Intelligent Transportation Systems Infrastructure Initiative

October 1, 1997

Intelligent Transportation Systems
Joint Program Office

U.S. Department of Transportation

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1—Introduction

Surface transportation in the United States faces a number of challenges. Despite the fact that the United States has one of the best roadway systems in the world, congestion is increasing and safety remains a serious problem. Congestion takes its toll in lost productivity, costing the nation an estimated $40 billion each year. Trucks and buses travel over 100 billion miles annually, facing the same congestion and delays, and inherent lost productivity, seen by the daily commuter. Traffic crashes represent another $150 billion in financial burden to the economy, and result in the loss of 40,000 lives annually. Inefficient movement of vehicles, whether they be private- or public-transit vehicles, reduces productivity, wastes energy, increases emissions, and threatens the quality of life we enjoy. Transportation is vital to the social and economic health of the nation. The efficiency and effectiveness of surface transportation has direct impacts on economic growth, land use, competitiveness, and accessibility to health care and social services.

The term *Intelligent Transportation System (ITS) Infrastructure* refers to the integrated electronics, communications, and hardware and software elements that can support ITS services and products. ITS infrastructure is not just a collection of technologies and components; it is a unified system that will allow components to communicate with each other and work together. The infrastructure is analogous to the local- and wide-area networks used in many workplaces. These networks allow electronic file sharing, mail, and other information exchanges within a single building or between geographically dispersed sites, even though individuals in the workplace may have different brands of computers and software of varying capabilities, and they may use the information for different functions. Workers increase their individual productivity and utility, and so does the workplace as a whole. Similarly, the ITS infrastructure allows the surface transportation system to be managed as a seamless, intermodal, multi-jurisdictional entity, and appears to the public as a seamless system. It does so by integrating transportation and management information systems across both modal and jurisdictional lines within a region and, where appropriate, across the country.

ITS infrastructures have been configured to address the needs of three specific types of users—metropolitan travelers, commercial carriers, and rural travelers. These needs are met by state and local governments in cooperation with private industry. (See box on page 3 for a more detailed description of the elements of ITS infrastructures):

- **Metropolitan ITS Infrastructure** will integrate the various components of advanced traffic management, traveler information, and public transportation systems. A 1997 national investment and market analysis prepared for ITS America and the U.S. Department of Transportation (DOT) estimates that it will cost $24 billion over the next 20 years to build ITS infrastructure in the 75 largest metropolitan areas, but benefits will reach $212 billion, resulting in an 8.8-to-1 benefit/cost ratio.

- **Commercial Vehicle Operations Infrastructure** will integrate existing information data bases to promote safe and efficient freight operations and enable electronic business transactions. This integrated network is called the *Commercial Vehicle Information Systems and Networks* (CVISN). It enables the identification of unsafe carriers at the roadside, improving the safety of our highways. When the network is implemented, a safe truck should be able to drive from coast to coast without stopping at state or North American borders for administrative and safety functions, significantly reducing the time and cost of delivering goods throughout North America. Also, CVISN will greatly reduce the time and paperwork associated with issuing credentials, performing safety inspections, and conducting other regulatory transactions with motor carriers.

  Electronic credentials will permit a trucker to submit the appropriate credentials once, avoiding the time and paperwork required to submit credentials to each of 50 individual states. In an environment of limited budgets, this network will produce efficiencies for both public-sector regulators and trucking companies.

- The **Rural ITS Infrastructure** has identified seven clusters of related technologies to enhance the safety of rural highways and upgrade the transportation services systems in rural communities. Rural areas account for 80 percent of the total U.S. road mileage and 40 percent of the vehicle miles traveled, and more seriously, 60 percent of all fatalities. ITS can play a major role in reducing the rate and frequency of crashes through a wide variety of safety advisory systems. For instance, the ability of Mayday services to accurately locate a vehicle in distress has been proven to substantially reduce the response time of emergency service providers in a situation in which time can literally mean saved lives. Two-thirds of the rural population have no access to public transportation or have negligible service.

  For those rural residents who rely on public transportation, equipping buses with Automatic Vehicle Location technology has demonstrated the ability to reduce waiting time for customers and, at the same time, serve *more* customers because of the improved efficiency of operation. Improving the access to transportation information will have a significant impact on the mobility of rural residents and tourists traveling in rural areas.

