

BRT QUARTERLY

Winter 2003

Introducing the National Bus Rapid Transit Institute

With increasing traffic congestion and longer travel times, the Federal Transit Administration (FTA) began to place an emphasis upon alternative modes of transportation. Representatives from FTA began to look at other systems where success stories regarding bus rapid transit (BRT) had surfaced, such as Curitiba, Brazil and Ottawa, Ontario, and found BRT to be a viable solution to the travel problems that the United States faces daily. In 1999, the FTA created the National Bus Rapid Transit Initiative by establishing a consortium of transit agencies and transportation professionals to facilitate the sharing of information regarding bus rapid transit.

Eighteen transit systems are currently participating in the Consortium. Following the Consortium's designation, FTA created the National Bus Rapid Transit Institute (NBRTI), a collaborative effort between the Center for Urban Transportation Research at the University of South Florida in Tampa and the Institute of Transportation Studies at the University of California at Berkeley.

What is Bus Rapid Transit?

Faster travel times and the use of advanced technologies are characteristic of a BRT system. This relatively young concept within the United States offers a variety of features that distinguish it from common bus travel currently provided by participating agencies. The features that distinguish BRT and customary transit service from one another are subject to the specific needs of each system. Available features include:

Advanced technologies

- Real-time information
- Automated vehicle location
- Automated fare collection
- Signal prioritization

Bus design

- Raised platforms
- Low flooring
- Multiple doors
- Hybrid-Electric
- Clean fuels

Bus route characteristics

- Fewer stops
- Route modification (straighter route corridors)
- HOV lanes
- Specified right of way
- Queue jumpers

Advanced Technologies

The availability of reliable information regarding a system's travel times is a valuable resource for its users. Real-time information obtained through the use of an automatic vehicle location system can be available to riders in a variety of formats: over the internet, on information kiosks at stations/bus stops, or over information networks.

Automated fare collection, such as cashless fare payment systems or electronic smart cards, allow for increased travel speeds. Fare collection that requires the user to have exact change can impede bus-boarding times. With the use of automated fare collection, bus dwell time is decreased, thereby allowing faster headway speeds.

Signal prioritization enables buses to affect the timing of a traffic signal to their advantage, the benefit being the ability to proceed through an intersection quicker, or before general-purpose traffic (queue jumping).

Bus Design

The design features of a bus may ease the efforts of users boarding the bus, therefore decreasing dwell times. Low floor buses, stations with level platforms, and multiple doors allow buses to stop and continue towards their destinations in a relatively short period of time.

Environmentally friendly buses that use alternative fuels and propulsion systems can be characteristic of a BRT system's fleet. Articulated and bi-articulated buses also are available for use on corridors with higher service demands.



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Bus Route Characteristics

Strategically locating stops so that they are serviced at quarter-mile to one-mile intervals increases operating speeds. Limiting bus stop frequency is a route enhancement that allows a BRT system to be efficient. Busways, HOV lanes, or designated rights-of-way help reduce the occurrence of delays caused by traffic congestion. The implementation of queue jumpers for BRT systems mingling with mixed traffic affords a bus greater flexibility as well.

What are the activities of NBRTI?

NBRTI provides resources to professionals interested in BRT, including conducting and participating in workshops and conferences, developing publications, conducting research, and providing staff expertise. NBRTI is a member of the American Public Transportation Association's Bus Rapid Transit Taskforce. NBRTI is currently involved in BRT planning studies for Chicago Transit, Riverside Transit Agency, Los Angeles County Metro Authority and Hillsborough County Metropolitan Planning Organization. Performance evaluations of the LYNX LYMMO project in Orlando and South Miami-Dade Busway are underway as well as design and technology option evaluations for advanced bus stops, and

the development of BRT assessment and planning tools. Applied research on technology developments for transit buses related to precision docking, electronic guidance and adaptive signal priority techniques is currently conducted. The Institute is also a participant on technical advisory committees for AC Transit and a proposed BRT system in Detroit, and provides technical assistance to Hennepin County, Minnesota.

NBRTI will also update and maintain the current TCRP A-23 Bus Rapid Transit Video and Image Library

through the Institute's website at www.nbrti.org.

Future Publications

BRT Quarterly will be produced in January, April, July and October. Topics addressed in each issue include research findings, technology and system updates, upcoming events, and system highlights. If you are interested in receiving this publication, please email Cheryl Thole at thole@cutr.usf.edu with contact information, or visit our website at www.nbrti.org to subscribe.

events & information

Monday, January 13, 2003—**Latest Developments in Bus Rapid Transit.** TRB Annual Meeting, Hilton Hotel, 8:00 - 9:45 a.m.

Monday, January 13, 2003—**Current Bus Rapid Transit Activities and Models.** TRB Annual Meeting, Hilton Hotel, 1:30 - 3:15 p.m.

Tuesday, January 14, 2003—**Public Transportation Planning, Intermodal Facilities, Bus Operations, and Rural Public and Intercity Bus Operations** (Poster Session). TRB Annual Meeting, Hilton Hotel, 2:30 - 5:30 p.m.

February 19-21, 2003—**Clean Heavy-Duty Vehicles for the 21st Century.** Mission Palms Hotel, Tempe, Arizona. For information, contact: sromeo@weststart.org.

Directors of the National Bus Rapid Transit Institute



DENNIS HINEBAUGH is Director of the Transit Research Program at the Center for Urban Transportation Research at the University of South Florida in Tampa and Co-Director of the National Bus Rapid Transit Institute. Since 1999, he has served as administrative

director of CUTR's National Center for Transit Research, a federally-designated University Transportation Center program. Formerly the Director of Planning for HARTline in Tampa, he has expertise in transit system planning, bus rapid transit, rail transit planning, transitways, and transit fare policy. He is a member of the TRB committees on Bus Transit Systems and Public Transportation Marketing and Fare Policy and of the APTA Bus Rapid Transit Task Force. Mr. Hinebaugh can be reached at hinebaugh@cutr.usf.edu.



WEI-BIN ZHANG is a Research Engineer at the California PATH Program, Institute of Transportation Studies (ITS) of University of California at Berkeley and the Co-Director of National Bus Rapid Transit Institute. He has been leading and conducting research in a

number of ITS areas, including enabling technologies for AVCSS, safety analysis and systems, human factor issues, driver assist systems and ITS transit applications. Since 1997, Mr. Zhang has played a key role in establishing a number of research and deployment programs, including initiating a large Bus Rapid Transit Program dealing with a wide range of issues in the field of ITS transit applications and Bus Rapid Transit (BRT). Mr. Zhang can be contacted at wbzhang@its.berkeley.edu.



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Our Mission

The mission of the National Bus Rapid Transit Institute is to facilitate the sharing of knowledge and innovation for increasing the speed, efficiency, and reliability of high-capacity bus service through the implementation of BRT systems in the United States.

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