



Why Mobility Planning Matters

Case Study: City of Portland



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Abstract:

The purpose of this report is to review how another city in the United States, particularly Portland, Oregon, addresses the issues of Social Justice, Public Health, Economic Development, and the Environment through transit oriented development, and how it can be adapted to the framework of Memphis. This case study explores the tools (policies, plans, and projects) used by Portland in its pursuit of a successful pedestrian-friendly and transit-oriented city, as well as the key players and current results of its efforts. While there are significant dissimilarities between Portland and Memphis, there are still lessons to be learned from the approaches taken and the successes of individual projects.

The case study started with a simple idea to create a vision and development strategy for key places that promote community-driven and supported economic development. Goals of this project include bus travel on street and at stations. The way this is achieved is with dedicated bus lanes, sidewalks and crosswalks to safely access stations, greater accessibility and ADA amenities, improved comfort and sheltering for awaiting buses, room for more people, alternative fuel usage (hybrid, all electric). Future development and transit improvements, create a safe and healthy neighborhood and improve access to social educational environmental and economic opportunities. Addition of more Bike boxes at each intersection increases the amount of storage and parking for bikes easier and convenient bike crossings that strengthen bicycle policies to form a denser Bikeway Network.

Introduction:

Portland, Oregon is a commonly used example of transit-oriented development (TOD) in the United States. In fact, it is known for cultivating a culture of more environmentally aware and “green-conscious” citizens. Not only did it shatter the norm of the 1970s highway-oriented development trend by cancelling the Mt. Hood Freeway project in favor of a public rail system, but the city was also the first to adopt a Municipal Climate Action Plan in the Nation (1993) with the intent to lessen the generation of greenhouse gasses. The people of the Portland area have shown a pro-activeness toward environmental issues long before the rest of the country.

As the largest city in the state of Oregon and the 24th most populous Metro area in the U.S., Portland is considered a relatively large area. However with a metro population of 2,348,247, it is about 1,000,000 people greater than the Memphis metro. Another difference to consider when looking at Portland as a case study comparative to Memphis is the demographic of the city. While Memphis has no majority race, with about 45% white residents and 47% African American residents, and a medium household income of \$47,344, Portland has a white majority population, with 81% white residents, about 11% Hispanic, 6% Asian, and only 3% African American, and a medium household income of \$53,078. The population density of Portland is also 4,375.1 people per square mile, compared to Memphis’s 2,000 people per square mile (US Census 2014), which is most likely the outcome of their TOD programs and their unofficial motto to “build up, not out.”

