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**Department of
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**Federal Highway Administration
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Management Systems; Proposed rule

DEPARTMENT OF TRANSPORTATION

23 CFR Chapter I

(FHWA Docket No. 92-14)

Federal Highway Administration

Federal Transit Administration

49 CFR Chapter VI

(FTA Docket No. 92-B)

RIN 2125-AC97

Management Systems

AGENCIES: Federal Highway Administration (FHWA), Federal Transit Administration (FTA), DOT.

ACTION: Advance notice of proposed rulemaking (ANPRM).

SUMMARY: The FHWA and the FTA are requesting comments from interested parties concerning the issuance of regulations to implement the provisions of section 1034 of Public Law 102-240, 105 Stat. 1914, the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. Section 1034 of the ISTEA amended Title 23, United States Code, Highways (23 U.S.C.) by adding new section 303 (23 U.S.C. 303) Management Systems, which requires the Secretary of Transportation (the Secretary) to issue regulations, within one year after the date of enactment (by December 18, 1992), for State development, establishment, and implementation of systems for managing: (1) Highway pavement of Federal-aid highways; (2) bridges on and off Federal-aid highways; (3) highway safety; (4) traffic congestion; (5) public transportation facilities and equipment; and (6) intermodal transportation facilities and systems. In addition, not later than one year after the date of enactment, the Secretary must issue guidelines and requirements for the State development, establishment, and implementation of a traffic monitoring system for highways and public transportation facilities and equipment. The purpose of this ANPRM is to solicit early input for development of these regulations.

DATES: Comments must be received on or before August 3, 1992.

ADDRESSES: Submit written, signed comments to FHWA Docket No. 92-14, Federal Highway Administration, HCC-10, room 4232, 400 Seventh Street, SW., Washington, DC 20590, or to FTA Docket No. 92-B, Federal Transit Administration, TCC-10, Room 9328, 400 Seventh Street, SW., Washington, DC 20590. All comments will be available for examination at the above addresses between 8:30 a.m. and 3:30 p.m., e.t., Monday through Friday, except legal

holidays. Those desiring notification of receipt of comments must include a self-addressed, stamped postcard.

FOR FURTHER INFORMATION CONTACT: Mr. Wilbert Baccus, FHWA Office of the Chief Counsel, (202) 366-0780, or Mr. Daniel Duff, FTA Office of the Chief Counsel, (202) 366-4063. For information on a specific system: Highway Pavement—Mr. Frank Botelho, (202) 366-1336; Bridges—Mr. Dan O'Connor, (202) 366-1567; Highway Safety—Mr. Fred Small, (202) 366-2171; Traffic Congestion—Mr. Tony Solury, (202) 366-5003; Public transportation facilities and equipment—Mr. Ron Jensen-Fisher, (202) 366-0257; Intermodal transportation facilities and systems—Mr. Dane Ismart, (202) 366-4071; Traffic Monitoring—Mr. Ed Kashuba, (202) 366-0175. Office hours are 7:45 a.m. to 4:15 p.m., e.t., Monday through Friday, except legal holidays.

SUPPLEMENTARY INFORMATION: Section 303 of title 23, U.S.C., requires the Secretary of Transportation to issue regulations, within one year after the date of enactment of the ISTEA of 1991 (December 18, 1991), for State development, establishment, and implementation of a system for managing each of the following:

- (1) Highway pavement of Federal-aid highways.
- (2) Bridges on and off Federal-aid highways.
- (3) Highway safety.
- (4) Traffic congestion.
- (5) Public transportation facilities and equipment.
- (6) Intermodal transportation facilities and systems.

In metropolitan areas, the systems must be developed and implemented in cooperation with metropolitan planning organizations (MPO's). In accordance with the legislation, the regulations may include a compliance schedule and minimum standards for each such system.

States must be implementing each management system beginning in Federal fiscal year 1995, and must annually certify, before January 1 of each fiscal year (the first certification is due by January 1, 1995), that the systems are being implemented, or the Secretary may withhold up to 10% of funds apportioned under Title 23, U.S.C., or under the Federal Transit Act (formerly the Urban Mass Transportation Act of 1964, amended) for any fiscal year beginning after September 30, 1995. In addition to the six management systems, no later than one year after the date of enactment the Secretary must issue guidelines and requirements for the State development, establishment, and implementation of a traffic monitoring

system for highways and public transportation facilities and equipment.

National Highway System (NHS), Surface Transportation Program (STP), FHWA State Planning and Research, Federal Transit Act section 9 (Capital, Planning, and Operating), Federal Transit Act section 8 (Transit Planning), Federal Transit Act section 26(a)(2) (State Planning and Research), and Federal Transit Act section 26(b)(1) (National Planning and Research) funds may be used for development, establishment, and implementation of all of the management and monitoring systems. Congestion Mitigation and Air Quality (CMAQ) Improvement Program funds may be used for certain management system purposes, if such use will likely contribute to the attainment of a national ambient air quality standard (a copy of guidance issued on February 20, 1992, by the FHWA to its field offices on the CMAQ Improvement Program has been placed in the FHWA docket). Apportioned bridge funds also may be used for development and establishment of the bridge management system.

