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TRAIN ILLUMINATION

Update by the House of Representatives
Standing Committee on Infrastructure, Transport,
Regional Development and Local Government of the
2004 Inquiry into some measures proposed to
improve train visibility and reduce level crossing
accidents.



SUBMISSION OF THE RAIL, TRAM AND BUS UNION

January 2009

BACKGROUND

The RTBU welcomes the opportunity to make a submission on the important issue of rail level crossing safety. The RTBU, from our previous experiences in making submissions to this House of Representatives Standing Committee acknowledges the valuable work of the committee in analysing, investigating and reporting on matters relevant to the rail industry.

The RTBU is an all grades industrial union comprising 33,000 members in the rail, tram and bus industries. The RTBU was formed in 1993 following the amalgamation of three previous rail unions together with the tram and bus employees union. The RTBU is organized on national, state and divisional lines and represents 80% of Australia's train drivers and rail safety workers. The Australian rail, tram and bus industries are well unionised with over 85% of employees being a member of a trade union.

The RTBU argues that the Inquiry is timely because of the number of developments impacting on railway safety, which have occurred since the Committees' June 2004 Report. These include

- The publication of the NSW StaySafe Reports in December 2004¹ and December 2006²
- A series of rail safety investigation reports by the ATSB and state investigators in Queensland, Victoria and NSW. In particular the Kerang accident of June 2007 in which 11 rail passengers were killed.
- The development of interface co-ordination plans as part of the national model rail legislation in July 2007 and its subsequent adoption in some jurisdictions.
- The adoption and development of the National Transport Plan by the ATC in February 2008
- The adoption by ATC at its May 2008 meeting of a national rail level crossing strategy.
- The funding by the Federal Government of the Cooperative Research Centre of Rail Innovation in August 2008
- The announcement by ATC of the National Road Safety Action Plan 2009/2010 in November 2008
- The December 2008 Report by the Victorian Parliamentary Road Safety Committee³

¹ Parliament of NSW: StaySafe committee: Report on the safety of railway level crossings. Report No. 4/53 October 2004

²Parliament of NSW StaySafe Committee: Progress in improving the safety of railway level crossings. Report No. 24/53 December 2006

³ Parliament of Victoria: Road Safety Committee: Inquiry into improving Safety at level Crossings, December 2008

- The announcement in December 2008 by the Federal Government of a \$1.2 billion rail investment package for the ARTC.

A range of other developments since the committees 2004 report also, in the unions' submissions, impact on considerations of issues affecting road/rail level crossings. These include on going structural change in the Australian rail industry, the adoption though RISSB of a series of projects to change rolling stock standards, the improvement in railways safety statistics by the OS NI, a number of reports into rail level crossing accidents produced by the ATSB and state rail safety investigators, the national adoption of ALCAM and overseas developments, particularly in Canada.⁴

The RTBU argues that there is a vacuum in national policy for road/rail level crossings and that the Committee can play a valuable role in promoting a more strategic, comprehensive, long term and Commonwealth funded policy.

The 2004 Train Illumination Report

The key component of improvements in rail safety public policy in both Australia and internationally have followed severe rail incidents which have involved multiple fatalities. In recent years these include the Granville, Glenbrook and Waterfall rail disasters in NSW.

In relation to rail level crossings multiplied deaths have prompted the following parliamentary inquiries, Commonwealth: Yarramony in WA 2000; NSW: Young 2001 and Victoria: Kerang 2007. A range of other rail level crossing accidents have prompted a reappraisal of public policy and funding and these include the Salisbury crash of 2004 in South Australia and the recent Cardwell and Innisfail road/rail accidents in Queensland.

Historically the involvement of the Commonwealth Government in the railway industry has been limited. Labor Government in the early 1970's created the foundation for the development in 1978 of the Australian National Railways Commission and a later Labor Government the National Rail Corporation in 1993.

The Howard Government dramatically reduced the role of the Federal Government in rail operations by privatising ANRC and NRC. It refused to support Commonwealth investment in the nations urban public transport during its 12 years in office. A 1999 report favouring a national rail safety regulator and investigator was not acted upon. The lessening of Commonwealth activity also had complimentary impacts in terms of the capacity and capability of the Commonwealth to produce policy in relation to the railway industry.

⁴ Parliament of Canada: Stronger Ties: A Shared Commitment To Railway Safety, November 2007.

The crucial problem faced by the 2004 Inquiry the RTBU argues is that traditionally road/rail level crossing issues have been addressed on a state basis. This was explicitly recognised by the Committee by its reference to the then concurrent NSW StaySafe Inquiry, which was conducting a broad ranging inquiry into road/rail level crossing issues and the very limited Terms of Reference for the Commonwealth Inquiry.

The Committee recognized this by stating in its Report “ *the Committee focuses on only one aspect of the problem with level crossings, however, it sees the report as a further contribution to the safe and efficient operation of the Australian transport industry.*”⁵

The RTBU argues, that in terms of the magnitude of issues that have to be addressed concerning rail level crossing safety train illumination is a low order of magnitude issue. The Australian Government to the 2004 report reflects this in the long list of recommendations made by both the NSW and Victorian Parliamentary Inquiries and the response.

