

PORTLAND'S BIKE PLAN 2030

YEAR ONE REVIEW

Portland's Bike Plan 2030 is a comprehensive, long-term strategy for increasing bicycle use and safety in the city. The plan is based on the premise that a safe and convenient bicycle network is essential for a sustainable and healthy community. The plan outlines a vision for a city where everyone can safely and comfortably use a bicycle for their daily needs.

The plan is organized into several key areas, including:
1. Vision and Goals: A clear statement of the city's commitment to bicycle transportation and the specific goals to be achieved.
2. Policy Framework: A set of guiding principles and policies that will inform all transportation decisions.
3. Implementation Strategy: A detailed plan for how the vision and goals will be achieved, including specific projects and programs.
4. Funding and Resources: A discussion of the various sources of funding and the resources needed to implement the plan.
5. Monitoring and Evaluation: A system for tracking progress and making adjustments as needed.

The plan is a living document that will be updated as needed to reflect changes in the city and transportation technology. It is a commitment to a safer, more sustainable, and more vibrant city for all.

The plan is a result of a collaborative effort between city officials, transportation advocates, and the community. It is a reflection of the shared vision of a city where everyone can safely and comfortably use a bicycle for their daily needs.



A YEAR AGO

PORTLAND'S CITY COUNCIL UNANIMOUSLY ADOPTED PORTLAND'S BIKE PLAN FOR 2030 AND RENEWED THE CITY'S COMMITMENT TO BICYCLING.

After Portland first adopted a bicycling master plan in 1996, ridership increased more than 300% over fifteen years. Investments in bicycling can result in things all Portlanders can celebrate: More jobs, a robust local economy, less congestion, decreased childhood obesity rates, more efficient freight movement, a clean environment and a City that tops international charts for livability.

Integrating the Bike Plan into a broader policy context will also provide opportunities to explore multi-bureau investments that leverage scarce public resources and help the City do more with less. The Bike Plan's goals and vision gain increasing importance the more often they are reflected in other plans. The City is currently updating the Portland Plan, Central City Plan and the Transportation System Plan: These plans shape the vision for Portland's future and its budget priorities.

Portland can get there. Portland Bureau of Transportation (PBOT) is working diligently to implement the Bike Plan but cannot do it alone. The City needs to demonstrate its commitment to the Bike Plan by taking it beyond PBOT and working hard to find innovative, sustainable ways to fund investments in bicycling that achieve multiple co-benefits and identify efficiencies simultaneously.

This report first analyzes the areas where the City, through PBOT, has successfully delivered on the projects and programs outlined in the Bike Plan. The report then identifies areas where progress toward the Bike Plan has been deficient in its first year and offers suggestions for improvement. Where appropriate, references to the Bike Plan for 2030 are included. The last section outlines ways citizen bike advocates can get involved and impact current policy-making.

SUCCESS

IN 2010



PBOT successfully met its goals for Safe Routes to School, Sunday Parkways and SmartTrips

Safe Routes to School, a program that teaches safe walking and cycling to Portland's school kids, expanded its reach to 80 schools. The program is now in almost every elementary and K-8 school in the City. The program also began outreach to parents to create more culturally specific encouragement programming, which reflects the Bike Plan's emphasis on equity considerations. Sunday Parkways, a family event where neighborhood streets are closed to cars and open to people walking and biking, reached five Portland neighborhoods in 2010. What started in 2008 as a one-time event to connect parks in North Portland grew to 3 events in 2009 and 5 in 2010. Finally, SmartTrips decreased drive-alone trips by 18.4% in last year's Green Line project area, and increased environmentally friendly trips there (like biking, walking and transit) by 30.4%. PBOT also expanded SmartTrips by developing a pilot program for new residents, working with the Immigrant and Refugee Community Organization on outreach and providing SmartTrips for incoming students at the University of Portland.

Appendix A, 4.2A "Offer a comprehensive Safe Routes to School program for all Portland schools.... Recruit and support parents and school staff volunteers to create more school-specific and culturally-specific programming."

Appendix A, 4.1D "Offer additional Sunday Parkways and create a model for sustainable program funding."

Appendix A, 4.1C "Expand programs that promote long-term changes in transportation habits of Portland residents by encouraging bicycling.... Develop a SmartTrips program for new Portland residents... Explore culturally-specific classes and rides to help novice bicyclists with varied cultural backgrounds get familiar with bicycling in Portland...."



PBOT built safer, low-traffic bike routes through more Portland neighborhoods

In 2010, PBOT built 24 miles of Neighborhood Greenways and committed to build 15 miles each year thereafter. PBOT also successfully secured a federal grant to build bikeways through the 50's from Woodstock to Hollywood. Neighborhood Greenways make bicycling safer and more comfortable by using "traffic calming" features to reduce the speed and volume of car traffic. These bikeways serve people on bicycles who want to avoid conflicts with high-speed auto traffic.

Appendix A, 3.1A "Create a system of low-stress bicycle routes throughout all Portland neighborhoods."

Appendix A, 5.1A "Continue to build new bicycle boulevards."



PBOT continued to work collaboratively with the Bureau of Environmental Services to make neighborhoods safer for vulnerable road users and better at managing stormwater

The agencies started working together on Safe Routes to School projects over two years ago. Today that work has expanded to Neighborhood Greenway projects. PBOT uses its funds to build bike infrastructure and BES uses its funds to build "green infrastructure" that manages stormwater and runoff. Because the two kinds of infrastructure are mutually supportive and occur simultaneously, the City saves valuable resources on projects and engineering.

Appendix A, 3.2A "Design improvements to meet multiple objectives, such as accommodating storm drainage, bicyclists and pedestrians."

Appendix A, 5.1E "Be opportunistic and partner with others."

NEXT STEPS

FOR 2011



PROJECTS

Build 25 miles of Neighborhood Greenways and 25 miles of separated in-roadway facilities

The BTA wants a complete bike network for all Portland residents ASAP. The City needs 681 miles of new bikeways to create a fine-grain network of routes throughout the city and connect the existing 309 miles of bikeways. If City Hall follows through on its commitment to build 15 miles of Neighborhood Greenways every year, some neighborhoods will still be without those facilities seventeen years from today. The Bike Plan identifies 314 miles of separated in-roadway facilities, (like bike lanes, buffered bike lanes and cycle tracks), and 256 miles of Neighborhood Greenways needed to complete the network. The BTA recommends the City build 25 miles of Neighborhood Greenways each year and 25 miles of separated in-roadway facilities.

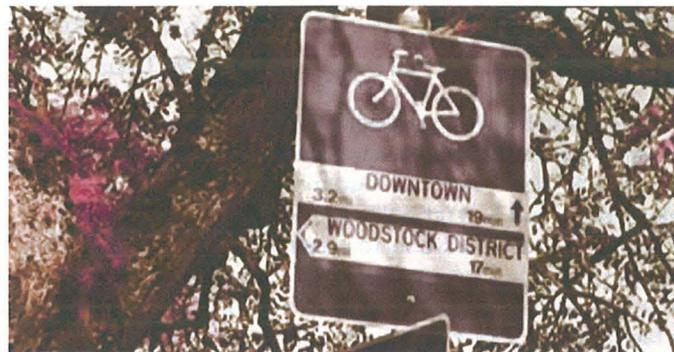
Appendix A, 5.1A, "Build as much of the bicycle transportation system as possible, as quickly as possible.... Develop and implement a list of high priority pilot corridors for separated in-roadway bikeways..."

Appendix A, 2.1B, "Ensure all neighborhoods have adequate low-stress bicycle facilities connecting to neighborhood commercial corridors and centers so that local residents can safely and comfortably access them by bicycle or on foot."
Figure 3.1: Bicycle network expansion by facility type.

Launch bike sharing in Portland

Bike sharing systems make bicycling an easy, convenient option for short-distance trips and create better connections to public transportation for more people. Bike sharing systems promote fitness and reduce traffic congestion, noise, air pollution and carbon dioxide emissions. Especially for visitors and commuters, bike sharing is also a non-threatening, low-barrier way to re-introduce people to the joy and convenience of bicycling, thereby expanding the range of people who consider themselves bicyclists and broaden support for cycling.

Appendix A, 3.4B, "Explore bike sharing systems."



PROGRAMS

Teach Bike and Pedestrian Safety Education in every school with a Safe Routes program

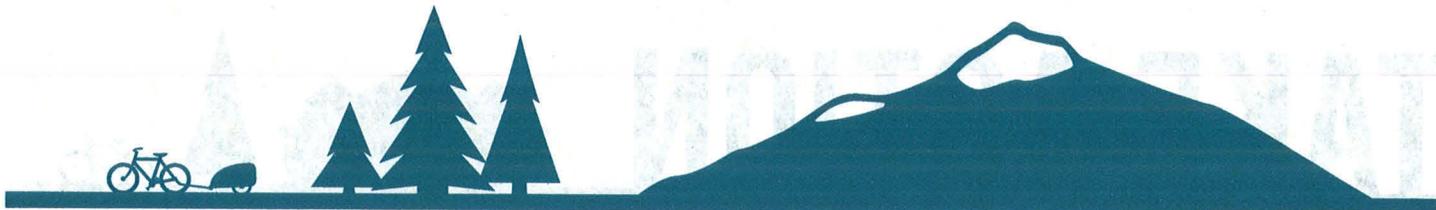
Safe Routes to School is a vital program that should be in every school in the City, every single year. There are approximately 100 schools in town and the Bike Plan calls for a comprehensive Safe Routes program in all of them—including high schools and middle schools. Continued work with parents, volunteers, community organizations and high school students can help PBOT invest in smart habits for the next generation of roadway users.

