DEPARTMENT OF TRANSPORTATION

Request for Participation in the Bus Rapid Transit Demonstration Program

AGENCY: Federal Transit Administration (FTA).

ACTION: Notice.

SUMMARY: In this Notice, FTA announces it is soliciting Requests for Participation in its Bus Rapid Transit Demonstration Program. This solicitation is extended to public agencies responsible for developing, implementing, operating and maintaining public transportation in the U.S. The Federal Transit Administration encourages partnerships with other local and state stakeholders and private companies involved in public transportation.

DATES: Responses to this solicitation must be submitted by 4 p.m., Eastern Time, on or before February 8, 1999. Requests for Participation shall not exceed thirty (30) pages in length, including title, index, tables, maps, and exclusive of appendices, abstracts, resumes and other supporting materials. A page is defined as one side of an 8½ by 11-inch paper, line spacing no smaller than 1.5 with a type font 12 pt. The transmittal letter shall include the name, address and telephone number of the individual to whom correspondence and questions may be directed.

A conference for prospective participants in the Bus Rapid Transit Demonstration Program will be held on January 8, 1999 from 1:00 PM to 5:00 PM at the Federal Transit Administration, 400 7th Street, SW, Washington, DC 20590. The purpose of this conference is to answer questions about the Federal Transit Administration's Bus Rapid Transit Demonstration Program and the statement of participation in the program. Persons and organizations planning to attend this conference should register their intentions with Joseph Goodman, Office of Mobility Innovations at (202) 366–0240 or *joseph.goodman@fta.dot.gov*. Teleconference capabilities will be available for those unable to attend in person. Please indicate your desire to participate by telephone to Joseph Goodman.

ADDRESSES: Three copies of the Requests for Participation shall be submitted to the appropriate FTA Regional Office listed below, and five copies shall be submitted to Edward L. Thomas, Associate Administrator for Research, Demonstration and Innovation, Federal Transit Administration, 400 7th Street SW, Room 9401, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Bert Arrillagea, Chief, Service Innovation Division, Office of Mobility Innovation (TRI–12) at (202) 366–0240 and e-mail address at bert.arrillaga@fta.dot.gov.

SUPPLEMANTARY INFORMATION:

Contents:

I. Introduction

The Federal Transit Administration (FTA) announces a Request for Participation in the Bus Rapid Transit (BRT) Demonstration Program. Today, advancements in bus vehilce technology, simulation systems, traffic engineering, intelligent transportation systems (ITS) [fleet management, electronic fare payment and passenger information systems] and other customer service innovations provide major opportunities to improve bus transit service across the United States similar to model bus systems in Curitiba, Brazil; Adelaide, Australia; and Ottawa, Canada. Bus service is now, more than ever, capable of performing like rapid tranist. Some communities are considering BRT as an incremental improvement to rail transit. Given these opportunities, the primary goal of a BRT Program is to work with a group of localities in demonstrating approaches for increasing the level and quality of bus service in major investment corridors comparable to rapid tranist.

The program is designed to encourage transit agencies, local and State governments and metropolitan planning organizations engaged in coordinating infrastructure improvements, technology deployment and operations to consider the benefits of BRT. Consistent with the Department of Transportation and FTA Strategic Plans, the outcome of the BRT Program is to improve mobility and accessibility, advance econmic growth and trade, and enhance environmental quality. Bus Rapid Transit promises to improve travel time, service reliability and customer convenience, foster livable communities and introduce cost-effective, environmentally friendly technology. Regarding the mobility goal, for example, research already shows that expediting the movement of transit vehicles on local arterials can produce improved traffic flow for all vehicles.

The FTA will select multiple projects to participate in a multi-year national demonstration program to be completed within the six year life of the Transportation Equity Act for the 21st Century (TEA–21). The sponsors of selected projects will form a consortium of transit agencies and other local and State partners to share experiences and to receive expert assistance in expediting project implementation in areas such as design technology, vehicle technology, ITS architecture, procurement, project financing, and operating strategies. A demonstration project would highlight the situations, problems, and opportunities that might occur while implementing the BRT concept in the United States (U.S.).

