Level Crossing Strategy Council

Yearly Report 2004/2005

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The Level Crossing Strategy Council is comprised of:

Ministry of Transport

- John Lee (Chair)
- Jim Glasson (Acting Chair)

Independent Transport Safety Reliability Regulator

- Kent Donaldson
- Mike Lane

Roads and Traffic Authority

- Chris Ford
- Phil Margison

Rail Infrastructure Corporation

- Bruce Farrer
- Bruce Lord

Local Government and Shires Association

- Richard Connors

NSW Police

- Ron Dorrough

RailCorp

- Vince Graham
- Derek Williams
- Gary Seabury
- Jacquelene Irwin (Secretariat)

Australian Rail Track Corporation

- Bruce McComas
- Wayne James

Summary

The NSW Government's commitment to an accelerated program of level crossing safety improvements throughout NSW has seen funding levels for the years 2003/2004 to 2006/2007 more than doubled (from $10m to $23m). This commitment has enabled delivery of significant level crossing improvements and initiatives in 2004/2005.

This financial year more than $5.4m was spent under the Level Crossing Improvement Program improving crossings state wide, including seven commissioned major upgrades at Adamstown (St James Road), Moorland (Coreville Road), Albury (Fallon Street), Glenreagh (Sherwood Creek Road), Quandialla (Wyalong Road), Taree (Macquarie Street), and Kembla Grange (West Dapto Road). A range of additional major upgrades were also underway. A number of minor improvement works were also delivered or underway.

Over the last year there has been continuing development of the Level Crossing Assessment Model (LCAM). The LCAM is a computerised model that allows assessment to objectively evaluate relative safety risk of level crossings and to prioritise improvement works.

At the May 2003 Australian Transport Council (ATC) meeting all Transport Ministers agreed to adopt this innovative method of risk assessment.

The Australian LCAM (ALCAM) Group in which NSW level crossing practitioners play a lead role, continues to develop, implement and continuously improve nationally consistent risk assessment methodologies as well as promoting a co-ordinated approach to the ongoing development and improvement of LCAM.

This year a project commenced to collect additional level crossing data and validate existing data to implement the enhanced Australian Level Crossing Assessment Model (ALCAM Version 1.0 - 2005).

The past year has also seen the continuation of the successful public education and awareness campaign focusing public attention on the dangers associated with railway level crossings and reinforcing the need to obey signage and road rules at railway level crossings. Efforts to provide increased information to the community during 2004/2005 have also seen the development of the NSW Level Crossings website at www.levelcrossings.nsw.gov.au.

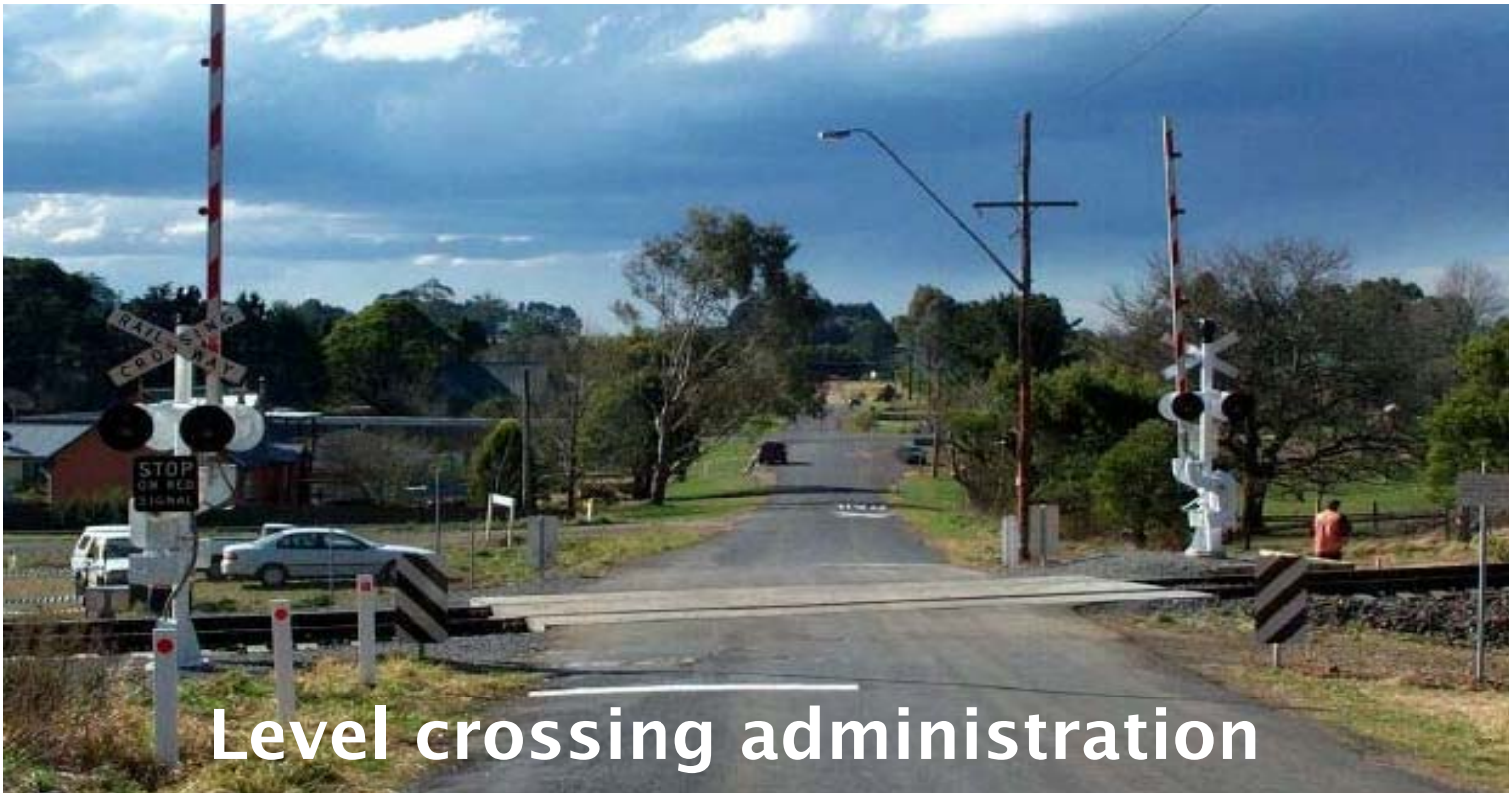
Structural changes in the NSW rail industry in the past twelve months reinforce the importance of the LCSC's role in coordinating level crossing safety initiatives in NSW. In particular, the 60 year lease signed between the Commonwealth-owned Australian Rail Track Corporation Limited (ARTC) and the NSW Government to maintain and operate the mainline interstate and Hunter Valley networks has had significant implications for the administration of railway level crossings. The LCSC has been expanded to include the ARTC.

