TRANSPORTATION SEMINAR

THE IMPACT OF URBAN SPATIAL STRUCTURE ON TRAVEL DEMAND IN THE UNITED STATES

Jointly sponsored by the Department of Economics
Department of Planning, Policy and Design
Institute of Transportation Studies and
Program in Transportation Science

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12:00 noon - 1:30 p.m.
Room 408, Multipurpose Academic & Administration Bldg.
(attached to new parking structure across from Social Science Plaza)

This presentation will examine the impact of urban form and public transit supply on commute mode choice and annual miles driven among households living in 114 U.S. urbanized areas in 1990. Data are drawn from the 1990 U.S. Nationwide Personal Transportation Survey (NPTS) and combined with measures of urban form and transit supply. We specifically ask whether measures of urban sprawl (city shape, spatial distribution of population and jobs-housing balance) and the supply of public transit affect mode choice and annual vehicle miles of travel (VMT). Our results suggest that individual measures of urban form and public transit supply have a small but statistically significant impact on travel demand. But results are striking when measures of urban form and transit supply are simultaneously changed. To examine this phenomenon, we use models of vehicle ownership and miles driven to predict the annual miles that each of our sample households would drive if they were to live in a city with the same measures of urban form and transit supply as six U.S. cities (Atlanta, Boston, Chicago, Houston, New York and San Diego). We perform a similar exercise for commuters. Our analysis suggests that the effect of moving sample households from a city with the characteristics of Atlanta to a city with the characteristics of Boston would reduce annual VMT by 25%.

Antonio Bento is an assistant professor of environmental economics and policy in the Donald Bren School of Environmental Sciences & Management and an assistant professor in the Department of Economics, both at the University of California, Santa Barbara. He has also been a visiting research scholar at Stanford University's Institute for Economic Policy Research and a consultant to the World Bank's Development Research Group. His research areas include road pricing and its interaction with labor taxes, motor vehicle air pollution, urban spatial patterns and travel demand, and anti-sprawl policies. Dr. Bento holds a 2000 Ph.D. in Agricultural and Resource Economics (jointly with Economics) from the University of Maryland at College Park.

*Antonio Bento is a candidate for a tenure-track faculty position in transportation at UCI.