

DEPARTMENT OF TRANSPORTATION**Federal Transit Administration****Joint Partnership Program for
Deployment of Innovation**

AGENCY: Federal Transit Administration (FTA), DOT.

ACTION: Notice.

SUMMARY: This Notice announces establishment of a new public/private Joint Partnership Program for Deployment of Innovation (JPP) in the mass transportation industry, describes the statutory bases of the JPP, requests comments on the proposed approach, and solicits initial proposals for JPP consideration. Section 3015 of the Transportation Equity Act for the 21st Century (TEA-21), signed into law by President Clinton on June 9, 1998, creates a new Section 5312(d) in Title 49, United States Code, which authorizes the Secretary of Transportation to enter into grants, contracts, cooperative agreements, and other agreements, with competitively selected consortia to promote the early deployment of innovation in mass transportation services, management, operational practices, or technology that has broad applicability. Under the JPP, competitively selected consortia will share costs, risks, and rewards of early deployment of innovation in the transit environment.

FOR FURTHER INFORMATION CONTACT: Dr. A.M. (Tony) Yen, Deputy Associate Administrator for Research, Demonstration and Innovation (TRI-2), at (202) 366-0264, or Donald R. Durkee, Acting Director, Office of Technology, at (202) 366-0942.

DATE: Proposals (2 copies) must be received by December 1, 1998.

ADDRESSES: Proposals shall be submitted to Donald R. Durkee, Acting Director, Office of Technology, (TRI-20), Federal Transit Administration, 400 Seventh Street, SW., Room 6429, Washington, DC 20590 and shall reference JPP.

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1. Background

The U.S. Department of Transportation has long been recognized as a national and international leader in promoting the benefits of innovation in all fields of transportation. The Federal Transit Administration (FTA), likewise, has been recognized as a leader in sponsoring innovation in the field of mass transportation. Evidence of FTA's support can be found in all areas, including FTA's Research, Planning, Capital and other assistance programs. However, like many Federal assistance programs, FTA's leadership in technology introduction has been characterized as dealing with other stakeholders at arm's-length, under sometimes inflexible policies, procedures and practices which emphasize insulation of FTA from technological and financial risk. Similarly, Federal intellectual property rules governing ownership and access to intellectual property have tended to discourage the private sector from investing in FTA supported activities.

Increasingly, however, the benefits of partnering and assignment of risk according to ability to best manage and control risk factors have been recognized. This has been particularly evident in the FTA's efforts to accelerate the deployment of innovation in mass transportation. By accepting some share of the financial risks involved, FTA has been able to bring significant amounts of new capital into the industry. Innovative financing techniques, such as cross-border leasing, well known in the airline industry, but relatively little used in mass transportation, are a prime example. Another example is the FTA's Turnkey Demonstration Program. FTA's Joint Partnership Program for Deployment of Innovation is intended to further develop and institutionalize this trend. In exchange for a greater sharing of costs and risks of early deployment of innovation, FTA and its partners will also share more equally in the rewards. For example, Section 3015 of TEA-21 gives FTA greater flexibility to negotiate terms and conditions for a JPP, such as those involving ownership and access to intellectual property, than is available under FTA's other research and capital programs.

2. General Authority

Chapter 53 of Title 49, United States Code, Section 5312(d) authorizes the Secretary, under terms and conditions that the Secretary prescribes, to enter into grants, contracts, cooperative agreements, and other agreements with consortia, to promote the early deployment of innovation in mass

transportation services, management, operational practices, or technology that has broad applicability. This program is intended to be carried out in consultation with the transit industry by merit-based competitively selected consortia that will share costs, risks, and rewards of early deployment of innovation.

3. Joint Partnership Agreements

Historically, FTA has supported research, development, demonstration, and deployment of innovation through the use of grants and cooperative agreements. Since 1994, FTA has acted as agent for the Defense Advanced Research Projects Agency (DARPA), which pioneered use of "other agreements" as an alternative to grants and cooperative agreements. These "other agreements" have proven successful in situations where the other funding instruments did not provide sufficient flexibility to induce non-government, particularly commercial, entities to participate in partnership with the Government. FTA sought and received "other agreement" authority in TEA-21. In selecting from among grants, cooperative agreements and other agreements, FTA will select the instrument best suited to the goals and objectives of each Joint Partnership Project. Generally speaking, an "other agreement" will be used in those instances where one of the more traditional instruments is determined, in consultation with the potential partners, to be inappropriate for one or more reasons.

The Joint Partnership Program transcends all other FTA assistance programs. As long as a proposed project meets the statutory requirements of both the JPP and the other program (e.g., a Section 5308 clean fuels program project) it is an eligible candidate for Joint Partnership assistance. In many cases, it may be preferable for both the recipient and the Government to proceed as partners through use of "other agreement" authority afforded under a JPP to proceed under the traditional relationship.