Together there remains a strong commitment among member agencies to deliver safety improvements across NSW.

In October 2004 the NSW Parliamentary StaySafe Committee released its final report following its Inquiry into the safety of railway level crossings. The report contains 69 recommendations which will have significant impact on how level crossings are managed. The LCSC and member agencies have reviewed the StaySafe Committee report. The LCSC is coordinating responses to and implementation of relevant recommendations.

There was one fatality at a railway level crossing in NSW in 2004/2005. This took place in May 2005 at Ganmain and involved a truck and a freight train.

This is a sobering reminder of the significant dangers posed to railway level crossing users and highlights the importance of the work of the LCSC and its member agencies in delivering safety improvements.



Level crossing administration

There are more than 3,800 railway level crossings in NSW of which 1500 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. Since 1960, a committee of relevant stakeholders has played a key role in improving safety at NSW railway level crossings.

There are a number of NSW agencies with responsibilities for level crossing safety and they are supported in meeting these responsibilities by the Level Crossing Strategy Council (LCSC) which has a coordination role.

The LCSC members are:

- Roads and Traffic Authority (responsibility for road related issues);
- Rail Infrastructure Corporation, RailCorp and Australian Rail Track Corporation (responsibility for rail related issues);
- Ministry of Transport (responsibility for transport policy issues) (the Director General of the Ministry of Transport chairs the LCSC);
- Independent Transport Safety & Reliability Regulator (responsibility for safety and reliability regulation);
- NSW Police (responsibility for road safety and representation of emergency services);
- Local Government Association & Shires Association (responsibility for local roads and representation of the interests of local government and local and wider communities); and
- Department of Infrastructure, Planning and Natural Resources (observer status).

The ARTC joined the LCSC following the take up of the 60 year lease of rail track from the NSW Government.

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 manages the Level Crossing Assessment Model (LCAM), undertakes level crossing assessments and provides general assistance to the LCSC and LCWG including program management assistance for the Level Crossing Improvement Program and providing input on technology and education programs.

The Level Crossing Assessment Model (LCAM) is used to objectively assess, evaluate and prioritise the (relative) safety risk of railway level crossings, and to assist in determining treatment options for individual sites. LCAM uses a computer analysis of risk factors including visibility, train and road vehicle volumes and characteristics, existing level crossing characteristics and number of tracks to assess each location.

"…level crossings represent a significant risk to road and rail users. Since 1960, a committee of relevant stakeholders has played a key role in improving safety at NSW level crossings…"

The Australian Transport Council has approved LCAM for use nationally to ensure a consistent approach to railway level crossing assessment.

LCAM is used in NSW to prioritise sites to assist in developing the annual Level Crossing Improvement Program. This approach ensures funds are appropriately spent on priority projects to reduce risk and improve safety. The LCSC role includes monitoring delivery of the program.

In addition to the upgrading of railway level crossings, the closure of railway level crossings, both public and private is actively pursued. Crossings can be nominated for potential closure via the LCAM assessment process, or by councils, the RTA, the rail industry or by the general public. 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 users is conducted prior to recommending closure to the Minister for Transport, whose approval is required before a closure is implemented.

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 LCSC and member agencies have reviewed the StaySafe Committee report. The LCSC is coordinating responses to and implementation of relevant recommendations.

Achievements in 2004/2005

Level Crossing Upgrades

Seven major upgrade projects were commissioned under the Level Crossing Improvement Program in 2004/2005. Additionally major works were underway at fifteen other sites during the year.