Table 1.2 of the 2004 report outlined major factors in fatal vehicle crashes at railway level crossings and train visibility was not listed as a major factor. The RTBU argues that in the intervening years this has not changed. Our examination of the railway safety investigation reports since 2005 has indicated that train visibility was not a major contributing cause and that in none of the reports was a recommendation made concerning train visibility.

The 2004 Report outlined under the heading “ *Policy Development: who sets the rules* “ two broad areas: Commonwealth, state and territory governments and non-government organizations. As to the former the role of the ATSB in both investigation and rail safety data collection was noted. Reference was made to the need for national coordination and cooperation, the development by the ATC of the 2003 National Railway Level Crossing Safety Strategy, which aims “ *to reduce the number, cost and trauma of crashes between trains and any road users by the most cost effective means.*” Reference was made to the role of SCOT, a sub branch, the Australian Railway Crossing Safety Implementation Group whose main purpose “ *is to investigate possible ways of improving safety at level crossings.*”

The RTBU argues that the 2003 National Strategy was not implemented and suffered from a number of inbuilt fatal flaws including lack of funding. The RTBU recommends this Committee examine the progress made in the eleven subject areas that formed the basis of the implementation of the 2003 National Railway Level Crossing Safety Strategy.

The Rail Safety Regulators Panel, effective from 1 Jan 2009, has improved rail safety data through the adoption of OS -N1. However as indicated in the NTC rail

⁵ Train Illumination Report, op cit Section 1.5

safety data strategy on going issues remains to be resolved and a strategy for improvement has been adopted.

The ATC, as a consequence of its May 2008 meeting, adopted a new national rail level crossing strategy which the RTBU believes is narrowly based and will not comprehensively address rail level crossing safety issues. In addition there has been a reorganization of administrative arrangements following the adoption of the National Transport Plan with the inclusion of rail level crossings as a sub group of the Safety and security group of the ATC .The RTBU argues that although the sub group has not as yet met, given the scope of issues covered by safety and security working group, and the prominence given to these issues, both within Australia and internationally since the 2004 report, it is difficult to envisage that the new arrangements will sufficiently focus on rail level crossing safety issues. The RTBU is concerned that the lack of success of the 2003 National Strategy will be replicated by the new arrangements.

A further major change to institutional arrangements since the 2004 Inquiry has been the establishment of the new railway technical standards company, RISSB. It follows a period of limited success in developing national railway technical standards. The RISSB development process was the first to have its standards recognized as equivalent to those endorsed by Standards Australia. Progress has been made since 2005 in developing train visibility standards by the adoption of AS 7351. The standard does not include reference to strobe lights but includes reference to the maintenance of reflective strips though our members in the field report these requirements are not always observed.

Under the heading :**Improving Train Visibility** the Committee examined a number of specific issues including

Additional Lighting and Reflective Strips

The Committee observed, “ *It appears that additional lighting will not lead to a significant reduction in accidents at controlled crossings ... Is not convinced that generally placing additional lights on locomotives or on the side of trains will have a substantial effect in reducing the number of fatalities. However the Committee considers there is a case for rotating beacons to be installed on all locomotives and have reflective strips or reflective paint to be applied to the sides of all railway rolling stock*”.⁶ These two issues were incorporated into the Committees Recommendation 1.

The response of the Australian Government⁷ was to support this recommendation in part. It noted that the ARA Draft Standard included a proposal to address improved external lighting, reflective materials and livery and paint requirements. It said “ *the Committee did not put forward a strong case for the fitting of rotating beacons*”.

⁶ Train Illumination, op cit

⁷ Australian Government: Train Illumination: Response of the Australian Government, December 2005.

The response also noted that the NSW StaySafe Committee recommended that the Ministry of Transport Review a range of measures relating to train conspicuity including locomotive strobe lights. The RTBU is unaware of any action taken by the NSW Ministry concerning this issue.

The Victorian Inquiry made a number of comments for improvements to train conspicuity on the basis of very little evidence. It said, “ *The Committee considered train conspicuity issues raised in submissions, worth further attention. These include improved uses of lighting on trains, use of highly visible paint and reflective strips and the sounding of train horns.*”⁸

Concerning rotating beacons, oscillating or strobe lights on trains the Victorian Inquiry said that post the 2005 Federal Government response “ *further studies have also shown that strobe lights can improve detection when added to locomotives previously equipped with headlights alone*”...and that the Committee considers that the Western Australian (strobe) trial was not sufficiently robust and concurs with Dr. Wigglesworth’s suggestion of a more scientific study”.⁹

Consequently Recommendation 20 was made “ *that the Department of Transport investigates improved lighting systems for trains, and undertakes, within 12 months, a trial of low profile strobe lights on trains. The Department of Transport should publish the results of the investigation and trial*”.

The RTBU notes given the national character of companies who may be involved in a trial e.g. Pacific National and potentially the need to alter Australian Standards, that the decisions for further action should be made at national level.

