

**INQUIRY INTO UPDATING PROGRESS ON RAILWAY
LEVEL CROSSING SAFETY**

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Mr Geoff Corrigan MP
STAYSAFE Committee Chair
STAYSAFE Committee
Parliament House
Macquarie Street
SYDNEY NSW 2000

Dear Mr Corrigan,

I am replying to your letter of 2 December 2008, to provide the information you have requested from the Level Crossing Strategy Council (LCSC) on the STAYSAFE report of October 2004 into the safety of railway level crossings. The Government response to that report was submitted to the STAYSAFE Committee in February 2006.

Please find enclosed a submission which outlines progress with implementation of the Government response to the recommendations in the STAYSAFE report since the public hearing in 2006. The submission also provides additional information on the Roads and Traffic Authority Level Crossing Improvement Program and other level crossing safety initiatives of LCSC member agencies.

I also enclose LCSC yearly reports for the years 2006/07 and 2007/08.

Please accept my apologies for the late submission of this information.

Your sincerely

A handwritten signature in blue ink that reads 'J. Glasson'.

Jim Glasson
Director General

06 FEB 2009

LEVEL CROSSING STRATEGY COUNCIL

Submission To StaySafe Committee



FEBRUARY 2009

1	INTRODUCTION -----	3
2	LEVEL CROSSING ADMINISTRATION AND RECENT LEGISLATIVE DEVELOPMENTS	4
3	SUMMARY OF STATUS OF GOVERNMENT RESPONSE TO STAYSAFE RECOMMENDATIONS -----	5
3.1	Matters relating to the administration of railway level crossings -----	5
3.2	Matters relating to the road environment at railway level crossings -----	6
3.3	Matters relating to train crews -----	7
3.4	Matters relating to locomotives and rolling stock -----	7
3.5	Matters relating to motor vehicles at railway level crossings -----	7
3.6	Matters relating to drivers and other road users at railway level crossings -----	8
4	THE LEVEL CROSSING IMPROVEMENT PROGRAM -----	9
5	OTHER STRATEGIES AND INITIATIVES -----	11
5.1	Level Crossing Strategic Plan -----	11
5.2	Australian Level Crossing Assessment Model (ALCAM) -----	11
5.3	Corridor Strategy -----	11
5.4	RailCorp Pedestrian Awareness Campaign -----	11
5.5	National Developments -----	11
5.6	National Railway Level Crossing Behavioural Strategy -----	12
6	ACCIDENT STATISTICS -----	13
	APPENDIX 1 - NSW RAIL SAFETY ACT 2008 – INTERFACE AGREEMENTS -----	14
	APPENDIX 2 - STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) -----	18
	APPENDIX 3 – STATUS OF STAYSAFE RECOMMENDATIONS -----	19

1 INTRODUCTION

In October 2004 the StaySafe Committee released its "Report On The Safety Of Railway Level Crossings – Where Roads and Railway Lines Meet At Substantially The Same Level". The Report was prepared as a result of a StaySafe Inquiry into the safety of railway level crossings in New South Wales.

The Government response to the StaySafe report was submitted to the StaySafe Committee in February 2006. In all, the Government supported or supported with change 58 of the 69 recommendations made by StaySafe, while noting that in most cases the response category "supported with change" related to the reassignment of recommended lead agency responsibility to reflect current industry structure or that implementation was to occur through means other than that recommended by the Committee.

The Level Crossing Strategy Council (LCSC) is the interagency group whose purpose is to promote the coordination of the efforts of agencies with responsibilities for level crossing safety. The LCSC has been monitoring progress with implementation of the Government's response.

The StaySafe Committee has written to the LCSC to advise that the StaySafe Committee will be holding a hearing in March 2009 to further review the responses to its findings and recommendations. The Committee has requested the LCSC to provide advice on the status of its consideration and actions with regard to the StaySafe recommendations. The LCSC previously provided advice to StaySafe on the status of the recommendations in November 2006

This submission summarises the status of the Government's response to the StaySafe recommendations, provides advice on the RTA Level Crossing Improvement Program and other safety initiatives. The submission also advises on developments since 2006 of relevance to level crossing safety, the most significant of which has been legislation which introduces obligations on rail infrastructure managers and road managers to enter into interface agreements for the joint management of safety risks at level crossings and other road/rail interfaces.

Statistical information on level crossing collisions and fatalities is also provided.

2 LEVEL CROSSING ADMINISTRATION AND RECENT LEGISLATIVE DEVELOPMENTS

By way of background to the status of the Government's response to the StaySafe recommendations, the current administrative context for management and operation of level crossings is outlined below.

In 2006, the LCSC advised StaySafe of the structural and legislative changes in the NSW rail industry which were made just prior to and since the StaySafe Inquiry. In short these were:

- the establishment of the Independent Transport Safety and Reliability Regulator with responsibility for Rail Safety;
- the vesting of all rail infrastructure facilities in the metropolitan rail area (including existing goods lines) to RailCorp with effect from 1 January 2004;
- the 60 year lease for the Australian Rail Track Corporation Limited (ARTC) to maintain and operate the mainline interstate and Hunter Valley networks; and
- the reduction of the Rail Infrastructure Corporation's (RIC) responsibility for the management of the NSW rail network following the creation of RailCorp and the lease of track to ARTC.

In 2008 the NSW Government announced a further change with the decision that the Rail Infrastructure Corporation would become part of RailCorp. This is planned to take effect from 1 July 2009.

At the outset it is important to note that individual rail and road agencies are responsible for the management of safety of the various components of their railway level crossing infrastructure. Regulatory oversight is provided by the Independent Transport Safety and Reliability Regulator (ITSRR) for rail operations and infrastructure and by the Roads and Traffic Authority (RTA) and Police for roads.

The Level Crossing Strategy Council (LCSC) is an interagency forum which promotes coordination between agencies and railway level crossing safety. It is made up chief executive level representation of the RTA, RailCorp, RIC, the ARTC, ITSRR, and the Ministry of Transport, with officer level representation of the NSW Local Government Association and Shires Association (LGA&SA), the peak body representing local government and the NSW Police.

The LCSC is supported by a Level Crossing Working Group (LCWG) which is comprised of officer level representatives from the member agencies. The Level Crossing Unit (LCU) of RailCorp undertakes level crossing assessments, provides general assistance to the LCSC and LCWG including program and project management assistance for the Roads and Traffic Authority Level Crossing Improvement Program and provides input on technology and education programs.

It is through the management and administrative efforts of the LCWG, the LCU and the RTA that implementation of the RTA Level Crossing Improvement Program and other initiatives such as the Level Crossing Community Education Program occurs.

NSW Rail Safety Act 2008

Since the LCSC November 2006 advice to StaySafe, legislation has been introduced in NSW that strengthens requirements on road and rail managers to work together to improve safety at level crossings, where roads and railway lines meet at substantially the same level.

By way of background, in June 2006 the Australian Transport Council (ATC) approved the national model Rail Safety Bill for adoption by states and territories, at which time Transport Ministers also asked for further provisions to be developed to impose obligations on road and rail

managers in relation to road/rail interfaces. In response amendments to the national Bill were made which introduce obligations on rail infrastructure managers and road managers to seek to enter interface agreements for the joint management of safety risks at rail level crossings and other road/rail interfaces.

The NSW Rail Safety Act 2008, which adopts the national model Bill, was passed by the NSW Parliament in late 2008 and applied from 1 January 2009. The Act provides road and rail agencies three years to comply with the provisions covering road/rail interface agreements.

The ITSRR is responsible for enforcing the requirements of the NSW Rail Safety Act 2008, including the interface agreement requirements in NSW. ITSRR consulted with local councils, the RTA and the Department of Lands in relation to the national model bill provisions. Rail agencies were consulted on the national model bill provisions by the National Transport Commission (NTC). ITSRR has prepared guidance material on the interface agreement provisions in consultation with local councils, the RTA, the Department of Lands, RailCorp, RIC and ARTC and will be undertaking briefing sessions across NSW in early 2009.

Appendix 1 contains the NSW Rail Safety Act 2008 provisions covering interface agreements for rail / road level crossings.

State Environmental Planning Policy (Infrastructure) 2007

Recommendation 45 of StaySafe's 2004 report was that Councils, when considering land use planning and development issues, take account of issues associated with railway level crossings and that such considerations are documented by councils. Provisions in the Infrastructure SEPP, which was gazetted in late 2007, go much further than this. They require councils to notify rail authorities of development applications impacting on level crossings and to not grant approval for the development without the concurrence of the rail authority.

Appendix 2 contains the Infrastructure SEPP provisions on level crossings.

3 SUMMARY OF STATUS OF GOVERNMENT RESPONSE TO STAYSAFE RECOMMENDATIONS

This section highlights main achievements since 2006 and work still underway to progress implementation of the StaySafe recommendations which were supported by the Government. Further detail on the status of each recommendation is provided at Appendix 3.

As outlined above the provisions in the NSW Rail Safety Act 2008 strengthen and articulate the requirements for road and rail managers to work together to reduce risk at level crossings. For the future, these provisions will underpin the efforts of road and rail agencies to improve level crossing safety, including the ongoing delivery of safety improvements consistent with the Government's response to StaySafe's recommendations.

3.1 Matters relating to the administration of railway level crossings

Recommendations 1 – 27

The Level Crossing Strategy Council interagency forum will continue to further promote coordination of effort.

In 2007 the NSW Government announced the enhanced level of funding which had applied since 2003/04 would continue. Specifically, \$7 million will be available each year to 2010/11 for the RTA Program.

StaySafe recommended the development of a strategic plan for the management of NSW level crossings. The LCSC is currently developing a draft plan and expects that it will be finalised by mid-2009. As background to this work, assessment of the costs of upgrades to level crossings across NSW is being undertaken which will inform advice to Government on funding levels post 2010/11.

StaySafe recommended the development of an inventory of all level crossings in NSW and that the public have internet access to this inventory.

The RailCorp LCU has established an inventory of all public level crossings in NSW, using details provided by road and rail asset owners. This inventory is used for the purposes of assessing sites using the Australian Level Crossing Assessment Model which informs the development of the priority list for upgrade under the RTA Program. The top 300 sites ranked according to ALCAM are on the Level Crossings website. Rail infrastructure managers also maintain an inventory of level crossings on their network. The RTA and ITSRR are also developing level crossing databases.

The adequacy of current arrangements and the case for developing more comprehensive level crossing inventory arrangements consistent with the detailed proposal recommended by StaySafe will be monitored especially as the requirements for interface agreements between road and rail managers are implemented.

StaySafe recommended that development of a risk assessment and prioritisation program for railway level crossings be developed and maintained. The Australian Level Crossing Assessment Model (ALCAM) is used in NSW to assess, evaluate and prioritise sites as input to development of the RTA Program. NSW is represented on the National ALCAM Committee which has a program of work for the ongoing development of the model.

A corridor strategy for management of level crossings between Cootamundra and Albury was endorsed at the LCSC meeting in October 2005 and implementation commenced in 2006, with good progress in initial precincts allowing issues to be resolved and safety improvements implemented. During 2007/08 it proved more difficult to achieve consensus on the issue of providing acceptable level crossing safety for the broader community while meeting the access needs of the local community. Councils in the area are concerned that consultation, especially around proposals for level crossing closures, needs further development and the LCSC Chair, the ARTC Chief Executive and the RTA are to meet with Councils in the area in February 2009 to identify a way forward which addresses the needs of all stakeholders.

StaySafe recommended that agencies actively seek the closure of level crossings. Over the period 2006/07 to 2007/08, the Minister for Transport approved the closure of 57 level crossings, the majority of which were on private property.

3.2 Matters relating to the road environment at railway level crossings

Recommendations 28 – 45.

Consistent with StaySafe's recommendation 29, NSW agencies participated in the review of Australian Standard AS1724.7 on level crossings, the revised version of which was published in February 2007.

StaySafe recommended provision be made for the integration of rail signals with traffic signals on roads approaching level crossings. An interface agreement for the Installation and Maintenance of Joint Rail and Road Structures and Cabling at Level crossings is now in place between RTA and RailCorp.

In relation to StaySafe's recommendations for consideration of new technologies and approaches to addressing problems with level crossings, the ARTC is currently trialling a low-cost warning device for private level crossings which is based on the ARTC system for rail personnel working on or near rail tracks. There are also a number of national initiatives of relevance to ongoing development of approaches to improving the road environment at level crossings.

In each of 2006/07 and 2007/08 NSW allocated \$93,000 to the ATC endorsed National Railway Level Crossing Behavioural Strategy research project. The ITSRR and RTA were represented on the National Behavioural Coordination Group (BCG) which managed the project and reported to the SCOT Rail Group. The BCG completed a survey of community attitudes and behaviour at level crossings, a targeted education and enforcement project in Victoria and Western Australia and developed an inventory of existing Australian and international behavioural programs. Details of the three project elements are available on the Australasian Railways Association (ARA) website at www.ara.net.au.

The Rail Cooperative Research Centre (Rail CRC) recently completed research on the effectiveness of engineering, enforcement and education approaches to improving the safety of motorists at the road/rail interface. This report was received in mid-January 2009 and is now being reviewed.

VicRoads recently conducted a series of trials of rumble strips at passive level crossings in Victoria. The report of the trial is expected early in 2009. Once the final results of the trial are available, the RTA will be asked to advise the LCSC on the feasibility of their application in NSW.

3.3 Matters relating to train crews

Recommendations 46 – 47.

StaySafe recommended that transport and other relevant NSW agencies review the support that is provided for personnel involved in attended level crossing collisions to identify best practices and to develop and implement programs. RailCorp, Rail Infrastructure Corporation, NSW Police and ARTC have advised that they each have a program in place to provide support to all personnel attending a level crossing collision. Discussions with WorkCover on these arrangements will be organised early in 2009.

3.4 Matters relating to locomotives and rolling stock

Recommendations 48 – 51.

StaySafe recommended for review and improvements to train conspicuity. The ARA has developed a train conspicuity standard for rolling stock which specifies lighting, livery and reflector delineators. Although this is a voluntary standard, the ARA position is that existing locomotives were expected to comply with the National Locomotive Lighting and Visibility Standards by 2008.

The review of the Rail CRC recently completed research (see above 3.2) will consider the need for further work to address StaySafe's recommendation about the characteristics of train and vehicle collisions and the potential for use of energy absorbing structures.

3.5 Matters relating to motor vehicles at railway level crossings

Recommendations 52 – 53.

StaySafe recommended that consideration be given to driver distraction as a contributor to level crossing crashes and the development of an in-vehicle navigation system to warn motorists on the approach to a level crossing. A letter has been sent to the Transport Safety and Security

Working Group requesting it give consideration to research on these matters being undertaken as part of the new Rail Level Crossing Group, (which works to the Safety and Security Working Group).

(The Safety and Security and the Level Crossing Working Groups were established as part of the National Transport Policy which Australian Transport Ministers agreed to develop in early 2008. The Groups will take over safety matters, including level crossing issues, previously dealt with by SCOT (Standing Committee on Transport) Road and Rail Modal Groups and their various sub-groups.)

3.6 Matters relating to drivers and other road users at railway level crossings

Recommendations 54 – 67

StaySafe made a number of recommendations on motorist and pedestrian education campaigns, including for research into knowledge, behaviour and beliefs of motorists at level crossings. In addition to the annual level crossing safety and awareness campaigns conducted in NSW, NSW agencies participated in the National Railway Level Crossing Behavioural Strategy research project referred to above at 3.2, which included a survey of community attitudes and behaviour at level crossings. This work provides an important resource to help inform development of future NSW education and awareness campaigns.

StaySafe recommended trialling a level crossing signal based on the existing road traffic, green amber and red lights, and investigating if flashing amber lights may be used at actively protected level crossings as an indication of signal fault or malfunction. The latter of these matters has been referred to the Safety and Security Working Group requesting it give consideration to research on these matters being undertaken as part of the new Rail Level Crossing Group. The LCSC will monitor the trial to be undertaken by VIC Roads of a level crossing signal based on traffic lights.

In response to StaySafe's recommendation for review of the criminal and civil law relating to level crossings, the Attorney General's Department (AGD) undertook this review which concluded the current offences and maximum penalties are sufficient to address a broad range of unsafe behaviours by level crossing users and that specific new offence provisions to deter unsafe behaviour are not necessary.

The AGD suggested however that the deterrent effect of existing offences could be increased by publicizing the existence of the criminal liabilities and their potential application to level crossing users. The RTA has been asked to consider including these provisions as part of future level crossing awareness campaigns.

4 THE LEVEL CROSSING IMPROVEMENT PROGRAM

Level crossing safety improvements and upgrades are generally undertaken by the relevant infrastructure owner/manager. In addition to road and rail agencies own funding allocations to level crossing safety initiatives is the RTA Level Crossing Improvement Program which provides funding each year for safety upgrades at level crossings across NSW, behavioural programs and other supporting initiatives. A main focus of the LCSC is monitoring the implementation of the RTA Level Crossing Improvement Program.

Funding under the RTA Program is allocated generally according to a priority list of sites identified using ALCAM as having the greatest need for safety upgrades. ALCAM is used to evaluate the relative safety risk of level crossings.

Prior to 2003 an allocation of around \$2 million was made available annually under the program. In March 2003 the Government approved additional spending under the program, more than doubling the allocation of \$10 million to \$23 million over four years (2003/2004 to 2006/2007). This enabled acceleration of safety improvements at level crossings across NSW. In addition, \$2 million per year was separately allocated by RailCorp in 2005/2006 and 2006/2007 for level crossing projects.

In 2007 the Government announced it would continue with accelerated funding levels for the RTA Program in each of the four years 2007/08 to 2010/11, bringing funding for the program to \$28 million over the four years (comprising \$2 million recurrent allocation and \$5 million accelerated funding per annum).

The Level Crossing Improvement Program funding profile between 2000/2001 and 2007/08 is as follows:-

NSW LEVEL CROSSING IMPROVEMENT PROGRAM FUNDING

ALLOCATION	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Level Crossing Improvement Program								
- base funding (RTA)	2	2	2	2	2	2	2	2
- base funding (supplemented by RIC)		2	2	2				
- additional funding (RTA)				1	3	4	5	5
Total Level Crossing Improvement Program Funding	2	4	4	5	5	6	7	7

Expenditure under the Level Crossing Improvement Program for 2006/2007 and 2007/2008 was as follows:-

2006/2007 (\$000)

Major Safety Improvement Works	3,339
Minor Works/Preliminary Works Underway	478
Corridor Strategy	1,524

Other Minor Works	286
Closures	239
Education Campaign	306
ALCAM Data Collection	199
Total Expenditure	6,371

2007/2008 (\$000)

Major Safety Improvement Works	5,217
Minor Works/Preliminary Works Underway	255
Corridor Strategy	2,649
Other Minor Works	246
Closures	45
Education Campaign	121
ALCAM Data Collection	83
Total Expenditure	8,616

In 2006, StaySafe was advised that since 2001/2002 improvements under the Level Crossing Improvement Program have been carried out to over 200 level crossings. Additional to these, in 2006/07 five major level crossing upgrades were commissioned with development work commencing on a number of other major projects. Two minor works were commissioned. In 2007/08 seven major and 15 minor projects were commissioned. Preliminary planning and development was also commenced on projects for completion in future years. Over the two years, the Minister for Transport approved closure of 57 level crossings, the majority of which are private level crossings.

Level Crossing Improvement Program projects undertaken in 2006/2007 and 2007/2008 are listed in the LCSC yearly reports.

The RTA Program and each of the rail agencies contribute to an annual motorist education program on level crossing safety. The 2006/07 campaign operated over May 2007 and promoted awareness of the importance of obeying the road rules and stopping at level crossings. The campaign was conducted again in September 2007 and June/July 2008.

In addition to the Level Crossing Improvement Program, in 2006/2007 the Rail Infrastructure Corporation spent \$277,000 on improvements to roadways and level crossing control upgrades at eight crossings on its network. In that year, the ARTC undertook improvements to 67 level crossings on its network to a value of \$1.65 million. RailCorp spent \$2.4 million on its pedestrian level crossing improvement program, with two major and eight minor pedestrian upgrades commissioned in the year.

In 2007/08 RIC spent \$1.94m and the ARTC \$6.9m on maintenance, improvement and upgrade of level crossings. The ARTC works covered 124 level crossings and included grade separation of the level crossing at Swinging Ridge Road through the construction of an over bridge at the cost of \$4m, which was completed as part of the Ardglen Loop Extension Project in the Hunter Valley Corridor. RIC also commenced a major review of all public and private level crossings on the Country Regional Network (CRN) to establish a priority list of required works. RailCorp provided \$2.65m towards safety improvements at level crossings on its network.

5 OTHER STRATEGIES AND INITIATIVES

5.1 Level Crossing Strategic Plan

The LCSC has commenced development of a strategic plan to guide level crossing safety effort by member agencies across NSW. It is expected that the plan will be finalised in mid 2009.

5.2 Australian Level Crossing Assessment Model (ALCAM)

The StaySafe Committee recommended the development of a risk assessment and prioritisation program for the safe management and improvement of New South Wales' level crossings.

During 2006/07 NSW moved from using the Level Crossing Assessment Model (LCAM), to the enhanced Australian Level Crossing Assessment Model (ALCAM). This model gives each level crossing a comparative risk score that enables prioritisation of level crossings and assists in informing the list of sites to be upgraded under RTA Program.

5.3 Corridor Strategy

A corridor strategy for the management of level crossings between Cootamundra and Albury was endorsed at the LCSC meeting in October 2005 and implementation commenced in 2006.

Since then five level crossings have been closed and designs prepared for upgrades to three level crossings to be constructed in 2008/09. During 2007/08 it proved more difficult to achieve consensus on the issue of providing acceptable level crossing safety for the broader community while meeting the access needs of the local community. Councils in the area are concerned that consultation, especially around proposals for level crossing closures, needs further development and the LCSC Chair, the ARTC Chief Executive and the RTA are to meet with Councils in the area in February 2009 to identify a way forward which addresses the needs of all stakeholders.

RIC has also developed a corridor management approach for the rail line between Werris Creek and Moree. A component of this strategy was the successful negotiation for mining companies to provide \$2.4 million for level crossing upgrades on the Gap-Narrabri corridor and for \$0.6 million from the owners of the new Narrabri Mine to upgrade the level crossing at that location.

The further development and implementation of the corridor approach is being considered in development of the level crossing Strategic Plan. While the LCSC has a coordinating role, responsibility for development and implementation of a specific corridor strategy will rest with the relevant network manager.