Both the metropolitan (23 U.S.C. 134) and statewide (23 U.S.C. 135) planning processes required under the legislation must include consideration of the needs identified under all of the management systems. Beginning January 1, 1993, the Secretary must submit annual reports to Congress on the progress being made by both the Secretary and the States in carrying out the provisions of 23 U.S.C. 303.

The primary purpose of these management systems is to improve the efficiency of, and protect the investment in, the Nation's existing and future transportation infrastructure. The management systems, or their elements, are not the end products; they will provide additional information needed to make informed decisions for optimum utilization of limited resources. Each State will need to tailor the systems to meet its particular goals, policies, and resources.

Since all of the systems may have common elements and data needs, the Department of Transportation (DOT) decided to issue this unified ANPRM. However, since some of the systems have reached a more advanced stage of development than others, the level of input being sought at this time for each system varies. Background information on each system and specific issues and questions for comment are discussed below. Because of the short timeframe available for issuance of the regulations, the agencies will work on development of notices of proposed rulemaking

during the comment period of this ANPRM, but will not issue notices until all comments received in response to this ANPRM have been considered. Any suggestions on how the requirements for these systems can be met with a minimum paperwork burden would be appreciated. While the comment period for this ANPRM is 60 days, submission of comments as early as possible also would be appreciated.

Status, Issues, and Questions

General

Comments are requested on several issues common to all of the management systems.

As noted above, the legislation requires State development, establishment, and implementation of each management system and that in metropolitan areas (urbanized areas of 50,000 or more population) the systems must be developed and implemented in cooperation with MPO's. States also must cooperate with affected agencies receiving assistance under the Federal Transit Act. These requirements lead to such questions as what should be the nature of this cooperation for development, establishment, and implementation, and should a minimum level of cooperation be specified in the regulations, or should complete flexibility be allowed?

Title 23, U.S.C. 134(f) and section 8 of the Federal Transit Act specify that MPO's, in developing plans and programs, must consider the transportation needs identified through use of the management systems, and the Statewide planning process required under 23 U.S.C. 135(c) also must consider these needs. In addition, the results of the management systems must be considered in making project selection decisions under title 23, U.S.C., and under the Federal Transit Act. What should be the nature of this cooperation and consideration of the results of the management systems in making project selection decisions? Should it be specified in the regulations? What criteria should be used to ensure that the needs identified through the management systems have been appropriately considered?

Each of the management systems will require data to define and monitor the magnitude of the problems, identify needs, analyze alternative solutions, and measure the effectiveness of the implemented actions. Some data needs, such as traffic volumes or travel demand, may be common to all systems while other data will be unique to the particular system, e.g., specific structural data for bridges, and vehicle

or person hours of delay for congestion. It is anticipated that the traffic monitoring system required by the legislation, the FHWA's Highway Performance Monitoring System (HPMS), and the Federal Transit Administration's section 15 data, will provide some data to meet National needs and (to some extent) State and metropolitan area needs. The management systems are envisioned as part of an integrated transportation information system that would: Facilitate coordination of the management systems with related programs (e.g., HPMS, speed monitoring, air quality, etc.), facilitate the sharing of resources and data, improve communications among data users, and facilitate the coordination of the metropolitan and statewide plans and programs. What other sources of data are available, or need to be established? What enhancements in the current HPMS, FTA section 15 data, and the traffic monitoring program will be needed for these data bases to be more useful for management systems? How can management system data needs be coordinated with existing information system and be integrated into an overall transportation information system?

Before January 1, 1995, and annually thereafter, States must certify that they are implementing the six management systems. Although a certification is not required until 1995, the systems should be phased in as portions are developed. This will also facilitate certification by that date. The legislation allows the regulations to include a compliance schedule for development, establishment, and implementation of each such system. As part of the rulemaking, a compliance schedule may be proposed for implementation of specific aspects of the systems. At what stage of implementation should each system be in by January 1, 1995, to satisfy this requirement, and what other compliance dates, if any, would be appropriate for specific aspects of each system? What type of supporting documentation, if any, should be submitted with the certifications? What approach should the agencies use to review and assure the adequacy of the systems and the certifications? Should one certification cover all six management systems? At what level of State government (e.g., Governor, State secretary of transportation, etc.) should the certification be made?

The legislation does not specify the extent of coverage of the systems except for highway pavement and bridges. The highway pavement management system is to cover "Federal-aid highways" (those highways eligible for assistance

under title 23, U.S.C., except those functionally classified as local or rural minor collectors). The bridge management system is to cover bridges on and off "Federal-aid highways." What should be the extent of coverage of the other systems? Should any of the other systems be limited to the National Highway System (NHS), which, as defined in 23 U.S.C. 102(b)(2), includes the Interstate system and certain other urban and rural principal arterial highways, to Federal-aid highways, or to all public roads?

Of the systems required, the traffic congestion, intermodal, and public transportation management systems may be more closely interrelated than the others. In nonattainment areas for carbon monoxide and ozone, these three systems will also need to be closely coordinated with the process for development of transportation control measures of the State implementation plan (SIP) required by the Clean Air Act (42 U.S.C. 7401 et seq.). How can these systems be interrelated and how should they be coordinated with the SIP development process? Can, or should there be a common extent of coverage and/or data base for these three systems? What institutional structure should be established at the State or MPO level to implement these three systems? Is the highway safety management system sufficiently related to these three systems to be included in a common institutional structure? Should, or could all six of the systems be included?

