Level Crossing Strategy Council Yearly Report 2001/02













Chairman's Report

2001/02 has marked a very significant change in the Transport Industry's dealings with level crossings in New South Wales. We have had a doubling of funding commitment from the Government to upgrade level crossings around the state to enhance safety. This has ranged from improved signage to the full treatment of the installation of flashing lights, bells and boom gates. In real terms we have upgraded 31 sites this year compared with only four for the previous financial year.

We have also seen a greater cooperation and dedication to this task from all the Committee members. Both the Council and working parties have met at least every two months and these meetings have been well attended. I commend the enthusiasm and diligence of these two groups. It has meant that our decisions have been translated into solid improvements to the road and rail networks at their most crucial point, where they intersect.

Other highlights include a state wide public education and awareness campaign, our submission to the Staysafe Inquiry into Level Crossings, a review of the Australian Standards applying to level crossings and the increased communication of our stakeholder reviews of individual crossings.

The most important breakthrough has come with the development of the Level Crossings Assessment Model. This has given us an objective and scientific assessment of the safety provided at all level crossings in the state and identified areas, which need improvement in a prioritised form.

It is pleasing to note a marked reduction in fatalities at level crossings this year, although our aim must always be to record no deaths.

I look forward to the continuing good works of the Level Crossing Strategy Council and would like to thank the members for their dedicated contributions.

MICHAEL DEEGAN Chairman



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Advanced Warning Improvements - Olympic Highway (Bells Rd) Level Crossing - Gerogery

Report prepared by Level Crossing Upgrade Project

Project Manager: Derek Williams Project Engineer: Chris Lees Site Engineer: Godwin Camilleri



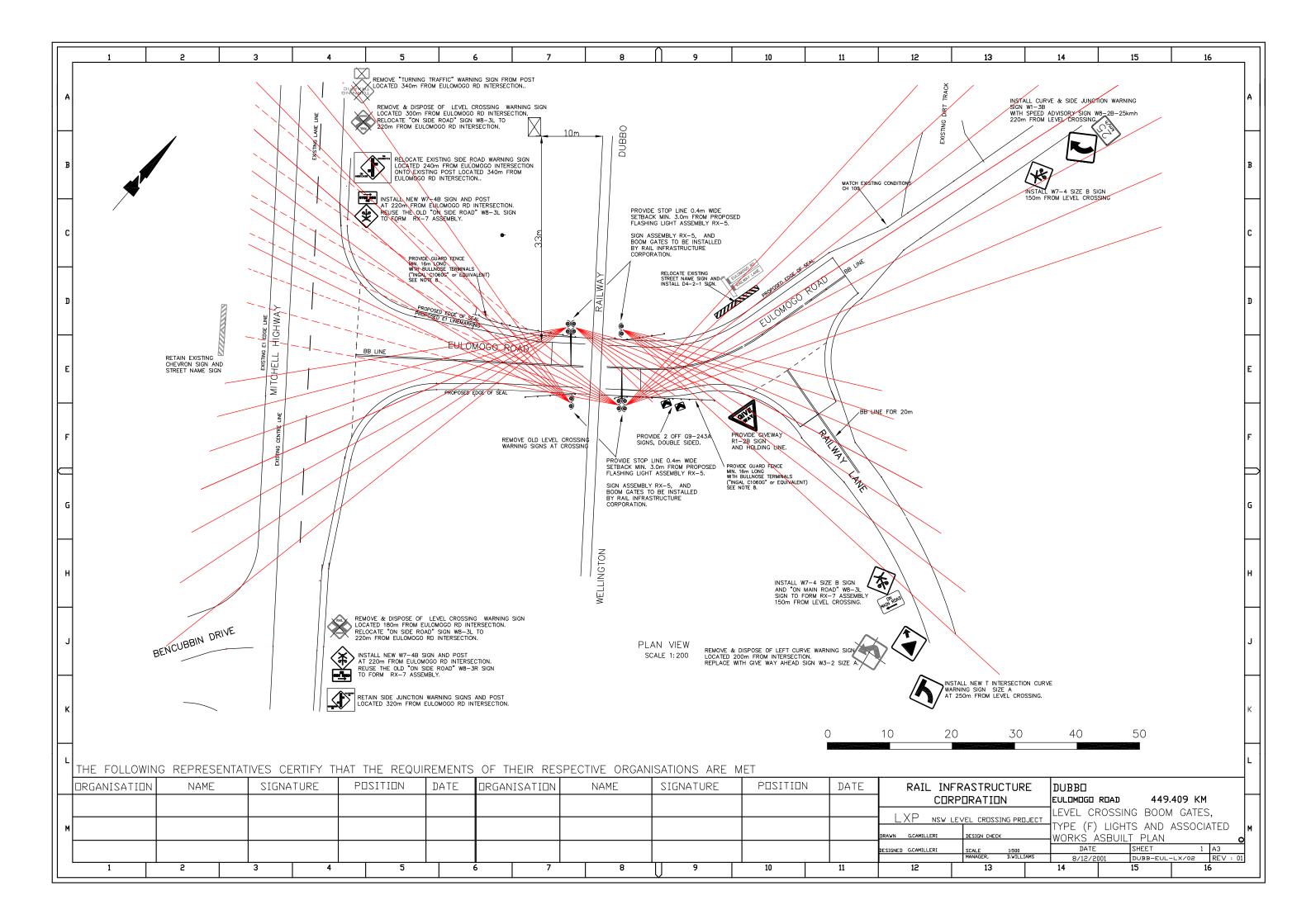
Highlights

- 31 Sites Safety Upgraded
- Level Crossing Assessment Model
- Public Education and Awareness Program
- Staysafe Inquiry
- Review of AS1742.7
- Project Management

