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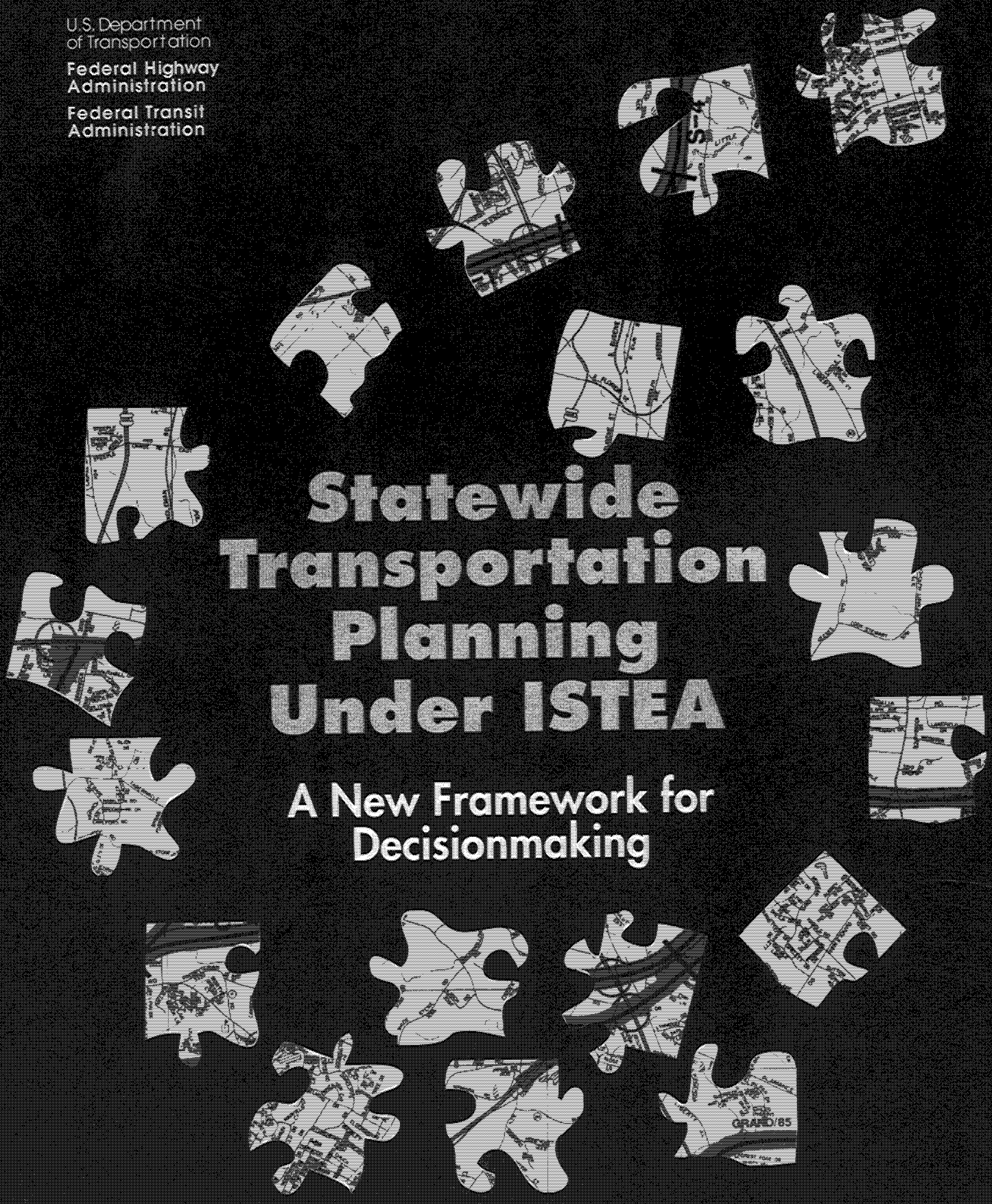

Statewide Transportation Planning Under ISTEA

A New Framework for Decisionmaking

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A Message to the Reader

Passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) marked a new era in transportation investment. For the preceding thirty-five years, the Federal government directed much of its surface transportation investment to the construction of the Interstate Highway System. This 45,000 mile system links the States to each other and also provides safe and efficient connections between urban and rural areas. The Federal government also invested heavily in transit system construction and maintenance during this period. When Congress enacted ISTEA it recognized that the dream of a nationwide system of interconnected, high-capacity highways had been realized, that transit system construction had been completed in many areas, and that a new era in multimodal transportation investment had begun.

ISTEA presents a vision for the future that protects the extensive investment we have made and that emphasizes enhancing the transportation system's efficiency, monitoring and improving its performance, and ensuring that future investments reflect consideration of their economic, environmental, and quality-of-life impacts. In order to make that vision a reality, ISTEA calls for sound transportation planning and emphasizes the need to broadly consider the impacts of transportation investments.

Without adequate resources to pay for building and maintaining infrastructure and operating transportation services, such good planning is only a first step. This is especially true in an era of growing needs and limited resources at all levels of government. ISTEA and more recent legislation therefore give State and local governments new financing tools to carry out their transportation plans.

Elected officials and policy makers play vital roles in transportation planning and financing, and this guide provides them an understanding of how sound statewide transportation planning can provide investments that meet their State's economic development, environmental and quality-of-life goals. This guide also provides information on statewide planning for other parties interested in the decisionmaking process for infrastructure investments. Since financing needed transportation investments is a critical concern, this guide also discusses innovative financing techniques now available to State and local governments. We trust that it will prove helpful.

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Part One:
The Context for Statewide Transportation Planning

ISTEA recognizes the critical role that elected officials and policy makers play in transportation decisionmaking and the importance of good information to assisting them in making sound decisions. ISTEA's planning process is designed to improve the quality and scope of information these officials receive on transportation options and on the impacts of transportation investments on their State's economy, environment, and quality-of-life.

Each State has a different process for making transportation decisions. In some, the legislature annually approves the transportation capital investment program. Others have independent or quasi-independent commissions, boards, or authorities that are responsible for transportation decisions. In all cases, elected officials at the local, regional, or State level need good information to guide their decisions, and the ISTEA planning process is designed to provide this.

Why Do We Need Statewide Transportation Plans?

ISTEA's statewide planning provisions assist transportation planners in organizing, gathering input, and presenting information about transportation needs, impacts, and investment choices. In doing so, decision makers can look at their State's needs as a whole over the long term and understand transportation in the context of their State's goals and priorities. They also must balance urban and rural needs and the differing demands of the various forms of transportation. This is important because most transportation funding is provided by State governments or (in the case of Federal funds), through them.

This is why statewide transportation planning makes good sense, and why ISTEA requires that statewide plans be developed. ISTEA provides a framework for comprehensive transportation planning that includes specific requirements that States must address in their plans, to guide investments toward a fully integrated, multimodal transportation system.

An Overview of the Major Components of Statewide Planning

There are several major components to statewide planning as envisioned in ISTEA. The statewide planning process produces two key products: statewide transportation plans and statewide transportation improvement programs (STIPs).

Statewide transportation plans present a future vision for mobility that considers those factors that may impact or be impacted by transportation investments.

STIPs are short-term documents that list the projects to be advanced in the next three years with Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding.

The statewide planning process also provides a framework to understand and shape the role of transportation in the context of broader economic, environmental and quality-of-life goals. As an example, ISTEA creates specific linkages to the goals of the Clean Air Act Amendments (CAAA) of 1990 and links

transportation planning decisions in metropolitan areas to the financial resources expected to be available.

ISTEA also focuses on effective management of existing assets and promotes operational strategies to improve transportation system efficiency.

ISTEA emphasizes involving the public and other transportation partners in transportation decisions and in considering the various forms of transportation available when addressing transportation problems.

