

POSITIVE
ECONOMIC
OUTCOMES



The Lane Cove Tunnel featured on the chapter page completed the Sydney Orbital Motorway network delivering positive economic outcomes for NSW. The map featured above was produced to assist motorists to navigate the network.

To ensure positive economic outcomes from the road network the RTA must effectively and efficiently manage its extensive assets. It must ensure strategic investment in the development of the network with projects expertly managed and delivered. The reliable functioning of the road network relies on optimal traffic management and an integrated approach to transport, including management of freight issues.

ROAD MANAGEMENT

The NSW road network

The 184,082 kilometre NSW road network is a significant public asset, providing access across the State for commuters, travellers, business and freight.

The road system is divided into four categories:

- 17,912 kilometres of RTA managed State Roads including 4268 kilometres of AusLink Network for which the Australian Government provides a funding contribution and 161 kilometres of privately funded toll roads.
- 2946 kilometres of RTA managed Regional and Local Roads in the Unincorporated Area of NSW.
- 18,474 kilometres of council managed Regional Roads, which receive significant RTA grant funds.
- 144,750 kilometres of council managed local access roads, funded by local ratepayers and federal road assistance grants.

The RTA is also responsible for managing:

- 4998 bridges and major culverts.
- 3630 traffic signal sites.
- Nine vehicular ferries.

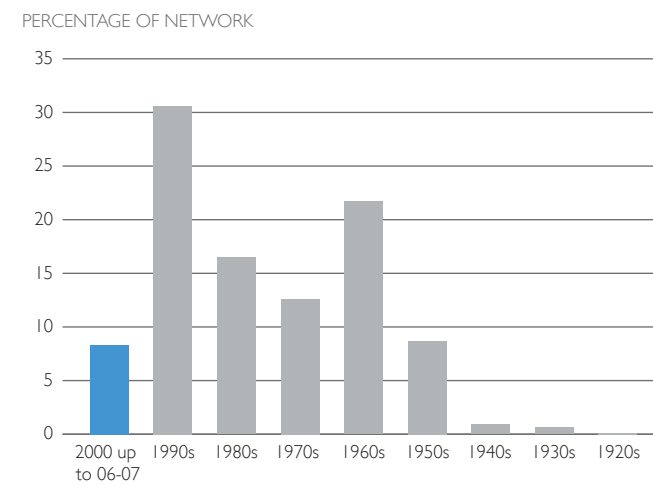
Asset management

There are considerable challenges facing the RTA in managing the maintenance and renewal of the existing road and bridge network across NSW to provide and support safe, reliable access on State Roads. This requires strong risk management capabilities, as well as practical planning and robust analysis of the future usage and performance of the existing road network.

A major challenge for the RTA is the rebuilding of assets to support the ongoing serviceability of the infrastructure on a sustainable basis. A key challenge is to use leading research to improve the RTA's capability to more accurately forecast the structural condition of road pavements. The RTA has undertaken a project to improve this accuracy, and estimate the rebuilding rates required for sustainable asset management. The Auditor-General's report, recognised that "the RTA has done well to recognise the importance of measuring structural condition and progressively improve its methods to do so." This reflects that there are no equivalent Australian benchmarks for this assessment. Further stages in the project will improve the RTA's capability to:

- Assess overall future funding needs.
- Distribute available funds across the State.
- Schedule, design and locate works in an optimal manner.
- Ensure consistent strategies are used across the State.
- Set more appropriate condition targets.
- Assess the gap between appropriate and actual condition.

FIGURE 4. DISTRIBUTION OF CONSTRUCTION PERIOD FOR ALL STATE ROADS (INCL AUSLINK) AS AT 30 JUNE 2007

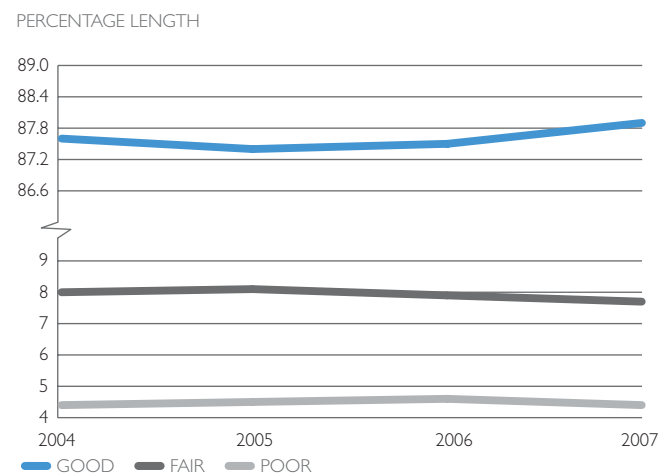


Infrastructure condition

The RTA has historically used the following performance indicators to demonstrate the condition of the infrastructure it manages:

- Ride quality or road surface roughness.
- Pavement durability.

FIGURE 5. RIDE QUALITY ON STATE ROADS

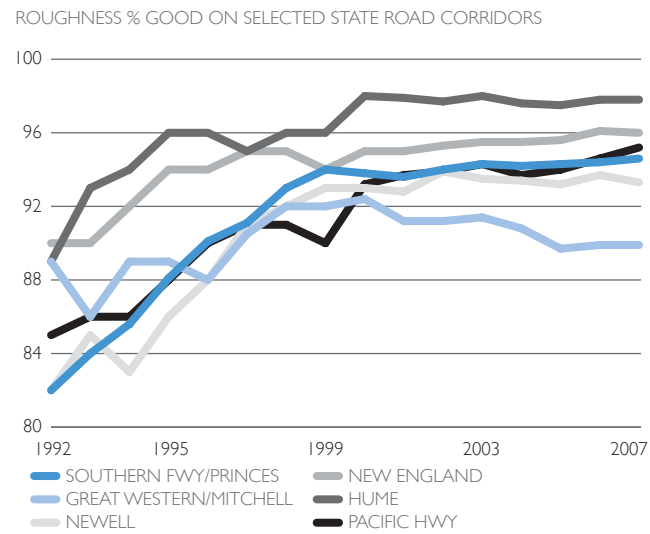


The reporting methodology for surface roughness has now changed to provide a more consistent sample of the road network in order to report on the same sample from year to year (see table 2 and notes on page 19).

The percentage of road surface roughness rated as good on State Roads and the AusLink Network in NSW remains at a high level. Over the past 10 years or so there have been significant improvements on many of the major routes such as the Pacific, Princes, Newell, New England and Hume highways. These improvements are partly explained by the prolonged dry weather across the state resulting in slower rates of pavement deterioration.

The most recent data indicates that road surface roughness has improved slightly across the State with few routes showing any significant change.

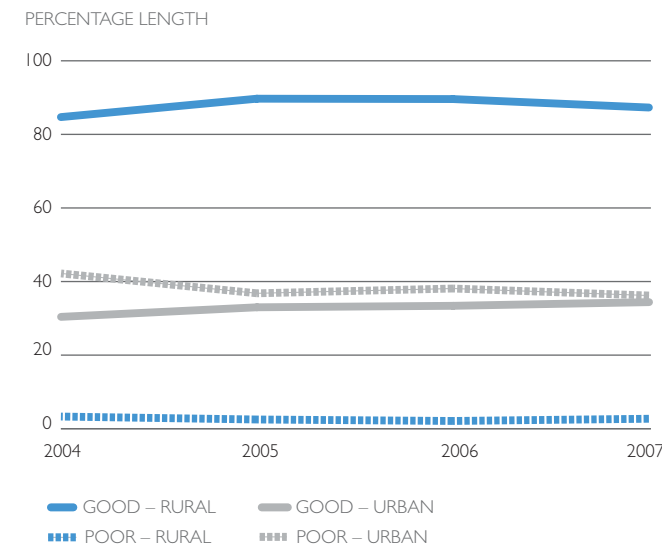
FIGURE 6. ROAD SURFACE ROUGHNESS % GOOD ON SELECTED STATE ROADS



Pavement durability has been reasonably stable over the past four years. Rural roads show significantly less poor rated pavement than urban roads. This reflects the RTA's strategy of giving priority to the weaker and more water sensitive rural granular pavements ahead of urban asphalt roads made from manufactured materials which are more resilient to prolonged rainfall than natural gravel roads. Urban roads are also typically low speed roads and therefore represent less of a road safety risk than high speed rural travel. This risk mitigation approach has resulted in satisfactory services being maintained with no State Roads required to be closed or subject to prolonged periods of reduced speed or load limits for road safety reasons.

The NSW Auditor-General's report, 'Condition of State Roads' highlighted the ride quality on Sydney's roads as being below other capital cities and country roads. In the past year the RTA has increased the focus on the Sydney network and its condition is improving.

FIGURE 7. PAVEMENT DURABILITY – ALL STATE ROADS



Reporting methodology has now changed to provide a more consistent sample of the road network in order to report on the same sample from year to year (see table 2 and notes on page 19).

Maintenance program

The Infrastructure Maintenance Program establishes priorities on a risk basis to support safe and reliable travel on State Roads and to protect the investment in assets needed to continue this service. These strategic results are linked to outputs and service standards using program budgeting and maintenance contracts. The maintenance contracts determine consistent minimum levels of services, with requirements for identifying and rectifying defects, procedures and management systems for worker safety, traffic control and safety, environmental protection and works quality.

The RTA is also encouraging local councils to establish 'clusters' in maintenance contracts, sharing expertise and resources as a means of reducing the costs of maintenance services and associated overheads. This is expected to produce cost savings through economies of scale without jeopardising local employment. One cluster of councils in the Central West has been operating successfully for a number of years, and another cluster comprising Gilgandra, Narromine and Warren will commence in July 2007.

“Significant ongoing maintenance and improvement programs improve the functionality and safety of the road network.” NSW State Plan

Achievements during 2006–07 included delivery of the \$870 million Infrastructure Maintenance Program with the following significant outcomes:

- Seven new bridges.
- 1640 kilometres of resurfacing.
- 132 kilometres of new pavements.

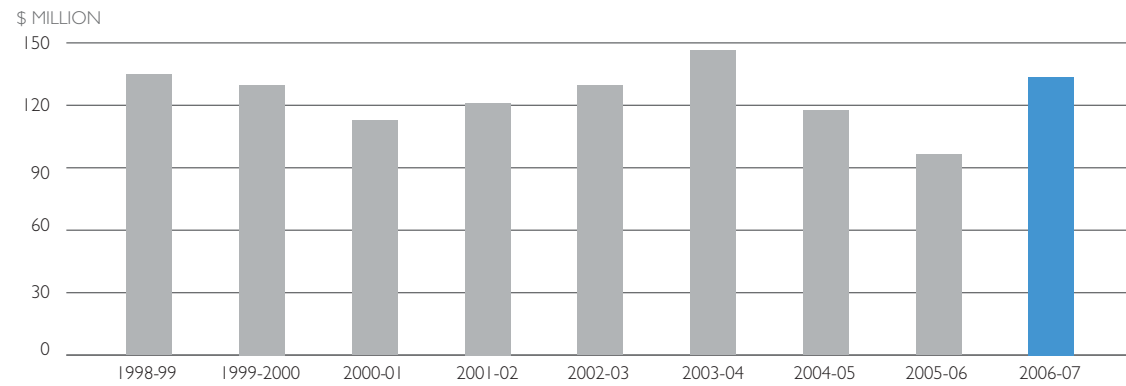


Hinton Bridge over Paterson River is an historically significant Allan truss bridge. A \$9.8 million maintenance and capacity improvement program was undertaken to strengthen the trusses, approaches and lift span.

Rebuilding Country Roads Program

The NSW Government's Rebuilding Country Roads Program involves a commitment for the RTA to spend at least \$100 million a year on renewing roads and bridges to the latest standards. Over the past nine years, the RTA has spent an average of \$123 million per annum on this program. Expenditure for 2006–07 amounted to \$133.6 million.

FIGURE 8. REBUILDING COUNTRY ROADS PROGRAM EXPENDITURE



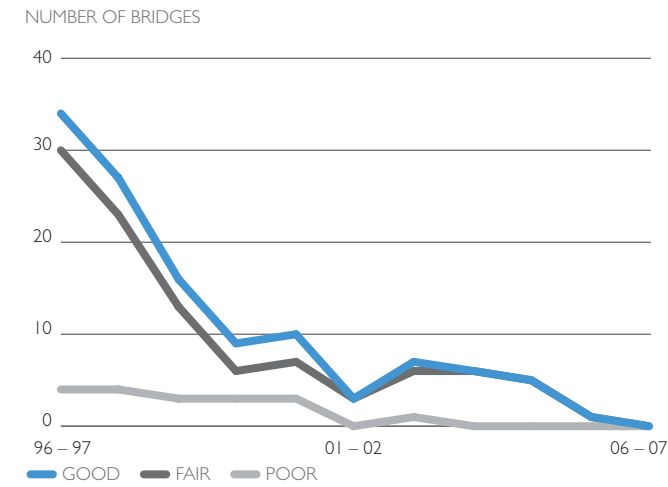
Asset renewal program

Due to the ageing of the State arterial road network, the NSW Government announced a variety of increased RTA charges in December 2001 including a rise in the Sydney Harbour Bridge toll. All the additional funds are directed into maintenance of the RTA's arterial roads and bridges with the majority to be spent on rural and regional arterial roads. For 2006–07, expenditure amounted to \$75.1 million.

Major works recently completed under the accelerated renewal program include:

- Reconstruction between Neath and Abermain, near Cessnock.
- Gwydir Highway reconstruction near Gravesend.
- Repainting of Tom Ugly's Bridge.
- Princes Highway resurfacing between Tom Ugly's Bridge and Acacia Road, Sutherland.
- New bridge over Kellys Gully at Warialda Rail.
- Castlereagh Highway reconstruction at Black Bull Hill, north of Mudgee.
- Sturt Highway reconstruction at Nacka Nacka, west of Tumut.

FIGURE 9. NUMBER OF BRIDGES ON STATE ROADS WITH CONSTRAINTS ON USERS



Natural disaster repairs

Disasters cause significant and widespread hardship for the industry and community of NSW. The NSW Government provides significant financial assistance to councils to repair roads damaged by declared natural disasters.

In 2006–07, the RTA managed \$13.5 million of NSW Government funds to repair damage from declared storms, flooding and bushfires. Major storm events occurred in the Shoalhaven, Central Coast and Hunter areas, together with bushfires in the Southern Tablelands, Blayney, Hunter, Hawkesbury, Hornsby and Snowy River areas. Major restoration continued in the North Coast, Central West, Moree and Narrabri areas as a result of storms and flooding in previous years.

Slope stability

During the year, the management of risks associated with slopes was significantly enhanced with the ongoing implementation of a new road slope management system.

Recent highlights include completion of slope stability works at Lake George on the Federal Highway and at Nombi on the Oxley Highway. Major works were commenced on the Pacific Highway at Scotts Head and Cooperabung and on the Princes Highway at Brogo Pass. Ongoing drainage works were carried out at Thredbo. Improvements were made at selected locations on the Bells Line of Road, together with works on Alford's Point and Heathcote roads.

The Lawrence Hargrave Drive Link Alliance won the 'Engineering for Regional Communities' award at the 2006 Sydney Division Engineering Excellence Awards. After closing the route in 2003 due to the threat of rockfalls, the RTA sought and implemented an innovative engineering solution – the Sea Cliff Bridge – to address the problem.



Slope stabilisation work at Lake George was recently completed.

Timber Bridge Partnership

On 28 October 2006 the Premier announced that the NSW Government would invest \$60 million in a three year Timber Bridge Partnership for councils to upgrade their timber bridges on Regional Roads, with funding provided on a 50:50 matching basis.

By June 2007, a total of 36 bridges had been announced as part of the program with works being commenced at a number of sites including:

- Gloucester River Bridge at Gloucester.
- Baerami Creek near Muswellbrook.
- Bean Creek No 1 near Kyogle.
- Chinamans Bridge over Middle Arm Creek near Coffs Harbour.
- Meakers and Creamery Gullies on the Bega to Bermagui Road.
- Merri Merri Creek on the Warren to Carinda Road.
- Black Gully Bridge north of Moree.
- Peel River Bridge at Nundle.

The RTA continues to work closely with local councils to identify other bridges eligible for inclusion in the program.

Regional Roads funding

The RTA offers full or partial funding to councils under a range of programs. The funding programs include projects such as the Regional Roads Block Grant, REPAIR program, black spot treatments, road and safety audits and roadside facilities and rest areas.

Sixty five per cent of the NSW road budget (of \$2.8 billion) is allocated to rural and regional NSW.

NSW State Plan

Roads Act review

A review of the *Roads Act 1993* began during 2004–05. As required by the Act, the RTA has reviewed the report tabled in Parliament in 1999 pursuant to the statutory review provisions of the Act. Development of issues and options were progressed in 2006–07 with a view to facilitating consultation with other government agencies, local government and the community on the review of the Roads Act in the future.

Future road management challenges

The future challenges facing the RTA in managing the NSW road network need to be considered within the context of population growth, economic prosperity and environmental sustainability. The priorities of the NSW State Plan and the findings of the NSW Auditor-General's report, 'Condition of State Roads' are significant drivers of RTA performance in this area.

To meet these challenges the RTA will:

- Continue to strengthen weaker RTA bridges and to facilitate wider use of higher productivity vehicles across the network.
- Continue to consult with local government, internal providers and industry on infrastructure planning.
- Continue to implement the recommendations of the NSW Auditor-General's report.
- Increase the level of asphalt resurfacing to sustainable levels.
- Implement the State Infrastructure Strategy.
- Finalise and implement the 10 year Maintenance of Service Effort Plan.
- Revise and implement consistent service and technical standards.
- Increase the public transport share of total road movements.
- Enhance the planning and project delivery of maintenance and minor works through the Alliance model with internal providers and road maintenance contracts with local councils.
- Maintain and improve the standard of the road network within available funding.