4. Definition of Consortium

An eligible consortium will be made up of:

- (a) One or more public or private organizations located in the United States that provide mass transportation service to the public, and one or more businesses of any size incorporated in a State, offering goods or services, or willing to offer goods and services, to mass transportation operators; and
- (b) as additional members that are public or private research organizations

located in the United States or State or local governmental authorities.

5. Financing

(a) *Cost Sharing.* Section 5312(d)(3) provides that a consortium assisted under the JPP shall provide *not less than 50 percent* of the costs of any joint partnership project. Any business, organization, person, or governmental body may contribute funds to a Joint Partnership Project. FTA intends to apply the same non-Federal share rules to the JPP as apply to other FTA assistance programs in most cases. Cash or in-kind contributions applicable to grants and cooperative agreements with state and local governments (49 CFR part 18) or its companion (49 CFR Part 19) applicable to non-profit or educational institutions, are acceptable.

Note: This program is not an independent source of funds. FTA funding for JPP projects will come from other eligible funding sources including specific annual congressional appropriations.

(b) *Revenue Sharing.* To the maximum extent practicable, a portion of the revenues resulting from sales of an innovation project funded under this program shall be made to the FTA. Such revenues are authorized to be used for further funding of the Joint Partnership Program. Similarly, FTA would expect all partners to negotiate equitable revenue sharing commensurate with their own contributions to a project.

6. Technical Emphasis Areas

(a) *Notice.* FTA will periodically give public notice of the technical areas for which joint partnerships are solicited, required qualifications of consortia desiring to participate, the method of selection, and evaluation criteria to be used in selecting participating consortia and projects, and the process by which technology innovation projects will be awarded. Initially, FTA will focus on introduction of innovative technologies and related innovations, in such areas as Intelligent Transportation Systems, magnetic levitation technology, composite materials as applied to vehicles or facilities, clean fuels, communication based train control, energy storage systems (such as batteries, etc.), chemical and biological agent detection, other environmentally beneficial propulsion technologies, integration software, construction methods, condition testing of structures, and vehicle systems and subsystems which appear sufficiently advanced as to be ready for deployment in the mass transportation industry in the relatively near term, i.e., within five years. Other technologies and related innovations which may be expected to be ready for

deployment further into the future will continue to be supported through FTA's other research, development and demonstration initiatives. As the Joint Partnership Program develops, consideration will be given to partnership projects in mass transportation services, management, and operational practices that are not technology based, as well.

(b) *Sample Technology Emphasis Areas.* Energy Storage Devices. Hybrid-electric transit bus designers have identified the need for affordable, compact, and light-weight energy storage systems. A hybrid-electric bus uses an internal combustion engine-generator set in combination with an energy storage device to provide for hotel and propulsion power requirements over a variety of transit duty cycles. The hybrid system is designed such that charging or replacement of the energy storage device is only required at a minimum of six year intervals. Significant improvements in current hybrid-electric bus operating performance and efficiency will be possible with an affordable high-power density energy storage system to replace conventional battery packs now in use (i.e., lead-acid and nickel-cadmium). Further development and testing of promising technologies such as ultra-capacitors, advanced battery chemistries, advanced battery construction such as spiral wound thin film batteries, and flywheel technology are potential candidates for hybrid-electric transit bus applications.

Advanced Train Control. Several efforts are underway to develop and test Communications-Based Train Control (CBTC) systems to improve capacity and safety in rail rapid transit without additions to existing infrastructure. CBTC systems have the potential to improve safety at grade crossings while minimizing disruption to traffic flow and concurrently improve train throughput for commuter and light rail systems which operate in dedicated right of way. CBTC systems offer great flexibility in operations for schedule adherence and recovery, quick turn-around in coupling or decoupling of trains, and ancillary functions such as energy management and real-time customer information. Additional work is needed to exploit full potential of CBTC systems in different rail transit modes.

Magnetic Levitation. Numerous studies around the world have focused on cost and feasibility of high speed (up to 300 mph) Maglev systems. Due to increasing metropolitan area traffic congestion, air pollution, and relatively stagnant rail technology, there is

increasing interest in the potential of low speed (less than 50 mph) Maglev technology to serve as an alternative to the existing family of rail technologies. Low speed Maglev systems might operate in an intracity or city-to-suburb type of service. Additional tests, evaluation and demonstration of components, subsystems, vehicles and systems are needed to bring the technology to the point where a reliable revenue service system could begin.