Taken together, these considerations comprise the statewide planning process and are discussed in more detail later in this guide.

Statewide planning under ISTEA is multifaceted, includes consideration of all modal options (e.g., highways, transit, railroads), and is characterized by input and participation from stakeholders and the public.

Planning Supports Multimodal Decisionmaking

Statewide transportation planning is a cooperative venture in which those responsible for the performance of the transportation system and the stakeholders in efficient transportation services work together to define the best direction for the State's transportation system.

This cooperation is especially important between State Departments of Transportation (DOTs), Metropolitan Planning Organizations (MPOs), transit operators, local governments, quasi-public agencies (e.g., airports, port authorities), and the private sector (e.g., major shippers and distributors).

For example, given the economic importance of metropolitan areas, it is vital that State and metropolitan area transportation plans be coordinated and well-integrated and that concerns and needs of all users of transportation be addressed. This demands continuing cooperation throughout planning and project implementation.

Maine: Fairfield Intermodal Facility Demonstrates Commitment to Efficient Freight Movement

The Maine Department of Transportation will construct an intermodal truck-to-rail transfer facility near the town of Fairfield. The facility is located near an Interstate Highway and will provide for the transfer of freight hauled on trucks to key rail lines, both in Maine and throughout New England. A private rail company is contributing material, equipment, and service for use in the project. Through the new financing flexibilities provided in ISTEA, the State can credit the value of these contributions, approximately $1.57 million, toward its required matching share for the Federal funds to be spent on this project. In effect, this saves the State $1.57 million, which can be used for transportation improvements elsewhere.

One Size Does Not Fit All: A Statewide Plan Should Reflect the Unique Needs of Each State

The transportation planning process should be structured to meet each State's needs. Since the information needed for good planning varies and each State's decision-making process is unique, different approaches are necessary in different places. For example, planning in some States may be oriented towards analysis of data relating to specific facilities or transportation corridors. In other States, transportation planning might be more policy-oriented and include a statement of policies meant to guide investment for the State. Either may be appropriate depending on the context in which the plan is developed. Certain components of planning, to be covered later, should be included in the plan development process but they, too, should be tailored to individual States' needs.

In short, statewide planning should focus on those issues and challenges that are most relevant to each State. For example, a State that is a major tourist destination might want to emphasize transportation issues related to tourism, whereas a State that is a major exporter of goods or resources might focus on the efficient movement of freight.

Public Involvement is a Hallmark of Planning at Wisconsin DOT

Wisconsin DOT (WisDOT) built upon its strong tradition of public involvement and has developed a proactive public involvement process in which the public's views are reflected in a comprehensive statewide transportation plan. The effort consisted of the following:

- *A series of "listening sessions" were held around the State to identify underlying transportation concerns and discuss the relationship between transportation and other issues (i.e. the economy and environmental protection);*
- *Two different "public groups" were recognized and communications techniques were tailored to each group: 1) the general public who are users of the transportation system but had no organized special interest; and 2) individuals and groups that directly influence the decision process, including legislators and their staffs, lobbyists, and special interest groups.*

Three stages of public involvement were developed and are summarized below.

1)Public outreach extended at the early stages of plan development

Outreach included regional meetings, peer review forums, a meeting with key statewide organizations, and convening expert panels to discuss freight movement issues. Special efforts were made to keep elected officials informed through informal gatherings with legislative staffs, lobbyists, and special interest groups. Additional outreach efforts were targeted to minorities, the elderly, the disabled, and members of low income groups. Special focus group meetings were held for Native Americans, Hispanic communities, and African Americans.

2)Reaction solicited to four detailed plan alternatives

This included regional open houses, focus group meetings, and meetings with chambers of commerce, local government organizations, transit managers, and construction contractors. Extensive use of newspaper and TV advertisements informed people of their opportunity to participate and communications continued with State legislators and their staffs. WisDOT received nearly 6,000 written comments and surveys showing that the public favored a plan alternative that completed major highway projects, reconstructed Milwaukee's freeway system, rehabilitated the road system, and expanded service in other areas.

3)Testing and solidification of public acceptance of the draft statewide transportation plan

With a recommended draft plan (Translinks 21) prepared, WisDOT conducted a final round of public involvement including TV and newspaper advertisements, a series of town meetings, formal public hearings, and surveys. A survey of 503 randomly selected Wisconsin citizens was conducted to gauge their support of the draft plan. More than two-thirds of those surveyed voiced strong overall support for the plan, while only one in six expressed disapproval. Support was highest for the plan's highway rehabilitation, intermodal freight, and elderly and disabled transportation service components. In addition, its land use and environmental strategies also received high marks.

Efforts to gain approval of a new revenue source for transportation programs failed in 1995 but the State is continuing to actively involve the public in its efforts to implement the Translinks 21 plan. Specifically, the State recognizes the need to gain support from local officials for a new revenue source and is working hard on securing that support. Given the fact that over 77 percent of all funding for transportation improvements comes from State sources, WisDOT continues to believe that it is essential to work with the public and elected officials in order to gain support for needed funding to implement the Translinks 21 plan.

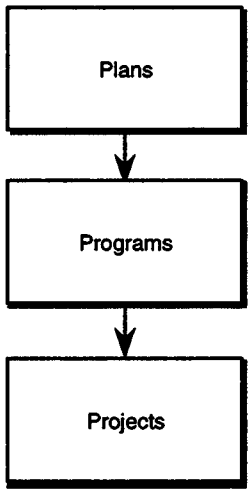
Part Two:
Products of Statewide Planning

There are two principal products that result from the statewide planning process, the statewide transportation plan and the statewide transportation improvement program (STIP).

The statewide plan is intended to present a long-term vision of the State's transportation system.

The STIP is a shorter-term listing of projects that are planned for implementation throughout the State over a three-year time frame using FHWA and/or FTA funding. The STIP requirement, new under ISTEA, mandates that only projects included in a STIP can receive FHWA and/or FTA funding. Figure 1 shows the relationship between plans, programs, and projects.

Figure 1. Basic Planning and Programming



Public Involvement and Coordination

Source: Pennsylvania Department of Transportation.

Statewide Transportation Plans

A statewide transportation plan should consider the full range of modal choices (e.g., highway, rail, transit) and operational, maintenance, and technology investment options (e.g., signal synchronization, traveler information systems) that can meet the mobility and economic needs of system users. The transportation plan should be:

Long Term: A plan should provide a perspective on the State's transportation future for at least a 20-year time frame.

Linked to Economic Goals of the State: A plan should be closely linked to the State's economic development strategy as well as to those environmental, social, and land use policies that guide development in the State.

Linked to Environmental Objectives: Statewide plans should reflect consideration of environmental issues and impacts, including compliance with specific requirements relating to the attainment of air quality standards.

Coordinated With All Modes and Transportation Providers: The plan should be coordinated with planning undertaken by MPOs, transit agencies, ports and airports, private- and public-sector groups, and others that have or could have an impact on the transportation system.

Intermodal: The plan should identify the linkages and desired linkages between transportation modes (e.g., truck-to-rail, bus-to-rail, port-to-truck) and address existing gaps in connections.

Performance Oriented: A plan should place adequate emphasis on managing existing assets. This includes maintaining, monitoring, and improving transportation system performance.

Participatory: Users, transportation providers, and the public should be given sufficient opportunity to provide input to the plan's development, not just to comment on a draft final product.

Realistic and Fiscally Sound: The plan should provide realistic options for addressing mobility needs over the 20-year period. It should include a financial element that identifies future needs and resources as well as possible shortfalls in funding.

Relevant: The vision presented by the plan should be reflected in the short-term capital investment and operational decisions that the State and its metropolitan areas intend to make.