5.4 RailCorp Pedestrian Awareness Campaign

In 2006/07 RailCorp conducted its Pedestrian Awareness Campaign in the South Coast region in 2007/08 in the Illawarra, and in the Hunter regions in November and February 2008. Post campaign surveys for 2006/07 found that 58% of people spontaneously recalled the campaign and 73% recognised the campaign.

5.5 National Developments

During the year national arrangements under the ATC and the Standing Committee on Transport (SCOT- transport and roads agency heads from all Australian states and territories) changed.

In February the ATC decided to develop a National Transport Policy which is being progressed through nine Working Groups, with transport safety matters being dealt with by the Safety and

Security Working Group. Under this Group a Rail Level Crossing Group has been established which will deal with level crossing matters which would have previously been dealt with by either the SCOT Rail or Roads Groups or the Australian Railway Crossing Strategy Implementation Group (ARCSIG), which are no longer operative. The ALCAM National Committee will report to the Level Crossing Working Group. NSW is represented on both these groups.

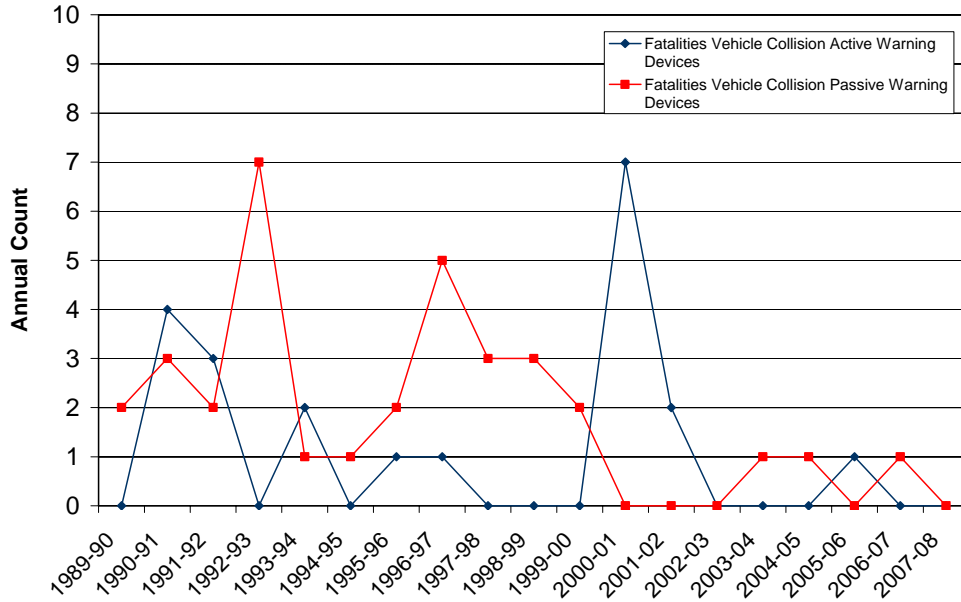
5.6 National Railway Level Crossing Behavioural Strategy

In each of 2006/07 and 2007/08 NSW allocated \$93,000 to the ATC endorsed National Railway Level Crossing Behavioural Strategy research project. The ITSRR and RTA were represented on the National Behavioural Coordination Group (BCG) which managed the project and reported to the SCOT Rail Group. This Group completed a survey of community attitudes and behaviour at level crossings, a targeted education and enforcement project in Victoria and Western Australia and developed an inventory of existing Australian and international behavioural programs. Details of the three project elements are available on the Australasian Railways Association (ARA) website at www.ara.net.au.

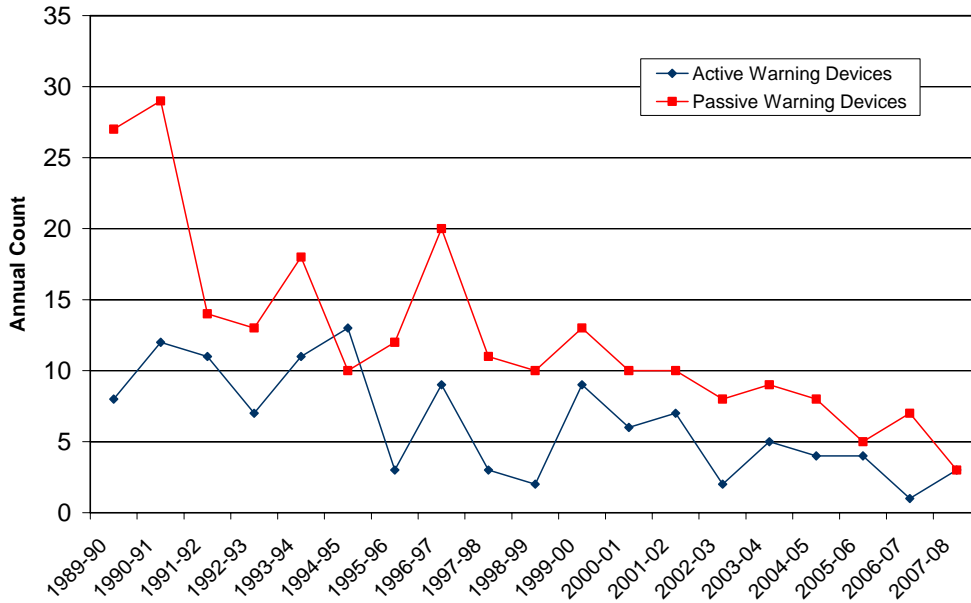
The future work proposed for the Behavioural Change Group is being considered for inclusion in the future program of the National Transport Policy, Level Crossing Working Group.

6 ACCIDENT STATISTICS

Fatalities - Trains Colliding with Road Motor Vehicles at Level Crossings



Trains Colliding with Road Motor Vehicles at Level Crossings



Appendix 1 NSW Rail Safety Act 2008 – Interface Agreements

Division 3 Interface co-ordination

25 Interpretation

(1) In this Division:

interface agreement means an agreement in writing about managing risks to safety identified and assessed under this Division that includes provisions for:

- (a) implementing and maintaining measures to manage those risks, and
- (b) the evaluation, testing and, if appropriate, revision of those measures, and
- (c) the respective roles and responsibilities of each party to the agreement in relation to those measures, and
- (d) procedures by which each party to the agreement will monitor compliance with the obligations under the agreement, and
- (e) a process for reviewing and revising the agreement.

public road does not include a Crown road.

rail or road crossing means:

- (a) a railway crossing, or
- (b) a bridge carrying a road over a railway, or
- (c) a bridge carrying a railway over a road.

railway crossing means:

- (a) a level crossing, or
- (b) any area where a footpath or shared path crosses a railway or tram tracks at substantially the same level.

roads authority, in relation to a road that is not a public road or a Crown road, means the owner of the road.

(2) Words and expression used in this Division have the same meanings as they have in the [Roads Act 1993](#) and the [Road Rules 2008](#).

26 Interface co-ordination—rail transport operators

(1) A rail transport operator:

- (a) must identify and assess, so far as is reasonably practicable, risks to safety that may arise from railway operations carried out by or on behalf of the operator and that may be caused wholly or partly by railway operations carried out by or on behalf of any other rail transport operator, and
- (b) must determine measures to manage, so far as is reasonably practicable, those risks, and
- (c) must, for the purpose of managing those risks, seek to enter into an interface agreement with the other rail transport operator or rail transport operators.

Maximum penalty:

- (a) in the case of a corporation—3,000 penalty units, or
- (b) in the case of an individual—300 penalty units.

(2) Except to the extent provided by the regulations, subsection (1) (c) does not apply if none of the rail transport operators is a rail infrastructure manager.

27 Interface co-ordination—rail infrastructure manager—public roads

A rail infrastructure manager:

- (a) must identify and assess, so far as is reasonably practicable, risks to safety that may arise from railway operations carried out on or in relation to the manager's rail infrastructure and that may so arise wholly or partly because of the existence or use of any rail or road crossing that is part of a public road or any road work of a public road, and
- (b) must determine measures to manage, so far as is reasonably practicable, those risks, and

- (c) must, for the purpose of managing those risks, seek to enter into an interface agreement with the roads authority for the road.

28 Interface co-ordination—rail infrastructure manager—roads other than public roads

- (1) A rail infrastructure manager:
 - (a) must identify and assess, so far as is reasonably practicable, risks to safety that may arise from railway operations carried out on or in relation to the manager's rail infrastructure and that may so arise wholly or partly because of the existence or use of any rail or road crossing that is part of a road (other than a public road) or any road work of any such road, and
 - (b) must consider whether it is necessary to manage those risks in conjunction with the roads authority for the road.
- (2) If the rail infrastructure manager is of the opinion that it is necessary that those risks be managed in conjunction with the roads authority, the manager:
 - (a) must give written notice of that opinion to the roads authority and must determine measures to manage, so far as is reasonably practicable, those risks, and
 - (b) must, for the purpose of managing those risks, seek to enter into an interface agreement with the roads authority in relation to the road or road work.
- (3) If the rail infrastructure manager is not of the opinion that it is necessary that those risks be managed in conjunction with the roads authority, the manager must keep a written record of that opinion.

29 Interface co-ordination—obligations of roads authorities

- (1) A roads authority for a public road:
 - (a) must identify and assess, so far as is reasonably practicable, risks to safety that may arise from the existence or use of any rail or road crossing that is part of the road or any road work of the road wholly or partly because of railway operations carried out on or in relation to any rail infrastructure, and
 - (b) must determine measures to manage, so far as is reasonably practicable, those risks, and
 - (c) must, for the purpose of managing those risks, seek to enter into an interface agreement with the rail infrastructure manager of the rail infrastructure.
- (2) A roads authority that is given a notice under section 28 (2):
 - (a) must identify and assess, so far as is reasonably practicable, risks to safety that may arise from the existence or use of any rail or road crossing that is part of the road or any road work of the road wholly or partly because of railway operations, and
 - (b) must determine measures to manage, so far as is reasonably practicable, those risks, and
 - (c) must, for the purpose of managing those risks, seek to enter into an interface agreement with the rail infrastructure manager of the rail infrastructure.
- (3) Nothing in this section authorises or requires a roads authority to act inconsistently with, or without regard to, the functions conferred on it by or under any other Act.
- (4) Nothing in this Division affects the operation of the [Civil Liability Act 2002](#) with respect to roads authorities.

30 Assessment of risks

A rail transport operator, rail infrastructure manager or roads authority that is required under this Division to identify and assess risks to safety that may arise from operations carried out by another person may do so:

- (a) by itself identifying and assessing those risks, or
- (b) by identifying and assessing those risks jointly with the other person, or
- (c) by adopting the identification and assessment of those risks carried out by the other person.

31 Scope of interface agreements

An interface agreement:

- (a) may be entered into by 2 or more rail transport operators or by one or more rail transport operators and one or more roads authorities, and
- (b) may include measures to manage any number of risks to safety that may arise because of, or partly because of, any railway operations, and
- (c) may include measures to manage any number of risks to safety that may arise from any railway operations because of, or partly because of, the existence or use of any road or road work, and
- (d) may make provision for or in relation to any matter by applying, adopting or incorporating any matter contained in any document, and
- (e) may consist of 2 or more documents.

32 Interface arrangements may be directed to be made

- (1) The ITSRR may appoint a person (the **appointed person**) to exercise functions under this section in relation to interface arrangements.
- (2) The ITSRR may only appoint a person under this section if the person is not associated with any rail transport operator, rail infrastructure manager or roads authority subject to the proposed interface arrangements.
- (3) An appointed person may exercise functions under this section if the person is satisfied that a rail transport operator, rail infrastructure manager or roads authority:
 - (a) is unreasonably refusing or failing to enter into an interface agreement with another person as required by this Division, or
 - (b) is unreasonably delaying the negotiation of such an agreement.
- (4) The appointed person may issue a written notice to the rail transport operator, rail infrastructure manager or roads authority and the other person that:
 - (a) warns of the appointed person's powers under this section, including the power to issue a direction under this section after a specified date, and
 - (b) includes a copy of this section, and
 - (c) may contain suggested terms for inclusion in an interface agreement.
- (5) An appointed person who issues a notice under this section may also, in writing, request the rail transport operator, rail infrastructure manager or roads authority concerned to provide such information as the appointed person reasonably requires for the purposes of making a direction under this section.
- (6) If an interface agreement is not entered into by or on the date specified in a notice under this section, the appointed person:
 - (a) may determine the arrangements that are to apply in relation to the management of the applicable risks to safety referred to in this Division, and
 - (b) may direct either or both persons to whom the notice is issued to give effect to those arrangements, and
 - (c) must specify the date by which the direction must be complied with.
- (7) A direction:
 - (a) must be in writing, and
 - (b) must set out any arrangements determined by the appointed person under subsection (6).
- (8) A person to whom a direction is given under this section must comply with the direction.

Maximum penalty:

- (a) in the case of a corporation—3,000 penalty units, or
- (b) in the case of an individual—300 penalty units.

33 Register of interface agreements

- (1) A rail transport operator must maintain a register of the following that are applicable to the operator's railway operations:
 - (a) interface agreements to which it is a party,
 - (b) arrangements determined by an appointed person under this Division.
- (2) A roads authority must maintain a register of the following that are applicable to the roads or road works for which it is a roads authority:
 - (a) interface agreements to which it is a party,
 - (b) arrangements determined by an appointed person under this Division.

Maximum penalty:

- (a) in the case of a corporation—3,000 penalty units, or
- (b) in the case of an individual—300 penalty units.

Appendix 2 State Environmental Planning Policy (Infrastructure)

84 Development involving access via level crossings

- (1) This clause applies to development that involves:
 - (a) a new level crossing, or
 - (b) the conversion into a public road of a private access road across a level crossing, or
 - (c) a likely significant increase in the total number of vehicles or the number of trucks using a level crossing that is in the vicinity of the development.
- (2) Before determining a development application for development to which this clause applies, the consent authority must:
 - (a) within 7 days after the application is made, give written notice of the application to the chief executive officer of the rail authority for the rail corridor, and
 - (b) take into consideration:
 - (i) any response to the notice that is received within 21 days after the notice is given, and
 - (ii) the implications of the development for traffic safety including the costs of ensuring an appropriate level of safety, having regard to existing traffic characteristics and any likely change in traffic at level crossings as a result of the development, and
 - (iii) the feasibility of access for the development that does not involve use of level crossings.
- (3) Subject to subclause (5), the consent authority must not grant consent to development to which this clause applies without the concurrence of the chief executive officer of the rail authority for the rail corridor,
- (4) In determining whether to provide concurrence, the chief executive officer must take into account:
 - (a) any rail safety or operational issues associated with the aspects of the development, and
 - (b) the implications of the development for traffic safety including the cost of ensuring an appropriate level of safety, having regard to existing traffic and any likely change in traffic at level crossings as a result of the development.
- (5) The consent authority may grant consent to development to which this clause applies without the concurrence of the chief executive officer of the rail authority for the rail corridor if:
 - (a) the consent authority has given the chief executive officer notice of the development application, and
 - (b) 21 days have passed since that notice was given and the chief executive officer has not granted or refused to grant concurrence.
- (6) The consent authority must provide the rail authority for the rail corridor with a copy of the determination of the application within 7 days after the determination is made.
- (7) In this clause:

level crossing means a level crossing over railway lines.

traffic includes rail, road and pedestrian traffic.

Appendix 3 – Status of StaySafe Recommendations

APPENDIX 3

Status of NSW Government Response to the StaySafe Committee's Final Report on the Safety of Level Crossings - February 2009

The StaySafe Committee released its report on Level Crossing Safety in October 2004. The NSW Government provided a response to the StaySafe Committee recommendations in February 2006 (second column). The third column identifies the current status of the NSW Government response to the recommendations.

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
Matters relating to the administration of railway level crossings			
RECOMMENDATION 1: Ministry of Transport to be the lead agency for matters associated with railway level crossings, that is, intersections where a road and railway meet at the same level.	LCSC	The Level Crossings Strategy Council (LCSC) should continue to be responsible for coordinating and directing the level crossings strategy in NSW. The Director-General, Ministry of Transport, chairs the LCSC. Each agency – RIC, RailCorp, RTA, ARTC should continue to be accountable for the safety of its own infrastructure, including level crossings. This approach will ensure that safety accountabilities are not distorted.	Individual infrastructure owners/managers are responsible for their own infrastructure, while the LCSC coordinates agency efforts to improve level crossing safety. Interface agreements between road and rail agencies as required under new rail safety legislation, will assist with a coordinated approach across agencies. (See response to recommendation 4)
RECOMMENDATION 2: The Director General, Ministry of Transport continue to chair the Level Crossing Strategy Council.	MoT	Supported	The Director General of the Ministry of Transport continues to chair the LCSC
RECOMMENDATION 3: Where a grade separation (bridge or underpass) is under consideration to replace a railway level crossing the Roads and Traffic Authority	RTA	Supported	The RTA is the lead agency for projects which involve road grade separation to replace railway level crossings. The RTA provides information to the LCSC regarding proposed grade separation projects.

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
should take the role of lead agency, although the Level Crossing Strategy Council should continue to make recommendations on which level crossings are of such a risk magnitude as to warrant this level of action.			
<p>RECOMMENDATION 4: Matters associated with railway level crossings in New South Wales be:</p> <p>(a) co-coordinated and directed through a high level council comprising the relevant Minister(s) and chief executives of the roads and transport portfolios, to be known as the Level Crossing Strategy Council;</p> <p>(b) managed through a railway level crossings manager employed by the Rail Infrastructure Corporation;</p> <p>(c) administered in terms of budget and works programs by the Rail Infrastructure Corporation; and</p> <p>with responsibilities regarding roads in the immediate vicinity of railway level crossings to be negotiated and co-coordinated by the railway level crossings manager in consultation with the Rail Infrastructure Corporation, the Roads and Traffic Authority and local councils</p>	LCSC	<p>Supported with change</p> <p>The LCSC is responsible for coordinating and directing the level crossings strategy in NSW. The Council includes the Chief Executive Officer or delegated representative of the member agencies.</p> <p>The Manager Level Crossing Unit (LCU), on behalf of the LCSC, oversees all level crossing projects and acts as the interface between relevant agencies.</p>	<p>Although the LCSC has a coordinating role, infrastructure managers are responsible for railway level crossing infrastructure and related matters. The basis for these responsibilities has been further strengthened with the recent passing of the <i>NSW Rail Safety Act 2008</i> which introduces obligations on rail infrastructure managers and road managers to seek to enter interface agreements for the joint management of safety risks at rail level crossings and other road/rail interfaces.</p> <p>The RTA administers the Level Crossing Improvement Program with assistance from the RailCorp LCU.</p>
RECOMMENDATION 5: The government agencies and other organisations to form the	LCSC	Supported with change.	

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
<p>Level Crossing Strategy Council should include:</p> <ul style="list-style-type: none"> • the Ministry of Transport • the Rail Infrastructure Corporation • the Roads and Traffic Authority • New South Wales Police • the Local Government and Shires Associations of New South Wales • the Independent Transport Safety and Reliability Regulator • the Australasian Railways Association • the Australian Rail Track Corporation 		<p>Membership of the LCSC currently includes the Chief Executive Officer or delegated representative from: the Ministry of Transport (MoT); Rail Infrastructure Corporation (RIC); Roads and Traffic Authority (RTA); RailCorp; the Independent Transport Safety and Reliability Regulator (ITSRR); and Australian Rail Track Corporation (ARTC). The LCSC also includes representatives from NSW Police and the Local Government Association of NSW and the Shires Association of NSW (LGA&SA); and the Australasian Railways Association (ARA).</p> <p>The LCSC will request that the ARA be represented on the Australian Rail Crossing Safety Implementation Group (ARCSIG), a national forum for the consideration of safety issues at level crossings.</p>	
<p>RECOMMENDATION 6: All incidents at railway level crossings—‘near miss’ or potential crashes, collisions, trespass and suicide—be recorded in a central register and maintained by the Rail Infrastructure Corporation and Level Crossing Manager.</p>	ITSRR	<p>Supported with change</p> <p>The <i>NSW Rail Safety Act 2002</i> requires all rail network owners in NSW, including RIC, RailCorp and the ARTC report ‘notifiable’ incidents within their respective organisations to ITSRR. ITSRR will compile this information as</p>	<p>The NSW Rail Safety Act 2008 was passed by the NSW Parliament in late 2008 and applies from 1 January 2009. It retains the requirements regarding reporting of notifiable incidents.</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
		part of their Notifiable Incident Database.	
RECOMMENDATION 7: That the railway level crossings incidents register be presented regularly to the Level Crossing Strategy Council for review and response to recorded incidents.	ITSRR	Supported ITSRR currently provides quarterly updates to the LCSC on level crossings incidents.	ITSRR provides bi-monthly reports to the LCSC on level crossing incidents.
RECOMMENDATION 8: That all investigations of railway level crossings crashes and other incidents be conducted by the Independent Transport Safety and Reliability Regulator, in conjunction with the Rail Infrastructure Corporation, Ministry of Transport, Roads and Traffic Authority, New South Wales Police, Local Government and Shire Associations, and the Australasian Railways Association, with the resulting reports to be furnished to the Level Crossing Strategy Council through the Level Crossing Manager.		Responsibility for the investigation of a level crossing incident is established in legislation and is dependent on the nature of the incident. The Office of the Transport Safety Investigator (OTSI) may investigate in relation to rail safety. RailCorp, RIC and ARTC are required to investigate incidents at level crossings for which they are responsible. NSW Police will investigate on behalf of the Coroner, or breaches of relevant legislation. WorkCover may be involved in relation to OH&S matters. The relevant legislation/jurisdiction establishes the availability of the reports to the LCSC.	
RECOMMENDATION 9: The Level Crossing Strategy Council publishes an annual report of its activities.	LCSC	Supported The LCSC has produced an annual report for distribution to its member agencies for the past three years.	Yearly reports have been prepared from 2001/02 until 2007/08. These are made available on the NSW Level Crossings Website.