The legislation specifies that the regulations include minimum standards for each management system. Some of the systems may have similar/common elements and features. What critical elements, features, and processes should be included in each system? In addition to data bases, what other elements should be common to all systems? What degree of detail and guidance are necessary in the regulations for the States to develop, establish, and implement each of the systems?

In lieu of development of a new congestion management system in States where one already exists, the legislation specifies that State laws, rules or regulations pertaining to congestion management systems or programs may constitute the congestion management system required under the ISTEA if the Secretary finds that the State laws, rules or regulations are consistent with, and fulfill the intent of 23 U.S.C. 135, 23 U.S.C. 134, or section 8 of the Federal Transit Act, as appropriate. The legislation does not address acceptance of existing State

laws or procedures for the other systems. Should existing State laws or procedures be accepted for all of the systems? What criteria and review procedures should be used to determine if State laws, rules, or regulations are consistent with and fulfill the intent of the legislation?

Highway Pavement of Federal-Aid Highways

Background

The current FHWA pavement management system (PMS) policy (23 CFR part 626) requires each State highway agency (SHA) to have a PMS that is acceptable to the FHWA and is based on concepts described in American Association of State Highway and Transportation Officials (AASHTO) publications (23 CFR 626.5(a)). The FHWA policy requires that the PMS's cover all Rural Arterials (Interstate, Other Principal Arterials, and Minor Arterials) and Urban Principal Arterials (Interstate, Other Freeways and Expressways, and Other Principal Arterials) under State jurisdiction (approximately 313,000 center-line miles nationwide). The policy also states that the expansion of a SHA's PMS to include all rural and urban arterials, regardless of jurisdiction, and the development of a local PMS for pavements under local jurisdiction are desirable. The completion date to implement this policy is January 13, 1993. Most States have progressed well in developing and implementing their PMS's in accordance with the current regulations. Since the results and progress to date indicate that it is beneficial to do so, the FHWA intends to keep the current PMS policy in effect for the systems specified in 23 CFR 626.5(a).

The extent of network coverage for the pavement management systems has been expanded by the ISTEA to include "Federal-aid highways" which, as defined in 23 U.S.C. 101(a), are highways eligible for assistance under chapter 1 of title 23 U.S.C., other than highways classified as local roads or rural minor collectors. Nationwide this totals over 922,000 center-line miles of which approximately 372,000 are not under State jurisdiction. (The mileage data presented in this ANPRM are 1990 data. These data change over time because States revise and update functional classifications on a continuing basis. In addition, the legislation requires a complete functional reclassification by September 30, 1993.) Although some local highway agencies have begun to recognize and use PMS's and several States have coordinated PMS programs

with their local constituents, significantly more effort will be needed because of the expanded network coverage.

It is envisioned that the implementation of the expanded coverage will be accomplished in stages, allowing components of the systems to be put into operation as each is developed. In addition, some items such as actual pavement performance information require several years of data collection before a historical performance data base can be established.

Issues

The design of the total State and local pavement management program is expected to be subdivided into multiple network levels which would typically include the NHS and the various strata for the remainder of Federal-aid highways since the difference in classifications and usage will dictate the design of the PMS to fit the various network levels. For example, a PMS that is designed for a local highway agency typically is less complex and smaller in scope than a PMS for the NHS. Local PMS's which generally cover lower volume highways, should use less inventory data, a limited condition survey, a lower frequency of data collection, and only a basic analysis with a limited number of maintenance and rehabilitation techniques. Is this network subdivision a logical approach? Are there only factors that should be addressed relative to the expanded network coverage for pavement management?

Bridges On and Off Federal-Aid Highways

Background

In response to provisions of section 162 of the Surface Transportation and Uniform Relocation Assistance Act (STURAA) of 1987 (Pub. L. 100-17, 101 Stat. 132), the FHWA conducted a special study in 1988 on the progress of State highway agencies in developing comprehensive bridge management systems (BMS's). Based on the results of the study, it was concluded that BMS development was in an early stage in most States, and that significant progress was being made. For example, it was found that more than half the States had appointed a task force or committee to be responsible for developing or overseeing a BMS. One-third had produced a document that broadly described the existing or proposed BMS; three-fourths had some aspect of BMS development either completed, underway or planned;

several had made organizational changes which incorporated BMS responsibilities; and a few had made significant progress in developing formal BMS methods and tools. In addition, the AASHTO completed a National Cooperative Highway Research Program (NCHRP) study that resulted in the conceptual development of the modular elements necessary for a model BMS (Transportation Research Board, NCHRP Report No. 300, "Bridge Management Systems").

Since completion of the STURAA study, the AASHTO, the NCHRP, the FHWA, and a few States have proceeded with BMS developments. The AASHTO, through the NCHRP, has produced a guideline on BMS's which is now in final draft, and has continued work on a BMS software development project that is targeted to transportation agencies with small to medium total bridge populations. Under FHWA Demonstration Project 71, the FHWA, six States and the NCHRP have cooperated in the development of a state-of-the-art BMS named Pontis, which is designed to handle inventories of any size and be transportable from one agency to another.