Highlights

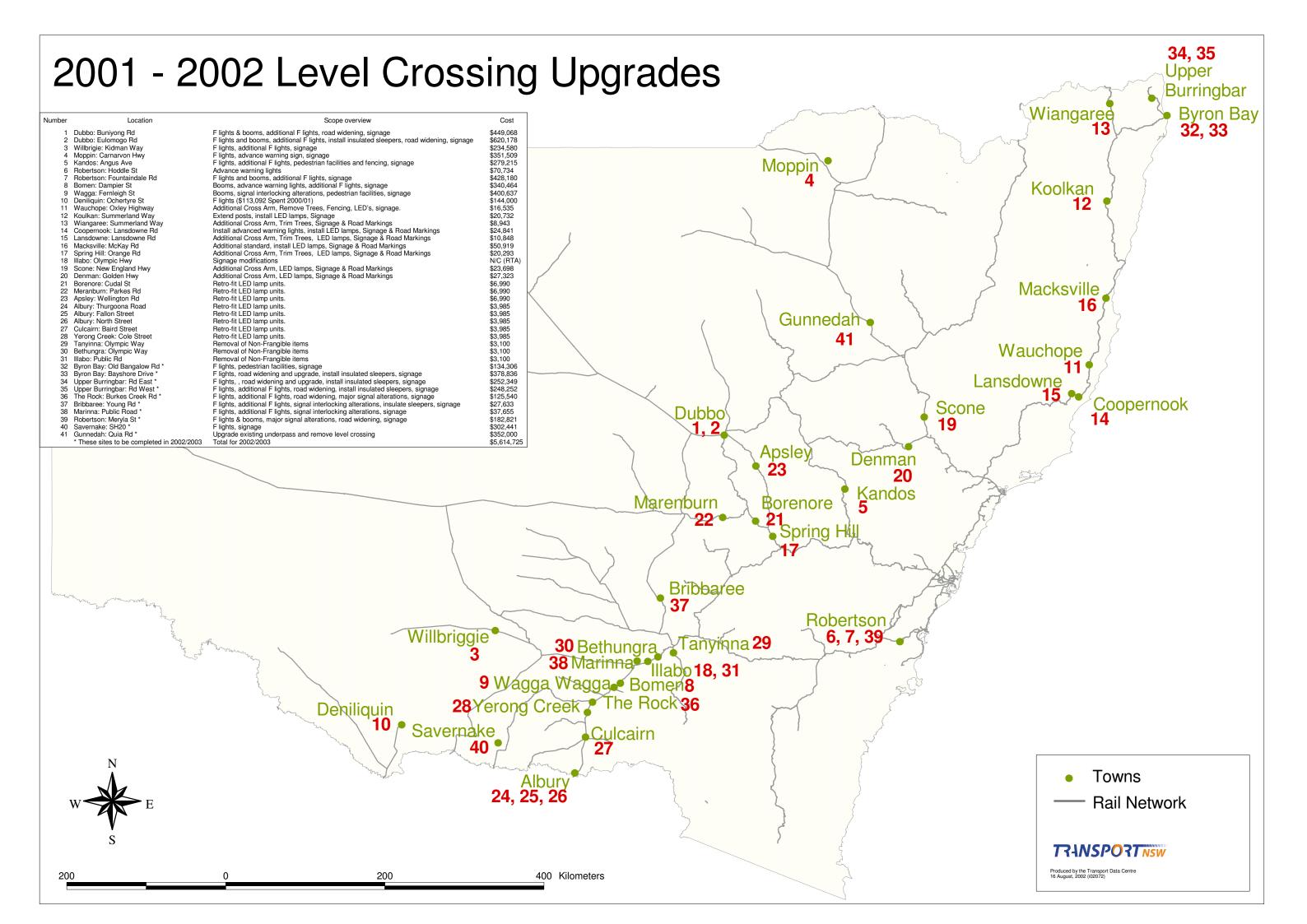
31 sites safety upgraded	 Huge turnaround in sites delivered (up from 4 in 2000/2001) Various levels of upgrade: Passive to active, advanced warning, LED retrofits, and minor works
LCAM development, approval and implementation	 Development commenced July 2001, Minister approved March 2002 Quantitative methodology using risk factors Sites ranked in risk order Used to prioritise forward upgrade program
Public education and awareness program	 Funded and prepared jointly by RTA and RIC Focus group testing Developing campaign to alert pedestrians and people with disabilities to the dangers of level crossings
Staysafe inquiry	 Study of factors contributing to level crossing accidents Measures to improve safety Management of level crossings in NSW
Review of AS 1742.7	 Requested by LCSC (NSW initiative) Initial meeting held NSW representation on standards committee
Dedicated Project Management team formed	 Unified separate RIC and RTA programs Focus on program delivery Consideration of cost/benefit Formal processes introduced Stakeholder involvement entrenched Stakeholder site plan approval introduced (copy of plan attached) Strong links with Local Government Working group implements LCSC decisions





Upgrade Program

- Upgrade Map
- Photo Gallery



DUBBO BUNINYONG ROAD

Previous protection: Stop signs (60kmh area) **Upgrade**: Type F lights & booms, road works **Road authority**: Dubbo City Council (RTA for some signage)

Technology: Grade crossing predictor, LED's **Issues**: Implementation of new technology **Comments**:

High speed rail 155kmh

Dubbo Council were supportive of project Dubbo Council paid 1/3 contribution at short notice





DUBBO EULOMOGO ROAD

Previous protection: Stop signs (60kmh area) **Upgrade**: Type F lights & booms, road works **Road authority**: Dubbo City Council (RTA for some signage)

Technology: Grade crossing predictor, LED's **Issues**: Implementation of new technology **Comments**:

High speed rail 155kmh Dubbo Council were supportive of project Dubbo Council paid 1/3 contribution at short notice

WILLBRIGGIE KIDMAN WAY

Previous protection: Give way signs (100kmh

area)

Upgrade: Type F lights

Road authority: RTA (Griffith Shire Council on

sub-c)

Technology: High voltage train detection,

LED's

Issues: Remote location. Slow response for

RTA works (road markings)

Comments:

Very low use railway (seasonal) High road speed (minimal enforcement)





MOPPIN CARNARVON HIGHWAY

Previous protection: Give way signs

(100kmh area)

