



DISCUSSION PAPER BRIEF

Towards a national vision for a secure, connected future through Cooperative Intelligent Transport Systems (C-ITS)



The big picture

Our lives are becoming more and more connected: the devices we hold in our hands, our computers at work and at home, the cars we drive, hire and hail; the trains and buses we catch; and the cities and rural areas that we commute to and from – both for leisure and for work.

Connected and automated vehicles, Smart Cities and the Internet of Things are the most common terms to describe these developments. Separately, they are developing at different speeds, but their presence can already be seen, and they won't be separate for much longer. They will connect, co-develop, and converge. This will affect everyone, everywhere, in Australia and across the globe.

What are the challenges?

None of this will happen by accident, and it won't happen on its own. It sometimes seems that we adapt ourselves to technology, but technology is a tool that we use, and its development and use is the outcome of decisions made by all types of people: users, suppliers, leaders, developers, and manufacturers, funding bodies, businesses, employees and employers.

One of the big challenges is getting all these people to work together to achieve a common goal. If we get the foundations right, people can start to build on it.

The technology for connected vehicles, Smart Cities and the Internet of Things either already exists, or will soon be available. But this doesn't mean it will work the way want it to work, and it doesn't mean it will deliver the best results for the majority of people.

Technology is only one factor. Other questions need to be asked and answered:

- Technical: what does it do and how will it do it?
- Operational: how will the technology work in the real world, today, tomorrow and into the future?
- Commercial: what will it cost and who will benefit?
- Policy: what rules are needed to provide guidance, to protect users and businesses, and who makes them?

What are Cooperative Intelligent Transport Systems (C-ITS)?

C-ITS is the technical term for technologies in cars, buses, trains, mobile phones and infrastructure (such as traffic lights) that enable wireless communication: they can connect, communicate and cooperate.

They are being designed to make our transport network safer, more efficient, more productive, and more environmentally friendly – in a word: smarter.

Some examples of C-ITS already exist, others will be available in the near future. But some are just around the corner – as soon as next year.

The technology may be available, but that doesn't mean it will work for everyone, and that it will work in the best possible way.

Why is security essential?

Most people don't think about security on a daily basis – and they shouldn't have to. Security should be the last thing on someone's mind when they use a service, make a purchase, or leave the front door.



When security works, you don't notice that it's working. When you're thinking too much about security, it is usually a sign that something has gone wrong.

If you're reading this document online, that's because your computer or smartphone trusts our website – and our website trusts you. That trust exists because the right decisions were made by people implementing the right systems, standards and processes relating to security.

That level of trust is going to become a lot more important, and a lot harder to achieve for the connected and cooperative space. That trust wouldn't be very useful if it only extended to a few people, or to a few brands. It needs to be able to extend to whoever wants access, when they want it.

Our physical and digital lives are converging, and so is our transport. Cars are becoming Smart Phones and engines on wheels; and our transport networks are roads and radio waves.

It seems like every day we read about a car getting hacked, or about something going wrong. Events like this are happening on a small scale: at trade shows, or as public stunts. What if these incidents were happening on the road? When security doesn't work it can be frustrating, disrupt a business, or put people in real danger.

From now on, safety and security are one and the same.

We have to rethink what security means for the connected environment, today and as it emerges. If we don't want to react to issues as and when they emerge, we need to be proactive.

Why we published this paper

This paper is intended to inform and provoke discussion, and contribute to the development of a national vision for the cooperative and connected environment.

In the cooperative and connected environment, whether they are drivers, passengers, cyclists or pedestrians, everyone will be an end user.

If people are aware of the issues, the challenges, and the task at hand, they ask the right questions, and make better, smarter choices.

Why should I read this paper?

Cities, roads and transport networks are, above all, made for people. These are issues that will affect everyone.

These are complex issues, and we've laid them out clearly. Parts of this paper will be of interest to different people, but it will give you the basics, and enough information to move forward.

How to contribute

Our discussion questions will get the conversation started. You can answer them, ask your own questions, or pose a comment by emailing us on tca@tca.gov.au

The discussion paper can be found at www.tca.gov.au