The collective BMS products of the AASHTO, the NCHRP, the FHWA, the individual States, and others constitute a substantial body of information and assortment of tools that should enable all States to implement a comprehensive BMS.

Issues

(1) In most States, bridges that are off Federal-aid highways are owned primarily by cities and counties. Also, in most States, the maintenance of these bridges is the responsibility of the owner rather than the State. In view of varying ownership and maintenance responsibilities, what should be the roles of State and local bridge owners in the operation of a BMS? For example, is it necessary for local bridge owners to operate management systems that are separate from the State's management system? Alternatively, is it sufficient for local bridge owners to simply collect the required data and for the State to analyze the data for purposes of establishing needs estimates and funding allocations under the bridge program?

(2) A network level BMS requires a high degree of standardization in data collection in order to allow flexibility for grouping bridges in various ways for analysis (e.g., needs estimates, funding distributions, deterioration rate predictions, etc.). To what extent should

the data collection requirements within a State be standardized?

(3) Several States that are implementing a BMS have raised a concern regarding possible conflicts between the current system of reporting bridge conditions under the National Bridge Inventory (NBI), and the more detailed descriptions of bridge condition that are used in a BMS. NBI data include overall condition ratings for the deck, superstructure and substructure, while BMS data would generally include a more detailed breakdown of bridge elements (e.g., beams, joints, bearings, etc.) as well as an indication of the extent of deterioration. The concerns raised by the States are twofold: bridge inspectors should not be required to report bridge conditions in more than one format, and while a computer conversion of more detailed BMS condition information to NBI codes is possible, the results may not be consistent with past reporting practices and could adversely impact a State's apportionment of Federal-aid bridge funds. Should the FHWA provide standard procedures or guidelines for converting BMS element level condition data to NBI data?

Highway Safety

Background

Each year over 40,000 people are killed and more than 3.5 million are injured as a result of crashes on the Nation's highways. These facts, combined with the dynamic change that has occurred in the types of highway system users and the overwhelming demand for the system's limited resources, have created a need for better total system management.

The 1966 Highway Safety Act (Pub. L. 89-564, 80 Stat. 731) provided the basic foundation for establishing active highway safety programs in the States. Legislation in subsequent highway and surface transportation bills strengthened and broadened the requirements and scope of the States' involvement in enhancing highway safety. Specific safety program requirements are directed through 23 CFR part 924.

The Transportation Research Board (TRB) conducted a conference in 1981 on the subject of "Enhancing Highway Safety in an Age of Limited Resources." Utilizing many of the recommendations from this conference, the AASHTO's Standing Committee on Highway Traffic Safety developed a document in 1983 titled "A Guide For Enhancement Of Highway Safety Directed To Agencies, Programs and Standards" (AASHTO Safety Guide). Each of these activities were directed toward the effective

management of highway activities to ensure timely and appropriate consideration of safety in the ongoing programs and operations of State transportation agencies. In 1988, the FHWA, utilizing the results of the work by the TRB and the AASHTO, initiated a review in several States of practices and programs that provide effective means of enhancing highway safety. The findings of the review were compiled by a task force of FHWA safety professionals into the document titled "Management Approach to Highway Safety — A Compilation of Good Practices." The practices presented in the document were pilot-tested by nine States with a follow-up workshop conducted in September 1991 with representatives from the nine pilot and twelve non-pilot States, the AASHTO and its Standing Committee on Highway Traffic Safety, the TRB, the National Association of Governors' Highway Safety Representatives, the National Highway Traffic Safety Administration, and the FHWA. The purpose of the workshop was to determine the practicality and usefulness of the document to States in developing and implementing a highway safety management system (SMS). State representatives in attendance supported the need for the document to serve as a foundation from which they could develop their systems. The "Management Approach to Highway Safety," the workshop proceedings, and the AASHTO Safety Guide have been placed in the FHWA docket and are available for review. Copies of the "Management Approach to Highway Safety" and the workshop proceedings also are available from the contact shown above for the highway safety management system. Comments in response to this ANPRM, results from the pilot project, and the Safety Management System Workshop will be considered in development of the regulations for the SMS.

Issues

Highway safety involves many disciplines and factors that cross State and local jurisdictional and political boundaries. Engineering, enforcement, education, emergency medical, vehicle design, operators, commercial motor vehicles, and many other inter-related components play a critical role in motor vehicle crashes and survivability. Recognizing these factors, the FHWA's efforts to date have been concentrated on guidance for States to develop SMS's directed toward the roadway. This roadway approach focuses on the basic component affecting the users of the highway transportation system. In order

to assess the impacts of the issues identified below, related information from the States, professional and private organizations, industry or the general public is requested. Detailed information and supporting data concerning the issues, and especially information that provides a rationale for a particular position and data that estimate the costs and benefits of the action under consideration, are requested.

(1) Should the highway SMS include all safety elements—driver, vehicle, and roadway—or should it be limited to the roadway only?

(2) Will there be institutional, coordination, or integration impacts if the system covers more than the NHS or includes the driver and vehicle as well as the roadway?

(3) Would State legislation be required to implement a SMS that includes all safety elements or covers more than the NHS?

(4) What are the fiscal, personnel or other resource advantages or constraints associated with developing and implementing a SMS under each of the concepts presented in issues (1) and (2) above?