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
RECOMMENDATION 10: The Minister for Transport and Minister for Roads review the recurrent funding formula for the upgrading of railway level crossings, with specific regard to:		Supported	
a) the adequacy of the recurrent funding to achieve the necessary and desirable improvements in public rail safety and road safety within a reasonable timeframe and in a manner that promotes the development of rail transport in New South Wales;	RTA	In addition to funding for grade separations, the RTA has increased the level of funding for upgrading level crossings from \$2 million in 2003/04 to \$5 million in 2004/2005. Funding for 2005/2006 is \$6 million and for 2006/2007 is \$7 million. Future funding levels will be considered through the annual Budget process.	In 2007 the Government announced it would continue to provide accelerated funding of an additional \$5 million per annum over the period 2007/08 to 2010/11 to the RTA Level Crossing Improvement Program, bringing funding for the program to \$28 million over the four years (comprising \$2 million recurrent allocation and \$5 million accelerated funding per annum). The additional funding enables accelerated implementation of level crossing safety upgrades. The LCSC is currently developing a Strategic Plan (see 11 below) to guide level crossing safety efforts across NSW and as background, assessment is being made of the level crossing upgrade costs to inform future funding levels.
b) the capacity of local councils to contribute to the recurrent funding formula; and	LCSC	The LCSC will investigate this issue further in consultation with Local Government.	The LCSC has raised this with the LGA & SA which has indicated that Local Government acknowledges a role for Local Government to contribute funding to level crossing upgrades in their areas within their financial capacity and taking into account other spending priorities. The NSW Rail Safety Act 2008 introduces obligations on rail infrastructure managers and road managers, including councils to seek to enter interface agreements for the joint management of safety risks at rail level crossings and

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
			other road/rail interfaces. As part of the process of developing interface agreements, rail infrastructure managers and road managers will need to negotiate which party is responsible for implementing and maintaining specified risk controls.
c) whether the recurrent funding formula allows the effective and efficient planning of upgrading works associated with railway level crossings.	RTA	Recent RTA funding increases of \$13 million over 4 years (ending 06/07), in addition to recurrent funding of \$2 million annually, will accelerate the upgrade program. The increased funding allocation allows for treatment of high risk sites and has allowed for a more comprehensive and strategic approach and the creation of a more robust, prioritised program. Future funding levels will be considered through the annual Budget process.	<p>RTA Level Crossing Improvement Program funding levels since 2003/04 accelerated the delivery of priority projects under the Program. The increased funding allocation has allowed for treatment of the highest risk sites and has allowed for a more comprehensive and strategic approach and the creation of a more robust, prioritised program. The level of funding has in many cases allowed for projects to be developed and delivered over more than one year which is important when dealing with multiple stakeholders and complex projects.</p> <p>The LCSC is currently developing a Strategic Plan (see 11 below) to guide level crossing safety efforts across NSW and as background, assessment is being made of the level crossing upgrade costs to inform future funding levels.</p>
RECOMMENDATION 11: The Level Crossing Strategy Council should: develop a longer term plan for improvements in the safety of railway level crossings; ensure that its member agencies and organisations reflect this strategic focus within their own planning processes and	LCSC	Supported	The LCSC is developing a strategic plan to guide level crossing safety effort by member agencies across NSW. It is expected that the plan will finalised in mid 2009.

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
documentation.			
RECOMMENDATION 12: In the event that a local Council is unable to meet the one-third cost contribution for the upgrading of a railway level crossing, the previous practice for the Roads and Traffic Authority to defer the upgrading work from the annual Level Crossing Improvements Program and re-prioritise funds elsewhere in the program should be discontinued.	RTA	<p>Noted</p> <p>The “previous practice” referred to has not occurred in recent history. The RTA does not delay the delivery of level crossing upgrades due to lack of Local Government contributions. All sites identified for upgrade that fall within the scope of the Level Crossing Improvement Program are completed and funded from the State Government irrespective of Local Government funding contributions.</p> <p>The LGA&SA notes that Local Government acknowledges a role for Local Government to contribute funding to level crossing upgrades in their areas within their financial capacity and taking into account other spending priorities.</p>	Contribution from relevant local governments toward level crossing improvement work is requested where appropriate.
RECOMMENDATION 13: The Level Crossing Strategy Council actively promote the development and implementation of a nationally consistent standard reference for railway level crossings that provides a unique reference number or descriptor, is communicable, visible and easily understood by the public, by rail and road authorities, and by police and emergency services.	LCSC	<p>Supported with change</p> <p>The LCSC will raise the need for a nationally consistent standard reference for railway level crossings at the Australian Rail Crossing Safety Implementation Group and in the current review of the AS 1742.7 on railway level crossings.</p>	<p>The need for a nationally consistent standard reference for railway level crossings was raised in the review of the AS 1742.7 on railway level crossings. It is noted that in NSW all active level crossings are fitted with unique identifying plaques.</p> <p>Although the review of AS1742.7 considered this recommendation it was not included in the revised standard which was published in February 2007.</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
<p>RECOMMENDATION 14: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority and other agencies, develop and maintain an inventory of all intersections between railways and roads, including all intersections where a road, road-related area, pedestrian access route or other access route meets a railway at substantially the same level (e.g., actively signalled road level crossings, passively signalled road level crossings, accommodation crossings, maintenance crossings, pedestrian crossings, etc.).</p>	RailCorp	<p>Supported</p> <p>Inventory and database development has commenced.</p>	<p>The RailCorp LCU has established an inventory of all public level crossings in NSW, using details provided by road and rail asset owners. This inventory is used for the purposes of assessing sites using the Australian Level Crossing Assessment Model (ALCAM) which informs the development of the priority list for upgrade under the RTA Program. The top 300 sites ranked according to ALCAM are on the Level Crossings website. Rail infrastructure managers also maintain an inventory of the level crossings on their network. The RTA and ITSRR are also developing level crossing databases.</p> <p>The adequacy of current arrangements and the case for developing more comprehensive level crossing inventory arrangements consistent with the detailed proposal recommended by StaySafe will be monitored as the requirements for interface agreements between road and rail managers are being implemented. (See comments on recommendation 4)</p>
<p>RECOMMENDATION 15: The Rail Infrastructure Corporation to ensure that there is public internet access to the inventory of all intersections between railways and roads, including intersections where a road and railway meet at substantially the same level.</p>	LCSC	<p>Access to the inventory, including by the general public, will be considered by the LCSC as part of the development of the inventory.</p>	<p>A list of the 300 public level crossings that have been assessed using the ALCAM methodology is available on the Level Crossings website- http://www.levelcrossings.nsw.gov.au</p> <p>(See also comments on recommendation 14)</p>
<p>RECOMMENDATION 16: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority, local</p>	RTA, RIC, RailCorp, ARTC	<p>Supported with change</p> <p>Each agency has responsibility for the</p>	

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
councils, and other agencies, develop and implement a regular and ongoing program of audit for all railway level crossings in New South Wales, including at least annual inspections of road markings, signs and advance warning signals on roads approaching railway level crossings.	Councils	inspection and maintenance of its own assets, under the oversight of ITSRR. The frequency of any audit (inspection) is determined by the agencies' own risk based safety management systems and processes.	
RECOMMENDATION 17: The Rail Infrastructure Corporation, in consultation with other rail agencies interstate, to continue to develop and maintain a risk assessment and prioritisation program for railway level crossings.	LCSC	<p>Supported</p> <p>The LCSC has a program of safety improvement for railway level crossings across NSW. It uses the Level Crossing Assessment Model (LCAM) to assess, evaluate and priorities relative safety risk of level crossings, and to determine the optimum treatment for individual sites.</p> <p>At the May 2003 Australian Transport Council (ATC) meeting "all State and Territory Transport Ministers agreed to adopt this innovative method of risk assessment". It is the only comprehensive level crossing model in Australia.</p> <p>The LCSC will continue to participate on the Australian LCAM Group, which is responsible for administering, controlling and developing LCAM nationally.</p>	<p>It is the responsibility of each infrastructure owner/manager to assess and manage risk at its own level crossings. The rail network managers for example have their own risk assessment processes.</p> <p>ALCAM has been developed to assess, evaluate and prioritise sites relative to safety risk of level crossings statewide, and is used to assist in determination of relative risks of individual sites across NSW. ALCAM is available to agencies through the LCU to use for assessment of level crossings. The ALCAM is also used to assess, evaluate and prioritise sites for the RTA Level Crossing Improvement Program.</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
<p>RECOMMENDATION 18: The Rail Infrastructure Corporation, in consultation with other rail agencies interstate, ensure that the development of a risk assessment and prioritisation program for railway level crossings is organised to readily identify issues associated with high speed passenger services, and high speed rail operations generally.</p>	LCSC	<p>Supported with change</p> <p>The Level Crossings Assessment Model (LCAM) considers speed as one of its assessment factors. The risks and issues associated with high-speed rail operations and the implications for LCAM are currently under consideration.</p>	<p>The management of risk associated with the rail network is the responsibility of the relevant network managers. See Recommendation 17</p> <p>There is an increasing impetus for level crossing management to now be considered from a corridor perspective. The Corridor Strategy was endorsed at the LCSC meeting in October 2005. The Cootamundra – Albury corridor was chosen as the initial corridor for investigation and implementation commenced in 2006.</p> <p>The further development and implementation of the corridor approach is being considered in development of the level crossing Strategic Plan.</p>
<p>RECOMMENDATION 19: The Ministry of Transport, in consultation with in the Rail Infrastructure Corporation, the Roads and Traffic Authority, local councils, rail operators, and other agencies develop and implement rail corridor management strategies for New South Wales railway lines.</p>	LCSC	<p>Supported with change</p> <p>Development of a corridor strategy is underway. The Cootamundra – Albury corridor has been chosen as a pilot. See Recommendation 18.</p>	<p>Implementation of a corridor strategy for management of level crossings between Cootamundra and Albury commenced in 2006.</p> <p>To date, five level crossings have been closed and design work has commenced for three upgrades. However, progress with the strategy has stalled as Councils in the area have been concerned that consultation, especially around proposals for level crossing closures, needs to be improved. The LCSC Chair, the ARTC Chief Executive and the RTA are to meet with Councils in the area in February 2009 with a view to identifying a way forward which addresses the needs of all stakeholders.</p> <p>RIC also developed a corridor management approach for the rail line between Werris Creek and Moree. A component of this strategy was the successful negotiation</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
			<p>for mining companies to provide \$2.4 million for level crossing upgrades on the Gap-Narrabri corridor and for \$0.6 million from the owners of the new Narrabri Mine to upgrade the level crossing at that location.</p> <p>The further development and implementation of the corridor approach is being considered in development of the level crossing Strategic Plan. While the LCSC has a coordinating role, responsibility for development and implementation of a specific corridor strategy will rest with the relevant network manager.</p>
<p>RECOMMENDATION 20: The Ministry of Transport, in consultation with in the Rail Infrastructure Corporation, the Roads and Traffic Authority, local councils, rail operators, and other agencies adopt a closed corridor strategy for high speed railway lines in New South Wales.</p>	LCSC	<p>Supported with change</p> <p>Development of a corridor strategy is underway. The Cootamundra – Albury corridor has been chosen as a pilot. See Recommendation 18.</p>	<p>Development of a corridor strategy for management of level crossings on specific corridors is underway. See Recommendation 18 and 19.</p> <p>The appropriateness of adoption of the closed corridor approach will be considered in development of the Strategic Plan (see recommendation 11).</p>
<p>RECOMMENDATION 21: The maximum speed of trains within the New South Wales rail network should not exceed 120 km/h unless the rail corridor is a closed corridor.</p>		<p>Rather than establishing a blanket speed limit, the maximum speed of trains and the use of a closed corridor strategy will continue to be determined on a case-by-case basis using a risk management approach. Risk assessments may result in different speeds being determined as appropriate for different circumstances.</p>	<p>The corridor strategy process considers corridor train speed along with identifying which treatments and combination of treatments are most appropriate for the various level crossings within the corridors.</p>
<p>RECOMMENDATION 22: The general policy</p>	LCSC	Supported	Policy adopted.

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
to be adopted by rail and road agencies is that the at-grade intersection of roads and railway tracks through provision of a railway level crossing is to be avoided wherever possible.			
RECOMMENDATION 23: The Ministry of Transport, in consultation with the Rail Infrastructure Corporation, the Roads and Traffic Authority, local councils, and other agencies, actively seek the closure or relocation of railway level crossings across the New South Wales rail network.	LCSC	Supported with change. The LCSC is responsible for the implementation of this response, rather than the Ministry of Transport.	Network managers are responsible for recommending closure of level crossings to the Minister for Transport. Closure of level crossings is promoted by the LCSC. A Level Crossing Rationalisation Strategy was approved at the June 2005 LCSC meeting. The Strategy is being implemented on an ongoing basis. The Minister for Transport has approved closure of 57 level crossings since over the period 2006/07-2007/08, the majority of these being private level crossings.
RECOMMENDATION 24: The relevant legislation be amended to: (a) allow the Director-General of the Ministry of Transport to order the closure or relocation of intersections where a road and railway meet at substantially the same level; (b) specify the mechanism and grounds for appeal of a decision by the Director-General of the Ministry of Transport to close or relocate an intersection where a road and railway meet at substantially the same level; (c) provide for the Roads and Traffic Authority and the local council to be a party to any appeal of a decision by the Director-General		Responsibilities for the management of level crossings is established in the <i>Transport Administration Act 1988</i> (TAA), the <i>Rail Safety Act 2000</i> and the Road Transport Legislation. This includes rail infrastructure owners being able to close level crossings, with the Minister's approval. The proposal to have the Director-General MoT order level crossing closure could potentially distort safety accountabilities for level crossings. The decision-making processes	See 23 above re level crossing closures

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
of the Ministry of Transport to close or relocate an intersection where a road and railway meet at substantially the same level.		<p>involving level crossing closures and relocation are not excluded from administrative review provisions.</p> <p>Provisions in the TAA relating to level crossing closure already make it a requirement that the infrastructure owner notify the Roads and Traffic Authority and the local council before closing a level crossing.</p>	
<p>RECOMMENDATION 25: The Minister for Emergency Services, in consultation with the Level Crossing Strategy Council, should review the State Disaster Plan and other state-wide emergency plans to ensure adequate and effective contingency planning for serious incident scenarios such as a crash at a railway level crossing involving a fast passenger train or a freight train carrying dangerous goods (hazardous materials) on metropolitan, regional and rural railway lines within New South Wales.</p>	Other	<p>Supported and being implemented.</p> <p>Current strategies include:</p> <ol style="list-style-type: none"> 1. The Specific Health Services Supporting Plan and the Ambulance PLAN detail arrangements specific to a rail accident; 2. For rail accidents involving hazardous materials, the recently revised HAZMAT Plan details the arrangements for dealing with hazardous materials; 3. Local and District committees include railway crossings in their risk assessments; and 4. Emergency Management Districts are incorporating rail crossing accident 	<p>The LCSC Chairman wrote to the Office of Emergency Services in November 2004 requesting advice. The Chairman of the State Emergency Management Committee (SEMC) advised in letter of December 2004 that the SEMC has oversight of the portfolios listed in relation to the Emergency Management arrangements and is in a position to review plans including the State Disaster Plan. Once the risks have been identified and analysed, Local and District Plans including the rescue arrangements will be reviewed to ensure appropriate response arrangements are in place.</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
		<p>emergencies in their training programmes.</p> <p>Note - The State Displan which is regularly reviewed and is currently under review provides for all hazards including railway accidents.</p>	
<p>RECOMMENDATION 26: The Ministry of Transport commission or conduct research to estimate:</p> <p>(a) the probabilities for the likely occurrence of railway level crossing crashes; and</p> <p>(b) the projected human costs, capital costs, and economic costs likely to be associated with such crashes.</p>	LCSC	<p>Requires further consideration.</p> <p>The LCSC will consider this recommendation within the context of its long term strategic planning which is to commence in 2005/06 (see response to recommendation 11).</p>	<p>The ARA is working in conjunction with the Bureau of Infrastructure, Transport and Regional Economics (BITRE) to collect data on the cost of railway level crossing collisions. It is expected that the data collection will be complete by the end of June 2009, with the final report expected to be released before the end of 2009.</p>
<p>RECOMMENDATION 27: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority, ensure that issues associated with railway level crossings on heritage and tourist railways are identified, considered, and addressed in general policies and programs to improve the safety of operation of railway level crossings.</p>	ITSRR	<p>Supported with change</p> <p>ITSRR accredits heritage and tourist railways and addresses level crossing issues through this process.</p>	<p>A letter from the ITSRR Chief Executive to the Chair of the LCSC (21 April 2006) advised that under section 11(2) of the Rail Safety Act 2002, all operators must have a safety management system “that includes undertaking a risk assessment and the specification of controls for identified risks” – including level crossings.</p> <p>Further “from 1 January 2007 applications for accreditation must address the more explicit requirements concerning level crossings of the National Rail Safety Accreditation Package”</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
			<p>The NSW Rail Safety Act 2008 was passed by the NSW Parliament in late 2008 and applied from 1 January 2009. The Act retains the above requirements of the 2002 Act and introduces obligations on rail infrastructure managers and road managers to seek to enter interface agreements for the joint management of safety risks at rail level crossings and other road/rail interfaces. These provisions cover tourist and heritage railways.</p> <p>The ITSSR is responsible for enforcing the NSW Rail Safety Act 2008, including the interface agreement requirements in NSW. ITSRR has drafted guidance on the requirements relating to interface agreements for rail or road crossings and a template interface agreement and will be undertaking further briefing sessions across NSW in early 2009.</p>
Matters relating to the road environment at railway level crossings			
<p>RECOMMENDATION 28: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority, ensure that issues associated with railway level crossings on private railways are identified, considered and addressed in general policies and programs to improve the safety of operation of railway level crossings.</p>	ITSRR	<p>Supported with change</p> <p>ITSRR accredits private railways and addresses level crossing issues through this process.</p>	<p>ITSRR letter to the LCSC of 21 April 2006 confirmed: "The application of level crossing policies and programs are reviewed as part of ITSRR's continuous inspection and audit process".</p> <p>The NSW Rail Safety Act 2008 introduces obligations on rail infrastructure managers and road managers to seek to enter interface agreements for the joint management of safety risks at rail level crossings and other road/rail interfaces. These provisions cover level crossings on private railways.</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
RECOMMENDATION 29: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority, local councils, and other Transport NSW agencies, seek and participate in the review of Australian Standard AS1742 - Part 7 relating to railway level crossings, including, but not limited to a range of technical issues associated with signals technology, signage, markings, etc.	LCSC	Supported In October 2001, the Level Crossing Strategy Council wrote to Standards Australia requesting the review of AS1742.7. The review is currently in progress with NSW representation from RTA, RailCorp and ITSRR.	The revised standard was published February 2007 and addresses the recommendation.
RECOMMENDATION 30: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority, seek to adopt Australian technologies and to adopt best practice principles for the management of railway level crossings.	LCSC	Supported with change The LCSC notes that whilst the agencies might seek and encourage Australian technologies, the most appropriate solutions will be procured.	Examples of best practice technology have been developed and implemented (see also Recommendation 31).
RECOMMENDATION 31: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority, and other agencies, encourage the development and implementation of new technologies to improve the safety of railway level crossings.	LCSC	Supported with change The recent project delivery teams have developed and implemented new technologies (eg. grade crossing predictors) and this will continue. The LCSC will refer this recommendation to the Rail Cooperative Research Centre for consideration and advice.	New technologies have been developed and implemented by rail infrastructure managers (eg grade crossing predictors, magnetic gate latches at pedestrian swing gates). Also NSW rail agencies have adopted high intensity LED light technology to replace incandescent lamp technology. The ARTC is currently trialling the use of a low-cost Private Level Crossing Warning Device based on the ARTC's system for rail personnel working on or near the rail track. The LCSC referred this recommendation to the Rail