Appendix A, 4.2A, "Offer a comprehensive Safe Routes to School program to all Portland schools.... Expand educational offerings to include programming for middle and high-school aged youth.... Support innovative programming for older youth, such as bicycle building workshops, bicycle racing or recreational athletic teams and leadership training to work with younger Safe Routes to School students.... Recruit and support parents and school staff volunteers to create more school-specific and culturally-specific encouragement programming."

Build on the success of SmartTrips

The work PBOT accomplished on SmartTrips in the first year is commendable and the importance of outreach cannot be overstated. The Bike Plan calls for a sizeable extension of SmartTrips. The BTA supports and encourages this work and would like to see new residents, new partnerships and new classes in year two.

Appendix A, 4.1C, "Offer the SmartTrips program to Portland residents every five years... Develop a SmartTrips program for new Portland residents... Explore culturally specific classes and rides to help novice bicyclists with varied cultural backgrounds get familiar with bicycling in Portland.... Develop partnerships with community organizations to provide bicycle training and education to residents with whom the City of Portland does not sufficiently engage."



Hold Sunday Parkways every Sunday from May to October

Sunday Parkways is one of the City's best-loved bicycling events: Families, kids and neighbors can safely bike, walk and roll down car-less streets, learn new bike routes and explore Portland's neighborhoods. The BTA believes the high participation rates, (25,000 Portlanders at one event in 2009 alone), show widespread support for increased Sunday Parkways, and that partnerships with businesses and community organizations can help establish sustainable funding. To truly impact the lifestyles of families and to build toward sustainability, the BTA recommends extending Sunday Parkways to every Sunday from May through September and to look for routes that will inspire sponsor participation.

Appendix A, 4.1D, "Offer additional Sunday Parkways and create a model for sustainable program funding."

PLANNING

Establish interim goals and measure success

The BTA would like to see updated goals and annual measurement tools to track projects and measure impact. The ability to show which projects were successful in improving conditions for all roadway users will help City Council and PBOT prioritize future funding within the City's budget.

Appendix A, 3.1A "Annually assess the list of existing bicycle network gaps and set priorities for their completion.

Appendix A, 5.5A "Refine the performance measures for the bicycle transportation system and set baseline levels and periodic benchmarks to gauge progress toward the objectives of the Portland Bicycle Plan for 2030."

Integrate Bike Plan goals into other planning processes

The Bike Plan will not be effective as a stand-alone agency to-do list. If Portland is serious about a 25% bike mode share for trips of 3 miles or less, then the policies, goals and vision of the Bike Plan must immediately and thoroughly be

integrated into other planning processes, especially those that are ongoing or will be completed in the near-term, like the Transportation System Plan, the Portland Plan and the Central City Plan.

Appendix A, 2.1A "Put green transportation first."

Appendix A, 2.1B "Fully integrate bicycling into the Portland Plan project."

Appendix A, 2.1C "Further integrate support for bicycling into existing City policies."

Appendix A, 2.2A "Adopt a bicycle transportation policy to create conditions that make bicycling more attractive than driving for trips three miles or less and integrate support for bicycling into other Transportation System Plan objectives."

Appendix A, 5.1A "Amend the Transportation System Plan to adopt recommended policies and classifications for bicycle transportation."

Appendix A, 3.1A "Refine the bicycle transportation projects shown on the project maps and listed in Appendix A and work to amend the Transportation System Plan to include them."

FUNDING

Collaborate with other bureaus on projects that simultaneously achieve multiple public benefits and maximize scarce public financial resources.

When the belt tightens in tough economic times, agencies must either work together or compete with each other over smaller budgets, while they simultaneously try to accomplish more with fewer resources. The BTA would like to see a Bike Plan Finance Task Force established in the coming year to identify areas of collaboration. The Task Force membership should include staff from PBOT, BES, Portland Development Commission, the Bureau of Planning and Sustainability and Portland Parks & Recreation. Roughly 5% of PBOT's current five-year budget is allocated for bike projects and programs, yet 14% of all bridge crossings into downtown in 2010 were bicycles. The City should work to find adequate funding to build out the complete Bike Plan vision, with a systematic commitment to inter-bureau projects, planning and investments.

City Council Resolution 36763 envisions finance task force to identify and pursue new funding for bikes.

Appendix A, 5.1B "Identify and pursue multiple strategies to increase funding for green transportation."

Appendix A, 2.1A "Collaborate with other City bureaus and Metro to work toward adopting a 'Green Transportation Hierarchy' that prioritizes planning and investing in green transportation modes to elevate the relative importance of non-motorized modes."

Appendix A, 3.2A "Design improvements to meet multiple objectives, such as accommodating storm drainage, bicyclists and pedestrians."

TAKE ACTION



Join the BTA.

Our staff and volunteers work to keep bikes in the center of important public policy decisions. Your membership and support is critical.

» <http://www.bta4bikes.org/support/join.php>

Speak up for increased and proportional bike funding during PBOT's budget submissions to City Council.

If 14% of all traffic crossing downtown bridges are bikes, bike funding that is only 5% of the budget does not—and ought to—reflect mode share and demand.



Participate in the ongoing Portland Plan drafting process to help incorporate the Bike Plan's vision into the larger vision for Portland.

Your support is critical because the Portland Plan will inform updates of both the Transportation System Plan and the Central City Plan.

» A Portland Plan community fair will be in your neighborhood in March.

<http://bit.ly/portland-plan-calendar>

» For general information, visit:

<http://bit.ly/portland-plan>

» To learn how to get involved in the Central City update, visit:

<http://bit.ly/central-city-update>



Participate in Metro's summer 2011 public comment period regarding regional flexible funds.

The \$24 million pot of federal money will be used on both active transportation and freight projects between 2012 and 2015. Write in support of bike investments and show up at meetings to do the same.

» <http://bit.ly/metro-flexible-funds>

Encourage the Portland Bicycle Advisory Committee and PBOT to work strategically to implement the plan.

The Committee is not only the liaison between the public and City Council, the Mayor and PBOT on all things bike, but also has authority to engage in any local planning process that could involve bike infrastructure.

» Meetings second Tuesday of each month at 6 pm in the Lovejoy Room at City Hall.
<http://bit.ly/bicycle-advisory>



Stay engaged.

PBOT will report to City Council on its progress implementing the Bike Plan in the first year. Show up in support of the Bike Plan and the vision for bicycling in Portland.

» Watch the web for information on Community Budget Forums and City Council hearings:
<http://bit.ly/pbot-updates>

Stay informed.

The Mayor's office and the U.S. Department of Transportation cited research from the Political Economy Research Institute that shows bike projects create double the number of jobs per dollar spent than traditional road projects do. Research like this helps make the case for bicycling.

» <http://bit.ly/bike-infrastructure-jobs>

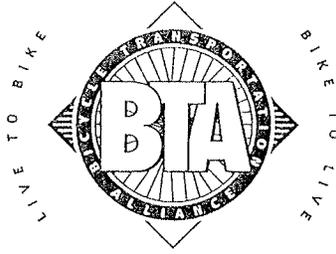
» <http://bit.ly/bike-projects-jobs>

WRITTEN BY:
AMANDA CAFFALL
GERIK KRANSKY
MARGAUX MENNESSON

WWW.BTA4BIKES.ORG

DESIGNED BY:
DOUG MERRITT

PHOTOS:
GREG RAISMAN
WILL VANLUE



April 13, 2011

Testimony to Portland City Council
Portland's 2030 Bike Plan – A Year in Review

Good morning. I'm Rob Sadowsky, the Executive Director of the Bicycle Transportation Alliance. Let me begin by thanking each of you for your past support on bicycling infrastructure and safety. We are truly on our way to making Portland a great future city for biking.

One year ago, the BTA joined hundreds of Portland residents and community leaders to ask for your approval of a landmark bicycle master plan. You gave us that approval. Today I sit here both to commend you and the work of the Portland Bureau of Transportation in getting a good start to implementing the plan as well as to ask for more.

I am proud to live in the best bicycling city in the United States. Let's simply put the myth that Minneapolis has passed Portland to rest, that is simply not true and our numbers bear that out. We have twice the percentage of people bicycling everyday than our Midwestern friends have.

I will ride anywhere in Portland. I'll ride on a trail, on a neighborhood greenway and on a bike lane. My wife, Julia, on the other hand, isn't there. She'll ride on a neighborhood greenway or a trail, but beyond that she is too afraid. My simple trip to work down Ankeny, across the Burnside Bridge, and over to our office in Old Town is a simple reminder of both how far we've come and where we need to get to.

Julia feels like her network disappears when it hits the Burnside Bridge. Riding side by side with cars traveling more than 30 miles per hour is uncomfortable for her. And when she gets onto the West side of the bridge, she doesn't know what to do next. The network is gone. The future is about filling in the gaps in the network, building protected lanes on arterials and bridges, and providing adequate signage to make the trips easy.

Let me highlight key successes in the past twelve months:

- 1. PBOT successfully met its goals for Safe Routes to School, Sunday Parkways and SmartTrips.**
Safe Routes to School, a program that teaches safe walking and cycling to Portland's school kids, expanded its reach to 80 schools. The program is now in almost every elementary and K-8 school in the City.
- 2. Sunday Parkways**, a family event where neighborhood streets are closed to cars and open to people walking and biking, reached five Portland neighborhoods in 2010. What started in 2008 as a one-time event to connect parks in North Portland

grew to 3 events in 2009 and 5 in 2010. Here is one thing that I know that Julia will join me on for a bike ride five times a summer.