FIGURE 1—Elements of ITS Infrastructure

Metropolitan ITS Infrastructure:

Metropolitan ITS infrastructure centers on nine technology applications, although in any given region, fewer or more applications may be implemented. **Traffic signal control** systems will monitor street traffic volumes and automatically adjust signal timing to optimize traffic flow. **Freeway management systems** will control access, provide information, and detect incidents on freeways to improve capacity and flow. **Transit management systems** will monitor and maintain our nation's sizable transit fleets through advanced technologies that can track vehicles. Coordinated **incident management programs** will allow agencies to spot and respond to crashes or breakdowns quickly. **Electronic toll collection** will provide drivers and toll agencies with convenient and reliable automated transactions, improving traffic flow and toll operations. Similarly, **electronic fare payment systems** will allow a traveler to pay for parking, bus and train fares, and tolls, using a single smart card. Addressing the critical problems of railroad crossings, traffic signals will be coordinated with train movements, and drivers will be notified of approaching trains through in-vehicle warning systems. **Emergency response** providers will be linked to incident management centers to alert the closest available emergency response unit. Finally, **regional multimodal traveler information systems** will provide real-time road and transit information to travelers, businesses, and commercial carriers using a variety of media.

Commercial Vehicle Information Systems and Networks (CVISN):

CVISN will link existing disparate information systems and data bases to allow states to target high-risk motor carriers, issue credentials, and share information electronically. CVISN also supports other ITS user services. **Commercial vehicle electronic clearance systems** will allow safe and legal carriers equipped with transponders to bypass compliance checks at weigh stations, border crossings, and other inspection sites. **Automated roadside safety inspection systems** will combine data provided by electronic clearance systems to check carrier vehicle safety and driver safety. **Onboard safety monitoring** technologies will unobtrusively monitor the driver, vehicle, and cargo and alert the driver, carrier, and possibly enforcement personnel to any unsafe situations. **Commercial vehicle administrative processes** will allow carriers to purchase credentials electronically. **Freight mobility systems** will facilitate communication among drivers, dispatchers, and intermodal transportation providers to allow carriers to plan and schedule vehicle trips and routes. **Hazardous materials incident response technologies** will allow quick identification of hazardous materials involved in commercial vehicle incidents.

Rural ITS Infrastructure:

The Department has identified seven application clusters that will serve advanced rural transportation systems. **Traveler safety and security systems** will alert drivers to hazardous road and environmental conditions. **Emergency services** will automatically notify ambulances, police agencies, or firefighters of collisions and other emergencies. **Tourism and travel information services** will provide route and directory assistance. **Public traveler services/public mobility services** will improve the efficiency and accessibility of transit for rural residents. **Infrastructure operation and maintenance technologies** will help personnel maintain and operate rural roads. **Fleet operation and maintenance systems** will help rural transit agencies schedule, route, and maintain their fleets more efficiently. **Commercial vehicle operation systems** developed specifically for rural areas will monitor vehicle and driver performance and locate vehicles during emergencies and breakdowns.

2—The Vision

The Department's vision for an ITS Infrastructure is to provide a truly seamless intermodal surface transportation system for the traveling public whether they use private, public, or commercial vehicles. In the long term, the intent is that the infrastructure and the vehicle increasingly communicate and cooperate to enhance safety, customer convenience, and roadway efficiency. The traveling public should come to expect minimal delays in arriving at their destinations and will receive current and accurate information on the status of the network to allow route, time, and mode-of-travel alternatives to be considered, both prior to the trip and en route to their destinations. This also implies that the public agencies that operate our transportation system will benefit from the operational efficiencies of a well managed transportation system. The Department will work with state and local governments to implement ITS infrastructure technologies that are appropriate to the individual entities by providing leadership, technical assistance, and continued research and development on ITS technologies.

The vision of the ITS infrastructure is supplemented by a companion initiative, the *Intelligent Vehicle Initiative* (IVI). The IVI is aimed at accelerating the development, availability, and use of driving assistance and control intervention systems to reduce motor vehicle crashes. The IVI will also increase traffic efficiency. By integrating driving assistance and motorist information functions, IVI systems will help drivers process information, make decisions, and operate vehicles more safely and effectively. The deployment of basic IVI elements into the private auto, transit, and commercial vehicle fleets is estimated to decrease the accident rate by 17 percent, saving both lives and the costs associated with these accidents.

3—The Mission

In January 1996, the Secretary of Transportation announced Operation TimeSaver, the goal of which is "to build the ITS infrastructure across the United States within a decade—to save time and lives and improve the quality of life for Americans everywhere." Desired outcomes of an ITS infrastructure initiative include improved safety, increased throughput on roadways, greater efficiency in the use of roadways, reduced cost, and overall improved traveler satisfaction to provide an enabling infrastructure for seamless, intermodal system management.

