

Ideas on the Edge



Driven to Distraction

LOSING FOCUS IN THE FAST LANE CAN BE FATAL.
GUELPH RESEARCHER LANA TRICK IS SEARCHING FOR WAYS
TO HELP KEEP TOMORROW'S DRIVERS ON TRACK.

It can happen so fast.

You sneak a second look at that fetching model on the billboard. You check that incoming number on your cell. You squint at the GPS for that next turn. You—

And bam. It's over. All that's left to say is: "Honestly officer, I just didn't see it!"

Lana Trick knows better than most how distraction can lead to accidents. But it's not because she's a bad driver. Dr. Trick is a psychologist at the University of Guelph, and she's exploring ways to reduce the risk of collision by improving the driving environment inside tomorrow's cars.

Using a sophisticated simulator built around the body of a Saturn sedan, Dr. Trick and her colleagues can duplicate a wide range of distracting conditions both

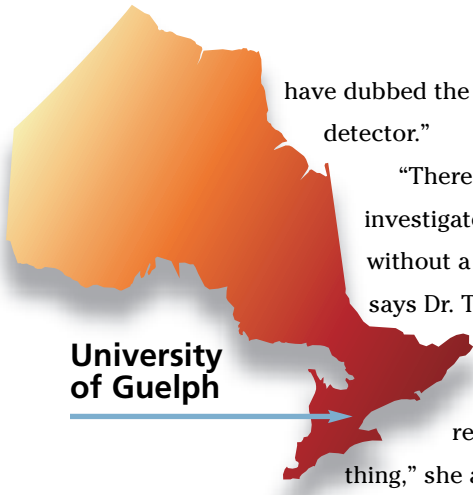
inside and outside the car. And what she's learning could very well shape the way you interact with your next ride.

Her findings challenge, for example, the commonly accepted design rule that any secondary task in a car—tuning the radio, checking the GPS—should take no longer than a total of 15 seconds. "We found that while time-on-task predicted some aspects of collision risk, it didn't predict others. This highlights the need for those involved in the design of controls to use several criteria rather than relying only on the 15-second rule."

Looking ahead to new collision-avoidance technologies, Dr. Trick and her team are also experimenting with warning systems—auditory and visual—for alerting drivers to upcoming obstacles. In true Canadian fashion, the researchers

RESEARCH THAT MATTERS REAL-WORLD BENEFITS FOR ONTARIANS:

- improved driving safety
- leadership in growing field of simulator design for automotive and aerospace industries



University of Guelph

have dubbed the project the “moose detector.”

“There’s no way I could investigate any of these things without a driving simulator,” says Dr. Trick, commenting on the Trust’s investment in her research. “For one thing,” she adds wryly, “it’s

tricky to get a moose to volunteer. And it’s very hard on the drivers—and the moose—when an experiment doesn’t work out.”

Dr. Trick and her colleagues are also using the simulator to look at driving challenges for particular age



groups. One project is focusing on the effects of ADHD medications on young drivers. Another is assessing



the impact of in-car navigation systems on drivers over 65. Findings so far indicate that they’re no more distracted by audio and video cues than their younger counterparts.

There’s a bottom-line to almost all the research. “Cognitive distraction contributes to collisions,” says Dr.

Trick unequivocally.

“You can be looking right at the road with both hands on the

wheel and still crash into things that are right in front of your eyes.”

Project: Driving Simulator for a Multi-Disciplinary Team Investigating Age Differences in Driving Behavior and the Impact of In-Vehicle Devices and Intelligent Transport Systems on Performance

Institution: University of Guelph

Research Sector: Health Sciences

Principal Investigator: Lana Trick

Trust Investment: \$267,890

CFI Investment: \$267,890

Total research investment from all sources: \$674,016

THE DRIVE FACILITY (DRIVING RESEARCH IN VIRTUAL ENVIRONMENTS) IS A COLLABORATIVE EFFORT. LANA TRICK (SECOND FROM LEFT) CO-DIRECTS THE LAB WITH DR. BLAIR NONNECKE (LEFT) FROM THE UNIVERSITY’S COMPUTING AND INFORMATION SCIENCE DEPARTMENT.



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Infrastructure for Innovation About the Ontario Innovation Trust

The Ontario Innovation Trust was created in 1999 by the Government of Ontario to invest in research equipment and facilities at Ontario’s universities, colleges, hospitals and other non-profit research institutions. The Trust is governed by a volunteer Board of Directors, according to the terms of a Trust agreement established by the Ontario government. A small permanent staff looks after day-to-day operations.

Since its inception, the Trust has committed almost \$843 million to strengthen Ontario’s position in the global marketplace of ideas. This represents more than a third of the \$2.44 billion in total funding that has been invested in Trust-supported projects.