3. **SmartTrips** decreased drive-alone trips by 18% in last year's Green Line project area, and increased environmentally friendly trips there (like biking, walking and transit) by 30%. PBOT also expanded SmartTrips by developing a pilot program for new residents, working with the Immigrant and Refugee Community Organization on outreach and providing SmartTrips for incoming students at the University of Portland.
4. **PBOT built safer, low traffic bike routes through more Portland neighborhoods.**

In 2010, PBOT built 24 miles of Neighborhood Greenways and committed to build 15 miles each year thereafter. PBOT also successfully secured a federal grant to build bikeways through the 50's blocks from Woodstock to Hollywood. Neighborhood Greenways make bicycling safer and more comfortable by using "traffic calming" features to reduce the speed and volume of car traffic.

5. **PBOT continued to work collaboratively with the Bureau of Environmental Services to make neighborhoods safer for vulnerable road users and better at managing stormwater.**

The agencies started working together on Safe Routes to School projects over two years ago. Today that work has expanded to Neighborhood Greenway projects. PBOT uses its funds to build bike infrastructure and BES uses its funds to build "green infrastructure" that manages stormwater and runoff. Because the two kinds of infrastructure are mutually supportive and occur simultaneously, the City saves valuable resources on projects and engineering.

Again we thank City Council, the Mayor and PBOT for the great start to a twenty-year plan. Let me remind you that it is the start of a long plan and we want to work with you to ensure that the plan will be built to its completion. To that end, we recognize that the current pace of construction would fall short of its completion in 2030 unless the pace and scale are stepped up. The BTA recommends that the City **commit to building 25 miles of Neighborhood Greenways each year and 25 miles of separated in-roadway facilities** such as the new cycletracks on Cully for each of the next seventeen years.

We ask that the city launch a **bike sharing system** for Portland that will make bicycling easy and convenient for short-distance trips and to create better connections to public transportation for more people. We urge the city to move forward on this project today so that an RFP can be released to the public for bid by the end of this year.

We love that bike and pedestrian safety is integrated into the plan. We love that **Safe Routes** goals are being met. Let's take steps to ensure that every school in the City is served every year. Let us also work together to expand this program to high schools.

Let's continue the great work that PBOT has undertaken for **Smarttrips**. It is shown as a proven model for reducing dependency on single occupancy vehicle trips. Let's grow this program today to help see important carbon reduction goals met sooner.

Sunday Parkways is one of the City's most loved events - period. Families, kids and neighbors can safely bike, walk and roll down carless streets exploring this fine city. It

touches every part of the City once a year. BTA is committed to doing whatever it takes to make Sunday Parkways bigger, better, and stronger. This past Sunday, Los Angeles held their open streets event. Estimates for turnout were enormous, more than 250,000 with some saying 500,000 people. We want to get there. To truly impact the lifestyles of families to combat obesity and build local economy, we recommend holding Sunday Parkways every weekend from May through September. Let's look for iconic routes that will inspire corporate sponsorship; routes that might include such Portland legacies such as Sandy Boulevard, Broadway and Burnside.

Quickly, I'd like to highlight three final recommendations from our report:

1. Establish interim goals and measure success. The Bicycle Advisory Committee is well situated to take on the role of continued monitoring and review of these goals.
2. Integrate Bike Plan goals into other planning processes. The plan must be integrated into the Transportation System Plan, the Portland Plan and the Central City Plan at the least.
3. Collaborate with other Bureaus on projects that simultaneously achieve multiple public benefits and maximize scarce public financial resources. We continue to recommend implementation of the Bike Plan Finance Task Force. We are committed to work side by side with the City to raise the funds necessary to fulfill the plan. We know that we will need additional support from DC, Salem and the region to make this plan come to fruition. Work with us to make this dream come alive.

Our report is available for review. I have one here for submission into public record and I'm available to answer questions.

I am proud to live in a forward thinking Portland, a City that is setting the course for a bright future built around healthy streets and vibrant economic districts that celebrate our local home grown business. Portland deserves the benefits that we will see from the continued implementation of the Bike Plan for 2030. Help me get Julia and more people like Julia out on our streets riding safely.

Thank you very much.

Rob Sadowsky
Executive Director

Build it and they will come

Portland Oregon's experience with modest investments in bicycle transportation

By: Roger Geller, Bicycle Coordinator
City of Portland, Oregon

Executive Summary

- Portland, Oregon was a city like any other US city in the 1980s and early 1990s in terms of transportation behavior
- It is only when Portland began investing in bicycle infrastructure that residents began to use bicycles for transportation at rates higher than the national average
- Portland's bicycle transportation system has achieved a maturity both in terms of use and knowledge about that use that lends itself to an assessment of the role bicycle transportation can play in the transportation systems of American cities
- Portland has created conditions such that in large swaths of town bicycle use rivals transit use
- From 1990 to 2008 Portland added more daily bicycle commuters (14,912) than daily transit commuters (13,191)
- Bicycle use in Portland continues to grow geometrically while other modes either grow modestly or decline; since 1990 bicycle use has grown 400%, transit use has grown 18% and driving has declined 4%, all relative to population
- For the period 2005-2009 average city-wide bicycle commute mode split was 4.8%; in 40% of town it was 9.6%, in 30% of town it was 11.3% and in parts of town representing 20% of city residents it was 13.1%
- Since 2005-2009 bicycle use has grown another 20%
- Bicycling provides the best return on investment for transportation dollar spent in terms of providing personal mobility; in the period 1995-2010 the Portland Metropolitan region cumulatively spent \$4.2 billion on roadway and freight improvements, \$2.1 billion on transit improvements and \$153 million on active transportation (which includes at least 50% pedestrian improvements)
- The estimated replacement cost of Portland's entire 300+ mile bikeway network—acknowledged as the best in North America—is approximately \$60 million (\$2008), which is roughly the cost of one mile of four-lane urban freeway
- Complete build out of all recommended bicycle facilities in Portland—as identified in the Portland Bicycle Plan for 2030—would cost approximately \$580 million and is expected to result in a minimum overall bicycle mode split of 25%
- Portland's bicycle transportation has allowed key portal roadways into the city's downtown to operate the same for automobiles today as they did 20 years ago, despite a 12% increased demand for mobility
- Portlanders' use of bicycles has resulted in improved health for Portland's population and more money remaining in the local economy
- Portland's City Traffic Engineer states that "Bicycling infrastructure is relatively easy to implement and low cost compared to other modes. It is by far the most cost-effective way to provide for personal mobility in an urban transportation system"
- Cities across the US that are beginning to invest in bicycle infrastructure are seeing the same types of changes and benefits from which Portland has been benefiting for years

Build it and they will come

Portland Oregon's experience with modest investments in bicycle transportation

By: Roger Geller, Bicycle Coordinator
City of Portland, Oregon

The City of Portland provides a good example of what can be achieved with modest investments in bicycle infrastructure and programs. For a small fraction of the investments made in other modes of travel, Portland has created conditions such that bicycle use rivals transit use in large swaths of town. Bicycle use continues to grow geometrically while other modes either grow modestly or decline. This report gives more credence to the pithy statements of past years that “bicycle transportation offers the best bang for the transportation buck” and that “bicycle transportation is a cheap date.” Portland’s bicycle transportation system has achieved a maturity both in terms of use and information that lends itself to a well-documented assessment of the role bicycle transportation can play in the transportation systems of major American cities. Embedded in this assessment is good data about what such systems cost—especially relative to other means of transportation—and an indication of the benefits that are realized by increasing bicycle transportation.

Perhaps more importantly, the types of changes experienced by Portland are now being seen—and documented—in cities of all sizes across North America that are beginning to make similar investments in bicycle infrastructure and programs.

Build it and they will come.

Portland was like any other US city in the 1980s and 1990s. It had very little in the way of bicycle facilities and very little bicycle use. That began to change in the mid-1990s as the city began to make modest investments in bicycle lanes, bicycle boulevards and off-street paths (Figures 1, 2, 3 and 4; all figures are displayed at the end of the document). With that investment came growing bicycle use.

Portland has measured bicycle use in various ways, most notably through the city’s annual bicycle counts.¹ More recently Portland has available data from the US Department of Commerce that accounts for commute behavior at the relatively fine level of census tracts. Formerly, this data was available only with the decennial census. However, the Census Bureau, through the American Community Survey (ACS) now reports commute data at the census tract level as a five-year average.² Figures 5, 6 and 7 display the changes in bicycle commute behavior that have occurred.

How many have come?

As Figures 5, 6 and 7 suggest, bicycle transportation grows as facilities are provided. The average city-wide bicycle mode split for the period 2005-2009 was 4.8%.³ It is instructive to dig

¹ See <http://www.portlandonline.com/transportation/index.cfm?c=44671>

² The most recent ACS data available presents an average for the years 2005-2009. The network shown represents that for the year 2007, the mid-point of that period.

³ That is based on this average data. City-wide ACS data for 2009 found a bicycle mode split of 5.8%, representing an increase of 20% beyond the data used in this report.

deeper into the data and look at how different parts of the city have responded to bicycle transportation.

