ITS CVO UPDATE

A Publication of the ITS AMERICA CVO Technical Committee

COMMITTEE NEWS

CVO Committees Convene During Annual Meeting

ITS America's CVO Technical Committee and two of its subcommittees hosted well-attended meetings during the Society's Annual Meeting in March.

In addition to the committee meetings there were two technical sessions and an expert panel devoted solely to CVO issues during the Annual Meeting.

The CVO Committee meeting on March 13 provided a forum for an update of the activities of the three CVO subcommittees as well as briefings on the trailblazer Initiative, the National Architecture development process, progress of HELP, Inc. and Advantage I-75 and other projects.

At the CVO Architecture & Standards subcommittee meeting on March 14, the subcommittee's mission, vision and objective statements were finalized. There was also a discussion on the Electronic Toll and Traffic Management User Requirements document and why it does not fill the needs for CVO applications.

The newly formed CVO Outreach Subcommit- \ee used its first meeting on March 15 to establish a nission and to collectively look at CVO outreach efforts currently underway by other organizations. The ntent was to find ways to coordinate outreach efforts and utilize resources more efficiently. Discussion quickly turned to the need for standards in CVO communications and that perhaps this subcommit- :ee could also be used to spread the word of the activity of the CVO Architecture & Standards subcommittee.

Subcommittee Actions To Lead To "One Truck, One Tag"

Responding to the requests of motor carriers, the ITS America CVO Architecture & Standards Subcommittee has begun work that will lead to standards that would allow trucks to pass through numerous jurisdictions using one interoperable transponder.

It is not unusual for trucks today to have numerous transponders for different applications. One transponder may be required for a railroad application, one or more for various state and regional toll facilities, and separate transponders are required for ITS roadside clearance programs like Advantage I-75 on the East Coast and HELP, Inc. in the western states.

Kirk Harralson, chair of the subcommittee, is compiling a comprehensive set of users' requirement for many CVO applications as well as intermodal applications to determine the minimum requirements for a transponder that would allow a truck to operate in all environments.

At the same time, the subcommittee is working on a Vehicle to Roadside Communications (VRC) Requirements document which will have various subparts. There will be CVO, Electronic Toll and Traffic Management (ETTM), Advanced Public Transportation Systems (APTS), Advanced Traffic Management Systems (ATMS), Advanced Traveller Information Systems (ATIS) and intermodal requirements included. This document will be split up and the appropriate standards developing organizations will convert the requirements into standards.

For further information on the subcommittee or the requirements document, contact Richard Easley at ITS America (202) 484-4660.

CVO Subcommittee Issues Safety Principles

Moving on the first item on its plate, the CVO Program Subcommittee has reached consensus on a set of Safety Assurance Guiding Principles.

The principles were adopted at the subcommittee's meeting on Dec. 14 after several months of work. The consensus-building process was long and complex, said subcommittee Chairman Gene Bergoffen, president and CEO of the National Private Truck Council. Committee member Paul Henry, manager of the Oregon Public Utility Commission's Safety Services and Federal Programs section, deserves "our appreciation for his work in coordinating the consensus-building efforts required to complete the document," said Bergoffen.

The safety principles will serve as a "sieve or reality check for programs and ideas" at the Federal Highway Administration, said Steve Crane, manager of ITS/CVO at FHWA. "Our goal here is to create a crash-free trucking environment and the technology to help us achieve that and these principles will help us focus our safety efforts in a cost-effective way."

The principles, as agreed to by the subcommittee, include:

Carriers and drivers are responsible for the safe and legal operation of commercial vehicles;

Governments develop and implement uniform standards, practices, procedures and education programs to improve safety. These activities leverage market forces that encourage safety;

Governments focus safety enforcement resources on high-risk carriers and drivers. They remove chronic poor performers from operation and help cooperative marginal performers to improve;

Governments conduct inspections and audits to provide incentives to improve poor performance and to collect information for assessing carrier and driver performance;

Governments develop a safety risk rating for every carrier and driver based on timely and accurate performance data;

@ Safety program benefits exceed costs. Benefits and costs are determined using accepted measures of effectiveness that include economic and non-economic factors.

The subcommittee is presently in the process of developing a set of Roadside Operations (electronic clearance/verification) Guiding Principles. These principles will help guide future efforts in the area of clearing trucks by verifying regulatory and/or safety requirements as they travel down the highway and from state to state (including international borders).

Architecture Workshop Scheduled Around ITE Meeting

ITS America invites members attending the Institute of Transportation Engineers 65th Annual Meeting Aug. 5-8 to extend their stay in Denver to participate in a National ITS Architecture & Deployment Workshop.

On Thursday and Friday, Aug. 10 and 11, U.S. DOT and ITS America will host the workshop, which will be held at the Denver Marriott Center City.

A broad overview of the preliminary results of the National Architecture program will be presented by the Rockwell and Loral teams and participants will have a chance to share their deployment experiences and insights with the teams. On the opening morning of the workshop a plenary session will provide an overview on the system architecture. Participants will breakout into groups focused on traveler information, public transit, transportation management, freight movement, advanced vehicle control and rural issues.