To achieve these desired outcomes, the U.S. DOT is encouraging:

1. **the deployment of an integrated Metropolitan ITS infrastructure in 75 metropolitan areas;**

2. **that a Commercial Vehicle Operations infrastructure be deployed in all 50 states; and**

3. **that appropriate rural applications see some initial deployment—all by 2005.**

To make this happen, the U.S. DOT has accepted a leadership role in guiding the deployment of ITS infrastructures to ensure that the benefits of a fully integrated infrastructure are realized. This requires introducing transportation agencies and their staffs to new technologies and procedures that will better help them manage these new systems. We are no longer just building roads and bridges; we are adding technologies and systems to use these facilities more effectively.

4—Background

No single technology "fix" can meet America's growing demand for, and changing patterns of, travel. Although individual ITS products and services have their unique merits, it is important that they are seamlessly united to support multimodalism and intermodalism in metropolitan and rural areas, and on interstate corridors. A critical goal of the U.S. DOT, therefore, is to develop an ITS infrastructure—a communication and information backbone—that will enable ITS products and services to work not only as strong individual players, but as a powerful and effective team, to save time and lives and improve the quality of life of the American public.

Many different agencies build and operate highways, surface streets, and transit systems. Others are responsible for emergency response, law enforcement, and other functions. Each manages some limited slice of our surface transportation system. But for travelers, these jurisdictional boundaries are invisible; to them, it is all one system.

In addition, public-sector interest in ITS is growing. Municipal public works agencies are periodically upgrading their computerized traffic signals. Transit properties are gradually upgrading their bus and rail communications systems. States are investing in freeway management and incident response systems. And regulatory agencies are creating new technologies and information data bases to track the safety and movement of trucks. However, like most traditional transportation investments, these ITS investment decisions are often made without knowledge of the investment decisions made by other agencies or jurisdictions. Departments within a public jurisdiction and jurisdictions within a region often do not see the value of, or have the resources for, integrating their systems. This is one of our greatest challenges in linking together ITS services—changing the paradigm from a single agency, single mode, to one of a regional, intermodal, and integrated electronics platform.

4.1—Barriers to ITS Deployment

As with the introduction of any new technology, there are barriers to be overcome and issues to be resolved before the technology is accepted as an integral part of the normal business process. In the case of ITS, some of these issues are exacerbated because the new technology comes from an entirely different discipline than the traditional transportation design and construction profession. ITS is the application of computing and information technologies that may not be the core competencies of many current transportation professionals. Moreover, the vision of ITS infrastructures is the bridging of institutions that have historically operated independently; the coordination and structural change required to achieve this physical integration is challenging.

Several fundamental barriers/issues must be addressed to achieve the goals of ITS.

1. **There are multiple decisionmakers and organizations that will need to coordinate and share a common regional, state, and/or corridor vision to achieve the proposed end.**

2. **In every state, there are multiple agencies that regulate various aspects of commercial vehicle operations. Coordination among these agencies is difficult, at best, and they share data infrequently.**

3. **There is not an established set of national or international standards that can be used by implementers to design, purchase, and build these systems so they can be easily integrated.**

4. **Although transportation officials may see the value of particular ITS technologies, there is little perceived short-term value of the integration of these technologies.**

5. **There is a scarcity of the technical expertise within the transportation infrastructure profession needed to design, produce, and maintain ITS systems.**

4.2—The Federal Interest in Ensuring the Public Benefits of ITS Infrastructures

The U.S. DOT has, among its strategic objectives, the promotion of a safe and efficient transportation system that provides improved mobility to people and goods, enhancing the productivity and quality of life for our citizens. The ITS family of technologies is aimed at meeting these goals. Since the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, the Department has conducted 83 operational tests to evaluate individual ITS technologies, primarily developed by the private sector. These evaluations have led to quantification of the benefits to be derived by both the public and private sectors from the deployment of these technologies. Based on the results of these tests, a study has concluded that ITS-based investment (i.e., using ITS as part of building a new roadway or retrofitting an existing system) could save 35 percent of the cost of providing capacity increases versus using only highway construction, and would require only one-third as many new lane-miles to be built. That is, by adding ITS, the same travel capacity is achieved with less construction and using less real estate. The cost comparisons include the required operations and maintenance costs of an ITS. Further, it has been estimated that almost a 9-to-1 benefit/cost ratio will be realized through the deployment of the Metropolitan ITS Infrastructure in the 75 largest metropolitan areas. For the traveling public, the data have shown that at least a 15-percent reduction in the average commuter travel time, over the short term, is achievable.