According to the ACS data, a subset of census tracts representing approximately 40% of city commuters had a bicycle mode split of 4.5% or greater. In these areas the overall bicycle commute mode split was 9.6% for the period 2005-2009. The areas with the highest bicycle mode split—those census tracts with eight percent (8%) or greater bicycle commuters—displayed an overall bicycle commute mode split of 13.1%. This number holds for an area in which approximately 20% of the city's commuters reside. Figures 8, 9 and 10 graphically display this data, which is also shown below in Table 1.

Table 1. Mode split by area of city (Average 2005-2009) (ACS)

Census Data 2005-2009								
City of Portland								
	City-Wide		Census Tracts with higher than 4.5% bicycle mode split		Census Tracts with higher than 6.5% bicycle mode split		Census Tracts with higher than 8.0% bicycle mode split	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Drive Alone	184,553	61.8%	65,619	53.8%	46,293	52.2%	30,484	50.7%
Carpool	28,259	9.5%	9,560	7.8%	6,949	7.8%	4,375	7.3%
Transit	35,916	12.0%	17,752	14.6%	13,393	15.1%	8,941	14.9%
Bus	30,804	10.3%	15,416	12.6%	12,100	13.6%	8,134	13.5%
Rail and other non-bus	5,112	1.7%	2,336	1.9%	1,293	1.5%	807	1.3%
Bicycle	14,247	4.8%	11,754	9.6%	9,986	11.3%	7,886	13.1%
Walk	14,653	4.9%	7,357	6.0%	5,101	5.8%	3,217	5.4%
Other	1,672	0.6%	786	0.6%	514	0.6%	385	0.6%
Worked at Home	17,932	6.0%	8,491	7.0%	5,969	6.7%	4,399	7.3%
Total	298,403		121,902		88,664		60,073	
Excluded from table, but included in total: Taxi, Motorcycle								

Notable about these sections of town is how bicycle commuting compares to transit commuting. In those parts of town where bicycle use is highest, it is rivaling transit use. Indeed, in the period from 1990-2008 the change in daily bicycle commuters citywide outpaced the change in daily transit commuters. This is displayed in Figure 11.

What has been the change?

Portland's experience has been that bicycle use is the only transportation mode growing significantly relative to population. Relative to Portland's population, bicycle commuting has grown more than 400% since 1990, while drive alone commuting has declined almost four percent (4%). Transit commuting increased approximately 18% relative to population during this time and walking decreased 2.5%. Though driving alone showed the largest increase in terms of numbers between 1990-2008 (see Figure 11), in terms of proportion of population driving that

represented a drop from 67.3% in 1990 to 64.6% in 2008.⁴ This change is shown in Figure 12, which presents a trend line graph of changes in commute mode split relative to 1996.⁵

How much has it cost?

Investments in Portland’s bicycle transportation infrastructure have been modest. A 2009 estimate placed the replacement value of Portland’s entire bicycle infrastructure at close to the average cost of one mile of four-lane urban freeway: [approximately \\$60 million](#).⁶

More telling comparative expenditure data comes from the region’s metropolitan government—Metro—which serves as the region’s metropolitan planning organization and thus as the conduit for federal transportation dollars to local jurisdictions. In 2010, Metro identified that in the 15-year period from 1995-2010 the region cumulatively spent \$4.2 billion on roadway and freight improvements, \$2.1 billion on transit improvements and \$153 million on active transportation improvements (which include both bicycle and pedestrian improvements, See Figure 13).

To get a sense of the cost effectiveness of investments in bicycle transportation, consider Figures 11 and 13 in tandem. It is also worth noting that the total estimated capital investment needed to build out the entire bikeway network envisioned in the [“Portland Bicycle Plan for 2030”](#)⁷ is just under \$600 million. That level of investment is expected to result in a minimum 25% overall bicycle mode split.

It’s not about the bicycle.

Building bicycle infrastructure is not intended to simplistically get people using bicycles. It’s about tapping into the benefits that are realized by modern cities that make bicycling a pillar of their transportation systems. These benefits include: preserving mobility and roadway capacity, strengthening local economies, improving public health, offering an affordable means of providing for personal mobility and reducing environmental threats.

Mobility and Roadway Capacity. Portland’s population has grown since 1990 as has economic activity in the city. These two things combined contribute to an increased demand for mobility. This has been seen on Portland’s downtown bridges, all of which are key portals into Portland’s central city. Four of these bridges have been bicycle-friendly since the early 1990s and have allowed that increased demand for mobility to be met almost wholly by the bicycle. Between 1990 and 2008 the number of vehicles on these four bridges⁸ increased by 12%, which is consistent with both increased population and economic activity. However, the entire increase was borne by the bicycle (which are defined as “vehicles” in Oregon). The number of motor

⁴ These numbers are for those who left their homes to go to work; they do not include people who worked at home.

⁵ No interim American Community Survey data is available for Portland between 1990 and 1996, which is why the graph shows a comparison to 1996. In the period between 1996 to 2008 bicycle commuting increased 250%, transit commuting increased 10%, walking increased 26% and driving alone decreased 5%. This is the data displayed in Figure 12.

⁶ A recent Politifact article judged this statement to be “mostly true.” See Politifact Oregon “Adams’ take on bicycling infrastructure cost is ride on,” by Ryan Kost, The Oregonian, Sunday March 20, 2011, p B1. See also: <http://www.politifact.com/oregon/statements/2011/mar/19/sam-adams/portland-mayor-sam-adams-says-portlands-spent-its-/>

⁷ See <http://www.portlandonline.com/transportation/index.cfm?c=44597>

⁸ The Broadway, Steel, Burnside and Hawthorne bridges.

vehicles crossing those bridges has stayed essentially constant since 1990. Thus, those bridges work as well for automobiles today as they did in 1990 despite the increased demand for mobility (see Figure 14).

Economic benefit. For the Portland metropolitan region, as for many regions of the US, less driving means more money circulating through the local economy. Brookings Institute Senior Fellow (non-resident) Joe Cortright quantified the economic benefit of driving less in a report titled “[Portland’s Green Dividend](#).”⁹ He estimates that annually \$800 million that would have otherwise left the Portland region instead remains to circulate in the regional economy simply because Portlanders drive an average four miles per day less than the national average. People using bicycles as a form of transportation tend to drive much less than four miles per day less than the national average and thus—all else being equal—contribute disproportionately more to that local economic benefit than do people not bicycling.

Portland’s anecdotal experience with bicycle parking seems to support this notion. Since 2008, Portland’s previously modest investment in bicycle corrals skyrocketed to the point that there are now 64 locations with [bicycle corrals](#)¹⁰ on Portland streets with another 68 in the works. Bicycle corrals are locations where on-street automobile parking in commercial districts is removed in favor of on-street bicycle parking. All corrals are installed at the request of adjacent business owners and business associations. More than 100 auto parking spaces have been removed in storefront commercial districts in Portland in favor of more than 1,000 bicycle parking spaces at these 64 locations. Figure 15 displays the rise in requests for bicycle corrals in Portland.

Health benefits. The public health benefits of increased physical activity are well known. Such benefits are copiously documented in public health literature. It is for no small reason that the federal Centers for Disease Control and Prevention long ago identified that “automobile trips that can be safely replaced by walking or bicycling offer the first target for increased physical activity in communities” (Dr. Jeffrey Koplan and Dr. William Dietz, 1999 with CDC).

In addition to the direct benefits of increased physical activity, there are also benefits associated with reduced motor vehicle emissions. A 2010 report by the [Health Effects Institute](#)¹¹ on [traffic-related air pollution](#)¹² found a suggestion of a causal relationship between proximity (defined as within 300 to 500 m) to busy roads and cardiovascular mortality and a definite causative relationship between such proximity and asthma and respiratory symptoms, especially in children. They conclude that 30% to 45% of the population in large North American cities is so affected.

Cost of providing mobility. Like many North American cities, Portland expects a significant influx of new residents in the next 20 years. Metro, the regional government, projects approximately 1,000,000 more people in the seven-county Portland-Beaverton-Vancouver

⁹ By Brookings Institute economist Joe Cortright: <http://www.ceosforcities.org/files/PGD%20FINAL.pdf>

¹⁰ See <http://www.portlandonline.com/transportation/index.cfm?a=250076&c=34813>

¹¹ The Health Effects Institute is a nonprofit corporation chartered in 1980 as an independent research organization to provide high-quality, impartial and relevant science on the health effects of air pollution. It receives half of its core funding from the US EPA and half from the worldwide motor vehicle industry. See <http://www.healtheffects.org/>

¹² See <http://pubs.healtheffects.org/view.php?id=334>

PMSA by 2035.¹³ It is because of our experience with bicycle transportation—as displayed in Figures 5-14—that have led Portland’s City Traffic Engineer to state that “[B]icycling infrastructure is relatively easy to implement and low cost compared to other modes. It is by far the most cost-effective way to provide for personal mobility in an urban transportation system.”

It is also why Portland’s Bicycle Plan for 2030 recommends a city-wide policy that calls for the city to “create conditions that make bicycling more attractive than driving for trips of three miles or less.”

Environmental Benefit. In addition to reducing deposition of health-threatening chemicals and particulates into the air and waterways of Portland, bicycle transportation figures prominently in Portland’s plans to reduce greenhouse gas emissions. The joint City of Portland-Multnomah County [Climate Action Plan 2009](#)¹⁴ recognizes that transportation contributes 38% of the county’s greenhouse gases. The plan calls for 25% of all trips in the county to be accomplished by bicycle by 2030.

Conclusion.