Major upgrades generally involve the conversion of sites with passive signage only to active protection, sites with flashing lights to boom gates or improvements including major roadworks or pedestrian facilities. This year, LCSC member agencies agreed that upgrades from passive to active protection must include boom gates (and associated lights and bells). Major upgrades generally cost in excess of $300,000.

The seven major upgrades commissioned during the year were:

- Albury (Fallon Street);
- Moorland (Coreville Road);
- Taree (Macquarie Street);
- Kembla Grange (West Dapto Road);
- Glenreagh (Sherwood Creek Road);
- Quandialla (Wyalong Road); and
- Adamstown (St James Road).

Also during the year seven minor safety improvements were commissioned and a range of other preliminary works were underway across the state.

Minor safety improvements generally include the installation of high intensity lamp units, signage and road markings. Earthworks to improve motorists sighting of approaching trains are also carried out as part of minor safety improvements.

Pictured left is the level crossing at Pine Road, Fairfield. Minor safety improvement works were carried out at this site in 2004/2005. Works included a queuing treatment incorporating cross hatched road markings.

Preliminary planning work was also carried out for a number of sites across NSW for projects which are due for implementation in future years.

Level Crossing Improvement Program

The list of works and map at Appendix B outlines projects carried out in the 2004/2005.

It should be noted that during the year the RTA installed two new level crossings at Kiama in conjunction with major roadworks in the area. The crossings were effectively a relocation of existing crossings and represented a net reduction in risk.

It should also be noted that separate to the Level Crossing Improvement Program the Rail Infrastructure Corporation delivered a number of minor improvement works at various level crossings as part of its maintenance and renewal program. In total approximately 30 crossings were improved mainly through upgrade of lights to LEDs or installation of additional or extended masts.

Railway level crossing closures

Ten railway level crossings were approved by the Minister for Transport for closure in 2004/2005 and were subsequently published in the NSW Government Gazette. These sites have been decommissioned or are in the process of being decommissioned and are located at:

- Tamworth, pedestrian crossing (449.600km) on ARTC's Main North Line (Gazettal No. 42 April 2005);
- Winders Lane, Lochinvar (200.766km) on ARTC's Main North Line (Gazettal No. 51, May 2005)
- Kerrabee 2 private crossings (350.393 & 350.836) on ARTC's Muswellbrook to Gulgong Line (Gazettal No. 77, June 2005);
- Nundah, private (249.468km) on ARTC's Main North Line (Gazettal No. 77, June 2005);
- Wards River, private crossing (285.075km) on ARTC's North Coast Line (Gazettal No. 77, June 2005);
- Whittingham 2 private (235.568km & 236.815km) on ARTC's Main North Line (Gazettal No. 77, June 2005);
- Antiene Pedestrian Crossing (273.951km) on ARTC's Main North Line (Gazettal No. 94, July 2005);

- Eumungerie (pedestrian crossing (497.971km) on the Dubbo to Coonamble Branch Line on RIC's country network (Gazettal No. 94, July 2005);

Level Crossing Rationalisation Strategy

In 2004/2005 the LCSC adopted a Level Crossing Rationalisation Strategy to guide the active pursuit of closure of level crossings, both public and private, wherever possible. The Strategy was developed to guide the identification, prioritisation and evaluation of potential level crossing closure sites and the delivery of an annual Rationalisation Program.

National approach

RailCorp's LCU Manager participates on the Australian Railway Crossing Strategy Implementation Group (ARCSIG). ARCSIG has representation from all state and territories and has a role to implement the 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 Australian Transport Council (ATC).

The LCU chairs the Australian Level Crossing Assessment Model (ALCAM) Group which reports to ARCSIG. The ALCAM Group continues to develop, implement and continuously improve nationally consistent risk assessment methodologies as well as promoting a co-ordinated approach to the ongoing improvement of LCAM. LCAM was previously endorsed by the SCOT and adopted nationally by the ATC.

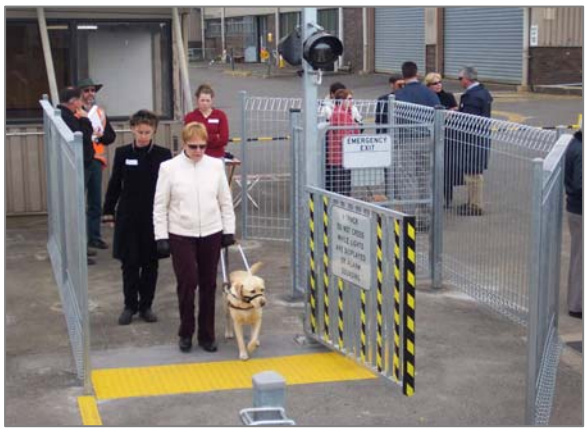
The ALCAM Group continued the development of the LCAM road assessment matrix and the development of the pedestrian assessment matrix. Workshops were undertaken throughout 2004/2005 (in Melbourne and Adelaide) to progress both matrixes. In May 2005 the pedestrian matrix was released on a trial basis.

Standards

Standards Australia committee ME-012 is currently involved in a project to review and revise the 1993 Standard AS1742 *"Manual of uniform traffic control devices Part 7: Railway Crossings"* in response to requests from both road and railway authorities to bring it up to date with current practices.