(5) Section 1016, Program efficiencies, of the ISTEA states that safety considerations for projects subject to subsection (b) of 23 U.S.C. 106 (projects to resurface, restore, and rehabilitate highways on the NHS, non-NHS projects, and low cost NHS projects) may be met by phase construction consistent with an operative safety management system established in accordance with section 303 of Title 23, U.S.C. How should safety considerations be met using phase construction?

Traffic Congestion

Background

In addition to the requirement for a traffic congestion management system in section 1034, the ISTEA places emphasis on congestion management in several other sections. The sixth paragraph of section 2, "Declaration of policy: Intermodal Surface Transportation Efficiency Act," states:

The National Intermodal Transportation System shall give special emphasis to the contributions of the transportation sector to increased productivity growth. Social benefits must be considered with particular emphasis to the external benefits of reduced air pollution, reduced traffic congestion and other aspects of the quality of life in the United States.

Title 23, U.S.C., section 134 and section 8 of the Federal Transit Act require that long range plans in

metropolitan areas, among other items, assess capital investment and other measures necessary to "make the most efficient use of existing transportation facilities to relieve vehicular congestion and maximize the mobility of people and goods."

In addition to the general requirements that all systems be developed by the States in cooperation with metropolitan area MPO's, the legislation requires that in Transportation Management Areas (TMA's) (i.e., all urbanized areas over 200,000 population and other areas designated by the Secretary at the request of the Governor and MPO) the transportation planning process required under 23 U.S.C. 134 and section 8 of the Federal Transit Act "include a congestion management system that provides for effective management of new and existing transportation facilities eligible for funding under this title and the Federal Transit Act through the use of travel demand reduction and operational management strategies," and it specifies that "the Secretary shall establish an appropriate phase-in schedule for compliance with the requirements of this section." Further, in TMA's classified as nonattainment for ozone or carbon monoxide pursuant to the Clean Air Act (42 U.S.C. 7401 et seq.), "Federal funds may not be programmed in such area for any highway project that will result in a significant increase in carrying capacity for single occupant vehicles unless the project is part of an approved congestion management system."

Similarly, 23 U.S.C. 135, Statewide planning, requires that the State transportation planning process include "Methods to reduce traffic congestion and to prevent traffic congestion from developing in areas where it does not yet occur, including methods which reduce motor vehicle travel, particularly single-occupant motor vehicle travel."

Having long recognized the need for congestion management systems, the FHWA sponsored a workshop on such systems in August 1991 in Arlington, VA. A report of the proceedings of the workshop, including a resource paper prepared by the FHWA for the workshop, has been placed in both the FHWA and FTA dockets, and copies are available from the contact shown above for the traffic congestion management system.

The workshop was attended by invited representatives of MPO's, State departments of transportation, transit agencies, universities, professional organizations, the FTA, and the FHWA. A primary objective of the workshop was to obtain early input into the

formative phases of definitions and requirements for such systems. The comments and questions that follow are based upon discussions at the workshop, the resource paper, and current thoughts of the FHWA and the FTA staff.

As a starting point an attempt has been made to define a congestion management system (CMS). One possible definition is "a system to monitor and analyze the magnitude of congestion on the multimodal transportation system and to plan and implement actions, appropriate to the scope of the problem, that reduce congestion and enhance the performance of the transportation system to the level desired."

Regardless of the definition of a CMS, preliminary thinking is that the development of regulations should be guided by appropriate principles, that certain elements need to be present in a successful system, and that the system must lead to implementation of specific actions to manage congestion and improve mobility of people and goods. Suggested principles for, and elements of, a CMS are identified below.

CMS Principles

Planning Process Context— Particularly in urbanized areas, the transportation planning process is the mechanism for making decisions about how transportation needs will be met. It, therefore, is the logical place for consideration, debate, and decisions about how congestion will be dealt with on a metropolitan basis.

Value Added—Developed as part of a transportation planning process, the CMS should not require "reinvention" of the planning process, but should build upon and increase the "value" of such process.

Flexibility—Maximum flexibility should be given to State and local officials to develop and implement a CMS and to establish levels of system performance tailored to an area's problems.

Multimodal—Any system developed should consider all appropriate modes and modal interconnectivity. The movement of people and goods, not just vehicles, needs to be addressed.

Area-wide—A CMS needs to cover a geographic area and not just isolated facilities. Congestion on a facility may be caused by problems on other facilities in a corridor or subarea, or development decisions. Land use controls, parking management policies, telecommuting, etc. may be the solutions to a congestion problem rather than facility specific actions.

Recurring and Nonrecurring— Typically the planning process has dealt mainly with recurring congestion. However, an effective congestion management system will need to address both congestion that occurs regularly at the same locations and congestion due to isolated incidents.

Implementation Emphasis—While the CMS may be an element of the planning process, the bottom line is the implementation of appropriate congestion management and mobility enhancement strategies, both short term and long term, traditional (traffic operations improvements, transit operational changes, transportation demand management, new capacity) and nontraditional (congestion pricing, land use controls), facility or site oriented (incident management, HOV lane, parking management) and area-wide (regional ridesharing programs, growth management). Planners and implementers will need to work together to ensure successful implementation and to improve the effectiveness of a CMS.

