

Transit Planning and Research Program

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A major new Transit Planning and Research (TPR) Program, established under Title III of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), will significantly change the nature and content of federal transit research.

The Need

In the final decade of the 20th century, one of the nation's goals is to ensure that fast, safe, and efficient transportation that is economically and environmentally sound is available to all.

Recent studies point to the importance of transportation research and development. The Transportation Research Board's Committee for the Strategic Transportation Research Study on Transit: *Special Report 213—Research For Public Transit: New Directions*, the American Public Transit Association's Transit 2000 reports, and the American Association of State Highway and Transportation Officials' *Transportation 2020* all underscore the need for expanded programs.

This mandate was expressed even more forcefully in the National Transportation Policy (NTP) President Bush issued in February 1990. NTP called for an important new direction to "increase the Federal transportation budget for research and technology projects in coordination with the efforts of private industry, the academic community, and State and local governments." NTP also urged increased emphasis on integrated state, regional, and local planning.

The tools currently available to the industry to respond to these high expectations are conventional and, for the most part, outdated. An updated toolbox is needed that would include new technologies and the creative use of existing technologies seen in other industries. These new tools must be wielded by a work force that has up-to-date training in transportation. The work force must be guided by a better understanding of the economic and behavioral forces at work in the transportation marketplace, better data, new institutional and legal mechanisms for financing transportation systems, and new tech-

niques for coordinating and managing a wide range of transportation services.

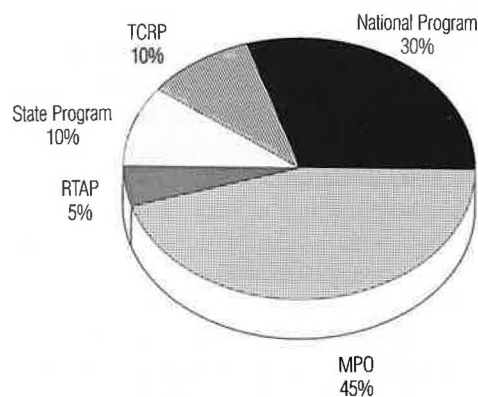
The public sector, more specifically the federal government, has spent relatively little money on public transportation planning and research during the past decade. Extensive investments are needed to rehabilitate the transportation infrastructure and to increase American competitiveness in transportation equipment and supplies. The TPR Program will support and coordinate the restoration and expansion of the national public transportation infrastructure.

Recognizing these needs, officials at FTA recommended legislation to revise the planning and research programs. This legislative proposal has been incorporated into ISTEA.

Program Structure

The program targets the level of investment in planning and research at a fixed 3 percent of the overall federal transit investment. It is focused on budgetary trade-offs at the total transit program level instead of the research and planning level. This type of funding mechanism is similar to that used by FHWA for its planning and research expenditures.

The TPR Program consists of five fundamental elements: a Metropolitan Planning



NOTE: P&R Program is 3 percent of total FTA budget.

FIGURE 1 Elements of Transit Planning and Research Program.

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Organization (MPO) program, a Rural Transit Assistance Program (RTAP), a state program and a Transit Cooperative Research Program (TCRP), and a National Program (see Figure 1).

Metropolitan Planning

Planning funds, apportioned to the states on the basis of urbanized-area population, support the metropolitan planning and programming process, but they can also be used to fund projects under TCRP. The planning process encompasses studies of land use, economic and demographic trends, transportation demand, system performance, transit finance, and the cost-effectiveness of alternative new services and facilities. In addition, considerable interregional and state coordination is supported by the program.

The local planning program is also the mechanism that FTA uses to institute national policy themes, such as energy conservation, air quality improvement, accessibility for elderly and disabled persons, and privatization, into local planning and decision making.

Rural Transit Assistance Program

RTAP promotes delivery of safe and effective public and private transportation in nonurbanized areas and develops national rural transportation resources to aid in information dissemination. It places increased emphasis on private-sector involvement in transportation service and on safety initiatives for rural transit.

State Planning and Research Program

The state planning and research program provides increased funding and flexibility for existing as well as new activities. This is a formula-allocated program that will support state-initiated technical activities associated with urban, suburban, and rural public transportation assistance, including planning, research, technical assistance, and training. Funding under this program is available for work formerly provided to the states under the Section 8 Technical Studies Program. States also have the flexibility to either undertake independent research or fund studies in cooperation with other institutions (as in TCRP).

TABLE 1 Transit Planning and Research Funding in Intermodal Surface Transportation Efficiency Act of 1991

	FY92	FY93	FY94	FY95	FY96	FY97	TOTAL
Total authorization	3,643	5,235	5,125	5,125	5,125	7,250	31,503
Total P&R	109.12	157.05	153.75	153.75	153.75	217.50	944.92
National	39.51	45.62	44.62	44.62	44.62	63.75	282.78
State	8.96	14.96	14.62	14.62	14.62	21.00	88.79
TCRP	8.96	14.96	14.62	14.62	14.62	21.00	88.79
MPO	43.69	70.67	69.19	69.19	69.19	97.88	419.80
RTAP	5.00	7.85	7.69	7.69	7.69	10.88	46.79
NTI	2.99	3.00	3.00	3.00	3.00	3.00	17.99

Notes: Funding is in millions. P&R total is 3 percent of total authorization.

