

As the proportion of trips in Portland made by walking and bicycling increases, traffic fatalities in the city have been reduced. Traffic fatalities per 100,000 residents in Portland have been decreasing six times faster than in the U.S. and three times faster than the State of Oregon. See Figure 7. Increased safety on the roads will save close to \$12 million in the short term and \$90 million over the next 20 years.

"Realtor Kria Lacher of Meadows Group in Portland said an increasing number of her clients specify that they want to see 'bikeable' properties."
– Eric Mortenson, *The Oregonian*, August 22, 2008

"Livability is not just an urban idea. Transportation investments in these communities can be designed in a way to support new development while maintaining the small town character that makes these communities home."
– Ray LaHood, United States Secretary of Transportation

"Our intentions are to be as sustainable a city as possible. That means socially, that means environmentally and that means economically. The bike is great on all three of those factors. You just can't get a better transportation return on your investment than you get with promoting bicycling."
– Portland Mayor Sam Adams, as quoted in *The Oregonian* by William Yardley, November 5, 2007

Combined Bicycle Traffic over Four Main Portland Bicycle Bridges Juxtaposed with Bicycle Crashes

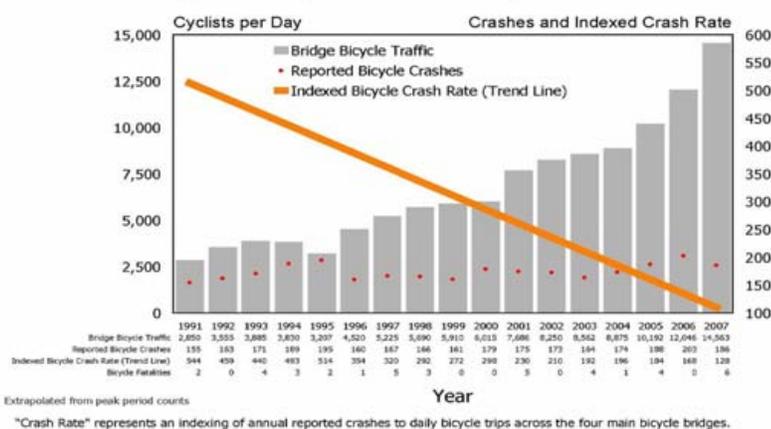


Figure 7: As bicycle use has increased (see grey bars), the number of reported bicycle-motor vehicle crashes (orange dots) has held steady and the overall crash rate (orange line) has plummeted. Overall, traffic safety for all modes in Portland is at the highest levels since 1925.

Source: Portland Bureau of Transportation

Innovation

A hallmark of the Portland Area Active Transportation Initiative is its innovative features and approach. For the cost of less than two miles of urban freeways, our project delivers more than 83 miles of additional transportation capacity without a single mile of roadway expansion. We offer a 100 percent sustainable, healthy, green transportation package for your consideration. In addition:

- The bikeway facilities in the N/NE Portland Bikeway Network will be designed based on international best practices. This means application of the world's most advanced techniques for bicycle boulevards and bike lanes, particularly at intersections, as well as separated bikeways called cycle tracks. A rigorous evaluation process will determine the utility of these facilities in an American context, allowing cities nationwide to learn and benefit from Portland's innovative approach. See Appendix E.
- The two suburban components fight back against bicycle and pedestrian-unfriendly land-use patterns with last-mile bike-to-transit-to-jobs opportunities.
- Beyond the delivery of infrastructure, the Portland Area Active Transportation Initiative includes the country's most effective individualized marketing programs – Smart Trips and Regional Travel Options – to ensure the biggest bang for buck is achieved. See Appendix D.
- An unusual, coalition of political leaders, advocacy groups, business and neighborhood associations, individual employers, government agencies, and residents have banded together to deliver the Portland Area Active Transportation Initiative.
- We have put in a place a streamlined delivery process, invested hundreds of thousands in up-front planning and design, and built in an extensive public process to ensure maximum success.



Portland State University's Initiative for Bicycle and Pedestrian Innovation leads research and teaches professionals and students about bicycle and pedestrian planning and design. IBPI and the Oregon Transportation, Research, and Education Consortium, will partner on the evaluation of the project. See Appendix E for more info.

Partnership

Pedestrian, biking and public transportation systems cross-jurisdictional boundaries, as do the people that use them. To achieve a fully integrated active transportation system, partnerships and coordination are essential.

The region has already invested widely in biking and walking infrastructure with connections to transit. The development of the regional trails network has required intensive collaboration. The Metro Council saw preparing a TIGER Grant application as a unique opportunity to build on existing partnerships and strengthen a growing regional coalition of partners that are committed to completing the region's active transportation system.

The Portland Area Active Transportation Initiative demonstrates collaboration among the following partners. Metro, Clackamas and Washington Counties, the Cities of Portland, Hillsboro and Milwaukie, Oregon State Parks and Recreation, the Oregon Department of Transportation, TriMet, Portland State University's Oregon Transportation Research and Education Consortium, the Westside Transportation Alliance, the Clackamas County Transportation Management Association, and the Bicycle Transportation Alliance. These public and non-profit entities are working together and with the private sector to implement the active transportation vision.

Metro will serve as the coordinating agency for the Portland Area Active Transportation Initiative. Oregon Department of Transportation, as the Federal Highway Administration's certified agency in Oregon, will administer the projects and the reimbursement of eligible expenses. Metro will lead programming of TIGER funds to the projects in the Metropolitan Transportation Improvement Program (MTIP). Each project sponsor will lead development and construction of the projects. See Appendix H for additional TIGER grant required information.