There is nothing in the water or the air that makes Portland, Oregon different from any other American city. Prior to Portland’s investments in bicycle transportation it was mostly indistinguishable from any other American city. Everybody drove. A few people used transit. A [miniscule minority](#) rode bicycles.¹⁵ It wasn’t until Portland began investing in earnest in bicycle facilities in the mid-1990s that bicycle transportation began to grow.

It was the investment in infrastructure that then allowed additional (and even more modest) investments to be made in encouragement and education programs and enforcement that have allowed Portland to further leverage its investments in infrastructure.

Portland’s experience is being replicated in cities across North America. As these cities build bikeway networks bicycle transportation is increasing. The better and more connected these networks are, the more use they attract.

It is that simple: build it and they will come.

¹³ See http://library.oregonmetro.gov/files/2030-2060_forecast_april_09.pdf , 20 and 50 year Regional population and employment range forecasts, April 2009 draft, by Metro.

¹⁴ See <http://www.portlandonline.com/bps/index.cfm?c=49989&>

¹⁵ This minority is referred to in Portland as the “strong and fearless,” representing one of four bicycle transportation “types.” For a full discussion of the “four types of cyclists,” which is one driving factor in Portland’s bicycle transportation planning, see: <http://www.portlandonline.com/transportation/index.cfm?c=44671&a=237507>

"Build it and they will come"
Portland's experience with modest investment in bicycle transportation

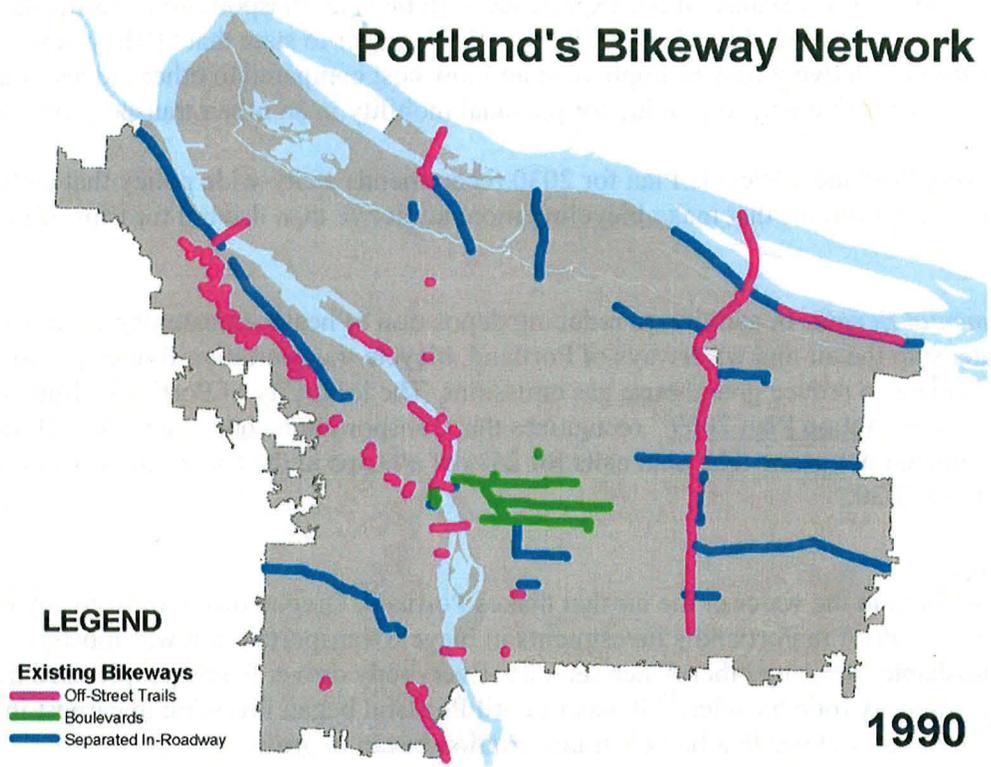
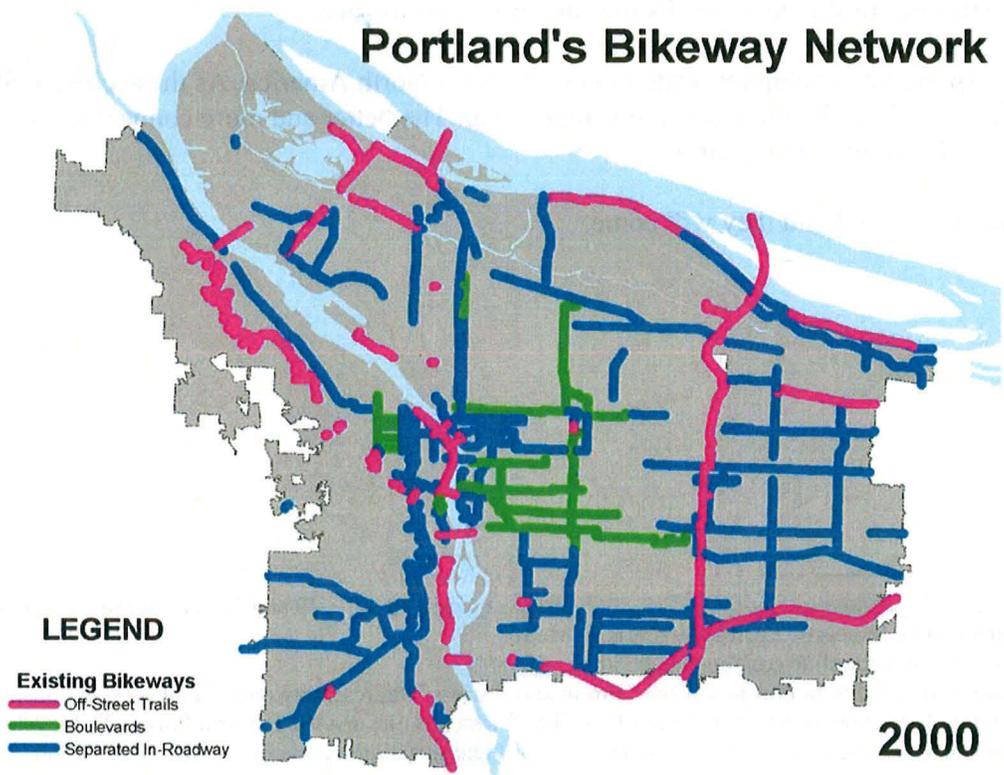


Figure 1. Portland bikeway network 1990



6 / 13 Figure 2. Portland bikeway network 2000

"Build it and they will come"
Portland's experience with modest investment in bicycle transportation