Other demonstrated advantages in real-time management of metropolitan transportation systems include reduced accident rates and faster emergency response. Results to date have shown that freeway management systems and signal control systems can significantly reduce accidents by allowing a smoother flow of traffic, reducing the stop-and-start syndrome produced by congestion. The time it takes to respond to accidents that do occur can be reduced to a few life-saving minutes.

Results from commercial vehicle operational tests and studies have been encouraging. CVISN benefits both the public and private sectors. States have been able to do a better job of targeting unsafe carriers at the roadside. Electronic clearance streamlines state operations and makes more efficient use of scarce state resources. In addition, it reduces driving time for carriers and has been found by a study of the American Trucking Association to have a benefit/cost ratio of between 2.9 to 1 and 5.7 to 1 for the trucking industry. The same study found that electronic credentialing has a benefit/cost ratio for carriers of between 2 to 1 and 9.8 to 1. The ability of truckers to establish their credentials electronically with only one state instead of dealing with 50 individual states, each with different forms and procedures, results in a major reduction in administrative costs. Similarly, the public sector's costs for issuing credentials will be reduced.

For these reasons, it is in the national interest that ITS infrastructures be deployed. Further, if the maximum utility is to be achieved, a number of these technologies must be interoperable across the country. For instance, to allow a truck to travel across the country nonstop, it is essential that every state use a common protocol and common operating procedures to communicate credentials information from state to state and that the electronic identification device be built to a standard that will allow all states to identify the vehicles. This is one example of why there is a clear Federal interest in facilitating the coordinated and integrated deployment of ITS.

5—Goals and Strategic Objectives

5.1—Goals

The goals of ITS infrastructures support the strategic goals of the Department for a safer and more efficient transportation system.

- **Safety–Reduce traffic crashes and fatalities.**
- **Mobility–Reduce travel time for all users of the transportation system.**
- **Efficiency–Increase the throughput of our transportation system.**
- **Productivity–Reduce the cost to operate and use our transportation system.**

5.2—Strategic Objectives

To achieve the goals of this initiative, the objectives are:

- **To achieve the integrated deployment of the metropolitan ITS infrastructure in 75 of the nation's largest metropolitan areas.**
- **To achieve the nationwide deployment of a commercial vehicle infrastructure in all 50 states.**
- **To deploy elements of the rural infrastructure as needed.**

5.3—Outcome Goals

The desired results of the program's strategic goals are to measure the improvements in the transportation system as defined by the following quantities:

- **Percentage reduction in crash rate.**
- **Percentage increase in the throughput of the transportation system being managed.**
- **Percentage reduction in travel time experienced by both private travelers and commercial vehicle operators.**
- **Savings in operational costs for the public sector.**
- **Customer satisfaction.**

6—Strategy/Initiative

The whole of ITS is greater than the sum of the parts. But to what degree are states, regions, and municipalities building the whole (an integrated ITS infrastructure) as opposed to randomly purchasing and deploying the parts (individual ITS products and services)? Although system managers and travelers across the country are using ITS products and services, no area has all the components of intelligent transportation infrastructure in place and, with very few exceptions, none has integrated the components into a regional communication and information platform. As a result, the U.S. DOT is pursuing several activities to support the deployment of an *integrated* ITS infrastructure across the nation. These strategies are aimed at alleviating the barriers identified in section 4, which are repeated here for clarity.

1. **Multiple decisionmakers and organizations will need to coordinate and share a common regional, state, and/or corridor vision to achieve the proposed ends.**

2. **In every state, multiple agencies regulate various aspects of commercial vehicle operations. Coordination among these agencies is difficult, at best, and they share data infrequently.**

3. **Although transportation officials may see the value of particular ITS technologies, the perceived short-term value of the integration of these technologies is minimal.**

4. **There is a fundamental lack of technical expertise within the transportation infrastructure profession related to the technologies used in ITS.**

5. **There is not an established set of national or international standards that can be used by implementers to design, purchase, and build these systems so they can be easily integrated.**

There are five fundamental elements to the strategy that address the issues and impediments to an integrated ITS infrastructure. These are:

1. **To communicate the benefits to multiple decisionmakers and agencies and to encourage integration, we are showcasing the benefits of an integrated ITS infrastructure in both metropolitan areas and for commercial vehicles through the Model Deployment Initiatives (Issues 1 and 2).**

2. **To encourage integration, we have proposed creating funding incentives targeted at ITS integration in metropolitan areas and for commercial vehicle operations and basic deployment and integration elsewhere (Issue 3).**

3. **To address the shortfall in ITS expertise in the transportation profession, we are providing a comprehensive series of training courses to enhance the professional capacity of transportation officials (Issue 4).**

4. **To supplement formal training, we are providing guidance documentation and technical assistance on the implementation of ITS technologies and the use of the National Architecture for state and local officials (Issue 4).**

5. **To further facilitate integration and assist in the coordinated deployment of ITS, we are facilitating in the development of ITS standards by funding standards development organizations and providing guidance and technical assistance in the application of the National ITS Architecture and standards. Further, we are linking conformance to the National ITS Architecture and standards to the use of Federal-aid transportation funds (Issue 5).**

These strategies form the backbone of the ITS program and receive the majority of the ITS infrastructure portion of the program budget.

The ITS program has developed an Intelligent Transportation Infrastructure Deployment Strategy to meet our goals for both metropolitan areas and commercial vehicle operations. This strategy outlines a process that includes the promotion of general awareness of ITS and its benefits, mainstreaming of ITS projects within the transportation planning process, developing of regional frameworks that are rooted in the National ITS Architecture, installation, and operation. The strategy also identifies the essential knowledge and skills that are required for each stage of deployment. Similarly, a plan for rural implementation is in preparation.

6.1—Showcasing the Benefits of National Intelligent Transportation Infrastructure

The mission of the 1996 Model Deployment Initiative (MDI) is to demonstrate the benefits of ITS infrastructure in metropolitan areas and commercial operations (as well as to showcase successful jurisdictional and organizational working relationships) for public- and private-sector decisionmakers.

The four metropolitan sites (in Seattle, Phoenix, San Antonio, and the New York City tristate region) will demonstrate the benefits of several aspects of integrated advanced travel management and travel information services that feature a strong regional, multimodal traveler information component—all are based upon the National Architecture. As stated by the principal administrator for the Phoenix MDI, "We're not interested in buying a few devices and putting them out; we're interested in the infrastructure to support these devices." The model deployments will be operational in 1998 to provide a showcase for the benefits of an integrated metropolitan ITS infrastructure.

Similarly, seven commercial vehicle operations for model deployments were initiated in 1996, implementing CVISN in California, Colorado, Connecticut, Kentucky, Michigan, Minnesota, and Washington/Oregon. These will demonstrate the benefits of exchanging CVO safety and regulatory information and conducting compliance transactions electronically, illustrating the value of an integrated infrastructure for commercial vehicle operations. The National ITS Architecture is serving as a framework for building the commercial vehicle infrastructure at these sites, and

segments are expected to be operational in 1998.

The Federal role in all the model deployments includes shepherding ITS infrastructure deployment, evaluating the effects and benefits of deployment, and providing technical assistance.

6.2—Creating Funding Incentives

The ITS program has proposed that special incentive funding is warranted, on a transitional basis, to encourage the integration of legacy systems in metropolitan areas, deployment of rural ITS services, and the deployment of CVISN. A March 1997 report by the General Accounting Office, entitled *Surface Transportation: Prospects for Innovation Through Research, Intelligent Transportation Systems, State Infrastructure Banks, and Design-Build Contracting*, surveyed the perspectives of transportation officials in the nation's 10 largest cities. Officials in nearly all of these cities supported either dedicated funding or a smaller program of incentive funding. Without this commitment, a transportation planner in New York (as an example) feared that ITS investments would not be able to compete for scarce dollars with higher priority road and bridge rehabilitation projects. The U.S. DOT has proposed an incentive funding program in the NEXTEA legislation, targeted at the *integration* of ITS functions in metropolitan areas, commercial vehicle operations, and rural areas, that calls for 50-percent matching by the local authority. The local matching funds can be either private investments or other public funds; however, no more than 80 percent may come from Federal sources.