LCSC member agencies have been participating in the review of this standard. The new draft standard DR05314 was released by Standards Australia for public comment in June 2005.

NSW industry made significant contribution to the consideration of disability requirements at railway level crossings. The purpose-built pedestrian railway level crossing trial facility at Clyde has provided a means through which to test new disability requirements within the consideration of the new standard. The installation is considered to be world best practice and showcases the requirements of the Commonwealth Disability Act 2002 (see picture on next page).



Safety initiatives and innovation

The purpose-built pedestrian railway level crossing model at Clyde (pictured above) has provided a means through which to test new disability standards currently under development. This year, the site was used to test new innovations including the installation of an electromagnetic latch. Agreed improvements from the trial site are being progressively introduced at upgrade sites.

In 2004/2005 LCSC agencies agreed that when safety improvements to pedestrian level crossing facilities adjacent to roads are carried out within the RTA funded Level Crossing Improvement Program, these improvements will be constructed to a standard which provide safe access for people with disabilities.

Railway level crossing assessments

This year, Stage 1 of the statewide data collection project to facilitate implementation of the national ALCAM Version 1.0 commenced. To date assessments have been conducted using desktop data.

Funding was allocated to provide a database platform and collection of data for public road/rail level crossings in NSW and all level crossings within the RailCorp managed network. Stage 1 also includes collection of data on selected private level crossings as identified by local road and rail authorities and level crossings in the first corridor strategy area (Albury-Cootamundra).

Data was collected for 650 sites during 2004/2005.

Public education and awareness

A public education and awareness campaign funded and prepared by RTA and RIC has been ongoing since 2002/2003.

In 2004/2005 the level crossing public education campaign included advertising on radio, in the newspaper and outdoor advertising. The advertising aimed to:

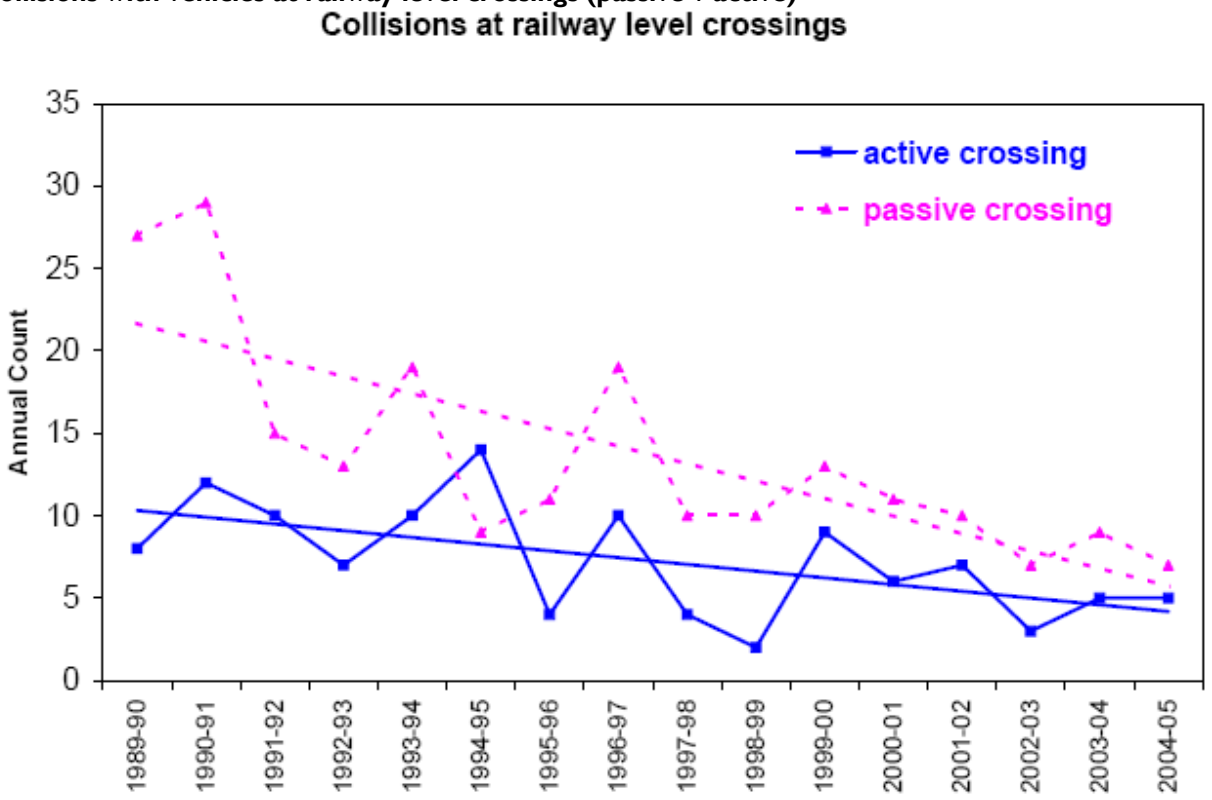
- increase awareness of the importance of obeying road rules at level crossings;
- create awareness of the dangers caused by the stopping limitations of trains; and
- increase safe behaviours of drivers crossing railway level crossings.