Upgrade: Type F lights, large approach

signage

Road authority: RTA (Moree Shire Council

on sub-c)

Technology: High voltage train detection,

LED's

Issues: Remote location. Small rail size /

short lengths Comments:

Very low use railway (seasonal)

High road speed (minimal enforcement)





KANDOS ANGUS AVENUE

Previous protection: Stop signs (60kmh

area)

Upgrade: Type F lights

Road authority: Rylstone Shire Council **Technology**: High voltage train detection,

LED's

Issues: Slow response for Council works

(signage, ARMCO)

Comments:

Very low use railway (no timetabled

services)

Political commitment

ROBERTSON - FOUNTAINDALE RD

Previous protection: Stop signs (60kmh

Upgrade: Type F lights and booms, road

works Road authority: Wingecarribee Shire

Council

Technology: Grade crossing predictor,

LED's

Issues: Implementation of new technology

Comments:

WSC 1/3 contribution paid Significant local interest





BOMEN DAMPIER STREET

Previous protection: Type F lights (60kmh

area)

Upgrade: Boom gates, additional warning

lights

Road authority: Wagga City Council Technology: Existing train detection, LED's Issues: Slow response for Council works

(signage, ARMCO)

Comments:

Wagga Council 1/3 contribution paid

Significant local interest





WAGGA FERNLEIGH ROAD

Previous protection: Type F lights (60kmh

area)

Upgrade: Boom gates, pedestrian facilities **Road authority**: Wagga City Council **Technology**: Existing train detection, LED's **Issues**: Slow response for Council works

(signage, ARMCO) **Comments**:

Wagga Council 1/3 contribution paid

High vandalism area

SPRING HILL ORANGE ROAD

Previous protection: Type F lights (60kmh

area)

Upgrade: Additional warning lights, LED's,

large approach signage

Road authority: Orange Council

Technology: Existing train detection, LED's

Issues: Slow response for RTA works

(signage, tree trimming)

Comments: Prior incidence of vehicles unable to stop at crossing due to limited

approach sighting.





WIANGAREE SUMMERLAND WAY

Previous protection: Type F lights (100kmh

area)

Upgrade: Additional warning lights

Road authority: RTA (Casino Council sub-

c)

Technology: Existing train detection, LED's **Issues**: Slow response for RTA works

(signage, tree trimming)

Comments: Vehicle drivers distracted by

sweeping curve on approach.





KOULKAN SUMMERLAND WAY

Previous protection: Type F lights (100kmh

area)

Upgrade: Increased post height for visibility **Road authority**: RTA (Copmanhurst Council

sub-c)

Technology: Existing train detection, LED's **Issues**: Slow response for RTA works

(signage, tree trimming)

Comments: Crossing location in dip made sighting of lights difficult. Higher posts have

made significant improvement.

MACKSVILLE McKAY STREET

Previous protection: Type F lights (60kmh

area)

Upgrade: Increased post height for visibility **Road authority**: RTA (Nambucca Council

sub-c

Technology: Existing train detection, LED's

Issues: Slow response for RTA works

(signage, tree trimming)

Comments: Council not supportive at site inspection with respect to AS compliance, but carried out compliance works promptly.





WAUCHOPE OXLEY HIGHWAY

Previous protection: Type F lights (60kmh

area)

Upgrade: Additional warning lights **Road authority**: RTA (Hastings Council

sub-c)

Technology: Existing train detection, LED's

Issues: Slow response for RTA works

(signage, tree trimming)

Comments: High traffic built up area





COOPERNOOK LANDSDOWN ROAD

Previous protection: Type F lights (100kmh

area)

Upgrade: Advance warning lights Road authority: Taree City Council Technology: Existing train detection, LED's Issues: Slow response for Council works

(signage, tree trimming)

Comments: Drivers distracted by curved

approach.

LANDSDOWNE ROAD

Previous protection: Type F lights (100kmh

Upgrade: Additional warning lights, signage Road authority: Taree City Council Technology: Existing train detection, LED's Issues: Slow response for Council works

(signage, tree trimming)

Comments: Drivers distracted by curved approach. First use of innovative post extension for additional lights.





Achievements

• Table of Achievements

	Other Actions	Status
2	Level Crossing Strategy Council	The Minister reconvened the LCSC under the chair of the Director-General of Transport. The LCSC arranged for: a Working Group of agency officials to supervise safety improvements; a project manager to coordinate previously separate agency programs; works to be prioritised by computer model that assesses risk factors.
3	Level Crossings Assessment Model	The computer model assesses risk factors. Data are already entered for the 182 sites that officials consider to be the likely highest risk level crossings. Prioritised list produced on schedule in March 2002. Data input for all sites across NSW to progressively follow.
4	Staysafe Inquiry	Minister referred the issue of level crossing safety to the Joint Standing Committee on Road Safety. Staysafe undertook: a study of factors contributing to level crossing accidents; measures to improve safety; and, management of level crossings in NSW. The Staysafe report is expected in mid 2002.
5	RIC funding	RIC contributed matching funds from its commercial resources for three years. These doubled the level crossing safety budget to \$4 million per annum.
6	Federal Funding	The Minister has arranged for a joint States and Territories request for Commonwealth funding to upgrade all level crossings on Interstate Track to 'active' protection with bells, lights and boom gates.
7	Local Government agreement	Local Government expertise, traffic knowledge and local resources are essential for successful safety improvements at level crossings. The LCSC has negotiated a new arrangement for Local Government to contribute to level crossing safety upgrades on Local Roads by funding the necessary road works outside the rail boundary.
8	Stakeholder consultative process	Community and specialist stakeholders are systematically involved at key stages in the design, development, construction and commissioning of level crossing upgrades.
9	Public education and awareness program	 LCSC commenced a public education and awareness program about level crossing safety in the lead up to the 2001 summer holiday season; This continued in February 2002 with a paid newspaper campaign in country areas; and, NSW is developing a campaign aimed to alert pedestrians and people with disabilities to the dangers at level crossings.
10	Project Management	The LCSC arranged a dedicated project management team for all of NSW to deliver previously separate agency and regional programs.
11	Advanced Warning	LCSC approved a program of installing Advanced Warning at a range of sites where road users need longer reaction time.
12	New predictor technology	The LCSC has arranged type approval for new technology that gives a constant warning time for an approaching train regardless of that train's speed. This means road users do not have to wait unnecessarily long times for slow freight trains to arrive at a closed crossing.