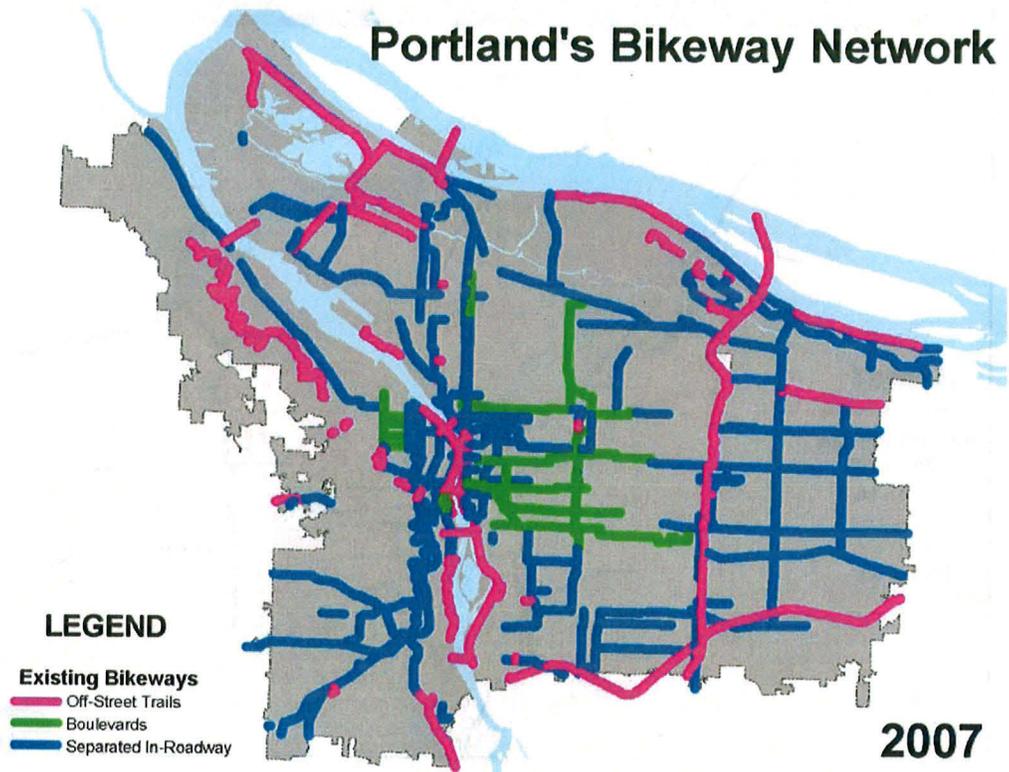


Figure 3. Portland's bikeway network 2007

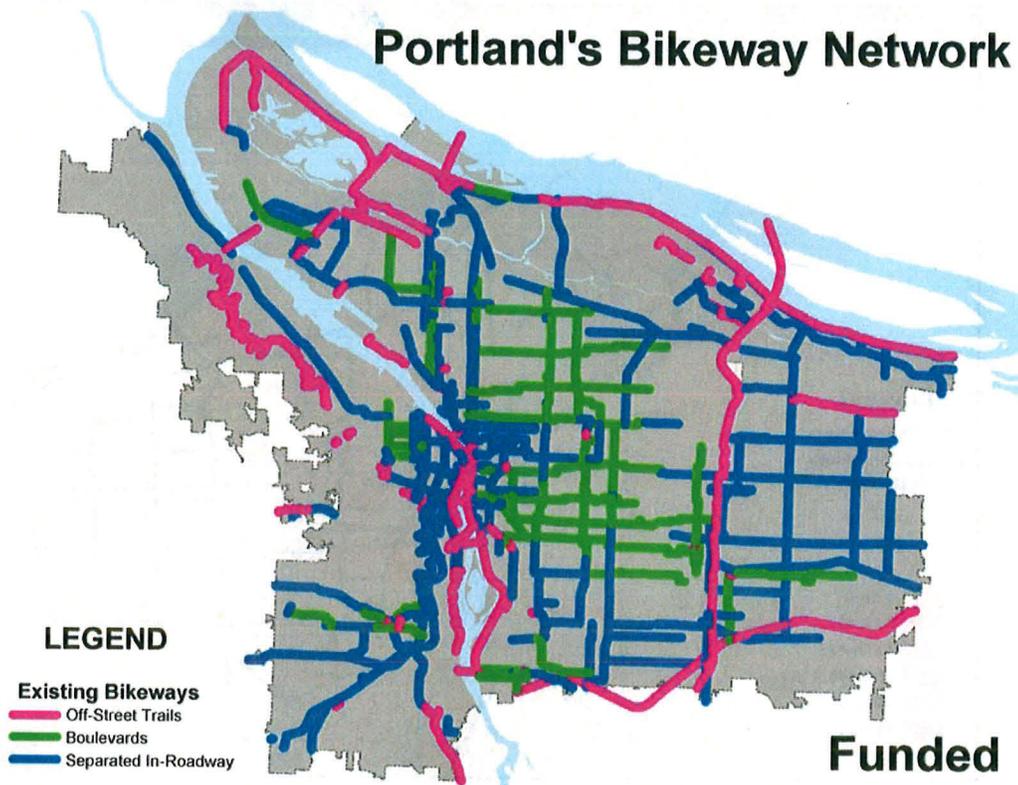


Figure 4. Portland's bikeway network existing & funded

"Build it and they will come"
Portland's experience with modest investment in bicycle transportation

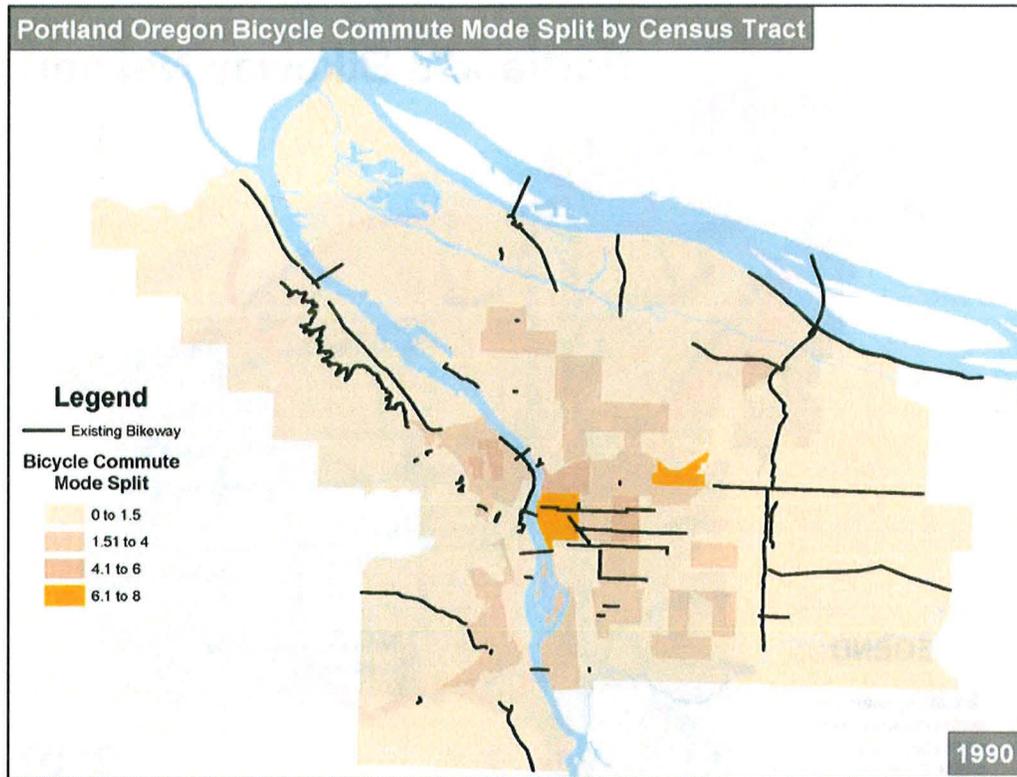


Figure 5. Bicycle commute mode split 1990

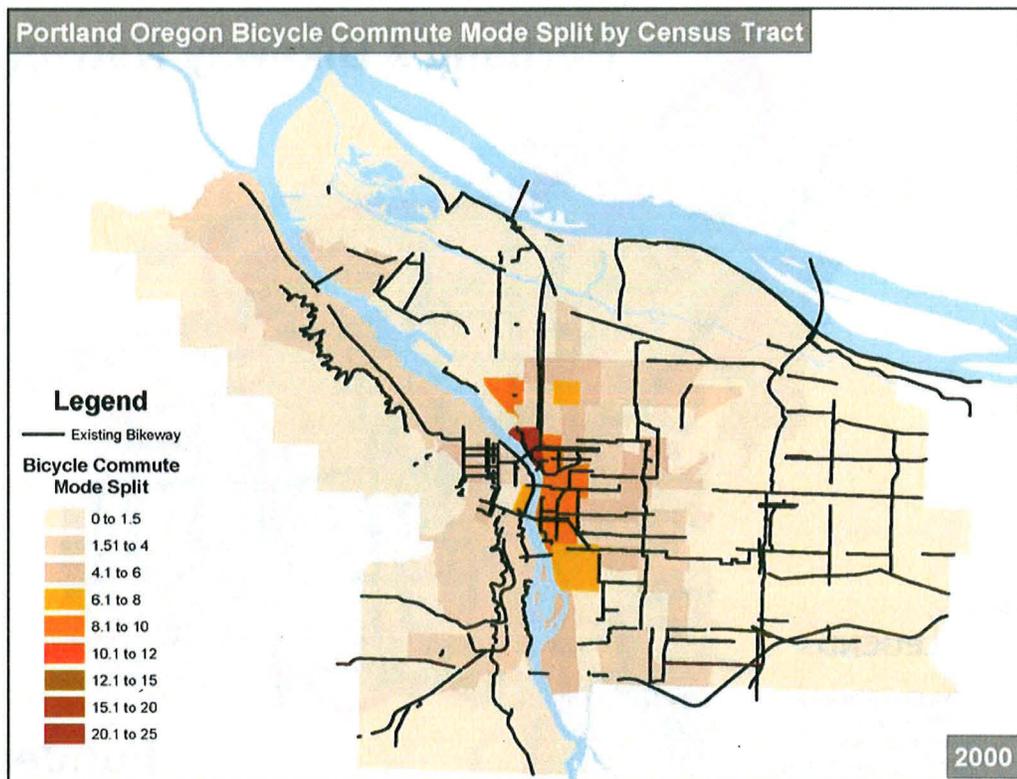


Figure 6. Bicycle commute mode split 2000

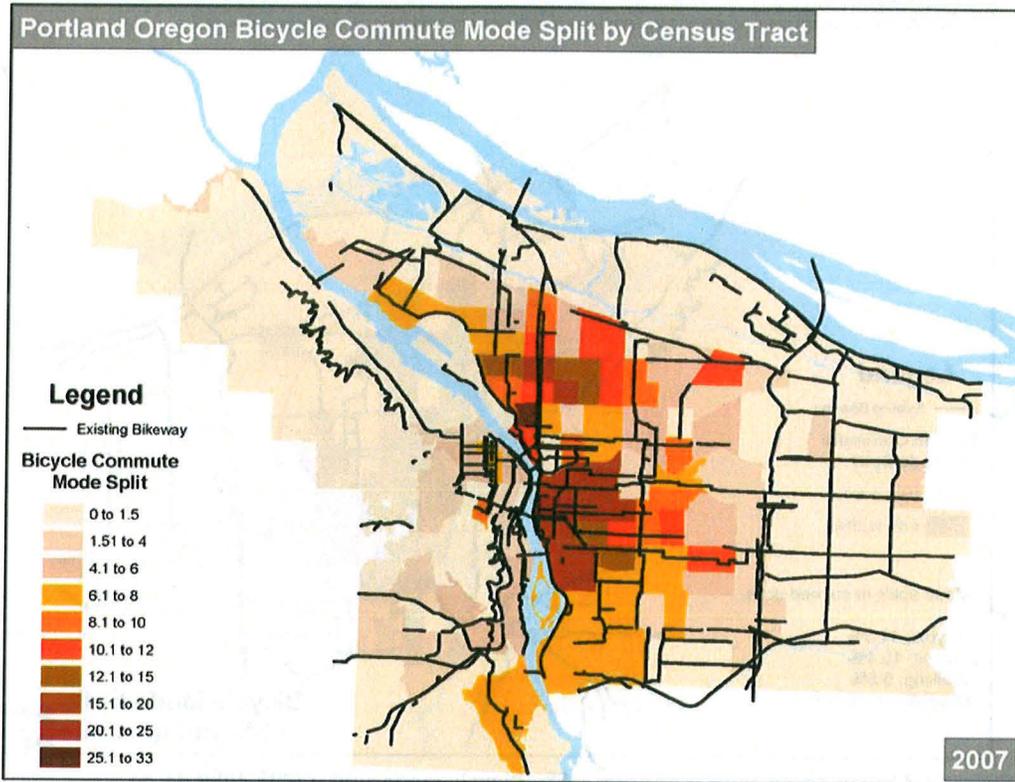


Figure 7. Bicycle commute mode split 2005-2009 (ACS)

