

By VICKI BROWN, Executive Director, Australasian Centre for Rail Innovation.

It was good to hear a number of speakers at this year's ALC Forum talk about transport priorities not being either road or rail, but often a matter of collaboration and co-operation between road and rail.

Obviously the two modes compete vigorously over some routes and for some kinds of freight, but in other areas they depend on each other. With intermodal traffic, for example, it is not a matter of one mode's loss being another's gain. To the contrary they rise and fall on the same tide.

Another significant area for co-operation and collaboration is safety. Chain of Responsibility will obviously affect the relations between the modes in the intermodal arena. But there is no more obvious place for the greatest possible co-operation over safety than level crossings.

The Australasian Centre for Rail Innovation has been delivering continuous research into safety at level crossings since its inception.

ARCI hopes that the results of this research, especially recent results, will help improve safety at level crossings, thereby saving lives, preventing injury and avoiding huge economic costs.

The research is important. A country with Australia's large distances and comparatively low population simply cannot afford to replace all level crossings with grade separated crossings. But we can use the research to better understand driver interactions at crossings, which can be used to help prevent crashes.

Simplistic solutions and one-size-fits-all solutions are usually no solutions at all. It is imperative that changes made at level crossings are based on sound research if they are going to be effective.

ACRI has published the results of 8 research projects into level crossings, some of which will provide the basis for further research. Others will result in reviews of existing standards and practices or provide guidance to those operating and maintaining level crossings.

Some of the projects are of particular interest to the heavy-vehicle industry. Research into level-crossing sighting distances, for example, revealed that drivers' ability to identify an approaching train varies considerably between individuals. In addition, despite confidence in their ability to judge the speed of an approaching train, drivers consistently underestimate train speeds when at a level crossing. This research is being fed into the review of AS1742.7, which sets minimum sighting distances at uncontrolled crossings.

The review of the standard and other level-crossing research will be of major interest as the Inland Rail Project goes ahead. The Australian Rail Track

Corporation says the line will have some passive protection (stop-signs only) crossings on unsealed roads “where there are adequate lines of sight”.

Inland rail proposes 500km of new corridor. In creating that corridor the question of whether the lines of sight will be “adequate” will be of major interest to heavy-vehicle operators and assume greater urgency as the final alignment is decided.

ARTC quite rightly points out that a balance has to be struck between the cost of grade-separated crossings and the need to preserve connectivity for local motorists and to ensure that “rural property owners can continue to conduct normal operations on their land, such as moving livestock or machinery from one side of their property to another”.

So it is important that proper research informs standard development.

Even when installing active protection, good research can save money and trauma. An ACRI research project set out detailed ways to assess the risk of installing new technologies for lower cost level crossing protection, using the example of solar-powered solutions and testing the benefits of a variety of different models.

Another project – following recommendations of the Kerang crash coroner’s inquiry – investigated potential level-crossing counter-measures to help drivers overcome “habitual behaviour” leading to missing level-crossing active warning controls on routes where there is sporadic train traffic.

Other ACRI research looked at how enforcement systems and waiting times at crossings affect driver behaviour.

Finally, the poor visibility of table-top train carriages at night led to a project to identify passive engineering solutions to highlight the train carriages at level crossings.

ACRI is committed to contributing to a safer and more efficient rail and transport industry generally through sound technical and economic research.

All of these projects will contribute to a safer environment for the men and women who drive our trucks and trains in undertaking the important freight task of the nation.