Park-and-Ride Increases Bus Transit Efficiency

Park-and-Ride Facilities Can Increase Bus Productivity, Pay for Themselves, and Encourage More People to Use Public Transit

San José, Calif., September 7, 2016 — John Niles and Mike Pogodzinski, Research Associates of the Mineta Transportation Institute at San José State University, recently released a research paper entitled "Bus Transit Operational Efficiency Resulting from Passenger Boardings at Park-and-Ride Facilities" showing that Park-and-Ride (P&R) lots increase the efficiency of bus transit. This study examined ridership and service hour data on five bus transit systems in the western U.S. Transit systems were located in San José and Los Angeles California and three were in the Seattle, Washington region. Results showed that parking availability is more important to transit ridership than residential housing near bus stops, while another part of the study showed that P&R facilities with parking fees could pay for their own construction and operation.

In order to save time and money by not driving to an ultimate destination, some urban commuters drive themselves a few miles to specially designated parking lots built for transit customers and located where trains or buses stop. Across the United States, P&R lots with frequent bus service to urban employment centers have proven to be very popular. Such facilities are often filled to capacity on workdays.

At the same time, transit advocates who perceive government-funded construction and operation of parking at transit centers as an expensive way to increase transit ridership criticize the very idea of P&R. Some also view P&R as problematic because it encourages commuters to use their automobiles instead of more environmentally benign forms of transportation. The strong demand for P&R, however, suggests customers may be willing to pay for it, especially if high-quality amenities were to be included, such as guaranteed access to a parking spot in the lot, a short walk to the bus, and a guaranteed seat on the bus.

Analysis of GIS (Geographic Information Systems) data provided by transit agencies played a central role in the analysis. GIS allowed the visualization of results, and allowed the authors to match facility locations and ridership data, which then were employed in regression analysis. "Bringing together GIS techniques with rich ridership data allowed for rewarding breakthroughs in gaining quantified insights bearing on public policy issues," reports co-investigator Mike Pogodzinski.

Results from the Seattle area and Los Angeles County showed that expanding parking facilities near suburban park-and-ride lots increases the productivity of bus operations as measured by ridership per service hour. Availability of parking near bus stops was overall a stronger influence on transit ridership than residential housing near bus stops, an important finding when considering patterns of urban expansion. To answer a typical objection about the high cost of providing new parking for suburban bus customers, the authors also illustrated that reasonable daily parking charges (compared to the cost of driving to much more expensive parking locations downtown) would provide sufficient

capital to build and operate new P&R capacity without subsidy from other revenue sources.

"Park-and-Ride can be a self-funding way to get people out of their cars and onto the buses," says principal investigator John Niles, President of Global Telematics in Seattle, "that will reduce urban congestion and pollution without increasing taxes or fares."

The full report can be downloaded at no charge from the Mineta Transportation Institute web site: http://transweb.sjsu.edu/project/1401.html

ABOUT THE RESEARCH TEAM

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ABOUT THE MINETA TRANSPORTATION INSTITUTE

The Mineta Transportation Institute (MTI) conducts research, education, and information transfer programs regarding surface transportation policy and management issues, especially related to transit. Congress established MTI in 1991 as part of the Intermodal Surface Transportation Efficiency Act. MTI won national re-designation competitions in 2002, 2006 and 2012. The Institute is funded through the US Department of Transportation, the US Department of Homeland Security, the California Department of Transportation, and public and private grants. The internationally respected members of the MTI Board of Trustees represent all major surface transportation modes. MTI, the lead institute for the nine-university Mineta National Transit Research Consortium, is affiliated with San José (CA) State University's Lucas College and Graduate School of Business. Visit transweb.sjsu.edu

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