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
			<p>Cooperative Research Centre (rail CRC) for its consideration and advice.</p> <p>The Rail CRC recently completed research on the effectiveness of engineering, enforcement and education approaches to improving the safety of motorists at the road/rail interface. This report was received in mid-January 2009 and is now being reviewed. It is expected to provide useful information for development of new technologies.</p>
<p>RECOMMENDATION 32: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority, local councils, and other agencies, ensure that there are opportunities for the assessment of innovative approaches to addressing the problems associated with railway level crossings.</p>	LCSC	<p>Supported with change</p> <p>The LCSC monitors world best practice and participates in national and international forums on safety management at level crossings. Also refer Recommendation 31.</p>	<p>In each of 2006/07 and 2007/08 NSW allocated \$93,000 to the ATC endorsed National Railway Level Crossing Behavioural Strategy research project. The ITSRR and RTA were represented on the National Behavioural Coordination Group (BCG) which managed the project and reported to the SCOT (Standing Committee on Transport-comprised of transport and roads agency heads from each Australian jurisdiction) Rail Group. This Group completed a survey of community attitudes and behaviour at level crossings, a targeted education and enforcement project in Victoria and Western Australia and developed an inventory of existing Australian and international behavioural programs. Details of the three project elements are available on the Australasian Railways Association (ARA) website at www.ara.net.au.</p> <p>See also the Rail CRC research referred to in the comment on recommendation 31 which considers the effectiveness of various approaches to problems at level crossings.</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
RECOMMENDATION 33: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority and local councils, develop a program for the installation of gateway treatments and other perceptual countermeasures to provide better cues to motorists on roads approaching railway level crossings, including but not limited to road markings, signage, roadside infrastructure, the road pavement design and construction (e.g., road width, road surface treatment, rumble strips, etc.), and traffic signals (e.g, approach flashing lights).	RTA	<p>Supported with change</p> <p>All upgrade projects are assessed for additional warning and delineation enhancements. This has resulted in all upgraded sites having the implementation of approach guideposts to form a “gateway” on the approach to the crossing and sites with poor sight distance being treated with advance flashing warning lights.</p> <p>This is also being considered in the review of Australian Standard 1742, see Recommendation 29.</p>	<p>The RTA has adopted the Australian Standard AS 1742.7 2007 for the planning, design and installation of traffic facilities on the approach, and at, level crossings. AS 1742.7 permits the provision of “gateway” treatment via the installation of signposting and pavement markings.</p> <p>VicRoads has conducted a trial of “rumble strips” at passively protected level crossings. The report of the trial is expected early in 2009.</p> <p>Once the final results of the trial are available, the RTA will be asked to advise the LCSC on the feasibility of their application in NSW. Until then the recommendation is to remain open.</p>
RECOMMENDATION 34: The Roads and Traffic Authority and the Rail Infrastructure Corporation, with local councils (where appropriate), provide for the integration of rail signals with any traffic signals on roads approaching railway level crossings.	RTA	<p>Supported with change</p> <p>It is a safety and efficiency imperative that where rail signals are in close proximity to road signals that the two systems are co-coordinated if not fully integrated. Co-ordination and integration of road and rail signals already exist at a number of locations in NSW. The integration will continue where installation of new traffic lights is adjacent to a level crossing in consultation with all stakeholders.</p>	<p>An interface agreement for the Installation and Maintenance of Joint Rail and Road Structures and Cabling at Level crossings is now in place between RTA and RailCorp.</p>
RECOMMENDATION 35: The Rail Infrastructure Corporation and the Roads and	LCSC	Requires further consideration.	<p>The safety benefits of this recommendation are not yet proven and the LCSC will monitor the trial of this type of</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
<p>Traffic Authority develop and trial a new railway level crossing signal system based on the existing road traffic signals where:</p> <p>(a) a system of green-amber-red lights is displayed to road traffic approaching a railway level crossing so that drivers see:</p> <p>(i) a green light when no train is present or approaching,</p> <p>(ii) an amber light indicating the approach of a train, and</p> <p>(iii) a red light (or double red lights) to indicate the imminent approach and transit of a train;</p> <p>(b) the use of <u>flashing</u> green-amber-red lights is compared with a steady green-amber-red lights display; and</p> <p>(c) the railway level crossing signal system uses modern technologies (e.g., LED displays, detection of train speeds, microwave technology, GPS technology, etc.)</p>		<p>The LCSC will consider options for further investigation of these technologies and the legislative implications.</p>	<p>protection which is to be undertaken by VIC Roads.</p>
<p>RECOMMENDATION 36: The Roads and Traffic Authority and the Rail Infrastructure Corporation assess the feasibility of installing train-activated rumble strips at passive railway level crossings.</p>	RTA	Supported	<p>VicRoads has conducted a trial of “rumble strips” at passively protected level crossings. The report of the trial is expected to be released in early 2009.</p> <p>Once the final results of the Victorian trial are available, the RTA will be asked to advise the LCSC on the feasibility of their application in NSW.</p>
<p>RECOMMENDATION 37: The Rail Infrastructure Corporation ensure that the</p>	RTA	Supported	<p>Rail infrastructure managers work with the RTA and Councils on such initiatives. Level Crossing Improvement</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
<p>roadside and railway infrastructure that is installed at railway level crossings minimises the likelihood of serious injury in the event of collisions between a train and a vehicle or person through:</p> <p>(a) the design and construction of frangible (breakaway) road side and rail infrastructure; and</p> <p>(b) the removal and replacement of non-frangible roadside and railway infrastructure at railway level crossings.</p>		<p>This recommendation is already being implemented at new installations where practicable. Removal and replacement is undertaken progressively where practicable as part of upgrade and renewal programs.</p>	<p>Program projects for example include the removal of non-frangible posts and structures from level crossings and immediately surrounding areas.</p> <p>The NSW Rail Safety Act 2008 introduces obligations on rail infrastructure managers and road managers to seek to enter interface agreements for the joint management of safety risks at rail level crossings and other road/rail interfaces. These provisions strengthen requirements for road and rail managers to work together to address the issues raised by this recommendation.</p>
<p>RECOMMENDATION 38: The Roads and Traffic Authority, in consultation with the Rail Infrastructure Corporation and local councils, develop guidelines for the installation of median barriers at railway level crossings.</p>	RTA	<p>Supported</p> <p>Concrete medians have been constructed on the approaches to level crossings at a number of sites where driving around boom gates has been witnessed. There are RTA Road Design guidelines covering the use of concrete median strips.</p>	<p>The guidelines for the provision of concrete medians is to be reviewed to ensure they are effective in reducing unsafe driver behaviour at railway level crossings and, where installed, maximise road safety.</p>
<p>RECOMMENDATION 39: The Roads and Traffic Authority, in consultation with local councils and the Railway Infrastructure Corporation, develop a consistent policy regarding the use of approach warning signage, signals and road markings prior to the immediate approaches and entry into a railway level crossing.</p>	RTA	<p>Supported</p> <p>Warning signs and road markings are covered under Australian Standard 1742.7- Railway Crossings. This standard is currently under review. Refer to Recommendation 29.</p>	<p>The revised standard was published in February 2007 and addresses the recommendation.</p>
<p>RECOMMENDATION 40: The Roads and</p>	RTA	<p>Supported</p>	<p>National road design standards such as AUSTROADS</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
Traffic Authority, in consultation with the Rail Infrastructure Corporation, ensure that the angles of intersection between the road and the railway line are such to allow the drivers approaching and entering the railway level crossing to view the railway line—in both directions—for the presence of a train.		The Level Crossing Assessment Model (LCAM) assesses the impact of sighting of skewed crossings when determining priorities for safety improvement.	provide guidance on intersection angles and sight distance requirements. This was also included in the review of Australian Standard 1742.7. In addition to the RTA other infrastructure managers (rail and Councils) have responsibilities in this area. Upgrades to intersection angles can be very expensive. Where this is the case upgrades to level crossings minimise the risk by provision of cost effective measures to the road environment to improve driver sight distance at level crossings. See Recommendations 39, 41-43.
RECOMMENDATION 41: The Independent Transport Safety and Reliability Regulator in consultation with the Rail Infrastructure Corporation, Australian Rail Track Corporation and the operators of private rail lines, ensure that structures such as signal boxes within the rail reserve do not impede the view of the railway line of a driver approaching or stopped at the entry to a railway level crossing.	ARTC RIC RailCorp	Supported Current infrastructure engineering practices address this issue.	The ALCAM process also considers and assesses sight distance obstructions caused by vegetation and structures. ITSRR accredits level crossings on private rail lines.
RECOMMENDATION 42: The Roads and Traffic Authority, in consultation with local councils and the Railway Infrastructure Corporation, consider developing a general advisory sign for use on major roads where railway level crossings occur, or on roads intersecting with high use railway lines.	RTA	Supported Additional signs or changes to existing signs will be considered in the current review of Australian Standard 1742.7- Railway Crossings. Refer to Recommendation 29.	The revised Australian Standard 1742.7- Railway Crossings was published February 2007 and addresses this requirement. When the need arises, the RTA improves existing and introduces new signage to improve driver behaviour at level crossings.
RECOMMENDATION 43: The Rail Infrastructure Corporation, in consultation	LCSC	Supported with change	Infrastructure managers have responsibility in this area and the LCSC Chair has requested road and rail

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
with local councils, the Roads and Traffic Authority and the Environment Protection Authority ensure that there is a program to removal obstructive roadside and railway vegetation within the sight triangles associated with railway level crossings.		The LCSC will request road and rail authorities to identify and remove any obstructions of sight lines by vegetation when checking railway level crossings. Removal of obstructive vegetation will be done in accordance with relevant environmental legislation.	<p>authorities to check for and remove any obstructions of sight lines by vegetation when checking railway level crossings. (LCSC letters to the 3 network managers and LGA&SA March 2006). Removal of obstructive vegetation is normally carried out by the appropriate infrastructure manager and done in accordance with relevant environmental legislation. It is the responsibility of each infrastructure manager to have appropriate maintenance strategies in place to address these issues on an ongoing basis.</p> <p>The NSW Rail Safety Act 2008 introduces obligations on rail infrastructure managers and road managers to seek to enter interface agreements for the joint management of safety risks at rail level crossings and other road/rail interfaces. These provisions strengthen requirements for road and rail managers to work together to address the issues raised by this recommendation.</p>
RECOMMENDATION 44: The Rail Infrastructure Corporation, in consultation with rail operators, review the safety of departmental crossings associated with vehicular and pedestrian access onto or across railway tracks.	ARTC, RailCorp, RIC,	<p>Supported with change</p> <p>The management of risks at departmental crossings occurs within the context of each organisations risk based safety management system and process.</p>	<p>The LCSC wrote letters to the 3 network managers in March 2006 requesting review of the safety of departmental crossings associated with vehicular and pedestrian access onto or across railway tracks.</p> <p>Under the NSW Rail Safety Act 2002 railway operators were required to have a system to identify and manage risks to safety associated with carrying out their railway operations. Such risks would include departmental crossings associated with vehicular and pedestrian access onto or across railway tracks.</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
			The NSW Rail Safety Act 2008, which commenced on 1 January 2009, retains the requirement for rail transport operators to have a system to identify and manage rail safety risks. The 2008 Act also introduces a general duty for rail transport operators and others carrying out railway operations to ensure, so far as is reasonably practicable, the safety of those operations.
RECOMMENDATION 45: The Rail Infrastructure Corporation and the Roads and Traffic Authority, ensure that local councils, when considering land use planning and development issues, take account of issues associated with railway level crossings, and that such considerations are documented by local council traffic committees.	LCSC	Supported with change The LCSC will take lead responsibility for this matter.	An Infrastructure State Environmental Planning Policy (SEPP) which includes provisions relating to level crossings was gazetted in December 2007. The provisions require councils to notify rail authorities of development applications impacting on level crossings and to not grant approval for the development without the concurrence of the rail authority. The LCSC provided coordinated advice from its member agencies to the Department of Planning on the level crossing provisions.
Matters relating to train crews			
RECOMMENDATION 46: The Independent Transport Safety and Reliability Regulator, in consultation with the Rail Infrastructure Corporation, Australasian Railways Association and the Ministry of Transport, ensure the development and implementation of an independent and confidential reporting system to assist in the identification of problems associated with the operation of the New South Wales rail network, and railway level crossings specifically.	ITSRR	Supported with change The Office of Transport Safety Investigator has a confidential reporting line for the reporting of problems associated with the operation of the NSW rail network, including level crossings.	The OTSI is now a statutory authority separate to the ITSRR.

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
<p>RECOMMENDATION 47: The Rail Infrastructure Corporation, in consultation with the WorkCover Authority, New South Wales Health, rail unions, rail operators, other Transport NSW agencies, New South Wales Police, and other relevant agencies and organisations, review the support provided for train crews and other personnel involved in attending level crossing crashes to:</p> <p>(a) identify best practice principles; and</p> <p>(b) develop and implement improved programs to support train crews and other personnel involved in attending level crossing crashes.</p>	LCSC	<p>Supported with change</p> <p>The LCSC will take lead responsibility for this matter.</p>	RailCorp, RIC, ARTC and NSW Police advise that they already have arrangements in place to support staff following incidents at level crossings. Discussions with WorkCover will be organised early in 2009.
Matters relating to locomotives and rolling stock			
<p>RECOMMENDATION 48: The maximum speed for trains within the New South Wales rail network should be 120 km/h unless there is a closed corridor for train operations.</p>		Refer to recommendation 21.	It is considered that the most appropriate approach should be based on a corridor strategy approach considering all factors within the corridor along with train speed.
<p>RECOMMENDATION 49: The Ministry of Transport, in consultation with rail operators, rail unions, the WorkCover Authority, and other relevant agencies and organisations, identify and review the efficacy of measures to improve the conspicuity of trains, with specific attention to issues associated with trains travelling across level crossings, including but not limited to:</p> <ul style="list-style-type: none"> ■ locomotive ditch lights, 	LCSC	<p>Supported</p> <p>The retrofitting of reflective marking or increased running lights (or both) on all rolling stock operating on the New South Wales standard gauge system was completed by the end of 2003/04 across all operators.</p>	<p>The ARA has developed a train conspicuity standard for rolling stock. The standard calls for the following:</p> <p>Reflective Delineators – retro-reflective markers along the sides of all rail vehicles</p> <p>Livery – A minimum of one square metre on the front of new and existing locomotives will be painted in high visibility colours. New locomotives shall have high visibility livery on the side of rail vehicles but there are no</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
<ul style="list-style-type: none"> ■ locomotive strobe lights, ■ general locomotive lighting, ■ the use of locomotive highlights ■ the use of retroreflective marking on locomotives, goods wagons and passenger carriages. 		<p>The National Standing Committee on Transport (SCOT) is currently addressing “train conspicuity” (visibility) as a national issue. The Ministry of Transport represents NSW on this Committee.</p>	<p>prescribed minimum area requirements.</p> <p>Lighting – Triangular or rectangular lights configuration at the front of locomotives – visibility lights. Comprised of separated low level visibility and high level headlights which may be a single or separated arrangement. Locomotives shall have at least one white headlight fitted at any leading end. The centreline of each headlamp beam should be aimed at the centre of the track at least 240m ahead and in front of the headlight. New and modified locomotives shall have two white visibility lights at any leading end.</p> <p>Existing locomotives shall have at least one red tail light fitted at any trailing end. New and modified locomotives shall have red tail and white marker lights fitted as high and wide as practical at both sides of each end.</p> <p>This is a voluntary standard, so it was not accompanied by a compliance timetable. However, independently from the Standards development on 5 April 2005 the ARA announced that existing locomotives were expected to comply with the National Locomotive Lighting and Visibility Standards by 2008.</p>
<p>RECOMMENDATION 50: The Rail Infrastructure Corporation investigate and review crashes involving trains and motor vehicles, and trains and pedestrians, to identify: the characteristics of the point of impact</p>	LCSC	<p>Requires further consideration.</p> <p>The LCSC will refer this issue to the Rail Cooperative Research Centre for their consideration and advice.</p>	<p>The Rail CRC research (see comment on recommendation 31) is being reviewed to assess the case for further action on this recommendation.</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
between the train and motor vehicle or pedestrian; the potential for the use of energy absorbing structures at common points of impact locations between trains and motor vehicles or pedestrians.			
RECOMMENDATION 51: The Ministry of Transport, in collaboration with the Emergency Services, Police, Health, Environment, and Roads portfolios, should commission or conduct risk assessments for serious incident scenarios such as a crash at a railway level crossing involving a fast passenger train or a freight train carrying dangerous goods (hazardous materials) on metropolitan, regional and rural railway lines within New South Wales.	LCSC	Supported with change. The LCSC is responsible for the implementation of this response, rather than the Ministry of Transport (see also response to recommendation 25).	The State Emergency Services advised that level crossing risks would be included as part of Local and District Emergency Risk Assessment and incorporated into their Risk Register and that the risk assessments will be coordinated by the District Emergency Management Officers with the support /assistance of their District. (see also response to recommendation 25).
Matters relating to motor vehicles at railway level crossings			
RECOMMENDATION 52: The Roads and Traffic Authority, in consultation with the Rail Infrastructure Corporation and other relevant agencies and organisations, identify and review the possible mechanisms and contribution of driver distraction as a contributor to level crossing crashes, including but not limited to placement and complexity of road side signage and signals, in-vehicle devices and instrumentation, and the vehicle environments (soundproofing, air	RTA	Supported with change This is a research project that would be better conducted under a National forum. RTA will raise this matter at National levels.	A letter has been sent to the Transport Safety and Security Working Group requesting it give consideration to research on this matter being undertaken as part of the new Level Crossing Working Group, (which works to the Safety and Security Working Group). The Safety and Security and the Level Crossing Working Groups were established as part of the National Transport Policy which Australian Transport Ministers agreed to develop in early 2008. The Groups will take over safety matters, including level crossing issues, previously dealt

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
conditioning, etc.)			with by SCOT Road and Rail Modal Groups, the BCG, ARCSIG and the ALCAM National Group. NSW is represented on both Working Groups and the ALCAM Group.
RECOMMENDATION 53: The Roads and Traffic Authority support the development of a capability within in-vehicle navigation systems to alert drivers to the presence of a potentially hazardous situation such as a railway level crossing.	RTA	Supported with change In vehicle navigation and warning systems are a matter for vehicle manufacturers and Australian Design Rules. The RTA will raise this matter at National levels.	A letter has been sent to the new Transport Safety and Security Working Group requesting it give consideration to research on this matter being undertaken as part of the new Rail Level Crossing Group program.
Matters relating to drivers and other road users at railway level crossings			
RECOMMENDATION 54: The Rail Infrastructure Corporation, in consultation with local councils, and the Roads and Traffic Authority review the current approaches to the education and awareness of motorists and pedestrians regarding safe and appropriate behaviour where a road, road-related area, pedestrian access route or other access route meets a railway at substantially the same level, with particular regard to the effectiveness of public advertising, driver education materials, and road signage.	RTA	Supported with change Over the past two years, the RTA has conducted a railway level crossing safety campaign targeting rural NSW. This was funded jointly with RIC and included radio, print and outdoor mediums. Initial qualitative and quantitative research was conducted pre and post the campaign that looked at drivers' understanding and behaviour with regard to railway level crossings. The Education Campaign is designed to meet the following objectives: <ul style="list-style-type: none"> Increased awareness of the importance of obeying road rules at level crossings. 	This campaign has been undertaken each year since 2002. The RTA education and awareness campaigns have been jointly funded by RIC and additionally more recently ARTC and RailCorp. In each of 2006/07 and 2007/08 NSW allocated \$93,000 to the ATC endorsed National Railway Level Crossing Behavioural Strategy research project. The ITSRR and RTA were represented on the National Behavioural Coordination Group (BCG) which managed the project and reported to the SCOT Rail Group. This Group completed a survey of community attitudes and behaviour at level crossings, a targeted education and enforcement project in Victoria and Western Australia and developed an inventory of existing Australian and international behavioural programs. This work provides an important resource to help inform development of future NSW education and awareness campaigns as will the recently

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
		<ul style="list-style-type: none"> • Create awareness of the dangers caused by the stopping limitations of trains. • Increased safe behaviours by drivers crossing railway level crossings. Targeted press, radio and outdoor media are used during campaigns. The Education Campaign will continue to be reviewed and developed by the LCSC. 	<p>completed Rail CRC research referred to in the comment on recommendation 31.</p> <p>Details of the three project elements are available on the Australasian Railways Association (ARA) website at www.ara.net.au.</p> <p>Future work proposed by the Behavioural Change Group is being considered for inclusion in the forward program of the Level Crossing Working Group.</p>
<p>RECOMMENDATION 55: The Roads and Traffic Authority, in consultation with local councils and the Rail Infrastructure Corporation, ensure that the education and awareness of motorists and pedestrians regarding safe and appropriate behaviour at level crossings addresses issues associated with the "culture of blame" where the train and train driver are seen as responsible for a crash or near miss incident.</p>	RTA	<p>Supported with change</p> <p>This is covered in the response to recommendation 54 (see coverage of awareness of stopping limitations of trains)</p>	
<p>RECOMMENDATION 56: The Rail Infrastructure Corporation, in consultation with the Roads and Traffic Authority, conduct research into the knowledge, behaviour and beliefs of motorists and pedestrians about railway level crossings.</p>	RTA	<p>Supported</p> <p>This is covered in the response to recommendation 54. Initial qualitative and quantitative research that looked at motorists' understanding and behaviour with regard to railway level crossings was conducted pre and post the RTA education campaign.</p>	See comment on recommendation 54

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
RECOMMENDATION 57: The Roads and Traffic Authority, in consultation with New South Wales Police and the Rail Infrastructure Corporation, review the means currently and potentially available to enforce traffic law regarding motorists transiting a railway level crossing, including but not limited to red light camera technologies and locomotive-mounted video cameras.	RTA	<p>Supported with change</p> <p>Penalties for queuing across level crossings or driving contrary to signals were increased in January 2003. 3 demerit points were added to the penalty as well as an increase in fines from \$74 to \$300.</p> <p>The LCSC will further investigate current arrangements.</p>	The RTA will further investigate current arrangements and technologies. Enforcement is primarily the responsibility of the NSW Police. The RTA will work with the Police on improving enforcement at level crossings. Red light cameras cannot be used under current legislation and under current rail signal design standards.
RECOMMENDATION 58: The Roads and Traffic Authority and the Rail Infrastructure Corporation examine the use of flashing amber to indicate signal fault or malfunction and "fail safe" operation for motorists approaching an actively protected railway level crossing.	RTA	<p>Supported with change</p> <p>The LCSC agrees with this recommendation in conjunction with recommendation 35</p>	A letter has been sent to the new Transport Safety and Security Working Group requesting it give consideration to research on this matter being undertaken as part of the new Rail Level Crossing Group program.
RECOMMENDATION 59: The Attorney General's Department, in consultation with the Rail Infrastructure Corporation and the Roads and Traffic Authority, review the current criminal law regarding motorists and pedestrians using railway level crossings and determine if the current offences are sufficient to deter unsafe and inappropriate behaviour and if further specific offences are required.	LCSC	Supported	<p>The Attorney General's Department (AGD) undertook this review which concluded the current offences and maximum penalties are sufficient to address a broad range of unsafe behaviours by level crossing users and that specific new offence provisions to deter unsafe behaviour are not necessary.</p> <p>The AGD suggested the deterrent effect of existing offences could be increased by publicizing the existence of the criminal liabilities and their potential application to level crossing users. The RTA has been asked to consider</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
			including these provisions as part of future level crossing awareness campaigns.
RECOMMENDATION 60: The Attorney General's Department, in consultation with the Rail Infrastructure Corporation and the Roads and Traffic Authority, review the current civil law regarding motorists and pedestrians using railway level crossings and determine if the current tort liabilities are sufficient to deter unsafe and inappropriate behaviour.	LCSC	Supported	<p>The Attorney General's Department (AGD) undertook this review which concluded the current tort liabilities are sufficient to address negligent behaviour at level crossings and that changes to tort law or tort liability are not considered necessary or appropriate to deter unsafe behaviour at level crossings.</p> <p>The AGD suggested the deterrent effect of existing tort liability could be increased by publicizing the existence of these civil liabilities and their potential application to level crossing users. The RTA has been asked to consider including these provisions as part of future level crossing awareness campaigns.</p>
RECOMMENDATION 61: The Rail Infrastructure Corporation, the Roads and Traffic Authority, local councils, and other Transport NSW agencies, review the safety of pedestrian facilities associated with crossing railway tracks, including pedestrian-only level crossings as well as level crossings used by motor vehicles.	LCSC	<p>Supported</p> <p>The LCSC is participating in the continuing development of a Pedestrian Level Crossing Assessment Model and National standards for disabled pedestrian access; these will enable the LCSC to make better more informed decisions about improving pedestrian level crossings safety.</p> <p>The current review of Australian Standard 1742.7- Railway Crossings is also relevant to this issue. See also response to Recommendation 29.</p>	<p>RailCorp has a specific pedestrian upgrade program for which it has allocated more than \$2 million per annum in recent years. Upgrades to level crossings on the RIC and ARTC networks are undertaken as part of upgrades funded through the LCIP Program.</p> <p>Additionally, the RailCorp Level Crossing Unit is participating in the National ALCAM Group initiative to develop a pedestrian level crossings assessment model.</p>

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
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.	LCSC	Supported	The RailCorp LCU on behalf of the LCSC consulted with the Victorian Railway Pedestrian Crossing Upgrades Committee on pedestrian issues. The development of the 2005 RailCorp Pedestrian Standard included consultation with the Victorian Railway Pedestrian Crossing Upgrades Committee and has been considered in the review of AS1742.7. The LCSC has ensured that all network managers are made aware of the Victorian developments.
RECOMMENDATION 63: The Rail Infrastructure Corporation, in consultation with the New South Wales Police Service and other Transport NSW agencies, review the incidence of trespass across railway lines and develop, where possible, effective means for the prevention of trespass and intervention with trespassers on railway property.	ARTC RIC RailCorp	Supported with change The broader issue of trespass is outside the remit of the LCSC. This issue primarily lies with the rail network owners and managers. RailCorp has an active trespass program. Nevertheless the LCSC will refer the matter to the rail network owners for consideration.	Each network manager has its own processes in place to manage trespass from a risk perspective.
RECOMMENDATION 64: The Rail Infrastructure Corporation, in consultation with the New South Wales Police Service, ensure that where unauthorised, short-cut sites are identified that allow pedestrian movement across operating railway lines, action is taken to close these crossing points permanently.	ARTC RIC RailCorp	Supported with change Like the case for trespass, management of unauthorised short cut sites lies primarily with network/owners managers. Nevertheless the LCSC will refer the matter to the rail network owners for consideration. See recommendation 63	

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
RECOMMENDATION 65: The Rail Infrastructure Corporation, in consultation with employee organisations and New South Wales Health, review the incidence of suicide at railway level crossings and develop, where possible, effective means for the prevention of suicides and intervention with persons exhibiting suicidal tendencies.	ITSRR	Supported with change The extremely low incidence of suicide in the data is likely to preclude valid conclusions being drawn about options for prevention. Nevertheless the incidence of suicide at level crossings will continue to be monitored.	ITSRR letter 21 April 2006 confirmed that suicides (as declared by the Coroner) will be included as such in ITSRR's incident reports to the LCSC.
RECOMMENDATION 66: The Ministry of Transport, Roads and Traffic Authority and local councils review the Operation Lifesaver program in Canada and the United States of America for possible use, when adapted to Australian conditions and culture, in New South Wales.	LCSC	Supported with change In developing the LCSC Education Campaign (see Recommendation 54) the LCSC will continue to consider programs from the US, Canada and UK.	In developing the Education and Awareness Campaign (see Recommendation 54) the RTA and RailCorp considered programs from the US, UK and Canada including the Operation Lifesaver program. These programs will continue to be monitored and reviewed by the RTA and rail network managers.
RECOMMENDATION 67: The Australasian Railways Association, in consultation with the Rail Infrastructure Corporation and the Roads and Traffic Authority, hold a workshop and seminar on road user behaviour at railway level crossings.	ARA	Supported	This workshop was conducted and was attended by the RailCorp LCU and ARTC. The workshop resulted in the eventual development of the National Railway Level Crossing Behavioural Strategy. (See recommendation 32)
Matters relating to the railway environment at level crossings			
RECOMMENDATION 68 The Rail Infrastructure Corporation, in consultation with New South Wales Police, the Roads and Traffic Authority, and local councils:	LCSC or network owners	Supported with change a) The LCSC will ask its member agencies to consider level crossings	Infrastructure managers have policies and strategies to address and combat vandalism associated with railway level crossings.

