

Oregon Greenhouse Gas Reduction Toolkit: Strategy Report

OREGON SUSTAINABLE TRANSPORTATION INITIATIVE



Development Types

This report highlights how strategies that promote infill, compact mixed-use, and transit oriented development types can help advance greenhouse gas reduction goals.



What is it?

The type and form of development can help reduce greenhouse gas (GHG) emissions by promoting more efficient use of land, reducing vehicle miles traveled, and encouraging walking, biking and transit use. Such development types can also serve multiple community planning goals, such as focusing infrastructure investment, promoting equity, and advancing smart growth and sustainability policies.

- » **Infill development** focuses on reuse and redevelopment in built-up areas. Infill types range from adaptive reuse of an old warehouse in an industrial district to construction of a new single-family home on a vacant or underutilized lot in an established neighborhood. Infill development is cost effective because it takes advantage of existing infrastructure and avoids new construction (where infrastructure is often more expensive and commutes are longer). This approach is often a key component of district or neighborhood revitalization programs. Local governments can offer incentives to promote infill in specific areas or city-wide through the use of tax abatements, investment in alternative transportation, and density bonuses.
- » **Compact and mixed-use development** strategies are used to increase densities in certain areas and provide a mix of uses and amenities so that people do not have to travel as far (or can travel by foot or bike) to access services. This approach tends to work best in neighborhood and town centers; in areas with a good biking and walking network or well-served by transit; and where specific area plans are in place. Local governments can set policy targets to promote compact development to be implemented through zoning designations and code provisions that regulate design and construction.
- » **Transit-oriented development (TOD)** focuses on providing a combination of density, design, and diversity of use that supports nearby transit service. Generally, the ideal distance for promoting transit use is within 1/4 mile of a transit stop or 1/2 mile of a transit center. In either case, a quality pedestrian network connecting transit to the surrounding land uses is important. Local governments can encourage TOD through the use of incentives. For example, Metro's TOD incentives include purchase of TOD easements from developers and purchasing land near transit and re-selling it to qualified developers at a reduced cost. A variety of TOD projects throughout the Metro region have been constructed using this program.

How well does it work?

Moving Cooler¹ identifies land use strategies that exemplify the types of development listed in this report. The analysis indicates a range of 0.2 to 2.1 percent reduction in GHG by the year 2050, based on the assumption that roughly half of new urban development uses these strategies. The analysis also observes that these strategies can take time to implement and benefits accrue slowly, noting "the effects of land use changes can be expected to endure many years beyond 2050". Additionally, national studies have indicated that for each one percent increase in land use mix, a 2 to 11 percent decrease in vehicle miles traveled can result.²

¹ Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions. Cambridge Systematics, Inc. Urban Land Institute, July 2009.

² Climate Smart Communities: Scenarios Project, Strategy Toolbox. Metro, August 2011. Website: http://library.oregonmetro.gov/files/planning_and_development_-_regional_trans_reduction_strategies_and_the_benefits_they_bring_to_the_region_-_october_2011.pdf

How can it benefit my community?

- » Walking and biking opportunities support active living and improve public health
- » Cost savings through reduced travel time and distances and supporting alternative transportation modes
- » Cost savings from more efficient use of water, sewer, electric and other public infrastructure
- » Open space and natural resources can be preserved through more efficient use of land
- » Incentives for these development types can attract private investment and help stimulate economic growth

What does it cost?

Implementation of these land use strategies can involve several steps, including policy evaluation, creation of incentive programs, public involvement and outreach programs, development code amendments, changes to capital improvement programs and development of new financing tools. The time and cost associated implementing with these strategies depend on program scope, political support and funding opportunities. Generally, establishing the framework for these development types could take three to ten years.

Where has it been used?

- » **Transit-oriented development:** North Main Village in Milwaukie is a key part of Milwaukie's overall downtown revitalization effort.³ The site was a vacated Safeway store on a two-acre lot. In 2006 it was replaced with 97 housing units and 8,000 square feet of live/work and retail space, designed with diverse architecture. Design features include a courtyard rain garden that channels and filters stormwater and runoff into a central plaza. Total project costs were \$14 million and the project received \$555,000 in funds from Metro's TOD program because of its proximity to the future Portland-to-Milwaukie light rail line.
- » **Compact and mixed-use:** In Portland's Hollywood district, the Hollywood Library and Bookmark Apartments⁴ mixed-use development used a variety of funding tools to create a 16,000 square-foot building with a public library, locally owned coffee shop and 47 affordable and market rate apartments. Completed in 2002, the project was one of the first of its kind and won numerous awards for its innovative design, public/private partnerships and use of shared parking arrangements.
- » **Infill:** To promote infill development and ensure more efficient use of land, Port Townsend, Washington has established service tiers to ensure a more logical extension of growth and services within their urban growth boundary. Roughly one half of the city falls within the "first tier", where there is a relatively large share of its programmed capital improvements. Within the second tier, the city seeks to put in some major infrastructure improvements only after first tier priorities have been addressed. Within the third tier, "the city requires full improvements but will not participate at all in the improvements".⁵

Where can I learn more?

- » Infill Development Strategies for Shaping Livable Neighborhoods from the Municipal Research and Services Center of Washington. <http://www.mrsc.org/publications/textfill.aspx>
- » Filling in the Spaces: Ten Essentials for Successful Urban Infill Housing from the Housing Partnership and Washington Association of Realtors. http://toolkit.valleyblueprint.org/sites/default/files/fillingspaces_0.pdf
- » Metro's Transit-Oriented Development Program brochure: http://library.oregonmetro.gov/files/tod_brochure_aug_2010.pdf
- » Metro's Community Investment Toolkit: Financial Incentives. http://library.oregonmetro.gov/files/financial_incentives_toolkit_final.pdf
- » Commercial and Mixed-Use Development Code Handbook from the Oregon Transportation and Growth Management Program. <http://www.oregon.gov/LCD/docs/publications/commmixedusecode.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 *Transit Oriented Development Program, Transit Oriented Projects, Metro. Website: http://library.oregonmetro.gov/files/tod_brochure_aug_2010.pdf*

⁴ *Centers Case Study: Hollywood Library and Bookmark Apartments. Metro, 2005. Website: <http://library.oregonmetro.gov/files/hollywoodlibrarycs.pdf>*

⁵ *Infill Development Strategies for Shaping Livable Neighborhoods from the Municipal Research and Services Center of Washington, June 1997. Website: <http://www.mrsc.org/publications/textfill.aspx>*