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**Technology improves road worker safety**by Libby Tucker  
07/23/2007

A smart new technology could bring added safety to road construction sites and intersections, reduce traffic congestion and reduce emergency vehicle response times.

The wireless technology, demonstrated Wednesday at the Portland Expo Center by the Intelligent Transportation Society of America, can send messages between cars and traffic lights, road signs, and even other cars rigged with the same setup.

The system display, which resembles a car's global positioning system, alerts drivers to danger or allows emergency technicians to control traffic signals, among other applications.

It could also improve safety for one of the state's most dangerous lines of work: road construction.

Two road workers died and 209 filed workers' compensation claims for road construction accidents last year in Oregon, according to the Oregon Occupational Safety and Health Division.

"Road work is a profession where you have to be alert every minute of your work shift because a vehicle could come at you with zero warning," Kevin Weeks, a spokesman for Oregon OSHA, said.

Construction sites equipped with the wireless devices could send signals to cars entering the work zone, alerting drivers to slow down and watch for workers.

## Technology talks to drivers

Jesus Ruiz, a field engineer with California-based TechnoCom, demonstrated the possibilities on Wednesday in a rented minivan his company equipped with the technology.

As the minivan came within the 300-meter signaling range of the device on a parked sign-truck, the van's system picked up an alert broadcast by the truck. An orange triangle popped onto a small display screen installed near the van's rearview mirror and a gentle voice announced: "Caution, entering construction zone."

Unlike traditional construction signs, the technology would allow contractors to change the message when workers are present, Ruiz said.

"A better-informed driver makes better decisions," Dave Thompson, a spokesman for the Oregon Department of Transportation, said. With the new technology, he said, "we can pass on better information to people when they need it."

The city of Portland already has a similar signaling technology on 200 of its traffic lights, which allows TriMet buses and emergency vehicles to control the lights as they approach an intersection. But the technology isn't yet advanced enough to send information back to the drivers.

"We already have preemption, but it's a dumb system; it doesn't talk back," Adrian Pearmine, chairman of government affairs for the Intelligent Transportation Society of Oregon, said.

The new system has expanded capabilities that allow for greater information exchanges. The traffic lights, for example, could warn a driver if another car is blocking an intersection or tell a driver to slow down if the light is about to turn red.

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Regional approach

to adoption

The technology could also be integrated with a mileage-based fee system, ODOT said. The agency this spring completed the first phase of testing the system as an alternative to the gas tax.

In ODOT's mileage-fee pilot study, wireless electronic readers installed at gas stations collect information from cars as they refuel and charge a fee based on the number of miles traveled on Oregon roads.

Wireless traffic technologies are still far from widespread adoption, however.

ODOT expects the fee system to be ready to launch in Oregon, and possibly throughout the nation, within seven to ten years. The agency is now in the process of applying for a federal grant to continue feasibility studies on the technology.

And cities and states are reluctant to install a technology that most cars are not yet equipped to use, Pearmine said.

ITS America and ODOT plan to lobby for federal guidelines that would require car manufacturers to equip all new cars with the technology. Cities and states could then install the technology on traffic lights and signs and know that it would be put to good use.

Metro will also promote the regional adoption of wireless technologies.

"We need to manage our way out of congestion," Jon Makler, a transportation operations manager with Metro, said, "and technology is a key part of how we best manage our system."