The Chemical and Materials Technology Unit specialises in research, laboratory and field testing and monitoring programs to test the materials used to make NSW roads. The unit tests materials such as bitumen, reflective line markings and drainage geotextiles. External clients also value the lab's specialist capabilities.

ROAD DEVELOPMENT

Project delivery

During the year, 16 major construction projects were completed. The total expenditure to complete these projects, excluding private sector expenditure, was \$1.1 billion. Refer to appendix 1 for details.

Motorways

Lane Cove Tunnel

The Lane Cove Tunnel was opened on 25 March 2007. The tunnel provides a link between the M2 Motorway and the Gore Hill Freeway and completed the final link in the Sydney Orbital Motorway network, connecting the north-west sector of Sydney with the central business district (CBD). New ramps have been provided to and from the north between Falcon Street at Neutral Bay and the Warringah Freeway to improve access to the Gore Hill Freeway-M2 corridor.



The Lane Cove Tunnel was opened on 25 March 2007, completing the final link in the Sydney Orbital Motorway network.

As at 30 June 2007 the tunnel is used by around 47,000 vehicles per day (Monday to Friday). Tolling is fully electronic and interoperable with other Sydney toll roads.

When Stage 2 of the project is completed, the tunnel will provide bus lanes along Epping Road and transit lanes on the widened Gore Hill Freeway from the M2 at the Lane Cove River to the Warringah Freeway.

The Lane Cove Tunnel team is an example of the diversity of the RTA workforce. A team of people with expertise in civil, electrical and mechanical engineering, and traffic services as well as environment, community and urban design worked together on this remarkable achievement.

The Lane Cove Tunnel Integration Group was established to oversee the integration of the tunnel and the expanded Gore Hill Freeway into the broader road network, including 48 associated surface road changes. The group looked at the transition of these changes to ensure the best outcome for motorists, public transport users and the local community. The group included representatives from the RTA, the Department of Premier and Cabinet, the Ministry of Transport, NSW Treasury and Connector Motorways Pty Ltd.

On 8 December 2006 the Minister for Roads announced that, based on advice from the group, the NSW Government would take a staged approach to integrating the surface roadworks associated with the tunnel and expanded Gore Hill Freeway. This was also consistent with the recommendations of a bipartisan Parliamentary Inquiry.

The surface road changes are being implemented in stages over an 11 month period, with the former arrangements on Epping Road remaining in place for the first five months following the opening of the tunnel.

To build awareness of the new orbital, the RTA produced a map and a website that also provides advice about how to best navigate the network.

Connector Motorways Pty Ltd will operate and maintain the motorway for a period of 30 years.

Westlink M7

The Westlink M7 supports the industrial and commercial development of western Sydney, which increased by 58 per cent in the motorway's first year of operation. The motorway is taking heavy vehicles off local streets.

The Westlink M7 runs between the M5 Motorway at Prestons and the M2 Motorway at west Baulkham Hills and forms part of the National Highway through Sydney. A key link in the Sydney Orbital Motorway network connecting the M5, M4 and M2, it comprises approximately 40 kilometres of dual carriageway.

The Westlink M7 won the 'Project Management' and 'Infrastructure' categories at the 2006 Sydney Division of the Engineering Excellence Awards. It also won the Bradfield Award which is presented to the overall winner selected from all categories.

By June 2007 the Westlink M7 was carrying more than 106,000 vehicles per day with many travelling on only part of the motorway. Some work remained to be completed, and several property acquisition disputes were to be resolved by the NSW Land and Environment Court.



Photography by Brett Boardman

The Westlink M7 Motorway has been profiled in the prestigious architectural magazine *Architecture Australia*.

Cross City Tunnel

Since its opening in August 2005, a number of surface road modifications have been introduced for the Cross City Tunnel. These modifications have resulted in traffic flow improvements across and into the city and improved access to the harbour crossings. The 2.1 kilometre twin tunnel runs between Darling Harbour and Kings Cross, linking the Western Distributor to New South Head Road and connecting with the Eastern Distributor. Currently the tunnel is used by around 30,000 vehicles per day.

M4 Motorway extension

Currently the M4 motorway services a significant economic corridor. This western corridor from Penrith through Sydney Olympic Park to the CBD is expected to experience a high increase in population and employment density. The Government's Metropolitan Strategy for Sydney, released in December 2005, highlighted the critical significance of better linkages between Port Botany and Sydney Airport, and western Sydney.

The RTA has commenced investigations into a future eastern extension of the M4 from Strathfield to improve the road connections between these economic gateways. This is in line with the Government's Metropolitan Strategy for Sydney, the State Infrastructure Strategy and the Urban Transport Statement. These are available from the internet via www.nsw.gov.au.

In June 2007 the Premier announced that the M4 Extension is one of the infrastructure projects that is required to reduce heavy vehicles on existing roads and is a priority that the Government will address in its current term.

The opportunities provided by an M4 extension include urban renewal, improved public transport in Sydney's inner west and catering for continuing growth in freight transport between Port Botany and warehousing/distribution facilities in Sydney's west. This would bring considerable benefits to the inner western suburbs by removing trucks from local roads, thus

reducing traffic congestion and reducing vehicle emissions and noise caused by stop-start traffic.

The NSW State Infrastructure Strategy 2006–07 to 2015–16 indicates that an extension of the M4 motorway will be considered in the context of Sydney's metropolitan planning and would be part of a balanced infrastructure investment strategy involving road, rail, bus and other transport modes.

The Centre for Transport Planning and Product Development within the Ministry of Transport is preparing a discussion paper on the transport needs of Sydney's inner west for release later in 2007. The paper will include information regarding the M4 extension proposal.

F3 Freeway to M2 Hills Motorway link

A proposed new link would connect the F3 Freeway at Wahroonga with the M2 at Carlingford. It would also be the final link to provide motorway conditions all the way through Sydney from north to south via the F3, the new link, the M2, the Westlink M7 and the F5.

In May 2004, the Australian Government announced the preferred corridor option for the link. Following this announcement a number of representations were received from the community. In February 2007 the Australian Minister for Local Government, Territories and Roads announced an independent review of the corridor selection process and appointed a former chief judge of the NSW Land and Environment Court, the Hon Mahla Pearlman AO, to chair the review.

Public submissions to the review closed on 13 April 2007. The chair of the review held public meetings in June 2007. The review report is due for submission to the Australian Government at the end of August. Planning activities for the link can only commence after the findings of the review have been considered by the Australian Government.

Pacific Highway Upgrading Program

The Pacific Highway not only links Sydney and Brisbane, it passes through regions that continue to experience the State's highest population growth rates. This growth has increased pressure on the road transport system, and improvements in road infrastructure are needed for safe and efficient transport along the coast. A jointly funded program of \$960 million for the three years to 2009 to upgrade the Pacific Highway was announced in December 2005. In June 2006 the NSW and Australian governments agreed to contribute an additional \$160 million each. This brought the total level of funding to \$1.3 billion for the three years.

By June 2007, 263 kilometres of the Pacific Highway was divided highway providing travel time savings of more than one hour for both heavy and light vehicles. Approximately 50 per cent of the highway was either completed dual carriageway, under construction, or had a contract awarded. Preferred routes for the remaining sections have been announced.

Highlights during 2006–07 included the announcement of the preferred concept design for Banora Point and Iluka Road to Woodburn and announcements in August and September 2006 of preferred routes for:

- F3 to Raymond Terrace.
- Oxley Highway to Kempsey.
- Woolgoolga to Wells Crossing.
- Wells Crossing to Iluka Road.
- Tintenbar to Ewingsdale.

In addition, applications for approval under Part 3A of the *Environmental Planning and Assessment Act* were lodged for Kempsey to Eungai, Sapphire to Woolgoolga, Banora Point, and Tintenbar to Ewingsdale.

Other areas of the highway being upgraded are:

Tomago Road and Old Punt Road junctions

Construction commenced in February 2007 on an \$8 million project to install traffic signals at the junctions of the Pacific Highway with Tomago Road and with Old Punt Road at Tomago. The project is designed to improve safety and traffic flow at the intersections and is expected to be completed by early 2008.

Tugun Bypass

Construction is continuing on the Tugun Bypass. Completion is planned for mid 2008. The bypass will connect the Pacific Motorway Stewart Road interchange at Currumbin in Queensland with the Tweed Heads Bypass north of Kennedy Drive. The project is being funded by the Australian and Queensland governments with technical assistance provided by the RTA to facilitate construction of the project.

The following projects are all jointly funded by the NSW and Australian governments:

Karuah to Bulahdelah Section 1

This \$114 million project was opened to traffic on 15 December 2006. It provided an additional 11 kilometres of dual carriageway on a new highway alignment over much of the length of the project, a significant improvement to safety.

Karuah to Bulahdelah Sections 2 and 3

Construction commenced in March 2007 on this \$262 million project to provide 23 kilometres of dual carriageway generally following the existing highway alignment. The project includes seven pairs of new bridges and rest areas located on the northbound carriageway at Nerong Waterholes and the southbound carriageway at Browns Flat.

Bundacree Creek to Possum Brush

This project was opened to traffic in November 2006. The \$115 million project provided an additional 10 kilometres of dual carriageway as well as new bridges over the Wallamba River and Pipeclay Creek, a major interchange at Nabiac to provide safer access across the highway for local traffic, two pedestrian underpasses beneath the highway and a pedestrian/cycleway linking Clarkson Street south over the Wallamba River Bridge.



A new interchange on the Pacific Highway at Nabiac encourages motorists to use the facilities at Nabiac.

Cooperook to Moorland and Moorland to Herons Creek (now known as Cooperook to Herons Creek)

These projects have been combined in the implementation stage to achieve economies of scale. The projects, estimated to cost over \$400 million, will provide 32.2 kilometres of dual carriageway. Registration of interest was invited on 24 July 2006 and the request for proposals released on 15 November 2006. The preferred alliance partner was selected on 5 March 2007. Work is expected to commence in late 2007.

Bonville upgrade

Construction by design-construct-maintain contract for the 9.6 kilometre stretch along the Pacific Highway between Perrys Road and Lyons Road south of Coffs Harbour commenced in November 2006. When finished in 2008, the \$245 million Bonville upgrade will complete 17.5 kilometres of dual carriageway between Coffs Harbour and Urunga.

Ballina Bypass

The preconstruction earthworks on this project commenced in September 2006. The earthworks involve the use of a range of techniques including a vacuum consolidation process to stabilise the underlying soft soils on time critical sections of the project. A request for proposals for an alliance was issued on 19 April 2007 and closed on 23 May 2007. Two proponents progressed through to the interview stage. The improved concept design for the project went on display in June 2006.

Brunswick Heads to Yelgun

Construction began in July 2005 on this \$256 million, 8.6 kilometre project. It involved construction of a new dual carriageway generally adjacent to the current highway north of Brunswick Heads and a second carriageway on the Brunswick Heads Bypass. The project will open to traffic in July 2007.



The opening of the Pacific Highway upgrade from Brunswick Heads to Yelgun, means 60 kilometres of the highway from Ewingsdale to the Queensland border will be uninterrupted dual carriageway.

TABLE 7. 2007–08 PROJECT PLANNING

Action planned during 2007–08
<p>Display of concept designs / highway access strategies:</p> <ul style="list-style-type: none"> • F3 to Raymond Terrace (12.2 km). • Woolgoolga to Wells Crossing (27.3 km). • Wells Crossing to Harwood (61.5 km). • Harwood to Iluka Road (9.9 km). • Iluka Road to Woodburn (32.4 km). • Woodburn to Ballina (32 km).
<p>Display of environmental assessments:</p> <ul style="list-style-type: none"> • Oxley Highway to Kempsey (38.8 km). • Kempsey to Eungai (39 km). • Warrell Creek to Urunga (40 km). • Sapphire to Woolgoolga (24 km). • Tintenbar to Ewingsdale (17 km). • Banora Point (2.5 km).
<p>Continuation of planning:</p> <ul style="list-style-type: none"> • Failford Road to Tritton Road (3.3 km, concept design along existing alignment). • Herons Creek to Stills Road (3.3 km, concept design along existing alignment). • Bulahdelah Bypass (9 km). • Coffs Harbour Highway Planning Strategy (12 km concept design).

Sydney projects

F3 Freeway, Cowan to Mount Colah

Construction commenced in February 2007 to widen an 11.5 kilometre section of the F3 Freeway between Cowan and Mount Colah from four to six lanes. The \$119 million project is jointly funded by the Australian and NSW governments and is expected to be completed by the end of 2008. Once the project is completed, the F3 Freeway will have six continuous lanes between the southern end of the freeway at Wahroonga and the Gosford exit at Kariong, a distance of approximately 43 kilometres.

Victoria Road upgrade

The Victoria Road upgrade program seeks to improve the efficiency and reliability of bus services between Gladesville Bridge and The Crescent, Rozelle by providing 'peak direction' bus lanes.

The program is currently in the development phase, which includes planning, investigations, concept designs and a preliminary environmental investigation. An option under investigation includes tidal flow traffic schemes.

Windsor Road upgrade

The program to upgrade Windsor Road and Old Windsor Road to a minimum of four lanes between Parramatta and McGraths Hill was completed with the opening of the following projects:

- Roxborough Park Road to Norwest Boulevard, Baulkham Hills – open to traffic in July 2006.
- Acres Road to Old Windsor Road, Kellyville – open to traffic in July 2006.
- Mile End Road, Rouse Hill to Boundary Road, Box Hill – open to traffic in December 2006.
- Boundary Road, Box Hill to Level Crossing Road, Vineyard – open to traffic in September 2006.
- The grade separation of Norwest Boulevard over Old Windsor Road, Glenwood was opened to traffic in December 2006.

The contract for construction of the \$127 million Windsor Flood Evacuation Route across South Creek, was awarded in September 2005. Work is well advanced with opening to traffic expected in late 2007.

The Windsor Road upgrade has improved the accessibility, safety and reliability of travel in the north-west sector of Sydney. The upgrade will significantly contribute to economic development in western Sydney.



The Member for Riverstone John Aquilina and the Hon. Eric Roozendaal, Minister for Roads, opening the \$40 million underpass at the intersection of Old Windsor Road and Norwest Boulevard.

Bangor Bypass

The Bangor Bypass is a four-lane divided road consisting of two sections, a 2.8 kilometre north-south link between New Illawarra Road and Alford's Point Road to the west of and parallel to Old Illawarra Road and a 3.4 kilometre east-west link between the Woronora Bridge and the north-south link.

The \$95 million first stage of the project comprising the east-west link and the northern half of the north-south link was completed early in 2005. Planning is now in progress for the southern half of the north-south link. A preferred option was displayed in February 2007 and pre-construction activities, including detailed design, geotechnical investigation and property acquisition are being progressed.

Alford's Point Bridge

Construction of the \$45 million duplication of Alford's Point Bridge over the Georges River commenced in early 2007 and is expected to be completed in the second half of 2008.

Planning for widening of the northern approach to the Alford's Point Bridge has also commenced.

Hoxton Park Road upgrade

Hoxton Park Road is being progressively upgraded to provide a divided road at least four lanes wide and an off-road cycleway. It carries the Liverpool to Parramatta bus T-way on two separate, central lanes between Banks Road and Brickmakers Creek.

Planning for the \$71 million final section between Cowpasture Road and Banks Road is well advanced. Within this section, construction of a new signalised intersection at Whitford and Illaroo roads was completed in December 2005. Planning and pre-construction activities including major property acquisitions will continue in 2007–08.

Cowpasture Road upgrade

Cowpasture Road was a 12.8 kilometre, two-lane, undivided arterial road from the roundabout at The Horsley Drive, Wetherill Park to Camden Valley Way, Leppington. It is being progressively upgraded to a four-lane divided road.

The \$40 million upgrade to four lanes between Hoxton Park Road and Main Street was completed in November 2006. Planning is progressing for the two remaining sections of Cowpasture Road from Main Street to Camden Valley Way and from North Liverpool Road to the Westlink M7.

Narellan Road extension

This 1.1 kilometre project extends Narellan Road from the existing intersection with Camden Valley Way to intersect with The Northern Road. The \$33 million project is well advanced and scheduled to be opened to traffic in late 2007.

Camden Valley Way upgrade

The upgrading of Camden Valley Way to four lanes between the M5 South West Motorway and Bernera Road at Prestons opened in December 2005. Concept design and other planning activities are now being undertaken for the section between Bernera Road and Cowpasture Road. In addition the RTA is progressing concept design and environmental assessment for the four lane upgrade of Camden Valley Way between Cowpasture Road and Narellan Road.

North-West T-way Network

The \$524 million North-West T-way Network comprises two new bus transitway links – Parramatta to Rouse Hill Regional Centre (17 kilometres with 20 stations) and Blacktown to Parklea (seven kilometres with 10 stations).

The Parramatta to Rouse Hill Regional Centre link was completed and buses commenced services in March 2007. Construction of the Blacktown to Parklea link is progressing well and the completion is scheduled by the end of 2007.

The T-way services the suburbs of Parramatta, Westmead, Wentworthville, Old Toongabbie, Winston Hills, Seven Hills, Kings Langley, Bella Vista, Kellyville, Glenwood, Kellyville Ridge, Rouse Hill, Blacktown, Kings Park, Acacia Gardens, Parklea, Stanhope Gardens and the Balmoral Road release area. These areas now have better public transport connections to educational, recreational, employment and health facilities, and the CityRail train network.



Two new bus transitway links in western Sydney provide the community with affordable, sustainable transport options between Parramatta and Rouse Hill, and Blacktown and Parklea.

Great Western Highway

The Great Western Highway upgrade program progressed this year with Section 1 of the Leura to Katoomba upgrade opened to traffic. Preconstruction work continued on the Woodford to Hazelbrook section and at Lawson Section 2 between Honour Avenue and Ridge Street.