Achievements

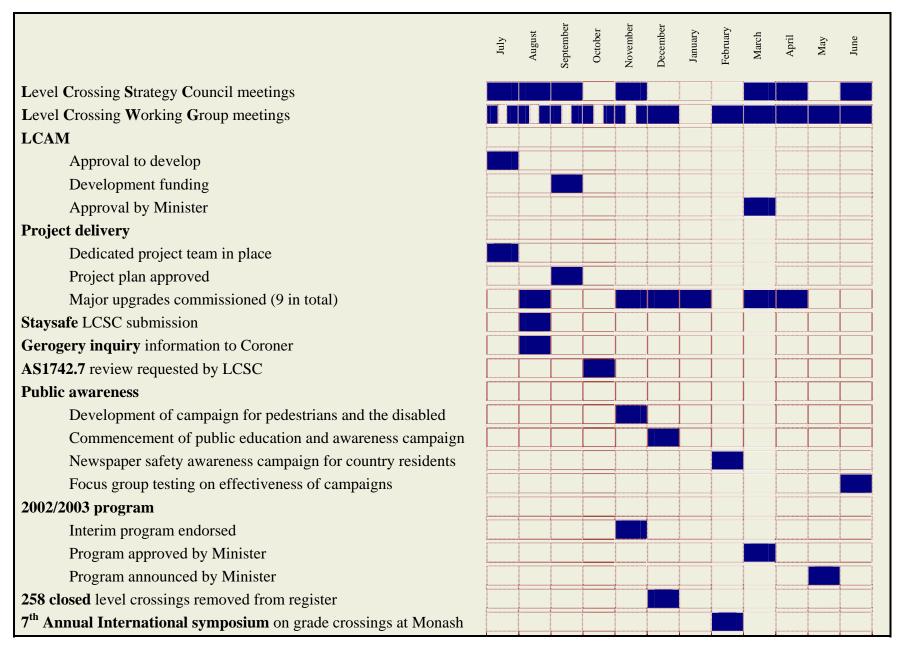
	Other Actions	Ctatus
	Other Actions	Status (1)
13	Safety measures at Pine Road, Fairfield	The LCSC arranged trials of various safety treatments at Pine Road, Fairfield, to address serious safety
4.1	T (" 0: 1 : 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	concerns. With the endorsement of the Local Traffic Committee, these were made permanent.
14	Traffic Study at General Holmes Drive,	LCSC has arranged a traffic study to assist deliberations on possible closure of the General Holmes
	Mascot	Drive level crossing.
15	Casula Powerhouse Arts Centre	LCSC arranged site inspection of the level crossing and arranged necessary repairs.
16	Australian Standard	In October 2001, NSW requested Standards Australia to review AS1742.7 so that technological
		advances since it was last promulgated can be incorporated. Victoria supports the NSW initiative.
17	Level Crossing Closures	The Director-General of Transport directed RIC to formally delete from the register 258 level crossings
		that have ceased to be used but never removed from the records. The LCSC will consult stakeholder
		communities about closure of some other active sites where no treatment options can adequately
40	Over the mind or a c	reduce risk.
18	Overbridges	LCSC arranged for the Working Group to report on the repair, maintenance and upgrade of overbridges across the NSW rail network.
19	Centralised NSW level crossing database	LCSC member agencies (TSB; RTA; RIC; TNSW) have commenced the process of centralising a level
13	Certifalised NOVV level crossing database	crossing database. Because this needs to incorporate site inspection data, it will not be completed until
		a full cycle of visits which takes several years to complete across all regions of NSW. Estimate for
		completion: mid 2003.
20	Safety audits	RIC is continuing its safety audits of level crossing sites at the same time the above database is being
		prepared.
21	Standards and Guidelines	LCSC member agencies have assembled and distributed a reference package of all existing
		operational Standards and Guidelines that relate to level crossings.
22	Policies & Procedures	The Transport Safety Bureau has produced an interim Level Crossings Policies & Procedures
		document as a reference source pending a full review of the draft 1994 Traffic Engineering Manual:
22	Enforcement entions	Section 6–Railway Level Crossings. RTA will lead this process estimated to take most of 2002. Officers of the LCSC member agencies have met with the Police Regional Traffic Committee to initiate
23	Enforcement options	investigation of enforcement options.
24	International Symposium	In February 2002, LCSC Member Agencies participated in the 7 th International Symposium on Railroad
27		Highway Grade Crossing Research & Safety at Monash University Accident Research Centre in
		Melbourne.
25	Monitoring Project	Remote automatic monitoring of the health condition of level crossings using electronic warning
	3 1,3 1	equipment reduces costs of on-site checks.
26	Construction initiatives	A number of construction initiatives are being implemented as part of the upgrade program;
		Use of LED lamp technology providing greater intensity
		Development of frangible equipment in line with RTA clear zone principles
		Introduction of efficiencies such as low cost post extension for the installation of additional lights on
		an existing post.