II. Background

Bus systems provide a versatile form of public transportation with the flexibility to serve a variety of access needs and an unlimited range of locations throughout an area. Bus service can be implemented cost-effectively on routes where ridership may not be sufficient or where the capital investment may not be available to implement rail transit systems.

Traffic congestion, urban sprawl, central city decline, and air pollution are all problems associated with excessive dependence on automobiles. Increasing recognition of the need for high-quality transit service to alleviate these conditions has fueled growing demand for new rail services throughout the U.S. However, in numerous cities buses also provide an attractive and effective alternative to automobiles, reaching into central cities, local neighborhoods, suburbs and rural areas to meet the mobility needs of millions of people.

Despite the inherent advantages of bus service, the traveling public frequently finds the quality of bus service provided in urban centers to be wanting. Conventional urban bus operations often are characterized by sluggish vehicles inching their way through congested streets, delayed not only by other vehicles and traffic signals, but also by frequent and time-consuming stops to pick up and discharge passengers. Buses travel on average at only around 60 percent of the speeds of automobiles and other private vehicles using the same streets due to the cummulative effects of traffic congestion, traffic signals, and passenger boarding. Moreover, the advantageous flexibility and

decentralization of bus operations also result in a lack of system visibility and permanence that contributes to public perceptions of unreliability and disorganization.

Low-cost investments in infrastructure, equipment, operational improvements, advanced bus technologies, and ITS can provide the foundation for Bus Rapid Transit systems that substantially upgrade bus system performance. Conceived as an integrated, well-defined system, Bus Rapid Transit would provide for significantly lower bus travel time, greater service reliability, and increased convenience, matching the quality of rail transit when implemented in appropriate settings. A decrease of bus travel time would reduce operating costs and improve bus operating efficiency by allowing more trips per platform hour. Advanced bus technologies and other intelligent technologies could further reduce operating and maintenance costs, improve safety, and enhance intermodal transfers.

III. Goals and Objectives

The goals for the Bus Rapid Transit Demonstration Program are designed to achieve the strategic goals of the DOT and FTA Strategic Plans addressing safety and security, mobility and accessibility, economic growth and trade, and the human and natural environment. The specific goals are as follows:

1. Increase intermodal physical, informational and service connectivity.
2. Ensure that all transit systems are accessible.
3. Reduce bus travel times through deployment of new technology and other innovations.
4. Improve the reliability of the delivery of people, goods, and services to their destinations.
5. Encourage regional and local economic development through joint development.
6. Build professional capacity and promote the education of individuals in transportation related fields.
7. Expand opportunities and promote economic growth for all businesses.
8. Improve the sustainability and livability of communities.
9. Reduce the amount of transportation-related pollutants released into the environment.
10. Integrate consideration of BRT and advanced bus systems in corridor analysis for major transportation investments.

There are four primary objectives of the demonstration program. They are to: (1) identify and address the issues involved in implementing a Bus Rapid Transit system; (2) show how the integration of advanced bus technologies, ITS and services can contribute to a bus rapid transit system; (3) provide data on derived benefits and costs, particularly whether improved service and increased visibility due to Bus Rapid Transit can increase transit ridership, and (4) transfer lessons learned to other areas evaluating major investment options or implementing bus rapid transit projects.

IV. Definitions

Bus Rapid Transit refers to coordinated improvements in a transit system's infrastructure, equipment, operations, and technology that give preferential treatment to buses on urban roadways. The intention of Bus Rapid Transit is to reduce bus travel time, improve service reliability, increase the convenience of users, and ultimately, increase bus ridership. BRT typically contains the following features:

☐ *Exclusivity:* Exclusivity occurs when buses and stations are physically separated from non-exclusive traffic lanes or where the level and quality of service are comparable to that achieved on a wholly exclusive facility.

☐ *Advanced Bus Technology:* A variety of vehicle technologies available for improving access, maneuverability, operating efficiency of transit buses, and reduces the emissions and the weight of transit buses. These technologies include clean fuels propulsion systems powered by natural gas, batteries, hybrid electricity, alcohol fuels, and fuel cells; highly durable light weight composite materials; low-floor configurations; on-board vehicle computer management systems and advanced communication systems.

