

Bicycle Planning in the City of Portland: Evaluation of the City's Bicycle Master Plan and Statistical Analysis of the Relationship between the City's Bicycle Network and Bicycle Commute

By **Mauricio LeClerc**

Portland State University

[Masters of Urban and Regional Planning](#): Field Area Paper, Fall 2002

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BACKGROUND

The city of Portland is considered one of the most bicycle-friendly cities in the country. In both 1995 and 1998, *Bicycling* magazine ranked Portland as the friendliest city in the United States, and in 2001 the magazine ranked it as the friendliest city in all of North America.

To increase the role of bicycling in its transportation system, the city of Portland adopted a Bicycle Master Plan in 1996. The plan included a goal to increase the network of bikeways to 630 miles. Between 1995 and 2001, the network increased from 111 to 228 miles of developed bicycle lanes, boulevards (local streets parallel to major arterials that enjoy low auto traffic and favorable signaling and infrastructure for bicycles), and off-street paths.

RESEARCH

The research uses regression analysis to understand what factors may affect the choice to commute by bicycle. Factors examined included bike lanes, topography, distance from downtown, demographics (e.g. age and income), and population density. The dependent variable was the share of workers in a census tract who commute by bicycle. Data were from 1990, 1996, and 2000.

Data sources include the U.S. Census data, along with geospatial data from the City of Portland and Metro.

FINDINGS

In general, adding bikeways in an area is associated with higher percentages of bicycle commuters. The models suggest that an additional 1,000 linear feet of bikeways per square mile is associated with, roughly, a 0.04 to 0.06 percentage point increase in the share of workers commuting by bicycle.

In addition, rates of bicycling were higher in areas that were flatter, closer to downtown, and with lower car ownership rates.

The research also notes that bicycle trips to work are a small percentage of total bicycle trips, and that the bicycle network can be used for a variety of trip purposes. In addition, an effective bicycle transportation system must also include adequate parking facilities and signage, be safe, and have institutional and staff support from the city or county.