

Transportation Center Seminar.....

## The Neglected Impact of Measurement Error on Disaggregate Transportation Demand Models

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**Thursday – Oct. 15, 2015**

**4:00 - 5:00 pm**

(refreshments at 3:30 pm)

**Location:**

Transportation Center  
Chambers Hall- Lower Level  
600 Foster, Evanston

**Abstract:** Econometricians have known for almost a century that using variables subject to measurement errors in regression models always biases inference and frequently leads to inconsistent estimation. Nevertheless disaggregate transportation modelers frequently use variables with substantial measurement error. Route choice, mode choice, and vehicle choice models all require information about non-chosen alternatives, and these data are frequently imputed (e.g. from network skims) with substantial error. This talk reviews work in economics on measurement error in income (a common exogenous variable in transportation models), and then gives some results from attempts to model the measurement process in route choice and vehicle choice.

**Bio:** David Brownstone is Professor of Economics at the University of California, Irvine, and he is also a member of UCI's Institute of Transportation Studies and Institute of Mathematical Behavioral Sciences. Before coming to UCI in 1984, Brownstone taught economics at Princeton University and the Stockholm School of Economics in Sweden. Professor Brownstone has studied the impacts of tax reform on housing demand, the impacts of measurement errors in economic surveys, the impacts of carpool lanes and road pricing, the impacts of urban form on household vehicle choice and utilization, and the demand for alternative-fueled vehicles. His current research is using new detailed data to build a new model to analyze the impacts of the recently increased Federal light vehicle fuel economy standards. Professor Brownstone has served as an expert consultant for toll road, high speed rail, and other major transportation projects in Orange County, California, Australia, and The Netherlands. He has recently consulted with the Volpe Center and the California Energy Commission on vehicle demand modeling. In addition to his applied work, Brownstone was one of the first econometricians to apply bootstrapping and multiple imputations to generate valid inferences in complex models. Together with Kenneth Train and David Bunch he was one of the first to apply mixed logit models in household vehicle demand and transportation mode choice models. Brownstone has published many articles in top economics and transportation journals, and he currently serves on the editorial boards of *Transportation Research (Part B: Methodological)*, *Economics of Transportation*, and *The Journal of Choice Modeling*.