The Victorian Inquiry also made a recommendation that trains be regularly inspected to ensure reflectors fitted on all trains are kept in a clean and well maintained condition and penalties apply to rail operators who disregard the standard.

The Inquiry further made two recommendations concerning colours and markings on trains, one going to the Department of Transport ensuring that livery of trains is in mandatory, high visibility contrasting colours and that the livery is regularly inspected by the Department with penalties applying if these companies fail to comply or fail to maintain it. The RTBU makes the same comments as applied to recommendation 20 above.

The 2004 Inquiry devoted Chapter 3 of its Report to “ ***other Measures to improve awareness of trains***’.

The Committee noted that whilst further work needs to be done in the analysis of fatalities at level crossings and in particular “ *there is a need for closer examination*

⁸ Parliament of Victoria op. cit

⁹ Australian Government Response op cit

of pedestrian fatalities at level crossings." The RTBU agrees that greater attention be given to pedestrian fatalities and that this committee make a recommendation along these lines.

The August 2008 Study¹⁰ noted

- Serious injury involving a train " *during the five year period 2001 -02 to 2005-06 there were 950 persons seriously injured and 7559 patient days due to a transport accident involving a train, with an average of 190 persons seriously injured and 1592 patient days per year.... 16% of hospitalisations were pedestrians injured in a collision with a train*".
- Serious injury due to level crossing accidents. During the five year period 2001-02 to 2005-06 " *there were 249 persons seriously injured and 2876 patient days due to a level crossing accident, with an average of 50 persons seriously injured and 575 patient days per year... 43% of persons seriously injured were car occupants injured in a collision with a train and 32% were pedestrians injured in a collision with a train*"
- Table 3.3 reviews persons seriously injured due to level crossing accidents, Australia 2001-2002 to 2005-06, circumstances of injury and state or territory of hospitalisation. For pedestrians injured in a collision with a train over the period, total serious injuries were 249 of which 80 or a third were pedestrians injured in collision with a train, 49 of which, over 60%, were in Victoria.

The NSW StaySafe Committee made a number of recommendations concerning pedestrians. At 9.81 it noted, " *in many reviews of the safety of railway level crossings, issues associated with pedestrians, cyclist and people using wheelchairs when crossing railway lines are often overlooked.*"¹¹ StaySafe Recommendation 61: " *the Railway Infrastructure Corporation, the Roads and Traffic Authority, local councils and other transport NSW agencies, review the safety of pedestrian facilities associates with crossing railway tracks, including pedestrian only level crossings as well as level crossings used by motor vehicles.*"¹²

In addition it made Recommendation 62: *the Level Crossing Strategy Council consult with the Victorian Railway Pedestrian Crossing Upgrades Committee regarding the safety of pedestrians. Cyclists and people using wheelchairs, who use railway level crossings at roads or as stand-alone pedestrian crossing points.*"¹³

In evidence to the further hearing of the StaySafe Committee¹⁴ in 2006 the CEO of RailCorp indicated that a considerable amount of work had gone into modifying the pedestrian level crossing standard and a draft Australian Standard was being applied to the RailCorp network with that organization " *quite independently of the*

¹⁰ Australian institute of health and Welfare: Serious injury due to transport accidents involving a railway train, Australia, 2001-02 to 2005-06: Injury research and statistics series number 43, August 2008.

¹¹ Parliament of NSW op cit

¹² Ibid

¹³ Ibid

¹⁴ Parliament of NSW op cit

state level crossing program allocating \$2m pa for the foreseeable future to bring our pedestrian level crossings on the RailCorp network up to the new standard. That is about adequate widths and about positive locking of pedestrian gates. The disability issue is an important component of that standard.”¹⁵

The Victorian Parliamentary Inquiry said in respect of pedestrians that it was a concern noting that in the past 10 years from 1998 to 2007 the proportion of pedestrian fatalities increased to 51%. Evidence to that Inquiry suggested there was very little published research on train-pedestrian crashes. One report quoted noted that 66% of train crashes with pedestrians were likely to be caused by pedestrians disregarding or ignoring warning devices that indicated that a train was approaching. The Victorian Inquiry made no specific recommendations in relation to this issue.

The RTBU recommends that this Inquiry specifically call for research into pedestrian- train crashes and this be include as a major issue to be addressed by a revamped national level crossing strategy.

Chapter 3 of the 2004 Report in 3.3 refers to the program of the NSW Rail Infrastructure Corporation in upgrading level crossings in that state. At June 2004 RIC was the rail infrastructure owner and maintainer in that state. In September 2004 the NSW and Australian Governments agreed for the interstate mainlines and Hunter Valley coal network to taken over by the ARTC the federally owned rail infrastructure corporation. In addition ARTC became the maintainer of the 3000 km regional rail network on behalf of RIC and 1500 RIC track maintenance employees were made available from RIC to ARTC to maintain the interstate, Hunter Valley and regional rail line lines.

In addition to restructuring in regional areas RIC’s urban maintenance operations, following the McInerney Inquiries were merged into the operations of RailCorp as from 1 Jan 2004. Today RIC is essentially a strategic asset owner with a staff of 30 employees and ARTC has effective management and control of the non- metro network in NSW. The RTBU argues this has had a profound impact on a range of rail policy issues including rail level crossings and this has not been as yet been reflected in the decisions of policy makers.

