
PANEL ON DATA NEEDS FOR TRANSPORTATION POLICY, FINANCE, AND EVALUATION

Larry Hammel, New York Metropolitan Transportation Commission, moderator

**DATA FOR POLICY USE: THE IMPACTS OF
ISTEA ON DATA COLLECTION**

Madeleine S. Bloom, Federal Highway Administration

INTRODUCTION

The transportation community, including the Federal Highway Administration (FHWA), relies on data to carry out many of its most basic functions including policy development, strategic and program planning, and program and project management. These data have been collected through a number of data systems within FHWA including the Highway Performance Monitoring System (HPMS), the Highway Statistics information programs, the National Bridge Inventory (NBI), and the Fiscal Management Information System (FMIS). In addition to these FHWA systems, states and local governments supported by organizations, such as the American Association of state Highway and Transportation Officials have developed data systems to meet their own needs.

The passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 provides many challenges and requires a reevaluation of both data needs and the mechanisms for data collection. The challenge is to identify what data are needed to do policy analysis, to develop strategic plans, to develop transportation improvement programs, and to evaluate how well the program is accomplishing the objectives of ISTEA. This must be done without creating a data reporting nightmare both in terms of the number of data items and in a proliferation of data reporting systems.

This panel was charged with covering transportation policy, finance, and evaluation. Obviously, this encompasses an immense amount of territory. Moreover, by implication, it covers the decision components of the entire planning process. The central question is how we effectively incorporate the mandates of ISTEA into the state and local policy process. In some respects the policy process, given that one of its functions includes goal setting, has a role in defining the basic requirements that are to be addressed in the other panel sessions.

**IMPACT OF ISTEA ON EXISTING DATA
COLLECTION SYSTEMS**

The ISTEA includes a number of provisions that will

directly impact what data needs to be collected and how it is collected. The old Federal-aid systems are replaced by the National Highway System. A new, highly flexible program, the Surface Transportation Program (STP) is provided. For the first time a significant amount of Federal-aid highway funds can be spent on non-highway projects and on increased highway maintenance type activities.

There is a new requirement for statewide planning. Also, Metropolitan Planning Organizations are given an enhanced role in both planning and project selection. Increased coordination of highway programs with Clean Air Act requirements and transit plans and programs is required. The state must develop, establish, and implement six management systems including one for intermodal transportation facilities and systems. Under the Surface Transportation Program, project-by-project review by FHWA may be eliminated. The ISTEA also allows the comingling of Federal-aid with tolls; permits the conversion of free Federal-aid facilities to toll facilities following major reconstruction; and provides for loans reimbursed by Federal-aid from states to private toll entities. These changes will have significant implications for future data needs and collection.

National Highway System

The National Highway System (NHS) is a prime focus of interest at the national level. The need for project-level data by the FHWA will continue or even expand on this system regardless of the source of the funding, or what Federal-aid program funds an improvement. The primary source for this data is, and will continue to be, the Fiscal Management Information System (FMIS). This is the system that tracks the funding of Federal-aid projects. Since this information system is already in place, there will probably be less change for NHS than for other programs, such as the STP.

Certain inventory items will always be needed for the NHS, such as mileage, number of lanes, access control, travel, and special designations such as the national truck network or access to military facilities. Initially, as part of the functional reclassification and NHS designation process, the route log furnished by the states to provide route-specific data will include these essential items. In time, the HPMS data base will effectively cover the NHS inventory requirements.

Surface Transportation Program

Because of the shift from project level review by FHWA for some programs, such as the Surface Transportation Program (STP), project data may no longer be readily available to FHWA. A new approach will be needed to obtain the information required for reporting to the Congress for these programs. The FHWA must determine what are the minimum data requirements that will meet its needs. Reporting may be based more on where the money is spent than on the FHWA funding source. A broad picture of the use and results of the program funds are needed, rather than detailed data.

Multimodal Focus

The ISTEA has provided a substantial push to give a multimodal focus to all aspects of the Federal-aid programs. This includes the need for a multimodal focus on data collection. What data will be needed to give a multimodal focus to conditions and performance evaluation? What data will be needed to support future tools to evaluate cross-modal alternatives? Data needs will undoubtedly include more detailed information on total trip times when several modes are used for a trip, and on what modes are used in transporting commodities.