For information on registration, accommodations or travel to this event, call Sandra Fitzgerald, ITS America, (202) 484-2902.

Work Proceeds On CVO Electronic Data Interchange

Work is ongoing to design a national commercial vehicle operations (CVO) Information System Network (CVISN) that provides all authorized users on-line access to registration, fuel tax and safety information.

To accomplish this, open system Electronic Data Interchange (EDI) standards are required for all CVO applications. ITS America and the Federal Highway Administration, with the help of Johns Hopkins Univeristy Applied Physics Lab, are working with the numerous stake holders, including states, academia, private industry and national organizations to define data exchange for this common CVO information system. While much work has been done in the area of EDI, this effort focuses on regulatory and CVO specific applications.

Congressional legislation requires that states regulating interstate carriers exchange CVO registration and fuel tax information. Additional legislation requires that the safety history of commercial carriers also be made available by a national CVO information system.

While CVO data is currently exchanged between many states, there is an economic advantage in providing electronic data exchange to replace the redundant manual data entry occurring in numerous applications. Electronic data exchange will improve accuracy and reduce the time required to enter the data in all systems.

Further, in the interest of better customer service, a reasonable access time to available data is a must. The manual system can take days, weeks or even months to gather the required information, while an on-line system can do the job in seconds.

For more information on this effort call Richard Easley at ITS America (202) 484-4660. The detailed draft of the architecture for CVISN is available for $55 by calling Dee Hamill of the ITS America Clearinghouse at 202-484-4548.

FRA, FHWA Exploring Database Access Of HazMat Carriers

Emergency "911" operators will soon use ITS technology to respond to crises involving intermodal transportation of hazardous material shipments if efforts under a Federal Railroad Administration (FRA) contract issued this summer prove successful.

FRA issued the contract to a public/private partnership in August for Phase II of a pilot program called Operation Respond, which will develop a computer program designed to let 911 operators access hazardous material shipment data directly from rail carriers and commercial vehicle operators in the event of a mishap. The partnership, also called Operation Respond, includes the FRA, the Federal Highway Administration, the Research and Special Projects Administration and private consultants.

Project researchers proved the feasibility of the idea in Phase I and are now working to develop an actual computer-based program that will give emergency operators immediate access to critical information about the contents of containers, rail cars or trucks involved in accidents while carrying hazardous materials. Such knowledge will significantly aid emergency response crews in knowing both how to handle the hazardous material at the time of the incident and then how to clean up afterwards, they say.

FHWA, working closely with FRA on Operation Respond, is now lining up motor carriers from the Houston metropolitan area, the Port of Houston, Freeport, Texas, and New Orleans to help test the program. The idea behind the project is to make use of existing rail and motor carrier information technologies used in customer service applications rather than creating an expensive new and separate system, project officials say.

If successful, officials also plan to use the program developed under Operation RESPOND at border crossings into Mexico and Canada. For more information contact Lee Jackson, FHWA, at 202/366-4415

Advantage I-75 To Run Automated Clearance Operational Test

Advantage I-75 Coalition members will begin a full-scale operational test of their Mainline Automated Clearance System (MACS) at 30 truck weigh stations along the partnership's nearly 2,000-mile route between Miami and Ontario, Canada, this October, according to Project Director Joe Crabtree.

MACS is designed to cut costs significantly for commercial vehicle operators (CVOs) by eliminating the need for stops at multiple weigh stations. Participating trucks equipped with transponders and communications equipment traveling the I-75 corridor during the optest will only have to check in with the first weigh station.

The truck's real-time weight and clearance information will be recorded and entered in the system's computer system. After that, as the truck rolls along at highway speed, it will be signalled to pass all subsequent stations as long as the weight and clearance data match that picked up by weigh-in-motion and clearance sensors located a half-mile before each station.

Some 4,500 trucks are expected to take part in the planned two-year optest of the MACS concept that has already undergone extensive initial testing at four truck weigh stations in Kentucky, one in Ohio, and four in Ontario. This includes 240 trucks from seven companies that took part in the initial tests that began more than a year ago.

Nearly 60 companies have sought information to participate in the optest and almost half of those have already applied, requesting 1,600 transponders, Crabtree says.

MACS planners say the system will reduce long lines of trucks waiting at sites along I-75 in the United States and Highway 401 in Canada, improve safety, cut operating costs resulting from long idle times and improve efficiency. Crabtree reports that trucks account for nearly 30 percent of daily traffic on most interurban segments of the I-75/401 corridor. That adds up to 5.6 billion vehicle miles a year, he says.

Carnegie Mellon To Develop Driver Alertness Monitors For NHTSA

Carnegie Mellon Research Institute (CMRI) under contract by the National Highway Traffic Safety Administration (NHTSA) will develop and deploy two driver alertness monitors for over the road heavy vehicles. The monitors will contain a combination of performance sensors, psychophysiological sensors, processing software and a driver warning system integrated into the existing onboard computer systems.

Work on the $1.2 million project began in mid-June and will continue over the next two years. During the first year sensors and associated hardware and software will be prepared and installed on the test trucks. The monitors will remain in place for a year or more to demonstrate the long term effectiveness of the monitoring systems.