The RTBU argues that for over 150 years rail policy making has been generally accepted as the responsibility of the states. Restructuring of the Australian rail industry over the last 15 years has changed that equation.

The RTBU argues these structural developments are now working themselves through policy making at various levels. One example is the recent RIS¹⁶ by the NTC, which analyses a number of options including a single national rail regulator and rail investigator. The RTBU argues that there is effectively a policy shortfall in

¹⁵ *ibid*

¹⁶ NTC: Regulatory Impact Statement November 2008, NTC web site

NSW in relation to level crossing future strategies and in this regard this Committee has a valuable role to play.

The NSW StaySafe Committee in its 2004 Report made 69 recommendations. The revisiting of the Inquiry in 2006 did not specifically examine the implementation or otherwise of each of the recommendations. It briefly examined a number of industry experts who were able to attest that a number of the recommendations had been or were being addressed. The RTBU observes that many of the NSW StaySafe recommendations were to be either, wholly or jointly with other parties, the responsibility of RIC.

The RTBU recommends that this Inquiry ascertain the status of the 69 recommendations made by StaySafe. This will assist in updating the Australia wide picture concerning railway level crossing developments and future directions that this Inquiry should be recommending.

The 2004 Inquiry considered “ **Approaches to level crossings**” and recommended the adoption of the Queensland Risk Based Scoring system.

The RTBU notes that in the Federal Government response to Recommendation 2 concerning the adoption of the national level crossing risk scoring system (ALCAM) was supported and in fact this has been adopted nationally. The recommendation also referred to RIC, in conjunction with rail agencies interstate; ensure “ *that the development of a risk assessment and prioritisation program for railway level crossings is organized to readily identify issues associated with high speed passenger services and high speed operations generally.*”¹⁷

The RTBU is unaware of what developments have taken place in relation to high-speed operations and recommends that this Inquiry investigate and report on developments in this area.

The RTBU notes that in the response from the Federal Government that the potential to include pedestrian issues in ALACAM was being investigated. The RTBU notes the ATSB has made observations about the ALCAM model. The RTBU Locomotive Division has concerns that ALCAM does not involve consultation with train drivers and their representatives and does not take into account rail operating issues such as gradients and curves of the rail infrastructure on approaches to rail level crossings.

The 2004 Inquiry heard evidence concerning Rumble Strips and made Recommendation 3 that “ *the Australian Government initiate through the Transport Ministers Council, a program to install, as a minimum, rumble strips at high accident risk level crossings*” and Recommendation 4 that “ *the Australian Government through the ATC support continued research into the efficacy of train activated*

¹⁷ Response of the Federal Government op cit

rumble strips with a view to the installation of these strips as the most dangerous level crossings.”

The response of the Federal Government did not support Recommendation 3 noting trials in WA and the StaySafe recommendations concerning RIC and RTA developing a program of gateway treatments. The RTBU recommends this Inquiry investigate and report upon the developments referred to in the Federal Government's response. In respect of Recommendation 4 the Federal Government did not support noting the ARA opposition based on costs and the lack of support from the ARCSIG who considered they were less effective than flashing lights. The response refers to the low cost activation system undergoing trials in South Australia and the NSW StaySafe recommendation that the RTA and RIC “*assess the feasibility of installing train activated rumble strips at passive railway level crossings*”.¹⁸ The RTBU is unaware of whether progress has been made on the implementation of this recommendation.

The Victorian Inquiry noted that after the Kerang accident a program for installing rumble strips on the approaches to more than 200 sites at a cost of \$11.7m. Ongoing trials of rumble strips are being undertaken. It recommended that once the evaluation of rumble strips is completed Vic Roads determine whether additional rumble strips should be installed. It also made a recommendation concerning further investigation of tactile stimuli.

The 2004 Inquiry under the heading “**Education**” referred to evidence about the role education can play in helping to reduce level crossing fatalities and the support by AusRoads for the adaptation of the Canadian based education program “*Operation Lifesaver*”. The final recommendation of the Inquiry was that “*DOTARS, with state transport departments, formally look at the Canadian based level crossing program ‘Operation Lifesaver’ for the possible adoption into Australian state road safety programs.*”

The Federal Government response gave in principle support for this recommendation. It noted that the responsibility for the management of the investigation rested with ARCSIG and the ARA. The response referred to a number of initiatives underway including the inclusion in the national level strategy of looking at the possible adoption of “*Operation Lifesaver*” in national roads safety action plans.

It noted the Federal Government had not funded DOTARS or the ATSB to engage in national level crossing coordination and education role and the support for Operation Lifesaver concepts by the ARA, and a workshop held by the ARA on developing a long-term plan to improve rail level crossing safety by changing road user behaviour. The response indicated that the ARA was to present a national plan for endorsement by SCOT with a launch proposed for July 2006. ATC did endorse a rail research

¹⁸ Ibid

program on road user behaviour, to be undertaken in a limited number of states, but the RTBU is unaware of the outcomes or whether the program is the subject of ongoing funding.

