

Technology Corridor News

Federal Motor Carrier Safety Administration

Office of Analysis, Research, and Technology

Coming Next Quarter:

NEW—

- ◆ Performance-Based Brake Tester Valuation Study
- ◆ Mobile U. S. DOT # Reader Tested

UPDATES—

- ◆ Wireless Roadside Inspection Program
- ◆ Brake Wear and Performance Test
- ◆ Smart Infrared Inspection System
- ◆ Technology in Motion Vehicle

Of about 2,500 vehicles evaluated by SIRIS, 232 (~9%) were flagged as having possible issues with brakes, tires, or bearings.

(page 1)

The goal is to test various technology methods to wirelessly inspect a CMV and thereby assess the safety status of the driver, the vehicle, and the carrier.

(page 2)

SMART INFRARED INSPECTION SYSTEM DEMONSTRATED

In late April 2009, International Electronic Machines Corporation (IEM) returned its prototype Smart Infrared Inspection System (SIRIS) to the Greene County, TN, Commercial Motor Vehicle Inspection Station on southbound I-81 for a three-week system test and demonstration.

For this demonstration, SIRIS utilized its intelligent imaging evaluation capability. Employing a set of empirically derived rules from earlier work in Tennessee, New York, and New Jersey, SIRIS is now able to evaluate each vehicle automatically as it passes and, via a combined audio and visual alert, notify operators in the scale house of possible issues with a particular vehicle. Inspectors were taught how to use the SIRIS software to access more detailed thermal information to decide which vehicles required inspection.

Of a total of about 2,500 vehicles that were evaluated by SIRIS, 232 (~9 percent) were flagged as having possible issues with brakes, tires, or bearings. While not conducting a controlled test program, during the three-week period, inspectors at the weigh station did conduct a 29 Level-1 inspections on vehicles

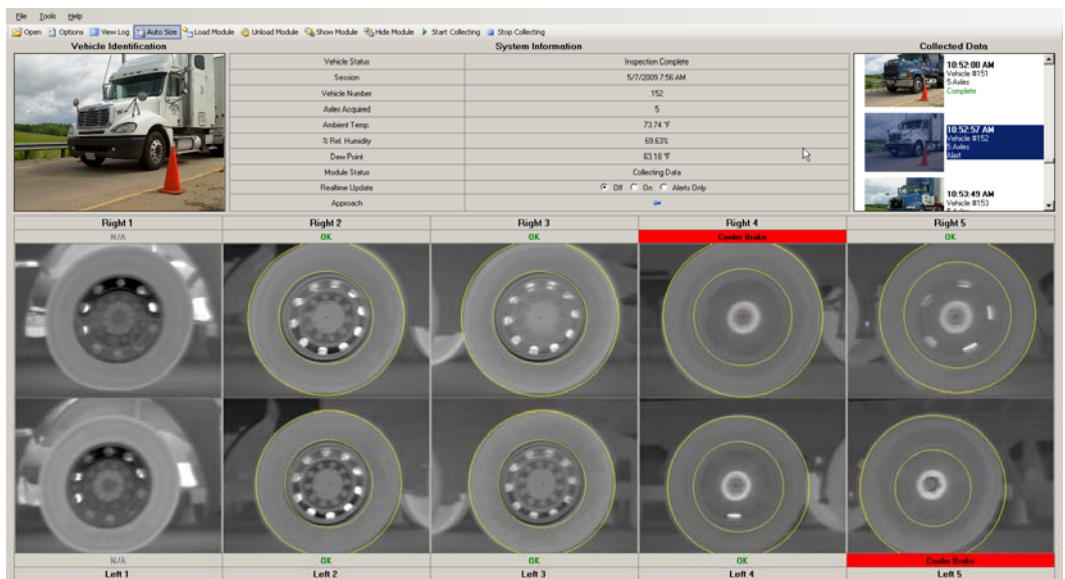


The SIRIS Test System Deployed in the Ramp Leading to the Pit Scale

flagged by SIRIS. Of those inspected, 22 (76 percent) had relevant violations found and 17 (59 percent) were placed out of service, mostly for brake concerns.

