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ITS TECHNOLOGY AND NEXTEA

Mr. Chairman, Senator Reid, and Members of the Committee: I thank you for the opportunity to discuss reauthorization of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) from a specific perspective -- the ways in which Intelligent Transportation Systems (ITS) technology can be used to improve the performance of the transportation system. I will focus my remarks primarily on the benefits of deploying ITS infrastructure in metropolitan and rapidly growing suburban areas, rural areas, and nationwide to improve commercial vehicle and passenger travel.

Earlier this month, President Clinton, Vice President Gore, and Secretary Slater unveiled the Administration's proposal for a 6-year, approximately $175 billion National Economic Crossroads Transportation Efficiency Act of 1997 (NEXTEA). The ITS portion of NEXTEA is three pronged: the first is a research and technology component, with annual authorizations of $96 million through fiscal year 2000 and $130 million for each of fiscal years 2001 through 2003, to continue the ITS research efforts begun under ISTEA and to support the deployment of basic ITS infrastructure through standards development, training, and technology transfer. These funds will also provide support for the intelligent

vehicle initiative, which includes the short-range work in collision avoidance and vehicle control that the National Highway Traffic Safety Administration (NHTSA) has launched as well as the short-term vehicle/highway research that has been carried out by the Federal Highway Administration (FHWA) under the Automated Highway Systems (AHS) program.

The second is a deployment incentives component, with an annual authorization of $100 million, to launch the deployment of ITS infrastructure technologies that are technically feasible and highly cost-effective. This will provide seed funding to State and local applicants to support integration (not components) of metropolitan area travel management intelligent transportation system infrastructure, intelligent infrastructure elements in rural areas, and the deployment of commercial vehicle information systems and networks within States and at border crossings.

The third and final component is a series of proposed legislative changes that will enable and enhance the mainstream deployment of ITS infrastructure using existing Federal-aid surface transportation funds.

NEXTEA, like transportation itself, serves many goals. The Secretary has emphasized three major priorities:
(1) strategic investment in infrastructure, (2) a pledge to safety as a moral commitment and a policy imperative, and (3) a commitment to common sense government and innovation.

The ITS program serves all three. We have found that on a national basis, the use of the ITS infrastructure in metropolitan areas can cut the cost of providing highway capacity needs projected over the next decade by 35 percent. We have also found that ITS can improve safety. For example, NHTSA estimates that if all vehicles were

equipped with just three of the primary ITS crash avoidance systems -- rear- end, roadway departure, and lane change/merge -- 1.2 million crashes (one out of every six) could be prevented annually, saving thousands of lives and $26 billion per year. That would return motor vehicle fatalities to their lowest point since World War II. ITS can also reduce the cost of providing government services. For example, the Federal Transit Administration (FTA) estimates that ITS deployments today and in the future will yield a cost savings over the next decade totaling between $3.8 billion and $7.4 billion to U.S. transit authorities using fleet management, electronic fare payment, and traveler information technologies.

Because of the ability of ITS to provide significant transportation system efficiency, safety, and cost savings benefits, the Department of Transportation established in January 1996 a goal of having basic ITS infrastructure deployed across the United States within ten years. We are already making significant progress; deployment of basic ITS infrastructure is already underway or planned by many State and local governments. Here in Las Vegas, deployment of a state-of-the-art surface street traffic management system, which will help traffic managers effectively address congestion problems and quickly respond to accidents and other incidents, is already underway. On a larger scale not far from here, Phoenix was selected by the Department last year as one of four metropolitan area ITS model deployment sites, to demonstrate the benefits of fully integrated ITS infrastructure. The centerpiece of the Phoenix project is an integrated transportation management system that coordinates the monitoring, control, and management of the freeway and surface street transportation systems across jurisdictional boundaries, which will improve traffic flow and reduce congestion by allowing more effective and timely control decisions and faster and more effective response to incidents.

Although much of the publicity for ITS technologies has focused on cities, rural areas can benefit as well. The biggest transportation challenge in rural areas is safety. Rural roads account for 79 percent of the public road mileage, and 39 percent of vehicle-miles traveled in the United States; 56 percent of fatal accidents occur on these rural roads. The application of technology to increase safety on rural roads could greatly decrease the number of lives lost. Utilizing ITS in rural areas to meet the safety challenges means providing information and communication services to travelers, law enforcement agencies, and emergency services providers.

In fact, there are currently 28 federally supported rural ITS operational tests underway, part of a nationwide total of about 60 rural ITS projects. By definition, rural travel occurs in remote areas where the challenges of warning travelers about weather conditions, road conditions, or incidents are exacerbated.

