



U.S. Department  
of Transportation

**Federal Highway  
Administration**

# Intelligent Transportation Systems in the Transportation Equity Act for the 21<sup>st</sup> Century

- U** ITS in TEA-21
- U** Key ITS provisions
- U** Action plan for policy development
- U** How to participate

*“The Secretary shall carry out the Intelligent Transportation Systems program in cooperation with State and local governments and other public entities, the United States private sector, the Federal laboratories, and colleges and universities...”*

— TEA-21

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# What This Is

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Dear Readers,

With the passage of TEA-21, the ITS program has fundamentally shifted from a program of research and development to one primarily focused on infrastructure deployment. More importantly, the direction from Congress is clear: technology will underpin the surface transportation system of tomorrow — and today. ITS has arrived!

This brochure communicates our plans for developing important policies that will profoundly impact the way transportation continues to evolve in the United States. It highlights the key ITS policy provisions in TEA-21, our approach to developing these policies, and how you can participate in the process.

Your participation is critical to the formulation of sound public policy. I invite and encourage you to work with us during these interesting and exciting times.

Sincerely,

Christine M. Johnson, Ph.D.  
Director  
ITS Joint Program Office

# Transportation Equity Act...

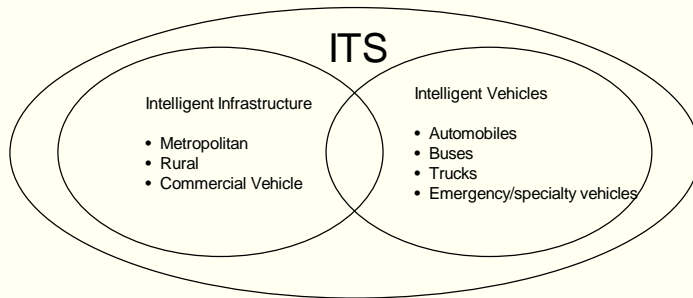
The Intermodal Surface Transportation Efficiency Act of 1991, commonly referred to as ISTEA, began a transition in the United States from an era of highway construction to one of intermodal transportation management. During the ISTEA era, the ITS program was largely devoted to researching and developing ITS applications and building a foundation on which ITS deployment could take place.

TEA-21 embraces ISTEA's intermodal vision and recognizes the opportunity and important role that technology offers in creating that vision. Today, ITS enables us to operate and manage the transportation network as a single comprehensive system — one that supports the movement of people and goods across all modes of transportation — while still respecting jurisdictional and modal operating boundaries.

With the foundation of ITS now firmly in place, America is poised for widespread deployment of advanced transportation solutions. TEA-21 provides the resources and policy levers necessary to support the next step in the evolution of the national ITS program; a program that fosters integrated ITS deployment in a way that furthers the vision of a seamless transportation network.

## ...and the ITS Program

In the long-term, the vision of an integrated, intermodal intelligent transportation system could be thought of as a cooperative, interactive state between intelligent infrastructure and intelligent vehicles.



The ITS Program Structure

Intelligent infrastructure encompasses integrated transportation systems cutting across metropolitan and rural areas, as well as applications for commercial vehicle operations. ITS Infrastructure was the primary research focus under ISTEA because it was seen as a prerequisite to deployment. The investments made under ISTEA have resulted in an ITS program that is now focused on deployment.

Based on other ground-breaking research done under ISTEA, intelligent vehicles — those with advanced safety and information systems — are closer than ever to reality. The goal of the Intelligent Vehicle Initiative is to accelerate the consumer market availability of advanced safety systems within the next five years through applied research. Unlike seatbelts and airbags which protect people after a crash, these systems will actually help prevent crashes from occurring in the first place.

TEA-21 responds to the challenges posed by intelligent infrastructure and intelligent vehicles by its two-prong approach: ITS Deployment and ITS Research and Development.

