

Oregon Greenhouse Gas Reduction Toolkit: Strategy Report

OREGON SUSTAINABLE TRANSPORTATION INITIATIVE



Source: www.pedbikeimages.org / Ryan Snyder

Pedestrian Environment

This report outlines strategies to improve the pedestrian environment to encourage walking as an alternative mode of transportation and support greenhouse gas reduction goals. This report focuses on buffered sidewalks, curb cuts, pedestrian zones, and other pedestrian-oriented amenities.



What is it?

A safe and convenient pedestrian environment is a key feature in vibrant and successful communities across the country. Walkability is a strong selling point and is often considered by home and business owners as they explore new areas to live or work.¹ Attractive walking options also promote transit use since most transit trips begin or end with a short walk. This report highlights strategies that can improve the walking environment, particularly when combined with other strategies such as improved connectivity and mixed-use developments.

- » Adding **curb cuts** at appropriate locations improves mobility for pedestrians, particularly those with disabilities, strollers, or small children on bikes.
- » **Pedestrian-scaled lighting** along sidewalks and off-street pathways improves visibility and helps pedestrians feel secure when walking after dark.
- » Buffers, such as a landscaped planting strip, between the sidewalk and street improve aesthetics, increase pedestrian comfort, reduce traffic noise, improve safety and can support stormwater management
- » **Signage along popular walking routes** can help pedestrians locate nearby destinations and estimate walking times, allowing users to plan their trip based on their specific goals.
- » **Pedestrian zones** are areas designed to prioritize pedestrians and bicyclists over vehicles. These zones can be designated as car-free, either permanently or for certain periods of time. Alternatively, a pedestrian zone may be designed to safely accommodate cars, bicycles, and pedestrians at once. Pedestrian zones can also allow daily vehicle use with conversion to a car free zone for specific occasions or events.

How well does it work?

The effectiveness of these strategies at reducing greenhouse gas emissions will depend on the scale of implementation, other strategies that are used concurrently, and availability of funding. The Moving Cooler² report provides an estimate of greenhouse gas reductions that are possible through implementing pedestrian and bicycle improvements together. The report estimates a 0.2 to 0.5 percent cumulative reduction by the year 2050 using identified strategies. Other research³ has shown the following:

- » Increased walking and biking has the potential to reduce greenhouse gas emissions (carbon dioxide specifically) by as much as 91 million metric tons per year
- » In neighborhoods with pedestrian accommodations, vehicle miles traveled decrease by at least 2 percent.

How can it benefit my community?

In addition to supporting greenhouse gas reduction goals, these strategies can also provide:

¹ Walk Score website: <http://www.walkscore.com/>

² Moving Cooler: An analysis of transportation strategies for reducing Greenhouse Gas Emissions. July, 2009. Pg. 42.

³ Climate Smart Communities: Scenario Project, Strategy Toolbox. Metro, August 2011. Website: www.oregonmetro.gov/climatescenarios

- » Increased public health through more walking opportunities
- » Increased safety for all modes of travel
- » Economic benefit associated with better pedestrian access to various destinations
- » Safer and more convenient routes for students to walk to school
- » Improved access to public transit will help promote transit use

In addition, a well-designed pedestrian zone can draw people into the area to shop and dine, supporting businesses and creating a vibrant atmosphere.

What does it cost?

The pedestrian improvements described in this report have a relatively low cost compared with other types of capital improvements.⁴ It is helpful to un-bundle pedestrian improvements from larger roadway improvements that may take years to construct. Generally speaking, these strategies are most effectively applied as part of a comprehensive plan that includes programming, funding priorities and opportunities, education, and policy and regulatory support. As such, it could take 3-10 years to fully implement these strategies, although small-scale incremental improvements can be done much faster. For pedestrian zones, planners must also consider whether the impacted commercial district is healthy enough to support this strategy. Removing or limiting vehicle access from a commercial district can be controversial and needs to be done through a collaborative planning process with all parties. Coordination is required to ensure access for emergency service providers. Town centers, main streets and high use destination areas can particularly benefit from these strategies. In addition, these strategies can support active transportation corridors, areas with good transit service, and areas around schools.

Where has it been used?

- » **Corvallis** emphasizes pedestrian-friendly practices in its Pedestrian Oriented Design Standards, which contains standards and guidelines for residential, commercial and mixed-use developments.⁵
- » **McMinnaville** has used a combination of public and private funding to make extensive pedestrian improvements to its downtown area, including sidewalk improvements, curb cuts, pedestrian-scale light fixtures, mid-block pedestrian crossings, public art, flower pots, street kiosks, and signage/banners.⁶
- » **Portland's Chinatown** completed the Old Town Chinatown 3rd and 4th Avenue Streetscape Plan in 2002. The plan included "festival street" designs for Davis and Flanders Streets which were intended to allow for shared pedestrian and auto use.⁷
- » In the 1970's, **Eugene** developed a car-free pedestrian mall in its central commercial core. This approach proved unsuccessful so in 2002, streets in the pedestrian mall were redesigned to allow vehicles to share space with pedestrians and cyclists while emphasizing pedestrian movement, bringing a much-needed economic boost to commercial businesses.⁸

Where can I learn more?

- » Cool Planning: A Handbook on Local Strategies to Slow Climate Change. <http://www.oregon.gov/LCD/TGM/docs/coolplanninghandbook1312011.pdf>
- » Balancing Street Space for Pedestrians and Vehicles. Project for Public Spaces. <http://www.pps.org/reference/balancing-street-space-for-pedestrians-and-vehicles/>
- » Pedestrian- and Transit-Friendly Design: A Primer for Smart Growth. http://www.epa.gov/smartgrowth/pdf/ptfd_primer.pdf
- » Walk Friendly Communities <http://www.walkfriendly.org/index.cfm>
- » Carfree.com offers information about how and where car-free areas have been established.

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>



⁴ Cambridge Systematics, 2011. *Technical Memo 2, Characteristics of Actions & Programs*. http://www.deq.state.or.us/aa/toxics/docs/pats/6_14_11onroadGas.pdf

⁵ See Chapter 4.10 of their Land Development Code: <http://www.corvallisoregon.gov/index.aspx?page=328>

⁶ See: <http://www.oregon.gov/ODOT/TD/TP/pages/casestudies.aspx?ocase%20studies>

⁷ More information is available at: <http://www.portlandoregon.gov/transportation/article/63245> and <http://www.ite.org/Membersonly/annualmeeting/2007/AB07H5403.pdf>

⁸ http://www.bicyclinginfo.org/bikesafe/case_studies/casestudy.cfm?CS_NUM=102