Composites: FTA is interested in further testing and validation of the long-term structural integrity, maintainability, and life-cycle costs of vehicles manufactured utilizing a composite primary bus structure in a transit operating environment. Proposals for two or three pre-production quality, light-weight composite, low-floor, heavy-duty transit buses are solicited. All Joint Partnership Projects must contribute to the accomplishment of one or more goals of the FTA Strategic Plan through one or more Program Areas of the FTA Research and Technology Five-Year Plan. This Plan, developed in consultation with the U.S. transit industry and other stakeholders, is specifically designed to contribute to accomplishment of the FTA Strategic Plan and the U.S. Department of Transportation Strategic Plan.

(c). FTA Strategic Goals

(1) Safety and Security—Promote the public health and safety by working toward the elimination of transit-related deaths, injuries, property damage, and the improvement of personal security and property protection.

(2) Mobility and Accessibility—Shape America's future by ensuring a transportation system that is accessible, integrated, efficient, and offers a flexibility of choice.

(3) Economic Growth and Trade—Advance America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation.

(4) Human and Natural Environment—Protect and enhance communities and the natural environment affected by transit.

(5) Quality Organization—Ensure a quality organization that is responsive to employees' needs, empowers its employees, and provides excellence in customer service.

(d) FTA Research and Technology Five-Year Plan Program Areas

(1) Safety & Security
Railroad Grade Crossing Safety
Information Security
Crime Prevention and Anti-Terrorism

- (2) Equipment & Infrastructure
 - Bus Technology
 - Advanced Technology Subsystems
 - Small Durable Bus
 - Bus Testing
 - Fuel Cell Transit Bus
 - Hybrid Electric and Electric Vehicle
 - Rail Equipment and Systems
 - Communication-Based Train Control Systems
 - Light Weight Rail Transit Vehicles
 - Specialty Guided Technologies
 - Civil Infrastructure
 - Infrastructure Project Delivery Innovations
 - Tunnel Design and Construction
 - Transit Station Design
 - Advanced Simulation
 - Design
 - Testing
 - Training
 - Innovative Financing
- (3) Fleet Operations
 - Transit Capacity and Quality of Service
 - Transit Intelligent Transportation Systems
 - Bus Rapid Transit
 - Mixed Rail Corridor Operations
- (4) Specialized Customer Services
 - Welfare to Work
 - Accessibility for Persons with Disabilities
 - Elderly Services
 - Low Density Transportation Services
 - Mobility Management
- (5) Planning and Policy
 - Transportation Institutional Reform
 - Multimodal System Evaluation
 - Planning Technology
 - Sustainable Development
 - Livable Communities Initiative
 - Smart Growth
 - Intermodal Connectivity
- (6) Professional Capacity Building
 - Attracting a Quality Workforce
 - Training a Quality Workforce
 - Retraining a Quality Workforce
 - Technology Sharing

(e) *FTA Investment Principles.* FTA's approach to technology investments is guided by several fundamental principles. In making R&D investment decisions, FTA will:

- Favor investments that focus on both the short and long term, potentially high-payoff activities and outcomes that may not occur in the absence of a Federal presence.
- Favor activities that employ merit-based competitive, peer-review processes.
- encourage collaborative arrangements with other government agencies, transit agencies, industry, academia, non-profit organizations, state and local governments, and appropriate overseas/foreign counterparts.

7. Selection And Evaluation

(a) *Candidate Pools.* Joint partnership projects shall be selected from two candidate pools: (1) new merit-based competitive proposals, and (2) renegotiation of existing assistance agreements previously awarded through a merit-based competitive process by either FTA or an FTA grant or cooperative agreement recipient.

(b) *Selection Process.* FTA envisions a two step selection and evaluation system for establishing partnerships with candidates from each pool. In step one, proposed projects would be described at a broad conceptual level which would be subjected to an initial screening process. Sponsors of projects determined by FTA following initial screening that warrant further consideration for partnership will be invited to submit detailed proposals to include such elements as: statements of work, technical risk, benefits to transit, milestones associated with accomplishment of specified tasks, financing plans, deployment/commercialization plan, etc.

(1) *Initial screening.* Proposed projects will be screened by a combination of Federal, state, or local officials, and representatives of private industry, who will be invited to evaluate proposed candidate projects within discrete technological groupings such as ITS, propulsion, clean fuels, bus, rail, electronics, etc. The reviewers would provide their individual assessments of the relative merits of proposed projects against established criteria.

(2) *Final evaluation and selection.* Utilizing the information provided by the reviewers, FTA will further screen the proposals and invite candidates for partnership to submit detailed proposals as a basis for negotiation of a JPP agreement.