The Great Western Highway upgrade program is improving travel times for motorists and providing a safer road environment for all road users including pedestrians and cyclists. The NSW Government has committed \$360 million towards the upgrade, with the Australian Government contributing a further \$100 million.

Work commenced on Section 2 of the Leura to Katoomba upgrade in December 2006 and preliminary works continued on the Woodford to Hazelbrook project including the Oaklands Road local traffic railway underpass. Planning has progressed for projects between Lawson and Wentworth Falls with planning approval for Lawson Section 2 obtained in July 2006 and Wentworth Falls East in October 2006.

Improving access between cities and regions

Hume Highway

Albury Wodonga Hume Freeway project

The design-construct-maintain contract for the Albury Wodonga Hume Freeway project in NSW was awarded in February 2005. Construction commenced in May 2005 and was opened to traffic on 6 March 2007. In NSW the freeway comprises 14.6 kilometres of dual carriageway from Ettamogah to the Murray River through the city of Albury. The project also includes 31 bridges and a 7.5 kilometre shared bicycle/pedestrian footway.



The Albury Wodonga Hume Freeway project opening was celebrated by more than 20,000 community members with a walk over the freeway before it opened to traffic.

The new freeway dramatically improves road safety and travel conditions in the area and strengthens the major link connecting Sydney to Melbourne. It eliminates more than 15 highway blackspots and six railway level crossings and reduces the number of light and heavy vehicles travelling through local streets. The Australian Government fully funded the \$374 million NSW section of the project.

Southern Hume Highway duplication

The Australian Government has an objective of full dual carriageway conditions on the Hume Highway by 2012. There are 87 kilometres remaining to upgrade between the Sturt Highway and Table Top near Albury. In June 2006 the NSW and Australian governments signed a Memorandum of Understanding to accelerate 67 kilometres of duplication in an \$800 million project to be completed by December 2009. The bypasses of Tarcutta, Holbrook and Woomargama will make up the final 20 kilometres to be completed by 2012.

Two alliance partners for the duplication were engaged in December 2006, Northern Hume Alliance (RTA, Leighton Contractors, Maunsell Australia, SMEC Australia and Coffey Geotechnics) for 35 kilometres and Hume Highway Southern Alliance (RTA, Abigroup Contractors and Sinclair Knight Merz) for 32 kilometres. Initial works commenced at Table Top in May 2007 and substantial works are scheduled to commence in late 2007.

Tarcutta truck facility

The contract was awarded in May 2006 for the \$7.5 million Tarcutta truck and trailer interchange facility. The facility was opened for use in February 2007. The project is jointly funded with the NSW Government contributing \$4.5 million and the Australian Government contributing \$3 million. A new amenities block is being constructed with completion expected in late 2007.

Sheahan Bridge duplication, Gundagai

Tenders for a design and construct contract closed on 2 May 2007. The contract will be awarded in late 2007 with completion expected in late 2009. The \$78 million project is fully funded by the Australian Government. On completion of this bridge duplication and Coolac Bypass, the Hume Highway will be dual carriageway between Sydney and the Sturt Highway.

West Street interchange, North Gundagai

Construction commenced in March 2006 to provide grade separated access for vehicles leaving North Gundagai to travel north on the Hume Highway. The existing junction had an adverse crash history and was replaced by an overpass linking West Street to the northbound carriageway of the Hume Highway. The project was opened to traffic in December 2006 and was fully funded by the Australian Government.

Coolac Bypass

A contract was awarded to Abigroup Pty Ltd on 28 February 2007 for the \$179 million Coolac Bypass project and construction commenced in May 2007. The project comprises a 12 kilometre four-lane bypass and a four kilometre reconstruction of the northbound carriageway between Muttama Creek and the Dog-on-the-Tuckerbox. Completion of the project is expected in late 2009. The project is fully funded by the Australian Government.

Towrang Road junction and Carrick Road junction improvements, north of Goulburn

Construction of the \$7.4 million project to improve the two junctions at Towrang commenced in February 2007. The majority of the work has been completed ready for the scheduled opening to traffic in September 2007 with the final layer of asphalt pavement to be laid in late 2007.

Northbound upgrade, Brooks Road to Camden Valley Way, Ingleburn

Construction of the \$30 million northbound widening of the Hume Highway (F5 Freeway) between Brooks Road and Camden Valley Way commenced in March 2007 and is expected to be completed in mid 2008. The project is jointly funded by the Australian Government (80 per cent) and the NSW Government (20 per cent).

New England Highway

F3 Freeway to Branxton

Planning continued for the 39.5 kilometre link between the F3 Freeway at Seahampton and the New England Highway west of Branxton. The project involves a four-lane motorway standard route to assist in relieving congestion on the New England Highway in Maitland and to provide a high standard east-west connection between the Newcastle regional centre and urban centres in the lower Hunter. The RTA displayed the modified design in March/April 2007 for community comment and submissions are being considered by the NSW Department of Planning and the Australian Department of Environment and Water Resources.

The Australian Government has been funding planning and preconstruction activities. Funding for construction of the project, which is yet to be resolved with the Australian Government, is based on a 20 per cent contribution from the NSW Government.

Weakleys Drive Interchange

Construction commenced in March 2007 on the interchange at Weakleys Drive, Beresfield. The project will eliminate three sets of traffic signals for through traffic on the New England Highway. The \$51.8 million project is fully funded by the Australian Government and is expected to be completed by the end of 2008. In 2003 the NSW Government completed the associated \$7 million Beresfield-Thornton link road that is integral to the project.

Halcombe Hill

Construction commenced in August 2006 for the realignment of the New England Highway and a new rail overbridge at Halcombe Hill just north of Aberdeen. The \$16.9 million project is fully funded by the Australian Government and is to be opened to traffic in August 2007.

Newell Highway

Upgrade at Coobang

The Coobang upgrade involves safety improvements to 9.6 kilometres of the Newell Highway. Construction commenced in February 2006 and was completed in May 2007. The \$17.5 million project was fully funded by the Australian Government.



Parkes High School students planted a stockpile of unsuitable road construction material with wattle, as part of their school geography project.

Moree Town Centre Bypass

The project will remove heavy vehicles from the town centre and improve safety and access. Tenders closed on 8 November 2006 for Stage 1 construction (new Mehi River Bridge and northern roadworks) with the contract to be awarded in August 2007. Detailed design of Stage 2 (roadworks through Moree) continues with tenders for construction expected to be invited in the second half of 2007. The \$56 million project is fully funded by the Australian Government.

Princes Highway

Lawrence Hargrave Drive intersection upgrade

Planning continues for a major upgrade of this intersection, situated at the foot of Bulli Pass. The preferred option was displayed for community comment in November 2006. Environmental assessment will be completed by late 2007 and construction tenders are scheduled to be invited in 2008.

Wollongong Northern Distributor

The major construction contract for the \$101 million Northern Distributor extension in Wollongong was awarded in December 2006 and work commenced in April 2007. The Northern Distributor will be extended by three kilometres through Wollongong's northern suburbs from Bellambi Lane to the Princes Highway at Molloy Street, Bulli. It will provide a four-lane divided carriageway with four new intersections along the route (two grade separated at Campbell Street and at Park Road). The proposal also includes an off-road shared pedestrian cycle bridge at Farrell Road and 2.5 metre wide sealed shoulders on both sides for cyclists. The project is expected to be opened to traffic in mid 2009.

Oak Flats to Dunmore

Planning and preconstruction activities for the \$130 million Oak Flats to Dunmore deviation continued. This 5.5 km four-lane divided carriageway deviation of the Princes Highway will link the Oak Flats Interchange with the North Kiama Bypass, completing four-lane conditions to south of Kiama. Tenders for the major construction contract were invited in October 2006 and the contract was awarded in February 2007. When completed in late 2009 the project will significantly improve road safety, reduce congestion and improve traffic flows.

Kiama ramps

Planning is underway to provide two additional ramps on the Kiama Bypass. The preferred locations for the ramps have been determined and construction of the \$14 million project is expected to commence in late 2007.

Gerringong and Bomaderry

Work has commenced on the selection of the route for the future upgrade of the Princes Highway between Gerringong and Bomaderry. The preferred route is expected to be selected by mid 2008.

South Nowra road safety improvements

The contract was awarded in February 2007 to widen part of the Princes Highway between South Nowra and Jervis Bay Road to four lanes. This work, including duplication of the two-lane bridge over Currumbene Creek, commenced in June 2007 and is expected to be completed in mid 2008. The \$19 million project is jointly funded with the Australian Government contributing \$15 million and the NSW Government contributing \$4 million.

Conjola Mountain realignment

Work is in progress to improve the Princes Highway at Conjola Mountain including a replacement of the current Conjola Creek Bridge. The project is expected to cost \$45 million, including a contribution of \$10 million from the Australian Government to the Southern Region of Councils.

Pambula Bridge and approaches

Work commenced in August 2006 to improve the southern approach alignment to Pambula Bridge and a contract was awarded in March 2007 to construct the new bridge and northern approach culverts. The \$17 million project is scheduled to be completed in mid 2008 and is jointly funded with the Australian Government contributing \$5 million and the NSW Government contributing \$12 million.

Other Newcastle and Hunter projects

Newcastle Inner City Bypass

Planning continues on the Newcastle Inner City Bypass to provide a high standard orbital road linking Newcastle's radial road network. Detailed planning is progressing on the next stage of the bypass from Sandgate Road, Shortland to the Pacific Highway, Sandgate. In June 2006 the environmental assessment report for the 1.8 kilometre Shortland to Sandgate section was displayed for community comment. Preliminary planning for the Rankin Park to Jesmond section that would pass to the west of John Hunter Hospital is also underway with a preferred route displayed for community comment in February 2007. Although the Rankin Park to Jesmond section is not expected to be constructed in the short term, identification of the preferred route will provide certainty for residents and businesses in respect to where the upgrade would be located.

Five Islands Road, Booragul to Speers Point

The \$50 million duplication of Five Islands Road between Booragul and Speers Point opened to traffic in January 2007. The 1.7 kilometre project involved widening Five Islands Road from two to four lanes and included two new bridges over Cockle Creek, an off-road pedestrian/cycleway and a pedestrian/cyclist underpass at Tulkaba Park. The project has improved traffic flows, reduced congestion and improved road safety for all road users including pedestrians and cyclists.



The Five Islands Road project, between Booragul and Speers Point, has improved road safety for all road users.

Tourle Street bridge replacement, Mayfield West

Tenders were invited in December 2006 for the construction of a new two-lane crossing of the Hunter River to replace the existing Tourle Street Bridge with a contract to be awarded in August 2007. The project is estimated to cost \$47 million with construction expected to commence in the second half of 2007.

Nelson Bay Road, Bobs Farm to Anna Bay

Work commenced in August 2006 on the second stage of the upgrading of Nelson Bay Road at Bobs Farm. The \$12 million project involves widening from two to four lanes of 1.6 kilometres of Nelson Bay Road from south of Marsh Road to north of Cromarty Lane, Bobs Farm and is to be opened to traffic in August 2007. This project is the second of three stages to upgrade Nelson Bay Road from Bobs Farm to Port Stephens Drive, Anna Bay to four lanes. The 1.4 kilometre Stage 1 south of Marsh Road was completed in July 2003 at a cost of \$4.1 million.

Third Hunter River Crossing at East Maitland

Work commenced in March 2007 on Stage 1 of a new two-lane road and bridge crossing of the Hunter River between East Maitland and Bolwarra. Stage 1 of this \$65 million project involves upgrading the intersection at the New England Highway and Melbourne Street and the installation of traffic signals at the Melbourne Street/Lawes Street and Pitnacree Road intersection in East Maitland. Completion of Stage 1 is expected in late 2007 and commencement of Stage 2 works consisting of bridge works over the Hunter River and roadworks between Paterson Road, Bolwarra and Melbourne Street, East Maitland is expected in 2008–09.

Central Coast projects

Central Coast Highway (The Entrance Road)

Terrigal Drive to Carlton Road, Erina

Work commenced in November 2005 on this \$15 million project to duplicate a 600 metre length of The Entrance Road. The project provides two lanes in each direction, bus bays, a shared pedestrian/bicycle path along the full length of the work and a service road to provide access for local residents. The project is to open to traffic in August 2007.

Carlton Road to Ocean View Drive, Wamberal

Planning has commenced for the staged upgrade of this 4.4 kilometre length. A preferred option for Stage 1 between Carlton Road and Matcham Road is expected to be announced in late 2007.

Ocean View Drive to Tumby Road, Wamberal

This project will provide two lanes in each direction, a continuous off-road cycleway, bus bays and pedestrian facilities for the full 1.5 kilometre length. Work started on the Pitt Road to Tumby Road section in June 2006 and on the Ocean View Drive to Pitt Road section in March 2007. The project is estimated to cost \$42 million and is scheduled for completion in 2009.

Avoca Drive, The Entrance Road to Sun Valley Road, Green Point

This \$9 million project provides an additional lane in each direction between The Entrance Road and Sun Valley Road, and includes an off-road cycleway for its complete length of 700 metres. Work commenced in November 2006 and is planned for completion in late 2007.

Pacific Highway

Dog Trap Road Intersection, Ourimbah

This \$15 million project provides two lanes in each direction along the Pacific Highway over a length of 300 metres and traffic control signals at the Dog Trap Road intersection. Safe access for the neighbouring school and other land uses

via Dog Trap Road and an upgraded service road are also included. Construction started in mid 2006 and the project is to be opened to traffic in July 2007.

Glen Road to Burns Road, Ourimbah

Planning continued for this next stage of the Pacific Highway widening at Ourimbah. The Review of Environmental Factors was displayed for community comment in December 2006 and planning approval was achieved in June 2007. Construction is scheduled to commence in mid 2008.

Tuggerah to Wyong

This \$42 million upgrade will widen the road from one to two lanes in each direction between Anzac Road and Johnson Road, with improved intersections, pedestrian facilities and a dedicated off-road cycleway. Work commenced in January 2007 on Stage 1 between Anzac Road and Mildon Road. Tenders will be invited for Stage 2 between Mildon Road and Johnson Road in late 2007. The full length is expected to be completed by mid 2009.

Other rural projects

Nowra to Nerriga

Stage 1 of the reconstruction of Main Road 92 over a length of 24 kilometres was completed in June 2007. A contract is to be awarded in July 2007 for Stage 2 involving the reconstruction of a nine kilometre section through Bulee Gap including a new bridge. Design work for Stage 3 is also underway.



Georges Yard realignment was reconstructed as part of the Main Road 92 upgrade.

Murray River, New Bridge at Euston-Robinvale

The new Murray River Crossing and approaches between Euston in NSW and Robinvale in Victoria was opened to traffic on 9 October 2006. The \$50.8 million project was jointly funded by the Australian, NSW and Victorian governments.

Burley Griffin Way, Bowning Deviation

The \$12 million Bowning Deviation was constructed in two stages. Stage 1, a new junction with the Hume Highway, was completed in June 2005. Stage 2, a new 2.25 kilometre two-lane deviation between the Burley Griffin Way west of Red Hill and the Hume Highway five kilometres west of Bowning,

was opened to traffic in March 2007. Improvements to two right angle bends in the village of Binalong were also undertaken. The new deviation allows B-doubles to use the Burley Griffin Way between Griffith and the Hume Highway and will deliver huge benefits to the region and the NSW economy.

Future road development challenges

The key to effective network development is to ensure planning is integrated with economic and demographic projections and in line with the government's strategic priorities. The RTA will continue to contribute to and support this strategic planning through its network development activities.

The RTA must effectively balance the ongoing maintenance needs of its existing network with the development planning and delivery necessary to accommodate the growing needs of the NSW economy and community.

“The community provided strong feedback on the need for continued investment in both new roads and road maintenance.”

NSW State Plan

Key challenges to be managed in future years include:

- Participating with other NSW Government agencies in the implementation of the NSW State Plan, State Infrastructure Strategy, metropolitan and regional strategies and the Urban Transport Statement initiatives.
- Improving the on-time and on-budget delivery of projects in line with the NSW State Infrastructure Strategy's tightened 'gateway process' which identifies projects that are at risk early in the project.
- As set out in the NSW State Plan, to review the State Infrastructure Strategy every two years to take account of emerging needs and new population and business trends.
- Ensure compliance with Part 3A of the *Environmental Planning and Assessment Act* as set out in the NSW State Plan to ensure major infrastructure development approval.
- Contribute to the government's metropolitan strategy to increase the number of urban centres across Sydney so that jobs are close to residences, reducing the need for trips to Sydney.
- Continue development of the Sydney Orbital Motorway network by investigating the M4 extension and the F3 freeway to M2 Motorway link.
- Plan for network expansion to support Sydney's growth areas.
- Complete planning for a sustainable road network within Sydney (including road based public transport facilities) for integration with north-west and south-west growth centres.
- Complete the upgrading of Cowpasture Road and Hoxton Park Road to four lanes, and planning for the upgrade of Camden Valley Way to four lanes between Bernera Road and Narellan Road.
- Complete the Mamre Road M4 overpass and commence the construction of the Riverstone rail overpass.

- Progress the Great Western Highway upgrade in the Blue Mountains.
- Progress the Pacific Highway upgrade by commencing the Bulahdelah Bypass and the acceleration of Cooperook to Moorland and Moorland to Herons Creek, and continue project development for the remaining works.
- Complete the 67 kilometre Southern Hume Highway duplication works within budget by December 2009 and progress planning for the bypasses of Tarcutta, Holbrook and Woomargama.
- Complete the route selection for the Princes Highway from Gerringong to Bomaderry and commence project development.
- Progress the development of further Princes Highway upgrades, including four lanes through South Nowra to Falls Creek, Victoria Creek and the junction of Bulli Pass and Lawrence Hargrave Drive
- Plan and deliver accelerated upgrades on the Central Coast including the Central Coast Highway, the Pacific Highway and Avoca Drive.
- Continue to implement urban design corridor strategies to ensure a whole of government approach to land use and transport planning.

