

Media release – 6 March 08

ITS technologies to make rail level crossings safer

A landmark decision has been taken by peak transport industry bodies to collaborate in a project to develop and apply intelligent transport systems (ITS) technologies to reduce rail crossing crashes in Australia.

Announced at the inaugural *ITS for Railway Level Crossing Workshop*, hosted jointly by Intelligent Transport Systems Australia (ITS Australia) and the Australasian Railway Association (ARA) in recently in Melbourne, Australia, the project will bring together key stakeholder groups to focus on both immediate solutions using current technologies, and long term solutions employing purpose built technologies.

Committed to meet in coming weeks to progress the initiative are working party members ITS Australia Executive Director Terry Warin, Australian Railway Association Chief Executive Officer Bryan Nye, and Victorian Transport Association Executive Director Philip Lovel. It is hoped this group will be joined by a senior federal government representative.

According to the National Transport Commission, Australia has 9,400 public railway level crossings, of which only 30% have active protection. Internationally, ITS technologies are playing an increasingly important role in improving safety at railway level crossings. In recent years, significant progress has been made by incorporating ITS with enforcement activities and infrastructure upgrades.

Problems identified

The successful outcome of this workshop was a commitment by transport industry leaders to further explore opportunities for ITS to improve safety at rail level crossings across Australia. Workshop participants included experts from both road and rail industries, Government transport officials, and technology researchers and manufacturers.

Workshop delegates identified the main problems leading to crashes where rail lines and roads crossed, including driver:

- Decision making – not understanding the magnitude of risk
- Behaviour – complacency about the risk based on past behaviour
- Education – not informed about the magnitude of risk
- Information – real time alerts to rail and road vehicle drivers
- Enforcement – automatic detection

ITS Australia Executive Director Terry Warin said technologies are available now that make significant advances in rail crossing safety. "The real issue however is not that the rail line and the road intersect at a level crossing. The issue is that trains and road vehicles can arrive at that intersection at the same time. Therefore, despite the use of any kind of technology, the key to ensuring level crossing safety still rests with the vehicle driver making that critical decision to proceed through a protected or passive crossing with the knowledge that a train may also arrive at the same time," he said.

ARA Chief Executive Officer Bryan Nye said level crossing collisions are a number one safety concern for the rail industry. "The ARA believes various initiatives need to be explored, not only education, enforcement and engineering solutions, but also the adoption of new technology. ARA has urged government, rail infrastructure and enforcement agencies to explore options for the application of ITS to enhance safety at level crossings. This workshop has provided the opportunity for all to share their achievements and experiences," he said.

Solutions available

Terry Warin said various road agencies are already monitoring driver behaviour at some rail crossings and this system can be linked to enforcement strategies through fines. "It may be that current enforcement strategies are not achieving the required results. Perhaps other ITS technologies should be deployed to help change driver behaviour at the critical decision point by making real time information available to alert drivers to either a safe crossing, or danger and the need for action. This can be achieved easily with infrastructure to vehicle communication, or with GPS navigation units," he said.

"Road side to vehicle transmitters already exist in many parts of Australia for monitoring freight movements and GPS units are becoming increasingly popular. We know where every rail crossing in Australia is located. By installing GPS units in locomotives, the progress of trains toward level crossings will be monitored in real time. To complete the link, communication would be established between the units in the locomotive and the approaching vehicle. This means both drivers receive an alert in real time that there is not only a level crossing ahead, but that there is danger because the train and vehicle are converging.

"These are low cost solutions. The ARA says that since April 2006, there have been 14 major level crossing crashes involving trucks, with the loss of 17 lives and more than \$100 million in damages. We estimate that the application of ITS technologies to Australia's level crossings would cost less than 10% of that amount. And the in vehicle units would cost hundreds, not thousands, of dollars. And most importantly, they would save lives," said Terry Warin.

The working party plans to engage all stakeholders in a consultation process as part of the project. For further information about the project, or to input information to the working party, contact: admin@its-australia.com.au.



The pole mounted solar powered SpeedMate transmitter is an example of a 24 hour a day, seven day a week data transmission unit now in operation.



The SpeedMate in vehicle receiver collects the message from the road side transmitter and sounds a warning or provides a voice alert to the driver.



The current model Road Angel alerts drivers as they approach rail level crossings. This system could be linked to GPS units in train locomotives to provide both the train and the vehicle driver that they are converging at a level crossing.

Further information:

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