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Mineta Transportation Institute Releases a Report Suggesting that Small Improvements in Bus Rapid Transit Can Deliver Big Benefits

Niles and Jerram discuss how these benefits can come at much lower cost than making substantial infrastructure investments.

San Jose, Calif., June 28, 2010 – [The Mineta Transportation Institute](#) (MTI) has released a new research report, [From Buses to BRT: Case Studies of Incremental BRT Projects in North America](#), authored by John Niles and Lisa Callaghan Jerram. Results suggest that incremental improvements, applied widely to regional bus networks, may achieve significant benefits at less cost when compared to substantial infrastructure investments in just one or a few corridors. Further, the availability of BRT elements in many incremental combinations suggests that an expanded policy framework may enable objective comparison across these options and funding allocations among projects that achieve the greatest benefit at the lowest cost.

This study examines five approaches to Bus Rapid Transit (BRT) systems implemented by public transit agencies in California, Oregon, and Ontario. Many types of BRT are used in North America, including rubber-tire transit lines using many combinations of techniques to improve bus service, such as bus-only lanes and roads, pre-boarding fare collection, transit priority at traffic signals, stylish vehicles with extra doors, bus stops similar to light rail stations, and high-frequency service.

“The case studies as a group show that North American BRT is not a one-size-fits-all solution,” said Mr. Niles. “Rather, it is a discretionary combination of elements that can be assembled many ways over time, depending on circumstances and needs. This latitude provides many benefits to transit agencies, including the ability to match physical infrastructure with operating requirements. But the wide range of options also creates planning challenges. For example, when does the expense and construction time of a dedicated lane or guide way pay off in higher performance? And, if so, over what portions of the route should such infrastructure be implemented?”

Across the various BRT elements that include guide ways, stations, vehicles, technologies, and operations patterns, the specific elements selected for a BRT route can be implemented all at once, or in incremental stages. Increments can be geographical extensions, additional features, or both.

This flexibility has substantial policy implications in the available expanded choices for transit investment. Transportation accounts for nearly one-third of carbon dioxide emissions in the United States. Achieving President Obama’s goal to reduce emissions by 80 percent by 2050 will require fundamental

changes in transportation planning and delivery, including ensuring that many more urban travelers have viable public transit options.

“Bus performance improvement offers quick results at a reasonable public cost,” said Ms. Jerram. “For example, the case studies show that the Los Angeles Metro Rapid network’s 26 bus lines were implemented far more quickly and for billions of dollars less than the four L.A. rail lines. Yet these enhanced buses are serving 78 percent as many passenger trips as the entire rail system.”

As reflected in federal law, the Federal Transit Administration’s capital grants program – New Starts – requires corridor-level development, as opposed to system-wide improvements. There is no provision for a jurisdiction to consider, as part of the alternatives analysis process, whether the funding level for a major corridor-level project could achieve even greater benefits if applied to more modest system-wide improvements. Expanded policies could take that into account.

For a free copy of the report, go to <http://www.transweb.sjsu.edu/project/2704.html>

ABOUT THE PRINCIPAL RESEARCHERS

John Niles, MTI Research Associate, is founder and president of Global Telematics, a contract research and policy consulting firm based in Seattle that focuses on the interaction of transportation and information technology applications. He was a founding member of the Telecommunications and Travel Behavior Committee of the Transportation Research Board.

His work focuses on the responsiveness of transportation policy decision making and public investments to the network economy. He has led research studies on the relationship between personal travel and the expansion of telecommunications applications for several Metropolitan Planning Organizations and the US Department of Energy. He earned his MS from the Graduate School of Industrial Administration at Carnegie Mellon University and his SB from Massachusetts Institute of Technology.

Lisa Callaghan Jerram, MTI Research Associate, is a Washington DC-based policy research analyst focused on sustainable transportation solutions including hybrid and fuel cell vehicle power, clean fuel buses, and bus rapid transit. She has held positions as senior market analyst at Fuel Cell Today, technology director at Breakthrough Technologies Institute, project director at the Northeast Advanced Vehicle Consortium, and communications and membership coordinator at the Electric Transportation Coalition.

Her publications include “A Preliminary Evaluation of the Los Angeles Orange Line BRT” in *Transportation Research Record* and “The Potential for Bus Rapid Transit to Reduce Transportation-Related CO2 Emissions” in the *Journal of Public Transportation*. She earned her BA from University of Virginia.

ABOUT THE MINETA TRANSPORTATION INSTITUTE

The Mineta Transportation Institute (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 is funded by Congress through DOT’s 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 DHS. DOT selected MTI as a National Center of Excellence following a 2002 competition. 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 and led directly to the choice of the San José State University College of Business as the institute's home. MTI conducts research, education, and information and technology transfer, focusing on multimodal surface transportation policy and management issues. Visit www.transweb.sjsu.edu

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