

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

Let us know how access to this document benefits you.

Follow this and additional works at: https://pdxscholar.library.pdx.edu/trec_briefs

 Part of the [Transportation Commons](#), [Urban Studies Commons](#), and the [Urban Studies and Planning Commons](#)

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.

This Report is brought to you for free and open access. It has been accepted for inclusion in TREC Project Briefs by an authorized administrator of PDXScholar. For more information, please contact pdxscholar@pdx.edu.



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.

This study was funded by the **National Institute for Transportation and Communities (NITC)**. NITC is one of five U.S. Department of Transportation national university transportation centers. Housed at Portland State University, NITC is a program of the Transportation Research and Education Center (TREC). This Portland State-led research partnership includes the University of Oregon, Oregon Institute of Technology, University of Utah and new partners University of Arizona and University of Texas at Arlington.

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](http://nitc.trec.pdx.edu/research/project/1028)