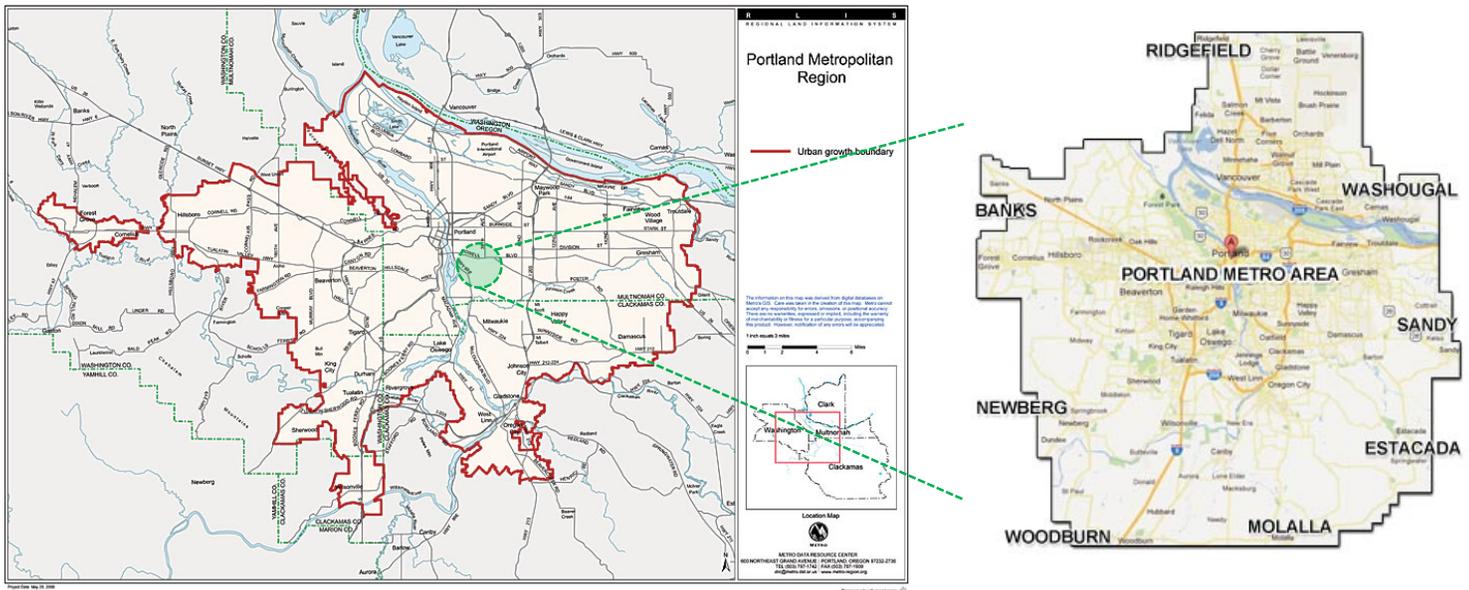


Exhibit 1 Portland metro area with respect to the Urban Growth Boundary

Policies and Strategies

Early Policies and Programs:

Portland is most known for its bold, early city plans, when in 1973 Governor McCall and the Oregon State Senate adopted the nation's first set of statewide land use planning laws to control urban sprawl from reaching the natural scenery of Oregon. The law required an Urban Growth Boundary (UGB) to be set in every municipality in Oregon, as well as protection of natural resources and a “wise use” of urban land. The goal of the UGB was to ensure 20-year land supply inside the boundary and preserve rural areas outside, or 254,000 acres, and while the UGB in Portland is not meant to be static (it has expanded less than 50 times) most of the changes were less than 20 acres each time (Arrington, 2009).

Portland did not stop with the Downtown Revitalization Plan and the Urban Growth Boundary. In 1988 the Central City Plan was adopted, which introduced housing to the urban core and focused more on greater connections to the river and including the South and East. This plan, along with the 1988 Central City Plan, the 1992 River District Vision Plan, 1994 River District Development Plan, and the 1998 River District Urban Renewal Plan set the introduction for the Pearl District development by encouraging developers to go back into mostly abandoned and blighted areas within the city, providing incentives with tax-increment-financing (TIF) programs. In 1995 the Central City Transportation Management Plan was adopted, which mostly amended the Central City Plan and Zoning code, but with a focus on stricter guidelines for parking and redevelopment of existing parking lots (Cervero, 2004). Unfortunately, the parking guidelines have not been updated since the 1995 plan, and as a result Portland still has relatively cheap parking rates in the downtown area, not discouraging personal automobile use (Walker, 2010).

A few other programs that Portland has used to progress towards a more TOD city include:

Transportation Planning Rule	Metro areas in Oregon are required to not only set goals but also set in motion policies and actions that restrict use of or lessen dependence on automobiles. This includes land-use controls geared more towards bike use, pedestrian needs, and compact, mixed-use development
Transportation & Growth Management Program	Provides local government grants and other aids, especially from federal transportation funds, to stimulate and support better community planning of growth management and transportation
Regional growth Management (2040 Growth Concept)	While the concept has now changed to the 2050 Growth Concept, its goal is still to reduce CO2 emissions and greenhouse gasses through building “up, not out,” and staying tightly inside the UGB, focusing on transit centers and corridors
TOD Tax Exemption/Tax Increment Financing	Provides tax exemptions for up to 10 years for residential properties and developers who follow a transit-oriented development design in Portland and Gresham. It is not the only incentive program to promote TOD projects, and all projects are reviewed by separate organizations with different requirements (like, TriMet, Metro, and the PDC). TIF programs have also been used to secure affordable housing an increase density in Urban Renewal Areas
TOD Implementation Program	Uses local and federal transportation funds for TOD projects, usually for site acquisition and easements
Vertical Housing Program	Offers partial property tax exemption (up to 80% over 10 years) toward mixed-use commercial and residential projects in a community-selected area (Arrington, 2009).



Elements of the Public Transportation System:

The Transportation Options in Portland Metro area under TriMet include the local bus, the commuter rail, the light rail, and the streetcar system. While the local bus was in place long before Portland’s grassroots movements in the 60s and 70s, it now includes 93 lines with 610 busses, 253 minibuses, and 15 vans (for Paratransit). The Metropolitan Area Express Light rail was next, opening in 1986 and resulting from the failed Mt. Hood Freeway project, where Portland residents voted against putting another interstate in the middle of the area and for a public transit system. The line now has 145 vehicles with almost 60 miles of track, and an average daily ridership of approximately 118,400. Between 1990 and 2000 the rate of ridership of TriMet busses and Light Rail rose at such a level that it surpassed not only the population growth rate, but also the rate of vehicular miles travelled.

