CARS AND APPS

Drivers' response to warnings and in- vehicle information systems

In-vehicle information systems (IVIS) and smartphone applications provide drivers with access to a wide variety of real-time transport information.

What are the safety implications?

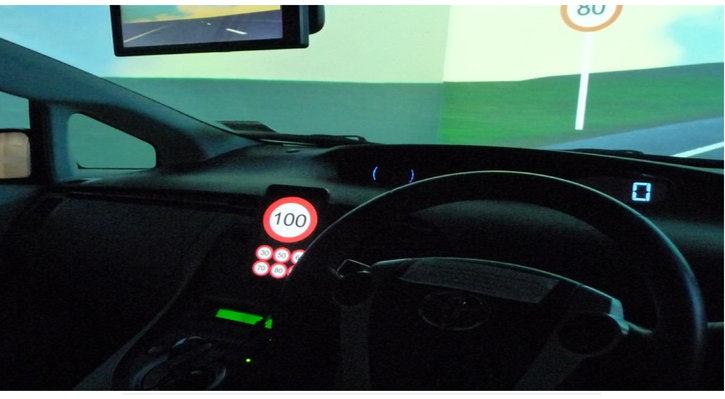
Do Apps

Distract Drivers?  Improve Driving?

We designed an Intelligent Speed Assistant (ISA) App to meet current best practice and tested it in the TRG driving simulator.

Intelligent Speed Assistant (ISA)

- Intelligent Speed Assistant (ISA) software displayed the speed limit on a smartphone screen and alerted the driver when they exceeded the posted speed limit.
- When drivers exceeded the speed limit the app continuously alerted the driver until they reduced their speed to within 4km/h of the posted speed limit.



Simulator Experiment

- One hundred and twenty three participants were tested
- Participants drove a 26.4km section of rural road
- There were three speed compliance zones (100km/h, 80km/h and 60 km/h)

Results

- The ISA improved speed choice. In the 60km/h zone speed was much lower with ISA

- ISA did not impede overtaking

- Glances to the ISA were relatively few
- 0.4% of the total drive time was spent looking at the ISA
- Glances to the ISA were fewer and shorter than to the speeodmeter. Average glance to ISA= 190ms VS Speedometer= 281.96ms

Conclusion

There are demonstrable safety benefits for a well designed ISA, the challenge may be to encourage drivers to use them.

This research was funded by the NZ Transport Agency

TRG Transport Research Group

THE UNIVERSITY OF WAIKATO Te Whare Wānanga o Waikato

TransportResearchGroup @trg_waikato trg@waikato.ac.nz