The Government response further noted the NSW StaySafe Committee recommended that a review of the Canadian Operation Lifesaver be undertaken for possible adoption to Australian conditions and culture in NSW. The RTBU is unaware of the outcomes of the national level crossing strategy action item 4 concerning reviewing Operation Lifesaver and understands the NSW StaySafe Recommendation has not been perused.

It would appear, that despite the in principle support for the concept driving Operation Lifesaver, it has not come to fruition and has been dissolved into generalised programs pursued by state road authorities. Without the Federal Government championing the Operation Lifesaver review and providing the funding for this project, it will continue to languish. The RTBU argues that driver behaviour issues, particularly heavy vehicle drivers, are a crucial issue if we are going to address the biggest rail safety risk issue the rail industry faces, a repeat of the Kerang rail disaster. Operation Lifesaver was not referred to in the Victorian Inquiry.

An issue, which was pursued in both the Victorian and NSW Inquiries, was the need for transparency and accountability and the need for greater public information. The RTBU is unaware of the progress or otherwise of the National Rail Level Crossing Strategy implementation or the deliberations of the ARCSIG working group. The RTBU recommends that this Inquiry suggest that the progress in implementing the national rail level crossing strategy should be reported upon on a yearly basis by the Federal department together with the Minutes of the Safety and Security sub group on rail level crossing safety and made available to the public.

Other matters impacting on road/rail level crossing safety

Heavy vehicles

In April 2008 the ATSB released a Railway Level Crossing Bulletin. It noted ¹⁹

- Between April 2006 and December 2007 the ATSB investigated 12 level crossing accidents of which nine involved heavy road vehicles, four of which have been collisions with long distance passenger trains. State authorities had investigated an additional three significant accidents between heavy vehicles and passenger trains.
- The accidents had cost the lives of 19 people, 13 on board trains and 6 occupants of road vehicles. Over 60 people were injured and the damage bill is well over \$100m. (To this list can be added the two recent level crossing

¹⁹ ATSB Bulletin op cit

accidents in Queensland at Cardwell in which a truck driver was killed and Innisfail in which both train drivers were killed.)

- Heavy road vehicles such as road trains and larger freight trains have become the norm .It used to be somewhat rare to hear of a train derailing and/ or significant casualties on board the train as a result of a collision with a road vehicle. This is not the case today.
- Most level crossing accidents are the result of a failure by motorists to abide by the simple rule of motorists giving way to trains at level crossings.
- The underlying factors behind motorists not giving way were analysed by the ATSB in its various investigations and these included: failing to drive according to the conditions, fatigue, familiarity, sighting, expectation, distraction, operational aspects of heavy road vehicles and driver impairment. The ATSB Bulletin examined the underlying casus of a number of accidents including 1. Lismore “ *the calculated speed of the B double truck at impact was 78kph...the truck was not being driven according to environmental conditions...fatigue could have affected his driving performance*” ²⁰2. Ban Ban Springs several underlying causes that contributed to the truck drivers failure...expectation, familiarity, medical issues and the operation of heavy vehicles 3. Albury: the deceased driver of the sedan was found to have a cannabis concentration to a level where his driving performance was certainly impaired.
- Conclusion “*While there is many underlying factors, which have led to recent collisions at level crossings. Almost every time the primary factor in the accident was the failure of the motorist to abide by the traffic control measures at the crossing. Given the operational limitations of trains, the onus to avoid a collision is primarily is on the motorist.*” ²¹

The Role of Heavy Vehicles and rail level crossings

The Kerang Inquiry, the Victorian 2008 Parliamentary Inquiry together with the research work of the ATSB has focused attention on this issue.

Neither the 2004 Federal Inquiry nor the NSW StaySafe Inquiry of 2004 and 2006 gave any attention to this issue. The recent fatalities at Innisfail in November 2008 and Cardwell on 1 Jan 2009 involved trucks and 3 fatalities, two-train crew and one heavy vehicle driver.

The Victorian Inquiry referred to the significant increase in heavy vehicles and distances travelled between 1991-2001. These trends are likely to accelerate given the projected doubling of the freight task by 2020 and the concentrated focus by policy makers on improving road freight productivity by the introduction and extension of performance based standards which will mean heavier trucks and the extension of B double and B triple networks.

²⁰ Ibid

²¹ ibid

The focus of transport policy makers on road based solutions has seen the proportion of interstate and intrastate freight traffic hauled by rail decrease significantly over the last twenty years on a number of corridors. The RTBU argues that the expansion of the road freight industry coupled with the increased length, speed and tonnage of trains means (see, for example the affect of the AusLink investment package on the Melbourne –Brisbane corridor) that there is increased risk for train passengers and crew and this will be magnified in the future. The Victorian Inquiry acknowledged this factor.