The three-week program culminated in a day-long demonstration on May 7 to a number of key individuals from Tennessee DOS and DOT, Kentucky, FMCSA, and Oak Ridge National Laboratory. During the demonstration four vehicles were flagged and inspected,

(continued on page 2)



The SIRIS User Interface Showing “Cold Brakes” on Two Wheel Ends of a Trailer

COMMERCIAL MOTOR VEHICLE ROADSIDE TECHNOLOGY CORRIDOR

U.S. Department of Transportation
Federal Motor Carriers Safety
Administration
Office of Analysis, Research, and
Technology

For more information contact:
Jeff Loftus
Phone: 202-385-2363
Fax: 202-385-2422
E-mail: jeff.loftus@dot.gov



RTC featured in *Guardian*

The Commercial Vehicle Safety Alliance featured six articles about the Commercial Motor Vehicle Roadside Technology Corridor in its most recent issue of *Guardian*, which is online at: <http://www.cvsa.org/publications/guardian.aspx>



WIRELESS ROADSIDE INSPECTION PROGRAM ENGAGES STAKEHOLDERS AND PILOT TEST SITES

Over the last several months, the Wireless Roadside Inspection (WRI) Program engaged stakeholders and representatives from the Pilot Test Platform sites to help define the WRI systems functional and performance requirements, and to initiate the WRI Phase II Pilot Test activities. The goal of the WRI Program Phase II Pilot Test is to test various technology methods to wirelessly inspect a commercial motor vehicle (CMV) and thereby assess the safety status of the driver, the vehicle, and the carrier. Additionally, Phase II will further refine the WRI concept of operations and the WRI systems architecture, and provide data and analysis to support a “go/no-go” decision for a WRI field operational test.

The National Transportation Research Center Inc. organized the stakeholder focus groups. Lively exchanges on the potential uses, benefits, and issues of WRI took place at the American Truck Association Technology Management Committee meeting in Orlando, FL, the Bus Safety Summit in Arlington, VA, and the CVSA Annual Meeting in Louisville, KY. The perspectives of both large and small carriers were also addressed through sessions with the ATA and Owner Operator Independent Drivers Association. Webinars and presentations were also held with PrePass and NorPass, the Truck Manufacturers Association, and the insurance industry. Additional coordination and interaction also took place on using WRI inputs for the new FMCSA BASICs safety measurement system and the IntelliDriveSM initiative. All of the collected information is input to develop the WRI systems functional and performance requirements, and the formulation of potential implementation policies and incentives. Highlights of the

stakeholder sessions will be summarized and released later this year.

The Phase II Pilot Test activities also moved forward from planning and negotiation to initiation. These activities include the development of a back office system prototype and roadside CMV identification systems at staffed and unstaffed weigh stations in the states of Kentucky, Tennessee, and New York. CVISN and PRISM grants were approved for the Kentucky-based examination of Universal Identification Platform methods to support roadside screening and inspections. Contract approval and project initiation also occurred for the Commercial Vehicle Infrastructure Integration project in New York, which will focus on using 5.9 GHz dedicated short range communications transponders to communicate between the trucks and the roadside for WRI and other applications. It will also look at CMV to private vehicle active safety systems.

Oak Ridge National Laboratory (ORNL) also reached out to potential partners for the Commercial Mobile Radio Services Platform to take place in the FMCSA Commercial Motor Vehicle Roadside Technology Corridor. Partnerships are planned with telematics providers, commercial carriers, and safety sensor technology manufacturers. Nine potential telematics partners participated in the first telematics partner working group telecom held in May. Pilot Testing continues throughout 2009 and 2010.

In 2011, the Pilots should conclude and end-to-end demonstrations for each of the Test Platforms will take place. During that time, different WRI implementation and incentive will be explored, and benefits and costs estimates refined. ●

(continued from page 1)

three placed out of service and the fourth had a non-functional brake, but was not placed out of service. Notably, during the demonstration, each of these vehicles was also placed on the PBBT with results consistent with those generated by SIRIS. SIRIS is also very sensitive to overheated tires. A recent study by the University of

Michigan Transportation Research Institute reported a strong correlation between tire temperature and catastrophic tire failure. This failure is often manifest in dangerous highway debris. Future SIRIS testing will attempt to understand better the possible causes of tire overheating.

SIRIS is scheduled to return to the Greene County Weigh Station in late July for final operational tests. ●