Part Three of this guide provides more specific information on the components of statewide plans, and examples of how some States are conducting their planning in order to broaden its scope and make it a more participatory process.

Projects targeted to receive FHWA and/or FTA funding must be in an approved STIP.

Statewide Transportation Improvement Program (STIP)

The STIP is the other principal product of the statewide planning process and is one of its most visible short-term outcomes. The STIP is a complete list and description of all FHWA/FTA-funded projects that are to be advanced by year for the next three-year period. (While ISTEA requires a three-year STIP, a STIP that covers a longer period may be submitted to the FHWA/FTA, with the projects beyond the first three years included for information only.) Projects contained in the STIP should be consistent with the statewide plan. Each State must submit the entire proposed STIP to the FHWA and FTA for joint approval at least every two years and amendments can be submitted at any time.

The STIP should include all capital and non-capital projects (i.e., transit operations) or phases of projects targeted to use FHWA and/or FTA funding. The STIP also includes all regionally significant transportation projects requiring Federal approval or permits even if no FHWA or FTA funds are to be used in their construction. A regionally significant project is generally defined as a project on a facility which serves regional transportation needs. As is the case in all areas of statewide planning, the public must be provided ample opportunity for involvement in STIP development.

Linkages with Metropolitan Area Transportation Planning

The Transportation Improvement Program (TIP) is the metropolitan area counterpart to the STIP and metropolitan plans are counterparts to statewide plans. In addition to transportation funding, the TIP also includes a direct linkage to Federal air quality requirements for "conformity" (See page 13). The TIP is developed and

approved by MPOs and is included in the STIP, without modification, following approval by the Governor.

The linkage between the TIP and STIP is an important reason for the State to work proactively with MPOs in developing the metropolitan area transportation plan and resulting TIP.

Project Selection and Scheduling

The selection of projects for inclusion in the TIP and/or STIP is based upon a cooperative decisionmaking process between the State and MPOs in metropolitan areas, and the State and local officials in non-metropolitan areas. The TIP and/or STIP can be modified at any time subject to agreements among those agencies which cooperatively prepared the document.

The implementing agency (usually the State or a transit operator) is responsible for scheduling projects for implementation once included in the TIP and/or STIP. In metropolitan areas, the implementing agency must regularly communicate appropriate project status information to the MPO.

Financial Planning

Financial planning is a key element of successful transportation planning and serves a number of purposes.

It requires that decisionmakers face financial realities and exercise responsible stewardship over public assets. This includes making certain that the existing transportation system is maintained and operated before beginning major new investments. Further, it promotes the adoption of credible plans which have considered the funding likely to be available over the period of the plan. Finally, financial planning provides elected officials the opportunity to make necessary trade-offs between projects.

New England States Benefit By Developing a Coordinated Strategic Transportation Planning Vision

The six New England States, recognizing the global economy's competitive demands, have created the New England Transportation Initiative (NETI) to develop a coordinated strategic transportation planning vision that maximizes the benefits of New Englands' location.

The project has focused on using transportation policy to maximize New England's competitive advantages by enhancing: 1) mobility and access for persons and goods; 2) environmental quality; and 3) economic vitality.

STIPs Must Be Financially Constrained

ISTEA requires that the STIP be "financially constrained" by year. This means that the STIP must identify the source of funding for proposed projects while ensuring the continued operation and maintenance of the existing transportation system. In contrast to statewide plans, in metropolitan areas, the MPO's transportation plan and TIP *both* must be financially constrained, so consistency between State and MPO funding estimates is important.

Further, in metropolitan areas classified by the U.S. Environmental Protection Agency (EPA) as being air quality "nonattainment" and "maintenance" areas, projects included in the first two years of the TIP are limited to those for which funds are available or committed. In the case of proposed funding

sources, strategies for ensuring fund availability must be identified.

To promote consistency in metropolitan area and statewide financial planning, the State should provide each MPO with estimates of Federal and State funding expected to be available over the period of the TIP and the plan. These financial targets are important because the State controls much of the funding available throughout the State. Likewise, the State should have a process for estimating revenues from all sources of funds over the STIP's time frame.

Part Three:

The Statewide Planning Process

This section of the guide describes four key elements of statewide planning and how their integration into the planning process contributes to the development of a comprehensive transportation plan.

Statewide Planning Factors

To guide States in considering the implications of their investments, ISTEA includes planning factors that should be considered when developing or updating plans. The relevance of individual factors will vary depending on each State's needs, and States are encouraged to identify and consider other appropriate factors.

> *Consideration of planning factors will vary by State and should be adapted to each State's needs and priorities*

While each factor can be interpreted differently, it may be helpful to think about these factors in four general groupings that reflect the major themes of ISTEA: Coordination and Collaboration Among Stakeholders; Mobility and Access for People and Goods; System Performance and Preservation; and Environment and Quality of Life. Figure 2 shows the factors organized in these four groupings.

Ohio: Stark County Intermodal Facility Ensures Key Role of Freight Movement in State's Economy

The Ohio Department of Transportation has constructed an intermodal facility that enables the loading and unloading of truck trailers and freight containers onto railroad flat cars. The project produces about 1,000 manufacturing jobs in the State. The project cost was $35.2 million, including $24 million in such private investments as adjoining warehousing. An off-loading fee of $10 per truckload provides a dedicated revenue stream to repay funds loaned to the project from the State's Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds. The repaid funds will enable the State to establish a revolving fund for future projects.

Management Systems

ISTEA places a high priority on protecting existing investments through sound system maintenance, operation, and management. Improving system performance is also a priority in part because building new capacity, especially in heavily populated urban areas, is increasingly costly and difficult.

With these objectives in mind, ISTEA requires that management systems focusing on performance improvement and asset management be created to help guide investment decisions.

Figure 2. Statewide Planning Factors

Coordination and Collaboration Among Stakeholders

These factors relate to the need to coordinate State and metropolitan area plans, to consider the needs of rural areas, and to consult stakeholders in the planning and resource allocation process. They include the following:

- Coordination and reconciliation of statewide and metropolitan area plans and programs to ensure connectivity within the State and with metropolitan areas in other States;
- Use of innovative financing mechanisms including improved cash flow tools, tolls, private-public sector partnerships, and congestion pricing;
- Consideration of non-metropolitan area needs (areas outside of the MPO planning boundaries);
- Consideration of investment strategies to improve State and local roads that jointly support rural economic growth, tourism, and recreational use; Federal agency renewable resource management; and multipurpose land practices;
- Addressing the concerns of Indian tribal governments having jurisdiction over lands within the boundaries of the State.

Mobility and Access for People and Goods

These factors relate to ensuring the most effective and efficient use of resources to provide mobility and access to the transportation system.They reflect the importance of ensuring that connections between modes (e.g., truck to rail, bus to rail, airplane to truck) are as smooth as possible and that users have good access to the transportation system and facilities. Factors to be considered include:

- Access from international border crossings to ports, airports, and freight and passenger intermodal transportation facilities;
- Access to major freight distribution routes and intermodal facilities, national parks, recreation and scenic areas, monuments and historic sites, and military installations;
- Long-term needs of the State transportation system for the efficient movement of people and goods;
- Appropriate methods to expand and enhance the use of transit services and facilities.

System Performance and Preservation

These factors include ways to optimize the performance of the transportation system and to preserve its usefulness. These factors emphasize operational strategies to improve performance (e.g., HOV lanes, signal synchronization) and the preservation of potential future transportation assets. Strategies include:

- Transportation system management techniques to make the most efficient use of existing transportation facilities;
- Methods to reduce traffic congestion, prevent congestion from developing in areas where it does not yet occur, and reduce single-occupant vehicle travel;
- Identification and preservation of rights-of-way for construction of future projects, or for future transportation corridors;
- Identification of corridors where action is needed to prevent destruction or loss;
- Methods to enhance the efficient movement of commercial motor vehicles;
- Use of life-cycle costs in design and engineering of bridges, tunnels, or pavement; and
- The transportation needs (strategies and other results) identified through the management systems.

