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BEFORE THE
HOUSE INVESTIGATIONS AND OVERSIGHT SUBCOMMITTEE
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
JULY 21, 1994

Mr. Chairman, members of the Committee, I am pleased to have this opportunity to appear before you today to discuss the Federal Transit Administration's role in this very challenging intermodal IVHS effort. Since the promising new technologies we are discussing this morning can be applied to all modes of surface transportation, and not just to highway vehicles, for purposes of my testimony I will use term ITS--Intelligent Transportation Systems-- in describing them. I think that the term ITS is much more descriptive than IVHS.

In furtherance of the policies in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), we are working with the Federal Highway Administration (FHWA) and other elements of the Department to establish a truly multimodal National Transportation System, and we believe that the Department's ITS initiative will play a critical role in that effort. Just as these advanced communications and information system technologies have begun to bring about efficiencies in the private sector, so too will they have similar impacts in the delivery of transportation services in the public sector.

As you know, Mr. Chairman, automobile congestion has been increasing, despite a variety of efforts to turn this trend around. Communities are struggling to develop transportation systems that provide access and mobility and minimize pollution and congestion. Now, however, public transit participation in the national ITS program offers a real opportunity for our local communities to develop the means to improve transit's flexibility and convenience, thereby increasing transit use.

Intelligent Transportation Systems offer a variety of new tools to local communities and planners, and new ways to improve access and mobility. ITS technologies offer public transportation the opportunity to improve significantly customer service and convenience. While ITS should enable transit providers to attract new riders from their automobiles, just as important is what these technologies offer our core customers--those without the automobile option. Improved customer information and more user-friendly transit will help everyone, and will be particularly useful for those with physical limitations.

Mr. Chairman, I think mass transit is an ideal way to introduce a large segment of the American public to smart technologies, and how they can help meet our nation's transportation challenges. We are already beginning that process, which I will discuss shortly. In addition, as industries shift from defense to other applications, these transit-related technologies present new opportunities for investment.

MASS TRANSIT ITS APPLICATIONS

Mr. Chairman, let me describe for you some real examples of where FTA is helping ITS become operational in the transit industry. And let me note that we are doing this through FTA's Advanced Public Transportation Systems, or APTS, Program. APTS was established to focus all of our transit activities in support of the national ITS initiative.

I will begin with traveler information systems, which have great potential to improve customer service and convenience. The Los Angeles Metropolitan Transportation Authority is installing information kiosks that allow customers simply to touch a screen to select information on the most convenient form of transportation, from a transit bus to finding a group of people to rideshare with for a particular trip. The customer may also get a printout of the information. The system is even tied into the Statewide healthcare information kiosk network, and may offer further opportunities for interagency cooperation and efficiency.

Let me emphasize here, Mr. Chairman, the importance that ITS activities play in the area of automatic fare and toll collection, with the ultimate goal a universal multimodal toll and fare collection system. Regarding fare collection innovations, the farecards that we use for Metrorail here in Washington, D.C., are only the first generation of what promises to be a versatile tool. The Washington Metropolitan Area Transportation Authority (WMATA) is testing a proximity smart card system that remotely reads and debits the card through radio waves--the card never leaves the customer's hand. Future

farecards may be the same card you use for automatic teller machines. Solid plastic with an integrated microchip, they would be used for buses, parking, and buying gas. They could also be integrated with multiple transit operators and electronic toll collection systems, thereby providing a single payment medium for all transportation in an area.

Other fare innovations are occurring in Ann Arbor, Michigan, where the local transit operator is implementing a system that will combine the city's parking payment and fare payment systems. A smart card will be the common payment medium for both bus fare and parking. Prices will be structured to encourage the use of transit, and offer incentives for drivers to take transit at least one or two days a week.

An especially exciting aspect of the intermodal ITS effort is the opportunity it provides to make transit an attractive alternative to the automobile. I am particularly interested in the potential of coordinating transit operations with traffic management, and evolving traffic management into transportation management. By enabling traffic operations centers to emphasize the efficient movement of people, instead of vehicles, ITS should increase the convenience of transit and increase the efficiency of the overall transportation system as well. For example, in Chicago, buses along a major route will be tracked to determine when it would be useful to alter traffic signals to restore consistent intervals between buses and return them to schedule.