I would like to provide three short illustrative examples of how ITS can be effectively deployed in rural areas. If a crash occurs in a rural area, travelers can expect emergency response times to be double that of urban travelers. ITS applications -- such as automatic MAYDAY devices installed in vehicles -- can cut response times and increase crash victims' chances of survival. If 60 percent of cars were equipped with MAYDAY devices, accident notification time could be reduced, on average, by almost 5 minutes, resulting in 1,727 lives saved per year.

Another example is the Road Weather Information System that covers all Nevada routes in and leading to the Lake Tahoe Basin, which provides real-time data on weather and pavement conditions, as well as thermal maps of roadways and pavement temperature forecasts to allow transportation officials to provide motorists with accurate, real-time

information on weather and roadways conditions during winter travel months. Equally important are the automated wind warnings generated to restrict travel in high-wind areas. Roadway conditions information is transmitted to motorists through variable message signs, highway advisory radio, and in partnership with local television stations. Accurate weather information can save some of the taxpayer dollars that highway agencies spend on snow and ice control. Highway agencies spend an estimated one-half billion dollars per year preparing for snowstorms that are predicted but never occur. More accurate short term predictions of snowfall and icing on a very small scale could reduce the costs of snow and ice control perhaps by 10 percent or more.

The third example is a traveler information system known as TRANSCAL, a comprehensive inter-regional traveler information system, which integrates road, traffic, transit, weather, and private sector provided traveler services information in the entire geographic area served by the system, the I-80/US 50 corridor between San Francisco, California, and Lake Tahoe/Reno, Nevada. This system will help smooth traffic flow in this heavily traveled corridor by providing motorists up-to- date information on traffic and road conditions, alternate routes and modes, and a variety of traveler services, such as lodging, gas stations, and restaurants.

In addition to the benefits ITS provides for personal travel, it also serves commercial vehicles. For example, just 120 miles from here, at the St. George Port of Entry on I-15, electronic transponders on trucks automatically identify, classify, and weigh the truck, as well as check its permits and tax status. This process can take 30 minutes or longer at other ports, but at St. George, it is accomplished in just a few short minutes as the truck rolls through the port at about 20 miles per hour. This use of state-of-the-art automated truck

processing technology saves time and money for both motor carriers along this key trade corridor and for the States of Utah and Arizona, which jointly operate the port.

These are just a few examples of ITS technologies and the traffic flow, safety, and efficiency benefits they can provide to urban, suburban, and rural communities, transportation agencies, and commercial vehicles. The Federal ITS program has come a long way over the last 5 years. We have launched an aggressive long term research program that has recaptured the technology lead for the United States in many areas of advanced automotive technology and travel management. We have tested the viability of numerous technologies in the over 80 operational tests which are underway or completed and have published a preliminary assessment of ITS benefits. We have completed the national architecture -- the framework by which ITS infrastructure will be deployed in the United States to ensure interoperability of technologies and services -- and have begun a comprehensive standards development program to allow this architecture to be effectively used at the State and local level. We have also helped State and local agencies develop their own plans for local deployment of metropolitan area, commercial vehicle, and rural intelligent transportation systems infrastructure components, and will continue to provide technical assistance and training to these agencies as needed.

NEXTEA would emphasize both researching and deploying ITS applications, resulting in a new layer of intelligent transportation infrastructure, implemented as a national system, using common standards and a common architecture. Additionally, cost effective, intelligent vehicles that will reduce accidents, enhance driver performance, and provide the consumer an increased level of service and convenience will be developed and demonstrated.

In addition to the ITS program, NEXTEA would also emphasize

research and development for programs such as WesTrack (an experimental road test facility analyzing pavement performance here in Nevada under a contract awarded by the Federal Highway Administration). One of the primary purposes of this project is to continue the development of performance-related specifications for hot-mix asphalt construction by evaluating the impact of deviations in materials and construction properties, ultimately saving taxpayer dollars through the development of more cost effective, durable highway pavements.

Another major research and technology project is TRANSIMS, a new travel model under development by the Federal Highway Administration and the Los Alamos National Laboratory in New Mexico. State and metropolitan planning organizations are currently using out-of-date models to forecast travel demand for the 21st century. TRANSIMS is designed to provide the flexibility to analyze the impacts of emerging transportation characteristics, such as the increased deployment of ITS infrastructure, as well as better analyze the air quality effects of transportation improvements.

In summary, NEXTEA and ITS provide the funding and technologies needed to improve the quality of life in rapidly growing urban and suburban areas, like Las Vegas, and in rural communities and areas as well. Widespread deployment of ITS technologies across the United States will help improve traffic flow, reduce congestion and accidents, and reduce the cost to public agencies of providing transportation services.

In closing, we at the Department of Transportation look forward to working with this Committee to build on the ITS accomplishments of ISTEA by reauthorizing and refining the program based on what we have learned over the last five years. There is tremendous potential for significant accomplishments in the ITS area.

This concludes my statement. I would be pleased to answer any questions you may have.

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