☐ *Fleet management improvements:* Comprises infrastructure and ITS technology elements to improve travel time and reliability of bus service. Some of these elements may also improve traffic flow for other vehicles. These measures may include: (1) bus turnouts or curb realignments; (2) use of automated vehicle location systems for improved real time management and dispatching; and (3) traffic signal priority for preferential treatment of buses at signalized intersections.

☐ *Faster fare collection and boarding:* The objective is to speed the boarding process through the use of (1) fare collection innovations, such as prepayment methods and smart cards; and (2) changes in bus and platform design for easier and faster access by the elderly, persons with disabilities, shoppers, parents with children in strollers or passengers with baggage.

☐ *Integration of transit development with land use policy:* Bus Rapid Transit and high density Transit-oriented development (TOD) can be mutually reinforcing. TODs may include areas or corridors developed with building site and street designs favoring transit and pedestrian usage.

☐ *Intelligent Transportation Systems (ITS) technologies* refers to hardware and software systems, such as, computer-assisted dispatching software, wireless communications, mobile data terminals, map displays, transit fleet management, maintenance management software, geographical information displays, computerized voice recognition, automated voice response, emergency management, freeway management systems, electronic fare payment systems, automated traveler information, reservation and billing systems. TEA–21 requires conformity with the ITS National Architecture and Critical Standards, and FTA and FHWA have issued Interim Guidance on these requirements. The ITS National Architecture is a framework for integrating various user service systems and for ensuring interoperability between systems. Critical standards ensure inter-operability or ''plug and play'' between hardware and software systems. ITS technologies are designed to improve customer service and the operating efficiency and safety of the transportation infrastructure and vehicle systems.

☐ *Project Delivery Methods* refers to various innovative approaches for procuring, designing, constructing, operating, and maintaining transit systems. These approaches might include various types of turnkey approaches or methods including: design/build, design-build-operate-maintain, or super turnkey, where the contractor participates in project financing.

A paper entitled ''Issues in Bus Rapid Transit'' gives further insight into the Bus Rapid Transit concept and its implementation. It can be obtained from Bert Arrillaga, the FTA information source identified above.

V. Program Elements

The FTA will select multiple projects to participate in a multi-year national demonstration program to be completed within the six years of the Transportation Equity Act for the 21st Century (TEA–21). The selected project sponsors will form a consortium of transit agencies and other local and State partners to share experiences and to receive expert assistance in expediting project implementation. This assistance may occur in such areas as

virtual reality simulation technology for system design and operations planning, vehicle technology, ITS architecture, procurement, project financing, and operating strategies. A demonstration project would highlight the situations, problems, and opportunities that might occur while implementing the BRT concept in the United States. With the assistance of an evaluation contractor, the FTA plans to assess the effects of the demonstration project through a scientific evaluation of the project. A carefully constructed evaluation accomplishes a number of purposes: (1) to document what happened and why; (2) to measure benefits, costs, and impacts of the demonstration on affected populations; (3) to reveal both successful and unsuccessful aspects of the demonstration; (4) to determine if the demonstration met the goals of its sponsors; and (5) to assess the applicability of the demonstration to other sites. An evaluation not only helps others learn from the demonstration, but also helps the involved parties to improve their own systems.

In order to help expedite demonstration project implementation, FTA will consider requests to waive administrative requirements that are not regulatory. The demonstration program is designed to provide the rest of the nation with information for considering BRT in the planning process and for engineering, designing, and implementing bus rapid transit projects. The program will:

1. Assess technology of common interest to the demonstration consortium members;
2. Provide expert assistance in design and operations, perhaps using simulation systems; ITS integration and interoperability; advanced bus technology; financing strategy; or project delivery methods;
3. Fund local demonstration project administration including project monitoring, data collection, progress reporting and other logistical support;
4. Evaluate and report on best practices; and
5. Support technology transfer involving a variety of lessons-learned workshops and an internet website.

A. Technology Assessments

FTA will assess the state-of-the-art and best practices in transit operations, infrastructure design, vehicle technology, system integration, or other areas of interest to the demonstration consortium.