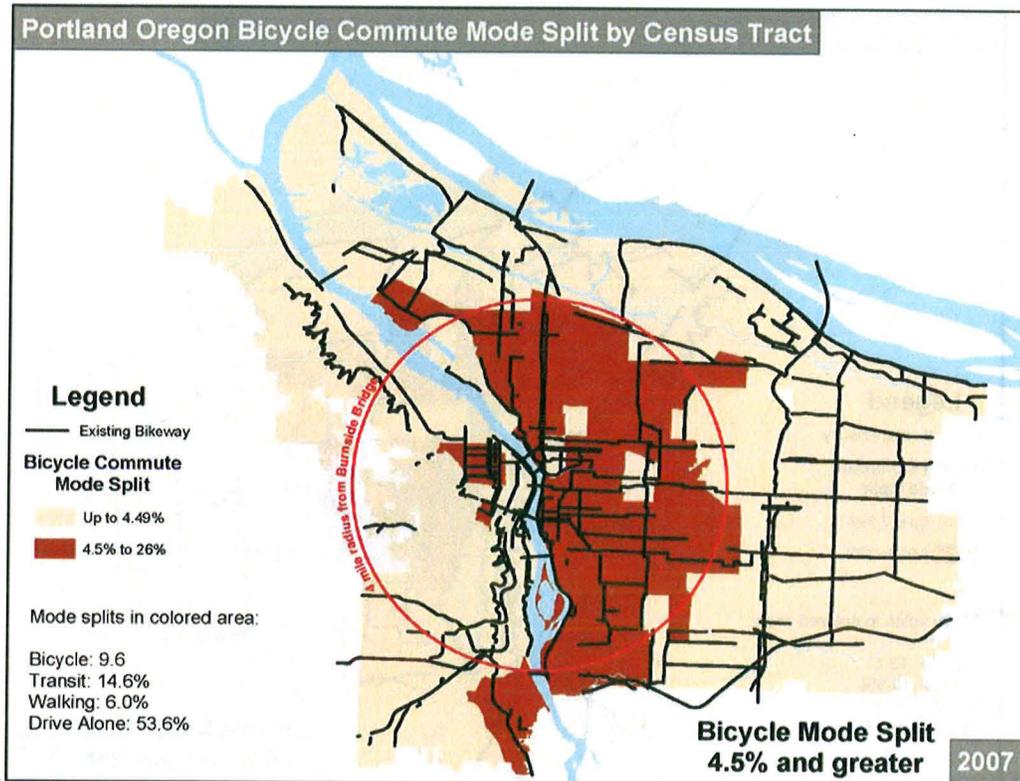


Figure 8. Census tracts with minimum 4.5% bicycle mode split (2005-2009 ACS)

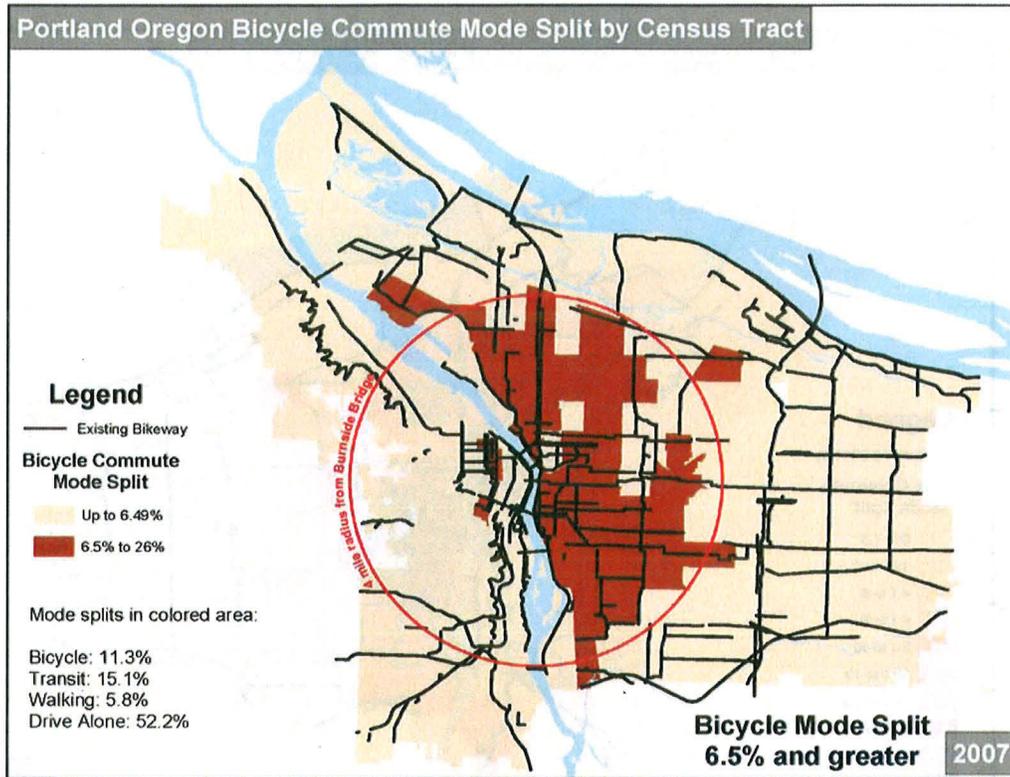


Figure 9. Census tracts with minimum 6.5% bicycle mode split (2005-2009 ACS)

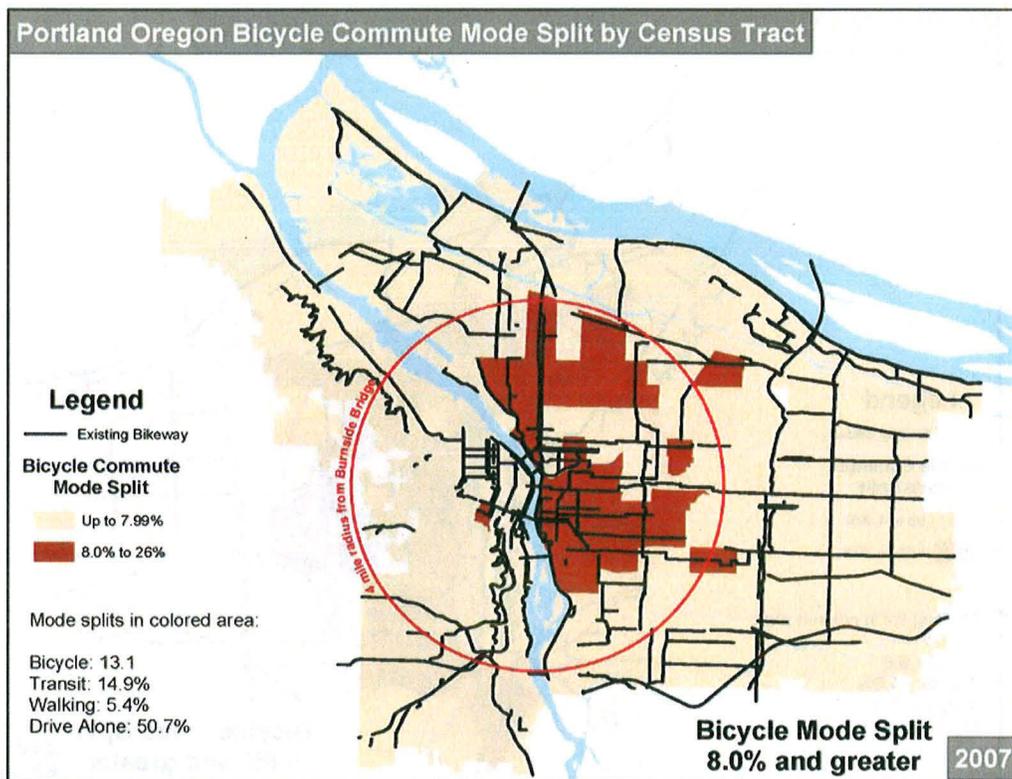
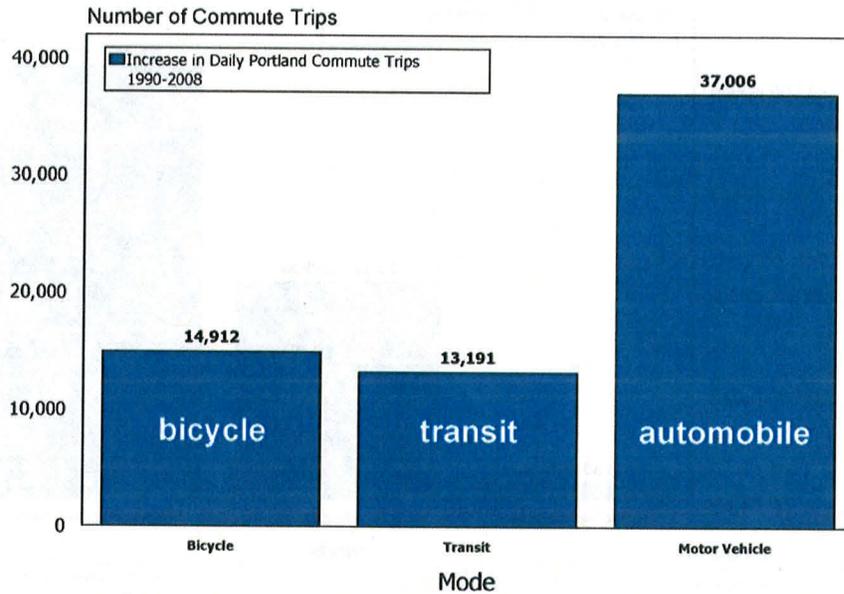