In 2004/2005 the NSW Level Crossings website (www.levelcrossings.nsw.gov.au) was also developed. The website makes available to the public important information regarding the LCSC, assessment processes, types of crossings and the cooperative approach taken to improving safety at railway level crossings by the various agencies involved.

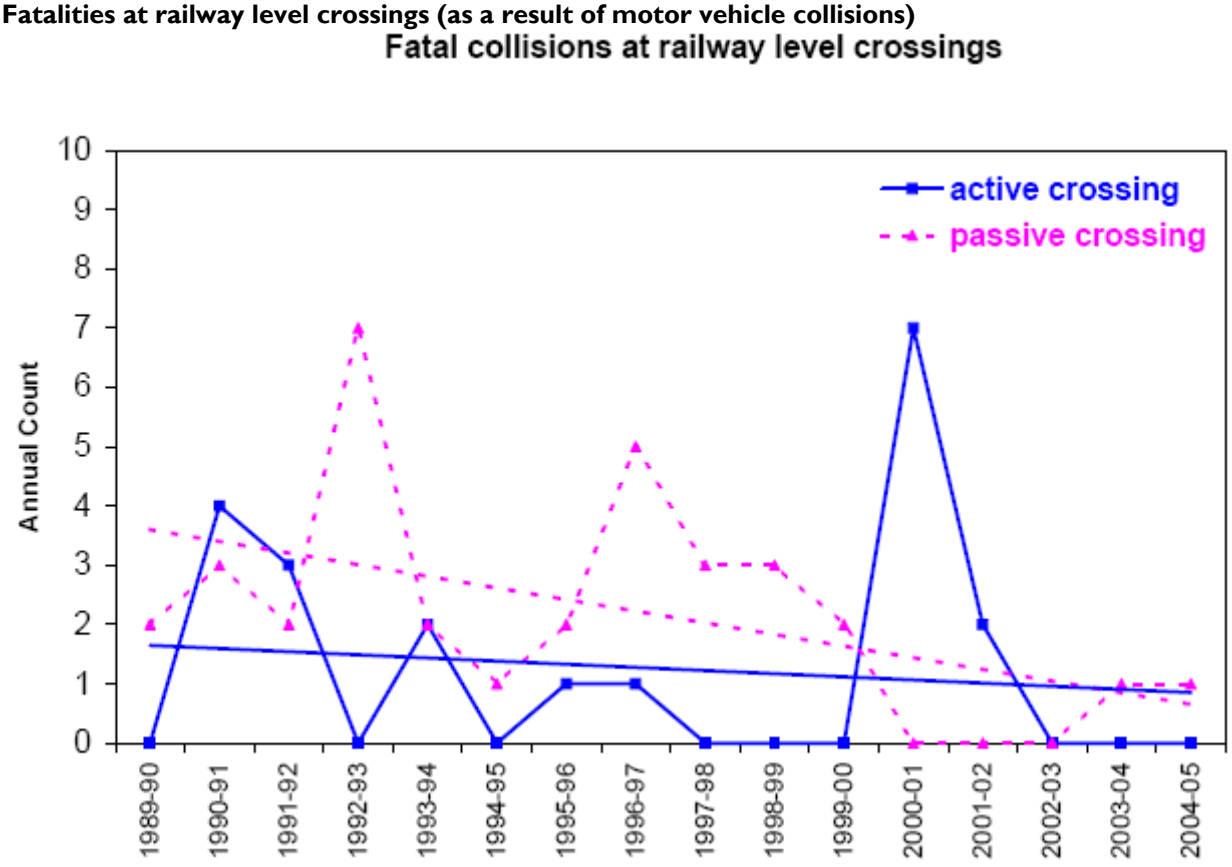
Accident trends

Statistical analysis of accidents at railway level crossings over the recent years continues to indicate a general trend downwards. There was one fatality at a railway level crossing in 2004/2005. This took place at Ganmain and involved a truck and a freight train. Relevant statistics on collisions and fatalities at level crossings are as follows (information supplied by ITSRR):-

Collisions with vehicles at railway level crossings (passive v active)



Fatalities at railway level crossings (as a result of motor vehicle collisions)



Reporting railway level crossing incidents

In 2004/2005 state and territory rail safety regulators agreed to a national approach, consistent with the Inter-Governmental Agreement on National Rail Safety, on which level crossing incident occurrences and their definitions will be reported. Each rail safety regulator has implemented occurrence notification requirements in their respective legislation or published guidelines that are based on Standard ON-S1.