B. Expert Assistance

FTA will provide industry peers or other experts to advise consortium members on such considerations as the choice of appropriate vehicle and ITS technologies, concurrent engineering, exclusive bus lane design issues, traffic engineering issues, bus operations and planning issues, bus stop and terminal design, innovative financing strategies, transit-oriented development, and innovations in project delivery such as turnkey procurement. Expert panels will be organized at the request of consortium members.

C. Demonstration Project Administration

The demonstration program will support a project administrator for each of the projects. This administrator will coordinate with the FTA demonstration program office, provide logistical support for the demonstration project sponsors, and conduct quarterly demonstration project reviews. A key objective of this position is to permit the implementation of the project to proceed unencumbered by the requirements of the demonstration program.

D. Documentation and Evaluation

With the assistance of an evaluation contractor, the FTA plans to assess Bus Rapid Transit through an evaluation of the Bus Rapid Transit demonstrations. A carefully constructed evaluation accomplishes a number of purposes: (1) to document what happened and why; (2) to measure benefits, costs, and impacts of the demonstration on affected populations; (3) to reveal both successful and unsuccessful aspects of the demonstration; (4) to determine if the demonstration met the goals and objectives of its sponsors; and (5) to assess the applicability of the demonstration to other sites. An evaluation not only helps others learn from the demonstration, but also helps the involved parties to improve their own systems. Specifically, FTA would like to examine the:

☐ Degree to which bus travel time, schedule adherence and service integration improve;
☐ Degree to which transit efficiency and productivity improve;
☐ Degree to which ridership increases due to improved bus travel time, transfers, schedule adherence, and service coverage;
☐ Effect on other traffic;
☐ Effect on each of the components of Bus Rapid Transit on bus speed and other traffic
☐ Benefits of integrated vehicle and ITS technologies to the demonstration; and
☐ Effect of Bus Rapid Transit on land use.

E. Technology Transfer

FTA will arrange ''scanning tours,'' where local officials and designers visit operational bus rapid transit sites. Periodic workshops and seminars will be organized for presentations or discussion about technical issues of interest to each of the demonstration project sponsors. FTA and consortium members will participate in conferences and other meetings sponsored by interested professional organizations for mutual sharing of information and ideas. Demonstration results and other research technical reports will be produced and made available on World Wide Web sites.

The roles of the demonstration program participants are outlined below:

☐ The Federal Transit Administration will:
■ Provide overall guidance on the conduct of the demonstration program.
■ Monitor the demonstration program.
■ Organize and conduct the expert assistance panels, technology transfer workshops, and conference sessions.
■ Provide guidance to demonstration sponsors regarding resources from other programs listed under Section II General Authority.
■ Publish and communicate information on the demonstration projects.
■ Secure and manage contractors conducting the project evaluations, and provide program support.
■ Provide guidance on the planning and project development process.

☐ The Project Sponsor will:
■ Implement project as proposed.
■ Monitor demonstration projects and keep FTA appraised of events, issues, and problems.
■ Conduct quarterly reviews of the demonstration project.
■ Collect data according to evaluation plan and schedule.
■ Participate in the technology transfer activities of the demonstration program.

☐ The Contractors will:
■ Develop the evaluation plan and the data collection schedule.
■ Guide data collection.
■ Analyze evaluation data.
■ Write final evaluation reports.
■ Provide overall program support.

VI. Planning and Project Development Process

Bus rapid transit projects selected for participation in this Bus Rapid Transit Demonstration Program are expected to be a product of the metropolitan planning and programming process. A

proposed bus rapid transit project should be compatible with existing transportation plans or exist in a corridor where extensive planning has been performed and a recommendation for a major transit capital investment made. If the project proposals contain ITS elements of regional significance, the conformity requirements of the National ITS Architecture apply. The architecture defines the functions that must be performed to implement a given user service, the physical entities or subsystems where these functions reside, the interfaces and information flows between the physical subsystems, and the communication requirements for the information flows. Interim Guidance on ITS Architecture is available from the FTA Regional Offices or the Headquarters Office of Research, Demonstration and Innovation.