It also recognized that changes to Australian Standards are required as a consequence of the heavier and longer road freight vehicles. Reference was made to the appropriateness of B double routes including line markings and signage, design of B double cabins, the lack of joint consideration by road and rail authorities of the risks associated with B-double /higher mass vehicles using level crossings and that the guidance in the standards for calculating sight distance provisions at passive crossings may be inadequate for some heavy vehicle configurations. Recommendation 15 and 16 of the Inquiry addressed these issues.

What distinguished the Victorian Inquiry from all others was the explicit concentration on existing technology in use at public level crossings, new technology that is being trialed and planned and what types of developing technologies that should be monitored for future application.

In this regard the work of the Victorian Committee has taken a quantum leap from the directions of past inquiries and the workshops held to explore these issues potentially ground breaking. The application of new technology in both the road and rail industries has the ability to transform our approaches to safety at rail level crossings.

These developments, particularly the recommendations for further investigation are potentially of great significance and include

1. The feasibility of incorporating the monitoring and the enforcement of driver behaviour at level crossings into the Intelligent Access Program, and
2. A scheme for the phased introduction of the Intelligent Transport System into heavy vehicles and buses

The RTBU makes the following observations about the Victorian Inquiry.

1.Many of the Victorian recommendations will require national cooperation and coordination. Changes to Australian standards, heavy vehicle networks and the application of new technologies is national issues. For the rail industry surely we have learned from the three rail gauges. These matters go the heart of what the National Transport Plan is about. National solutions for national problems. The rail

industry has been slower than most to adapt to this new reality and this applies equally to road/rail interface issues. However in some jurisdictions there is an understandable reluctance to wait until the national will for reform and the accompanying architecture is in place for progress to occur. The Victorian Inquiry specifically referred to this.

2. The level of research taking place reveals a convergence between technologies and systems in transport generally and road /rail in particular. The level of research dollars going into road safety issues is large compared to rail and the latter needs to be given more resources. There is also a need for more common research work to be undertaken by the two industries and the role of government at all levels needs to be more coordinated.

The large land transport investments being undertaken by the Federal Government through AusLink with at least \$16b over 4 years and whilst some 80% to 90% has gone to roads, there exists the potential to incorporate new technologies as a part of the scope of these projects and for government to use its significant infrastructure funding to steer new directions.

For example, ARTC is the recent recipient of billion dollar federal funding to upgrade national rail infrastructure. How will these funds be allocated to the development of new technologies for improving rail level crossing safety or the upgrading or elimination of rail level crossings?

ARTC together with RailCorp are investing in train management system technologies, which are aimed at greater safety and productivity. They will be based on GPS and have the ability to affect train behaviour. The reference by the Victorian Inquiry to development of Intelligent Speed Adaptation technology and the adaptation of Intelligent Access Program solutions to level crossing are potentially significant developments. The RTBU suggests that there needs to be a greater interface between the two industries and the role of the federal government though tying development to AusLink funding needs to be seriously considered. The RTBU recommends that the committee give consideration to these issues.

The use of technology to enforce and reinforce driver behaviour differs considerably between the two industries. The overwhelming majority of railway locomotives have been fitted with data loggers, which allow the monitoring of both crew and equipment and has been a standard practice for many years. The fact that industry wide practices in this area have been very slow to be implemented in the road industry is of great concern to the RTBU and should be given priority.

The introduction of new fatigue laws in road transport, the ATSB rail safety investigation reports outlining unlicensed road drivers, drivers with medical problems or the inability to use road safety law to conduct a no blame investigation for road freight vehicle drivers involved in the Kerang investigation and the Safe Payment

Report of the NTC²² underscores the many safety problems that continue to be faced by the road industry and how far it has to catch up to the safety standards of the rail industry.

National Initiatives

1. The engine room of the new direction in National Transport Policy is the National Transport Plan endorsed at the meeting of Transport Ministers held in February 2008. The NTC web site indicates *"Ministers agreed to begin an ambitious program of national reform to address significant national challenges across all modes including climate change, safety, efficiency, congestion and the skills crisis."*²³

Ministers further agreed to pursue priority national reforms including a single national road safety council and a single rail safety regulator and investigation framework. Individual ministers from each jurisdiction have responsibility for taking responsibility for developing aspects of a national transport policy through ten working groups, which includes a Safety and Security Working Group to be developed by Queensland. Rail level crossing policy is to be developed by a sub group of this working group. What the work program of the group is, timelines and funding, frequency of meetings and consultative arrangements including with the Union, the RTBU is unaware. The sub group has made no contact with the RTBU. This was the modus operandi of previous committees of ATC, SCOT and their working groups. The RTBU recommends that this Committee seek to change this lack of consultation with major industry stakeholders.

2. The May 2008 ATC adopted the following in respect of *"Rail level crossing safety"*

- A major trial of low cost level crossing treatments
- National media and enforcement initiatives for level crossings; and
- Other best practice initiatives to improve level crossing safety.

The RTBU recommends that this Committee examine the implementation of the earlier national level crossing strategies. The RTBU argues success of earlier national strategies has been very modest for a range of reasons referred to in this submission.

At the same ATC detailed a specific 6-point program for road safety. The scope and ambitious nature of the program is in sharp contrast to the modest, yet unproven rail program, which even then focuses on only a few areas of rail level crossing safety.