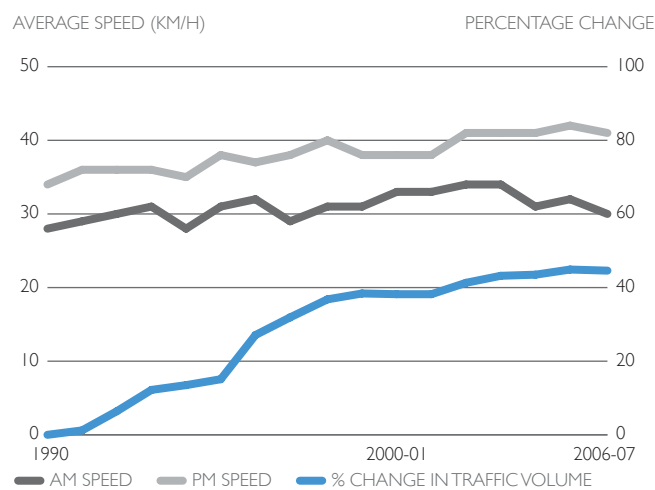
MANAGING TRAFFIC

Speed and traffic volume trends

On the seven major routes to and from the Sydney CBD, the average speed in 2006–07 was 30 kilometres per hour for the AM peak and 41 kilometres per hour for the PM peak (compared to the 2005–06 averages of 32 kilometres per hour and 42 kilometres per hour respectively).

The trends in average speeds for these major routes are shown in figure 10, together with the growth in traffic volumes on these routes during the same period. Traffic volumes on the major routes have increased by around 44.6 per cent during the past 16 years, the trend in average peak hour speeds has remained consistent.

FIGURE 10. SPEED AND TRAFFIC VOLUME TRENDS FOR SEVEN MAJOR ROUTES TO AND FROM SYDNEY



Note: Since 2002-03 travel speeds and volumes include the M5 corridor.

Keeping the traffic flowing

The focus for 2006–07 was to maintain consistent travel times for motorists, particularly during peak hours by:

- Providing more efficient response to incidents to ensure good traffic flow.
- Reducing the causes of delay through improved operation of intersections, electronic tolling on motorways, and improvements to the traffic signal control system.
- Helping road users navigate the road system more effectively.

“The community identified traffic congestion in major urban centres as a key issue.” *NSW State Plan*

Incidents and special events

The RTA's Transport Management Centre (TMC) is responsible for managing special events, responding to planned and unplanned incidents, and disseminating information to road users. As the central point for handling crashes, breakdowns, roadworks and spills, the TMC passes information to the public through the media, the RTA Contact Centre and Variable Message Signs.

The RTA is responsible for ensuring that traffic systems operate at peak performance. Activities include fine-tuning coordinated traffic signal systems and controlling other traffic operations such as:

- Deployment of traffic commanders to assume primary responsibility for traffic management around incidents on major roads in NSW.
- Deployment of a Traffic Emergency Patrol Service which routinely patrols major routes in Sydney and surrounding areas to identify and assist when incidents occur.
- Operation of Variable Speed Limit signs on all motorways so that speed limits may be adjusted in response to prevailing traffic conditions.
- Expansion and operation of 492 Variable Message Signs (VMS) across Sydney's metropolitan area and selected major routes across the State. There are 136 static VMS that are directly controlled by the TMC.
- Expansion and operation of the closed circuit television network of 700 cameras that monitor roads across Sydney and selected major routes throughout the State.
- Operation, management and maintenance of the Sydney Harbour Bridge lane control system and other electronic and manual tidal flow systems throughout the greater Sydney area.
- Development of the Sydney Transport Evacuation Precinct Plan in conjunction with other government agencies to control traffic operations and pedestrian movements in the Sydney CBD in the event of a disaster.



The Sydney Harbour Bridge 75th anniversary celebration was one of the special events the Transport Management Centre helped to coordinate this year.

Following a comprehensive review, traffic signal coordination has been changed along the following major corridors:

- Strategic roads leading to and from the Lane Cove Tunnel.
- Old Windsor Road as part of the opening of the North-West T-way.
- Parramatta CBD as part of the North-West T-way.
- Albury as part of the Albury Wodonga Hume Freeway.

Traffic signal coordination

The essential task of moving traffic efficiently on the arterial road network is carried out by the Sydney Coordinated Adaptive Traffic System (SCATS). This world leading system designed by the RTA responds to traffic demand in real-time and coordinates traffic signal timings to ensure smooth traffic flows.

SCATS' capability was showcased at the APEC Transport Minister's Forum in Adelaide on 29-30 April 2007 and as it celebrates 35 years of computerised operation, it continues to be used internationally.

SCATS continues to be a success with an expanding international market. At 30 June 2007, SCATS is licensed to 8954 intersections in eight states and territories in Australia, and a further 16,707 sites in 93 cities in 21 countries.

Annual upgrade arrangements have now been established with all RTA supported SCATS users in Australia, New Zealand and Singapore. These users will have the latest version of the SCATS software, thus reducing the demand on RTA resources to support superseded versions. The annual update arrangements also provide a guaranteed annual income stream to offset SCATS development and support costs.

Intersection and corridor improvements

Improvements were accomplished by improving key intersections and providing better access to major roads.

Routes and locations in need of attention have been identified by monitoring congestion and travel times on the network. Improvements made in these locations, including construction of traffic signals, roundabouts and general intersection upgrades, are listed below.

Suburban Sydney area

- Intersection improvement at Mulgoa Road and M4 Mulgoa.
- Installation of U-turn bay in Marlborough Road, Homebush.
- Right turn bay installation at the intersection of Princes Highway and Anzac Avenue, Engadine.
- Traffic control signals at the intersection of Sussex Street and Shelley Street, Sydney.
- Traffic signals, lane widening and right turn lanes at the intersection of Camden Valley Way and Raby Road, Leppington.
- Installation of traffic signals at the intersections of Dunheved Road and Greenbank Drive, West Penrith and New South Head Road and Lyne Park Road, Rose Bay.

South Western Region

- Sturt Highway rural intersection upgrades at Wokolena and Borambola roads, Borambola and Wokolena, OHeirs and Cowell roads, Alfredtown.
- Intersection of Olympic Way and Fonteroy Road, Young.
- Intersection improvements at Olympic Highway and Jennings Road, Henty.
- Intersection improvements at Olympic Highway and Mary Gilmore Road, Bruceedale.

Southern Region

- Picton Road and Cordeaux Colliery entrance, Cordeaux.
- Illawarra Highway, Albion Park.
- Traffic signals and right turn bay in Princes Highway and Airport Road, Albion Park Rail.

Hunter Region

- Improvements along The Entrance Road, Long Jetty.
- Installation of traffic control signals at the New England Highway and South Seas Drive intersection and at the intersection of Chelmsford Drive and Chisholm Road, Maitland.

Western Region

- Traffic signal lights at the intersection of Mid-Western Highway (Kendal Street) and Brisbane Street, Cowra.

Northern Region

- Construction of a roundabout at Dawson and Leicester streets, Lismore.
- Installation of traffic signals at intersection of Oxley Highway and Findlay Avenue, Port Macquarie.

Twenty four corridors in Sydney known as peak hour traffic hot spots were identified as part of the Network Management (or Pinch Points) Strategy. The strategy is a \$100 million program over five years announced in the Government's Urban Transport Statement. The strategy is aimed at improving traffic movement by utilising a combination of infrastructure and operational systems improvements on Sydney's major road corridors with high levels of congestion, delays and queues. A project control group has been set up to oversee the development and implementation of the strategy.

The South West Region Traffic Operations Unit has developed a series of manuals for use by emergency services, police, councils and RTA traffic commanders to help manage emergency responses to incidents. The five other regions are each developing incident response plans.

Traffic and transport modelling

The RTA has supervised the introduction of 'advanced micro simulation', a vehicle by vehicle, traffic modelling system designed to simulate scenarios such as changed traffic conditions. Advanced micro simulation has been used to model a number of diverse projects to determine the benefit of detection and management of roadside incidents, management of E-Toll tags and lane changing on the Sydney Harbour Bridge. Paramics simulation models have also been developed for:

- Sydney CBD.
- Bus lane options on the ANZAC Bridge.
- The Cross City Tunnel.
- The Warringah Freeway and Lane Cove Tunnel.
- Light rail in the Sydney CBD.

- Sydney Airport and Port Botany.
- Victoria Road tidal flow.
- The Barangaroo development for Sydney Harbour Foreshore Authority.

Electronic toll collection

The RTA's responsibilities for tolling include the collection of cash and electronic tolls at the Sydney Harbour Bridge and Tunnel, toll enforcement services for all NSW toll roads, and electronic tag distribution and customer account management.

Electronic toll collection allows faster, easier passage through tollbooths. Traffic flow has improved further with the progressive introduction of E-Only lanes. There have also been environmental benefits as air and noise pollution is reduced when vehicles do not have to stop to pay a toll.

The RTA played the leading role in introducing electronic tolling to NSW toll roads and continues to show a lead in supporting and maintaining interoperability between all toll roads in eastern Australia. The result has been a rapid expansion in tag use with 525,000 tags in circulation by the end of June 2007. The popularity of electronic tolling increased during the year with about 18 million additional trips on all toll roads compared with the previous 12 months.

Increased electronic toll usage and a move towards cashless tolling has been a priority of the NSW Government. An RTA E-Toll tag promotion in September – October 2006, including a new pricing structure for infrequent electronic tag users, resulted in about 80,000 tags being issued in the eight week period. This exceeded the 50,000 estimate. At 30 June 2007 the tags issued during this promotion had made more than 4.1 million tolled trips.

The challenge for the RTA is to continue to implement strategies to maximise electronic tolling usage.



As at 30 June 2007 both lanes leading into the Sydney Harbour Tunnel accept electronic tags.

Toll systems

The RTA has implemented and utilises a number of systems to support the tolling operation and increase in electronic toll usage. The systems have been designed to improve processing efficiency and include internal violation processing and recognition systems. An outsourced system (Toll Compliance Management System) processes toll violations for private operators as well. An internet based capability was introduced to allow existing RTA tag customers to check their accounts and make changes as well as enabling new customers to apply for a tag account online.

Two new pricing structures have been devised for frequent and infrequent electronic tag users.

Sydney Harbour Bridge and Tunnel

As owner and operator of the Sydney Harbour Bridge, the RTA has collected bridge tolls since 1932 and tolls for the Sydney Harbour Tunnel since 1992. Electronic tolling was installed on the Sydney Harbour Bridge and tunnel in 2001. Around 76 per cent of road users now use electronic tolling on the harbour crossings during morning peak with up to 20,000 recorded readings during this period each day.

The Sydney Harbour Tunnel tollbooths have been reconfigured to improve throughput and reduce queues. Significant progress was made during the year towards an electronic only Sydney Harbour Tunnel, a feat to be delivered in July 2007. Minor changes have also been made to the bridge tollbooths to handle increased tag use.

Motorways

Two additional fully electronic toll collection toll roads opened to traffic on 25 March 2007 – the Lane Cove Tunnel and the Falcon Street Gateway.

The map of metropolitan Sydney produced when the Sydney Orbital Motorway network was completed shows all toll collection points and common trip routes. It also provides information about electronic tolling.

Maintaining traffic facilities

The RTA provides efficient and effective management of traffic facilities to ensure they remain in suitable condition at minimal cost. Traffic facilities include traffic signs, longitudinal lines and other pavement markings, traffic signals, and intelligent transport systems (ITS).

An approach that offers value for money and reduced cost is the replacement of high energy consuming, incandescent lamps in traffic signal lanterns. Light Emitting Diode (LED) lanterns bring long-term environmental benefits, reduced power charges and improved visual performance. Energy consumed by LED lanterns is about five to six times less than incandescent lanterns. Also LED signal assemblies last 10 times longer than incandescent globes.

The rollout of LED lanterns to replace incandescent lanterns progressed with 740 sites completed by June 2007.



LED lights have been installed at the corner of Kent and Market streets in Sydney, the site of Sydney's first set of traffic lights in 1933.

Alternative transport

Alternatives to motor vehicle use such as public transport, cycling and walking can improve traffic congestion, air quality and community health. For details refer to the chapter: Positive environmental and urban design outcomes.

Improved signposting

The RTA conducted road user research to look at ways to improve guide signage on the road network. The research focused on road users' understanding and expectations of guide signposting.

The research identified a number of measures to upgrade the guide signposting system to better meet road user expectations. This research indicated acceptance of a rationalised system including:

- Introducing an alphanumeric route marking system to replace the several historical route markers currently in use.
- Enhanced road name signs for intersecting roads in rural areas.
- Improved identification of focal points shown on signs, including town and city centres, and local government and other boundaries.

Future traffic management challenges

The RTA will work to ensure congestion does not restrict economic growth or further impact the environment. This will be achieved as part of an integrated approach to transport in partnership with the NSW Government and the community. The RTA will be guided by the NSW State Plan in managing the following challenges:

- Improving understanding of the emerging trends and impacts of urban traffic growth and congestion due to freight as a basis for priorities and targeted decision making.
- Working with industry to encourage increased use of non-peak periods for warehouse and distribution industries so that there are fewer commercial vehicles on the road during peak times.

- Engineering solutions – providing bus priority on strategic corridors, delivering the \$100 million Pinch Points program and commencing the duplication of the Iron Cove Bridge and the improvements to Victoria Road.
- Technology solutions – rollout of the bus priority Public Transport Information and Priority System to monitor and manage traffic flow and give priority to public transport. Improving traffic signal systems (SCATS), Incident Management Systems and upgrading the Transport Management Centre (TMC).
- Demand management – contributing to the development of the Metropolitan Parking Plan by the Department of Planning and supporting the use of alternative transport modes.
- Long-term planning and provision of infrastructure and services to support population growth and change.
- Addressing urban consolidation, zoning, consistency, and parking facilities.
- Securing and managing adequate funding to deliver community and business outcomes.
- Efficient management of public transport and road network integration through a combination of strategy, policy and program management.
- Strong focus on traffic asset management including continued replacement of high consumption incandescent traffic signal lamps with more energy efficient LED lanterns.
- Ensuring that NSW road users know about changes to road rules and traffic facilities.
- Continuing to implement intelligent transport systems and other innovative equipment to improve traffic flow and traveller information.
- Strong focus on traffic performance management, business and risk management including key performance indicators and key areas of risks.

FREIGHT

Productivity Commission Inquiry into road transport issues

The Productivity Commission Inquiry on 'Road and Rail Freight Infrastructure Pricing' was commissioned by the Council of Australian Governments (COAG) in response to the expected doubling of the national freight task by 2020. The NSW road network is involved in approximately half of all road freight and three quarters of all interstate road freight in Australia. This clearly demonstrates the significance of NSW to the Australian economy and the nation's reliance on NSW roads.

Reform of current road pricing arrangements to ensure the long-term sustainable funding of the NSW road network therefore has State and national relevance. The RTA has been a key driver of the national considerations under this reform process and in 2006 was a significant contributor to the development of two NSW Government submissions to the Productivity Commission Inquiry.

The Final Report of the Productivity Commission Inquiry was released in April 2007 and recommended significant reform to the current pricing of the use of roads by the road freight industry, including the introduction of mass-distance location based charges through phased implementation. These recommendations were largely supported in the COAG communiqué of 13 April 2007, which set out a substantial road reform agenda to be developed in phases by the Australian Transport Council.

A key part of the first phase of the COAG 2007 Road Reform Plan is the detailed review, including trials, of incremental pricing for higher productivity vehicles. This would be a voluntary scheme that involves the application of a charge in addition to the current charges paid by heavy vehicles in exchange for carrying additional mass and/or gaining additional access. The RTA is intending to begin trials of incremental pricing in 2008 (as part of a series of trials being conducted nationally) using charges that will be set to recover the marginal increase in the costs, including road wear, associated with these higher productivity vehicles.

Incremental pricing will provide an opportunity to test electronic monitoring and billing technologies ahead of broader heavy vehicle road pricing reforms, building on the technology that is used in the Intelligent Access Program (IAP).

Intelligent Access Program

The IAP was developed through Austroads in partnership between all Australian road agencies. The IAP will use satellite based tracking technology to remotely monitor the compliance of heavy vehicles against their conditions of access. The RTA has established an IAP Unit and an online facility where transport operators can pre-enroll for Higher Mass Limits under the IAP.

Enabling legislation for the IAP was passed through NSW Parliament and commenced on 13 December 2006.

Higher Mass Limits

The Higher Mass Limits (HML) approach allows vehicles to transport an increased payload capacity of between 10 and 13 per cent, providing a significant productivity gain. Accordingly, HML has the potential to reduce the total number of individual truck trips, providing economic benefits by reducing the cost of transporting goods and produce, while contributing to improved road safety and environmental outcomes.

In June 2006, the Minister for Roads announced the expansion of the HML network for heavy vehicles. HML access is now available in Sydney, Newcastle, Wollongong, western NSW and south-western NSW. This initiative gives practical effect to the State's obligations under the AusLink funding agreement reached with the Australian Government, and means that about 42 per cent of the NSW geographic land mass and 75 per cent of the NSW population are within the HML access zones.

HML provides a significant increase in mass limits available to freight operators, so long as rigorous regulatory conditions are met, including road friendly suspension and satellite tracking through the IAP.

To obtain HML access in NSW, registered operators must pre-enrol for HML under the IAP and obtain a permit to operate at HML on approved routes. At the end of June 2007, the RTA had pre-enrolled around 2200 vehicles for HML under the IAP.