Bus Rapid Transit projects are developed in several ways. First, transit service planning efforts may produce low-cost operational improvements like advanced technology vehicles and ITS user services. Such strategies must be consistent with the regional transportation plans and are included in a transportation improvement program. In this instance, a project may proceed into the design and implementation phase. Second, bus rapid transit projects may emerge from the multi-modal metropolitan transportation planning process as a major capital investment. Where FTA New Starts funding is sought, such projects are subject to the New Starts and environmental documentation requirements. These requirements involve project ratings for a FTA decision to advance a project into preliminary engineering. Subsequent to completion of preliminary engineering and the environmental process, a project receives a rating for a FTA decision on final design and construction. Additional information on these requirements is available from the FTA Regional Offices or Headquarters Office of Planning at (202) 366–2360.

VII. Funding

The FTA is supporting the Bus Rapid Transit Demonstration Program with approximately $2 million in Fiscal Year 1999. A similar level of annual funding is planned over the life of the demonstration program. Demonstration project sponsors may seek implementation funding from the FTA Capital Investment (Section 5309), Urbanized Area Formula (Section 5307), Clean Fuels Formula Grant (Section 5308), Federal-Aid Highway flexible funding programs in accordance with the requirements of those programs, and other funding programs identified in the General Authority Section such as Title I, Subtitle E, Chapter 1, Transportation Infrastructure Finance and Innovation and Chapter 2, State Infrastructure Bank Pilot Program.

VIII. Requests for Participation Contents

A Request for Participation (proposal) shall not exceed thirty (30) pages in length including title, index, tables, maps, and exclusive of appendices, abstracts, resumes and other supporting materials. A page is defined as one (1) side of an 8½ by 11-inch paper, line spacing no smaller than 1.5 with a type font of 12 pt. Three (3) copies of the Request fore Participation (proposal) should be sent to the respective Regional Office listed in Section XII of this Notice. Five (5) copies of the Request for Participation (proposal) plus an unbound reproducible copy of the proposal shall be forwarded to Edward Thomas, Associate Administrator for Research, Demonstration and Innovation, FTA, 400 7th Street, S.W., Room 9401, Washington, DC 20590. The transmittal letter shall include the name, address and phone number of an individual to whom correspondence and questions about the application may be directed. The proposals shall include Technical, Management and Financial Plans as described below.

A. Technical Plan

General Requirements

1. Describe the proposed Bus Rapid Transit corridor, including such things as cost, location, service frequency and ridership, roadways, bus stops and terminals, traffic management practices, vehicles, dispatching and operating systems, and use of ITS technologies.

2. Describe the land use policies and any transit-oriented development that exist in the proposed corridor, and plans to change them to capitalize on Bus Rapid Transit.

3. Describe the proposed project's service area including its size, population density, demographics, and regional transportation environment.

4. Also describe what ''problems'' the Bus Rapid Transit project will address, prior and ongoing planning in support of BRT, and consistency with the regional transportation plan.

Technical Approach

1. Describe measurable performance goals of the Bus Rapid Transit project. These should at a minimum address the FTA outcome goals. Some examples are improved customer service, improved bus travel time, and improved operating efficiency.

2. Describe the Bus Rapid Transit project, its physical systems and operational features including designs, service types, service levels, fare collection methods, fare transfer policy, and hours of operation.

3. Describe the anticipated effects, efficiencies, and impacts of the proposed project including ridership, service levels, traffic impacts, environmental impacts, and land use impacts.

4. Describe implementation of the Bus Rapid Transit project including engineering and design activities, procurement strategy, and phasing approach if incremental development is specified.

5. Describe the approach by which any advanced technologies involved in the demonstration project will be refined, tested, and documented before deployment.

6. Document assumptions and technical uncertainties, and propose specific approaches to resolve any uncertainties.

B. Management Plan

1. Identify key management responsibilities for the demonstration project sponsor and other participating organizations. Describe all necessary arrangements and institutional agreements to support the project, and include evidence of agreement among participating agencies.

2. The demonstration project administrator would be expected to have full responsibility for the demonstration project throughout its duration and to serve as the point of contact for interactions with FTA and the rest of the transit industry.

