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News

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Commercial Vehicle Safety Technologies Showcased in Tennessee

October 14, 2010 - Chilly breezes and drizzling rain gave way to sunshine on October 14, just in time for the Federal Motor Carrier Safety Administration's (FMCSA) Commercial Motor Vehicle Roadside Technology Corridor (CMVRTC) safety showcase at the agency's official roadside technology inspection station along Interstate 81 in Greene County, Tennessee. The event was conducted in partnership with Oak Ridge National Laboratory (ORNL), which facilitated the event, as well as the Tennessee Department of Transportation, Tennessee Department of Safety, and the University of Tennessee.

FMCSA Administrator Anne S. Ferro was among more than 200 attendees who received a first-hand look at new-to-market and emerging roadside inspection technologies that better equip federal inspectors and state law enforcement as they conduct regular inspections to improve the safety and performance of commercial trucks and buses.

"FMCSA is committed to strengthening commercial vehicle safety through the use of new technology," said Ferro. "By providing a platform to test, evaluate, and refine new enforcement technologies, we are able to clearly understand their benefits and encourage deployment on the state level."

Other participants included Tennessee Highway Patrol senior leadership; representatives from the Kentucky, Mississippi, New York, Tennessee, and Virginia departments of Safety and Transportation; Tennessee Trucking Association; Tennessee Motor Coach Association; staff from DOE, ORNL, NTRC Inc., UT, and Battelle. During the four-hour event, technology experts and users from partnering organizations staffed twelve technology stations where they conducted live demonstrations of the following:

Wireless Roadside Inspection (WRI): Using a fixed site or mobile vehicle, WRI is designed to conduct up to 25 times more vehicle inspections a year than the current, in-person inspection process. In real time, an inspector can obtain driver and carrier identity, vehicle condition, and hours-of-service violations while the vehicle is traveling at highway speed.

Smart Infrared Inspection System (SIRIS): SIRIS detects brake, wheel and tire problems by comparing infrared thermal images of wheels as the vehicle enters a weigh station. Once this technology is complete, it will use software to read thermal images and alert law enforcement if an inspection is needed.

Performance-Based Brake Tester (PBBT): PBBT technology provides a safe, accurate, and objective assessment of a vehicle's brake force and overall brake performance which are directly related to a vehicle's ability to stop.

Medium Truck Duty Cycle: The ORNL-developed data acquisition system collects data from vehicle borne sensors that provide vehicle with brake stroke, weight, and tire pressure monitoring. This collected data is being used to develop tools that one day may determine a vehicle's safety fitness.

Technology in Motion Vehicle (TMV): The TMV demonstration vehicle, equipped with electronic on-board recorders, raises stakeholder awareness and increases adoption of the featured technologies.

In addition to state and federal involvement, 26 private companies related to trucking and truck safety either attended or participated in the demonstrations. Companies included Innovative Software Engineering (ISE) Fleet Services, which provided technologies critical to WRI.

During the WRI demonstrations, a Greene Coach Tours motor coach passed by the inspection station at highway speed. As the coach approached the station, a preconfigured geofence triggered ISE's eFleetSuite equipment and software to send driver hours-of-service information wirelessly to the John A. Volpe National Transportation Systems Center. The information was relayed in real time to displays at the station, where observers viewed detailed driver duty status changes captured and calculated by ISE's electronic driver log software that is FMCSA 395.15 compliant.

FMCSA launched CMVRTC in 2007 in partnership with the Tennessee Departments of Safety and Transportation, ORNL, and the University of Tennessee to further enable FMCSA testing of current, new-to-market, and emerging commercial motor vehicle safety technologies and to promote their usage and acceptance by stakeholders.

CMVRTC is managed through the FMCSA's Office of Analysis, Research, and Technology (ART) via an interagency agreement with ORNL. Since 2007, ART has established internal partnerships with the FMCSA Offices of Bus and Truck Standards and Operations, Enforcement and Compliance, and Safety Programs in Headquarters, and with the Southern Service Center in the Field. CMVRTC is available to these and other FMCSA offices with management support provided by ORNL. ART has also established an external partnership with Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy to collect CMV safety sensor data from a DOE partner fleet. This data will be used to support the objectives of CMVRTC.

The CMVRTC vision is to expand the corridor to additional inspection sites in Tennessee and other states as program level efforts, such as WRI and Smart Infrared Inspection, mature and require a larger test bed and multi-site, multi-state participation. Additionally, CMVRTC plays a prominent role in supporting FMCSA's technology transfer activities enabling the accelerated deployment of proven safety technologies.

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