Environment and Quality of Life

This group of factors relates to environmental protection and other issues that affect the quality-of-life in States and communities. ISTEA highlights the importance of linking transportation planning and investment decisions with environmental impacts. Considerations include:

- Recreational travel and tourism;
- State plans developed pursuant to the Federal Water Pollution Control Act and the Coastal Zone Management Act;
- The social, economic, energy, and environmental effects of transportation decisions;
- Federal, State or local energy use goals, programs, or requirements;
- Strategies for incorporating bicycle transportation facilities and pedestrian walkways in appropriate projects;
- The effect of transportation decisions on land development and use, including the need for consistency between transportation decisions and short- and long-term land use and development plans;
- Strategies for identifying and implementing transportation enhancements where appropriate.

Six management systems were originally required, but the National Highway System Designation Act of 1995[1] made these systems optional, with the exception of congestion management systems for transportation management areas (urbanized areas over 200,000 population). In those areas, congestion management systems are still required as part of the metropolitan planning process.

It is up to each State, with input from MPOs, to determine how or whether they will continue to utilize the other management systems in their efforts to ensure system performance.

Managing the existing transportation system and improving its performance are cornerstones of ISTEA.

While all components of the transportation system should work in harmony, management systems fall into in two broad categories – performance management and asset management, each with the following components:

Performance Management Systems

- Safety
- Congestion
- Intermodal

Asset Management Systems

- Bridge
- Pavement
- Public Transit Equipment & Facilities

In the past, many States have developed inventories of assets and monitored their conditions for safety and maintenance purposes. However, translating the concept of managing for performance into practical and useful tools is challenging. Questions such as the following are being asked:

- How do we define performance?
- What constitutes good performance?
- How do we improve performance if we find it is inadequate?
- Can we measure it for different transportation modes?
- Should all modes be measured on the same basis?
- How do we incorporate the information we gather into the planning process?
- Will the ability to measure and monitor performance have an impact on investment decisions?

In spite of the difficulties of meeting the challenges raised by these questions, many States and metropolitan areas have done extensive work developing useful management systems and performance measures. Such areas will continue to be supported by the U.S. DOT and will continue to be eligible for Federal funding in the foreseeable future.

The most important purpose of management systems is to provide a means of targeting issues of concern to transportation officials, and providing them with information they need. Management systems also can emphasize the most cost-effective approaches to improve system operation, which is vital in an era of limited resources. Because of these benefits, management systems will remain a valuable tool even if not Federally required.

[1]Public Law 104-59, 109 Stat. 588.

Developing meaningful performance measures to guide decisionmaking is no easy feat.

Major Investment Studies in Metropolitan Planning Areas

Major Investment Studies (MIS) are conducted in metropolitan areas as part of the plan development process. MIS, the prelude to decisionmaking on the addition of major investments to transportation plans, have four basic themes:

- *Involve the State, MPO, and transit operators in cooperative decisionmaking;*
- *Analyze the problem before thinking about potential solutions;*
- *Evaluate a range of solutions appropriate to the problem in terms of a broad array of transportation, economic, environmental and social criteria; and,*
- *Include all relevant public and private entities with a stake in the problem's solutions from the beginning, including affected citizens.*

MIS procedures, including where MISs should be conducted, who should be the lead agency, and their organization should be developed as a cooperative venture of the MPO, the State and the transit operator in each metropolitan area.

One of the major benefits of the MIS process is that it can streamline the environmental analyses that are required for project development. By considering alternative investment strategies early during the planning process, with full opportunity given for public input and documentation of the process, subsequent environmental studies may not need to be repeated or completion of the analysis may be facilitated.

The MIS process is flexible and should be tailored to the types of investment decisions to be made. It should be collaborative, and, though not required, some States are electing to do an MIS-type activity in corridors in non-metropolitan areas.

Finally, the MIS can be viewed as an important means of providing the best planning basis for decisions to improve mobility and resolve existing or potential transportation problems in key corridors.

Environmental Considerations in Statewide Planning

Early consideration of environmental consequences is part of a sound planning process. Environmental concerns are embodied in several of ISTEA's statewide planning factors; environmental impacts are a significant consideration in a MIS; and a specific linkage is required between transportation and air quality planning.

Linking Transportation and Air Quality Planning

ISTEA requires a direct linkage between transportation and air quality planning in areas that are classified by the EPA as being in "nonattainment" for one or more transportation-related air pollutants, as well as so-called "maintenance areas," which are areas that have been redesignated from nonattainment to attainment.

The key transportation-related pollutants for which there are health-based National Ambient Air Quality Standards (NAAQS) include ozone, nitrogen dioxide, carbon monoxide, and particulate matter.

Colorado Integrates Management Systems into the Planning Process

Transportation planning in Colorado changed with ISTEA and with the enactment of State legislation creating the Colorado Department of Transportation (CDOT). The State legislation required that both mode-specific plans and a multimodal statewide transportation plan be prepared, and that Transportation Planning Regions be formed.

CDOT assembled stakeholders to define 15 transportation planning regions and to establish a process to develop a long-range multimodal transportation plan. Regional Planning Commissions were created which include MPO representatives and local and county officials (in non-MPO regions). A State Transportation Advisory Committee (STAC) was also created to provide input to the statewide plan, with one representative from each of the 15 planning regions and each of the State's two Indian Nations.

The planning process incorporates both bottom-up and top-down elements: policy planning is conducted at the State level and project planning is conducted at the local and regional levels. Project plans are screened for consistency with the statewide policy to develop a fiscally constrained program of projects for each region. Recommendations and findings of the modal plans are integrated into the final statewide plan.

A major focus of Colorado's transportation strategy is maintenance and enhancement of the existing system and, therefore, the effective use of management systems as a tool for decisionmaking is a focal point in Colorado's transportation planning process. Colorado has integrated methods for the following into its planning process: developed performance standards and system/facility performance tracking; developed modal, maintenance and other investment policies; and created processes for project identification, prioritization and selection. CDOT is also identifying ways to minimize data acquisition and maintenance costs for management systems.

CDOT envisions that the conditions assessment and analytic capabilities of the management systems will provide valuable input to the decisionmaking process. In addition, CDOT is seeking ways to make the management systems available for use by regional, local, and transit agency staffs to ensure that the quality of decisionmaking is improved at all levels.

Nonattainment areas have to meet specific requirements in order to demonstrate to EPA that they will meet the NAAQS by dates specified in the Clean Air Act. The transportation-related planning requirements are detailed in the transportation "conformity" regulation which was first issued in 1993 and is currently undergoing a series of amendments[2].