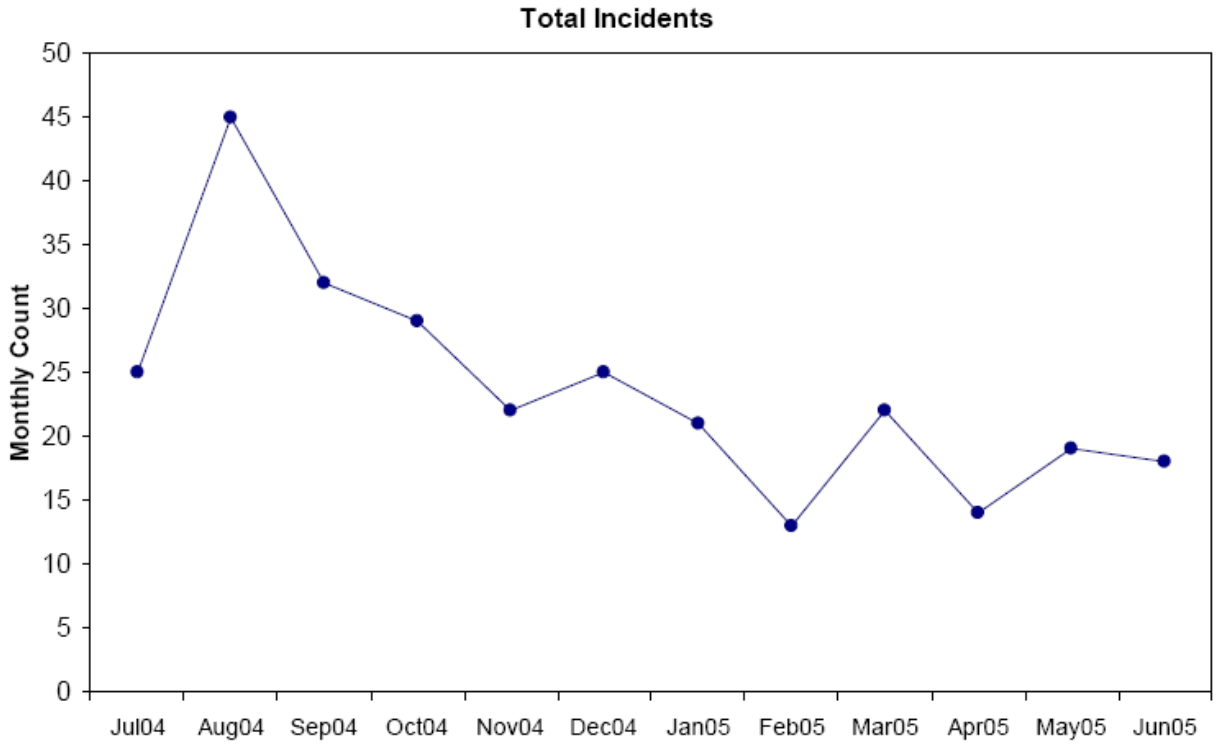
Level crossing occurrences have been classified as any collision of a train or rolling stock with either a road vehicle, person, level crossing safety equipment or gate, or any other occurrence that compromises safety at a level crossing.

These incidents include:

- road vehicles causing damage to gates, barriers or other equipment at level crossings;
- near miss incidents;
- trains running onto a level crossing when not authorised;
- any failure of equipment at a level crossing which could endanger users of the road or path crossing the railway;
- incidents which occur during periods of unusual operation; and
- level crossing occurrences with tramways where trams operate over their exclusive right of way.

In NSW the data is reported by the rail organisations and is entered into the ITSRR Prism Database in the OS-N1 Standard.

Total incidents at railway level crossings (month by month by month during 2004/05)



Future directions

Level Crossing Improvement Program

The NSW Level Crossing Improvement Program will continue to be developed and delivered in coming years in accordance with the funding provided by the NSW Government.

Whole-of-corridor approach

A whole-of-corridor approach will be implemented for high risk corridors in specific local areas in the state.

The overall goal of using a corridor strategy approach is to achieve a safer road-rail interface through the funding and implementation of flexible and long term solutions across whole precincts.

The Corridor Strategy approach will include a review of rail speed, the level of crossing protection required and rationalisation opportunities.

Public awareness

The public awareness campaign will continue to be implemented, with a pedestrian campaign a key focus area.

LCAM Development and Use

The LCAM will be further developed and will be utilised for level crossing assessment and program/project development.

Appendix A: Major Upgrade Projects Photo Gallery - 7 Major Projects Commissioned in 2004/2005

July 2004

1. **Albury, Fallon Street** (pictured right). Total cost $387,089.

   The existing flashing lights and bells were upgraded with:

   - retro-reflective boom gates with high intensity (LED) lights;
   - queuing treatment (cross hatching); and
   - improved road marking and signage (to comply with AS1742.7).

   Advance warning lights were commissioned in 2003/04.

2. **Moorland, Coreville Road** (pictured left). Total cost $402,324.

   The existing passive stop sign protection was upgraded with:

   - flashing lights, bells with high intensity (LED) lights;
   - road alterations;
   - alterations to train detection including installation of a constant warning time device;
   - removal of non-frangible material; and
   - improved road marking and signage (to comply with AS1742.7).

3. **Taree, Macquarie Street** (pictured right). Total cost $331,122.

   The existing flashing lights, bells and booms were upgraded with:

   - flashing lights, bells and retro-reflective boom gates with high intensity (LED) lights;
   - queuing treatment (cross hatching and medians); and
   - improved road marking and signage (to comply with AS1742.7)

   The existing passive pedestrian mazes were upgraded to:

   - active pedestrian swing gates, including emergency exits; and
   - pedestrian path improvements including path widening, and improved fencing.

December 2004

4. **Kembla Grange, West Dapto Road** (pictured left) was commissioned on 12 December 2004. Total cost $308,108.

