3-2019

New Pedestrian Modeling Tools: Growing Beyond the Portland Region

Kelly Clifton
Portland State University, kclifton@pdx.edu

Jamie Orrego-Onate
Portland State University, jaime9@pdx.edu

Patrick Allen Singleton
Utah State University, singletonpa@gmail.com

Robert J. Schneider
University of Wisconsin - Milwaukee

Recommended Citation

Clifton, Kelly J; Orrego-Oñate, Jaime; Singleton, Patrick; and Schneider, Robert. New Pedestrian Modeling Tools: Growing Beyond the Portland Region. Project Brief. NITC-RR-1028. Portland, OR: Transportation Research and Education Center (TREC), 2019.

NEW PEDESTRIAN MODELING TOOLS:
GROWING BEYOND THE PORTLAND REGION

There have been important advances in non-motorized planning tools in recent years, including the development of the MoPeD pedestrian demand model led by Kelly Clifton of Portland State University. This tool and others are increasingly requested by governments and agencies seeking to increase walking activity and create more walkable places. To date, the MoPeD tool has been piloted with success in the Portland region using data unique to Metro, the metropolitan planning organization. However, there is increasing interest from planning agencies in adapting the pedestrian modeling tools and their inputs for use in their own jurisdictions. Unfortunately, other regions often do not have uniform access to the same kinds of pedestrian environment data as Metro, particularly at such a fine-grained scale.

This project focuses on making non-motorized planning measures, models, and methods developed in Portland, Oregon more transferable to other locations. This research is the next logical step in the MoPeD's enhancement and is critical to enabling its utility beyond the Portland region.

Interregional comparisons showed promise for the use of the Pedestrian Index Environment (PIE) in different regions. The results of this project show that population density and pedestrian connectivity had the most consistent and strong relationship to walk mode choice across all of the regions tested. Other components of the built environment (such as road network density and transit access) had more variability in their ability to explain walk mode choice. Employment density and its retail and service access were found to have less explanatory power and stability across the cities tested. The interregional comparisons of PIE and walk mode share between Los Angeles and Portland showed promise for the use of the index in different regions. Based upon these findings, the final report provides several guidelines for the construct of walkability indices, including variables and spatial scales.

There have been important advances in non-motorized planning in recent years. This project focuses on making non-motorized planning measures, models, and methods developed in Portland, Oregon transferable to other locations.

Transferability & Forecasting of the Pedestrian Index Environment (PIE) for Modeling Applications (#2019-1028)

Kelly Clifton, Portland State University

Download Final Report: http://nitc.trec.pdx.edu/research/project/1028