6.3—Building Professional Capacity

The next generation of transportation planners, engineers, and managers at the Federal, state, and local levels must be trained to design and build future intelligent transportation systems from a systems-integration perspective, as effectively as the civil engineers designed and built the interstate highway system. Elected officials and the general public need to understand how ITS infrastructure can enhance "capacity" through better operations management. Planners need better tools to evaluate the effectiveness of ITS solutions compared with traditional build-or-buy alternatives. And new transportation professionals need to be developed in our universities and colleges. Because professionals with these skills currently do not exist in sufficient numbers to support the effective delivery of ITS, carrying out the Department's 5-year Professional Capacity Building Plan is crucial to establishing ITS infrastructure. In the spring of 1997, the DOT developed implementation and business plans to guide this effort.

Currently, there are eight 1-day seminars, two 1-day workshops, and eight multiday short courses that are being delivered across the country or are in the development stage. Additional skill needs have been identified, with the development of additional course material to begin in FY 98. Integration of these activities with the National Highway Institute, National Training Center, and National Transit Institute is ongoing to standardize the presentation of ITS materials within the DOT.

6.4—Providing Guidance and Technical Assistance

ITS technologies are being deployed by state and local governments across the country. Although the professional capacity building program is aimed at these implementers, it is, by its very nature, a long-term process to add skills to an entire profession. To assist those who are moving forward to take advantage of the benefits of ITS today, we are providing both documentation and technical assistance. Guidance documentation is being distributed and will continue as needed over the next few years. This documentation provides information on how ITS technologies might be implemented from a technical and management perspective. Subjects include how to use the National Architecture in project planning and implementation, how to procure software, and what options are available within the Federal-aid process to procure ITS technologies, among others. In addition, we are providing technical assistance in such enabling technologies as telecommunications, innovative financing, public/private partnerships, and general implementation expertise.

6.5—Accelerating the Development of Standards

In mid-1996, the National ITS Architecture was completed, producing two key ingredients important to the deployment and integration of ITS functions. The architecture provided a flexible framework to guide state and local governments as they consider the use of ITS technologies to solve their transportation problems, yet does not specify any particular technology solution. In addition, the architecture defined those areas in which standards should, or could, be used to promote interoperability, to ease the problems of integrating systems, and to assist the implementers in defining their requirements for ITS projects. Based on these standards requirements, the U.S. DOT initiated a program to accelerate the normally lengthy standards process. The program provides funds to five Standards Development Organizations to perform the technical work to develop a standard that would normally be done by voluntary workers from the industry. The standards process is still a consensus process involving the equipment users and manufacturers. As a result of this accelerated standards effort, about 50 new standards will be available by the end of 1997. Further, over the next 3 years, standards will be developed that will apply to all the key interfaces defined in the National Architecture.

6.6—Establishing Conformity Criteria for Architecture and Standards

The national ITS architecture and technical standards, which define ITS elements and how they can work together, are essential tools and are a prerequisite to integrated deployment of ITS. As a result, NEXTEA proposes to require "architecture consistency" and compliance with national standards for all ITS projects that use Federal funds. The architecture was completed in July 1996, and the national ITS program is pursuing an aggressive 5-year standards development effort which will produce about 50 new standards by the end of 1997. A key effort now is to identify criteria so that localities can ensure that their regional frameworks for ITS infrastructure conform to the National Architecture and the agreed-upon standards. This effort, which will be completed by the beginning of FY 98, will ensure that ITS services in different cities and regions are interoperable.

7—Management

To manage the ITS program, the U.S. DOT formed the ITS Joint Program Office (JPO), housed within the Federal Highway Administration (FHWA), to:

- **Provide strategic leadership for ITS research, development, testing, and deployment support;**
- **Guide and coordinate the development of ITS program policies;**
- **Coordinate the ITS program with various surface transportation modes; and**
- **Ensure resource accountability.**

The JPO receives policy guidance directly from the ITS Management Council, chaired by the Deputy Secretary of Transportation, and acts as a liaison between the modal administrations that actually carry out the work program. To facilitate coordination, a Strategic Planning Group, consisting of the JPO Director and office directors from all the program areas (the Associate Administrators from various modal administrations), provides strategic planning, budgetary, and program guidance. Offices within the various program administrations (i.e., the FHWA, National Highway Traffic Safety Administration, Federal Transit Administration, Federal Railroad Administration, and Research and Special Programs Administration) are responsible for the actual implementation of ITS activities.

8—Point of Contact

For further information on the ITS program, please contact:

Dr. Christine Johnson, Director
ITS Joint Program Office (HVH-1)
Room 3422
U.S. Department of Transportation
400 7th Street, S.W.
Washington, DC 20590
Phone: (202) 366-9536

Publication No. FHWA-JPO-97-0028