



**School of Public Policy**  
Economics, Political Science, Sociology

## **“Household Vehicle Bundle Choice and Gasoline Demand: A Discrete-Continuous Approach”**

by

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**Abstract:** Accurately estimating the price elasticity of demand for gasoline is fundamental in many different policy settings, in that how consumers respond to changing gas prices significantly affects the outcome of policy forecasts and debates. This paper simultaneously addresses four common modeling assumptions frequently used in gasoline demand estimation that cause the researcher to underestimate this elasticity. These are (i) ignoring the role of bundle effects in the driving decision; (ii) over-aggregation of the choice set; (iii) ignoring the inter-relatedness of the decisions about how much to drive and what vehicles to purchase; and (iv) failing to account for unobserved vehicle attributes. While methods typically found in the literature can only deal with a subset of these issues at a time, the empirical technique I employ (which is based on revealed preference inequalities) easily allows for an integrated analysis that deals with all of these concerns. Furthermore, this approach allows me to test the impact of each of these assumptions, both independently and jointly, on the elasticity estimate. I demonstrate that the researcher may underestimate the elasticity up to 52% if these aspects of the vehicle purchase and driving decisions are not taken into consideration.

**Monday, February 7, 2011**

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

**Owen 106**