(c) *Selection Criteria.* In screening and selecting partnership candidates, FTA will employ the following criteria:

- (1) *New Initiatives:*
 - a. Relevance to goals of the FTA Research and Technology Five-Year Plan and FTA R&D Investment Criteria
 - b. Management Capability
 - c. Technical Expertise
 - d. Cost and benefits (payback) of proposed work
 - e. Time to complete test and evaluation of the concept or technology.
 - f. Realistic probability of achieving production (commercialization)
 - g. Relative technical and financial risk

(2) *Renegotiation:* Deployment of technological innovations involving ongoing research, development, and demonstration projects awarded through

a merit-based competitive process prior to enactment of TEA-21, will also be considered for inclusion in the JPP, and will be evaluated against the same criteria as new projects.

8. Industry Consultation

(a) *Pre-Proposal Meeting.* FTA will hold a pre-proposal meeting with interested parties at FTA headquarters in Washington, D.C., on a date to be announced. The purpose of the meeting is twofold: (1) to answer questions on the program as outlined in this notice, and (2) a listening session to receive industry input on how best to refine or recast the program to best serve the needs of the transit industry.

(b) *Continuing Consultation.* As noted in section 7b(2) above, it is intended that proposed projects will be screened by a combination of Federal, state, or local officials, and representatives of private industry, who will be invited to evaluate proposed candidate projects within discrete technological groupings. FTA also intends to utilize these and other groups with experience in technology transfer such as the Transportation Research Board, and the American Public Transit Association, as a resource for continual assessment of the program focus and direction.

9. Submission of Candidate Concept Proposals

FTA is soliciting initial concept proposals for the JPP. These preliminary proposals should outline the following *In Abbreviated Form:* (1) overview of the proposed effort, or proposed concept; (2) list of partners; (3) state of the technology; (3) work to be performed, (4) physical and/or operating characteristics of the innovation; (5) development of prototype equipment/process or pilot program; (6) project output; (7) schedule; (8) total project cost, including source of matching funds (private, non-profit, commercial, Title 49 discretionary or formula, CMAQ, ITS, etc.); (9) assessment plan; (10) relationship to FTA Research and Technology Five-Year Plan program areas listed in paragraph 6(c) of this Notice and the FTA investment principles listed in paragraph 6(d).

As previously mentioned, proposals (2 copies) must be received by December 1, 1998. Proposals should be sent to the name and address in the "Addresses" section of this Notice. A copy of the proposal also should be sent to the appropriate FTA Regional Office, whose addresses are listed at the end of this Notice.

Issued On: September 30, 1998.

Gordon J. Linton,

Administrator.

List of FTA Regional Offices

Mr. Richard H. Doyle, Regional Administrator, Region I, Federal Transit Administration, Volpe National Transportation Systems Center, Kendall Square 55 Broadway, Suite 920, Cambridge, MA 02142-1093, 617-494-2055 Fax: 617-494-2865

Ms. Letitia A. Thompson, Regional Administrator, Region II, Federal Transit Administration, 26 Federal Plaza, Suite 2940, New York, NY 10278-0194, 212-264-8162 Fax: 212-264-8973

Mr. Sheldon A. Kinbar, Regional Administrator, Region III, Federal Transit Administration, 1760 Market Street, Suite 500, Philadelphia, PA

19103-4124, 215-656-7100 Fax: 215-656-7260

Ms. Susan E. Schruth, Regional Administrator, Region IV, Federal Transit Administration, Atlanta Federal Center, 61 Forsyth Street, SW, Suite 17T50, Atlanta, GA 30303-8917, 404-562-3500 Fax: 404-562-3505

Mr. Joel P. Ettinger, Regional Administrator, Region V, Federal Transit Administration, 200 W Adams Street, Suite 2410, Chicago, IL 60606-5232, 312-353-2789 Fax: 312-886-0351

Mr. Lee O. Waddleton, Regional Administrator, Region VI, Federal Transit Administration, 524 E Lamar Boulevard, Suite 175, Arlington, TX 76011-3900, 817-860-9663 Fax: 817-860-9437

Mr. Lee O. Waddleton, Acting Regional Administrator, Region VII, Federal Transit Administration, 6301 Rockhill Road, Suite 303, Kansas City, MO

64131-1117, 816-523-0204 Fax: 816-523-0927

Mr. Louis F. Mraz, Jr., Regional Administrator, Region VIII, Federal Transit Administration, Columbine Place, 216 16th Street, Suite 650, Denver, CO 80202-5120 303-844-3242 Fax: 303-844-4217

Mr. Leslie T. Rogers, Regional Administrator, Region IX, Federal Transit Administration, 210 Mission Street, Suite 2210, San Francisco, CA 94105-1800, 415-744-3133 Fax: 415-744-2726

Ms. Helen M. Knoll, Regional Administrator, Region X, Federal Transit Administration, Jackson Federal Building, 915 2nd Avenue, Suite 3142 Seattle, WA 98174-1002 206-220-7954 Fax: 206-220-7959

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