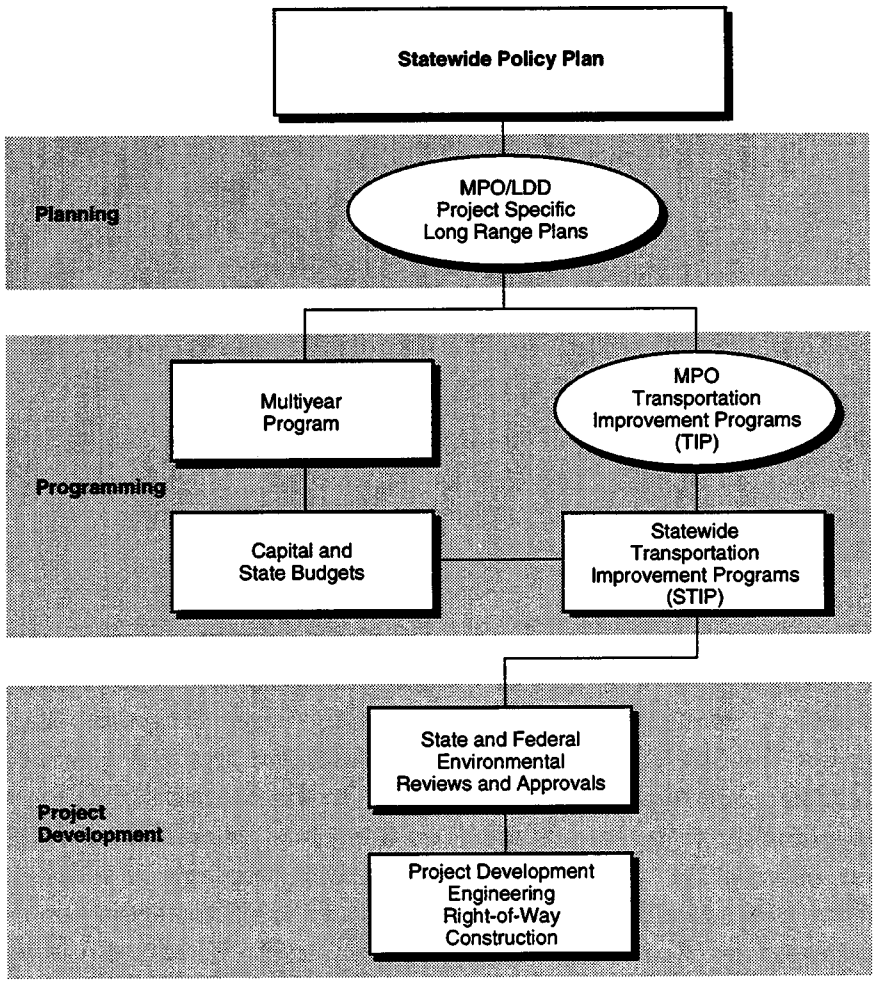
Conformity is meant to ensure that transportation plans, programs, and projects in nonattainment and maintenance areas "conform" to the purpose of EPA's required air quality State Implementation Plans (SIPs), which is to eliminate or reduce the severity and number of violations of the NAAQS. This required affirmative finding is called a conformity determination.

[2] Transportation Conformity Regulation, 58 Fed. Reg. 62188 (Nov. 24, 1993).

In areas that are classified as nonattainment or maintenance areas for one or more pollutants, interagency consultation requirements are prescribed in the SIP and apply to the development of metropolitan area plans as well as to plans for transportation investments in rural areas. Consultation between transportation and air quality agencies is required on issues such as population and employment growth projections, assumptions used in travel demand modeling, and roles and responsibilities of the agencies for air quality and transportation planning.

Statewide plans and STIPs cannot include projects for FHWA/FTA funding unless those projects have met the conformity requirement in the TIP at the MPO level. If the State has nonattainment or maintenance areas that are outside of the MPO boundaries, then the project sponsor, usually the State, must make a conformity determination before the projects can be included in the plan or STIP. Figure 3 shows the components of the planning and programming process in Pennsylvania.

Figure 3. Planning and Programming in Pennsylvania



Public Involvement and Coordination

Source: Pennsylvania Department of Transportation.

Integration of Environmental Concerns in the Planning Process: Washington State Proposes Pilot Program To Explore Better Ways to Meet Watershed and Wetland Resource Needs

Washington State DOT (WSDOT) has proposed a program in the Snohomish River Basin that will redefine its approach to wetland impacts. The program will develop an integrated, cost-effective wetlands mitigation plan to address transportation impacts throughout the Snohomish watershed. While the proposal focuses on transportation projects and wetlands, other types of environmental mitigation needs and outside development activities will be integrated into the planning process to ensure that project recommendations reflect the watershed's ecological needs. The project will pursue the following objectives:

- *Identify barriers and opportunities for watershed-related mitigation within the watershed;*
- *Provide information on future WSDOT projects to aid in leveraging funds to support larger or more efficient (lower cost/greater environmental good) projects. Explore opportunities to utilize these funds to help local interests obtain funding support for projects which compliment or enhance a WSDOT project;*
- *Develop methods for greater integration and coordination of environmental permits to facilitate mitigation projects and to reduce environmental costs;*
- *Evaluate opportunities for creating "off-site" and "out-of-kind" mitigation options;*
- *Obtain input from watershed groups and the watershed's residents in providing increased mitigation options;*
- *Incorporate non-regulatory wetland restoration and enhancement proposals into the analysis of mitigation site selection and prioritization;*
- *Evaluate mitigation opportunities, in part, for their ability to maintain, improve, and/or restore the connectivity of the natural aquatic, wetland, and terrestrial habitats within the landscape.*

This will allow WSDOT to mitigate transportation's impacts in the Snohomish Basin watershed. Coordinating mitigation projects for transportation activities with other restoration and enhancement opportunities will produce greater efficiencies, both in ecological benefits and in reduced construction costs.

Part Four:

Transportation Financing Looks to the Future

A host of new and innovative financing options are available to States in order to expedite planning and project delivery and facilitate private-sector participation in infrastructure development.

The Nation's transportation infrastructure is increasingly critical to economic prosperity and Americans' overall quality of life. While ISTEA presents a progressive vision for modernizing transportation planning, it also began to change the way we pay for transportation infrastructure. That is important in an age of limited resources in which new ways of financing transportation infrastructure must be identified to enable States to make the transportation vision presented in their plans a reality.

Innovative Financing Techniques

Since ISTEA's adoption, U.S. DOT efforts have increased the options State and local governments have to finance transportation infrastructure. These innovative financing efforts have enabled 74 transportation projects in 35 States, with a construction value of over $4 billion, to advance more quickly and cost-effectively than in the past.

With the issuance of Executive Order 12893: *Principles for Federal Infrastructure Investments,* President Clinton directed each Federal agency with infrastructure responsibilities to seek private sector participation in infrastructure investment, management, operations, ownership, financing, and construction.

This action, coupled with ISTEA's challenge to "make use of multiple financing strategies, to bring the experiences of other public and private finance programs to bear on transportation finance, and to encourage new partnerships between Federal, State, local, and private investment funding sources," prompted the U.S. DOT to embark on an innovative financing initiative known as the Partnership for Transportation Investment (PTI).

The PTI, which includes FHWA's Innovative Financing Test and Evaluation Project (TE-045), has allowed FHWA, FTA, and FRA to work with individual States to identify strategies to encourage increased investment, overcome barriers to the financing of infrastructure, and improve the odds of implementation while decreasing the cost of highway investments.

The flexibility provided under the program has enabled States to begin more projects, leverage additional non-Federal dollars, and increase private investment in infrastructure. Building upon the successes of this program, the National Highway System Designation Act of 1995[3] includes provisions to further expand the flexibilities offered to States to maximize the leveraging potential of Federal transportation funds.

[3]Public Law 104-59, 109, Stat. 588.

National Highway System Designation Act Provides Additional Financing Options

The National Highway System Designation Act of 1995 places on line two types of financing tools that can help States accelerate projects and attract additional sources of funding to transportation investments.

Cash flow tools include a number of options which **have to do with *when* Federal funds become available** to States. They also are designed to permit Federal and non-Federal funds to work in a more complementary fashion than has been the case in the past.

Leveraging tools are designed to make *more* funds available to transportation providers including States, transit operators, and local governments.

Cash Flow Tools

- **Advance Construction**

The U.S. DOT can now approve an application for advance construction for reimbursement after the final year of an authorization period, provided the project is part of the STIP. This gives States greater flexibility to advance long lead-time and lengthy construction projects using their anticipated apportionments, rather than only current funds.