## TEA-21: ITS Act of 1998

The Intelligent Transportation Systems Act of 1998 is divided into two primary sections. The first is ITS infrastructure deployment and the second is ITS research and development. This structure reflects the fundamental shift away from a research and development program, to one more balanced between R&D and infrastructure deployment.

Year	1998	1999	2000	2001	2002	2003	Total
Deployment	101	105	113	118	120	122	679
R&D	95.0	95.0	98.2	100	105	110	603
Total	196	200	211	218	225	232	1,282

ITS Program Funding in TEA-21 (in \$millions)<sup>1</sup>

TEA-21 provides deployment funding aimed at accelerating ITS integration and interoperability in Metropolitan and Rural areas, and implementing the Commercial Vehicle ITS Infrastructure. The research and development budget funds all other ITS program activities, including the Intelligent Vehicle Initiative, architecture, standards, technical assistance and training.

### ITS Deployment

The purpose of the ITS Deployment section of TEA-21 is to fund small incentive grants to states and local governments to deploy integrated intelligent transportation systems through two ways: the *ITS Integration Program* and *Commercial Vehicle ITS Infrastructure Deployment*.

<sup>1</sup>These funds are subject to an annual obligation limitation, therefore actual funding availability may be less.

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## ITS Integration Program

The purpose of the ITS Integration Program is to accelerate the integration and interoperability of intelligent transportation systems in metropolitan and rural areas through small funding incentives. TEA-21 directs between \$74 and \$85 million per year over its six-year life. It also stipulates that at least ten percent of these funds will be directed toward rural areas.

In metropolitan areas, the money may only be used for integrating existing — or legacy — systems, or integrating new systems funded from other sources. Deployment of ITS infrastructure components are not eligible for metropolitan projects. In rural areas, the money may be used for integrating legacy systems, as well as for deploying new ITS infrastructure components.

TEA-21 lists several requirements<sup>2</sup> for project funding. Projects must:

- Contribute to national deployment goals and objectives;
- Demonstrate strong commitment among stakeholders;
- Maximize private sector involvement;
- Demonstrate conformity to the National ITS Architecture and use approved ITS standards and protocols;
- Be included in statewide or metropolitan transportation plans;
- Ensure continued long-term operations and maintenance; and
- Demonstrate that personnel have necessary technical skills.

For an individual project, the Federal cost share from ITS program funds is not to exceed fifty percent, and the Federal share from all sources (such as regular Federal aid) is not to exceed eighty percent.

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<sup>2</sup>The project requirements listed here are abbreviated summaries. Please see TEA-21 for exact requirements.

## Commercial Vehicle ITS Infrastructure Deployment

TEA-21 seeks to advance the technological capability and promote the deployment of ITS applications to commercial vehicle operations. The program's goals are to improve the safety and productivity of commercial vehicles and drivers, and to reduce costs associated with operating and regulating commercial vehicles in the United States.

These goals will be met by directing project funds toward the Commercial Vehicle Information Systems and Networks, or CVISN, infrastructure. The CVISN infrastructure will enable states to provide:

- Automated roadside inspections that target unsafe carriers;
- Automated vehicle screening and weighing at international border crossings and weigh stations; and
- Electronic credentialing and automated tax reporting and filing.

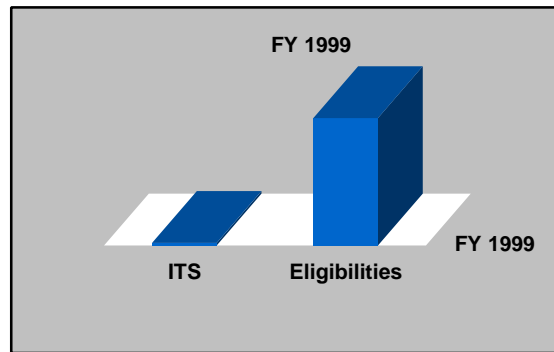
TEA-21 sets the goal for the CVISN infrastructure to be deployed in a majority of States by September 30, 2003. Similar to the requirements of the Integration Program, for individual projects, the Federal cost share from ITS program funds is not to exceed fifty percent, and the Federal share from all sources is not to exceed eighty percent.