Chronology

• Timeline of Events

Timeline of events





Closures

- •Process
- Administrative

Level Crossings Closures Process

	Action	RIC	RTA	TSB	LCWG	Other
1	Identify site	Criteria ¹	Advice	Sponsor		Notify LCSC
2	LCAM check	Model	Input	Input		PoliceLocal Government
3	Risk Assessment	Approve methodology	Site inspection	Site inspection		Include safety, finance, operations, environment and all other relevant information ²
4	Consult	Adviser	Written submission required if relevantAdvise Traffic Committee 'for info'	Written submission required if relevant	Coordinate	Written submission required from relevant: operatorsstakeholders
	 Rail Safety Act 	 Publish notice in local paper Notify RTA Notify local government 	Advise if necessary	Advice that not safe operation		Director-General directs accredited person to close crossing
	 Public Crossing 	Responsible to notify	Written consent or otherwise			Written consent or otherwise of Local Government
	 Private Crossing 	Responsible to notify				Written consent or otherwise of land owner
5	Approval	State reasons for closureSign-off				
	 Rail Safety Act 					Director-General directs if considers railway operation unsafe
	 Accommodation 	RIC responsible under s94 TAA			Prepare submission to Minister noting any objections	Minister for Transport must approve
	Licensed	RIC approves if valid agreement ceases				
6	Advertise	Responsible to put in Government Gazette				
7	Update database	Responsible			Advise LCSC	

¹ cannot reduce increased safety risk; or, use inconsistent with original purpose; or land sold, subdivided or rezoned.
² including number of rail tracks, alignment; road width, type, classification, alignment; rail and road traffic type, direction, volume, speed; ownership of the property served and whether grade separation is proposed. Level Crossing Strategy Council

Crossing Name	Division Name	Line	Line Section	Kilometre	Protection
Cream Shed	Goulburn	Cabramatta - Albury	Glenlee - Maldon	73.386	Removed
L Nicolson	Goulburn	Cabramatta - Albury	Glenlee - Maldon	81.453	Removed
Aismus	Goulburn	Cabramatta - Albury	Maldon - Tahmoor	84.229	Removed
Symon's	Goulburn	Cabramatta - Albury	Tahmoor - Berrima	119.031	Removed
Yarra Station Pedestrian	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	234.964	Removed
	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	245.686	Removed
Breadalbane Pedestrian	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	247.94	Removed
Cullerin Pedestrian	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	256.288	Removed
Fish River Pedestrian	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	270.993	Removed
Oolong Pedestrian	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	287.972	Removed
	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	288.978	Removed
Jerrawa Pedestrian	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	297.729	Removed
Bowning Pedestrian	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	329.211	Removed
Bobbara	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	366.126	Removed
Fords	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	369.204	Removed
Preston's	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	371.115	Removed
	Goulburn	Cabramatta - Albury	Joppa Jn - Demondrille	380.851	Removed
	Goulburn	Cowra - Eugowra	Cowra - Eugowra	390.688	Removed
Geoff Loyd	Goulburn	Joppa Jn - Tuggeranong	Joppa Jn - Tarago	231.464	Removed
Lake Bathurst	Goulburn	Joppa Jn - Tuggeranong	Joppa Jn - Tarago	256.36	Removed
Barrens	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	264.5	Removed
Tetley's	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	268.07	Removed
	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	273.92	Removed
Mt Fairy	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	278.91	Removed
Sand Hills Road	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	282.84	Removed
T Hobbs	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	286.77	Removed
Turalla Terrace	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	293.159	Removed
Hyle	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	297.56	Removed
Cooma Road	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	312.225	Removed
Colverwell's	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	312.856	Removed
Colverwell's	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan		Removed
Halloran	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	320.259	Removed
SRA - Pedestrian	Goulburn	Joppa Jn - Tuggeranong	Tarago - Queanbeyan	321.36	Removed
Uppingham	Goulburn	Koorawatha - Grenfell	Koorawatha - Grenfell	407.506	Removed

14

Laneway	Goulburn	Koorawatha - Grenfell	Koorawatha - Grenfell	410.584	Removed
Griffins Lane	Goulburn	Koorawatha - Grenfell	Koorawatha - Grenfell	437.178	Removed
Manganese Road	Goulburn	Koorawatha - Grenfell	Koorawatha - Grenfell	445.024	Removed
Lindsay	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	89.6	Removed
Waldron	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	92.034	Removed
Farmborough Road	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	93.503	Removed
Rogan's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	95.635	Removed
Hamilton's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	119.635	Removed
Gay's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	122.471	Removed
Hindmarsh's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	130.156	Removed
Hollin's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	131.725	Removed
Hollin's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	132.268	Removed
Hollin's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	133.032	Removed
Rudge's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	137.539	Removed
Menzies	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	139.51	Removed
Gay's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	142.367	Removed
Gay's	Goulburn	Unanderra - Moss Vale	Unanderra - Moss Vale	142.91	Removed
CONVENT LANE	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	805.267	Removed
PEARCE'S	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	814.615	Removed
BUNGABBEE YD	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	821.831	Removed
WHITE'S	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	828.148	Removed
HARLEY-WILCOX	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	832.815	Removed
HARLEY-WILCOX	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	833.097	Removed
WARLING'S	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	834.525	Removed
WHITE'S	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	838.367	Removed
DEAGAN'S	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	840.781	Removed
VIRTUE'S	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	847.85	Removed
BOOYONG YARD	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	857.197	Removed
GREY'S	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	876.066	Removed
GLOBE TROTTERS TOURS	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	885.602	Removed
SWAMP ROAD	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	886.547	Removed
QUARRY SIDING YARD	Grafton	Casino - Murwillumbah	Casino - Murwillumbah		Removed
ANDREW'S	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	888.821	Removed
DRYNAN	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	890.25	Removed
TYAGARAH YARD	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	890.43	Removed
CORNWELL/HOUSEMAN	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	892.966	Removed