Road Train Modernisation Program

B-triples and AB-triples are more modern forms of road trains that are now able to operate in NSW. These new vehicle types have been introduced under the NSW Government's Road Train Modernisation Program and form part of the states' commitments under a COAG agreement. COAG has directed all states to identify and approve suitable roads for the use of B-triples. The NSW Government has agreed to allow B-triples to access the existing routes already used by road trains in far western NSW.

The RTA requires the use of satellite tracking technology to ensure these vehicles operate only on approved roads.

Transport operators seeking to operate a B-triple and/or AB-triple in NSW must be pre-enrolled under the IAP.

The introduction of these vehicles will have significant productivity gains for the movement of freight in NSW and also provide road safety and road maintenance benefits due to the superior design of these vehicles.

NSW Quad-Axle Pilot Scheme

The NSW Quad-Axle Pilot Scheme is now operational across NSW and open to all operators. The scheme is a component of the NSW Government's commitment under a COAG agreement.

The pilot scheme will run for three years in order to assess elements of quad-axle operation in a wide range of situations such as the performance of airbag road friendly suspension in a quad-axle group and the load sharing characteristics of quad-axle groups at highway speeds. For this additional research to be meaningful a pilot using 'real world' vehicle operations is needed.

With the growth in numbers of heavy containers in particular, quad-axle groups have been seen by some as a more efficient solution for the transport task, provided that pavement and bridge impacts are managed.

Transport operators seeking to operate a quad-axle semitrailer under the pilot scheme in NSW will have to pre-enrol under the IAP.

Performance Based Standards (PBS)

PBS bring a new approach to heavy vehicle regulation. Rather than focusing on vehicle length and mass alone, it takes into consideration how well a vehicle can operate on the road through a set of safety and infrastructure protection standards.

During 2006–07, the RTA continued to contribute to the national development of PBS, through the development of business rules for the PBS Review Panel, contribution to the development of standards and guidelines for the PBS scheme, and through attendance at more than 80 per cent of the PBS Interim Review Panels.

NSW Road Freight Advisory Council (RFAC)

In June 2007, the NSW Government approved the establishment of RFAC. The council's role is to assist in identifying and delivering freight solutions that will meet the needs of the NSW and Australian community and economy. The solutions and strategies identified by the RFAC are required to be built on a foundation of:

- Improving safety management and outcomes in the freight and logistics sector.
- Better integrating road network access and road asset management issues.
- Delivering strong compliance assurances for the benefits of the community, local governments and the road transport and logistics industries.

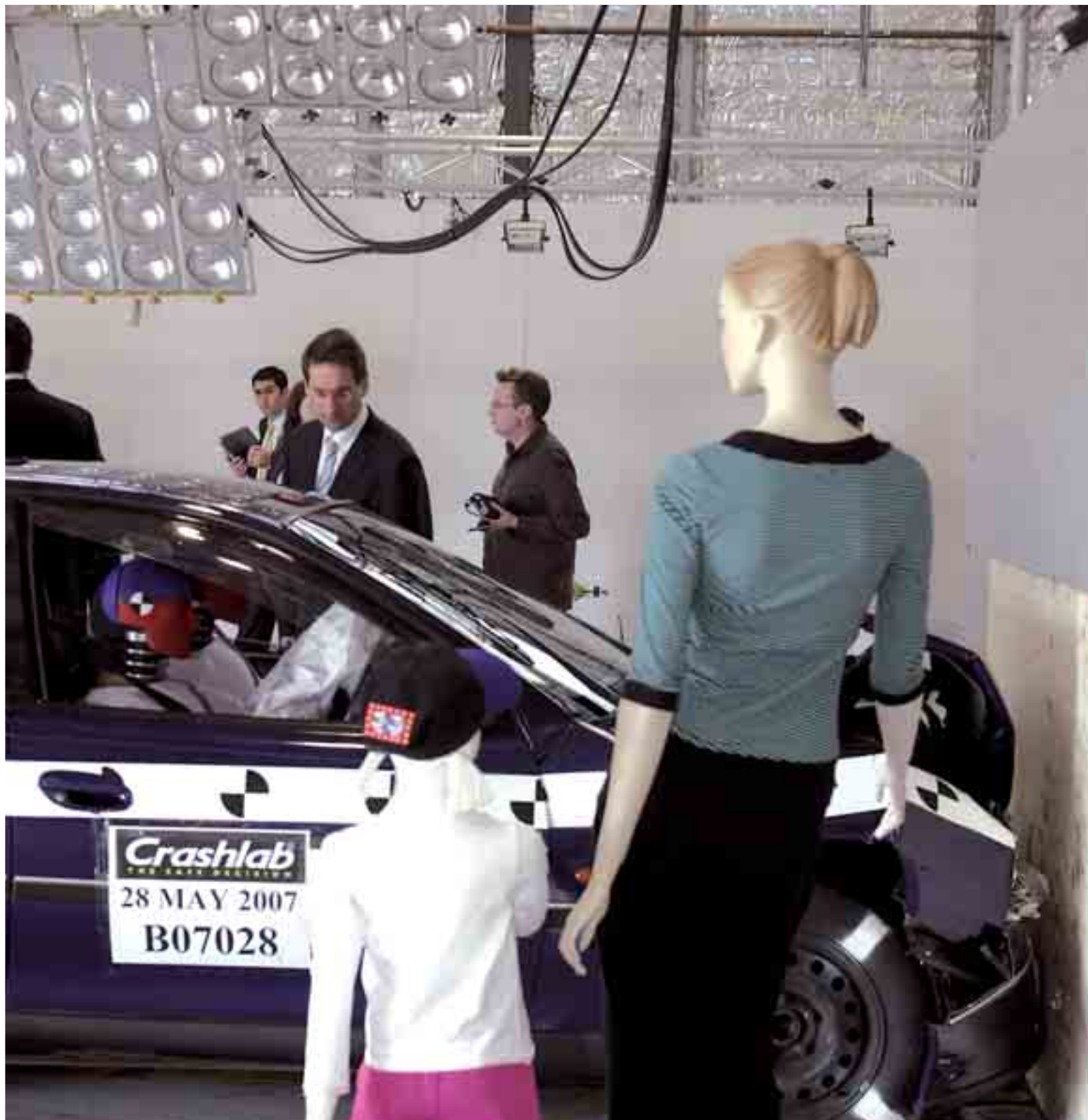
Members of the council include executives and leaders from a range of business and community backgrounds across NSW and interstate.

Future freight challenges

- Continue implementation of the IAP to facilitate network utilisation.
- Continue the implementation of higher productivity vehicles, such as through the Road Train Modernisation Program, in line with the COAG commitment.
- Work with industry to enhance the productivity of freight transport.



The Pacific Highway is a major tourist and transport route.



POSITIVE ROAD SAFETY OUTCOMES



The RTA Crashlab, located at Huntingwood, delivers positive road safety outcomes through world-class testing of vehicles, crash barriers, safety harnesses and roadside furniture. Featured in the facility on the chapter page is the Hon. Eric Roozendaal, Minister for Roads.

Management of road safety is a complex area involving all elements of road transport. The RTA works with the NSW Government and NSW Police Force to foster more aware and safer road user behaviour. Community awareness is one way of achieving safer behaviour, regulation and enforcement is another. The safety components of vehicles and the design and development of safe infrastructure are also important in producing a safer road outcome.

Road safety is a key priority for the State and the RTA and it is now being 'mainstreamed' throughout the organisation. A new approach will see all managers accountable for relevant road safety outcomes. Safety performance indicators will help guide investment decisions and road safety impact statements will be completed for all work programs. An Executive Road Safety Management Committee has been established to oversee this coordinated approach to road safety. Formation of the NSW Centre for Road Safety symbolises this refocusing of road safety.

"As a regional manager, I will have key performance indicators directly related to road safety outcomes. This will encourage staff in the regions to focus on the road safety outcomes of all projects, not just those in the road safety works program"

Mike Veysey, Regional Manager, Sydney.

The RTA will introduce the 'Safe System' approach to road safety, used effectively in Europe, which recognises that human error is inevitable and requires roads and roadside environments that are forgiving of driver error.

NSW CENTRE FOR ROAD SAFETY

On 28 May 2007, the Minister for Roads announced the establishment of the NSW Centre for Road Safety with interim operations commencing 1 July 2007. The centre is to be a world-class road safety centre for policy development, high-level research, advice and delivery of behaviour change strategies. The centre will oversee the mainstreaming of road safety into all RTA programs and develop plans to continue to address the road toll.

The centre consists of four specialist areas – vehicles, technology, behaviour and roads.

Development of this centre represents a significant challenge for the RTA and it is intended to be fully functional by January 2008. The challenge of mainstreaming road safety and the Safe System approach will be central to the organisation's future direction.



The team at RTA Crashlab will play a key role in the NSW Centre for Road Safety.

FATALITIES

There were 496 fatalities on NSW roads in 2006, (preliminary data) a two per cent reduction on the level reached in 2005 with 508 fatalities. This result is the lowest annual NSW road toll since 1945, when the population was less than half that of 2006 and the number of vehicles was less than a tenth of current numbers.

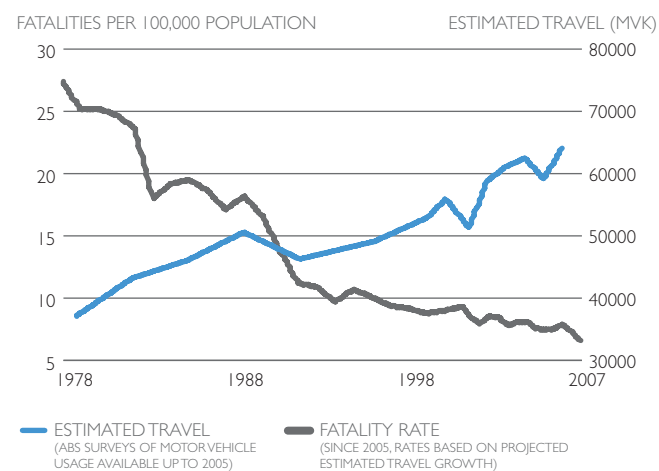
The NSW fatality rate per 100,000 population in 2006 was 7.3, the lowest figure since records began in 1908. This also compares favourably with the rate for the whole of Australia at 7.7 fatalities per 100,000 population in 2006. International comparisons show NSW ahead of other Organisation for Economic Co-operation and Development (OECD) countries such as France (8.7 fatalities per 100,000 population), Italy (9.3), New Zealand (9.3) and the United States (14.7), but still lagging behind OECD leaders Sweden (4.9), Netherlands (5.0) and the United Kingdom (5.3).

The NSW State Plan states "we will reduce road fatalities to 0.7 per 100 million vehicle kilometres travelled by 2016". The estimated NSW fatality rate per 100 million vehicle kilometres in 2006–07 was 0.67*.

Preliminary analysis of crashes for the calendar year ending 31 December 2006 (based on preliminary data) revealed that:

- Speeding was a factor in around 40 per cent of fatalities.
- At least 23 per cent of fatalities were the result of an incident involving a driver or rider with a blood alcohol level above the legal limit.
- At least 16 per cent of people killed in motor vehicles were not wearing available restraints.
- Driver fatigue contributed to about 18 per cent of fatalities.
- At least six per cent of motorcyclists killed were not wearing helmets. Motorcyclists account for 13 per cent of fatalities.

FIGURE 11. TREND FOR FATALITIES PER 100,000 POPULATION AND MOTOR VEHICLE TRAVEL SINCE 1978



* ABS travel estimates are not yet available. Fatality rates since 2005 are based on projected estimated travel growth.

SAFER ROAD USERS

New drivers

Younger driver initiatives

Young drivers aged 17 to 25 years represent 13 per cent of all licensed drivers yet in 2006 they accounted for 25 per cent of all drivers involved in fatal crashes.

In November 2006, the Minister established the NSW Government Young Drivers Advisory Panel to develop plans to reduce the death and injury of young people on NSW roads. The panel included representatives from the RTA, NSW Police Force, Motor Accidents Authority, the NSW Parliament's Staysafe Committee, Commission for Children and Young People, NSW Youth Advisory Council, NRMA and the community.

A range of new initiatives were developed for novice drivers. All the initiatives were supported by a radio, print and online communication campaign.

As of 1 July 2007, changes implemented with the panel will include:

- Automatic three month licence suspension for P1 drivers and provisional riders caught speeding.
- A ban on all mobile phone use for learners, P1 drivers and provisional riders. A NSW Government funded study found there is a 400 per cent increase in crash risk for young drivers when using a mobile phone, whether it is hand-held or hands-free.
- Peer passenger restrictions for P1 drivers between 11pm and 5am.
- Changes to the display of L and P plates on vehicles. Provisional and learner drivers must display their L or P plates on the exterior of the vehicle, ensuring they can be seen clearly by other motorists.
- New conditions and licence terms for learner drivers. New learner drivers getting their licence on or after 1 July 2007 will need to hold their learner licence for a minimum of 12 months and complete at least 120 hours of supervised driving including 20 hours of night-time driving.

A comprehensive communications strategy was implemented to notify young drivers of these changes, with information being available on the RTA website, through the RTA Contact Centre, motor registries and advertisements in the national press.

In addition, the Minister for Roads announced that the Class C driving test would be overhauled. The new test, which has a greater focus on assessing the applicant's hazard perception skills and uses more demanding traffic situations, will be implemented by the end of 2007.



A suite of reforms to curb the high number of P plate fatalities was announced in early 2007.

Novice Driver Program pilot

The RTA is taking part in a \$10 million Novice Driver Education program pilot, as part of a strategy to reduce the high number of young deaths on NSW roads.

The trial is a joint effort between the RTA, the Australian and Victorian governments, the Victorian Transport Accident Commission, the Federal Chamber of Automotive Industries, NRMA Insurance and the Royal Automotive Club of Victoria.

The trial is one of the largest and most rigorous studies of novice driver education ever undertaken. The direction of the program was set at a forum attended by leading Australian and overseas experts. It will provide provisional drivers with an understanding of their own limitations and how they can reduce the risks they face on the road.

Participating provisional drivers will undertake a number of training modules, including facilitated group discussions as well as one-on-one in-vehicle coaching sessions, focusing on hazard perception and risk avoidance.

The trial will involve a minimum of 14,000 provisional drivers in NSW; 7000 will take part in the program and 7000 will act as a comparison group. The involvement of the two groups in any crashes will be compared over a 12 month follow-up period to assess the effects of the program. A similar trial will also take place in Victoria.

If proven effective, consideration will be given to the program becoming a national scheme. The trial is expected to commence in 2008, with final evaluation of the program taking place in 2010.

Speeding Traffic Offenders Program – a recidivist speeding offender's pilot program

In June 2007 a pilot Driver Education Program for young speeding offenders was run at Tamworth and Penrith. Provisional licence holders attended the pilots over two consecutive weekends. The majority of participants attending the pilot had received a traffic infringement notice for speeding and a small number had been disqualified from driving. The course examined topics including:

- What makes people speed?
- Speed enforcement.
- Understanding speed limits.

Course participants were asked to complete a written survey. Feedback from participants rated the course between very good and excellent.

A follow up survey will be completed in July 2007 to determine whether participants have altered their speeding habits since undertaking the course.

Child safety

School road safety

In May 2006 the Minister for Roads announced a five point plan to improve school road safety in NSW. During 2006–07 the plan was implemented with the following outcomes:

Roundtable

Child Road Safety Roundtable and subsequent working groups were held with stakeholders to consult on various issues related to child road safety.

Drop-off and Pick-up initiative

The NSW Government has released education material to support and encourage schools to establish their own drop-off and pick-up initiatives in approved locations. This initiative assists schools to alleviate parking issues and subsequent traffic congestion in the 'No Parking' areas around their schools. A brochure, instructional DVD and CD with information were distributed to schools.



An information kit to help establish drop-off and pick-up zones was distributed to NSW schools.

Fines and demerit points

On 21 May 2007 the NSW Government introduced new fines and demerit points for offences committed in school zones. The new penalties are targeted and designed to provide protection to children in school zones. They apply only in school zones, within posted school hours.

Demerit points affect everyone equally and used in combination with fines have a strong deterrent effect. There is considerable research both here and overseas which shows demerit points are the most effective when people are aware of the penalties involved. The new fines and demerit point changes were widely publicised prior to their implementation.

School zone alert systems

A trial of four variants of the flashing 40 kilometre per hour school speed zone lights with improved reliability was completed at 100 school zones. In addition, three innovative technologies were also trialled including in-pavement lighting, mast arm (over road) speed limit signs and vehicle activated advanced warning signs (pre-zone signs).

Fixed speed cameras

The school road safety package included installation of 50 fixed cameras to allow greater enforcement of the 40 kilometre per hour school zone speed limits. Common selection criteria were applied to all school zones in NSW. There were 16 fixed speed cameras installed in 10 school zones in 2006–07. The remaining school zone fixed speed cameras will become operational throughout 2007–08.

School road safety education

The RTA's NSW School Road Safety Education Program from kindergarten to year 12 supports road safety education through compulsory components of the school curriculum. The program is a partnership between the RTA and organisations involved in road safety education in government, Catholic and independent schools and early childhood services. The RTA funds these education agencies to provide educational consultancy support, professional development and policy advice.

A new secondary school road safety education resource for Stage 6 English students has been developed. This resource, 'In the driver's seat – the nature of authority', uses a variety of RTA media texts designed to develop students' analysis of youth, driver, pedestrian and passenger safety.

The new Youthsafe 'What's the plan?' resource was developed in collaboration with the RTA and launched at the NSW TAFE Access Conference in December 2006. This resource provides a video and sessions for teachers to work with TAFE students to explore safe celebration strategies, young driver and passenger safety and parent and peer support. Youthsafe is funded by RTA for \$400,000 annually.

The Early Childhood Road Safety Education Program provides road safety education to children's services throughout NSW. This involves professional development to over 2800 children's services, resource distribution and support to rural and remote children services.