## ITS Research and Development

The research and development portion of the ITS program encompasses all other aspects of the program not included under deployment. This includes a focus on the Intelligent Vehicle Initiative, as well as research on metropolitan travel management, rural ITS services, advanced public transportation systems and commercial vehicle applications. This portion also includes program support activities, including continued maintenance and expansion of the National ITS Architecture, development and testing of ITS standards, and providing technical assistance and training.

# Federal Aid Funding Sources

While ITS program funds contained in TEA-21 provide powerful incentives, TEA-21 went one step further by mainstreaming ITS planning and funding into the regular Federal aid transportation planning and programming processes. In doing so, it clarified the eligibility for States and local governments to access over \$70 billion in Federal-aid funding for ITS projects, including funds from the National Highway System, State Transportation Planning, and Congestion Mitigation and Air Quality programs, as well as from other infrastructure programs.



Comparison of ITS program funds to Eligible NHS, STP and CMAQ Federal-aid funding sources

This new emphasis on deployment challenges the industry to mainstream ITS as an integral part of the way transportation is planned and delivered in the United States.

# Policy Development and Implementation

In TEA-21, Congress provided several specific goals or policies and directed the Department of Transportation to determine the best way to implement them within the traditional policy-making process. The following pages discuss the intent of each provision, our policy approach, and key milestones planned as the policies develop.

# Critical ITS Standards

TEA-21 directs the Secretary of Transportation to establish a list of ITS standards that are critical to achieving national interoperability no later than June 1, 1999. The purpose of this provision is to ensure that critical standards are identified and adopted by 2001. If the industry fails to voluntarily adopt critical standards by that date, Congress directs the Secretary to create provisional, or temporary, ITS standards.

Critical ITS standards are those required for national interoperability and those necessary for the development of other standards. A draft list of standards that could be considered critical has been developed based on these requirements.

ITS America will lead this effort by putting forth this draft list, and seeking input and discussion with industry stakeholders. The DOT will submit a final Report to Congress by June 1, 1999.

## Key Milestones

**November '98** Publish selection criteria and a list of draft critical standards in Federal Register for public comment

**Nov - Feb '99** ITS America will convene a public and private sector advice group that will provide DOT with industry recommendations

**March '99** Report to Congress finalized

**June 1, 1999** Report to Congress submitted

# ITS Standards Conformity

TEA-21 directs the Secretary to ensure that ITS projects using Highway Trust Funds use applicable ITS standards and protocols.

For the past several years, the DOT has helped expedite the development of consensus ITS standards through well established Standards Development Organizations. This effort will result in over 100 ITS standards being either approved or in final balloting by 2000.

While there is a strong desire by public officials to use ITS standards, there is deep concern about the DOT requiring standards that have not been proven through field use. Therefore, the DOT is proceeding with a policy course that will allow standards to mature, be field tested, and become generally accepted by the user community before they are considered for adoption.

## Key Milestones

- Early '99** Initiate standards testing program to ensure viability of individual ITS standards and protocols
- Ongoing** Educate the transportation community about ITS standards through an aggressive outreach and awareness program
- Ongoing** Provide direct technical assistance to our public sector partners as new ITS standards come on line

The DOT will revisit the process of formally adopting individual ITS standards only after they have become field proven and well established in the user community.

# ITS Architecture Conformity

TEA-21 directs the Secretary to ensure that ITS projects using Highway Trust Funds conform to the National ITS Architecture. Through this policy, the DOT intends to facilitate the integration of ITS infrastructure components, help mainstream ITS into transportation planning and programming processes, and promote "good practice" during project design and implementation phases.

The current thinking addresses conformity in two stages. First, in the planning stage, ITS would be incorporated into existing transportation planning processes and may include the creation of a regional<sup>3</sup> ITS architecture. Second, at the project stage, ITS projects would need to be consistent with a regional ITS architecture and use approved standards.