StaySafe RECOMMENDATION	GOVERNMENT RESPONSE (FEBRUARY 2006)		STATUS AND/OR FURTHER COMMENT
	LEAD AGENCY	RESPONSE	
<p>(a) Develop policies and strategies to combat vandalism associated with railway level crossings; and</p> <p>(b) Review the adequacy of current legislation to effectively deal with vandalism and criminal damage of railway and road infrastructure</p>		<p>when reviewing of and developing their broader policies and strategies to combat vandalism.</p> <p>b) The LCSC will ask its member agencies to consider level crossings when conducting reviews of legislation effecting vandalism.</p>	
Concluding comments			
<p>RECOMMENDATION 69: The Rail Infrastructure Corporation, the Roads and Traffic Authority, local councils, and other agencies, be subject to a further review in 2006 by the STAYSAFE Committee regarding the response to the findings and recommendations of the inquiry into the safety of railway level crossings in New South Wales.</p>	LCSC	Noted	

2006/07

LCSC

Level Crossing Strategy Council



**RAILWAY LEVEL CROSSING
SAFETY IMPROVEMENT
PROGRAMS**

YEARLY REPORT 2006/07



TABLE OF CONTENTS

1 EXECUTIVE SUMMARY	3
1.1 RAILWAY LEVEL CROSSINGS – 2006/07 PROFILE	5
2 SAFETY IMPROVEMENT PROGRAM ACHIEVEMENTS	8
2.1 RTA LEVEL CROSSING IMPROVEMENT PROGRAM	8
2.2 RAILCORP PROGRAM - LEVEL CROSSING SAFETY IMPROVEMENT PROGRAM	12
2.3 ARTC PROGRAM: LEVEL CROSSING IMPROVEMENT WORKS	14
2.4 RIC PROGRAM: LEVEL CROSSING IMPROVEMENT WORKS	14
2.5 RATIONALISATION – RAILWAY LEVEL CROSSING CLOSURES	15
3 CORRIDOR STRATEGY	16
4 PUBLIC EDUCATION AND SAFETY AWARENESS	17
5 INCIDENT TRENDS	18
5.1 INCIDENTS INVOLVING ROAD MOTOR VEHICLES	19
5.2 COLLISIONS AND FATALITIES PEDESTRIAN INCIDENTS	20
6 FUTURE DIRECTIONS	21
APPENDIX A: LCIP EXPENDITURE 2006/07	22



1 EXECUTIVE SUMMARY

There are more than 3,800 railway level crossings in NSW. 1400 of these crossings are public road/public rail crossings. Individual rail and road agencies are responsible for the management of safety of the various components of their railway level crossing infrastructure.

Regulatory oversight is provided by the Independent Transport Safety and Reliability Regulator (ITSRR) for rail operations and infrastructure and by the Roads and Traffic Authority (RTA) and Police for roads.

The safety of the road and rail network is a high priority for the Government and the Level Crossing Strategy Council (LCSC) is the interagency forum which promotes coordination between agencies and railway level crossing safety. It is made up chief executive level representation of the RTA, RailCorp, RIC, the ARTC, ITSRR, and the Ministry of Transport, with officer level representation of the NSW Local Government Association and Shires Association (LGA&SA), the peak body representing local government and the NSW Police.

The NSW Government's commitment to an accelerated program of level crossing safety improvements throughout NSW meant funding levels for the Roads and Traffic Authority Level Crossing Improvement Program for the years 2003/2004 to 2006/2007 increased from \$10m to \$23m. This enabled agencies to deliver a number of major projects and significant initiatives in 2006/2007.

In 2006/07 funding for the RTA Level Crossing Improvement Program was \$7m. Under this Program five major level crossing upgrade projects were commissioned across the ARTC and RailCorp networks, and development work commenced on a number of major upgrade projects that will be commissioned in future years. Two minor works were completed in 2006/2007. During the year 16 level crossings were approved for closure by the Minister for Transport.

Implementation of the LCSC Corridor Strategy between Cootamundra to Albury corridor continued in 2006/2007.

In addition to the RTA Program in 2006/07 RailCorp spent \$2.4m on its pedestrian level crossing improvement program, with three major and eight minor upgrades at pedestrian crossings commissioned during the year. The Australian Rail Track Corporation spent \$1.65m on level crossing improvements and upgrades at 67 level crossings on its NSW leased network and RIC spent \$277,000 on improvements to roadways and level crossing control upgrades at eight crossings on its network.

RIC also developed a corridor management approach for the rail line between Werris Creek and Moree. A component of this strategy was the successful negotiation for mining companies to provide \$2.4m for level crossing upgrades on the Gap-Narrabri corridor and for \$0.6m from the owners of the new Narrabri Mine to upgrade the level crossing at that location.

The past year has also seen the continuation of public education and level crossing safety awareness campaigns. The NSW motorist campaign focussed on reinforcing awareness about the need to obey signage and road rules at railway level crossings and to encourage safe choice thinking at these crucial intersections. During the year RailCorp developed and implemented a pedestrian awareness campaign to complement the motorist campaign.

In October 2004 the NSW Parliamentary StaySafe Committee released its final report following an enquiry into the safety of railway level crossings. The report contained 69 recommendations on how level crossings are managed, the majority of which were supported by the Government supported. The LCSC monitors progress of their implementation by its member agencies.



In September 2006 the StaySafe Committee wrote to the Chair of the LCSC seeking a response to the findings and recommendations of its report on level crossings. A comprehensive submission was provided to the Committee in November 2006 which included progress in implementing the Government's response to the report, details of the RTA Level Crossing Improvement Program and other level crossings safety initiatives of LCSC member agencies. The RTA, the Ministry of Transport and RailCorp attended a subsequent StaySafe hearing conducted 13 November 2006. A second StaySafe Committee report outlining progress in implementing the recommendations of the 2004 report was issued in December 2006. It signalled an intention to further review progress in 2008.

There was one fatality at a passively protected railway level crossing in NSW this year at Wirrinya between a truck and a freight train. In the previous year there was a fatality at an actively protected railway level crossing between a road vehicle and a train. Trends over the past ten years indicate a downward pattern in accident collisions at both passively and actively protected level crossings.

In June 2006, the Australian Transport Council (ATC-comprising, State, Territory and Federal Transport Ministers) approved the national model Rail Safety Bill 2006 nationally for adoption in each of the states and Northern Territory. A Rail Safety Amendment Bill (No 2) was released later in 2006 and includes provisions that if approved by Ministers, will introduce obligations on rail infrastructure managers and road managers to seek to enter interface agreements for the joint management of safety risks at road and rail crossings.



1.1 Railway Level Crossings – 2006/07 Profile

There are more than 3,800 railway level crossings in NSW. 1400 of these crossings are public road/public rail crossings.

The level of protection provided at railway crossings is determined on site on a case by case basis.

Railway level crossing traffic controls fall into two categories;

- **Passive controls:** apply stop or give way signs to warn motorists about a level crossing and signs and mazes to control entry pattern to the rail corridor and warn pedestrians.
- **Active controls:** apply lights, bells, boom gates to warn motorists; and lights, bells, booms, and locking swing gates to warn pedestrians.

The interface of road and rail at railway level crossings represents a significant risk to road and rail users.

Administration

NSW road and rail agencies are responsible for level crossing safety and they are supported in meeting these responsibilities by the Level Crossing Strategy Council (LCSC) an interagency forum which has a coordination role.

The LCSC members are:

- Roads and Traffic Authority (RTA).
- Rail Infrastructure Corporation (RIC), RailCorp and Australian Rail Track Corporation (ARTC);
- Ministry of Transport (MoT)-chair;
- Independent Transport Safety & Reliability Regulator (ITSRR);
- NSW Police; and
- Local Government Association and Shires Association (LGA&SA).

The LCSC is supported by a Level Crossing Working Group (LCWG) which is comprised of officer level representatives from the member agencies. The RailCorp Level Crossing Unit (LCU) manages the Level Crossing Assessment Model (ALCAM), undertakes level crossing assessments, works with the RTA in implementing the Level Crossing Improvement Program and provides secretariat support and assistance to the LCSC and LCWG as required.

Work on railway level crossing safety improvements and upgrades is generally undertaken by the relevant infrastructure owner/manager. A major funding source is the previously mentioned RTA Level Crossing Improvement Program which provides funding each year for safety upgrades across NSW. The RTA administers this Program the annual program of which is endorsed by the LCSC. The LCSC monitors delivery of the program and promotes collaboration and consultation between all agencies involved in the works.

In 2003, The NSW Government increased funding for this program from \$10m to \$23m over the four years from July 2003 to June 2007. This has enabled acceleration of safety improvements at railway level crossings across NSW.

The RTA distributes funding under the Level Crossing Improvement Program generally according to a priority list of sites determined by assessment using the Australian Level



Crossing Assessment Model (ALCAM). This assessment tool was developed by Queensland Rail and endorsed by Australian Transport Council (ATC) in 2003 for use throughout Australia. This model is used to assess, evaluate and prioritise the (relative) safety risk of railway level crossings, and to assist in determining the treatment options for individual sites.

In addition to the RTA Program, in 2006/07 RailCorp spent \$2.4m on its pedestrian level crossing improvement program, with three major and eight minor upgrades at pedestrian crossings commissioned during the year. The Australian Rail Track Corporation spent \$1.65m on level crossing improvements and upgrades at 67 level crossings on its NSW leased network and RIC spent \$277,000 on improvements to roadways and level crossing control upgrades at eight crossings on its network.

In addition to the upgrading of railway level crossing protections, the closure of railway level crossings, both public and private is actively pursued by LCSC member agencies. Thorough inspection and detailed assessment of the crossing is conducted before closure is pursued. Consultation with the local council, the community, the RTA, emergency services and other road and rail users is conducted prior to recommending closure to the Minister for Transport, whose approval is required before a closure is implemented. During the year 16 level crossings were approved for closure by the Minister for Transport, the majority of which were private road crossings.

Funding

Year	RTA Level Crossing Improvement Program including accelerated funding	Rail Contribution	Total
2003/04	\$3M RTA	RIC \$2M (NSW)	\$5M
2004/05	\$5M RTA	-	\$5M
2005/06	\$6M RTA	\$1.3M (RailCorp)	\$7.3M
2006/07	\$7 M RTA	\$2.4M (RailCorp) \$1.65M (ARTC) \$0.277M (RIC)	\$11.327M

National Developments

In addition to NSW Program initiatives there are developments nationally that are intended to strengthen the requirements for road and rail infrastructure managers to work together to reduce risks at level crossings.

The national model Rail Safety Bill was approved by the ATC for adoption by states and territories in June 2006. In approving that legislation Transport Ministers also determined that further provisions be developed to impose obligations on road managers in relation to road/rail interfaces. In response the Rail Safety (Amendment No 2) Bill was prepared which sets out amendments to the national model Rail Safety Bill to introduce obligations on rail infrastructure managers and road managers to seek to enter interface agreements for the joint management of safety risks at rail level crossings and other road/rail interfaces.



ITSRR undertook consultation on the provisions of Amendment Bill No 2 and in response to concerns raised by stakeholders identified the need for guidance materials to assist the preparation of risk assessments and interface agreements.

The NSW Rail Safety Bill 2007, which adopts the national Bill was released for comment in early 2007, is expected to commence in 2008.

The RailCorp Level Crossing Unit Manager chairs the Australian Railway Crossing Strategy Implementation Group (ARCSIG). ARCSIG has representation from all state and territories and its role is to implement the ATC endorsed national level crossing safety strategy and management plan.

ARCSIG reports to the Standing Committee On Transport Rail Sub-Group (SCOT-Rail Group). SCOT in turn reports to the ATC.

There is also a National ALCAM Committee which reports to ARCSIG and is responsible for the ongoing development of nationally consistent risk assessment methodologies as well as promoting a co-ordinated approach to the ongoing improvement of ALCAM.

The ATC endorsed the National Railway Level Crossing Behavioural Strategy in late 2005. NSW is allocating \$93, 000 in funding annually for two years to June 2008 to this initiative. The RTA and ITSRR participate in the Behavioural Coordination Group which is developing the strategy. The strategy proposes a national survey of community attitudes and behaviours at level crossings, a targeted education and enforcement project in Victoria and Western Australia and development of an inventory of existing behavioural programs in Australia and overseas.

StaySafe

In October 2004 the NSW Parliamentary StaySafe Committee released its final report following its Inquiry into the safety of railway level crossings. The report contained 69 recommendations, the majority of which were supported by the Government. The LCSC monitors progress of their implementation by its member agencies.

In September 2006 the StaySafe Committee wrote to the Chair of the LCSC seeking a response to the findings and recommendations of its report on level crossings. A comprehensive submission was provided to the Committee in November 2006 which included progress in implementing the Government's response to the report, details of the Level Crossing Improvement Program and other level crossings safety initiatives of LCSC member agencies. The RTA, the Ministry of Transport and RailCorp attended a subsequent StaySafe hearing conducted 13 November 2006. A second StaySafe Committee report outlining progress in implementing the recommendations of the 2004 report was issued in December 2006. The progress report signalled an intention to further review the response to the findings and recommendations of the 2004 report in 2008.



2 SAFETY IMPROVEMENT PROGRAM ACHIEVEMENTS

2.1 RTA Level Crossing Improvement Program

Major projects

Major projects involve significant improvements to road and or rail infrastructure usually resulting in changed traffic conditions for motorists.

During 2006/07 five major upgrade works were commissioned across the NSW rail network:

1. Currawang Road, Komungla (September 2006), on the RIC network;
2. MacKeller Road, Yanco (October 2006), on the RIC network;
3. Clergate Road, Clergate (December 2006), on the RIC network;
4. Pinnacle Road, Garema (December 2006), on the ARTC network;
5. Nolan Street, Unanderra (June 2007), on the RailCorp network.

(*all costs are 2006/07 financial year only)

1. Currawang Road, Komungla

Cost: \$21,000 Commissioned:15/9/06

- Existing passive stop signs upgraded to:
- lights, bells and retro-reflective boom gates, with high intensity (LED) lights and additional warning lights;
- queuing treatment (cross hatching)
- removal of non-frangible material
- improved road marking and signage (to comply with AS1742.7).
- Project team included RTA, ARTC, Mulwaree Council and RailCorp' Level Crossing Unit.
- This site is on the Orange to Wellington section of the RIC Rail Network.



Currawang Road, Komungla



2. Mackellar Road, Yanco

Cost: see below* Commissioned: 18/10/06

- Upgrade from passive Stop signs to active protection included;
- lights, bells & reflective boom gates, with high intensity (LED) lights;
- associated road works
- line marking and signage to AS1742.7.
- Project team included RTA, ARTC, Leeton Shire Council and RailCorp's Level Crossing Unit. This site is on the RIC network.

***This project was funded by the National Black Spot Program.**



Mackellar Road, Yanco

3. Clergate Road, Clergate

- Total cost over \$400,000.
- The existing passive stop signs was upgraded to:
- lights, bells and retro-reflective boom gates, with high intensity (LED) lights and additional warning lights.
- removal of non-frangible material.
- rail constant warning time technology.
- insulated rail sleepers.
- associated road works.
- improved road marking and signage (to comply with AS1742.7).
- Project team included RTA, ARTC,



Clergate Road, Clergate



4. Pinnacle Road, Garema

Cost: \$107,000 Commissioned: 3/12/06

- Existing passive stop signs were upgraded to include:
- lights, bells and retro-reflective boom gates, with high intensity (LED) lights and additional warning lights.
- rail signal interlocking alterations.
- removal of non-frangible material.
- improved road marking and signage (to comply with AS1742.7).

Project team included RTA, ARTC, Forbes Shire Council and RailCorp Level Crossing Unit.



Pinnacle Road, Garema

5. Nolan Street, Unanderra

Cost: \$218,000 Commissioned: June 2007

- Jointly funded by RTA SIP and RailCorp
- Existing lights, bells and boom gates were upgraded with:
- high intensity (LED) flashing lights replaced the incandescent lights.
- road works including new curb and guttering, guard rail, and drainage works.
- Level crossing lights were linked to the traffic lights at the adjacent intersection on the corner of Nolan Street and Princess Highway to reduce potential for queuing.
- Project team included RTA, and RailCorp Level Crossing Unit and Wollongong City Council

The work conducted to upgrade pedestrian facilities is listed under the RailCorp program.



Nolan Street, Unanderra



Minor projects

Two minor safety improvement works were commissioned during 2006/07 at:

1. Lockhart Road, Lockhart, September 2006, on the ARTC network;
2. Fern Street, Gerringong, December 2006, on the RailCorp network;

Work at these sites included the installation of advanced warning lights, high intensity lamp units, Safeflash technology (i.e. improved signalling technology that is proven not to have unsafe failure modes), road and pedestrian facility improvements, signage and road markings.



2.2 RailCorp Program - Level Crossing Safety Improvement Program

RailCorp completed a number of pedestrian improvement projects under a separate \$1.7m pedestrian level crossing budget in 2006/2007.

Three major projects were commissioned at Dundas, Telopea and Unanderra in Sydney. All major projects are consistent with recommendations outlined under the Accessible Public Transport Commonwealth Act (2004) and Disability Discrimination Act 1992 to ensure inclusion of the appropriate physical, auditory and visual technical mechanisms to ensure the safety of the public when using the pedestrian facilities.

1. Dundas Station

Cost: \$200,000* Commissioned: 13/8/06

The upgrade included the installation of:

- train activated warning devices, swing gates with an emergency exit, redman lights, audible tone warning.
- wider pathway replacing the timber surface, and
- associated fencing, walkways and approaches with tactile and visual warning devices to aid navigation.



2. Telopea Station

Cost: \$400,000* Commissioned: 17/9/06

The upgrade from redman lights included the installation of:

- train activated warning devices: physical (swing gates with an emergency exit), visual (redman lights), audible (tone warning)
- wider pathway (precast concrete surface replacing the timber surface)
- associated fencing, walkways and approaches with tactile and visual warning devices to aid navigation.



Telopea Station





Nolan Street , Unanderra

3. Nolan Street, Unanderra

Pedestrian treatments were commissioned in April 2006, safety treatments of \$500,000 were jointly funded by the RTA SIP and RailCorp SIPs.

The existing pedestrian swing gate facility (southern side of Nolan Street) was upgraded in line with DDA and APT to improve pedestrian safety. Work included the installation of:

- emergency exits with magnetic latches,
- tactile markers,
- wide pre-cast concrete walkway panels,
- new footpath approaches and
- improved fencing.

Project team included RTA, and RailCorp Level Crossing Unit and Wollongong City Council (The work conducted to upgrade the traffic light interface is listed under the RTA program.)

*all costs are 2006/07 financial year only



RailCorp Program Minor Projects

8 Minor Upgrade Projects Commissioned in 2006/07

Minor pedestrian works were undertaken at the following level crossings.

1. Quakers Hill, November 2006
2. Schofields, November 2006
3. Riverstone, November 2006
4. Vineyard, November 2006
5. Mulgrave, November 2006
6. East Richmond, November 2006.
7. Medlow Bath, December 2006.
8. Falconbridge, March 2007.



Treatments at these sites focused on the retro-fitting of pre-cast concrete walkway panels to level crossings adjacent to stations to improve safety and accessibility.

2.3 ARTC Program: Level Crossing Improvement Works

ARTC completed a number of level crossing improvement projects under a separate program and budget in 2006/2007.