3. Provide a schedule of work including a time line, key milestones, and deliverables for the project.

4. Provide a preliminary staffing plan. For the staffing plan, FTA encourages proposing agencies to work with Universities and Colleges under the University Transportation Centers Program (Section 5110 of TEA–21) to provide opportunities for student professional development and to exchange information on new technology, human factors issues, land use planning, travel demand modeling, or simulation of operations.

C. Financial plan

1. The proposal shall provide a description of the total cost and finances for implementing, operating, and maintaining the Bus Rapid Transit project. The implementation costs would include the costs for system design, project management, vehicle and system acquisition and facility

construction. Provide cost estimates by phase as defined in the Technical Plan.

2. The Financial Plan should break down funding sources by the following categories: (1) Local; (2) State; (3) Private; and (4) Federal. All financial commitments to the project from both public and private sectors should be documented and included in the proposal.

IX. Demonstration Project Selection

The FTA will select several projects for participation in the demonstration program. The evaluation criteria are:

☐ The significance of the project in terms of the expected improvement in bus travel times and reliability due to Bus Rapid Transit;

☐ The comprehensiveness of the project—the range of features included in the demonstration and the inclusion of plans for congestion, signals, boarding and fare collection, delay reduction, and land use considerations;

☐ The readiness of the applicant to implement the demonstration—greater consideration will be given to those agencies closer to implementation of Bus Rapid Transit, who have gone through the local planning and approval process, and have funds committed;

☐ Evidence that adequate planning has been completed, and there is local commitment involving the partnering of the transit agency, city, county or state governments, and the private sector, if appropriate;

☐ The identification and commitment of funds for capital-intensive elements. Significant consideration will be given to those projects with greater levels of non-Federal funding; and

☐ Degree to which innovation is reflected in the project—including vehicle technology, ITS technologies, procurement strategy, and professional capacity building involving students as reflected in the Department of Transportation Garrett A. Morgan Technology and Transportation Futures Program.

Proposals should be forwarded to the appropriate FTA Regional Office. Regional offices will screen the proposals and recommend a subset for further review by an FTA headquarters' interoffice Working Group. The Working Group will recommend projects to the FTA Administrator.

X. Schedule

The Bus Rapid Transit Demonstration Program will last over the six-year life of TEA–21. The selected demonstration projects are expected to be implemented and in operation within this period. Project review meetings will be conducted along with quarterly progress review meetings held by the FTA regional offices. Expert assistance panels will occur as requested by the project sponsors. Scanning tours, lessons learned workshops and participation in conferences are anticipated each year. The evaluation effort will start with data collection from three to six months prior to the demonstration period and will continue for a minimum of twelve (12) months from the time that the project is put into operation. After a six (6) month period of analysis, a Best Practices Report will be completed.

XI. Y2K Compliance

Any technology containing computer system capabilities, purchased with grant program funds and expected to be used for a period of time that goes beyond December 31, 1999 must be year 2000 compliant. Applicants' Technical Proposal, Management Plan, and Financial Plan must provide sound evidence that this requirement can be met.

XII. FTA Regional Offices

Region I: 55 Broadway, Kendall Square, Suite 920, Cambridge, MA 02142–1093, (617) 494–2055

Region II: 26 Federal Plaza, Suite 2940, New York, NY 10278–0194, (212) 264–8162

Region III: 1760 Market Street, Suite 500, Philadelphia, PA 19103–4124, (215) 656–7100

Region IV: 61 Forsyth Street, S.W., Suite 17T50, Atlanta, GA 30303–8917, (404) 562–3500

Region V: 200 West Adams Street, 24th Floor, Chicago, IL 60606, (312) 353–2789

Region VI: 819 Taylor Street, Room 8A36, Fort Worth, TX 76102, (817) 978–0550

Region VII: 6301 Rockhill Road, Suite 303, Kansas City, MO 64131–1117, (816) 523–0204

Region VIII: 216 Sixteenth Street, Suite 650, Denver, CO 80202–5120, (303) 844–3242

Region IX: 201 Mission Street, Suite 2210, San Francisco, CA 94105–1831, (415) 744–3133

Region X: 915 Second Avenue, Suite 3142, Seattle, WA 98174–1002, (206) 220–7954

Issued on December 7, 1998.

Gordon J. Linton,

Administrator.

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