The DOT has already received valuable input from outreach meetings held around the country in early 1998, as well as from consultations with key associations. This input was used to help develop interim policy guidance and will be used in developing the final policy.

## Key Milestones

- October '98** Interim policy issued
- Nov - Jan '99** Final policy will be drafted
- Feb - Mar '99** Public input through ITS America and other venues
- August '99** Rulemaking notice in Federal Register for comments
- Nov - Dec '99** Issue final policy depending on scope of changes

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<sup>3</sup>Regional can be defined as metropolitan, rural, statewide, or any combination appropriate to local conditions.

# Procurement Guidelines

TEA-21 directs the Secretary to provide procurement guidance to help States and local agencies in evaluating and selecting appropriate methods of procuring intelligent transportation systems.

One of the biggest challenges in ITS is procuring advanced transportation systems. Most DOTs across the country have limited experience in procuring computer software and hardware for traffic management and operations. The design and specifications can vary widely depending on the needs of a community. Furthermore, the procurement process involves several sections within DOTs, including contracts, legal counsel, and even human resources to name a few.

The DOT plans to survey States and local governments who have experience in procuring ITS – particularly those that have successfully changed and coped in response to this new environment. We also plan to work with key industry associations, including AASHTO, to help us determine the specific needs of DOTs across the country. Finally, we plan to involve the private sector, through ITS America, to gain the vendors' perspective on selling advanced systems to public agencies.

## Key Milestones

- Nov - Mar '99** Survey State, local and industry leaders across the country and convene private sector group through ITS America to define specific issues
- Apr - May '99** Public input through ITS America and other venues
- June '99** Finalize technical guidance based on input received
- Aug - Sep '99** Publish and disseminate widely through training and technical assistance

# National ITS Program Plan

TEA-21 directs the Secretary of Transportation to update and maintain the National ITS Program Plan. It must identify goals, objectives, milestones and actions for ITS research and deployment in major metropolitan areas, smaller metropolitan areas, rural areas, and for commercial vehicle operations. It must also consider five- and ten-year time frames, and input from States, local governments and industry.

The DOT is approaching this requirement in three distinct pieces that, in total, will meet the intent of TEA-21:

**Program Plan: Five-year horizon** will carry out the ITS program continued within TEA-21, and will guide program, policy and budget decisions over the next five years.

**Program Plan: Ten-year horizon** will be led by the DOT, involving the larger ITS community, and will define the next ITS research agenda.

**National ITS Deployment Strategy** will be led by ITS America and will identify the broad, strategic activities required to facilitate widespread ITS deployment in the United States. ITS America will develop the Strategic Plan by involving the entire ITS community.

## Key Milestones

- January '99** Five-year Program Plan – DOT begins first draft review
- Early '99** Ten-year Program Plan – process will be defined; public involvement to begin in Spring
- Aug/Sept '99** Five-year Program Plan – document published
- 2000** Ten-year Program Plan – document published

**Deployment Strategy -- See ITS America web site: [www.itsa.org](http://www.itsa.org)**

# We Want Your Input

The ITS Program is always seeking input from our State and local partners, as well as from the private sector. We are particularly interested in receiving input on the important policy matters described in this brochure.

There are three primary ways to stay informed and provide input:

1. Provide your comments to us directly through our Web site. Up-to-date policy papers are posted there, along with our vast Electronic Document Library. It is easy to tell us what you think. Simply visit our Web site, click on "Program Areas" and look under "TEA-21."

**[www.its.dot.gov](http://www.its.dot.gov)**

2. Participate through ITS America-led task forces and committees:

**(202) 484-4847; or [www.itsa.org](http://www.itsa.org)**

3. Stay up to speed on all of the latest ITS activities by subscribing to our free on-line newsletter delivered to you via e-mail every month. You can sign up to become part of the ITS Cooperative Deployment Network by visiting:

**<http://www.nawgits.com/jpo/>**

Of course, if you have specific questions and would like to talk to us, please feel free to call us at the number printed on the back cover.

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