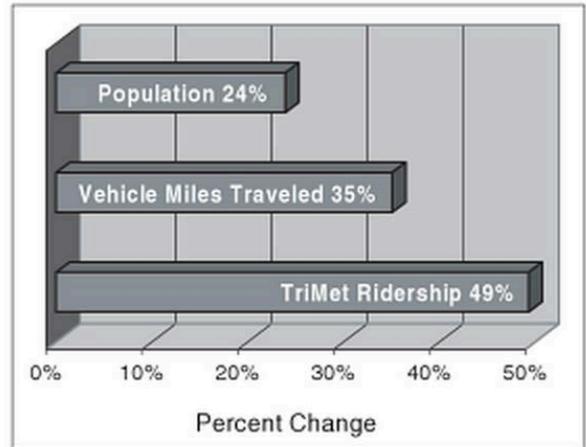


Exhibit 3: Percent Change in TriMet Ridership between 1990-2000





Exhibit 4: TriMet System Map

More recent additions to the Portland public transportation system are the commuter rail and the streetcar system. The commuter rail, which opened in 2009, uses updated freight rail tracks over an almost 15 mile area. While average daily ridership is lower than expected (at about 2,090 per day) it had been gradually increasing each year since it's opening, with the exception of 2010. The Streetcar System a program through TriMet that has been in the works since the late 80s is the most recent addition to the transit system, with the first line opening in 2001 and the most recent in 2012. The street car provides a different service than the light rail in that it is not separated from the traffic, reducing construction cost of adding a line, and in that doesn't close traffic lines permanently, minimizing the disruption of traffic flow

Bicycling in the City:

By the mid 90s, Portland had an increasing population that rode a bicycle as a main mode of transportation. The 1996 Bicycle Master Plan for Portland took this rise into account and assigned existing roadways "types," so that roads with more than 3,000 vehicles averaged a day would gain bike lanes, and smaller, less frequented local roads would be turned into "bicycle boulevards."

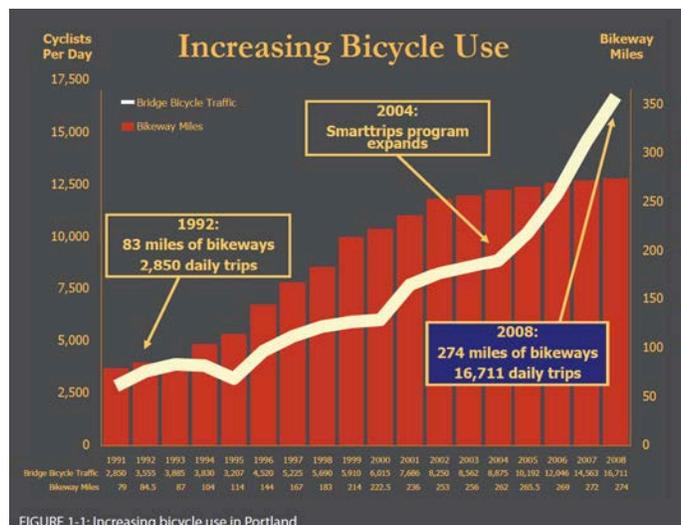


Exhibit 5: Increase in Bicycle Use from 1991-2008

Bike commuting by household income, Portland metro area, 2006-2010

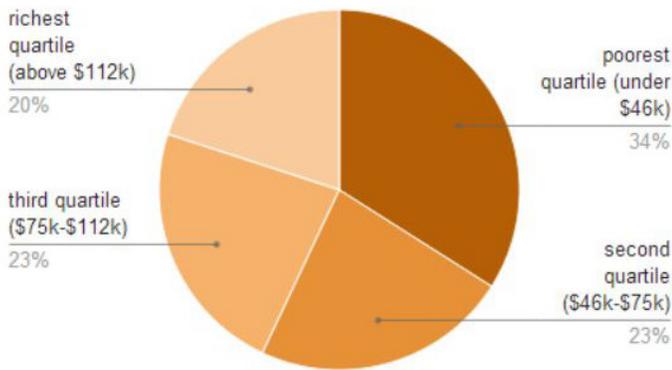


Exhibit 6: Bike Commuting by Household income, prior to 2030 Plan

Figure 2.6: Percentage of Population Reporting the Use of a Bicycle as Their "Primary" or "Secondary" Means of Commuting to Work