A number of the road safety measures have the potential to pick up a range of issues raised by the various rail level crossing Parliamentary Inquiries over the last

²² NTC: Safe Payments: Addressing the underlying causes of unsafe practices in the road transport industry, October 2008

²³ NTC web site -home page-National Transport Plan

five years e.g. in vehicle and roads side technology, other rural crash problems, establishing better linkages between road construction and safety outcomes.

The RTBU asks if the Commonwealth is undertaking a RIS, which takes into account requiring safety technologies, as a condition for registration, why can't it be extended to include the technologies referred to in the two specific recommendations of the Victorian Inquiry referred to earlier in this submission for freight vehicles and buses?

3. The November 2008 ATC meeting endorsed a two-year road safety action plan for 2009 and 2010.²⁴ The summary of key actions of the plan indicates it *"introduces measures with potential to significantly reduce road trauma over the next few years and to lay the foundation for longer term gains"*.

The Action Plan is complemented by national strategies and activities in specific areas of road safety including

- National heavy vehicle safety strategy
- National railway level crossing strategy

The Action Plan under the section safer vehicles, highest impact items indicates: develop a program of in vehicle technologies to promote road safety, including

- Digital tachographs and GPS enabled solutions for heavy vehicles, to support the implementation of speed and fatigue management reforms
- Development of a policy framework to enable the adoption of intelligent speed adaptation technology.

A number of the action plan items have the potential to impact on road/rail level crossing safety e.g. pedestrians, sources of driver distraction and the encouragement of road users to change their behaviour over short time periods by effective deterrent measures such as integrated enforcement and publicity campaigns. There is significant potential overlap between the road action plan and rail level crossing issues and the RTBU urges this Committee to ensure there are integrated road/rail safety action plans or rail level crossing safety will continue to be the poor relation of land transport safety.

The action plan under safer roads and road sides indicates under highest impact actions: maintain or increase the current level of investment in Blackspot and other safety-targeted programs.

4. NTC Strategic Plan²⁵. As indicated in the introduction of the plan the NTC's work program is closely aligned to the national transport policy framework. Priorities for 2008/09 indicate: the priorities for new reform proposals are listed under a table with the heading "High priority": Enforcement Guidelines to support improved safety at level crossings. It is the RTBU's understanding that item has been deferred. The

²⁴ ATC Communiqué, November 2008 National Road Safety Action Plan 2009 and 2010

²⁵ NTC Strategic Plan: 2008-09 to 2010-11, NTC web site

NTC Strategic Plan has a number of projects relating to heavy vehicle safety, heavy vehicle braking, road safety charter and heavy vehicle safety benchmarking.

5. Rail Research program.²⁶ In August 2008 the Minister for Innovation, Industry, Science and Research launched the Cooperative Research Centre (CRC) for Rail innovation. The Centre will receive a program grant of \$21m over 7 years. The Ministers press release notes that the grant is the single biggest research program in the history of Australian railways.

The CRC web site²⁷ outlines their research program. It includes project R3.11-New affordable level crossing protection systems for crossings in regional areas and occupational crossings in areas with high-speed passenger trains.

The project objective is: *“aims to look at options using new technologies that are cheaper to install and maintain. Combinations of non-vital technology such as GPS will be considered by including a vital systems integrity backup which delivers reduced functionality if needed...the industry wide of this project are estimated 10% reduction in collisions.”*

6. Rail Safety Legislation: the NTC has produced model rail safety legislation for application across the jurisdictions. A key component of the legislation has been the inclusion of the provision for interface coordination plans (ICP's). They require rail and road infrastructure managers to identify and assess risks to safety that may arise from their operations and enter an interface agreement. The legislation has a three-year implementation period. The need for interface agreements is that level crossings more than any other road /rail interface represent the intersection of the two industries. From a rail perspective two major issues are seen to be addressed by this aspect of the legislation.

Firstly, the safety perspectives of road authorities towards rail level crossings issues has not been their first priority given the amount of deaths and injuries and consequent road safety issues including which they have to address. The legislation now mandates the parties reaching agreement on how to manage safety risks to safety that may arise from the existence or use of a road /rail level crossing.

Secondly, the number of crossings and the organizations involved highlights the need for cooperation. Table 1.1²⁸ of the Victorian Inquiry outlines the organizations and number of level crossings. On the road side are local government councils and VicRoads and on the rail side V/Line, ARTC, Connex and several other organizations. As noted responsibility can be shared by more than one organization in each mode. Local government and V/Line are responsible for some 60% of road /rail level crossings.

²⁶ Media Release: minister of Innovation, Industry, Science and Research, 27 august 2008

²⁷ www.railcrc.net.au/research

²⁸ ibid

A potential concern for the RTBU is the ability of local councils to prioritise the completion of ICP's and, perhaps more importantly, to fund the required upgrades. The Victorian Inquiry had an overview provided to it of the results of an ALCAM assessment of level crossings. The survey identified 21,937 issues or potential hazards, 606 of which had been resolved. The majority of the 13,384 safety issues, which required resolution, were the responsibility of local government.