Figure 10. Census tracts with minimum 8.0% bicycle mode split (2005-2009 ACS)

"Build it and they will come"
 Portland's experience with modest investment in bicycle transportation

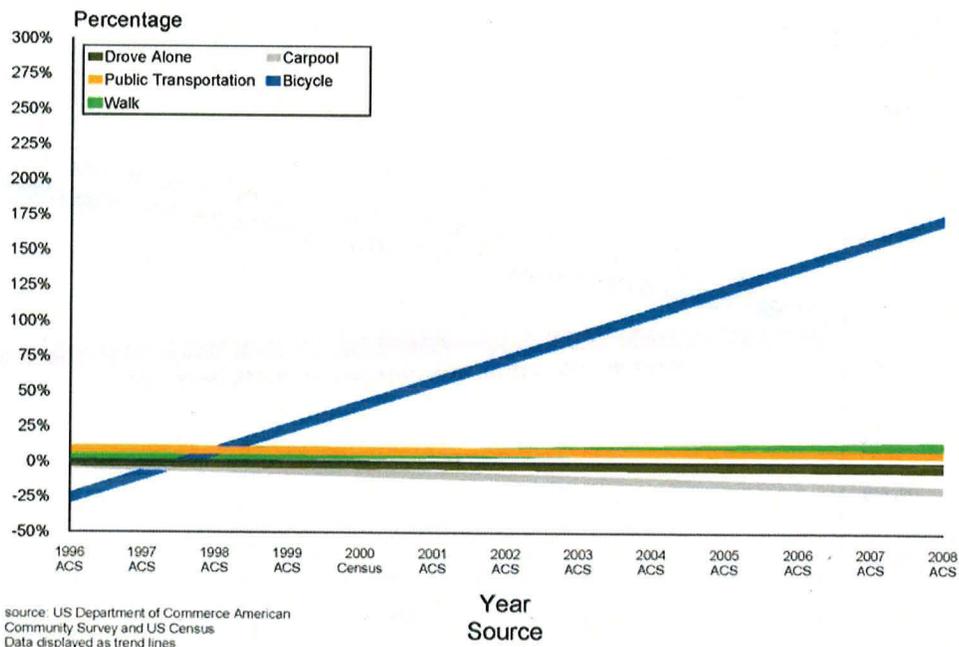
Increase in daily commute trips City of Portland 1990-2008 Bicycle, transit and automobiles



Note: Source of numbers: American Community Survey

Figure 11. Change in daily commute trips by mode 1990-2008

Change in Mode Split relative to 1996



source: US Department of Commerce American Community Survey and US Census
 Data displayed as trend lines

Figure 12. Change in mode split relative to 1996 (Trend Line)

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 Portland's experience with modest investment in bicycle transportation

Cumulative regional expenditures 1995-2010 Active transportation, transit and roadway

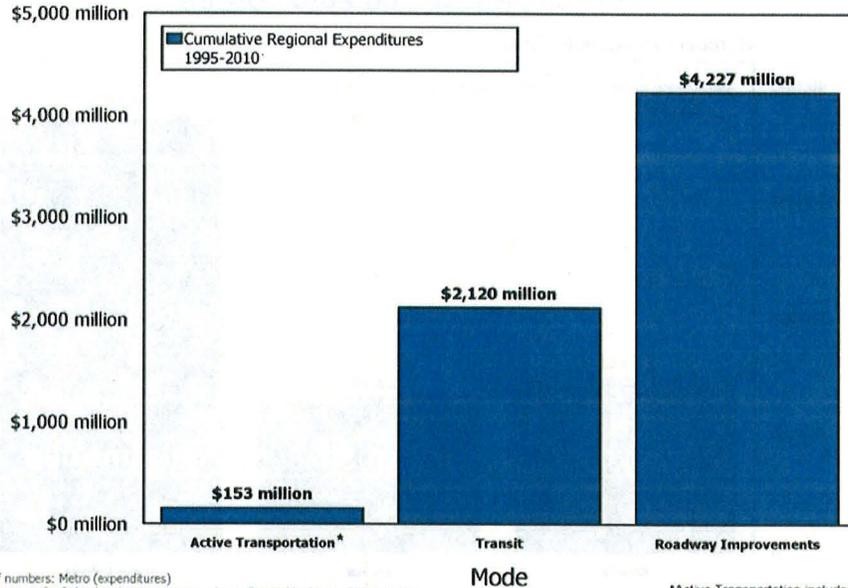


Figure 13. Cumulative regional capitol expenditures in transportation 1995-2010

Traffic on Portland's Four Principal Bicycle-Friendly Bridges 1991-2008

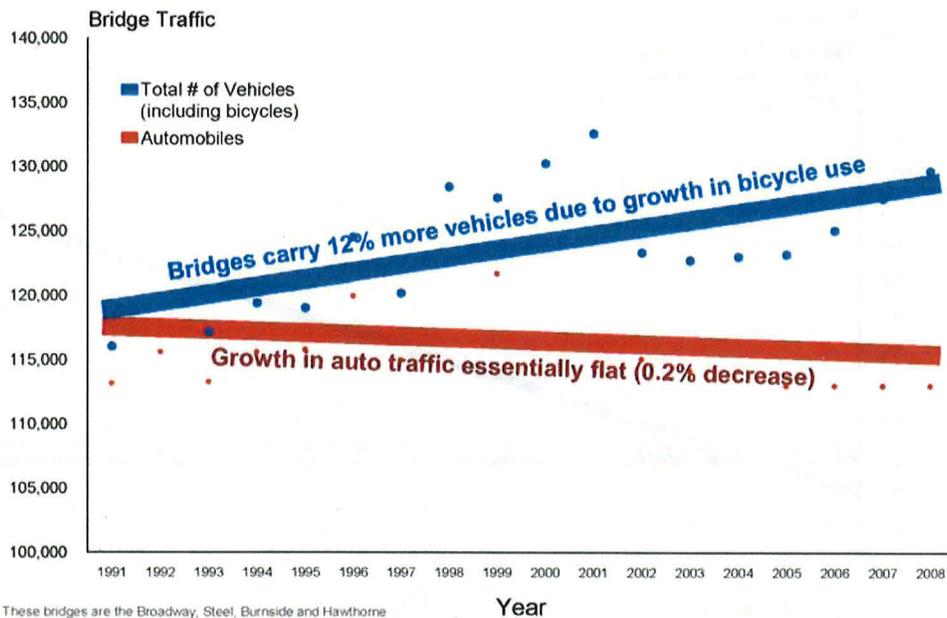
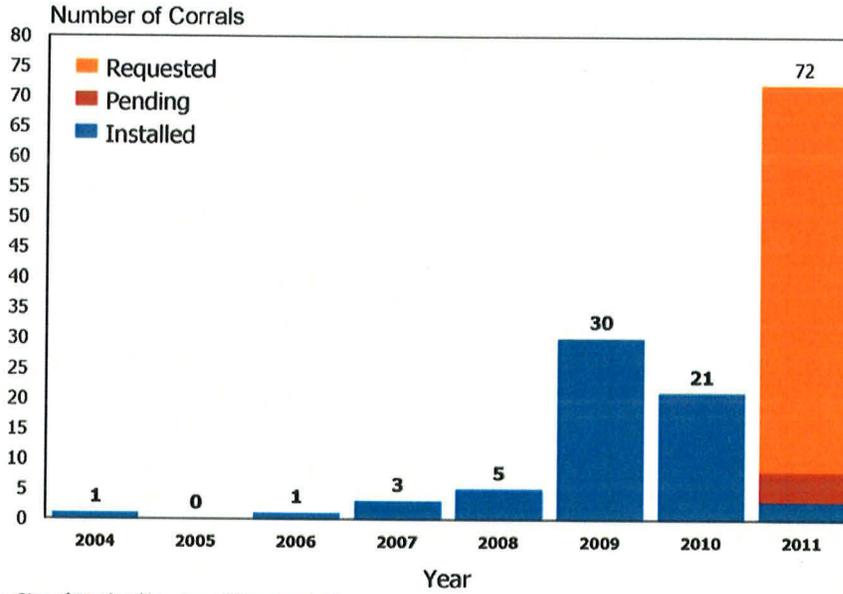


Figure 14. Increased demand for mobility largely met by bicycles on four principal Portland bridges

"Build it and they will come"
Portland's experience with modest investment in bicycle transportation

Portland's Bicycle Corrals Installations by year



Source: City of Portland Bureau of Transportation

Figure 15. Bicycle corral installation status March, 2011