Feedback Loop—Implemented strategies need to be monitored and evaluated to determine if they are accomplishing their intended objectives.

CMS Elements

System/Area Designation—While a CMS should be designed to address congestion on a metropolitan area or statewide basis, the nature of the problem may dictate that resources be focused on managing congestion in a subarea, a corridor, or on a specific transportation network (such as the National Highway System).

Performance Measures—At the national level, performance measures or indicators are needed to show how system performance is changing as a result of the strategies that have been implemented. Therefore, for national purposes, a system that reports on how congestion is changing over time may be adequate. However, at the State and local level, there may be a need to know how well the transportation system, or a particular measure, is working at a specific point in time. This may require a different performance measure; one established by State/local officials for their own purposes. The possibility of establishing an acceptable level of performance for the National Highway System has been raised.

Data Collection—Two types of data would probably be needed: (1) Data necessary to identify and track the location, duration, and severity of congestion on the transportation system, and (2) data needed to evaluate the

effectiveness of the implemented strategies to provide feedback for future decisions.

Strategy Identification/Evaluation—A CMS must identify and evaluate the potential effectiveness of congestion management and mobility enhancement strategies. A better analytical basis is needed for determining the potential effectiveness/impacts of all strategies—both traditional and nontraditional.

Implementation—The ultimate result of a CMS must be implementation. Thus, a key element would be a plan for implementation of appropriate congestion management and mobility enhancement strategies. Such a plan for implementation should include, proposed actions, identification of implementation responsibilities, timeframe for implementation, and probable funding sources.

Issues

Comments on the above-mentioned principles and elements and the following specific issues are invited. Copies of documentation on existing metropolitan and statewide congestion management systems would especially be appreciated.

(1) Should national standards for an "acceptable" level of congestion to be attained be established for all areas, for the NHS, or should each State or metropolitan area be allowed to establish its own standards?

(2) What data should be reported and how? Should new reporting mechanisms be established or can existing mechanisms, for instance the HPMS and FTA section 15 data, be refined to meet national needs?

(3) How can implementing agencies be successfully integrated into a CMS process developed through the planning process? What should be the roles of State and local highway agencies, traffic engineers, transit operators, local government land use decision makers in development, establishment, and implementation of the CMS?

(4) Can existing transportation planning models/procedures be successfully used to identify congestion problems at the micro level, identify appropriate corrective strategies, measure performance of implemented strategies and the overall transportation system? What new tools will be needed?

(5) What measures currently exist to measure changes in congestion and mobility on a multimodal basis until CMS's can be fully implemented, and what measures might be suitable in a fully implemented system?

(6) How long will it take for development and implementation of a statewide or metropolitan CMS for

States and metropolitan areas of different sizes?

Public Transportation Facilities and Equipment

Background

The purpose of the public transportation facilities and equipment management system (PTMS) is to provide a basis for identification of actions to maintain existing transit assets in a good state of repair and to identify strategies necessary to improve transit performance. Management of a public transit system involves examination of the efficiency of the system (vehicle hours or miles per employee, roadcalls per vehicle mile, maintenance cost per vehicle mile, etc.) as well as the performance of the system as it relates to its users (passengers per vehicle mile or hour, transit travel time as a percentage of auto time, on-time performance, crowding levels during peak periods, etc.).

PTMS Elements

Identification of Public Transportation Systems—Urban and rural area public transportation systems operated by the State, local jurisdictions, public transportation agencies and authorities, and private transit operators receiving public funds for capital and/or operating assistance would be identified in terms of location, extent, etc.

Identification of Performance Measures—Performance measures and standards that allow for the evaluation of the transit system would be developed. The measures and standards would reflect State and local goals and objectives. These measures would address, at a minimum, the condition of transit facilities and equipment, the efficiency of the system as defined by cost or labor used per unit of service, and the effectiveness of the system as defined by the passengers carried per unit or cost of service.

Data Collection and System Monitoring—The data collection effort would focus on the physical, operational and passenger utilization information which is needed to support the performance measures. It would draw upon FTA section 15 data to the extent possible, recognizing the deficiencies of that data to satisfy all needs which could be identified in a system performance evaluation. Data would be collected annually in conjunction with transit operators.

Strategy and Action Identification and Evaluation—Based on the results of the monitoring effort and projected performance, strategies and projects would be identified and alternatives

evaluated, where appropriate, to address current and future deficiencies. The costs of these actions, along with priorities and potential funding sources, would be identified. Strategies and projects would be considered for incorporation into State and local plans and programs.

Issues

(1) What should be the specific goals and objectives of a PTMS?

(2) What are the appropriate roles for the States, MPO's, public transit operators, and private transit operators in the development, establishment, and implementation of a PTMS?

(3) Should the DOT receive the information produced from this management system and report national summaries thereof, or is the information only for the benefit of the States, local governments, and transit operators?

(4) Should a PTMS be required only for urbanized areas, or should rural areas be included?

(5) Should a PTMS be required for transit systems receiving little Federal funding?

(6) What other elements, if any, should be included in a PTMS and to what extent should the elements of a PTMS be standardized?

(7) Should the emphasis of a PTMS be on condition of facilities and equipment, on system performance or both?