   The existing flashing lights and bells were upgraded with:

   - retro-reflective boom gates with high intensity (LED) lights;
   - removal of non-frangible material;
   - installation of delineating guardrail; and
   - improved road marking and signage (to comply with AS1742.7).

June 2005

5. **Glenreagh, Sherwood Creek Road (**pictured right). Total cost $331,453.

   The existing passive stop sign protection was upgraded to address sighting problems caused by trains stopped at the nearby rail siding. The upgrade included:

   - flashing lights, bells and retro-reflective boom gates with high intensity (LED) lights;
   - road widening;
   - removal of non-frangible material;
   - improved road marking and signage (to comply with AS1742.7); and
   - significant changes to rail signalling interlocking.

June 2005

6. **Quandialla, Wyalong Road (**pictured left). Total cost $327,788.

   The existing passive stop sign protection was upgraded with:

   - flashing lights, bells and retro-reflective boom gates with high intensity (LED) lights;
   - road works;
   - removal of non-frangible material;
   - improved road marking and signage (to comply with AS1742.7); and
   - significant changes to rail signalling interlocking with a new signal to allow trains to shunt without the operating the level crossing.

7. **Adamstown (St James Road)** (pictured below). Total cost $1,658,000.

To provide for the high levels of road traffic the existing flashing lights, bells and booms were upgraded to:

- flashing lights, bells and retro-reflective boom gates with high intensity (LED) lights;
- queuing treatment including cross hatching, medians and fencing;
- road widening;
- removal of non-frangible material;
- improved road marking and signage (to comply with AS1742.7).

The existing active pedestrian booms on one side of the road were upgraded to:

- facilities installed on both sides of the road;
- first installation to the new RailCorp pedestrian standard (aligned with the new Australian Standard) providing significantly improved access for all pedestrians and especially for disabled users;
- active pedestrian swing gates, including emergency exits (on both sides) with new magnetic latches;
- pedestrian path improvements including path widening,;
- tactile delineation on path edge and at start of the crossing;
- new lighting; and
- improved pedestrian fencing.

Other improvements for both motorists and pedestrians included:

- the removal of a redundant third track and the shortening of one platform resulting in a shorter length of the level crossing;
- CCTV monitoring equipment upgrade.

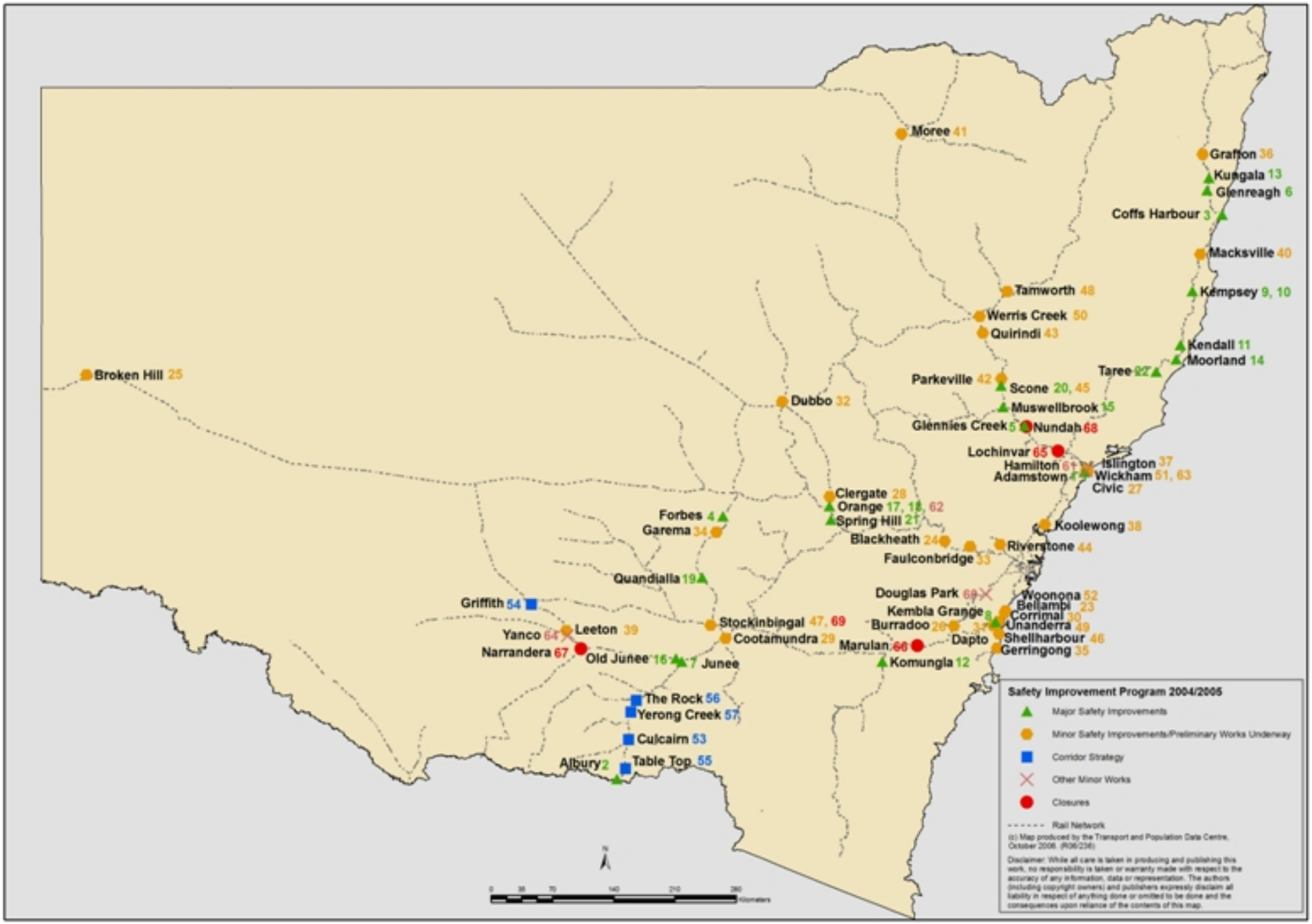
This upgrade was commissioned in June 2005.

