

Cooperative Intelligent Transport Initiative (CITI)

Cooperative Intelligent Transport Systems (C-ITS) allow vehicles to communicate with each other and with infrastructure, such as traffic signals. Drivers can receive alerts about upcoming hazards and traffic signal information. The technology is also referred to as 'connected vehicles'.

CITI

In 2012, Transport for NSW began exploring the road safety benefits of C-ITS technology. The Cooperative Intelligent Transport Initiative (CITI) involved the establishment of Australia's first C-ITS testing facility. So far, C-ITS devices have been fitted to:

- 60 trucks
- 11 public buses
- 52 light vehicles
- 1 motorcycle
- 7 traffic signal sites
- 1 roadside unit located in a rest area
- 3 roadside units elsewhere
- 1 railway level crossing.

How C-ITS works

The C-ITS device sends and receives information to and from other C-ITS equipped vehicles and road infrastructure. It uses that information to determine if a crash is likely, based on comparing its own location, direction and speed to those of other C-ITS equipped vehicles. Drivers can also be warned of hazards on the road ahead and around bends. International C-ITS trials have indicated that these C-ITS systems can improve safety.



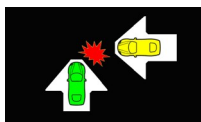
Purpose of the initiative

The CITI testing facility:

- allows us to research the road safety benefits and challenges of C-ITS in Australia
- allows C-ITS research and development in an Australian setting
- allows hardware and software developers to test their systems
- offers a diverse set of locations, including remote, mountainous and industrial areas and a mixture of freeway and suburban roads
- builds our knowledge and experience in the deployment and maintenance of C-ITS in Australia.

The safety alerts

Drivers participating in our CITI trials receive the following alert messages on an audio-visual display unit fitted in their vehicles:



Intersection collisions



Harsh braking vehicles ahead



Red light ahead



Speed limit information for trucks



Level crossing ahead

More alert types may be added as the project progresses.

CITI research

Phase 1 of the CITI project involved the initial setup of the testbed and included 60 trucks and three connected intersections. Phase 2 of the CITI project included the addition of 11 buses, 50 light vehicles, an additional four intersections and a rail level crossing within the port. Currently, in Phase 3, preparations are underway to increase the number of alerts, to increase the number of buses in the trial, and to include a rail level crossing on the main passenger line. CITI is continually looking to improve and expand the testbed.

Further information

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