(8) How should this management system be coordinated with other management systems and the State and urbanized area transportation planning processes?

Intermodal Transportation Facilities and Systems

Background

Intermodalism is a major theme of the ISTEA. In addition to the requirement for an intermodal management system, the 2nd paragraph of Section 2, "Declaration of Policy: Intermodal Surface Transportation Efficiency Act," states:

The National Intermodal Transportation System shall consist of all forms of transportation in a unified, interconnected manner, including the transportation systems of the future, to reduce energy consumption and air pollution while promoting economic development and supporting the Nation's preeminent position in international commerce.

Further, paragraph 5 of section 2 states:

The National Intermodal Transportation System shall provide improved access to ports and airports, the Nation's link to world commerce.

Amended 23 U.S.C. 134 and section 8 of the Federal Transit Act and 23 U.S.C. 135 require that transportation plans and programs shall provide for the development of transportation facilities (including pedestrian walkways and bicycle transportation facilities) that will function as an intermodal transportation system for the State, the metropolitan areas, and the Nation.

Many of the major programs of the ISTEA include the flexibility to fund intermodal transportation projects. For example, the National Highway System must include urban and rural principal arterials that provide access to major ports, airports, public transportation facilities, and other intermodal transportation facilities. Under the Surface Transportation Program (STP), funds may be used for the construction or reconstruction of highways and bridges necessary to accommodate other transportation modes. Also, STP funds may be used for the historic preservation, rehabilitation and operation of historic transportation buildings, structures or facilities (including historic railroad facilities and canals).

Further, the Statement of National Transportation Policy issued by President Bush on February 28, 1990, recognized the need for "a greater intermodal or multimodal perspective on the part of both transportation companies and government agencies." The Policy also acknowledged the need for "transportation providers and government agencies to provide better connections among different forms of transportation."

With this as a background, the purpose of an intermodal management system (IMS) is to provide a basis for better integration of all transportation facilities and systems. A management approach to intermodal transportation would improve the coordination in the planning and implementation among air, water, and the various land-based transportation systems at both the metropolitan and statewide levels.

In the context of an IMS, an intermodal facility is a transportation hub that interconnects different modes of transportation. An intermodal system provides a means for moving people and goods using various combinations of transportation modes.

An IMS should: Reflect the movement of both goods and people; be designed to provide timely and appropriate information for intermodal transportation decisions; not only look at ground access to intermodal facilities, but at the overall systems necessary to achieve the most efficient movement of goods and people; and be incorporated

into the metropolitan and statewide planning processes.

Several critical elements of an IMS that should be incorporated in the statewide and metropolitan planning processes are discussed below. Each of these elements is necessary for an IMS to successfully improve the efficiency of the transportation system. State and metropolitan planning process that incorporates these elements will satisfy the requirements for an IMS.

IMS Elements

Identification of Intermodal Facilities—Intermodal facilities that need to be identified include, but are not limited to, coastal, inland and Great Lakes ports, airports, rail terminals, truck terminals, intercity bus terminals. The intermodal transportation facilities that are identified should serve intrastate, interstate, and international movement of goods and passengers.

Identification of Efficiency Measures and Performance Standards—In order to evaluate the efficiency of intermodal facilities and systems, parameters must be identified that will allow measurement and evaluation of the movement of people and goods from origin to destination. Parameters could include the total travel time and cost for moving passengers and the average time to transfer people or freight from one mode to another. Since the expectations of the quality of service in transportation vary between communities and industries, performance standards or goals should be established at the State or local level with private sector coordination.

Data Collection and System Monitoring—A base year inventory consisting of physical condition and operational characteristics of intermodal facilities and systems is essential. Operational characteristics may include time, cost, capacity, and usage information for the intermodal facilities and systems. Data collection would be coordinated with the traffic congestion and public transportation facilities and equipment management systems. This information should be obtained, to the extent possible, from the ongoing metropolitan and statewide planning processes.

System and Facility Performance Evaluation—The data collection and system monitoring program will be used by the States and local agencies to evaluate the performance of intermodal facilities and systems. The major purpose of the performance evaluation program would be to determine the specific cause(s) for the efficient, or inefficient, movement of goods and

people as part of an intermodal transportation system.

Strategy and Action Identification and Evaluation—Strategies and actions would be developed and evaluated for improving intermodal efficiency. Statewide as well as local strategies and actions would be identified for the movement of people and goods. Methods for increasing productivity, increasing the use of advanced technologies, and the use of innovative marketing techniques would be evaluated, including high speed rail, maglev, and just-in-time delivery. The evaluation program would determine what project or combination of projects and actions would most effectively increase intermodal productivity.

Implementation—An IMS would produce strategies to improve the intermodal productivity of transportation systems for both the short and long range. As part of the requirements for Statewide and metropolitan planning, an implementation plan would be developed. The implementation plan would identify the proposed methods and obstacles (institutional, financial, or legal) to implement the strategies and actions. The plan would be developed by the State and, for metropolitan areas, in cooperation with the MPO's responsible for the joint 23 U.S.C. 134 and Federal Transit Act section 8 planning process.

Products—A fully implemented IMS would result in: (1) An inventory of intermodal facilities and systems, (2) incorporation of IMS strategies and actions into State and metropolitan area transportation plans and TIP's, and (3) an implementation plan as part of the statewide and metropolitan area transportation plans.

