

Civil and Environmental Engineering

Present

Completing the Regional, National and Global Transportation Planning Picture by Capturing Long Distance Travel Patterns

Monday, October 15, 2018

12:20 – 1:10 PM

EII, Room 322

Speakers:

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Despite decades of calls for more comprehensive demand models of long-distance and intercity travel, most researchers and practitioners remain largely focused on daily travel within home regions. More sophisticated travel forecasting models, often driven by household activity pattern data, simulate multimodal trip tours within our large metropolitan regions, but arrivals and pass-through traffic from out-of-region and out-of-country are only considered as aggregate exogenous factors. Long-distance travel in the United States is estimated to include more than 2.6 billion trips annually and to potentially comprise more than 30% of person miles of travel. Its importance will only increase as US mega-regions grow and both interstate highway and airport congestion continue to escalate.

This seminar will reflect on the historic context and motivators of long-distance travel and how 21st century telecommunication and transportation systems have increased mobility. The seminar will draw on a range of unique data sources, including a one-year online panel survey and mobile phone traces. Our findings illustrate long-distance tour complexity: 1) mixed purposes between stops as well as at individual stops; 2) spatial complexity including multiple chained stops as well as out-and-back from a hub other than home occurred in 20% of tours accounting for 46% of the miles; and 3) different primary modes on different legs of the long-distance tours were used in 11% of cases. Total long-distance trips rates, air trip rates and leisure trips rates are

lower for African Americans and Hispanics, people without college degrees, and those with lower household incomes. These results point to inequity in access and mobility but also a skewed distribution of the carbon emissions across the population for long-distance travel.

Understanding and forecasting long-distance travel is important for infrastructure, economy, equity, and environment. Our research findings are critical to informing meaningful data collection to move forward towards national and global travel forecasting models. In an age of increasing reliance on passive mobile data sources, there remains a strong argument to complement “big data” with traditional household travel surveys for advancing models of long-distance intercity passenger travel.



***Lisa Aultman-Hall, Ph.D.** is a Professor in Civil and Environmental Engineering at the University of Vermont. Dr. Aultman-Hall's technical research focuses on collection of innovative travel data to study tailpipe emissions, bicycling, long distance travel and rural communities. Her policy research topics include safety, accessibility, and resiliency especially as it relates to planning for climate adaptation. Dr. Aultman-Hall was an Associate Professor at UConn from 2001-2006, during which time she served as Director of the Connecticut Transportation Institute.*



***Jeffrey LaMondia, Ph.D.** is an Associate Professor in Civil Engineering at Auburn University. His research concentrates on two areas: equitable planning for vulnerable road users, with an emphasis on promoting safe cycling, and modeling long distance travel behavior, with a focus on activity participation and tour scheduling. His expertise is in the development and application of discrete choice models as well as advanced travel survey methods. Dr. LaMondia earned his Bachelor's degree from UConn in 2005.*