- **Partial Conversion of Advance Construction Funds**

An advance construction project can be converted to a regular Federal-aid project in increments over a series of years. The ability to partially convert advance construction allows positive cash flow to be realized *as needed* throughout the life of the project. In the past, a State was required to wait until it had funds and obligational authority available for the full Federal share before converting an advance construction project.

Leveraging Tools

- **Expanded Access to Capital Markets through Bond and Debt Instruments**

States can now be reimbursed with Federal-aid funds for bond principal, interest costs, issuance costs, and insurance on all FHWA and many FTA projects. Private-sector capital can be more effectively attracted to transportation projects when bonds, notes, and the costs of other debt instruments can be reimbursed with both State and Federal-aid funds.

Ohio: ISTEA's Funding Flexibility and State's New Transportation Improvement District Enable Butler County Highway to Proceed

The Butler County Regional Highway, a four-lane 10.3-mile road, will be constructed on an accelerated schedule due to new Federal funding flexibilities coupled with State legislation that established a Butler County Transportation Improvement District (TID). The TID provided the legal and institutional mechanism to issue revenue bonds to finance the project. A number of features of the financing package are noteworthy: 1)advance construction authority, which allows States to advance eligible FHWA-funded multiyear projects, allowed the TID to issue revenue bonds to finance this project; 2) the interest payment on the bonds is eligible to be repaid using Federal funds over 20 years; 3) local funds, including the revenue bonds, are providing one-third of the $120 million total project cost; and, 4) construction costs will be reduced due to the decision to have one contractor design and build the project.

California: Private-Public Sector Partnership Helps to Get Toll Roads Constructed: San Joaquin Hills and Foothills/Eastern Corridor Projects

Together, the Corridors issued nearly $3 billion revenue bonds for new toll facilities in Orange County, California. These are among the first privately financed toll-roads in generations, as they received a Federal line of credit through provisions in the 1994 and 1995 Transportation appropriations bills to cover perceived risk if actual traffic levels fall short of projected levels. If traffic levels do not meet projections and revenue shortfalls occur, the agency can borrow a predetermined amount of funds from the Federal government to pay debt service on the bonds and avoid default.

- **Increased Federal Share for Many Toll Projects**

The Federal share for toll projects on highways, tunnels, and bridges is now set at a maximum of 80 percent of eligible project costs, versus a share as low as 50 percent previously.

- **Expanding Project Loans to Non-Toll Projects**

States can now loan Federal-aid funds to both toll and non-toll projects with dedicated revenue streams. This provision will also permit loans at interest rates at or below market rates, as needed, to make the project feasible. Also, expanded use of repaid funds is now permitted, allowing such funds to be used for credit enhancement on similar projects.

- **More Flexible State Matching Requirements**

This important provision allows private funds, materials, or assets (e.g., right-of-way) to be donated to a specific Federal-aid project and permits the State to apply the value to the State's required matching share.

State Infrastructure Banks: A Pilot Program

A State Infrastructure Bank (SIB) is an infrastructure investment fund that can be created at the State or regional (multi-State) level to make loans and provide assistance to surface transportation projects. SIBs are designed to provide States or regions with a new financing capability to complement other parts of the U.S. DOT program and other State and local funding sources. As SIB loans are repaid, the SIBs funds will be replenished and the SIB can make new loans or loan guarantees to other transportation projects. Federal oversight is maintained by an annual reporting requirement, and by requiring an investment grade rating on debt issuance or the maintenance of bond insurance to assure the funds' viability.

In addition to making loans, SIBs can enhance credit, serve as capital reserves, subsidize interest rates, ensure letters of credit, finance purchase and lease agreements for transit projects, provide bond or other debt financing security, and provide other forms of assistance that leverage funds. Federal funds contributed to an SIB cannot be used for traditional "grants." SIBs will:

- Be created with Federal seed money (also known as capitalization grants);
- Offer a menu of loan and credit enhancement assistance (e.g. lines of credit);
- Give States/local partners greater flexibility regarding financial management of projects.

The National Highway System Designation Act of 1995 created an SIB Pilot Program that allows up to 10 States to test the use of SIBs.

Oregon Selected for SIB Pilot Program

Oregon DOT (ODOT) will implement the Nation's first public-private partnership to use the full toolbox of innovative finance techniques. ODOT will integrate the SIB into the State's Tollways and Public-Private Partnership Legislation which provides the legislative and administrative authority to implement the highway portion of the SIB, with a commitment to add a transit account as soon as practical.

The State plans to dedicate $12 to $18 million to the SIB in the first year through Federal, State, local, and private funds. ODOT plans to allow a full range of loans and credit enhancements to projects including the ability to leverage funds. Examples of projects that may benefit are the repair of roads with over $160 million in recent flood damage, and multistate projects such as the Columbia River crossings. ODOT plans an active outreach program to educate regional staff, local government, transit providers, and the private sector in the opportunities to enhance financing capacity, through the SIB program, in partnership with the State.

Based on the results of the State Infrastructure Bank Pilot Program, which will be reported to Congress in 1997, SIBs may factor prominently in the future of transportation financing. Because SIBs offer a number of leveraging tools, they hold promise to a number of States, multistate entities, and other providers. Some estimates are that SIBs may leverage Federal funds by a ratio of as much as 4:1.

Additional Innovative Financing Tools for Transit Projects

In addition to the tools described above, there are a host of innovative financing mechanisms that may be used by transit operators receiving Federal funding. These techniques are designed to allow transit operators to enhance the effectiveness of their capital investment programs, and, in some cases, raise new revenues, through the use of funding flexibilities.

Techniques include both cash-flow and leveraging tools, some of which have been in place for several years. They include: Joint Development of Transit Assets, State Revolving Loan Funds, Certificates of Participation, Cross Border Leases, Super Turnkey and Private Financing, Delayed Local Match, and Toll Revenue Credits. FTA's Innovative Financing Handbook[4] fully describes the opportunities that each of the tools provide to transit operators.

[4] U.S. DOT, Federal Transit Administration, *Innovative Financing Handbook*, May 9, 1995.

New Jersey Transit Benefits from Cross - Border Lease Transaction

New Jersey Transit (NJT) reduced the cost of refurbishing its Arrow III commuter rail cars. In a "cross-border" transaction facilitated by Asea Brown Boveri (ABB) and its Netherlands banking subsidiary, NJT sold 233 refurbished railcars to ABB, then leased them back for 12 years or more. A combination of debt provided by ABB and equity provided by NJT secured the transaction. NJT realized a net benefit from this transaction of $18.4 million.

Cross-border lease transactions involve the sale and leaseback of assets with a foreign lessee. The basic form of this transaction is for a transit operator to purchase rolling stock, such as railcars, then simultaneously sell these to a non-U.S. investor who in turn leases them back to the transit system. The foreign lessee generates tax benefits in its country of origin through investment tax credits and depreciation. The U.S. transit operator realizes benefits through reduced lease costs. Since 1990, cross-border lease transactions have generated net benefits for transit systems of between 1.5 percent and 4.5 percent of total transaction size.

Part Five:
Communication Makes the Difference

A Sampler of Communication Tools

As public officials strengthen their planning practices and develop statewide plans for the future, they must find effective ways to communicate both their plans and progress on their implementation.

Many States have completed their first round of transportation planning under ISTEA, and are working to find effective ways to communicate their progress. Below are three examples of States' efforts to transform their statewide planning efforts into information that is relevant to their constituents today while demonstrating a vision for the transportation future. All three examples provide good ways for elected officials to tell their constituents what they are doing with respect to transportation improvements and to make clear linkages between their short-term decisions and the long-term transportation needs of the State.

New Jersey's Transportation Blueprint

The New Jersey Department of Transportation published a blueprint for transportation[5] that is based upon its Long-Term Transportation Plan. The document presents a clear mission for transportation agencies in the State:

"Deliver a safe, reliable and affordable transportation system that is considered to be the best–every day and in every way–by those who live, work, play and invest in New Jersey."