Issues

- (1) What parameters should be used to measure the efficiency of intermodal transportation facilities and systems?
- (2) What mechanism or institutional arrangements should be established to address intercity, interstate, and international IMS issues?
- (3) How should an IMS be coordinated with the statewide and metropolitan area transportation planning processes?
- (4) How should IMS requirements vary based on the complexity of the transportation issues of individual States and urbanized areas?
- (5) How should the private sector be involved in the IMS?
- (6) Should the IMS be applied in a narrow context (connections and

transfers at terminals) or in a broader context (system-wide, multi-modal)?

(7) Are there existing data sources that could be used to provide information on intermodal facilities and systems?

(8) Should the IMS requirement for an implementation plan include a financial analysis?

Traffic Monitoring System

Background

Within one year of enactment, the FHWA, in cooperation with the FTA, will issue requirements and guidelines for traffic monitoring systems for arterial and collector highways and public transportation facilities and equipment. This will include the monitoring of traffic volumes, vehicle classification, and vehicle weights. Development of the guidelines and requirements is expected to reflect: (1) The content of section 303(b) of title 23, U.S.C., (2) the traffic data needs of the management systems called for in section 303(a) of title 23, U.S.C., (3) redesign of the HPMS, (4) EPA guidance relative to the Clean Air Act Amendments of 1990 (Pub. L. 101-549, 104 Stat. 2399), (5) potential AASHTO adoption of "AASHTO Guidelines for Traffic Data Programs" (not yet adopted by the AASHTO), (6) recently issued ASTM Standard E1442-91 "Standard Practice for Highway-Traffic Monitoring," and (7) procedures and techniques documented in the FHWA's "Traffic Monitoring Guide" (report No. HPM-30/R7-90/100)QE, June 1985). Copies of the publications cited in (6) and (7) have been placed in the FHWA docket and are available for review.

Issues

(1) Efforts have been made to identify relevant activities by national organizations in the development of traffic data guidance. Are there national initiatives, in addition to those identified in the background, relevant to the collection of highway traffic data that could be reflected in national guidelines or requirements?

(2) Systems and programs that are likely to require traffic data are identified in the background. Are there topics addressed in the items under points (1) through (7) of the background that should be more thoroughly addressed in national guidelines or requirements?

(3) The intensity of the traffic monitoring effort will be directly related

to the uses of the data. What is the needed precision of traffic volume, vehicle classification, and/or vehicle weight data to support pavement and bridge management, safety and geometric analysis, air quality activities, and policy and plan development?

(4) The intensity of the traffic monitoring effort may also be related to whether the information is being applied to large or small scale questions. How does the needed precision of traffic data, as identified in issue (3), vary for system versus site or project specific issues?

(5) Should the traffic monitoring system include only vehicle data or should it also include transit and automobile passenger trips?

(6) Should transit passenger data be included as part of the traffic monitoring system or as part of the public transportation facilities and equipment monitoring system?

Rulemaking Analyses and Notices

Executive Order 12291 (Federal Regulation) and DOT Regulatory Policies and Procedures

The actions being considered in this document are required by statute. The FHWA and the FTA have not yet determined if this action would constitute a major rule under Executive Order 12291. However, the FHWA and the FTA consider this to be a significant regulation under the regulatory policies and procedures of the DOT because of the public interest in infrastructure management.

The potential economic impact of this rulemaking is not known at this stage. Therefore, a full regulatory evaluation has not been prepared yet. However, comments should be provided on any cost/benefit data believed to be relevant.

Regulatory Flexibility Act

In compliance with the Regulatory Flexibility Act (Pub. L. 96-354), the agencies will evaluate the effects of this proposal on small entities. Following this evaluation, the agencies will certify whether the proposed action will have a significant economic impact on a substantial number of small entities.

Executive Order 12612 (Federalism Assessment)

This action will be analyzed in accordance with the principles and criteria contained in Executive Order 12612 to determine whether it has

sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Executive Order 12372 (Intergovernmental Review)

Catalog of Federal Domestic Assistance Program Numbers 20.205, Highway Planning and Construction, and 20.505 FTA Technical Studies Grants and 20.507, Capital and Operating Assistance Formula Grants. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to these programs.

Paperwork Reduction Act

This action does not contain a collection of information requirement for purposes of the Paperwork Reduction Act of 1980, 44 U.S.C. 3501 et seq. Subsequent rules may require collection of information not currently approved for collection.

National Environmental Policy Act

The agencies will analyze regulatory proposals developed as a result of this action under the National Environmental Policy Act of 1969 to determine whether such proposals will have any effect on the quality of the environment.

Regulatory Identification Number

A regulatory identification number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross reference this action with the Unified Agenda.

List of Subjects in 23 CFR Chapter I and 49 CFR Chapter VI

Bridges, Grant Programs—transportation, Highway safety, Highways and roads, Traffic regulations, Mass transportation.

Authority: 23 U.S.C. 303 and 315; 49 CFR 1.48 and 1.51; 49 U.S.C. app. 1607.

Issued on: May 28, 1992.

T.D. Larson,
Administrator.

Brian W. Clymer,
Administrator.

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