Unsafe at any speed: Even for driving pros, distractions increase crash risk

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Highway safety experts say the is no substitute for full attention to the road.

(Phys.org) -- The ringing cell phone you're reaching to answer. The text message that demands a reply now. The GPS you're trying to program as you're frantically rushing to your destination.

They're just a few activities-among many-that divert drivers' attention from the road and escalate their risk of having an accident.

And, an accident can happen in an instant, says driver distraction researcher John Lee, a professor of industrial and systems engineering at the University of Wisconsin-Madison.

"Studies dating back to the 1960s found the maximum time the eye can be diverted from a driving task without significant adverse effect is 1.5

to 2 seconds," he says. "Attention to the road deteriorates the longer a driver looks away."

That's the case even for professional drivers such as commercial truck operators, bus drivers, police, and street and highway department crews.

The cabs of those drivers' vehicles are chock-full of distractions: two-way radios, smartphones, GPS units, laptop computers, and an array of levers, knobs and touch screens that control equipment like plows and spreaders.

This complex mix of technologies might be inevitable-but accidents are not.

Proper technology placement and well-informed policies could reduce distracted driving. For example, in-cab controls should be easy to reach and drivers should be able to quickly complete each step of a task such as programming a GPS navigation system. If drivers need to read a map, do paperwork or use a cell phone, a policy could insist they stop away from traffic before completing the task.

Training professional drivers to recognize distractions and the factors that influence their attention to the road also is an important strategy for combatting distracted driving. Drivers can learn to minimize the length of time they look away or do so at locations with fewer potential conflicts.

"Some professional drivers know how to time their glances-unlike teens or other new drivers-although they cannot glance away from the driving task any longer than other drivers," says Lee.

In Sauk County, Wisconsin, police, fire, public works and highway crews annually use a driving simulator for 95 percent of their defensive-

driving training. There, safety risk manager Carl Gruber says the simulator effectively replicates a variety of road and pavement types and weather conditions. It can run hundreds of scenarios with situations that highway department drivers encounter in a snow event or road project-for example, high-volume traffic, tailgating, reduced visibility or a blown tire.

One advantage to the simulator is that Gruber can create complex challenges impossible to duplicate in on-the-road training. He recently programmed a test drive that required an operator to control the truck using only the steering wheel and gas pedal-without brakes-in simulated snowstorm conditions.

And, the county updates its simulator training module every year to address any problems that may have occurred the previous snow season. "It allows us to keep employees driving defensively in a whole range of situations that put them or the public at risk," says Gruber.

In addition to their annual simulator training, Sauk County crews also attend the Highway Safety ROADeo sponsored Wisconsin County Mutual Insurance Corporation. It features a driver skills course, vehicle inspection training, a written exam and other programs, and enables drivers to try real-life truck maneuvers in tight situations and refresh their knowledge of safety issues.

While technology can contribute to driver distraction, technological advances also could help reduce it. New Hampshire recently installed voice-activated technology in more than 1,000 police cars in the state. The system uses a single interface operated by voice or touch screen to control multiple in-car technologies from different vendors-and similar technologies could be available in the future for public works and highway applications.

Also in development is a new generation of displays that project information from sensors onto the windshield glass, enhancing the driver's ability to see objects in the road ahead. While the technology is improving, Lee says it has limitations because drivers can only see and process a few things at a time.

Ultimately, he says, there's no substitute for eyes on the road. "There's always a risk when a driver looks away from the road since there is no certainty about when an incident will happen," he says. "And this risk increases as the length of time they are looking away increases."

Provided by University of Wisconsin-Madison