The envisioned system entails continuous, unobtrusive measurements of driver performance (e.g., steering wheel movements, lateral lane position, longitudinal speed, lateral and/or longitudinal acceleration, braking), data processing to " decide" whether the driver is drowsy and advisory/alerting signals presented to the driver. Direct, unobtrusive driver psychophysiological measures (e.g., devices to detect excessive eye closure) could also be integrated into the system, perhaps as an optional supplementary enhancement to an already-installed vehicle-based system. The system and its results will be evaluated during the second year.

There are approximately 1.6 million truck tractors and 3.6 million trailers used in the motor carrier industry today. There are approximately 200,000 crashes in which combination-unit trucks are involved each year.

Driver drowsiness/fatigue is one important cause of combination-unit truck crashes. NHTSA statistics indicate an annual average of 1,800 police-reported combination-unit truck crashes

California Inaugurates Electronic CVO Services

The ITS America Annual Meeting's busy exhibit hall floor was the site of an agreement signing between the state of California and HELP, Inc., that will bring the benefits of ITS technology to commercial vehicle operations the length of the state.

Under the memorandum of understanding signed by Maurice Hinnigan, commissioner of the California Highway Patrol, James van Loben Sels, director of the California Department of Transportation, and Richard Landis, executive director of HELP, Inc., PrePass electronic "weigh-in- motion" and credential checking service for commercial motor vehicles will begin in early April. The service will operate along the length of I-5 from San Diego to the Oregon border.

Trucks that are signed up for PrePass service will be weighed and have their credentials checked while in motion as they pass six weigh stations along I-5 (Dunsmuir, Santa Nella North and South, Wheeler Ridge, Castaic and San Onofre). HELP, Inc., anticipates 24,000 trucks will sign up for PrePass service this year.

California eventually will expand PrePass service throughout the state and has a plan to build seven sites a year to meet this goal, says Jim Gentner, deputy director of HELP, Inc. ITS America member Lockheed IMS will manage and operate the service.

Discussions are currently underway with officials in Colorado and New Mexico to bring PrePass to those states, says Gentner, and negotiations are at varying stages with the other members of HELP, Inc., (Arizona, Minnesota, Montana, Oregon, Texas, Utah and Washington).

Wyoming recently approached HELP, Inc., to join the public/private partnership, Gentner said. The initiation of PrePass service in California marks the first ITS technology deployment for commercial vehicle operations in the United States, he adds.

Workshop To Explore Communications, Intermodal Freight Issues

ITS America is working in conjunction with the Transportation Research Board to sponsor the "Communications in Intermodal Freight Operations" workshop in Denver, July 26-27.

The workshop is designed to examine the "problems and opportunities of communications in intermodal freight operations," according to its organizers. The workshop is expected to culminate in the publication of a "Transportation Research Circular" that should receive wide distribution throughout the transportation community, they add.

Co-sponsored by the TRB's Committee on Communications; SAE Map Database Standards Committee; the National Private Truck Council and the Telecommunications, Standards & Protocols and Commercial Vehicle Operations committees of ITS America, the workshop is expected to draw rail, truck, barge and air cargo operators; communications technology vendors; ITS applications developers; academia; public sector representatives and private sector researchers.

The workshop will feature several addresses by industry, trade association and public sector executives and breakout sessions to discuss pertinent issues.

The workshop will be held at the Denver Marriott Southeast. For more information contact Steve Weiland, Navigation Technologies at (708) 699-7070.

Seminar To Explore Transportation Applications Of Smart Cards

ITS America, the Federal Transit Administration and the Smart Card Forum will jointly sponsor an electronic fee payment seminar on July 20-21 in Philadelphia.

Titled, "Putting Transportation Payment on the Electronic Highway," the seminar will focus on technical and service issues surrounding the development of electronic fee payment. Among the topics that will be presented are:

What does the customer want (market research/toll collection/transit)?;

Needs of service providers (CVO/transit/ common systems);

Technology issues (chip cards/national payment systems/national architecture);

Issues and challenges (fraud/privacy/ consumer acceptance)

Public/private lessons learned.

Smart card vendors will have tabletop displays set up and representatives available during the reception to be held on July 20.

Participants are urged to contact the Ritz Carlton Hotel in Philadelphia (215) 563-1600 to reserve a room. There are special Smart Card Forum/ITS Meeting and government rates available.

For more information, contact Gordon Fink (202) 484-4132 or Fred Cwik (202) 484-4137 at ITS America.

Carnegie Mellon To Develop Driver Alertness Monitors For NHTSA

caused by driver drowsiness and 84 associated fatalities for the period 1989-1993. This represents approximately 1 percent of all combination-unit truck crashes and 2 percent of related fatalities.

Because of the difficulties in assessing and documenting the role of drowsiness in crashes, these statistics are regarded as conservative. In-depth studies of the role of drowsiness in truck crashes have generally indicated higher levels of involvement.

For example, the American Automobile Association Foundation for Traffic Safety examined a sample of heavy truck crashes in seven Western states in which the combination-unit truck had been towed from the scene. The principal criterion for determining whether a driver was an additional 40 crashes (18 percent).

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