Source: Office of Technical Assistance and Safety, Federal Transit Administration, U.S. Department of Transportation.

Transit Cooperative Research Program

This program, modeled after the National Cooperative Highway Research Program, funds research and technical activities in support of the transit industry's short-term operating needs. Research will be focused on identifying and evaluating practical solutions to everyday problems experienced in the operating environment.

The U.S. Secretary of Transportation has established an independent governing board responsible for identifying issues; programming research, development, and demonstration projects; and overseeing technology transfer activities. Working through the Transit Development Corporation, the board represents transit operators and suppliers, private service providers, the academic community, consulting firms, and government bodies. A majority of the members represent public operators of transportation services.

Program management, project implementation, and technical support to the board is provided by the Transportation Research Board under the National Academy of Sciences (NAS). The Secretary has signed a memorandum of understanding with NAS to carry out this program.

National Planning and Research Program

This program includes two categories of activity requiring a national focus:

Federal Mission Support

This discretionary program will be used for

directed research, pilot projects, and special demonstration initiatives to advance federal mass transportation policies and to address transportation issues of national concern. For example, this category could include research and demonstrations in support of market competition in public transportation, new institutional arrangements for financing and delivery of transit services, innovative financing mechanisms for transportation equipment and facilities, private sector involvement in congestion management, and new forms of transit services in urban, suburban, and rural markets.

Activities in this area are focused on the federal role in public transportation. Research can provide valuable guidance, enabling the national transit program and policies to reflect changing domestic conditions, budgetary priorities, laws, and regulations. For instance, as part of the Bush administration's general policy of expanding governmental partnerships, the FTA national program will examine ways to successfully increase competition and private participation in transit service delivery.

Research on broad issues and trends affecting the future of public transportation, and the development of effective policy responses to these changes, will also be conducted. Issues to be addressed include the provision of safe, drug-free transit services, the changing economics of transit service provision in a variety of markets (urban, suburban, and rural), the facilitation of transit operations using institutional arrange-

ments, the operation of fuel-efficient, non-polluting transit equipment, accessibility of transportation services for Americans with disabilities, and cooperation between labor and management. Although these research topics are focused primarily on national issues and federal concerns, consideration will be given to the organizational constraints and incentives of state and metropolitan transportation agencies, which are key to shaping the effectiveness of policy responses.

Technology Development

ISTEA required FTA to undertake a comprehensive program of transit technology development and establish an industry technical panel consisting of representatives of transportation suppliers and operators, with the majority of the members from the supply side. This panel, now called the Technology Advisory Committee, is assisting in the identification of priority technology development areas and in the establishment of guidelines for project development, cost sharing, and execution.

Definitive project cost sharing will be developed on a case-by-case basis by FTA in conjunction with the committee. It will include specific federal, user, and supplier contributions. Precedents for this type of joint government and industry financing have been set by the Department of Energy, the National Aeronautics and Space Administration, and the Maritime Administration.

To date, the committee has met three times and has undertaken the additional responsibilities of developing guidelines in such areas as risk sharing, licensing, patent rights, and rights of data.

To support the transit industry, the Technology Development Program will facilitate innovative technical developments. In the past, FTA technology research and development was invested heavily in new transit technologies that sought revolutionary improvement in public transportation. This new program will emphasize more incremental improvements to existing transit systems, such as advances in component technologies, technologies that improve service reliability, and major emphasis on information dissemination.

Technology-oriented research typically

requires long lead times for developing and testing prototype equipment and for demonstrating new products successfully in the market. The costly nature of these endeavors (relative to the limited size of the transit industry) requires a cost-effective approach to technology planning and research. The federal government will share these costs with equipment suppliers by financing a portion of this type of research activity. This program also will concentrate on locating transit applications for innovative technologies that are currently under development or in use in other industries or countries. FTA will solicit the cooperation of industry and state and metropolitan governments to embark on a more aggressive program of technology research, development, demonstration, testing, and evaluation.

The specific aims of this program will be research, development, and demonstration. Deployment of technology, which generally involves larger capital investments, will occur through the discretionary resources of Section 3(a)(1)(C) and the formula resources under Section 9 of the FTA Act.

Program Objectives

The TPR Program supports the following key objectives:

Provide a More Reliable Funding Source

The federal government must invest in research and planning to provide a more stable, cost-effective environment that will stimulate increased private-sector investment and economic growth. To yield maximum benefits from transit investment dollars, planning and research must be a more constant element of the FTA program with a consistent source of funding. ISTEA has accomplished this objective. TPR funding in ISTEA 1991 is shown in Table 1.

Strengthen Planning and Research

The quality of public planning and research directly affects the cost-effectiveness of any chosen public course of action. A combined program will also afford a more coordinated perspective for analyzing problems and evaluating alternatives. Positive eco-

nommic and operational synergisms can be expected from the coupling of planning and research efforts that were unconnected before establishment of the TPR Program.

Increase Flexibility of Planning and Research Funding

Under TPR, a single fund will be used to support different activities in a more flexible way than was formerly possible. The TPR fund is being administered on the basis of demand, need, and expected return on investment instead of by restrictive formulas. TPR will be focused on such activities as research (policy, planning, technology, operations, markets, institutions, finance), development, demonstrations, data (collection, management, analysis), education, and training. Resources will also be available for other activities fostering innovation and excellence in facilities and services.