The old process had categories of funding as a guide to spending. Under the new process, different mechanisms to evaluate needs and compare alternatives among the modes will be needed. The data demands of these new mechanisms may be substantial.

At the Federal level, the new Bureau of Transportation Statistics, established by the ISTEA, is expected to serve as a clearinghouse for this type of data and as an advocate for uniformity and data quality. It will become the focus of data interpretation for all modes and will provide a resource for establishing an information base for all modes, not now available at one organizational point.

CONDITIONS AND PERFORMANCE REPORT

Data collected from the HPMS and the highway statistics reporting system are used to prepare the biennial report to Congress on the conditions and performance of the Nation's highways and bridges. The 1993 Conditions and Performance Report to the Congress will be a report not only on the conditions of the highway systems, but will include the Federal Transit Administration (FTA) report on the needs and status of transit in the nation. This report is a first step toward a truly combined report to address all surface

transportation needs. Among the issues that have surfaced in our discussions with FTA on the combined report include the lack of data systems for transit comparable to the HPMS and the highway statistical reporting system, and different definitions of needs.

Use of the Highway Economic Requirements System (HERS)

For the first time in the 1993 Conditions and Performance Report to the Congress, we anticipate using a methodology that overtly applies economic procedures to estimating highway needs. This is the beginning of looking at the highway transportation picture from a broader perspective. It will do more than estimate highway needs based on engineering criteria. It will explicitly address the consideration of user costs in making highway improvement decisions.

This is only a beginning. In the future,, procedures must be developed to consider the optimum mix of modes to address transportation requirements. Tools to provide cross-modal comparisons must be developed. This also has implications for future data needs.

FINANCE

Within FHWA we have been focusing on the impact of some of these changes on the HPMS, the highway statistics reporting system, and the FMIS. The HPMS is a joint effort of the federal, state, and local governments. It provides universe data on the physical condition of the highway system including mileage, travel, accidents, land area, population, and travel activity by vehicle type.

The highway statistics reporting system relies on the states to provide data on motor fuel consumption, vehicle usage, licenses issued, and finance data by state and, in the case of finance data, by local government. The major impact of the ISTEA on this system is in the area of finance. On the revenue side of the picture, increased importance needs to be given to the collection of data on the newer revenue sources such as assessment fees and developer exactions and the changing role of the private sector in providing funding for roads. Reporting on expenditures needs to include a revised list of improvement types both to reflect changes in eligible activities under the Federal-aid program and in the kinds of activities being financed from state highway funds. The emphasis has been on construction; in the future, we will need to have better data on funding for management systems and maintenance activities.

The primary function of the FMIS is to track how money appropriated under the legislation is used. It provides us with the data we need to report on program

accomplishments, evaluate their success in meeting program objectives, and develop new policy initiatives. Historically, FMIS has relied on a project based reporting system to identify sources of funding by program and the amount of money spent on different types of improvements, such as new construction, reconstruction, and safety.

With the elimination of the requirement for project-by-project review by FHWA for activities under the STP, the ability to collect this data for some projects has been eliminated. We have developed an alternative annual report for use in monitoring spending of Federal-aid funds from the STP on improvements that are not on the NHS that is currently being reviewed by our field offices and the states.

In addition to requiring a change in the data reporting system, ISTEA also requires a change in the data items included in the FMIS to allow FHWA to assess how the funds are being spent on newly eligible activities including transit and public/private toll road facilities. We are currently working to update the FMIS to include these data items.

There is also particular interest in the following questions:

- To what extent are highway funds used for transit?
- On what functional systems or types of facilities are STP funds spent?
- Are toll facilities--new and conversions--receiving funds?
- How can we get a handle on private investment in highways?

A SEAMLESS SYSTEM—State/local data needs

Many of FHWA's data needs are also found at the state and local level. State and local governments need data to develop their own policies and programs for transportation, and to evaluate their success in meeting their surface transportation objectives. They need to maintain financial reporting systems both for their own use and to meet FHWA reporting requirements. They need data to develop transportation plans.

The ISTEA requirements for statewide intermodal planning and the development of management systems add additional data needs. One issue will be how to assure that the management systems required by ISTEA will support state and local policy, planning, and programming needs, which is their primary purpose,

rather than just supporting a Washington-mandated report with no value to the local process. While some of the data to support the management systems is already being collected, there are undoubtedly large gaps in the data base needed for these kinds of activities, including data for nonhighway modes comparable to what is now available for highways, data on travel patterns, data on how modal choices are made, and data on the impact of pricing policies.