- Hunter Valley Corridor: \$505,000 was provided for various level crossing upgrades including to level crossing sighting distances and roadway improvements at 27 level crossings. Twelve level crossings received “Safeflash” installation upgrades.
- North Coast Corridor: \$321,000 for upgrading level crossing lamps to LED Technology at 11 level crossing locations; \$283,000 for upgrade to Safeflash technology at 3 locations; earthing and lightning protection at one level crossing and \$343,000 for roadway improvements at 10 level crossings.
- North West Corridor: \$200,000 in for upgrading roadway and pedestrian pathway improvements and sighting distance improvements at 6 level crossings.

2.4 RIC Program: Level Crossing Improvement Works

RIC provided \$277,000 in 2006/07 for improvement works at eight level crossings in the North West Region, involving improvements to level crossing roadways and traffic controls, LED installation, SafeFlash change out, removal of non-frangible equipment, road surface upgrading, and Cerebus remote monitoring installation.



2.5 RATIONALISATION – Railway Level Crossing Closures

LCSC members have developed a Level Crossing Rationalisation Strategy to guide the identification, prioritisation and evaluation of level crossing sites for potential closure. Sites can be identified for possible closure by their ALCAM score, by Local Government, the RTA, the rail industry or the general public

The Minister for Transport approved the closure of 16 railway level crossings in 2006/2007.

- Albury, Williams Road at 636.200 km (Pedestrian Crossing)
- Albury, Ettamogah Road at 637.435 km
- Albury, Thurgoona Road at 639.375 km
- Albury, Dallinger Road at 640.935 km
- Albury, Fallon Street at 643.295 km
- Albury, North Street at 644.145 km
- Albury, Aitken Street at 647.238 km (Pedestrian Crossing)
- Albury, Olive Street at 647.952 km
- Gerogery, Olympic Highway (Bells Road) at 621.120
- Quirindi, Pryor Street at 392.612 km (Pedestrian Crossing)
- Werris Creek, Old Tamworth Road at 413.280 km
- Coramba at 626.115 km (Private Crossing)
- Wollar Ulan Line at 418.458 (Private Crossing)
- Wilpinjong Ulan Line at 420.880 (Private Crossing)
- Wilpinjong Ulan Line at 421.467 (Private Crossing)
- Wilpinjong Ulan Line at 422.352 (Private Crossing)



3 CORRIDOR STRATEGY

During 2006/2007 the implementation of a corridor strategy approach focused on the southern line between Cootamundra and Albury. The corridor strategy involves a precinct based management of the road and rail interface with the view of increased safety. The strategy was delivered through an analysis of the priority precincts within the corridor at Table Top, Yerong Creek, The Rock, Bomen, Gerogery and Uranquinty and Henty and is occurring in the context of improvements to the line being made by the ARTC which involve the construction of five passing loops between Henty and Albury.

The overall goal of using a corridor strategy approach is to achieve a safer road-rail interface along a rail corridor. Level crossing safety is assessed by considering the needs and impacts relevant to the whole community. Factors considered include the ALCAM ranking of crossings, the road and rail network manager's objectives and requirements and the access needs of the community.

Strategy initiatives for upgrades and or closures are prioritised according to the benefits to the whole corridor. Community consultation is central to the corridor approach and ensures that problems are not transferred from one community to another when level crossing improvements and closures are put in place.

A Corridor Strategy Steering Committee and a project team which includes the RTA, ARTC and RailCorp's LCU manage the implementation. Discussions with Albury City Council, Lockhart Council and Wagga Wagga City Council and relevant communities are ongoing.

A number of level crossings in Albury were closed during the year, most associated with the construction of the Hume By-Pass:

- 1 Gerogery, Olympic Highway (Bells Road) closure formalised.
- 2 Ettamogah Road;
- 3 Thurgoona Road;
- 4 Fallon Street
- 5 North Street
- 6 Aitken Street
- 7 Williams Road (Pedestrian Level Crossing);
- 8 Dallinger Road and
- 9 Olive Street, (Pedestrian Level Crossing);



4 PUBLIC EDUCATION AND SAFETY AWARENESS

Level Crossing Safety awareness and behavioural change is promoted through community awareness and education campaigns targeting motorists and pedestrians in communities across the NSW rail network. Changing motorist and pedestrian behaviour is important because both are significant causal factors in level crossing incidents.

4.1 Motorist Awareness

The 2006/07 motorist awareness campaign targeted NSW drivers promoting awareness of the importance of obeying the rules and stopping at railway level crossings. The campaign, underpinned by the tagline “*Stop or Get Stopped in your Tracks*”, included outdoor, print and radio coverage in a month long campaign in May 2007. Half the funding for this campaign was provided by the RTA, the other half was funded jointly by the three rail agencies (RIC, RailCorp and ARTC).



4.2 Pedestrian Awareness

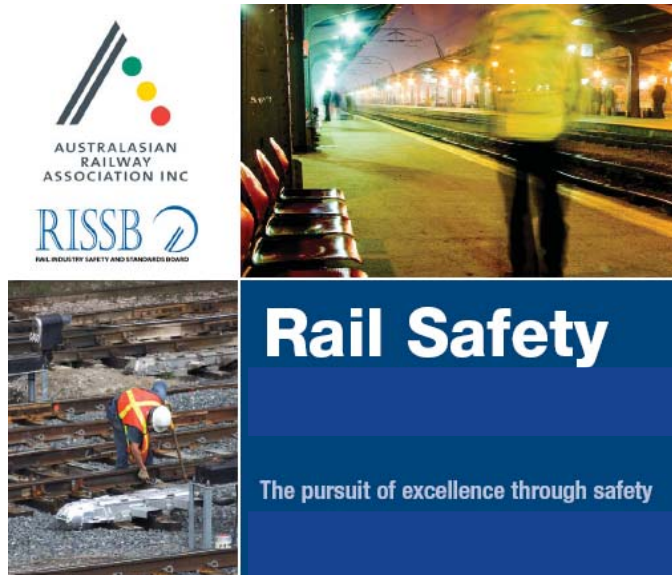
The Pedestrian element of the LCSC communications program is undertaken and funded by RailCorp because of the inherent risk associated with running passenger services over multiple lines with railway level crossings on its network.

RailCorp's Level Crossing safety campaign was conducted in the South Coast region. It was successful with post campaign surveys finding that 58% of people spontaneously recalled the campaign, and 73% recognised the campaign.



4.3 National Rail Safety Week

The Australasian Railways Association launched National Rail Safety Week in July 2006. Both RailCorp and the ARTC supported the program with activities across the network from 23-30 July. RailCorp directly promoted safety at stations across the network. At Garfield Road level crossing a variable message sign was used to warn motorists about the dangers of queuing across the intersection and the penalties for doing so. ARTC distributed a press release in support of the week across its national network.



4.4 Level Crossing Website

The webpage www.levelcrossings.nsw.gov.au was developed in 2004/05. In 2006/07 the website was redesigned to include support for the community awareness campaigns and to support the LCSC member agencies. The LCSC endorsed the new look website in March 2006. The website has a steady visitation rate and is expected that the site will undergo further work in the future to maintain its viability as a communications tool.



5 INCIDENT TRENDS

5.1 Incidents involving Road Motor Vehicles

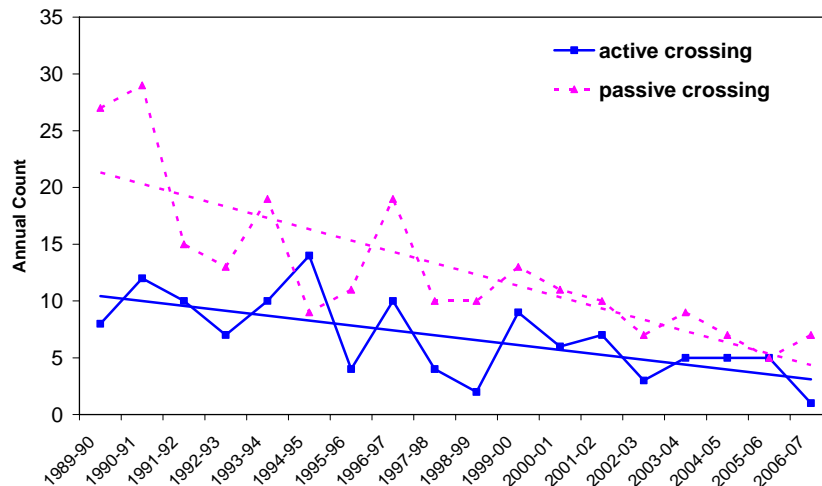
NSW Railway Level Crossing incident data is collected by ITSRR and distributed to all relevant road and rail agencies and the LCSC. Trends over the past ten years indicate a downward pattern in accident collisions at both passive and active railway level crossings.

There were eight collisions between trains and road vehicles at level crossings in 2006-07, seven at passive crossings.

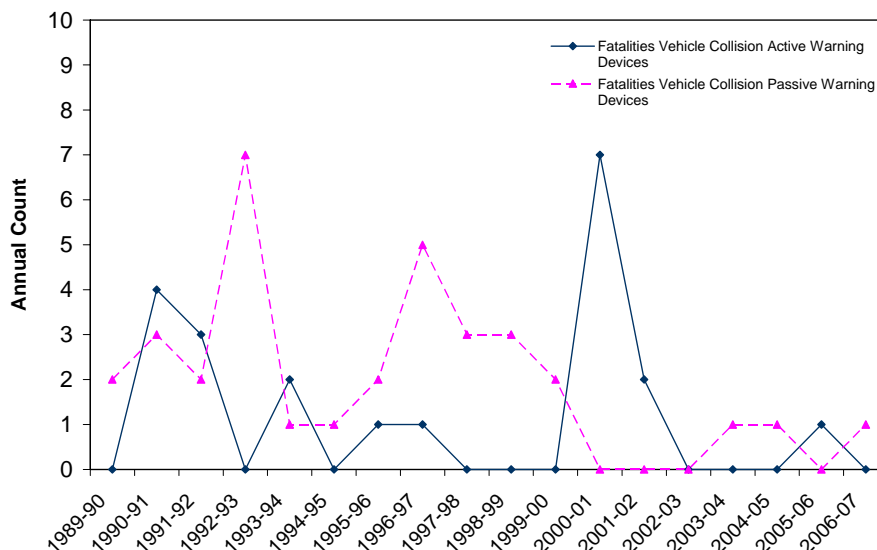
There was one fatality at a railway level crossing in 2006/2007. A semi-trailer loaded with hay drove into the path of an unloaded bulk grain freight train at a passive level crossing at Back Creek Wirrinya. The driver of the semi-trailer was fatally injured and two train crew were injured. The collision caused the train to derail and a fire commenced which destroyed three locomotives. The semi trailer was also destroyed.

The graphs below are provided to show the long term trends.

Train colliding with road motor vehicle at level crossing



Fatalities - Trains Colliding with Road Motor Vehicles at Level Crossings

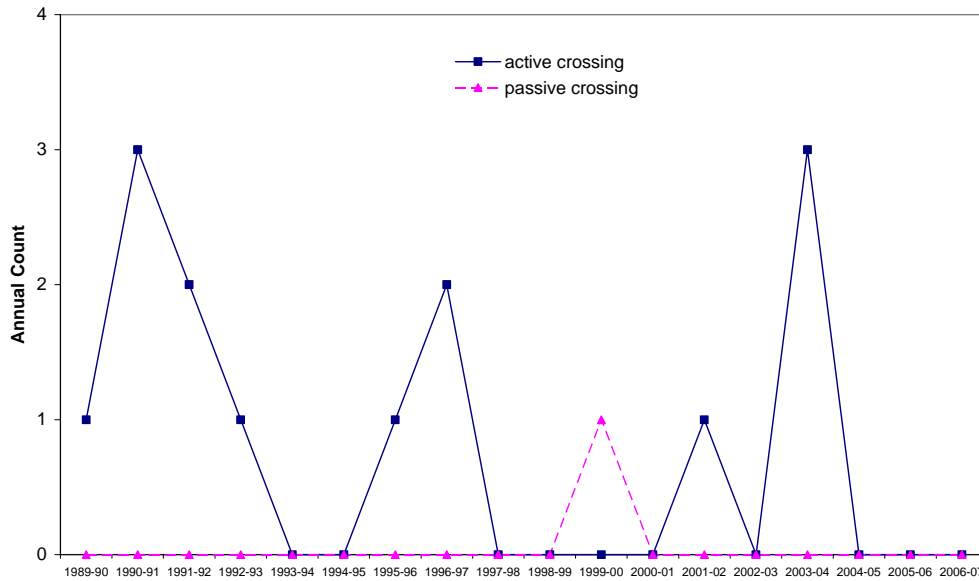


5.2 Collisions and Fatalities Pedestrian Incidents

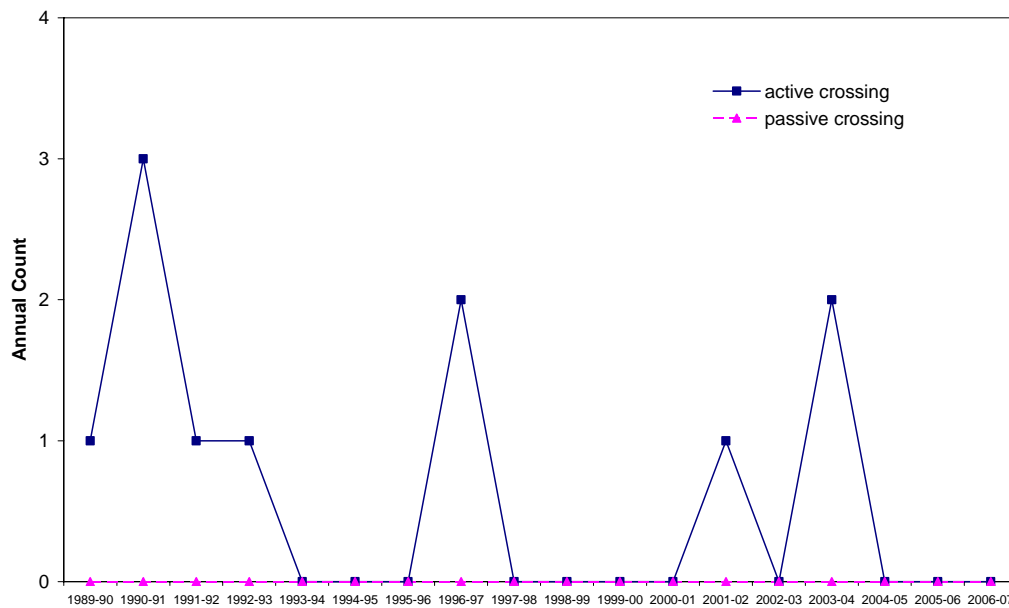
There were no collisions at level crossings involving pedestrians in NSW during 2006/07. During the past 18 years there have been 15 collisions at level crossings involving pedestrians, 11 of which were fatal.

The graphs below chart the current period and illustrate long term trends.

Train Colliding with Person at Level Crossing, 1989/90 to 2006/07 in NSW



Fatalities - Train Colliding with Person at Level Crossing, 1989/90 to 2006/07 in NSW



6 FUTURE DIRECTIONS

1. Level Crossing Improvement Program

The NSW Level Crossing Improvement Program will continue in future years. In June 2007, the Minister for Transport announced the levels of funding which applied over the previous three years would continue into the future.

2. National Rail Safety Legislation

LCSC member agencies will work with the ITSRR in implementing legislative provisions on level crossing safety management.

3. StaySafe

The LCSC will continue to monitor the implementation of the Government's response to the 2004 StaySafe report on level crossings in advance of StaySafe's next review of progress in 2008.

4. Corridor and Rationalisation Strategies approach

Implementation of the Corridor Strategy between Cootamundra and Albury and the Rationalisation Strategy will continue.

5. Public awareness

Public Safety at Railways level crossings will continue to be a major focus of the LCSC. Awareness campaigns will be conducted with pedestrian and motorist campaigns the key focus. The findings of the survey being undertaken through the National Level Crossing Behavioural Strategy are expected to be a valuable source of information for future campaigns.

6. NSW Planning Provisions on Level Crossings

Recommendation 45 of the StaySafe report was for local councils, when considering land use planning and development issues, to take account of issues associated with railway level crossings, and that such considerations are documented by local council traffic committees.

To progress implementation of this recommendation, in 2007/08 road and rail agencies will work with the NSW Department of Planning on the draft Infrastructure State Environmental Planning Policy to ensure its provisions include requirements for consent authorities to properly assess developments which impact on level crossing operation and safety



Appendix A: LCIP Expenditure 2006/07

	Town	Location	Cost (000)
MAJOR SAFETY IMPROVEMENTS			
1	Currawang Road (Commissioned)	Komungla	21
2	Nolan Street (Commissioned)	Unanderra	218
3	Clergate Road (Commissioned)	Clergate	102
4	Pinnacle Road (Commissioned)	Garema	107
5	Pine Road	Fairfield	437
6	West Street	Stockinbingal	388
8	Merewether Street	Civic	56
9	Robert Street	Tamworth	135
10	Schnapper Beach Road	Valla	90
11	Runnymede, Andersons Road	Kyogle	98
12	Park Road	Woonona	276
14	Bellambi Lane	Bellambi	59
15	Holten Drive	Broken Hill	148
16	Baranbah Street	Baan Baa	83
17	Forbes St	Parkes	58
18	Rail Strategy Griffith Council	Griffith	62
19	Plunkett Street	Yerong Creek	114
20	Grogan Road	Stockinbingal	78
21	Burradoo Road	Burradoo	111
22	Kungala Road	Kungala	82
23	Bundarra Street	Black Heath	42
24	Garfield Road	Riverstone	574
TOTAL			3339

MINOR SAFETY IMPROVEMENTS

1	Poplar Avenue	Leeton	1
2	Old South Road	Cullerin	1
3	Warnervale Road	Warnervale	2
4	Fry Street	Grafton	4
5	Yerong Street	The Rock	4
6	Middle Falbrook Road	Nundah	5
7	Bullus Drive	Moree	6
8	Woods Road	Craven	6
9	Brown's Crossing Road	Macksville	6
10	Public Road	Dubbo	9
11	Warral Road (Behremere Road)	Warral	10
12	Single Street	Werris Creek	10
13	Boothenbah Road	Dubbo	14
14	Blandford & Bylong Minor Works		14
15	Mt George Station Yard	Mt George	14
16		Whittingham	16
17	Clarinda Street	Faulconbridge	25
18	Urana Street	The Rock	31
19	Railway Street	Wickham	34
20	Railway Parade	Corrimal	35
21	Couche Crescent	Koolewong	44
22	Liverpool Street	Scone	48
23	Crowthers Road	Stratford	49
24	Clyde Street	Islington	2



	Town	Location	Cost (000)
25	Jacks Road	Gloucester	2
26	Sherwood Creek Road	Glenreagh	4
27	St James Road	Adamstown	13
28	Brook Street	Muswellbrook	15
29	Henry Street	Quirindi	49
30	Fern Street (Commissioned)	Gerrington	4
31	Lockhart Road (Commissioned)	Lockhart	1
TOTAL			478

CORRIDOR STRATEGY

1	Albury(Closures)	Albury	9
2	Strategy Cootamundra to Albury		196
3	Perryman's Lane (Bypass built)	Tabletop	1319
TOTAL			1524

CLOSURE DEVELOPMENT

1	Public Road (Closed)	Bogan Gate	1
2	Jones Road (Closed)	Eungai	1
3	May Street (Closed)	Condoblin	1
4	Private road (Closed)	Burradoo	3
5	Stroud Road to Craven Rationalisation	Craven	4
6	Wingham to Taree Rationalisation	Taree	4
7	Ulan Line Rationalisation		4
8	Junction Hill	Grafton	5
9	Dudauman Street	Stockinbingal	6
10	Lowes Creek Road	Quipolly	6
11	Bathurst Street (Closed)	Forbes	16
12	Pryor Street Pedestrian Crossing	Quirindi	14
13	Trahairs Lane	Bomen	18
14	Polaris Street	Temora	22
15	Oolong Road (Closed)	Gunning	22
16	Mitchell Highway (Closed)	Nyngan	22
17	Forbes	Forbes	24
18	Barker Street Pedestrian Crossing	Casino	47
19	Forward Program Development		11
20	Johnson Creek Road	Wards River	8
TOTAL			239

OTHER

1	Development		13
2	Education and Enforcement Campaign		306
3	Minor Works		137
4	Closures Program		43
5	Queue Monitoring		64
6	Fault Tree Risk Assessments		30
7	Onsite Level Crossing Data Collection		199
TOTAL			792

GRAND TOTAL	6371
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2007/08



**RAILWAY LEVEL CROSSING
SAFETY IMPROVEMENT
PROGRAMS**

YEARLY REPORT 2007/08



CONTENTS

EXECUTIVE SUMMARY	3
1. NSW RAILWAY LEVEL CROSSINGS – 2007/08 PROFILE	5
1.1. Administration	5
1.2. Funding	6
1.3. National Developments	6
1.4. Risk Assessment - ALCAM	6
1.5. StaySafe	7
2. SAFETY IMPROVEMENT PROGRAM ACHIEVEMENTS	8
2.1. RTA Level Crossing Safety Improvement Program	8
2.2. RailCorp Program - Level Crossing Safety Improvement Program	13
2.3. ARTC Program: Level Crossing Improvement Works	14
2.4. RIC Program: Level Crossing Improvement Works	16
2.5. Rationalisation – Railway Level Crossing Closure	16
2.6. Corridor Strategy	18
3. PUBLIC SAFETY AWARENESS	19
3.1. Motorist Awareness	19
3.2. Pedestrian Awareness	19
3.3. National Rail Safety Week	19
3.4. Level Crossing Website	19
4. ACCIDENT TRENDS	19
4.1. Collisions and Fatalities - Motorists	19
4.2. Collisions and Fatalities - Pedestrians	19
5. FUTURE DIRECTIONS	22
5.1. Level Crossing Safety Improvement Program	22
5.2. National Rail Safety Legislation	22
5.3. StaySafe	22
5.4. Corridor and Rationalisation Strategies approach	22
5.5. Public awareness	22
APPENDIX A: LCIP EXPENDITURE 2007/08	23

EXECUTIVE SUMMARY

There are more than 3,800 railway level crossings in NSW. 1400 of these crossings are public road/public rail crossings. Individual rail and road agencies are responsible for the management of safety of the various components of their railway level crossing infrastructure.

Regulatory oversight is provided by the Independent Transport Safety and Reliability Regulator (ITSRR) for rail operations and infrastructure and by the Roads and Traffic Authority (RTA) and Police for roads.