HIERONYMUS'	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	899.18 Removed
HARNETT'S	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	915.8 Removed
KENNEDY	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	931.267 Removed
PACIFIC HWY.	Grafton	Casino - Murwillumbah	Casino - Murwillumbah	938.576 Removed
JERRETT'S	Grafton	Glenreagh - Dorrigo	Glenreagh - Dorrigo	676.528 Removed
FORRESTRY COMMISSION	Grafton	Glenreagh - Dorrigo	Glenreagh - Dorrigo	692.767 Removed
ACI CASEMAKERS	Grafton	Glenreagh - Dorrigo	Glenreagh - Dorrigo	697.573 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	195.334 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	197.728 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	198.271 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	202.295 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	203.622 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	206.781 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	209.215 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	211.77 Removed
P.J & M.R BLACK	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	214.284 Removed
WALLAROBBA YARD	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	231.444 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	258.521 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	264.415 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	265.783 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	273.81 Removed
G. GRANT	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	283.607 Removed
	Grafton	Maitland - Brisbane	Telarah - Stratford Loop Jn	285.357 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	291.814 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	294.751 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	301.048 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	305.949 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	307.405 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	307.847 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	308.954 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	312.977 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	320.34 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	323.8 Removed
BAKEWELL	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	341.764 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	344.48 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	347.558 Removed

	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	348.524 Removed
		Maitland - Brisbane	Stratford Loop Jn - Wauchope	353.472 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	355.504 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	355.806 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	359.407 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	360.171 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	360.734 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	361.579 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	363.55 Removed
Mrs.CLATON/PRO.LEASED	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	369.043 Removed
B. & I. ZIELKE	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	369.546 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	372.644 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	375.701 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	376.084 Removed
URARA LANE	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	381.877 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	382.581 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	383.366 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	386.645 Removed
BETTY HAMMOND 065 563206	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	389.059 Removed
BETTY HAMMOND 065 563206	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	389.803 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	400.284 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	400.984 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	407.244 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	408.995 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	410.342 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	410.946 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	411.509 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	411.731 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	428.729 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	431.888 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	433.9 Removed
		Maitland - Brisbane	Stratford Loop Jn - Wauchope	439.291 Removed
	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	450.294 Removed
LANDRIGANS	Grafton	Maitland - Brisbane	Stratford Loop Jn - Wauchope	454.298 Removed
	Grafton	Maitland - Brisbane	Wauchope - Macksville	457.601 Removed
	Grafton	Maitland - Brisbane	Wauchope - Macksville	458.184 Removed

	Grafton	Maitland - Brisbane	Wauchope - Macksville	469.07 Removed
CUTLER'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	469.96 Removed
MUNDAY'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	474.938 Removed
COOPERS	Grafton	Maitland - Brisbane	Wauchope - Macksville	484.091 Removed
DORAN'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	494.028 Removed
DORAN'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	495.276 Removed
KEMP'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	496.503 Removed
BOULSTER'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	504.831 Removed
SWAN'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	505.052 Removed
GRIFFIN'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	505.254 Removed
LAWRENCE'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	505.475 Removed
SMITH & SAIL'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	512.852 Removed
BARBER'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	543.335 Removed
	Grafton	Maitland - Brisbane	Wauchope - Macksville	545.185 Removed
GOSLING'S	Grafton	Maitland - Brisbane	Wauchope - Macksville	546.614 Removed
McCUDDAN'S	Grafton	Maitland - Brisbane	Macksville - Glenreagh	556.31 Removed
BIDDELL'S	Grafton	Maitland - Brisbane	Macksville - Glenreagh	557.939 Removed
STANFORD	Grafton	Maitland - Brisbane	Macksville - Glenreagh	559.267 Removed
W.F. PITTS	Grafton	Maitland - Brisbane	Macksville - Glenreagh	575.119 Removed
KELSOLL'S	Grafton	Maitland - Brisbane	Macksville - Glenreagh	596.101 Removed
	Grafton	Maitland - Brisbane	Macksville - Glenreagh	599.902 Removed
SRA ONLY	Grafton	Maitland - Brisbane	Macksville - Glenreagh	614.05 Removed
LINTON'S	Grafton	Maitland - Brisbane	Macksville - Glenreagh	621.328 Removed
ARCHERY CLUB	Grafton	Maitland - Brisbane	Macksville - Glenreagh	621.95 Removed
CROSS	Grafton	Maitland - Brisbane	Macksville - Glenreagh	622.4 Removed
Dr.A.D.MORSILLO	Grafton	Maitland - Brisbane	Macksville - Glenreagh	623.48 Removed
CARL'S	Grafton	Maitland - Brisbane	Macksville - Glenreagh	627.342 Removed
OFF EASTBANK ROAD	Grafton	Maitland - Brisbane	Macksville - Glenreagh	630.4 Removed
STATE FORREST	Grafton	Maitland - Brisbane	Macksville - Glenreagh	646.477 Removed
EASTBANK ROAD	Grafton	Maitland - Brisbane	Macksville - Glenreagh	647.902 Removed
LANITZA YARD	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	672.324 Removed
LANITZA YARD	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	672.605 Removed
LEADING'S	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	678.359 Removed
BRAUNSTONE YARD	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	683.307 Removed
SCHWINGHAMMER'S	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	690.73 Removed
MILTON ST	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	699.723 Removed