Drink and drug driving

Sober Driver Program

The nine-week Sober Driver Program helps participants understand the effects of drink driving on themselves and the community and aims to reduce reoffending by program participants. Participation in the program is by referral from a Magistrate or a probation and parole officer. The program was jointly funded by the RTA and the Motor Accidents Authority in 2006–07 and delivered by the Probation and Parole Service of the Department of Corrective Services.

This program has been independently evaluated and it was found that repeat drink drive offenders who completed the program were half as likely to reoffend as those who did not participate.

Alcohol Interlock Program

An alcohol interlock is an electronic device that tests a driver's breath and prevents a motor vehicle from being started if the concentration of alcohol exceeds the pre-set limit of 0.02. The Alcohol Interlock Program is available for courts as an option in sentencing drivers convicted of certain serious drink driving offences. To date, more than 800 interlock licences have been issued and 180 participants have successfully completed the program.



The alcohol interlock device prevents motorists from starting their car if their blood alcohol concentration exceeds 0.02.

Transport options for drinkers

Programs were conducted in association with licensed venues to provide local alternative transport schemes. Local government and other agencies were involved in a number of areas including the 'Brain Bus' servicing the ski fields during the snow season, the 'Summer Bus' project in Wollongong, and the 'Nightlink' service in Newcastle. Patrons are offered safe options for travelling home to avoid drink driving.

Drug driving

The *Road Transport Legislation Amendment (Drug Testing) Act 2006* commenced on 15 December 2006. This legislation allows for roadside drug testing which uses oral fluid samples to test for the presence of three illicit drugs. This legislation also allows for the compulsory blood and urine testing for drugs by any driver, motorcycle rider or supervising licence holder in NSW involved in a fatal crash.

The first roadside drug testing operation commenced in NSW on 22 January 2007. Since this time, the NSW Police Force have conducted 24 operations resulting in 2546 roadside drug tests of 1326 heavy vehicle drivers and 1220 light vehicle drivers.

Of these, 57 drivers have tested positive to one or more of the illicit drugs. Overall, the number of drivers testing positive to drugs compared to the total number of drivers tested is equivalent to a one in 45 ratio.



The NSW Police Force now has the power to carry out roadside drug testing.

Future challenges in fostering safer roads users

- Continue to implement the package of initiatives to increase child road safety across NSW including the further installation of the school zone fixed speed cameras which will become operational throughout 2007–08.
- Reinforce the new changes to L and P plate licence conditions – including increased driving hours and tougher driving tests.

COMMUNITY AWARENESS

Campaigns

A number of new campaigns targeting speeding and safe driving were launched this year. Improving youth road safety continues to be a priority for the RTA.

Young drivers continue to be at great risk of being involved in speeding crashes. Towards the end of 2006 a number of high profile crashes involving novice drivers prompted the development of two campaigns to help address the problem. An online interactive campaign was also conducted to raise awareness of road safety issues.

P plate enforcement

'Please slow down' was launched in January 2007 to increase awareness of the NSW Police Force enforcement operation targeting speeding young drivers.

The campaign comprises two 15 second television commercials supported by outdoor advertising.

The first commercial shows a police officer booking a P plate driver for speeding. The second shows the same police officer attending a fatal crash involving a P plate driver.

The overall objective of the NSW Police Force operation and the campaign is to contribute to a reduction in the road toll.



The RTA launched a suite of reforms and an advertising campaign to address the high number of P plate fatalities.

'Speeding. No one thinks big of you'.

In June 2007 a new anti-speeding campaign was launched aimed at young drivers. The RTA has a history of producing cutting edge advertisements that have helped increase road safety awareness and made a contribution to reducing the road toll.

This campaign continues the RTA's efforts to do everything possible to save lives and focuses on the need to make speeding socially unacceptable so as to further reduce the road toll.

The commercial shows a series of young men speeding and the disapproving reaction of the community to their behaviour. Television coverage was supported by cinema, outdoor, magazine and online advertising.

Pimp our ads

'Pimpourads.com' was an online competition designed to reach young people, challenging them to create posters reflecting the road safety issues they feel are most relevant to themselves and their mates. This was a new approach to sharing the responsibility for road safety.

The competition was run through an interactive website which provided the tools for creating, submitting and sharing posters online. Entries were published in a viewable gallery and participants received an email with a link to their poster, which could be forwarded to friends. The online medium helped to spread the message and encouraged others to enter or vote on the entries. The six week campaign attracted 7500 entrants and provided a unique insight into the advertising messages that appeal to youth.

The winning entry, 'Should have crashed at a mate's', was developed into an outdoor campaign that featured on taxi and bus backs.



Samantha Morris' entry caught the attention of judges in the Pimp our ads youth road safety competition.

Changes to L and P plate conditions

To communicate the changes to driving laws for L and P plate drivers to be introduced on 1 July 2007, a direct mail to all L and P licence holders along with press, radio and online advertising was conducted. Information was also available through the RTA Contact Centre and motor registries.

Work site safety

The RTA's road work safety campaign, comprising television, radio and bus back advertising was launched in November 2006.

The campaign was designed to create empathy between drivers and road workers, put road worker safety on the public agenda and encourage drivers to slow down and take care when driving through roadwork sites.

Motorcycle safety

'Check twice for bikes' was launched with the Motor Accident Authority to raise driver awareness of motorcycle riders. The campaign featured on bus and taxi backs and relevant outdoor sites.

Drink driving

'Mobile RBT'. 'You won't know where, you won't know when', was extended with press advertising that featured a local map and plotted the number of arrests made on different local roads, reinforcing the unpredictable nature of mobile RBT advocated through the 'Paranoia' campaign. The 'Brain' campaign continued to run providing a rational explanation as to why drink driving impairs driving skills.

Pedestrian safety

The introduction of increased penalties for school zones in May 2007 was promoted through direct mail to local councils and schools, press, radio and variable message advertising. Ongoing advertising at a local level promoted 40 kilometre per hour safety zones and 'watch out people about' campaigns were linked to major sporting and public events where large numbers of pedestrian traffic were expected.

Driver Reviver Program

To help drivers manage their fatigue the Driver Reviver Program encourages drivers, particularly on longer trips over holiday weekends, to take a rest break. The RTA has continued to support and improve the Driver Reviver Program with guidance on safety aspects of Driver Reviver sites plus promotion through advertising, Variable Message Signs and listing locations and operating times on its website.

Along with new campaigns the RTA continued to run television and online double demerit period advertising and fatigue advertising in the lead up to major holiday periods.

SpeedBlitz Blues sponsorship

The RTA has been the major sponsor of the NSW cricket team, the SpeedBlitz Blues, for five years, as one component of its marketing campaign to target males aged 17-25 with the message that speed is great on the field but not on the road.

The online 'SpeedBlitz Cricket' game was created to deliver anti-speeding messages in a fun and interactive environment. More than 75,000 games were played over the eight weeks of the promotion, by more than 5000 registered participants.

Publications

Access to publications

The RTA provides a toll free 1800 060 607 road safety information number and website for road safety publications.

During 2006–07:

- About 1.4 million road safety community education publications and other resources were sent to customers.
- The 1800 number contact centre processed more than 880 enquiry calls.
- RTA customers ordered 207,012 road safety publications by email via the online road safety resource catalogue.

Young driver magazine

Geared continued to be produced and distributed to young drivers through motor registries. Providing articles about safe driving and licensing.

Recent research found that *Geared* is reaching its target audience with many reading, keeping and passing the publication on to others. Ninety-two per cent of readers stated that it is relevant to them as young drivers.

Local Government Road Safety Program

The Local Government Road Safety Program is a jointly funded partnership between the RTA and NSW local councils that has operated since the early 1990s. The program develops and implements road safety initiatives within local government communities and brings together the RTA, the Institute of Public Works Engineering Australia, the Local Government and Shires Associations of NSW, the Motor Accidents Authority and council road safety officers. There are currently 85 road safety officers working in 99 participating councils.

During 2006–07 road safety officers delivered a range of behavioural and educational projects within their communities to address local road safety issues.

Helping learner drivers become safer drivers

The 'Helping Learner Drivers Become Safer Drivers' workshop was updated to include the principles of low risk driving with 180 workshops provided across NSW as part of the Local Government Road Safety Program.

Future challenges in increasing community awareness

Increasing community awareness can assist in managing the behaviour of road users for the overall benefit of road safety. The RTA will continue to meet the challenge of making speeding a socially unacceptable behaviour. The RTA will also need to increase awareness of the new drug driving legislation which will help increase the effectiveness of the drug testing program.

Public education campaigns on the effects of speeding, fatigue and drink driving will continue, the challenge being to ensure their ongoing relevance and effectiveness.

REGULATION AND ENFORCEMENT

Enhanced Enforcement Program (EEP)

The NSW Police Force and the RTA have for many years worked together to improve road safety in NSW. The formal partnership between the RTA and NSW Police Force under the EEP has evolved and diversified since its inception in 1995. The RTA contributed \$9.9 million during 2006–07 to fund operations targeting speeding, drink driving, fatigue, heavy vehicle safety issues, and seatbelt and helmet use. In recent years significant achievements have been made in reducing the number of fatalities and injuries during holiday periods. This has been attributed to the introduction of double demerit points, coordinated public education and enforcement made possible by the EEP.

The success of statewide operations has led to smaller regional and local operations during other times of the year. This has meant a significant increase in the quantity and scope of operations being supported by regional public education campaigns. These operations include Nightsafe, Northern Villages and Operation Snowsafe.

Heavy vehicle initiatives

Speed limiter deeming legislation

Heavy vehicle speed limiter enforcement commenced with the aim of prosecuting operators who allow their heavy vehicles to travel more than 115 kilometres per hour due to faulty or non-functioning speed limiters. Enforcement was carried out on roads where the gradient could not be a factor explaining speeds over 115 kilometres per hour. The RTA surveyed major freight routes and developed speed limiter enforcement zone maps identifying these roads. The NSW Police Force has undertaken training and use these maps for enforcement to ensure the evidence is admissible in a court of law.

National Heavy Vehicle Driver Fatigue Reforms

The road transport Heavy Vehicle Driver Fatigue Reform Package developed by the National Transport Commission was approved by Ministers from all states and territories on February 2007. The reform, which is underpinned by world-leading fatigue research, is the result of extensive consultation with the industry, unions and government. These reforms will apply to trucks with a gross vehicle mass (GVM) of more than 12 tonnes.

Under new chain of responsibility laws, everyone in the transport chain must take reasonable steps to prevent driver fatigue, an approach consistent with existing NSW Occupational Health and Safety legislation. Penalties escalate sharply for offences which pose a serious road safety risk, including court-imposed fines and demerit points.

These reforms will result in safer working practices and stronger powers to prosecute companies who push heavy vehicle drivers to work illegal schedules.

The Heavy Vehicle Driver Fatigue Reform also includes a three tier work/rest system:

- A standard hours option with maximum driving hours of 12 hours in any period of 24 hours.
- A basic fatigue management option which allows flexibility within a set of minimum rest and maximum work hours (14 hours per 24 hour period).
- An advanced fatigue management option based on a risk management approach with operating and upper limits.

The Heavy Vehicle Driver Fatigue Reform will be implemented in September 2008 following approval from the Australian Transport Council.

Chain of responsibility – investigations and initial prosecutions

With the road freight task in Australia expected to double by 2020, a series of compliance and enforcement reforms were introduced under the *Road Transport General Act 2005*. All parties involved in the road transport logistics chain can now be held responsible for mass, dimension and loading requirements.

New penalties and extensive enforcement powers were also introduced to provide effective monitoring of the industry. These have now been successfully implemented with investigations and prosecutions taking place.

Initial operations have involved hundreds of statutory directions served, tens of thousands of records obtained and potential enforcement activities identified (including 367 identified cases of 'severe' overloading).

The RTA has also secured multiple Court Supervisory Intervention Orders under Section 109 of the *Road Transport (General) Act 2005* and has secured the first conviction for failure to observe an Order. Australia's first chain of responsibility convictions of consignors were also made under the new laws.

Heavy vehicle safety and environment package

Since 1 January 2007 heavy vehicles with a gross vehicle mass of 15 tonnes or more which are fitted with new emissions and safety technology have had access to a 0.5 tonne increase from the current six tonne steer axle mass limit. The improved safety and environment standards that vehicles must comply with in order to operate at the higher steer axle mass limit are in line with United Nations Economic Commission for Europe regulations and Australian Design Rules.

Management of the Austroads Freight Program

On 1 January 2007, the RTA assumed responsibility for managing the Austroads Freight Program. The program is supported by a task force comprising senior staff from freight and heavy vehicle policy and operational areas of Austroads member organisations.

The primary objective of the program is to enable improved road freight operations and to integrate these with other transport modes in the context of rapidly increasing freight demand. The program focuses on the research, development and completion of a number of projects in the following areas:

- Understanding the future freight task.
- Understanding community impacts and industry needs.
- Managing freight growth.
- Improving heavy vehicle access.

Heavy vehicle inspection scheme

The RTA operates a heavy vehicle inspection scheme that conducts periodic inspections on heavy vehicles and buses used as public passenger vehicles. Annual registration inspections are conducted on about 100,000 vehicles at a variety of sites across the State.

Truckscan

Truckscan is used at RTA Heavy Vehicle Checking Stations (HVCS) and in enforcement vehicles to check driver licence and vehicle registration and verify driver logbook entries. Enhancements were made in 2006–07 to maintain this effective enforcement tool including a mobile screening interface which allows the inspectors to identify vehicles of interest before intercepting them.



Allan Denton, Inspector Vehicle Regulations (right), explains suspension shaker plates to the Minister for Roads.

Vehicle Selection Matrix

The Vehicle Selection Matrix (VSM) strengthens the RTA's existing risk-based screening system for managing heavy vehicle intercepts at automated HVCS. VSM improves the intercept rate of high risk vehicles, manages the checking station queue and uses a screening tool to intercept vehicles with a poor compliance history. VSM has now been rolled out to Marulan (north and southbound), Mt White (north and southbound) and Twelve Mile Creek checking stations.

VSM will now be rolled out to mobile enforcement vehicles, for use by vehicle regulation inspectors on the roadside. New Toughbook computers are also being rolled out to support mobile enforcement.

Combating speed

Automated wet weather speed limits

Following the successful introduction of Australia's first operational use of rain-activated electronic speed limit signs on the F3 Freeway during 2005–06, a fog activated variable speed limit adjacent to the Mt Boyce HVCS was commissioned on 7 December 2006.

Fixed speed cameras

At 30 June 2007 fixed speed cameras operated in 123 locations, 40 of the locations operating in country NSW areas and 83 in city locations. Thirteen new camera locations were commissioned during 2006–07. Cameras were upgraded due to improvements in technology at ten locations.

Speed limits

Speed limits have been reviewed on numerous roads across NSW with speed limits adjusted to better reflect road safety and driving conditions. Examples include the Pacific Highway at Clarenza, Bobbin Head Road, Turramurra and Briens Road, Northmead.

Heavy vehicles fatigue and speed enforcement (Safe-T-Cam)

During 2006–07 Mt White southbound HVCS was commissioned including fully automated HVCS avoidance systems. A system enhancement (Central Incident Allocator) was introduced to streamline enforcement workflow processes between NSW and South Australia Safe-T-Cam

business units. The relocation of Kew Safe-T-Cam site is underway and due for completion in November 2007 prior to the commencement of the Kew bypass construction.

Future regulation and enforcement challenges

The RTA will continue to use regulation and enforcement in managing road user behaviour.

- The RTA will continue to work in partnership with the NSW Police Force in this area to implement the new safety regulations for school zones, for novice drivers and for drug testing.
- High visibility RTA/NSW Police Force operations will target speeding, drink driving, fatigue, heavy vehicle safety, seatbelt use and helmet use.
- Where required, the Australian Road Rules will be amended to enhance road safety.
- Further improvements to the Mobility Parking Scheme will be implemented.

SAFER VEHICLES

RTA Crashlab

RTA Crashlab, as part of the NSW Centre for Road Safety, provides specialist testing services to both government and industry based clients. The facility enables all testing operations to be conducted on site. RTA Crashlab is the only government owned road safety facility of its kind in Australia, providing comprehensive research capabilities and unbiased testing of vehicle occupant and road user protection technology and equipment. This testing contributes to the long term improvements in vehicle safety.

The designers of the RTA Crashlab facility, Hassell Architects, received a high commendation at the Australian Steel Institute Awards (NSW and ACT). Hassell was awarded in the Metal Building Products design category for its unique and stylish use of a range of steel products in the design of the RTA Crashlab facility. The facility was also short listed in a second category for Architectural Steel Design.

May 2007 saw the 100th vehicle crash test at the new facility and the 750th vehicle crash test since testing commenced in 1992. During 2006–07, Crashlab conducted a total of 62 vehicle crash tests, 450 dynamic sled tests on child restraints, seat belts, bus seats, aircraft seats, wheelchair restraints and miscellaneous devices. Over 20,000 impact tests were conducted on pedal and motorcycle helmets, and over 230 tests on fall arrest devices covering industrial safety, sporting and recreational harnesses for product development and certification to the Australian Standard. Infrastructure testing also included counter terrorism testing on a retractable vehicle bollard designed to protect buildings and public places from ram raid attacks.



Adam Brooks from the RTA Crashlab, tests motorcycle helmets at the facility.

Australasian New Car Assessment Program (ANCAP)

The RTA is a major sponsor of ANCAP. Since ANCAP began crash testing and reporting on popular new model passenger cars in 1993 safety levels have increased significantly. It is expected that the current test and assessment regime and public demand for safer cars will increase the demand for vehicles with higher safety ratings.

In 2006–07, ANCAP carried out tests on 27 vehicles, and assessed others that were tested under the equivalent European regime. During the year, all Australian manufactured large cars were tested. Although these all obtained a four-star rating, it was disappointing that none achieved a maximum five-star result.