The blueprint sets standards that will guide progress over the next two years and places these standards on flags, symbolizing the State's commitment to action in each of the eight areas. Each standard includes actions that will be taken over the two-year period, and these actions are being translated into performance measures for the Department of Transportation and other transportation agencies' staffs. Standards include:

- Build one system comprised of many modes.
- Deliver highest quality services.
- Build the Transportation Trust Fund projects.
- Deploy tomorrow's technology today.
- Do easy things easily, do hard things easier.
- Insist on smart spending or no spending.
- Get out of the regulatory rut.
- Listen and learn: public opinion counts.

The blueprint translates the transportation plan vision into an action plan for the short term and is being used by officials to communicate their efforts to improve transportation in the State.

Florida's Short Range Component of the 2020 Florida Transportation Plan

Florida DOT published its short-term Strategic Plan[6] for 1996-2005 and identified four long-range goals:

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5 New Jersey DOT, *Transportation New Jersey*, September 1995.

6 Florida Department of Transportation, *Implementing the 2020 Florida Transportation Plan*, March 1996.

- Safe transportation for residents, visitors and commerce;
- Protection of the public's investment in transportation;
- A statewide interconnected transportation system that enhances Florida's economic competitiveness;
- Travel choices to ensure mobility, sustain the quality of the environment, preserve community values, and reduce energy consumption.

For each goal, the plan spells out what the State and its transportation partners want to accomplish, where they are now, and their priorities for the next 10 years. The document is presented as a key resource for transportation partners and for the citizens of Florida and encourages public participation in setting the course for Florida's future transportation system.

Pennsylvania's User's Guide to Transportation Planning and Programming

The Pennsylvania Department of Transportation (PennDOT) published an easy-to-read guide[7] to transportation planning and programming in order to encourage participation in transportation decisions by new participants in the planning process and all stakeholders in the transportation system. It presents a realistic view of the available resources and the demands on the transportation system. It also explains the critical elements of the planning and programming process and how the public can get involved. In response to ISTEA's emphasis on public involvement, PennDOT adopted a policy that adheres to the following principles:

- Proactively engage the public.
- Ensure early and continuing involvement.
- Provide complete information.
- Plan for adequate public notice.
- Consider and respond to public input.
- Involve the public extensively.

For each principle, specific actions are spelled out and the guide tells readers what communications mechanisms to look for concerning transportation decisions within the State and discusses other short-term commitments of PennDOT to involve citizens and stakeholders in transportation decisions. PennDOT has also established a telephone hotline for comments and suggestions.

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7 Pennsylvania Department of Transportation, *PennDOT User's Guide to Transportation Planning and Programming*, March, 1996.

Conclusion

This guide has discussed how good transportation planning can be conducted by States and has presented a new framework for transportation decisionmaking as envisioned in ISTEA.

ISTEA provides States the opportunity to update their approaches to planning; to ensure that transportation investments reflect the economic, environmental, and quality-of-life goals of the States; and to seek and consider public input and involvement in the decisions public officials make on future investments.

The FHWA and FTA encourage State officials to make the most of this opportunity, and hope that the information provided in this guide will assist them in their efforts. In addition, the FHWA and FTA will continue to provide guidance and information requested by State and local officials and are committed to respond to States' needs as they carry out their planning responsibilities.

References

Following is a chronological list of references, including regulations and guidance that have been issued by the FHWA, the FTA, or the EPA concerning various aspects of the planning process and related activities. Copies of any of these publications, regulations, or guidance may be obtained by contacting the FHWA or the FTA at 400 Seventh St. S.W., Washington, D.C. 20590.

In addition, many other publications have been issued relating to ISTEA implementation by both public and private sector organizations, States, and non-profit groups. Information on obtaining such documents may be obtained by contacting trade associations, non-profit organizations, State departments of transportation, MPOs, and the Transportation Research Board.

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Glossary

Apportionment – A term that refers to a statutorily prescribed division or assignment of funds. An apportionment is based on prescribed formulas in the law and is produced by dividing authorized obligation authority for a specific program among the States.

Appropriations Act – Action of a legislative body that makes funds available for expenditure with specific limitations as to amount, purpose, and duration. In most cases, it permits money previously authorized to be obligated and payments made, but for the highway program operating under contract authority, appropriations specify amounts of funds that Congress will make available to liquidate prior obligations.

Arterial – A class of street serving major traffic movement that is not designated as a highway.

Attainment Area – An area considered to have air quality that meets or exceeds the U.S. Environmental Protection Agency (EPA) health standards used in the Clean Air Act. An area may be an attainment area for one pollutant and a nonattainment area for others. Nonattainment areas are areas considered not to have met these standards for designated pollutants.

Authorization Act – Basic substantive legislation or that which empowers an agency to implement a particular program and also establishes an upper limit on the amount of funds that can be appropriated for that program.

Bikeway – A facility designed to accommodate bicycle travel for recreational or commuting purposes. Bikeways are not necessarily separated facilities; they may be designed and operated to be shared with other travel modes.

Budget Authority – Empowerment by Congress that allows Federal agencies to incur obligations to spend or lend money. This empowerment is generally in the form of appropriations. However, for the major highway program categories, it is in the form of "contract authority."

Bus Lane – A lane reserved for bus use only. Sometimes also known as a "diamond lane." See also "High Occupancy Vehicles".

Carbon Monoxide (CO) – A colorless, odorless, tasteless gas that impedes the oxygenation of blood. CO is formed in large part by incomplete combustion of fuel.

Conformity – Process to assess the compliance of any transportation plan, program, or project funded with FHWA or FTA funds, with air quality implementation plans. The conformity process is defined by the Clean Air Act.

Congestion Management and Air Quality Improvement Program (CMAQ) – A new funding program created by ISTEA. Makes funding available to projects that contribute to meeting national air quality standards.

Congestion Management System (CMS) – ISTEA requires that each Transportation Management Area (see definition of TMA) develop a CMS that provides for effective management of new and existing transportation facilities through the use of travel demand reduction and operational management strategies.

Contract Authority – A form of budget authority that permits obligations to be made in advance of appropriations and requires Federal reimbursement of the project sponsor. The Federal-Aid Highway Program operates mostly under contract authority rules.

Demand-Responsive – Descriptive term for a service type, usually considered paratransit, in which a user can access transportation service that can be variably routed and timed to meet changing needs on an as-needed basis.

Dial-a-Ride – Term for demand-responsive systems usually delivering door-to-door service to clients who make request by telephone on an as-needed reservation or subscription basis.

Enhancement Activities – Activities related to a particular transportation project that "enhance" or contribute to the existing or proposed project. Examples of such activities include provision of facilities for pedestrians or cyclists; landscaping or other scenic beautification projects; historic preservation; control and removal of outdoor advertising; archeological planning and research; and mitigation of water pollution due to highway runoff.

Environmental Impact Statement – Report developed as part of the National Environmental Policy Act requirements, which details any adverse economic, social, and environmental effects of a proposed transportation project for which Federal funding is being sought. Adverse effects could include air, water, or noise pollution; destruction or disruption of natural resources; adverse employment effects; injurious displacement of people or businesses; or disruption of desirable community or regional growth.

Environmental Protection Agency (EPA) – EPA is the Federal regulatory agency responsible for administering and enforcing Federal environmental laws including the Clean Air Act, the Clean Water Act, and others.

Expenditures (Outlays) – A term signifying disbursement of funds for repayment of obligations incurred. An electronic transfer of funds, or a check sent to a State highway or transportation agency for voucher payment, is an expenditure or outlay.