HOWE ST	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	700.004 Removed
GRASS ST	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	701.397 Removed
PAGE'S	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	704.531 Removed
McNEIL'S	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	705.989 Removed
EXPERIMENTAL FARM	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	707.206 Removed
LOCKLANS	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	710.163 Removed
EMERGENCY	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	710.585 Removed
SMALL'S	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	716.339 Removed
OLD GRA - CAS RD	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	735.47 Removed
LAWRENCE ROAD	Grafton	Maitland - Brisbane	Glenreagh - Camira Creek	736.272 Removed
CARDOW'S	Grafton	Maitland - Brisbane	Camira Creek - Casino	783.244 Removed
STOCK ROUTE	Grafton	Maitland - Brisbane	Camira Creek - Casino	791.294 Removed
CANTERBURY ST	Grafton	Maitland - Brisbane	Casino - Border Loop	805.175 Removed
IAN HAMITAL	Grafton	Maitland - Brisbane	Casino - Border Loop	818.119 Removed
LITTLES	Grafton	Maitland - Brisbane	Casino - Border Loop	828.602 Removed
CAMPBELL/DUNCANS	Grafton	Maitland - Brisbane	Casino - Border Loop	832.152 Removed
JOHN STEPHENSON	Grafton	Maitland - Brisbane	Casino - Border Loop	849.533 Removed
MICK McNAMARA	Grafton	Maitland - Brisbane	Casino - Border Loop	860.576 Removed
McKENZIE'S	Grafton	Maitland - Brisbane	Casino - Border Loop	866.516 Removed
McKENZIE'S	Grafton	Maitland - Brisbane	Casino - Border Loop	867.155 Removed
BURKE/HARDY	Grafton	Maitland - Brisbane	Casino - Border Loop	868.18 Removed
DRYNANS	Grafton	Maitland - Brisbane	Border Loop - Brisbane	888.177 Removed
Mr.P.MOLONEY	Grafton	Maitland - Brisbane	Border Loop - Brisbane	893.2 Removed
SALISBURYS	Grafton	Maitland - Brisbane	Border Loop - Brisbane	894.896 Removed
LEWIS	Grafton	Maitland - Brisbane	Border Loop - Brisbane	906.463 Removed
TODDS EST.	Grafton	Maitland - Brisbane	Border Loop - Brisbane	912.498 Removed
DENNIS	Grafton	Maitland - Brisbane	Border Loop - Brisbane	914.651 Removed
WALSHS	Grafton	Maitland - Brisbane	Border Loop - Brisbane	915.073 Removed
TANCREDS MEATWORKS	Grafton	Maitland - Brisbane	Border Loop - Brisbane	923.884 Removed
STOCK ROUTE	Grafton	Maitland - Brisbane	Border Loop - Brisbane	926.761 Removed
TILLY/ROBINSONS	Grafton	Maitland - Brisbane	Border Loop - Brisbane	928.752 Removed
FERGUSONS	Grafton	Maitland - Brisbane	Border Loop - Brisbane	933.48 Removed
FERGUSONS	Grafton	Maitland - Brisbane	Border Loop - Brisbane	934.244 Removed
BRENNAN'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	941.788 To Be Closed
BRENNAN'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	944.906 To Be Closed
NEWBEITH ROAD	Grafton	Maitland - Brisbane	Border Loop - Brisbane	945.651 To Be Closed

WINNE'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	947.018 To Be Closed
FLYNN'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	948.97 Removed
PUB LANE	Grafton	Maitland - Brisbane	Border Loop - Brisbane	953.637 Removed
BOYLE'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	954.039 Removed
OLD GREENBANK ROAD	Grafton	Maitland - Brisbane	Border Loop - Brisbane	955.286 Removed
HOOPER'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	961.865 Removed
HOOPER'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	962.046 Removed
SHAW'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	965.285 Removed
J.V.SMITH'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	966.512 Removed
VICRETE INDUSTRIES	Grafton	Maitland - Brisbane	Border Loop - Brisbane	967.517 Removed
HENSON'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	968.745 Removed
MOFFITT'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	970.434 Removed
HATCHMAN-SWAN'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	970.636 Removed
MEED'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	971.481 Removed
NORUP'S	Grafton	Maitland - Brisbane	Border Loop - Brisbane	973.794 Removed
LEGGETT-SELBY	Grafton	Maitland - Brisbane	Border Loop - Brisbane	973.935 Removed
CLAPHAM YD	Grafton	Maitland - Brisbane	Border Loop - Brisbane	979.004 Removed
	Grafton	Maitland - Brisbane	Border Loop - Brisbane	980.915 Removed
	Grafton	Maitland - Brisbane	Border Loop - Brisbane	982.344 Removed
	Newcastle-Co	Muswellbrook - Gulgong	Muswellbrook - Ulan	309.055 Removed
ANDRUCE P/L (REMOVED)	Newcastle-Co	Muswellbrook - Gulgong	Muswellbrook - Ulan	312.986 Removed
R.& S. HANNON, D.&L. POPLE	Newcastle-Co	Muswellbrook - Gulgong	Muswellbrook - Ulan	320.852 Removed
CLOSED	Newcastle-Co	Muswellbrook - Gulgong	Muswellbrook - Ulan	322.573 Removed
M. COWAN & S. SEARLE	Newcastle-Co	Muswellbrook - Gulgong	Muswellbrook - Ulan	341.916 Removed
	Newcastle-Co	Strathfield - Wallangarra	Bloomfield Jn - Maitland	190.365 Removed
	Newcastle-Co	Strathfield - Wallangarra	Maitland - Whittingham	194.61 Removed
	Newcastle-Co	Strathfield - Wallangarra	Maitland - Whittingham	195.777 Removed
	Newcastle-Co	Strathfield - Wallangarra	Maitland - Whittingham	202.536 Removed
	Newcastle-Co	Strathfield - Wallangarra	Maitland - Whittingham	205.775 Removed
MR WENDT	Newcastle-Co	Strathfield - Wallangarra	Maitland - Whittingham	207.545 Removed
MR WENDT	Newcastle-Co	Strathfield - Wallangarra	Maitland - Whittingham	209.838 Removed
	Newcastle-Co	Strathfield - Wallangarra	Maitland - Whittingham	210.16 Removed
BAROONA PASTURAL CO P/L	Newcastle-Co	Strathfield - Wallangarra	Maitland - Whittingham	229.271 Removed
MANAGEMENT AVIATION P/L	Newcastle-Co	Strathfield - Wallangarra	Whittingham - Camberwell	235.025 Removed
MR HAMILTON	Newcastle-Co	Strathfield - Wallangarra	Whittingham - Camberwell	236.815 Removed
GYARRAN P/L	Newcastle-Co	Strathfield - Wallangarra	Antiene - Muswellbrook	284.934 Removed

