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Atlanta-based study recommends methods to improve transit networks and increase rail and bus ridership

Mineta Transportation Institute's free report shows differences, similarities in rider needs.

San Jose, Calif., January 10, 2012 – The Mineta Transportation Institute (transweb.sjsu.edu) has just published a report that uses a study of Atlanta's multi-modal, multi-destination transit network to recommend improvements that may help increase overall ridership. Understanding Transit Ridership Demand for a Multi-Destination, Multimodal Transit Network in an American Metropolitan Area addresses the particular needs of those who travel primarily by rail or primarily by bus and makes recommendations to further integrate and improve both modes. Researched by Gregory Thompson, Ph.D., Jeffrey Brown, Ph.D., Torsha Bhattacharya, and Michal Jaroszynski, the report is available for free download from transweb.sjsu.edu/project/1003.html

"Increasing evidence shows that multi-destination transit systems are far more effective in attracting passengers and more efficient in using resources to carry each passenger than are central business district (CBD)-focused systems," said Dr. Thompson. "At the same time, some evidence shows that multi-destination transit systems appeal largely to transit-dependent riders – also called captive riders – whose demand for transit service appears to be highly elastic with respect to shortening transit travel time between origin and destination. Our research shows that there are important service planning strategies that transit agencies can adopt that attract both types of riders to a multi-destination network, by providing more direct connections between origins and destinations."

Atlanta offered a good setting to investigate the consequences of a multi-destination transit network for bus patrons, who are largely transit-dependent riders, and rail patrons, who ride primarily by choice. Despite socio-economic differences between these rider groups, the research shows that both types of riders value many of the same attributes of transit service quality – including shorter access and egress times and more direct trips. At the same time, factors that influence transit ridership vary depending on the traveler's destination, including whether it is the central business district (CBD) or a more auto-oriented, suburban destination.

The report offers new insights into the nature of transit demand in a multi-destination transit system, and it provides lessons for agencies seeking to increase ridership among different ridership groups. The results suggest that more direct transit connections to dispersed employment centers, and easier transfers to access these destinations, will help increase transit use for both transit-dependent and choice riders.

The results also show that the CBD remains an important transit destination for rail riders – but not for their bus rider counterparts. Certain types of transit-oriented development (TOD) also serve as significant producers and attractors of rail transit trips.

Among other results, transit commuters who consider themselves bus riders seem to want a grid of routes connecting the region's employment centers with faster, more direct, and more frequent service. Many of these riders appear to use trains to speedily move from one part of the region to the other, relying on buses at one or both ends of the trip, so good transfer connections between buses and trains will also increase ridership of transit-dependent riders.

In addition, a grid of local buses tied into a regional rapid transit system would greatly increase the number of transit-dependent riders, as well, because it would enable them to reach additional employment opportunities that are presently difficult or impossible for them to reach by transit.

The complete report, including methodologies, models, and other findings, is available for free download at transweb.sjsu.edu/project/1003.html

ABOUT THE AUTHORS

Gregory Thompson, PhD, is professor of urban and regional planning at Florida State University. He received his PhD at University of California, Irvine. His primary research interest is studying the role of public transportation in auto-dominated societies, both historically and in the present day. He has held professional positions as a transportation planner at both the metropolitan and state levels, in both this country and abroad.

Jeffrey Brown, PhD, is associate professor of urban and regional planning at Florida State University. He received his PhD at University of California, Los Angeles. His research examines the role of public transportation in decentralized environments, the relationship between finance and transportation planning, and the history of transportation planning.

Torsha Bhattacharya is a doctoral candidate at Florida State University. Her research interests include transportation systems, the relationship between transportation and land use, and equity in transportation. She is also interested in research geared towards improving accessibility for disadvantaged groups.

Michal Jaroszynski is a doctoral student at Florida State University. His research interests include the economic aspects of public transportation, such as assessing costs and benefits or finding the methods of improving its efficiency and productivity. He is also interested in analyzing policies related to public transit service planning, especially rail and multimodal transit systems.

ABOUT THE MINETA TRANSPORTATION INSTITUTE

The Mineta Transportation Institute (MTI) conducts research, education, and information and technology transfer, focusing on multimodal surface transportation policy and management issues, especially as they relate to transit. MTI was established by Congress in 1991 as part of the Intermodal Surface Transportation Efficiency Act (ISTEA) and was reauthorized under TEA-21 and again under SAFETEA-LU. The Institute has been funded by Congress through the US Department of Transportation's (DOT) Research and Innovative Technology Administration, by the California Legislature through the Department of Transportation (Caltrans), and by other public and private grants and donations, including grants from the US Department of Homeland Security. DOT selected MTI as a National Center of Excellence following competitions in 2002 and 2006. The internationally respected members of the MTI Board of Trustees represent all major surface transportation modes. MTI's focus on policy and management resulted from the Board's assessment of the transportation industry's unmet needs. That led directly to choosing the San José State University College of Business as the Institute's home. Visit transweb.sjsu.edu

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