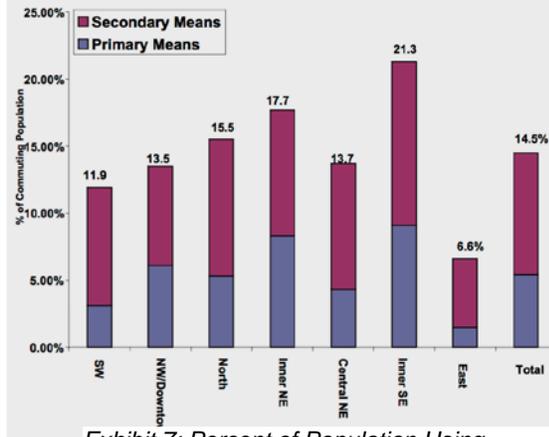
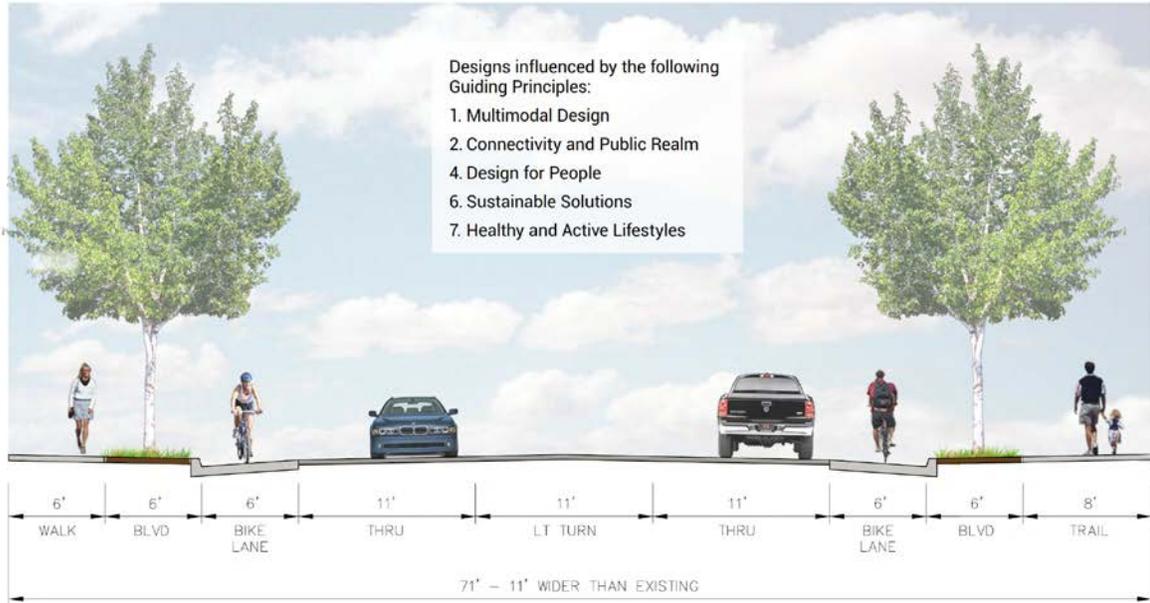


Exhibit 7: Percent of Population Using Bicycling as Primary or Secondary Mode of Transportation

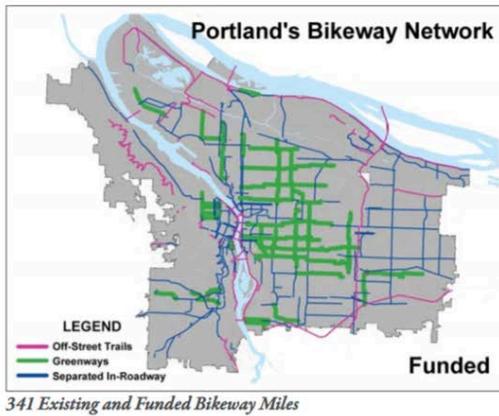
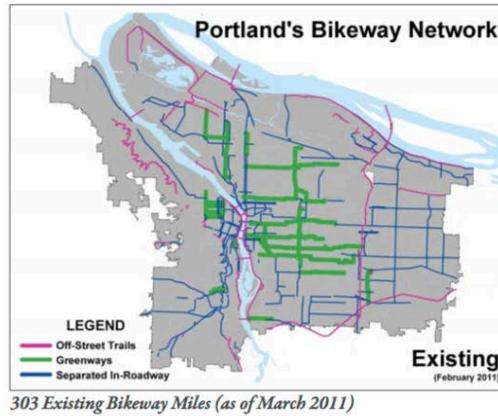


In 2010, seeing how the 1996 plan transformed the bicycling rates in the city, Portland set into motion the adoption of the Portland Bicycle Plan for 2030 to expand even more into bicycle infrastructure that would apply to the greater population (cyclists of all kinds) (Port of Portland, 2011).