ANCAP has continued to endorse Electronic Stability Control (ESC), and is investigating ways of having this feature incorporated as a standard item in more models. The RTA supports this initiative as it is consistent with its policy of encouraging 'safer' vehicles.

An increasing number of vehicles are being tested for their effect on pedestrians in an impact. These results are included in the latest ANCAP brochures distributed throughout motor registries and NRMA branches. There is also a link to the ANCAP site on the RTA website, to encourage the public's consideration of vehicle safety ratings when purchasing a car.

Used Car Safety Rating (UCSR)

The RTA is a major sponsor of the USCR scheme which helps consumers identify models rated on their ability to protect occupants. It also shows particular models' aggressiveness to other road users.

In 2007, UCSR data covered vehicles manufactured between 1982 and 2004 that were involved in crashes between 1987 and 2005 that were reported to police in Australia and New Zealand.

The 'Buyer's guide to used car safety ratings – 2006' covers the majority of popular vehicles about four years old. It has crashworthiness ratings for 304 vehicle models with corresponding aggressivity ratings for 278 (92 per cent) of these vehicles. The USCR brochures are distributed throughout motor registries and NRMA branches.

Speed Management Speed Zoning Database

A Speed Management Speed Zoning Database has been developed to track the locations of all speed limit signage as both an asset register and to facilitate speed reviews. Training is currently being rolled out to enable staff to begin to populate the GIS map based database.

The database itself is also proposed to be the working platform for the future integration of technology such as Intelligent Speed Adaptation (ISA). ISA is an in-car speed warning device that has the capacity to advise drivers of the speed limit from inside their vehicle and to physically limit the vehicle's travelling speed.

Future challenges in developing safer vehicles

The RTA will continue to be an advocate and advisor of safer vehicles. The challenges in this area over future years will be to encourage:

- Australian manufacturers to achieve the maximum five-star result in the ANCAP testing.
- Manufacturers to make Electronic Stability Control (ESC) a standard item in all models.
- Consumers to demand safer vehicles with comprehensive safety features.
- Manufacturers and consumers to adopt the ISA technology in vehicles.

SAFER ROADS

Road condition

The RTA will operate using a Safe System approach, incorporating road safety principles into all its roadworks. This approach ensures the NSW road network is designed, built and maintained to high agreed safety standards. The effects of driver error can be minimised through the application of Safe System road design.

Crash related treatments

A total of \$36.5 million in State funds was spent in 2006–07 on treatments to 184 high crash risk locations. Work by the RTA included intersection improvements, road realignments, clear zone enhancements and safety barrier installation.

The Australian Government's AusLink Blackspot Program, administered by the RTA, implemented a further 108 crash reduction projects with total federal funding of more than \$11.6 million.

Pedestrian areas

In 2006–07, 40 kilometre per hour schemes were installed or upgraded in 14 pedestrian areas and a further 12 pedestrian areas were assessed for the future program. The program included installing traffic calming measures, safe and convenient pedestrian crossings as well as 40 kilometre per hour speed limits.

'Brownfields' Road Design Guide

The 'Brownfields' design guide, released in November 2006, integrates road safety into the road maintenance program, providing maintenance engineers with standards that can be retrofitted to existing roads. The issuing of this guide will lead to a program of works that will improve road safety through targeted maintenance works on existing roads.

Specialist safety advice

The RTA's road environment safety specialists have provided comprehensive road safety advice for major upgrades such as the Pacific Highway, Hume Highway and Windsor Road. They have also provided road safety design workshops across NSW to RTA and council officers.

Newell Highway

A review of road safety is being conducted on the Newell Highway. Similar to reviews conducted on the Pacific and Princes highways, the review team is composed of corporate and regional road safety staff, police, and community representatives. A report is scheduled to be completed in late 2007.

Crashcam

The rollout of the RTA's Crashcam program was completed in 2006–07, with all six Crashcam units operational in the field for the first time. Sites were distributed statewide and located where traditional crash investigation and analysis had not had a significant impact. Crashcam provides invaluable footage of crashes, 'near miss' incidents and driver behaviour at these locations which helps determine the causes of crashes and appropriate remedial treatments.

Safety upgrade programs

Pacific and Princes Highway safety upgrade programs

Following reviews of safety on the Pacific Highway (north from Hexham) and Princes Highway (south from Yallah) in 2004 and the subsequent delivery of safety based improvements and programs from 2004 to 2007 inclusive, there have been substantial road safety improvements.

Fatalities on the Pacific Highway between Hexham and the Queensland border have decreased. In 2006 there were 25 fatalities on this section of the Pacific Highway, eight fewer fatalities than for 2005 and less than half the number recorded in 2003 (with 55 fatalities). The number of injuries has also decreased with 483 recorded in 2006, 134 fewer than the total for 2003.

On the Princes Highway from Yallah to the Victorian border, fatality numbers have also decreased, halving from 24 in 2004 to 12 in 2005 and reducing even further to four fatalities in 2006. Injuries have also decreased with 294 recorded in 2006, 30 fewer than the total for 2004.

Measures included an extensive program of civil engineering works such as installation of wire rope median barriers and shoulder widening on curves, intersection improvements, improved signage and line marking. In addition, behavioural programs were implemented targeting speed, drink driving and fatigue. Speeding and drink driving were enforced by the NSW Police Force.



The dramatic improvements in safety on highways.

Railway level crossing upgrades

The RTA continued to contribute to the improved safety of level crossings in NSW through the Level Crossing Strategy Council, Level Crossing Working Group, Level Crossing Safety Improvement Program and, where appropriate, participation in other forums.

In 2006–07, six major railway level crossing upgrades were undertaken in NSW as part of the Railway Level Crossing Safety Upgrade Program. These major improvements included converting sites from passive to active traffic control by using lights, bells, boom gates or illuminated signs to warn motorists that a train is approaching a level crossing.

Future challenges in ensuring safer roads

The fundamental challenge for the RTA as it develops safer roads in the future is to adopt the Safe System approach to minimise the impact to road users.

Other challenges will be:

- Finalisation of the Princes Highway Road Safety Strategy improvement program.
- Development of a program to progressively upgrade road features to modern safety standards as part of the RTA's Road Network Management Plan.
- Continuation of safety reviews on highway corridors.
- To ensure that road safety outcomes are integrated into all infrastructure projects and safety assessments of major routes are undertaken.
- Major upgrades of rural highways and urban routes, along with intersections and road surface upgrades.



POSITIVE ENVIRONMENTAL & URBAN DESIGN OUTCOMES



The North-West T-way Network featured here and on the chapter page offers a transport alternative for north-west Sydney. Reduced vehicle movements, improved air quality, fuel savings and sympathetic urban design deliver positive outcomes to the community.

The RTA takes a leadership role in minimising the impacts of road transport on the environment. This involves the promotion of alternative means of transport and policies to reduce vehicle emissions.

The RTA contributes to programs such as the National Greenhouse Strategy to reduce vehicle kilometres travelled, and the NSW Urban Transport Plan to reduce car dependency.

Infrastructure design, planning and implementation are undertaken within an environmental context. The RTA is also a responsible corporate citizen in its treatment of natural resources and waste.

ALTERNATIVE TRANSPORT

In recognising the environmental impacts which road transport can generate, the RTA supports alternative means of transport to reduce total vehicle kilometres and car dependency. The RTA continues to work with the NSW Government and other stakeholders to implement an integrated approach to transport.

Bus priority

Strategic bus corridors

The release of the Government's Review of Bus Services in 2004 identified 43 strategic bus corridors across the Sydney metropolitan area, four in Newcastle, two in Wollongong and two on the Central Coast. Work has begun to improve average bus travel times and reliability through the introduction of bus priority measures. These measures include bus lanes, transit lanes, priority traffic signals and bus bays along major bus corridors.

Initial emphasis for the introduction of bus priority measures has been placed on the Sydney corridors, particularly those connecting the centres of Parramatta, Bankstown, Hurstville and Burwood.

The NSW Treasury allocated an additional \$90 million to the RTA's budget over three years (2005–06 to 2007–08) to implement bus priority measures on strategic bus corridors. The funding is in addition to the RTA's \$15 million annual bus priority allocation. A further \$100 million has been allocated from 2008–09 under the Government's Urban Transport Statement initiatives to accelerate the ongoing delivery of the bus priority program.

When the RTA's new bus priority system is deployed it will be the largest implementation of its kind in the world. More than 4000 metropolitan buses operated by nine companies will be fitted with satellite tracking devices. More than 6500 bus routes, 100,000 timing points and 3500 traffic signal sites will be monitored.

An interim version of the Public Transport Information and Priority System (PTIPS) has been deployed on three strategic bus corridors (Miranda – Hurstville, Liverpool – Bankstown and STA route 400) and broad scale deployment is on track to commence in 2008.

PTIPS improves bus reliability by giving late running buses traffic signal priority. Bus management and service planning will be improved through better information on fleet performance.

The Transport Management Centre (TMC) has established positions and a dedicated console in the Transport Operations Room to specifically manage bus priority routes as part of the PTIPS program in conjunction with the PTIPS developers, the RTA's Traffic Systems Branch.



Stuart Dwight and Ray Sawyer of the Transport Management Centre looking over the RTA's new bus priority system.

Bus priority infrastructure measures have been implemented on 10 strategic bus corridors in 2006–07:

- Parramatta to City (via Macquarie).
- Parramatta to City (via Ryde).
- Parramatta to Bankstown
- Parramatta to Castle Hill.
- Brookvale to City (via Roseville).
- Miranda to City.
- Miranda to Bankstown.
- Liverpool to Bankstown.
- Bankstown to Burwood.
- Burwood to Macquarie.

Patronage on strategic bus corridors continues to increase.

Bus lane cameras

The RTA has developed new enforcement cameras specifically for use with bus and transitway lanes. Since bus lanes were introduced in the early 1990s, illegal use has had an impact on bus travel times and added to operating costs. A number of initiatives are in place to improve motorists' compliance with the rules governing the use of bus lanes. These include colouring of Sydney's bus lanes red and public education campaigns to increase road user awareness of how to use bus lanes.

Enforcement strategies have been developed using camera technology that is able to detect and automate an infringement process for illegal bus and transitway lane use.

In September 2005, the first 13 enforcement zones on bus lanes and transitway lanes commenced operation. A further nine bus lane enforcement camera sites were successfully commissioned in October 2006 within the Sydney central business district (CBD) and the systems ISO 9001 certification was renewed.

The RTA delivered 10 bi-directional T-way enforcement cameras at key locations on the North-West T-way, covering from Parramatta to Rouse Hill along Old Windsor Road. This system has been operational since the launch of this section of the North-West T-way in March 2007.

Victoria Road upgrade

The Victoria Road upgrade proposal seeks to improve the efficiency and reliability of bus services between Gladesville Bridge and The Crescent, Rozelle by providing 'peak direction' bus lanes.

The proposal is currently in the development phase, which includes planning, investigations, concept designs and a preliminary environmental investigation. An option being investigated is tidal flow traffic schemes.

North-West T-way Network

The 17 kilometre North-West T-way link between Parramatta and Rouse Hill opened in March 2007. It provides 20 bus stations, bus-only roadways and lanes, and bus priority measures at traffic intersections. It delivers a great transport alternative for north-west Sydney with greater provision, frequency and reliability of bus services.

Construction of the Blacktown to Parklea link (seven kilometres with 10 stations) is progressing well and the completion is scheduled for the end of 2007.

Cyclists

In 2006–07, the RTA continued improving the bike network throughout NSW. Off-road shared paths were integrated wherever practical on newly built roads and new off-road cycleways were created to connect people with their destinations.

There are now more than 3900 kilometres of cycleway in service for the use of cyclists and pedestrians. The RTA invested in facilities for cyclists through a number of infrastructure programs including \$7 million allocated specifically for cycling infrastructure, education and promotion.

The RTA provided facilities for the use of cyclists as part of major road construction projects, which included both sealed shoulders and paths shared with pedestrians valued at \$64 million.

Major cycleways completed were:

- Albury Wodonga Hume Freeway.
- Five Islands Road, Lake Macquarie.
- Great Western Highway and Pacific Highway upgrades.

As most cycling takes place on local roads, the RTA provided \$3 million funding support to councils on a dollar for dollar basis, to develop and construct local cycleway networks. Ninety-one local bicycle network projects were funded at a total cost of more than \$6 million.

The RTA's support continued for community group events that encourage greater use of cycling. These included the Portfolio Partners Sydney Spring Cycle (PPSSC) events, NSW Big Ride and MS Sydney to the Gong. The 2006 PPSSC was held on 22 October and was attended by more than 7600 people.



The RTA supports the Portfolio Partners Sydney Spring Cycle, pictured is an event from the 2006 calendar.

NSW Bike Week is a statewide initiative of the government led by the RTA, incorporating events designed to raise the profile of bicycles in local communities as a viable transport mode, while also promoting the health, safety and environmental benefits of cycling. Local councils and community organisations are also encouraged to arrange cycling related events for NSW Bike Week such as fun rides, children's competitions, family fun days, displays and safety. Funding of \$160,000 was provided to the 2007 NSW Bike Week to promote family friendly, healthy and safe bicycle events held through local councils, Police Citizens Youth Clubs and bicycle user groups. The RTA provided funding assistance to 39 community events across NSW. Guidelines on RTA funding were developed and placed on the RTA website. The RTA also developed templates for advertisements, posters and banners that can be used by community groups.

The RTA actively promotes cycling as a healthy, affordable, flexible and environmentally friendly form of non-motorised transport. A suite of new brochures was developed to promote safe cycling, and cycling to work and campuses. The new brochures target employers, employees and students and will provide information on the tools required to encourage cycling to work and school, TAFE or university. A student postcard targets cycling as a sustainable and cost-effective mode of transport and alternative to driving.

Pedestrians

In 2006–07, the RTA implemented a number of initiatives to improve pedestrian access and safety. Facilities for pedestrians included:

- Pedestrian bridges at Yagoona and Blakehurst while concept development is underway at Anzac Parade, Moore Park and Parramatta Road, Haberfield.
- A pedestrian bridge over Beecroft Road (a Transport Infrastructure Development Corporation project) which was completed and handed over to the RTA.
- Pedestrian crossings and refuges.
- Additional audio-tactile push buttons to assist pedestrians with vision impairment.
- Kerb ramps.
- Pedestrian fencing.



The official opening of Yagoona Pedestrian Bridge

Following a tragic crash on Frenchs Forest Road, Seaforth, the RTA conducted an audit of pedestrian crossings on multi-lane roads. The RTA found there were 59 pedestrian crossings on multi-lane State Government controlled roads, which did not have traffic lights. All 59 pedestrian crossings are being upgraded as part of a \$17 million package over three years. Of the 59 sites identified, traffic signals had been installed at 16 sites by 30 June 2007. They are:

- Brisbane Water Drive and Girralong Avenue, Point Clare.
- Glebe Road and National Park Street, Merewether.
- The Esplanade, north of King Street, Warners Bay.
- Head Street and Reserve Street, Forster.
- Main Road, east of Holmes Avenue, Toukley.
- Frenchs Forest Road and Baringa Road, Seaforth.
- Main Road, west of Brisbane Street, Noraville.
- King Street, north of Charles Street, Warners Bay.
- Oxley Highway and Findlay Avenue, Port Macquarie.
- McEvoy Street at Pitt Street, Alexandria.
- Rainbow Street, east of Anzac Parade, Kingsford.
- Myall Road, West of Lois Crescent, Cardiff.
- Great Western Highway, south of Gardiner Crescent, Blackheath.
- Rocky Point Road, north of Targo Road, Ramsgate.
- Walk Park Avenue, north of Orana Avenue, Seven Hills.
- Blackwall Road, south of Park Road, Woy Woy.

Kerb blister and line marking treatments have been completed at Pittwater Road, north of Mona Street, Bayview and Bridge Street, north of John Street, Uralla.

Stage 1 work has been completed on the Pacific Highway, south of Fraser Road, Cowan and Old South Head Road, north of Laguna Street, Woollahra.

A further two sites are under construction and nine sites are in design and community consultation stages.

The RTA helped local councils to prepare Pedestrian Access and Mobility Plans (PAMPs) for integrated pedestrian networks. These plans enhance safety, convenience and mobility on links between public transport and other key centres of pedestrian movements. Seventy-seven councils now have a PAMP across

the State, including five completed during 2006–07. The RTA also continued supporting councils in their implementation of PAMPs.

The RTA continued to reinforce safe pedestrian behaviour among parents, teachers and children through ongoing support of the Pedestrian Council of Australia Limited initiative Walk Safely to School Day. The council held its annual event in May 2007, which was funded to the amount of \$30,000 by the RTA.

Travel demand management (TDM)

TDM supports and promotes sustainable transport options to encourage people to change their travel patterns and reduce their car use. TDM is a tool that is used as part of the integrated approach to transport.

The RTA hosted a workshop in November 2006 to test the framework and methodology being developed as part of the Austroads Project NS 1148 – Evaluation of TDM measures. The workshop was run by Monash University and attended by representatives from the RTA, NSW Department of Planning, Premier's Council of Active Living/Department of Health and Department of Infrastructure (Victoria).

The RTA continued to work with government agencies, corporate and community groups to develop transport access guides for their premises such as Camden Hospital and Canterbury City Council.

The RTA has also completed work with public transport providers to develop a series of Transport Access Guides for motor registries in the Sydney metropolitan area. These guides are available through the RTA website (www.rta.nsw.gov.au/transportaccessguides) and at motor registries.

Teleworking

Teleworking reduces vehicle kilometres and car dependency, and improves air quality. The RTA continues to promote these benefits to government agencies and business via manuals, meetings, organising forums, and the internet.

The RTA facilitates workshops on wide-scale implementation of teleworking and sponsors visits by overseas teleworking and transport academics and experts to present on the current practice and future direction of teleworking.