In Baltimore, the Maryland Mass Transit Administration has been operating an automatic vehicle location system installed on

50 buses, which are controlled through two computer consoles with digital map displays. The system uses geographic information systems (GIS) to display actual bus locations contrasted with scheduled locations. Once the location of a bus is transmitted electronically to the dispatcher, two-way radio communication enables corrective action for off-schedule buses. Eventually, the system will be expanded to include all 900 Baltimore transit buses and the Global Positioning System (GPS) will be used to track the vehicles. Indeed, system-wide applications of the GPS vehicle location system and related GIS displays are already being made in Denver, Milwaukee, and Dallas.

The Metropolitan Transit Authority in Houston, Texas, is ready to launch a test of their smart commuter program. It will include a sophisticated real-time traffic and transit information system with continuous updates on transit and traffic conditions, bus choices and carpool options to travelers both at home and at work.

Another example of an innovative technology application is in Seattle and Bellevue, Washington, areas that are using a computerized information center to allow people to match up with carpools or vanpools. Participants carry electronic pagers to make ridesharing easy and versatile. We learned that 42 percent of drive-alone commuters would consider the instant ridesharing made possible by such a system.

A rider's daily commute may soon begin by logging onto a home computer. One program will determine if any members of the

carpool are out sick; another will check for commuters looking for a carpool in the area.

Ridesharing groups using high occupancy vehicle (HOV) lanes are finding such electronic communications invaluable. They can find an immediate replacement when a regular rider is out sick and still continue to use the HOV lanes. The system is also useful to people who only occasionally need to catch a ride.

As these examples show, smart technology is not an automobile issue or a highway issue or even a transit issue. Its success will depend on a coordinated effort involving all modes of transportation in better serving the travel needs of the American public. And these examples --with new ones coming every day-- barely scratch the surface of the dozens of exciting technological advances that are being researched, tested and demonstrated as they move toward widespread use in our nation's mass transit systems.

FTA PROGRAM

Mr. Chairman, let me now discuss some additional activities that the FTA has undertaken in this area. I have just described some examples of the operational tests that FTA is assisting through our APTS program, which as I noted earlier is a component of the Department's ITS program. FTA is also involved in a number of activities to bring about the testing, evaluation and deployment of ITS. The focus of our activity is on the transit riding public, our customers, and what we can do to better serve their travel needs.

Through the APTS program FTA will also ensure that transit-related, environmentally-friendly ITS systems are widely implemented beyond operational test stages. Results of the operational tests and evaluations of new technologies will be shared with such groups as transit operators, Metropolitan Planning Organizations (MPO's), and the planning community. For these technologies to reach their potential to improve transit, they must first be considered in the local planning process leading to investment decisions on the content of the transportation improvement plan. Accordingly, the APTS operational test evaluations focus on those issues important to local communities. We ensure that evaluations address the capability of the technology application to affect transit problems, increase ridership, reduce congestion and improve air quality. Hard data on benefits, performance and reliability are also needed. Mr. Chairman, you and I have been through these tough resource allocations decisions and know the need for such useful and practical information.

To conduct the necessary evaluations, FTA is using the Volpe National Transportation Systems Center to ensure that evaluations are performed in a consistent, standard manner. To date, the Volpe Center has developed a set of Evaluation Guidelines, and has put together an evaluation team which has begun to develop site specific evaluations.

To further get the word out to the transit community about ITS, FTA, through the APTS program, is putting transit operators interested in ITS in touch with key professionals involved in the

operational tests. Networking among peers has been found to be one of the major mechanisms for transferring new ideas. We are facilitating this process where professionals involved with the APTS operational tests may then give their peers the results of their first hand experience.

As MPO's and State DOT's highway and transit interests work to develop efficient transportation systems, the greater funding flexibility provided by ISTEA offers the opportunity to develop more comprehensive programs and projects, such as joint FTA/FHWA multimodal ITS systems. By providing State and local transportation authorities the financial capacity and programming flexibility to support efficient and environmentally sound transportation projects, ISTEA provides the basis that will enable transit ITS to be deployed.

CONCLUSION

Mr. Chairman, let me conclude my testimony by reiterating that ITS technology applications are going to be found to positively affect local transportation problems. FTA's efforts are focused on providing local policy makers and professionals with reliable information on ITS to help them select the best technology for their particular needs as they make critical investment decisions.

Thank you, Mr. Chairman, for providing me this opportunity to share FTA's perspective on this important program. I will be pleased to answer any questions you may have.