CONCEPT 2—ON-STREET BICYCLE LANES WITH SIDEWALKS AND MULTIUSE TRAIL



County Road Reconstruction Projects – Portland Avenue and 66th Street



Time Frame for measured impact

The original goal of the Portland government in the 1970s was environmental sustainability and reduction of greenhouse gasses through limiting automobile dependency and promoting higher density, transit-oriented communities. This idea of limiting automobile dependency mirrored those of Europe at the same time, following the Arab Oil Embargo and a global desire for a more electric system. In 1972 and the middle of a large-scale grassroots movement in Portland, the Portland Downtown Plan was proposed to revitalize the downtown core and begin to link transportation with land use and development. The people of Portland wanted a city more oriented to the people (pedestrians, bikers) than cars.

The city revamped its planning policy in 1988 with the Central City Plan, moving the focus more on revamping older parts of the city through TOD, and no long new developments through the process. Then again in 1995 the Central City Management Plan was adopted, this time with a focus on stricter guidelines for parking and redevelopment of existing parking lots. While Portland began its change toward a more transit-oriented and pedestrian friendly city in 1973, they continue to update their policies and approaches to make the system sustainable over a long period of time.

Lead Entities

The key players responsible for the TOD system in place today include the Tri-County Metropolitan Transportation District of Oregon (TriMet), the Regional Government (Metro), and the Portland Development Commission (PDC):

TriMet	Created in 1969 by the Oregon legislature, it is now a public agency that runs the mass transit in the Portland Metro area. TriMet took over the bus system in place before its conception, and now covers commuter rail, light rail, local bus, and the streetcar systems
Metro	Formed in 1993, it is the regional government and metropolitan planning organization for the Portland Metro area (Oregon portion). It controls the region's solid waste system, manages parks, recreational and natural areas, and most importantly the growth of cities
PDC	Created in 1958, it is the urban renewal and economic development agency of the metro area. The mostly focus on job creation and economic development, and are responsible for analyzing opportunity for and allocating resources to appropriate development projects

Outcomes

Unfortunately, Portland has not excelled in all four of the key criteria areas. While public transport use has increased by 65%, there are still 58% percent of people in the city who use personal cars alone. It is suggested that the continuing low cost of parking downtown today only promotes personal automobile use. In the public health area Portland also falls short, with higher levels than the national average of diabetes and heart disease (62% of Oregonians are obese, and 15% are affected by heart disease) (Oregon Health Authority 2012). This statistic could be related to the signature amount of breweries in the Portland area, though.

Method of Transport	Population of workers over 18 years	Percent of Population
Car, truck, or van - drove alone:	187,726	62%
Car, truck, or van - carpooled:	29,651	10%
Public transportation (excluding taxicab):	38,529	13%
Walked:	17,615	6%
Taxicab, motorcycle, bicycle, or other means:	27,705	9%

Table 1: Method of transport to Work, all workers over 18 in the Portland Metro Area, as gathered from the US Census 2013 ACS 5 year (Census, 2013).

In other sectors, however, Portland thrives. Whereas the national average of greenhouse gasses produced per capita is 23.59 tCO₂e, Portland's average is nearly half that, at 13.5 tCO₂e. They also beat Minneapolis, Seattle, Denver, and Washington D.C. with that amount. Portland residents travel on average 20% fewer miles than the average US metro resident, are twice as likely to use transit to get to work, and are seven times more likely to ride a bike, and as of 2014, 38% of Portlanders who work away from home use public transport, taxicab, bicycle, walked, or carpooled to work. Due to the increase in biking infrastructure, just in the last ten years cycling traffic has increased by a reported 257% (Warsi, 2006). While the unemployment rate is that of the national average, at 5.5%, the job growth rate in the metro area is almost 3%, and the cost of living is 6.6% above the national average (Census, 2014). Even today, Portland continues to work towards a more pedestrian friendly city, opening the first bridge that does not allow private vehicles (only pedestrians, bikes, light rail and streetcar trains) in September 2015. Portland has set the bar high for transit-oriented development, answering not only environmental issues but also economic development issues with an ongoing approach to new and better TOD programs and plans, and constant communication and collaboration with local communities involved.



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