Expressway – A controlled access, divided arterial highway for through traffic, the intersections of which are usually separated from other roadways by differing grades.

Federal Fiscal Year (FY) – The yearly accounting period beginning October 1 and ending September 30 of the subsequent calendar year. Fiscal years are denoted by the calendar year in which they end; e.g., FY 1991 began October 1, 1990, and ended September 30, 1991.

Federal Highway Administration (FHWA) – An agency of the U.S. Department of Transportation that funds surface transportation planning and programs, primarily highways.

Federal Transit Administration (FTA) – An agency of the U.S. Department of Transportation that funds surface transportation planning and programs, primarily transit.

Fixed-Route – Term applied to transit service that is regularly scheduled and operates over a set route. Usually refers to bus service.

Freeway – A divided arterial highway designed for the unimpeded flow of large traffic volumes. Access to a freeway is rigorously controlled and intersection grade separations are required.

High Occupancy Vehicles (HOVs) – Generally applied to vehicles carrying three or more people, freeways, expressways and other large volume roads may have lanes designated for use by carpools, vanpools, and buses. The term HOV is also sometimes used to refer to high occupancy vehicle lanes themselves.

Highway – Term applies to roads, streets, and parkways, and also includes rights-of-way, bridges, railroad crossings, tunnels, drainage structures, signs, guard rails, and protective structures in connection with highways.

Infrastructure – A term connoting the physical underpinnings of society at large, including, but not limited to, roads, bridges, transit, waste systems, public housing, sidewalks, utility installations, parks, public buildings, and communications networks.

Intelligent Transportation Systems (ITS) – Use of computer information systems and communications technology to improve traffic flow, transit, and commercial vehicle operations. Includes concepts such as "freeway management systems," "automated fare collection," and "synchronized signalization systems."

Intermodal – The ability to connect, and connections between modes of transportation.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) – Legislative initiative by the Congress that restructured funding for transportation programs. ISTEA authorized increased levels of highway and transportation funding and an increased role for planning in funding decisions. The Act also requires comprehensive regional and statewide long-term transportation plans, and places an increased emphasis on public participation and transportation alternatives.

Interstate Highway System – The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. The Interstate System also connects the U.S. to internationally significant routes in Mexico and Canada.

Land Use – Refers to the manner in which portions of land or the structures on them are used, i.e., commercial, residential, retail, industrial, etc.

Limitation on Obligations – Any action or inaction by an officer or employee of the United States that limits the amount of Federal assistance that may be obligated during a specified time period. A limitation on obligations does not affect the scheduled apportionment or allocation of funds, it just controls the rate at which these funds may be used.

Local Street – A street intended solely for access to adjacent properties.

Long Term – In transportation planning, refers to a time span of, generally, 20 years. The transportation plan for metropolitan areas and for States should include projections for land use, population, and employment for the 20-year period.

Management Systems – A systematic process, designed to assist decision makers in selecting cost effective strategies/actions to improve the efficiency and safety of, and protect the investment in the Nation's infrastructure. A management system includes identification of performance measures; data collection and analysis; determination of needs, evaluation, and selection of appropriate strategies/actions to address the needs; and evaluation of the effectiveness of the implemented strategies/actions.

Metropolitan Planning Area – The geographic area in which the metropolitan transportation planning process required by ISTEA must be carried out.

Metropolitan Planning Organization (MPO) – The forum for cooperative transportation decisionmaking for the metropolitan planning area. MPOs are established by agreement of the Governor and units of general purpose local government which together represent 75 percent of the affected population of an urbanized area.

Mobility – The ability to move or be moved from place to place, sometimes measured by travel time or access to locations.

Mode – A form of transportation such as an automobile, bus or bicycle.

Multimodal – The availability of transportation options using different modes within a system or corridor.

National Ambient Air Quality Standards (NAAQS) – Federal standards that set allowable concentrations and exposure limits for various pollutants.

National Highway System (NHS) – The Federal transportation system designated by Congress that includes nationally significant Interstate Highways and roads for interstate travel, national defense, intermodal connections, and international commerce.

Obligations – Commitments made by Federal agencies to pay out money, as distinct from the actual payments, which are "outlays." Generally, obligations are incurred after the enactment of budget authority.

Ozone – A colorless gas with a sweet odor. Ozone is not a direct emission from transportation sources. It is a secondary pollutant formed when hydrocarbons (HC) and nitrogen oxides (NO_X) combine in the presence of sunlight. Although the ozone in the upper atmosphere protects us from harmful ultraviolet rays, ground level ozone produces an unhealthy environment in which to live.

Paratransit – A variety of smaller, often flexibly scheduled and routed transportation services using low capacity vehicles, such as vans, to operate within normal urban transit corridors or rural areas. These services usually serve the needs of persons that standard mass transit services would serve with difficulty, or not at all. Often, the patrons include the elderly and persons with disabilities.

Particulate Matter (PM), (PM-10) – Any material that exists as solid or liquid in the atmosphere. Particulate matter may be in the form of fly ash, soot, dust, fog, fumes, etc. Small particulate matter, or PM-10, is less than 10 microns in size and is too small to be filtered by the nose and lungs.

Pedestrian Walkway – A secured path for walking.

Public Participation – The active and meaningful involvement of the public in transportation planning and decisionmaking.

Statewide Transportation Improvement Program (STIP) – A staged, multiyear, statewide, intermodal program of transportation projects which is consistent with the Statewide transportation plan and planning processes and metropolitan plans, TIPs and processes.

Surface Transportation Program – A new categorical funding program created in ISTEA. Funds may be used for a wide variety of purposes, including roadway construction, reconstruction, resurfacing, restoration and rehabilitation; roadway operational improvements; capital costs for transit projects; highway and transit safety improvements; bicycle and pedestrian facilities; scenic and historical transportation facilities; and preservation of abandoned transportation corridors.

Telecommuting – The substitution, either partially or completely, of transportation to a conventional office through the use of computer and telecommunications technologies (e.g., telephones, personal computers, modems, facsimile machines, electronic mail).

Transit – Generally refers to passenger service provided to the general public along established routes with fixed or variable schedules at published fares. Related terms include: public transit, mass transit, public transportation, urban transit and paratransit.

Transit Dependent – Persons who rely on public transit or paratransit services for most of their transportation.

Transportation Control Measures (TCMs) – Actions to adjust traffic patterns or reduce vehicle use to reduce air pollutant emissions. These may include HOV lanes, provision of bicycle facilities, ridesharing, telecommuting, etc.

Transportation Improvement Program (TIP) – This is a document prepared by metropolitan planning organizations listing projects to be funded with FHWA/FTA funds for the next one- to three-year period.

Transportation Management Area (TMA) – All urbanized areas over 200,000 in population are automatically designated as a TMA. The TMA designation affects a number of planning requirements.

Transportation Management Association (TMA) – A voluntary association of public and private agencies and firms joined to cooperatively develop transportation-enhancing programs in a given area. TMAs are appropriate organizations to better manage transportation demand in congested suburban communities.

Transportation System Management (TSM) – Non-capital intensive steps to improve a transportation system, such as refinement of system and traffic management, the use of bus priority or reserved lanes, and parking strategies. It includes actions to reduce vehicle use, facilitate traffic flow, and improve internal transit management.

U.S. Department of Transportation (DOT) – The principal direct Federal funding agency for transportation facilities and programs. Includes the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), and others.

Vehicle Miles of Travel (VMT) – A standard area-wide measure of travel activity. The most conventional VMT calculation is to multiply the average length of a trip by the total number of trips.

Zone – The smallest geographically designated area for analysis of transportation activity. A zone can be from one to 10 square miles in area. Average zone size depends on the total size of study area.

Recycled
Recyclable

Publication No. FHWA-PD-97-001
HEP-10/10-96(1M)QE