

Oregon Greenhouse Gas Reduction Toolkit:
Strategy Report
OREGON SUSTAINABLE TRANSPORTATION INITIATIVE



Source: www.pedbikeimages.org / Jennifer Campos

Bicycle and Pedestrian Connectivity

This report describes the importance of connected bicycle and pedestrian networks in creating a viable alternative to automobile travel.



What is it?

A well-connected bicycle and pedestrian network will reduce the distance bicyclists and pedestrians must travel to reach their destination. Such a network has many connections, direct and convenient routing, few dead-ends, and few physical barriers.

In addition to unnecessarily long trips due to disconnected network, gaps in the bicycle and pedestrian networks can be a psychological or literal barrier to biking and walking. Connecting bicycle and pedestrian facilities to transit is very important to making transit as attractive as possible.

Strategies to improve pedestrian and bicycle connectivity include:

- » Reduce the standard length of blocks to 200-600 feet in length, with shorter blocks in town centers and longer blocks in outer neighborhoods.
- » Ensure bicycle and pedestrian facilities are constructed as a matter of course through a Complete Streets Policy
- » Provide bicycle/pedestrian outlets for cul-de-sacs and dead ends (in new construction through the land use code and in existing circumstance through retrofit)
- » Prioritize access to transit

Bicycle and pedestrian facilities should not be “out of the way.” It is important to identify visible and safe routes to housing centers, job centers, and transit hubs, and, address gaps and obstacles to a unified system. One method of prioritizing roadway segments for pedestrian and bicycle improvements is through a Bicycle/Pedestrian Level of Service (LOS) scoring system that measures variables such as:

- » Presence or absence of facilities
- » Width and quality of facilities
- » Separation of the facility from moving motor vehicle traffic
- » Volume and speed of adjacent traffic
- » Accessibility of adjacent land uses

The City of Fort Collins, CO was one of the first cities to create pedestrian LOS measurements, which are described in detail in the 2011 Fort Collins Pedestrian Plan.¹ An example bicycle/pedestrian LOS calculator is available online.²

How well does it work?

A study in King County, Washington found that residents in the most interconnected areas of the county travel

¹ <http://www.fcgov.com/planfortcollins/pdf/ped-plan.pdf>

² http://www.sustainablecitiesinstitute.org/view/page.basic/calculator/feature.calculator/Calculator_Bicycle_Level_of_Service

26 fewer vehicle miles per day than those who live in the least connected areas.³ Communities with good walking and cycling conditions have 5-15 percent fewer VMT than communities with poor conditions.⁴

Because changes in a community's land use and the transportation network take time, benefits of increased bicycle and pedestrian connectivity may accrue slowly. Combined pedestrian and bicycle infrastructure and policies have been estimated to result in a .2 to .5 percent reduction in baseline greenhouse gas (GHG) emissions.⁵

How can it benefit my community?

In addition to reducing GHG emissions, greater bicycle and pedestrian connectivity can:

- » Encourage physical activity and promote a healthy lifestyle
- » Increase transit ridership
- » Provide equal access to destinations for users of all modes
- » Increase safety for bicycles and pedestrians
- » Increase community involvement and activity in developing policy and promoting projects



What does it cost?

Costs of bicycle and pedestrian safety features vary widely by construction materials, drainage requirements, complexity, and aesthetic considerations. Techniques relying on restriping of roadways and narrowing lanes are less costly than pouring new asphalt or concrete, and some measures have little or no extra cost when completed during roadway construction or reconstruction.

Detailed cost estimates and case studies can be found via the Pedestrian and Bicycle Information Center (www.pedbikeinfo.org)

Funding for bicycle and pedestrian projects is available through federal and state grants, and can improvements can be required for new developments.

Where has it been used?

The Cities of Corvallis, Portland, Salem and Bend have established strong comprehensive plan policies regarding bicycle and pedestrian connectivity. In addition to policies designed to increase bicycle and pedestrian networks, it is important that code standards for adjacent development are supportive. The City of Corvallis has established "Pedestrian Oriented Design Standards," focused on fostering a safe and pedestrian-friendly environment. Other examples of strong policies and codes may be found in Sisters, Ashland, Cannon Beach, Hillsboro's Orenco Station, and Bend's Northwest Crossing

Where can I learn more?

- » The websites www.walkinginfo.org and www.bicyclinginfo.org are good source of information about planning and implementation of bicycle and pedestrian infrastructure.
- » Bicycle and Pedestrian Design Guide for facilities, ODOT: <http://www.oregon.gov/ODOT/HWY/BIKEPED/pages/planproc.aspx>
- » Creating A Top Bicycling City in America, Oregon Greenhouse Gas Reduction Toolkit - Case Study Oregon Transportation and Growth Management Program: <http://www.oregon.gov/LCD/TGM/docs/coolplanninghandbook1312011.pdf>

The Toolkit is a component of the Oregon Sustainable Transportation Initiative (OSTI), which was formed to address the requirements of Senate Bill 1059 (2010).

For more information, please visit:

<http://cms.oregon.gov/ODOT/TD/TP/pages/ghgtoolkit.aspx>



³ Frank, Lawrence et al. (2005). LUTAQA: A study of Land Use, Transportation, Air quality and Public Health in King County, WA.

⁴ Rails to Trails Conservancy. (2007). *The Short Trip with Big Impacts: Walking, Biking and Climate Change.*

⁵ Moving Cooler: An analysis of transportation strategies for reducing Greenhouse Gas Emissions. July, 2009.