Meeting the requirements of the Clean Air Act will require states and local governments to develop innovative plans and management systems designed to reduce the impact of transportation systems on the environment. In order to develop and carry out these plans, more data is needed on the impact of various strategies on traffic congestion.

Other issues that may come to the fore include:

- New transportation technologies such as automated highways and IVHS--What data will be required to track the progress of these new technologies?
- NHS as a national truck route--How will the NHS and the existing National Truck Network be rationalized? How will we track this process? What data on heavy truck travel will be needed?
- New data technology--Will it make old data systems obsolete? What is the time horizon for the widespread use of automatic collection of pavement condition and distress data, automatic collection of traffic data, and the electronic transmission of data for immediate analysis?

POLICY APPLICATIONS—TODAY AND FUTURE

What Needs To Be Done

The surface transportation community must ensure that data will be collected as economically and efficiently as possible and that the data will be reliable. Some of the questions that need to be considered include:

- Are there overlapping data requirements that could be met with one reporting system?
- Are there existing sources for the data needed?
- When is it reasonable to try to collect universe data and when should a statistically valid sampling system be considered?

- Can the existing electronic data collection system and data bases be better integrated?
- How can disaggregated data now being collected from the states by FHWA be made more available to researchers and policy analysts? Currently, most of the data is only available in an aggregated format in Highway Statistics.
- Does there need to be standard definition of some of the terminology used to ensure that the interpretation of the data is valid? For example, the definitions for types of improvements vary from one data system to another, the term "project" has no clearly defined parameters, etc.
- How often does the data base need to be updated?
- Will they merge into a single surface transportation agency at the Federal level?
- Will there be a growth of funding? From what sources? How will the effective use of ISTEA funding flexibility affect future legislation?
- What changes will there be in fuel tax or other transportation taxes? How will use of ISTEA programs and the added flexibility of funding applications influence future tax rates and sources?
- What program performance measures will be available? The amount of dollars obligated or number of bridges rehabilitated are not enough. What did these expenditures and rehabilitated bridges do for us?

Future Federal Legislation

In view of the changes in emphasis under ISTEA, the reporting requirements for systems or programs of lesser Federal interest should be examined. How much data are required to provide the necessary program or system evaluations to the Congress and other decision makers and policy makers? What data are needed to supply the information required to determine the effects of ISTEA? Can the data be sample based? What level of statistical reliability is required?

What is ahead for future Federal legislation? How well we monitor the effects of ISTEA may well affect the course of future legislation. While the Federal role is changing, the need to monitor and track the effects of program efforts are extremely important for future legislation, including adjustments to existing legislation.

- Will surface transportation modes work closer together?

Those are some of the issues to be faced by this forum and by all leaders in the transportation field--at the Federal level, the state level, and at the local level. Increasingly, "funds utilized" is not seen as an adequate measure. The focus is now on "service delivery" which depends not only on physical capacity but also on quality of operation and level of service demand. Quality measurements typically include accessibility, reliability, safety, and congestion. Additionally, measures of economic performance, such as employment generated and contributions to productivity, are gaining in significance. The indicators for measuring ISTEA achievement must include both service oriented features, and economic efficiency and productivity measures. While today will not provide all of the answers, we hope that we will be able to suggest issues for further consideration and approaches to the solutions we are all seeking.

DATA NEEDS FOR TRANSIT POLICY, FINANCE, AND EVALUATION

Richard P. Steinmann, Federal Transit Administration

INTRODUCTION

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) presents transportation decision makers with wide-ranging new flexibility in the allocation of Federal surface transportation assistance. As a result, the analysis of transportation policy options has taken on added importance. Transportation decision makers now

may allocate funds to the "best" project or program, with much less in the way of strings attached in terms of categorical program restrictions. The issue then becomes defining what is the "best" use of these flexible resources. And this is where policy analysis comes in -- to provide decision makers with information on the impacts of alternative policies, in order to allow them to make these decisions.

This paper will outline a number of areas in which improved information is needed to guide transit policy decision-making. The transit policy analyst needs information and data in at least the following five areas: 1) system condition, 2) system performance, 3) the