Oregon Greenhouse Gas Reduction Toolkit:

Strategy Report

OREGON SUSTAINABLE TRANSPORTATION INITIATIVE

Transit Pricing

This report describes how reducing or eliminating transit fares can increase ridership and help reduce greenhouse gas emissions.

What is it?

Public transit is an essential component to reducing greenhouse gas emissions. There are many factors that impact a person's decision to take transit including convenience (location and frequency of service), walkability of the area around a transit stop, a sense of safety, and the presence of nearby amenities.

One method of encouraging transit ridership is to discount or eliminate fares. Discounted passes may be provided through a transportation demand management program in an employment district, by a single employer (see the Nike example below), or by a public agency or university. A fare-free system can be undertaken on a city-wide basis, such as in the Corvallis example below, or in a limited geographical area, such as a fare-free zone. Fare-free zones can be particularly effective in areas where parking is limited and/or expensive, such as healthy business districts and university campuses.

How well does it work?

The Moving Cooler[1] report indicates that reduced transit fares have the potential to reduce greenhouse gas emissions by 0.02 - 0.09%, depending on the aggressiveness of the strategy. The lower end of that range assumes a 25% fare reduction in large regions by 2015; the higher end assumes a 50% fare reduction in all regions by 2010 (the study was done in 2009). The International Energy Agency[2] estimates that the elimination of transit fares may have the potential to reduce greenhouse gas emissions by up to 0.3%.

Additional research[3] has shown the following:

- Rail transit ridership is roughly twice as resistant to fare change as bus ridership.
- Rider sensitivity to fare changes appears to decrease with increasing city size.
- Ridership appears to be less sensitive to fare changes in areas where transit is well established and is competitive with auto travel.
- Off-peak transit ridership is generally twice as sensitive to fare changes as peak period ridership.
- On average, most fare-free systems will trigger a 25% to 50% gain in ridership, with new systems expected to have the greatest increase compared to initial ridership projections.

A study[4] of employer-provided transit benefits in several large U.S. cities showed as much as a 34% increase in the number of employees using transit for their daily commute. The number of employees making non-work transit trips increased as well.

1 *Moving Cooler: An analysis of transportation strategies for reducing Greenhouse Gas Emissions. Cambridge Systematics, Inc. July, 2009.*
2 *Saving Oil in a Hurry. Organization for Economic Cooperation and Development, International Energy Agency 2005*
3 *Decrease or Eliminate Transit Fares. Oregon Mosaic, 2012. Website: http://www.oregonmosaic.org/124/transit.html*
4 *Saving Oil in a Hurry. International Energy Agency, 2005. Website: http://iea.org/publications/freepublications/publication/savingoil.pdf*

How can it benefit my community?

In addition to reducing GHG emissions, increased transit use through fare reductions can:

- Increase access to services and other destinations, particularly for low-income populations and people who don't drive
- Reduce out-of-pocket transportation costs for users and can help reduce congestion by encouraging a mode shift to transit
- Support compact, mixed-use developments
- Help spur pedestrian and bicycle facility improvements to provide access to transit

What does it cost?

Generally speaking, implementing a program of reduced or eliminated transit fares can be done relatively quickly (under three years) and changes in travel behaviors (increased transit use) are typically seen shortly after implementation. The cost of implementing this strategy depends on the type (reduced fares or fare-free) and scale of the specific program (employer based, public transit provider, etc.). In some cases, public funding may be available to offset the cost of providing free or reduced transit passes. In the Corvallis example (see below), the city compensates for the lost fare revenue by applying a city-wide Transit Operations Fee. Additional funding for their transit service comes from state and federal grants and contributions from Oregon State University.

Where has it been used?

Corvallis, Oregon eliminated transit fares city-wide in February 2011 and experienced a significant increase (up to 43%) in ridership in the months following. The resulting loss in revenue from transit fares was replaced by a implementing a surcharge (the Transit Operations Fee) on customer utility bills. More information is available at: http://www.oregon.gov/ODOT/TD/TP/CaseStudy/Corvallis.pdf

Nike's world headquarters is located on a large campus in the suburbs of Beaverton, Oregon and employs around 8,000 people. As part of their employee transportation program (and in conjunction with TriMet), Nike offers a deeply discounted annual transit pass for all full-time employees that allows them access to nearby bus and light rail service. This strategy has helped Nike reduce their single occupancy vehicle (SOV) share from 98% in 1992 to 75% today. More information is available at: http://www.oregon.gov/ODOT/TD/TP/pages/casestudies.aspx/ocase%20studies

Where can I learn more?

- Brochure from the American Public Transportation Association: Public Transportation Reduces Greenhouse Gases and Conserves Energy: The Benefits of Public Transportation. Website: http://www.apta.com/resources/reportsandpublications/Documents/greenhouse_brochure.pdf
- Technical report on transit pricing elasticity from the Victoria Transport Policy Institute: http://www.vtpi.org/tranelas.pdf
- Transit Pricing and Fares: Traveler Response to Transportation System Changes. Transportation Research Board, 2004. Includes useful case studies of Portland and Seattle fare-free zones on page 12-49. Website: http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c12.pdf
- Transit Information and Promotion: Traveler Response to Transportation System Changes. Transportation Research Board, 2004. Website: http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c11.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

Oregon Department of Transportation