Appendix B:

2004/2005 Level Crossings Improvement Program and location of works

No	Town	Location	Cost
MAJOR SAFETY IMPROVEMENTS			
1	Adamstown	St James Road (Commissioned)	$1,517,000
2	Albury	Fallon Street (Commissioned)	$35,000
3	Coffs Harbour	High Street	$177,000
4	Forbes	Newell Hwy	$5,000
5	Glennies Creek	Glennies Creek Road	$14,000
6	Glenreagh	Sherwood Creek Road (Commissioned)	$200,000
7	Junee	Olympic Highway	$4,000
8	Kembla Grange	West Dapto Road (Commissioned)	$249,000
9	Kempsey	Belgrave Street	$12,000
10	Kempsey	North Street	$7,000
11	Kendall	River Street (Comboyne St)	$97,000
12	Komungla	Currawang Road	$130,000
13	Kungala	Kungala Road	$350,000
14	Moorland	Coreville Road (Commissioned)	$215,000
15	Muswellbrook	Brook Street	$135,000
16	Old Junee	Old Goldfield Rd	$28,000
17	Orange	Byng Street	$12,000
18	Orange	Dalton Street	$1,000
19	Quandialla	Wyalong Road (Commissioned)	$250,000
20	Scone	New England Highway	$3,500
21	Spring Hill	Beasley Rd (Lucknow Rd)	$3,500
22	Taree	Macquarie Street (Commissioned)	$38,000
MINOR SAFETY IMPROVEMENTS/PREMLIMINARY WORKS UNDERWAY			
23	Bellambi	Bellambi Ln	$31,000
24	Blackheath	Bundarra Street	$72,000
25	Broken Hill	Holten Drive	$30,000
26	Burradoo	Burradoo Road	$48,000
27	Civic	Merewether Street	$20,000
28	Clergate	Clergate Rd	$40,000
29	Cootamundra	Gundagai Rd	$30,000
30	Corrimal	Railway Pde	$31,000
31	Dapto	Bong Bong Road	$5,000
32	Dubbo	Boothenba Rd	$20,000
33	Faulconbridge	Clarinda Street	$85,000
34	Garema	Garema Pinnacle Road (Sth)	$20,000
35	Gerringong	Fern Street	$84,000
36	Grafton	Fry Street	$20,000

37	Islington	Clyde Street	$84,000
38	Koolewong	Couche Cresent	$90,000
39	Leeton	Poplar Avenue	$22,000
40	Macksville	Brown's Crossing Road	$35,000
41	Moree	Bullus Drive	$50,000
42	Parkeville	Mareeba Road	$87,000
43	Quirindi	Henry Street	$30,000
44	Riverstone	Garfield Road	$95,000
45	Scone	Liverpool Street	$60,000
46	Shellharbour	Shellharbour Rd	$36,000
47	Stockinbingal	West Street	$46,000
48	Tamworth	Robert Street	$40,000
49	Unanderra	Nolan Street	$30,000
50	Werris Creek	Single Street	$30,000
51	Wickham	Railway Street	$40,000
52	Woonona	Park Road	$32,000
CORRIDOR STRATEGY			
53	Culcairn	Balfour Street	$38,000
54	Griffith	Blumer Avenue	$6,000
55	Table Top	Perryman's Lane	$3,000
56	The Rock	Urana Street	$8,000
57	Yerong Creek	Plunkett Street	$37,000
OTHER MINOR WORKS			
58	Calwalla	Sheep Walsh Rd	$18,000
59	Coolalie	Bush's Rd (Echo Road)	$500
60	Douglas Park	Camden Road	$3,000
61	Hamilton	Beaumont Street	$500
62	Orange	Ash Street	$1,500
63	Wickham	Hannell Street	$500
64	Yanco	Mckellar Rd	$38,000
CLOSURES			
65	Lochinvar	Winders Lane	$96,000
66	Marulan	Stoney Creek Rd	$6,000
67	Narrandera	Whitton Street	$9,000
68	Nundah	Middle Folbrook Road	$58,000
69	Stockinbingal	Dudauman Street	$64,000
		OTHER	
Education and Enforcement Campaign			$120,000
Data Collection			$100,000
TOTAL			**$5,433,000**


Moree 41
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Kungala 13
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Safety Improvement Program 2004/2005
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Corridor Strategy
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