The Inquiry recommended that the Government would need to significantly increase funding of the level crossing upgrade program. Recommendation 5 concerned funding over a 3-year period with the program being regularly monitored and the results published annually.

The RTBU recommends that this Inquiry arrange for the Victorian survey to be undertaken across Australia, with the program regularly monitored, results published annually and funding to be made available through a rail level crossing blackspots program.

Train Crew

This committee should take the views and impacts on train crew of issues associated with rail level crossings into account. Five locomotive train drivers have been killed as a consequence of level crossing collisions over the period 2002-2008. Train crew can involve the driver and drivers assistant in the locomotive cab (tutor drivers and inspectors can also intermittently be at work in the cab), on certain corridors e.g. Adelaide- Darwin, train crew can be travelling in rest vans between shifts and on passenger trains on board hospitality staff provide services.

As previously noted in this submission the Victorian Inquiry referred to the increasing risk to train passengers and crew and how crew fatalities arising from heavy vehicle crashes is of growing concern.

The RTBU through the peak union body in NSW made an extensive submission to the NSW StaySafe Inquiry. Chapter 6 of their Report was titled *Matters relating to Train Crew*.²⁹ The Report noted that coronial investigations examined did not make findings of mistaken observations of signage and signals by train crew or impairment of train crew as elements in the occurrence of the crashes or incidents. The Victorian Inquiry made a similar observation.

As set out at 6.5 of the StaySafe Report train drivers identified two major issues

- The ability of train drivers to detail the regularity of which “near misses” occur each week on NSW crossings; and
- The level of train driver frustration in relation to having safety concerns addressed.

²⁹ Parliament of NSW op cit

A survey of train drivers conducted by the RTBU formed part of the submissions and StaySafe noted *“the major issue was the constant disregard by motorists and truck drivers of the laws and safety warnings governing level crossings...and that train drivers and their union were critical of these mechanisms for reporting incidents.”*³⁰

StaySafe also examined the impact of incidents and crashes on train crew and believed there were benefits from a co-ordinated approach to dealing with these issues rather than to leave each organization or agency to support its own staff. StaySafe made two recommendations relating to train crew.

1.Recommendation 46 concerned the implementation of a confidential reporting system. This was implemented as part of the package of reforms pursued by the NSW Government following the McInerney recommendations.

2.Recommendation 47 concerned the review the support provided for train crews and other personnel involved in attending level crossing crashes to identify best practice principles and to identify and implement improved programs. The proposed review has not taken place.

Near misses continue to be a feature of the working life of train crews with constant disregard by motorists and truck drivers. The RTBU argues that driver/education modification programs are essential together with community level campaigns such as those based on the Canadian and US *“Operation Lifesaver”*.

Overseas developments-Canada

In 2007 the Canadian Parliament established a committee to review the Canadian Rail Safety Act. The Canadian experience has particular relevance for Australia because of the federal structure of government, the principles and framework for rail safety management are similar and many of the operating characteristics of Australia and Australian rail operations are broadly similar: vast distances, long and heavy trains etc. Chapter 7.2 Crossing Safety and 7.3 Community Outreach by Railways cover many of the issues concerning rail level crossing safety.

The report noted the direct involvement by the Federal Governments of Canada and the US in rail safety crossing issues. The Federal Railroad Administration in the US dedicates 26 employees to grade crossing and trespass issues and administers a \$220m per year program to eliminate hazards at public and private level crossings. Funding is also given to individual states.

The report refers to the Canadian level crossing program *“Direction 2006”* that originated from a 1994 Parliamentary Review. It was a *“ten year national initiative intended to halve the grade crossings and railway trespassing accident rate from 1996 to 2006.Partners included Transport Canada, provincial and municipal*

³⁰ *ibid*

*governments, law enforcement agencies, safety organizations and railway companies and their unions.*³¹

The program focused on research education, enforcement, legislation, outreach, performance measurement, legislation, resources and communications. Direction 2006 developed the Community Trespassing Prevention Guide and was instrumental in establishing the TDC Highway –Railway Grade Crossing Research Program (is investigating innovative technologies to increase the effectiveness and lower the cost of warning systems. It is looked at the human factors that contribute to grade crossing collisions) as well as initiatives to include rail safety awareness in provincial driver education programs.

The report said “*Although the program did not meet its target of 50% reduction in accidents, it did reduce them by 26% and is considered to have been successful in raising rail safety awareness.*”³²

The Committee noted the close relationship between road awareness programs and educative campaigns promoting rail safety and called for the development of a crossing closure program with crossing reduction targets as had been done in the US.

The Committee made a number of recommendations concerning rail level crossings and these included:

- The development of a five year action plan with increased funding for grade crossing improvements and the plan to identify where crossings can be closed, limiting the number of new crossings and improving safety at existing crossings
- Railway companies expanding their outreach programs to encourage better communication with the entire community
- Public education programs such as Operation Lifesaver and Direction 2006 to reduce the trespassing and accidents at crossings have been successful and should be reviewed and, where necessary, enhanced.

³¹ Parliament of Canada op cit

³² ibid