The safety of the road and rail network is a high priority for the Government and the Level Crossing Strategy Council (LCSC) is the interagency forum which promotes coordination between agencies and railway level crossing safety. It is made up chief executive level representation of the RTA, RailCorp, RIC, the ARTC, ITSRR, and the Ministry of Transport, with officer level representation of the NSW Local Government Association and Shires Association (LGA&SA), the peak body representing local government and the NSW Police.

In 2007, the NSW Government announced the enhanced level of funding which had applied in previous years to the RTA Railway Level Crossing Improvement Program would continue to 2011. Specifically, starting in 2007/08, \$7m will be available each year for the RTA Program.

Under this Program seven major level crossing upgrade projects were commissioned across the ARTC and RailCorp networks during the year. Preliminary development and planning also commenced on projects due for commissioning in 2008/09 and beyond. A further 15 minor works were completed during 2007/08.

During the year, the Minister for Transport approved closure of 41 level crossings, most of them providing access to private properties.

In 2006/07, the Level Crossing Strategy Council commenced consultation with councils on the corridor strategy (Cootamundra to Albury). As a result of consultation, issues were resolved and safety improvements implemented. During 2007/08 it has been more difficult to achieve consensus on the issue of providing acceptable level crossing safety for the broader community while meeting the access needs of the local community. Higher level consultation has been sought by councils to advance this process.

During the year level crossing safety awareness campaigns were again conducted. The annual motorist advertising campaign was launched in September 2007 to promote awareness of road rules at level crossings targeting rural drivers in NSW. RailCorp launched two major pedestrian advertising campaigns in the Illawarra, Metropolitan and Hunter regions. RailCorp also launched a trial enforcement campaign with the co-operation of NSW Police at six locations. Additionally, the level crossing safety awareness message "*Stay Safe, Stay Alert and Stay on the Path*" was included in the RailCorp Youth Outreach Schools Program during the year.

In December 2007, the Department of Planning (DoP) gazetted the State Environmental Planning Policy (Infrastructure). The new policy requires councils to notify rail authorities of development applications impacting on level crossings and to not grant approval for the development without the concurrence of the rail authority.

There were no fatalities involving motor vehicles at railway level crossings in NSW during 2007/08. There were three collisions at passive and three at active level crossings. There was one fatality involving a pedestrian at Ekerts private crossing (between Leeville and Casino) on the ARTC Rail Network. In the previous year there was 1 fatality that resulted from a collision between a road vehicle and a train at a passively protected level crossing. There were no other fatalities that year. Trends over the past ten years indicate a downward pattern in accident collisions at both passively and actively protected level crossings.

In addition to the RTA Level Crossing Improvement Program, RIC spent \$1.94m and the ARTC \$6.9m on maintenance, improvement and upgrade of level crossings. RIC also commenced a major review of all public and private level crossings on the CRN to establish a priority list of required works. The ARTC works covered 124 level crossings and included grade separation of the level crossing at Swinging Ridge Road through the construction of an over bridge at the cost of \$4m, which was completed as part of the Ardglan Loop Extension Project in the Hunter Valley Corridor. RailCorp provided \$2.65m towards safety improvements at level crossings on its network.

1. NSW RAILWAY LEVEL CROSSINGS – 2007/08 PROFILE

There are more than 3,800 railway level crossings in NSW. 1,400 of these crossings are public road/public rail crossings. The interface of road and rail at railway level crossings represents a significant risk to road and rail users. The level of protection provided at railway crossings is determined by a risk assessment of each site. Railway level crossing traffic controls fall into two categories:

- **Passive controls:** stop or give way signs warn motorists about a level crossing. Signs warn pedestrians and mazes control entry to the rail corridor.
- **Active controls:** lights, bells, boom gates warn motorists; and lights, bells, booms, and locking swing gates warn pedestrians.

1.1. Administration

NSW road and rail agencies are responsible for level crossing safety and are supported by the Level Crossing Strategy Council (LCSC) an interagency forum which has a coordination role.

The LCSC members are:

- Roads and Traffic Authority (RTA).
- Rail Infrastructure Corporation (RIC), RailCorp and Australian Rail Track Corporation (ARTC).
- Ministry of Transport (MoT)-chair.
- Independent Transport Safety & Reliability Regulator (ITSRR).
- NSW Police.
- Local Government Association and Shires Association (LGA&SA).

The LCSC is supported by a Level Crossing Working Group (LCWG) which comprises officer level representatives from the member agencies. The RailCorp Level Crossing Unit (LCU) manages the Australian Level Crossing Assessment Model (ALCAM), undertakes level crossing assessments, works with the RTA in implementing its Level Crossing Improvement Program (LCIP) and provides secretariat support and assistance to the LCSC and LCWG.

Level crossing safety improvements and upgrades are generally undertaken by the relevant infrastructure owner/manager. LCIP, administered by the RTA, is the major source of funding for safety upgrades across NSW. The LCSC endorses and monitors delivery of the program and promotes collaboration and consultation between all agencies involved in the works. During the past financial year the NSW Government increased funding to LCIP to \$28m over the next four years until 2011.

The RTA distributes LCIP funding generally according to a priority list of sites determined by ALCAM. This assessment tool was developed by Queensland Transport and endorsed by Australian Transport Council (ATC) in 2003 for use throughout Australia. It is used to assess, evaluate and prioritise the (relative) safety risk of railway level crossings, and to assist in determining the treatment options for individual sites.

In addition to upgrading railway level crossing protections, the closure of railway level crossings, both public and private is actively pursued by LCSC member agencies. Thorough inspection and detailed assessment of the crossing is conducted before closure is pursued. Consultation with the local council, the community, the RTA, emergency services and other road and rail users is conducted prior to recommending closure to the Minister for Transport, whose approval is required before a closure is implemented. During the year the Minister for Transport approved closure of 41 level crossings, most of which were on private property.

1.2. Funding

Year	RTA Level Crossing Safety Improvement Program including accelerated funding	Rail Contribution	Total
2003/04	\$3M RTA	RIC \$2M (NSW)	\$5M
2004/05	\$5M RTA	-	\$5M
2005/06	\$6M RTA	\$1.3M (RailCorp)	\$7.3M
2006/07	\$7 M RTA	\$2.4M (RailCorp) \$1.65M (ARTC) \$0.277M (RIC)	\$11.327M
2007/08	\$7 M RTA	\$2.65M (RailCorp) \$6.9M (ARTC) \$1.94M (RIC)	\$18.49M

1.3. National Developments

During the first half of the year, the RailCorp Level Crossing Unit Manager chaired the Australian Railway Crossing Strategy Implementation Group (ARCSIG). ARCSIG had representation from all state and territories and New Zealand and its role was to implement the ATC endorsed national level crossing safety strategy and management plan.

There is also a National ALCAM Committee, which previously reported to ARCSIG, and is responsible for the ongoing development of nationally consistent risk assessment methodologies as well as promoting a co-ordinated approach to the ongoing improvement of ALCAM.

In each of 2006/07 and 2007/08 NSW allocated \$93,000 to the ATC endorsed National Railway Level Crossing Behavioural Strategy research project. The ITSRR and RTA were represented on the National Behavioural Coordination Group (BCG) which managed the project and reported to the SCOT Rail Group. This Group completed a survey of community attitudes and behaviour at level crossings, a targeted education and enforcement project in Victoria and Western Australia and developed an inventory of existing Australian and international behavioural programs. Details of the three project elements are available on the Australasian Railways Association (ARA) website at www.ara.net.au.

A proposal for continuation of the work of the Group was presented to the SCOT Rail Group in February 2008. This proposal was for a comprehensive communications package targeting specific user groups and further national research into vulnerable road users. However, the national arrangements under SCOT have changed, the ATC has decided to develop a National Transport Policy Framework and the SCOT Rail Group is no longer meeting. The future work proposed by the Behavioural Change Group is being considered for inclusion as part of the newly established Level Crossing Working Group under the National Transport Policy initiative as will the work previously being progressed by the ARCSIG and the ALCAM National Group.

1.4. Risk Assessment - ALCAM

As previously mentioned ALCAM is used in NSW to prioritise sites to help develop the annual RTA Level Crossing Safety Improvement Program. During the year, NSW moved from using the NSW based Level Crossing Assessment Model to the enhanced Australian Level Crossing Assessment Model.

The priority list of sites for development and upgrade in 2007/08 was developed using ALCAM. A number of sites previously prioritised under LCAM carried over to this year's program due to their advanced stage of development.

The LCSC commissioned traffic survey contractors to undertake CCTV and pedestrian / road volume count research projects in 2005/06 and 2007/08. This work has generated valuable information on both exposure and user behaviour at railway level crossings. This data is used to evaluate and understand the risks and behavioural trends at railway level crossings and for the development of more effective safety improvements. Data collection was undertaken on the RIC Network on the Main North West line.

Review of the CCTV footage and data collected from 2005 to 2008 has proven to be more resource intensive than originally anticipated. Further data collection will commence once a determination has been made on the most effective method for analysing and reporting data. One option being considered is the engagement of traffic engineering expertise to undertake the analysis and commence a four year cycle of maintaining the data set for each public level crossing in NSW.

1.5. StaySafe

The LCSC continues to monitor implementation of the Government's response to its 2004 report on level crossings. The Government supported or supported with change the majority of the StaySafe recommendations.

Implementation of a number of key recommendations was progressed during the year. It was recommended (59 and 60) that the Attorney General review the current criminal and civil law regarding motorists and pedestrians using railway level crossings to determine if the current offences are sufficient to deter unsafe and inappropriate behaviour or if further specific offences are required. The Attorney General's Department completed its review this year and concluded that the current offences and maximum penalties are sufficient to address a broad range of unsafe behaviours by level crossing users and that specific new offence provisions to deter unsafe behaviour are not necessary.

The Attorney General's Department suggested the deterrent effect of existing offences could be increased by publicising the existence of the criminal liabilities and their potential application to level crossing users. The RTA has been asked to consider including these provisions as part of future level crossing awareness campaigns.

StaySafe recommended (45) that local councils consider land use planning and development issues, take account of issues associated with railway level crossings, and document the considerations of local council traffic committees. In December 2007, the Department of Planning (DoP) gazetted the State Environmental Planning Policy (Infrastructure). The new policy requires councils to notify rail authorities of development applications impacting on level crossings and to not grant approval for the development without the concurrence of the rail authority.

2. SAFETY IMPROVEMENT PROGRAM ACHIEVEMENTS

2.1. RTA Level Crossing Safety Improvement Program

Major projects

During 2007/08 seven major upgrades to level crossings were commissioned across the NSW rail network. The funding for the program is administered by the RTA.

7 Major Upgrade Projects Commissioned in 2007/08:

1. **Pine Road, Fairfield** (September 2007), on the RailCorp network.
2. **Baranbah Street (to Caloola), Baan Baa** (September 2007), on the RIC network.
3. **Robert Street, Tamworth** (December 2007), on the RIC network.
4. **Green Street, Tamworth** (December 2007), on the RIC network.
5. **Grogan Road, Stockinbingal** (May 2008), on the ARTC network.
6. **Schnapper Beach Road, Valla:** (June 2008), on the ARTC network.
7. **Runnymede (also known as Andersons) Road, Kyogle** (June 2008), on the ARTC network.

1. Pine Road, Fairfield

Commissioned on 16/09/2007.

Total cost over \$500,000 (2007/08: \$248,000)

The existing lights, booms and bells have been interfaced with new RTA traffic signals at the intersection of Pine Road and Fairfield Street (to provide for clearance of road motor vehicles queued across railway tracks). This is the first site constructed using the newly agreed interface arrangements between RTA and RailCorp.

The RTA, RailCorp and Fairfield City Council worked together to deliver the works on the RailCorp Network.



2. Baranbah Street (to Caloola), Baan Baa

Commissioned on 28/09/2007

Total cost over \$600,000 (2007/08: \$592,000)

The upgrade from passive stop signs to active protection included the following:

- lights, bells and retro-reflective boom gates, with high intensity (LED) lights and additional warning lights.
- removal of non-frangible material.
- road works including new curb and guttering.
- improved road marking and signage to comply with AS1742.7.

The RTA, ARTC, Narrabri Shire Council and RailCorp's Level Crossing Unit worked together to deliver this site on the Country RIC Network.

On 4 May 2004, there was a fatal collision at this site involving a CountryLink Xplorer and car.



3. Robert Street, Tamworth

Commissioned on 20/12/2007.

Total cost over \$600,000

In 2007/08 a total of \$1.06 million was spent on the two sites in Tamworth (Robert Street and Green Street.)

Traffic Controls for motorists were upgraded from flashing lights with the upgrade including the installation of:

- lights, bells and retro-reflective boom gates, with high intensity (LED) lights and additional warning lights.
- alterations to train detection including installation of a constant warning time device.
- removal of non-frangible material.
- other minor improvements to comply with AS1742-7.

Traffic Controls for pedestrians were upgraded from a passive maze on one side of the street to facilities on both side of the street the same as provided at Green Street.

The RTA, ARTC, Tamworth City Council and RailCorp's Level Crossing Unit worked together to deliver this site on the RIC Rail Network.



4. Green Street, Tamworth

Commissioned on 20/12/2007.

Total cost over \$300,000.

This is a pedestrian access only crossing – there is no access for motor vehicles.

The existing pedestrian maze was replaced with audible (bells), physical (gates) and visual (lights) warnings of approaching trains through the installation of:

- locking pedestrian swing gates with emergency exits (the locks prevents the gates from being forced open when a train is approaching).
- active 'red man' light.
- improved pedestrian fencing, to encourage pedestrians to use the facility to cross the tracks.
- yellow tactile marking on path edge and at start of the crossing; improving path delineation.
- wide path across the tracks.

This work provides safer and easier access for all pedestrians, particularly those less mobile.

The RTA, ARTC, Tamworth City Council and RailCorp's Level Crossing Unit worked together to deliver this site on the RIC Rail Network.



5. Grogan Road, Stockinbingal

Commissioned on 11/05/2008.

Total cost over \$500,000 (2007/08: \$90,000)

Traffic Controls for motorists were upgraded from passive Give Way signs to active traffic control with the installation of:

- lights, bells and retro-reflective boom gates, with high intensity (LED) lights and additional warning lights.
- removal of non-frangible material.
- road works including road widening.
- other minor improvements to comply with AS1742-7 (2007).

The RTA, ARTC, Cootamundra Shire Council and RailCorp's Level Crossing Unit worked together to deliver this site on the ARTC Network.



6. Schnapper Beach Road, Valla

Commissioned on 26/06/ 2008.

Over \$500,000 has been invested in improved safety facilities at Schnapper Beach Road, Valla railway level crossing. In 2007/08 \$588,000 was invested.

Motorists stop sign traffic controls were removed and the following facilities installed:

- flashing lights (high intensity or LED lights).
- retro-reflective boom gates with high intensity (LED) lights.
- additional lights.
- improved fencing.
- improved road marking and signage to comply with Australian Standard 1742-7 (2007).
- installation of delineating guardrail and removal of non-frangible material.
- road widening and road works.
- other minor improvements to comply with AS1742-7 (2007).

The RTA, ARTC, Bellingen Shire Council and RailCorp's Level Crossing Unit worked together to deliver this site on the ARTC rail network.



7. Runnymede Road (also known as Andersons), Kyogle

Commissioned on 24/06/2008.

Over \$500,000 has been invested in improved safety at Runnymede Road, Kyogle railway level crossing. In 2007/08, \$501,000 was invested.

Motorists stop sign traffic controls were removed and the following facilities installed:

- high intensity or LED flashing lights.
- retro-reflective boom gates with high intensity (LED) lights.
- improved road marking and signage to comply with Australian Standard 1742-7 (2007).
- installation of delineating guardrail and removal of non-frangible material.
- road widening and other road works.
- other minor improvements to comply with AS1742-7 (2007).

The RTA, ARTC, Kyogle Council and RailCorp's Level Crossing Unit worked together to deliver this site on the ARTC rail network.



RTA Safety Improvement - Minor Projects

Through the RTA Program 15 minor works were completed during 2007/08. Work at these sites included the installation of advanced warning lights, high intensity lamp units, Safeflash technology (i.e. improved signalling technology that is proven not to have unsafe failure modes), road and pedestrian facility improvements, signage and road markings. The RTA, Councils and rail network managers worked together to deliver these projects.

Location	Sites	Commissioned
Condobolin	2	August 2007
Ivanhoe	1	August 2007
Menindee	2	August 2007
Broken Hill	2	August 2007
Werris Creek	1	November 2007
Nyngan	3	June 2008
Cobar	1	June 2008
Parkes	3	June 2008
Total	15	

In addition to infrastructure projects commissioned in the year, the LCIP included a large number of projects in the development phase, which is a pre-construction phase and includes design and consultation to determine the scope of works for projects for construction in future upgrade programs.

2.2. RailCorp Program - Level Crossing Safety Improvement Program

There were no major projects commissioned during 2007/08 as the focus of the RailCorp Program this year was on design and development work for projects staged for completion from 2008-10 as outlined below.

1. Cowan Station Pedestrian Crossing

2. Park Road, Woonona. Work was completed in conjunction with RTA.

3. Wharf Road, Berry

Stage 1: Construction was completed in 2007/08, which entailed the removal of a redundant passing loop and sidings. This also provided an opportunity to remove a bad hump in the road surface and general re-grading and cosmetic changes.

Stage 2: Level crossing safety improvements due to commence in 2008/09, which includes the upgrade of the Level Crossing to boom gates and flashing lights. A new cycleway and pedestrian crossing facility is also planned, together with road medians and kerb and guttering improvements.

4. East Richmond Station

Concept design is ongoing based on the upgrade of the existing pedestrian facilities on the Sydney side and a new pedestrian facility provided on the country side, including the conversion to automatic swing gate.

5. Princes Hwy, Unanderra

Installation of advanced warning lights.

6. Bundarra St, Blackheath

Upgrading of the existing pedestrian crossing, installation of a new pedestrian crossing, upgrading of the road crossing surface, widening of the road, installation of traffic lights at Bundarra Street and Station Street with traffic lights interfaced with level crossing.

7. Sir Henry's Parade, Faulconbridge

8. Telopea – Uninterruptible Power Supply (UPS)

Installation of an uninterrupted power supply and battery backup system at the level crossing.

9. Minor Works – Magnetic Latches

Installation of magnetic latches on escape gates in pedestrian maze facilities at Springwood and Faulconbridge, due to be completed in 2008/09.

10. Parramatta Road, Granville

Rationalisation of level crossing signage, installation of cross hatching, road marking and advance warning signs to Australian Standard. This project is currently in concept development.

2.3. ARTC Program: Level Crossing Improvement Works

In 2007/08 ARTC contributed \$6.9m in separate funding for maintenance, improvement and upgrades to level crossings.

North Coast Corridor

Minor Works

- \$71,000 for civil upgrades to level crossings including roadway crossing upgrades and renewals and level crossing sighting distance improvements.
- \$153,000 for signal upgrades to level crossing including the provision of remote monitoring and the upgrade of light control to Safeflash technology.

Hunter Valley Corridor

Major Works

Level crossing improvement projects were completed as part of the Ardglen Loop Extension Project for commissioning in July 2008 including grade separation of the level crossing at Swinging Ridge Road at a cost of \$4m. Old Great Northern Highway Level Crossing was upgraded to active protection with access roads improved at an approximate cost of \$400,000.

Minor Works

- \$1,079,000 for civil upgrades to level crossings including roadway crossing upgrades and renewals and level crossing sighting distances improvements.
- \$273,000 for signal upgrades to level crossings including: upgrade of level crossing lamps to LED technology; upgrade of light control to Safeflash technology and upgrade of earthing and lightning protection.

South Corridor

Major Works

- The Bomen level crossing was upgraded to active protection and the access roads were improved at an approximate cost of \$400,000.

Minor Works

- \$140,000 for civil upgrades to 24 private and public level crossings included roadway crossing upgrades and renewals.

Western Region

Minor Works

- \$676,500 for civil upgrades to level crossings which including resurfacing, reconditioning, pedestrian crossing upgrades and level crossing sighting distance improvements.
- \$60,600 for signal upgrades to level crossing including: upgrading level crossing lamps to LED technology, upgrade of light control to Safeflash technology, and upgrade of earthing and lightning protection.

Low Cost Level Crossing Protection System

ARTC is developing a low cost level crossing protection system that can be installed where full active lights and bells protection, grade separation or level crossing closure are not viable. This new type of protection is most suited to private level crossings.

The warning device consists of two green lights installed on the standard stop and cross buck signs on both sides of the level crossing. The lights are installed on the back of the stop sign so that they are visible to approaching traffic on the opposite side of the crossing. These lights are illuminated when there is no train approaching the level crossing and it is safe to cross. The same lights are extinguished if there is a train approaching. The track circuitry is used to detect the approach of the train. The device is designed to be failsafe, if the lights fail, it will indicate the approach of a train.

The design of the device has been assessed against the known risk factors in ALCAM as well as the UK Level Crossing Risk Management Tool Kit. Also, human factors experts have visited the site where a prototype has been installed to conduct a review of the system in context to identify any potential issues for that location. Recommendations of this review have been incorporated into the design of the device.

The warning device has been installed at a level crossing at Braunstone on the North Coast Line. It is still in the prototype stage but it is expected that the ARTC safety committee will accept the final design for rollout to the ARTC network. The device is particularly suited to private level crossings on single lines that are associated with loop extension works. It is intended to use this device where it is deemed appropriate on a site-by-site basis.

2.4. RIC Program: Level Crossing Improvement Works

RIC completed a number of level crossing improvement projects under a separate program and budget in 2007/08.

RIC spent \$1.94m on civil and signal works at level crossings, including on maintenance activities such as resurfacing, reconditioning, pedestrian crossing upgrades and sighting distance improvements. Included in this amount is \$349, 800 for upgrading level crossings, including:

- Installation of Light Emitting Diodes at 22 level crossings on the CRN;
- Installing swing gates at Fitzroy Street level crossing Tamworth;
- Minor level crossing upgrade works at Parkes Road Borenore, Manildra Road. Molong and Norah Creek Road Molong;
- Installation of Light Emitting Diodes, Alternating Current and an Earth Leakage Detector at three level crossings: Molong Bank Street , Manildra Trunk Road , Manildra Parkes Road;
- Installation of Light Emitting Diodes, Safeflash, an Earth Leakage Detector, and frangible booms at Bank Street Molong;
- Installation of level crossing Light Emitting Diodes, and an Earth Leakage Detector and Safeflash at 3 sites (Wellington to Dubbo); and
- Installation of level crossing Light Emitting Diodes, an Earth Leakage Detector and Safeflash at 4 sites (Wellington Yard).

