



TOMNET Transportation Center

Teaching Old Models New Tricks

[HTTP://WWW.TOMNET-UTC.ORG](http://www.tomnet-utc.org)

TOMNET LEADERSHIP WEBINAR SERIES

Promises of Big Data in Transportation Planning Applications

Thursday, December 13, 2018 at 2:00PM EST



Cynthia Chen, PhD

Associate Director of TOMNET

NSF Civil Infrastructure Systems (CIS) Program Director

Professor, Department of Civil and Environmental Engineering

University of Washington

About the Talk

The next-generation household travel surveys, the core data generation mechanism for supporting both short- and long-term transportation planning applications, are poised to be transformed. It is now increasingly recognized that passively-solicited big data, or large amount of data generated through various types of subscription services, will play an important role in this transformation. Passively-solicited data in its various forms (e.g., mobile sightings, app-based data) not only differ substantially from the household travel survey data, but also among themselves. We argue that the very first step for the passively-solicited data to be integrated into the next-generation household travel surveys is to understand their differences. In this talk, we propose a three-order analysis framework to analyze these differences. Two case studies each involving a big dataset and a corresponding survey dataset are analyzed to demonstrate their respective properties. The analysis results confirm many distinct properties of such big data as compared between themselves and to the survey data.

About the Speaker

Cynthia Chen is a Professor in the Department of Civil and Environmental Engineering at the University of Washington, Seattle (UW). She directs the THINK (Transportation-Human Interaction-and- Network Knowledge) lab (<https://sites.uw.edu/thinklab>) where she and her students study the sustainability and resilience of a city through the lens of human beings interacting with the physical infrastructures and the built environment. Dr. Chen graduated from University of California, Davis with a PhD in Civil and Environmental Engineering in 2001; prior to joining UW, she had taught at City College of New York as an Assistant Professor from 2003 to 2009. Dr. Chen has published extensively and her work has been supported by many federal and local agencies. She is an Associate Editor of Transportation. Since 2016, Dr. Chen has also been serving as the Program Director for the Civil Infrastructure Systems (CIS) program in the Civil, Mechanical, and Manufacturing Innovations Division in the Engineering Direc-

The webinar will be webcast live and recorded. No registration is required.

To connect, please login to the following Adobe Connect Meeting as a Guest with your full name.

<http://connect.asu.edu/tomnet-utc>

TOMNET is a US Department of Transportation Tier 1 University Transportation Center that aims to develop new methods, tools, and algorithms for integrating attitudes, values, and perception variables in regional transportation planning models in an effort to enhance behavioral realism and sensitivity of travel forecasts when analyzing a wide variety of future scenarios. The Center is led by Arizona State University, and includes Georgia Tech, University of South Florida, and the University of Washington as consortium partners. The Center is conducting the TOMNET Leadership Webinar Series to help advance technology transfer, disseminate research, and foster workforce development.