GYARRAN P/L	Newcastle-Co	Strathfield - Wallangarra	Antiene - Muswellbrook	286.222	Removed
	Newcastle-Co	Strathfield - Wallangarra	Dartbrook Col Jn - Ardglen	340.497	Removed
	Newcastle-Co	Strathfield - Wallangarra	Dartbrook Col Jn - Ardglen	353.593	Removed
	Newcastle-Co	Strathfield - Wallangarra	Dartbrook Col Jn - Ardglen	359.869	Removed
	Newcastle-Co	Strathfield - Wallangarra	Ardglen - Werris Creek	374.012	Removed
	Newcastle-Co	Strathfield - Wallangarra	Ardglen - Werris Creek	385.981	Removed
	Newcastle-Co	Strathfield - Wallangarra	Ardglen - Werris Creek	394.39	Removed
WATSON	Wagga Wagga	Cabramatta - Albury	Culcairn - Albury	612.295	To Be Removed

Annual Incident Report

- Fatal Train / RMV Collisions
- Minor Train / RMV Collisions
- RMV Driver Carelessness
- •Vandalism
- •Other Recorded Incidents

2001/02 Level Crossing Incident Summary

Date	Location	Details		
Fatal Train / RMV collisions				
07/02/02	Namoona	XPT struck RMV, fatal injuries to RMV driver,		
		lights/bells functioning		
12/02/02	Albury	XPT struck light truck, fatal injuries to RMV driver,		
		lights/bells functioning		
Minor train / RMV collisions				
01/08/01	Casula	Passenger EMU struck car, driver stopped on crossing		
		as activated, RMV minor injuries		
11/10/01	Bethungra	Freight struck RMV, minor injuries		
23/11/01	Dunmore	Freight struck 3t lorry, RMV driver DUI & unlicensed,		
		minor injuries		
29/11/01	Griffith	Freight struck car, RMV driver received head injuries		
05/12/01	Murrami	furrami Freight struck lorry, RMV driver serious injuries, loco		
		derailed		
07/12/01	Barmedman	Freight struck lorry trailer, no reported injuries, minor		
		damage		
02/01/02	Cooks River	Freight struck RMV, no injuries reported		
10/01/02	East Greta	East Greta Freight struck RMV, RMV minor injuries		
02/03/02	Albury	oury Freight struck RMV, no reported injuries		
29/03/02	North Casino	XPT struck rear of excavator traversing level crossing,		
		minor injury to excavator driver		
05/04/02	Yanco	Freight struck lorry, no reported injuries		
20/04/02	Gulgong	dulgong Track machine struck by RMV, no reported injuries		
04/06/02	Ardlethan	Freight struck RMV, RMV driver minor injuries		
26/06/02	Murwillumbah	Freight struck by RMV, no reported injuries		

RMV driver careless – numerous incidents

Typical incidents include:

- booms damaged by vehicles driving through late/early while lowering or while lowered
- near misses with RMV where RMV driver fails to observe signage or train
- RMV fouling tracks as a result of a road incident

Vandalism: numerous incidents involving damage to equipment, signage and booms

Other recorded incidents include equipment faults/level crossing condition/power failures etc

• The Working Group is investigating effective methods to highlight and review those incidents that may be safety critical. This process is problematic due to poor incident data currently recorded through the SAD and SIGCOM systems. Analysis requires extensive review of recorded data



Issues Encountered

- Local Government Support
- Pedestrian Crossings
- Prior Commitments
- LCSC Secretariat
- Federal Funding
- Compliance with AS 1742.7
- Closures
- LCAM assessment of all sites

Issues Encountered

Local Government support	 Unable to rely on 1/3 contribution on local roads Contributions for current year program Local Government reluctance to meet LCSC timetable Need early announcement of forward program 	
Pedestrian crossings	 People with disabilities are a significant factor in risk assessments and construction requirements Risk assessment methodology needs development 	
Prior commitments	 2001/2002 upgrade program based on sites nominated by RTA regions No formal risk assessments carried out to determine sites Some upgrades based on emotional factors 	
LCSC Secretariat	 No LCSC secretariat since 2001 Affecting functionality and effectiveness of LCSC Initiatives delayed 	
Federal funding	 Opportunities for Federal funding persued through Minister 13 sites on Federal Highways nominated for funding in 2002/2003 Funding sought for crossings on Interstate track 	
Compliance with AS 1742.7	 General lack of compliance on RTA and Local Government roads Local Government resourcing issue 	
Closures	 Process agreed but needs resources to coordinate Time consuming requirements in legislation 	
LCAM assessment of all sites	 Variable data on hand for initial rating Sites need stakeholder inspection for reliable score 	

ACKNOWLEDGMENTS

MEMBERS OF THE LEVEL CROSSING STRATEGY COUNCIL

Department of Transport

Michael Deegan (Chair)

Kent Donaldson

Colin Holmes

John Hall

Michael Petrie

Roads and Traffic Authority

Chris Ford Phil Margison Craig Moran

Rail Infrastructure Corporation

John Cowling Bruce Lord
Derek Williams

Local Government and Shires Associations (LGov NSW)

Richard Connors David Hale Julie Ritsinias

NSW Police Services

Ron Dorrough Dean Miller Paul Whyte



THE FOLLOWING ARE ALSO ACKNOWLEDGED

Robert Picone Andrew Vickery Godwin Camilleri Guy Creber Chris Lees Graham Cowan Jo Quilty Ron Sorensen John Vickery John Curtin Leah Szabo **Graham Moses** Kevin McMahon David Lloyd Adrian Magrath Glen Collins Colin Street John Gifford

RTA Wagga Road Safety Managers and Officers RTA Parkes Road Safety Managers and Officers RTA Grafton Road Safety Managers and Officers RTA Newcastle Road Safety Managers and Officers RTA Wollongong Road Safety Managers and Officers

Dubbo City Council Road Safety and Engineering
Wagga City Council Road Safety and Engineering
Wingecarribee Shire Council Road Safety and Engineering
Griffith City Council Road Safety and Engineering
Moree Plains Shire Council Road Safety and Engineering
Rylstone Shire Council Road Safety and Engineering

RIC Cootamundra Signal Construction Team

RIC Bathurst Signal Construction Team

RIC Hamilton Signal Construction Team

RIC Signal Design Staff

RIC Signalling Standards Staff

RIC Stores and supply Managers and Staff

RIC Rail Equipment Centre Staff