2.5. Rationalisation – Railway Level Crossing Closure

LCSC agencies actively pursue closure of both public and private level crossings, wherever possible. Sites for potential closure are identified either by their ALCAM score, by local government, the RTA, the rail industry or the general public. The Minister for Transport approved the closure of 41 private and public railway level crossings in 2007/2008.

Consultation is also underway to examine the potential to close level crossings at Camellia Station (pedestrian only); Oolong Road, Oolong; Middle Falbrook Road, Nundah; and Crowthers Road, Stratford.

Costs associated with level crossing closures include traffic management studies, consultation with stakeholders, alternative route construction and general construction associated with the closure.

Location and Rail Kilometres	Rail owner consent	Minister Approved	Gazetted
1. North Coast line at 195.334	April '07	Aug '07	Sep 07
2. North Coast line at 196.923	April '07	Aug '07	Sep 07
3. North Coast line at 197.728	April '07	Aug '07	Sep 07
4. North Coast line at 198.271	April '07	Aug '07	Sep 07
5. North Coast line at 202.295	April '07	Aug '07	Sep 07
6. North Coast line at 203.622	April '07	Aug '07	Sep 07
7. North Coast line at 206.781	April '07	Aug '07	Sep 07
8. North Coast line at 209.215	April '07	Aug '07	Sep 07
9. North Coast line at 211.770	April '07	Aug '07	Sep 07
10. North Coast line at 212.365	April '07	Aug '07	Sep 07
11. North Coast line at 212.755	April '07		

Location and Rail Kilometres	Rail owner consent	Minister Approved	Gazetted
12. North Coast line at 214.284	April '07	Aug '07	Sep 07
13. North Coast line at 225.308	April '07	Aug '07	Sep 07
14. North Coast line at 231.444	April '07	Aug '07	Sep 07
15. North Coast line at 233.415	April '07	Aug '07	Sep 07
16. North Coast line at 258.521	April '07	Aug '07	Sep 07
17. North Coast line at 263.349	April '07	Aug '07	Sep 07
18. North Coast line at 265.783	April '07	Aug '07	Sep 07
19. North Coast line at 432.471	April '07	Aug '07	Sep 07
20. Singleton Spur line at 265.884	April '07	June 07	July 07
21. North Coast line at 212.755	April '07	Feb '08	May '08
22. Ulan Line at Wollar at 409.728	Nov '07	Feb '08	May '08
23. North Coast Line at 433.900	Nov '07	Feb '08	May '08
24. North Coast Line at 457.601	Nov '07	Feb '08	May '08
25. North Coast Line at 400.284	Nov '07	Feb '08	May '08
26. North Coast Line at 348.035	Nov '07	Feb '08	May '08
27. North Coast Line at 614.050	Nov '07	Feb '08	May '08
28. North Coast Line at 599.902	Nov '07	Feb '08	May '08
29. North Coast Line at 469.070	Nov '07	Feb '08	May '08
30. Ulan Line at 312.986	Feb '08	May '08	-
31. Ulan Line at 320.852	Feb '08	May '08	-
32. Ulan Line at 322.573	Feb '08	May '08	-
33. Ulan Line at 331.646	Feb '08	May '08	-
34. Ulan Line at 339.343	Feb '08	May '08	-
35. Ulan Line at 340.940	Feb '08	May '08	-
36. Ulan Line at 410.543	Feb '08	May '08	-
37. Ulan Line at 410.910	Feb '08	May '08	-
38. Ulan Line at 439.100	Feb '08	May '08	-
39. Main North Line at 284.934	Feb '08	May '08	-
40. Main South Line – Bomen – Trahairs Lane at 510.323	Feb '08	Apr '08	May '08
41. Main South Line – Bon Accord at 541.670	Feb '08	Apr '08	May '08

2.6. Corridor Strategy

The implementation of a corridor strategy approach continued on the Southern Line between Cootamundra and Albury. The corridor strategy involves a precinct based management approach of the road and rail interface with the view to increase safety. Priority precincts within the corridor include Bon Accord, Table Top, Yerong Creek, The Rock, Bomen, Gerogery and Uranquinty and Henty.

As part of the Corridor Strategy five crossings were closed, two of which involved construction of alternative road access and one involved mitigation works. In addition upgrades to three level crossings were designed in consultation with the community with construction scheduled for 2008/09. These initiatives were funded under the RTA Level Crossing Safety Improvement Program.

During 2007/08 it proved more difficult to achieve consensus on the issue of providing acceptable level crossing safety for the broader community while meeting the access needs of the local community. Councils in the area are concerned that consultation, especially around proposals for level crossing closures, needs further development and the LCSC Chair, the ARTC Chief Executive and the RTA are to meet with Councils in the area in February 2009 to identify a way forward which addresses the needs of all stakeholders.

A summary of progress to 2007/08 by precinct is provided below.

- **Albury Council:**

- **Table Top Precinct:** Council and the community supported closure of Perrymans Lane level crossing which was then approved by the Minister for Transport. The closure required construction of an alternative route to Tynan's Road. A private level crossing (Gibbons/North Skog) was also closed.

- **Lockhart Council:**

- **Yerong Creek Precinct:** Council and the community have indicated conditional support for closure of Neuhaus Lane which is now under review by ARTC. The Plunkett Street level crossing upgrade design was developed in consultation with the community and Council which has agreed to in kind contributions. This upgrade is scheduled for constructed in 2008/09.
- **The Rock Precinct:** The Council and community support upgrade of the Urana Street level crossing and this is scheduled for constructed in 2008/09. The Council and community were consulted regarding options for Yerong Street. The community was not supportive of its closure.

- **Wagga Wagga Council**

- **Bomen Precinct:** The Minister approved closure of Trahairs Lane level crossing following community consultation.
- **Uranquinty Precinct:** Council and community support proposal for pedestrian facilities at Yarragundry Street level crossing, to which Council will contribute funding. The upgrade is scheduled for constructed in 2008/09.
- **Bon Accord Precinct:** Council and the community were consulted on the potential closure of Bon Accord Road. This was approved by the Minister following ARTC agreement to provide alternative access.

- **Greater Hume Council**

- **Gerogery Precinct:** Weedings private level crossing was closed.
- **Culcairn Precinct:** Higher level consultation has been sought by Council on the corridor strategy prompted by proposals for the Culcairn Precinct.

3. PUBLIC SAFETY AWARENESS

Safe behaviour at level crossings is promoted through community awareness and education campaigns targeting motorists and pedestrians interacting with the NSW rail network. The campaigns are monitored and their effectiveness reported to the LCSC.

3.1. Motorist Awareness

The motorist campaign, launched in September 2007, repeated the successful theme used in prior campaigns "Stop or Get stopped in your tracks". The campaign is designed to educate drivers about the speed, power and sheer size of trains and to encourage motorists to obey the traffic signals at railway level crossings. The campaign included billboard, print and radio advertising. The RTA and RailCorp each contributed \$100,000 for both metropolitan and rural campaigns. The Rail Infrastructure Corporation and the Australian Rail Track Corporation also contributed \$50,000 each to the rural advertising campaigns led by the RTA.

In June 2008, RailCorp and the Police launched an enforcement campaign targeting motorists. Variable message signs were located at eight high risk traffic sites in the Illawarra, Hunter and Western Sydney over a period of 3 weeks. The RailCorp media team liaised extensively with NSW Police Media to gain supportive local media coverage.

3.2. Pedestrian Awareness

Two major advertising campaigns targeting pedestrians were launched across the Illawarra and Hunter regions in November 2007 and February 2008. Using the powerful image of a train trespass/crash survivor and the tagline "*I found out the hard way*", the campaign, using a mix of suburban print, radio, targeted media, point of contact station posters and brochures was designed specifically to illustrate the consequences of inappropriate behaviour at Railway Level Crossings.

In May 2008, RailCorp launched a pedestrian enforcement program targeting six railway level crossing sites in the Central Coast, Illawarra and Greater Sydney regions. The campaign was supported by media, letterbox drop and face to face community relations to remind commuters of the dangers at Railway Level Crossings and Transit Officers were actively deployed at targeted stations across the network in the final two weeks of the campaign.

3.3. National Rail Safety Week

The Australasian Railway Association (ARA) co-ordinated the second National Rail Safety Week, from 22 to 28 July 2007. RailCorp participated by focusing on three major safety issues including, trespassing (crossing tracks, taking shortcuts); railway level crossings and passenger behaviour-related issues. The campaign included Sydney Metropolitan television advertising – the pedestrian level crossing safety advert - and point of contact materials such as brochures and station posters on RailCorp stations.

3.4. Level Crossing Website

The webpage www.levelcrossings.nsw.gov.au was developed in 2004/2005. In 2006/2007 the website was redesigned to include support for the community awareness campaigns. In 2007/08 the website has a steady visitation rate and it is expected that the site will undergo further work in the future to maintain its viability as a communications tool.

4. ACCIDENT TRENDS

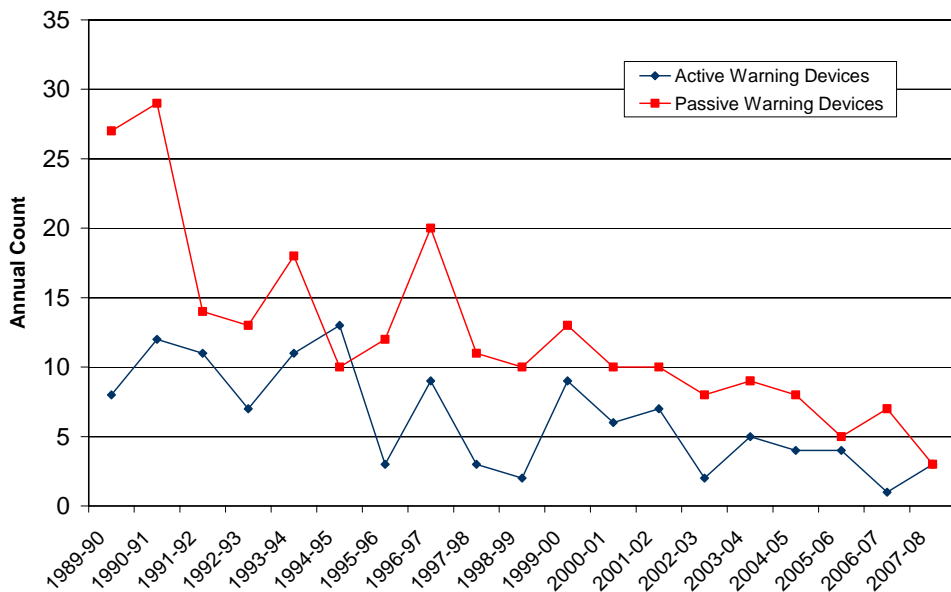
NSW railway level crossing incident data is collected by ITSRR and distributed to all relevant road and rail agencies and the LCSC. Trends over the past ten years indicate a downward pattern in accident collisions at both passively and actively protected level crossings.

4.1. Collisions and Fatalities – Motorists

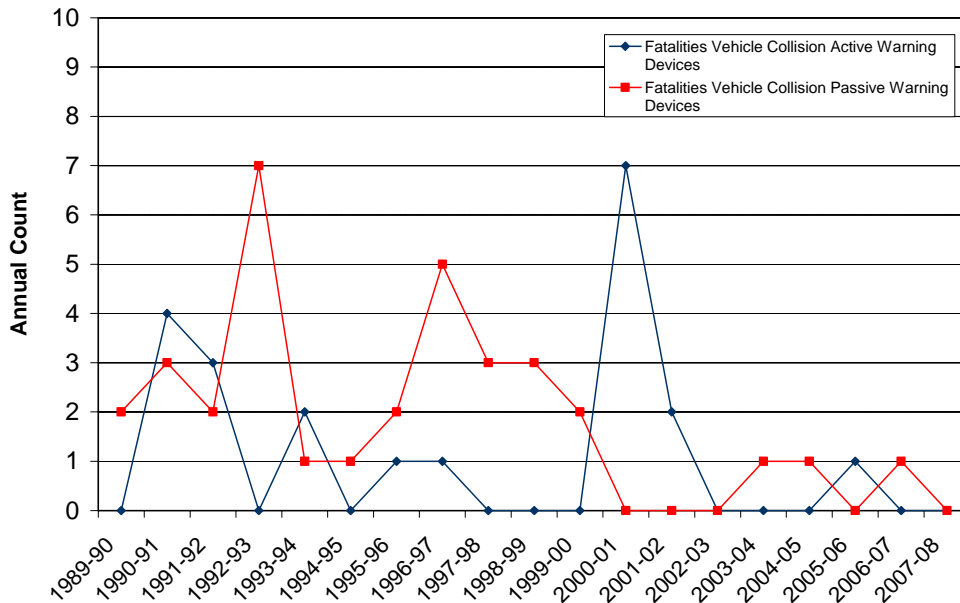
There were six collisions at railway level crossings in 2007/08, three at active crossings and three at passive crossings. There were no fatalities involving motor vehicles on the NSW network during the year.

The graphs below chart the current period and illustrate long term trends.

Trains Colliding with Road Motor Vehicles at Level Crossings



Fatalities - Trains Colliding with Road Motor Vehicles at Level Crossings



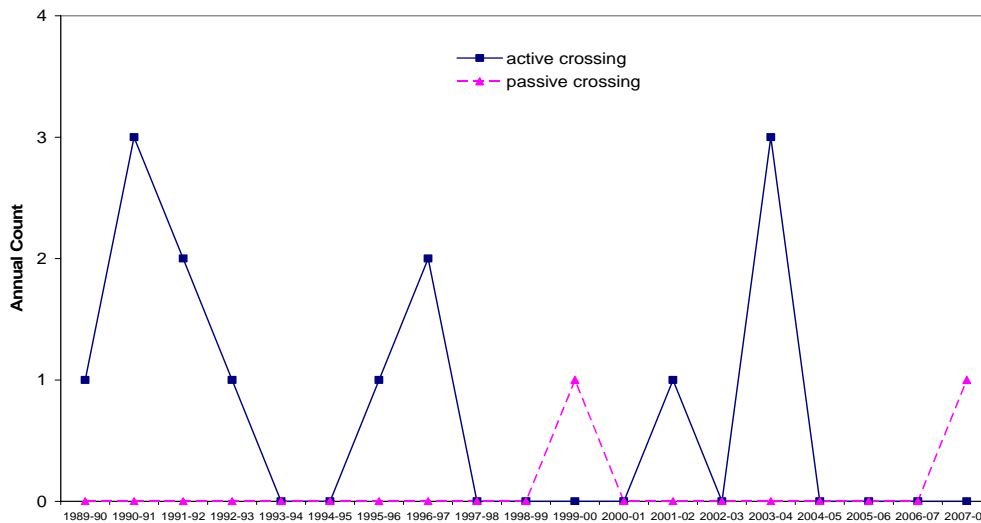
4.2. Collisions and Fatalities – Pedestrians

There was a fatal incident involving a pedestrian on the ARTC network at Ekerts private level crossing at 801.754km (between Leeville and Casino) this year.

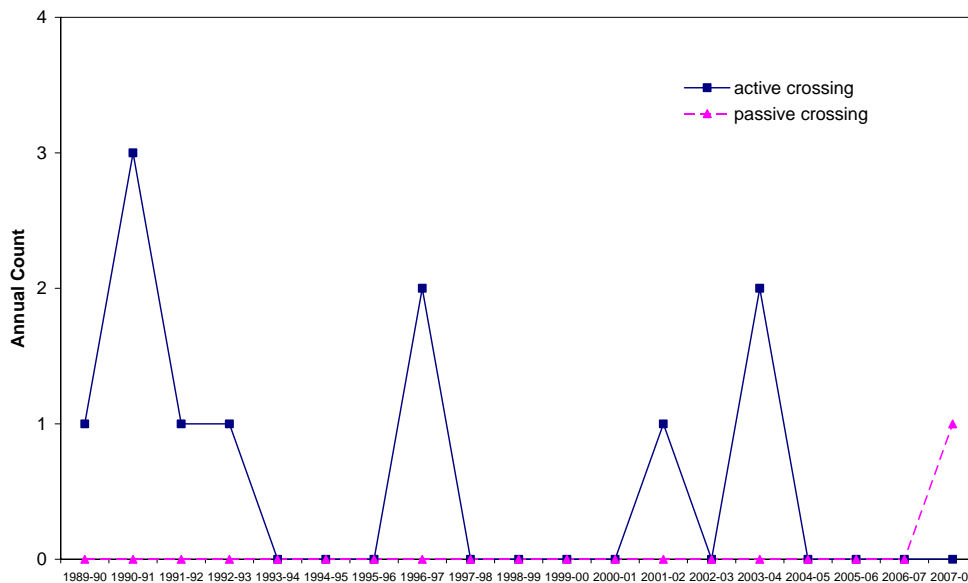
During the past 19 years there have been 16 collisions at level crossings involving pedestrians, 12 of which were fatal.

The graphs below chart the current period and illustrate long term trends.

Train Colliding with Person at Level Crossing, 1989/90 to 2007/08 in NSW



Fatalities - Train Colliding with Person at Level Crossing, 1989/90 to 2007/08 in NSW



5. FUTURE DIRECTIONS

5.1. Level Crossing Safety Improvement Program

The RTA Level Crossing Safety Improvement Program will continue in future years. In June 2007, the Minister for Transport announced the levels of funding which applied over the previous three years would continue into the future i.e. \$7million each year for 2007/08 to 2010/11.

5.2. National Rail Safety Legislation

In June 2006 the Australian Transport Council (ATC) agreed to adopt the National Model Rail Safety Bill in Australian states and territories. At that time, ATC requested further provisions be developed in relation to road/rail interfaces. The Rail Safety (Amendment No 2) Bill was subsequently prepared, which introduces obligations on rail infrastructure managers and road managers to seek to enter into interface agreements for the joint management of safety risks at railway road/rail level crossings and other road/rail interfaces. This Amendment Bill was approved by ATC in December 2007.

The provisions of the Amendment Bill are expected to be implemented in NSW in 2008/09.

5.3. StaySafe

The LCSC will continue to monitor the implementation of the Government's response to the 2004 StaySafe report on level crossings.

5.4. Corridor and Rationalisation Strategies approach

Implementation of the Corridor Strategy between Cootamundra and Albury and the Rationalisation Strategy will continue.

5.5. Public awareness

Promotion of safe behaviour at railway level crossings through public awareness campaigns will continue.

Appendix A: LCIP Expenditure 2007/08

	Town	Location	Cost (000)
MAJOR SAFETY IMPROVEMENTS			
1	Nolan Street (Commissioned in 2006/07)	Unanderra	10
2	Pine Road (Commissioned)	Fairfield	248
3	Robert and Green Street (Commissioned)	Tamworth	1060
4	Schnapper Beach Road (Commissioned)	Valla	588
5	Runnymede, Andersons Road (Commissioned)	Kyogle	501
6	Baranbah Street (to Caloola) (Commissioned)	Baan Baa	592
7	Burradoo Road	Burradoo	731
8	Garfield Road	Riverstone	473
9	Park Road	Woonona	85
10	Bellambi Lane	Bellambi	32
11	Holten Drive (commissioned)	Broken Hill	43
12	Bundarra Street	Black Heath	22
13	Clarinda Street	Faulconbridge	13
14	Couche Crescent	Koolewong	102
15	Liverpool Street	Scone	56
16	Fern Street	Gerringong	20
17	Parramatta Road	Clyde	20
18	Military Road	Yennora	25
19		Whittingham	82
20	Beaumont Street	Hamilton	104
21	Woy Woy Road/Rawson Road	Woy Woy	32
22	Shamrock Street	Hexham	4
23	Lansdowne Road	Kundle Kundle	88
24	King Street	Paterson	60
25	Cessnock Road	Kearsley	54
26	Hubert Street	Sawtell	19
27	Summerland Way	Koollkhan	14
28	Summerland Way/Kyogle Road	Namoona	11
29	Tilly Willy Street/McKay Street	Macksville	8
30	Princes Highway	Unanderra	27
31	Creamery Road	Albion Park	27
32	Bong Bong Road	Dapto	61
33	Sheepwash Road	Calwalla	5
TOTAL			5217

MINOR SAFETY IMPROVEMENTS

1	Middle Falbrook Road	Nundah	1
2	Woods Road	Craven	2
3	Brown's Crossing Road	Macksville	3
4	Single Street (commissioned)	Werris Creek	79
5	Boothenbah Road	Dubbo	1
6	Railway Parade	Corrimal	36
7	Clyde Street	Islington	12
8	Jacks Road	Gloucester	6
9	Brook Street	Muswellbrook	42
10	Henry Street	Quirindi	2
11		Metford	2
12	Oxley Highway	Wauchope	1

	Town	Location	Cost (000)
13	Browns Crossing Road	Macksville	3
14	Shellharbour Road	Shellharbour	3
15	Boothenbah Road	Dubbo	1
16	13 LED sites in Western Region (commissioned)		56
17	Dudauman Street	Stockinbingal	1
18	Pryor Street (Pedestrian- Closed)	Quirindi	3
19	Barker Street (Pedestrian- Closed)	Casino	1
TOTAL			255

CORRIDOR STRATEGY

1	Grogan Road (Commissioned)	Stockinbingal	90
2	Perryman's Lane (Bypass built)	Tabletop	1700
3	Yarragundry St	Uranquinty	232
4	Plunkett Street	Yerong Creek	321
5	Rail Strategy Griffith Council	Griffith	14
6	Urana Street	The Rock	234
7	Strategy Cootamundra to Albury		56
8	Balfour Street/Olympic Highway	Culcairn	2
TOTAL			2649

CLOSURE DEVELOPMENT

1	Public Road (Closed)	Bogan Gate	2
2	May Street (Closed)	Condoblin	9
3	Private road (Closed)	Burradoo	7
4	Wingham to Taree Rationalisation		3
5	Ulan Line Rationalisation		5
6	Junction Hill	Grafton	1
7	Lowes Creek Road	Quipolly	1
8	Oolong Road (Closed)	Gunning	6
9	Mitchell Highway (Closed)	Nyngan	10
10	Stroud Road to Craven Rationalisation		1
TOTAL			45

OTHER

1	Development		63
2	Education and Enforcement Campaign		121
3	Minor Works		9
4	Queue Monitoring		29
5	Onsite Level Crossing Data Collection		83
6	Motorist Campaign		145
TOTAL			450

GRAND TOTAL	8616
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