The RTA supports teleworking in its own workforce by providing teleworking opportunities to staff on a regular or needs basis. Staff have access to telecentres in Penrith and the Central Coast, and hot desks in Parramatta as well as teleworking at home. The RTA encourages teleworking to facilitate flexible work practices that enable staff to balance their work and personal commitments.

Future challenges in promoting alternative transport

- Delivering the next year of a three-year \$135 million Bus Priority program to meet NSW Treasury's funding timetable with flexibility to absorb the Ministry of Transport's review of bus routes (which will not be completed before June 2008).
- Completing new rapid bus-only transitways and bus-only lanes as set out in the NSW State Plan.
- Implementing bus priority measures on the 43 strategic bus corridors across Sydney.

- Commencing broad scale deployment of PTIPS on strategic bus corridors in 2008.
- Developing a network of facilities to make cycling and walking more attractive.
- Installation of further bus priority enforcement systems on the Sunnyholt Road, Blacktown T-way, once construction of the T-way is complete.
- Ensuring that improved multi-modal transport operations, and transport/land use integration, are outcomes of the downstream delivery of major road projects.

INFRASTRUCTURE PLANNING AND ROADWORKS

Environmental management

Environmental assessment

As required by the *Environmental Planning and Assessment Act 1979* (the EP&A Act) the RTA aims to ensure that the potential environmental impacts of its road and bridge infrastructure proposals are properly considered. As part of the environmental assessment process, the RTA also develops measures to avoid, minimise, mitigate and in some circumstances offset, the impacts of its proposals.

The RTA, as part of the Lawrence Hargrave Drive Link Alliance, was recognised for the engineering and design of Sea Cliff Bridge at the prestigious CASE Earth Awards. Presented by the Civil Contractors Federation, the awards honour construction and environmental excellence in civil contracting.

During 2006–07, the Minister for Planning approved the following projects under Part 3A of the EP&A Act:

- Upgrades of the Moorland to Herons Creek and Bulahdelah sections of the Pacific Highway.
- Modifications to the North-West T-way Network project.
- Modifications to the Lane Cove Tunnel project.
- Modifications to the Cross City Tunnel project.
- F3 Freeway to Branxton Link Road.
- Modifications to the Albury Wodonga Hume Freeway project.
- Modifications to the Tugun Bypass project.

A concept plan and five project environmental assessment reports were submitted for the Minister's approval to the upgrade of 44 kilometres in five sections of the Hume Highway between the Sturt Highway and Mullengandra. Environmental assessments have commenced for the Kempsey to Eungai, Sapphire to Woolgoolga, Tintenbar to Ewingsdale, the Banora Point and the Ballina sections of the Pacific Highway.

During the year, the RTA determined 312 reviews of environmental factors (REFs). REFs are environmental assessments which examine the potential environmental impacts of an activity that is subject to Part 5 of the EP&A Act. REFs are prepared in accordance with the RTA Environmental Impact Assessment Policy, Guidelines and Procedures.

The RTA also referred two projects to the Australian Government Department of Environment and Water Resources (DEW) in 2006–07. The Hume Highway duplication and F3 Freeway to Branxton Link Road were separately referred for a decision by the Australian Government Minister for the Environment and Water Resources on whether assessment and approval is required under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Under the EPBC Act a project will require approval from the Minister if the action has, will have, or is likely to have, a significant impact on a matter of national environmental significance.

The Hume Highway duplication project has the potential to have a significant impact on the EPBC Act listed endangered ecological communities of White Box, Yellow Box, Blakely's Red Gum grassy woodland and Derived Native Grasslands. The Minister determined that the project required approval under the EPBC Act. The documentation for the project has been publicly exhibited in accordance with DEW requirements and it is expected that the Minister will make his decision by August 2007.

The F3 Freeway to Branxton Link was also referred as a result of the potential impacts to nationally listed threatened species and communities. The RTA was advised this project would also require approval from the Minister and it is likely that approval would be given in early 2007–08.

In 2005–06 preliminary investigations of the Pacific Highway upgrade confirmed that the proposed route for the Bulahdelah section would transverse an area of habitat for a species of native orchid, *Rhizanthella slateri*, that is listed under the EPBC Act and the *Threatened Species Conservation Act 1995* (TSC Act).

This meant that an environment impact statement had to be prepared under the EPBC Act and a species impact statement had to be prepared under the TSC Act. The environmental impact statement assessed five alternative route options using criteria developed after extensive consultation with the local community. The criteria included improved environmental outcomes and achieving environmental sustainability and acceptable economic and social outcomes as well as improved road safety, transport efficiency and design and engineering suitability. The chosen option was selected because it was the only option that performed well against all the criteria.

In 2006–07, following advice from the Department of Planning that the project would require approval under Part 3A of the EP&A Act, an environmental assessment report for the preferred option was submitted to the Minister for Planning.

Subject to the approval of the Minister for Planning, it is expected that work will begin on the upgrade early in 2007–08.

For more information on the Hume Highway duplication project or Pacific Highway Upgrade Program visit the RTA website.

Case study

Five Islands Road upgrade

The RTA has been awarded first prize in Category Four (\$20–75 million) at the State Civil Contractors Federation Earth Awards in Civil Engineering Construction Excellence for the upgrade of Five Islands Road. The Earth Awards are designed to highlight excellence in construction technique, environmental management and project management.



Members of the Five Islands project team on the rehabilitated foreshore of Lake Macquarie.

The \$50 million project, removing a critical bottleneck, involved upgrading the road to a four-lane dual carriageway with an off-road shared footway/cycleway through four sensitive and protected State Environment Planning Policy (SEPP 14) coastal wetlands. The sensitive wetland and estuary along with a long history of contamination of smelter waste created complex construction and environmental challenges. This necessitated high-level consultation and close working relationships with a large team of consultants and contractors to build an ecologically sustainable traffic management solution. A range of activities were employed to protect the wetland areas such as:

- Rehabilitation of disturbed areas (compensatory wetland, rehabilitation of acid scald area).
- Restoration of tidal flow to distressed mangroves (reconstructed main channel).
- Sediment fencing and silt booms surrounded the worksite to capture any sediment from the site.
- River pebbles along the embankment minimised wave energy enabling the establishment of sustainable sea grass communities.

The improved appearance and use of the site through outstanding urban and landscape design features a network of three metre wide pedestrian/cycle paths which pass through rehabilitated wetlands and along the scenic Lake Macquarie foreshore, viewing platforms with natural rock seating, natural rock retaining walls and ochre-hued concrete paths stamped with Aboriginal paintings.

Environmental education and training

The RTA provides both formal and informal environmental training opportunities to staff. Over the past year formal environmental training was undertaken in the areas of erosion and sediment control training, cultural heritage identification, project management, leading people effectively and environmental legislation.

The Road and Fleet Services Branch has developed a training strategy based on identification of the different staff positions and the mandatory and desired environmental training required for those positions. A 'Train the trainer' strategy is also being rolled out throughout the regions.

Environmental Management System (EMS)

The RTA maintains an EMS. The EMS provides an environmental management framework to assist in several areas of the RTA's operating environment and aims to continually improve RTA environmental performance. The RTA EMS was reviewed during 2006–07. Key developments included:

- Review of legislative requirements.
- Updated responsibilities and lines of communication to reflect revised structure.
- Release of a Pesticide Use Notification Plan.
- Release of two directives – Use of Reclaimed Water and Legal Offsite Disposal of Bulk RTA Project Wastes.

The Road and Fleet Services Branch is currently reviewing and updating its EMS in line with R40 prequalification requirements which will enable the branch to tender for projects costing up to \$40 million.

The 'Environmental Handbook for Road and Bridge Works' has been updated. It is designed to assist staff to identify environmental issues associated with road and bridge works and to guide them in implementing environmentally sound work practices.

Environmental compliance

The RTA currently holds 10 Environment Protection Licences (EPLs) under the *Protection of the Environment Operations Act (1997)*. The EPLs were issued for various activities such as waste generation and storage, freeway/tollway construction, ferry slip yards and a gravel extraction quarry. In the past year no non-compliances were issued.

Two Penalty Infringement Notices (PINs) were received from the Department of Environment and Climate Change (DECC) during 2006–07. Both PINs related to the failure to supply dangerous goods shipping documents to the driver in accordance with legislative requirements.

Contractor environmental performance

The RTA regularly reviews contractor environmental performance and in 2006–07 commenced a strategy to improve contractor environmental performance through a range of contractual and non-contractual measures.

To ensure superior and improved delivery in projects, contractors undergo a performance assessment. Of the 756 performance assessment reports, 9.5 per cent were considered superior, 54 per cent were considered good, 36 per cent were considered acceptable and 0.5 per cent were considered unsatisfactory.

For Single Invitation Maintenance Contracts, 203 contractor performance reports were undertaken with 0.5 per cent considered superior, 62 per cent considered acceptable, 35 per cent considered good, 2.5 per cent considered unsatisfactory.

AIR QUALITY

M5 East Freeway Air Quality Improvement Plan

In June 2006 the Minister for Roads announced the NSW Government's new air quality improvement plan for the M5 East Tunnel. The plan included:

- A trial of video identification of smoky heavy vehicles.
- Increased ventilation flows with an extra 12 fans.
- A trial of filtration technology.

The video detection system to monitor and identify polluting heavy vehicles in the M5 East Tunnel commenced in July 2006. Operators of smoky heavy vehicles were given a six months moratorium to reduce their emissions. Between July and December 2006, 177 operators were contacted with 98 vehicles undergoing emissions testing and treatment under the Clean Fleet program. Operators of smoky heavy vehicles are encouraged to join the Clean Fleet program.

Vehicle emissions enforcement scheme (VEES)

Since January 2006, the RTA has been providing information from the video detection system to DECC to issue infringement notices to operators of identified smoky vehicles. Since the expiry of the moratorium in January 2007, 1735 potential offence files have been generated and 193 offence files have been submitted to DECC up to 30 June 2007.

Ventilation flows

The installation of an additional 12 fans was completed in December 2006. These have reduced the times the tunnel has been closed because of air quality.

Filtration technology

The installation of filtration technology in the M5 East will also remove particulates causing haze from the treated tunnel air. A request to modify the existing M5 East planning approval to enable the construction of the filtration plant was submitted to the Department of Planning in October 2006. The plant is expected to be operational in late 2008 and should provide a visible improvement to the worst affected section of the M5 East.



An additional fan for the M5 East Tunnel.

M5 East Freeway Air Quality Management Plan

The ongoing Air Quality Management Plan (AQMP) introduced in 2002 for the M5 East Freeway is due to be completed in 2007. The \$2.5 million program identified opportunities to improve air quality in the sub-region of the M5 East Freeway ventilation stack.

The AQMP Steering Group, comprising representatives from NSW Health, Department of Planning, DECC and the RTA, developed strategies for the AQMP. In 2006–07 progress was made on the Solid Fuel Heater Buy-Back Scheme. An updated information brochure was sent to heater suppliers and the local councils sent postcards to all residents in the M5 East catchment area. As at 30 June 2007, 18 applications were received and 18 refunds issued.

Ambient air quality monitoring continued. Monitoring data and reports are available on the RTA website. None of the air quality goals were exceeded due to operation of the M5 East Freeway stack.

Reducing greenhouse emissions

The NSW State Plan identifies priorities and targets for government action. The DECC with the RTA as a partner is working together on Priority E3: Improve air quality and reduce greenhouse emissions. The RTA commissioned a report, 'Transport, Greenhouse and Air Quality, A Strategic Framework' which identified:

- The contribution of land transport to greenhouse and urban air pollution.
- The key issues that need to be accommodated by strategies to reduce the impact of land transport on the environment.
- The strategic framework needed for the future management of the environmental impacts of road transport.

The RTA has also worked with DECC to deliver climate change briefings and a Future Vehicles Roundtable.

The climate change briefings were provided by Dr Pearman, the CSIRO's former Chief of Atmospheric Research to Ministers, Chief Executives and government officials in March 2007. The briefings covered the '4th Assessment Report of the Intergovernmental Panel of Climate Change'.

The Future Vehicles Roundtable held in June 2007, was designed to:

- Highlight the impact of transport on air quality and climate change.
- Identify and share current best practice for reducing that impact.
- Predict possible pathways for the adoption of low emission vehicle technologies and fuels.
- Identify opportunities and barriers to the adoption of low emission vehicle technologies and fuels.

The roundtable, chaired by Dr Pearman, included presentations from Dr Alan Lloyd (former head of the Californian Air Resources Board) on 'The Challenge of Sustainable Mobility' and Professor Neville Jackson (Group Technology Director at Ricardo), on 'Technologies and Fuels for the Future'.

The roundtable also included a Ride and Drive program.

More than 20 low emission cars were available for the 150 attendees from government and industry to inspect or to drive. A hybrid truck, a natural gas fuelled truck and Euro 5 bus were also on display.



RTA staff members Ross Daley, Michael Crowley, Paul Walker and Barry Phillips helped to coordinate a roundtable promoting cleaner vehicles.

Reducing vehicle emissions

Cleaner NSW Government Fleet

The Cleaner NSW Government Fleet project is an initiative to reduce the emissions of the NSW Government car fleet. Throughout the life of its Motor Vehicle Clean Fleet Improvement Plan 2005 – 2007, the RTA has achieved a reduction of its fleet size and a change in fleet composition towards more vehicles with better environmental performance. It should be noted that, while passenger vehicles offer the best environmental performance, for operational reasons the majority of the RTA's light vehicle fleet comprises light commercial vehicles which, due to limited choices, offer less scope for improved environmental performance. A revised RTA Motor Vehicle Clean Fleet Improvement Plan will be in place for 2007–08, with strategies and targets for further improvement in the air quality associated with the RTA light vehicle fleet.

Clean Fleet

The Clean Fleet program was launched in conjunction with the M5 East AQMP by the Minister for Roads in June 2006. It continues to operate to encourage diesel operators to reduce diesel vehicle emissions. Participants must meet standards for using clean fuel, correct engine settings, and conducting regular vehicle maintenance and effective fault identification and repair. Clean Fleet is an accredited program under the Federal Fuel Tax Credits Program and participants are eligible to seek a diesel rebate.

The Ministry of Transport requires metropolitan bus systems contract operators to comply with Clean Fleet and the DECC Model Waste and Recycling Collection Contract also requires waste management contractors to join Clean Fleet.

There are more than 4000 vehicles in the program with new applications increasing.

Vehicle Emission Enforcement System (VEES)

As part of the air quality improvement program for the M5 East Tunnel, a VEES became operational in 2006. This system was designed to automate the detection of vehicles with vertical exhaust stacks emitting visible smoke for more than 10 seconds.

The system output is a collection of still and motion pictures of vehicles with visible emissions. This forms part of the primary evidence for potential infringements. The RTA commenced providing DECC with VEES primary evidence in February 2007.

Diesel emissions awareness

The RTA offers a free TAFE course to truck drivers, operators, diesel mechanics and fleet managers on 'How to reduce truck emissions'. The course is run throughout NSW in Sydney, Shellharbour, Kurri-Kurri, Tamworth and Wagga Wagga. A new module about how to join Clean Fleet has been added to the course which has resulted in increased participation.

Diesel Retrofit

Following the successful Diesel Retrofit Demonstration Pilot Program the RTA has extended the initiative and DECC has provided additional funding.

The program involves fitting devices called 'Diesel Oxidation Catalysts' and 'Diesel Particulate Filters' to older trucks which cut the emissions from these vehicles.

The catalysts reduce particle emissions by approximately 30 per cent and improve air quality without any adverse affect on the maintenance or efficiency of the vehicles involved. Particulate filters virtually eliminate particles with reduction rates of approximately 90 per cent. There are 47 fleets currently participating in the program and 142 vehicles have been fitted with these devices.

Cleaner light vehicles

In 2006–07, the RTA conducted 1437 emissions tests for light vehicles at Penrith and Botany motor registries. There have been 14,311 tests undertaken since voluntary light vehicle testing was introduced in 1998. Vehicles are also referred for testing by DECC and modified vehicles are referred by engineering certification signatories.

Standards

New emission standards (Euro 4) for vehicles operating on diesel, liquefied petroleum gas and natural gas were introduced for new vehicle models from 1 January 2007 and all vehicles manufactured from 1 January 2008. The standards are aimed at achieving improved levels of air quality.

Smoky vehicle enforcement

During 2006–07 RTA inspectors reported six vehicles that were considered to be emitting excessive visible smoke to DECC. Five Penalty Infringement Notices were issued by DECC.

Training

Training sessions have been run for apprentice mechanics and University of Western Sydney students to demonstrate the RTA's light vehicle emissions testing facilities.

Alternative fuels

The RTA continued to conduct emissions tests on a variety of vehicles to assist the Liquid Petroleum Gas (LPG) aftermarket equipment industry. The purpose of the testing is to ensure LPG fitted vehicles continue to meet applicable emissions standards.

Future challenges in managing air quality

- Further reduce emissions from motor vehicles through cleaner fuels and car technology, and improvements to public transport and urban and transport planning.
- Develop new targeted strategies for the industry, commercial and transport sectors to further reduce their emissions.
- Consider new tools for reducing air pollution including developing incentives to increase the uptake of cleaner fuels and low emission vehicles, and promoting the environmental rating scheme for trucks and buses to recognise better environmental performance and promote leading edge technologies.
- Implementation of the M5 East Air Quality Improvement Plan filtration plant.
- Development of project air quality assessment, monitoring and reporting guidelines.

NOISE MANAGEMENT

RTA Noise Abatement Program

The RTA has completed construction of a noise barrier wall along the eastern side of Stacey Street in Bankstown. The noise wall between Aster Avenue and Boxley Crescent was developed in response to concerns by local residents. Following consultation with the community and local council, the State Government allocated \$1.6 million for the construction of the noise wall. The 476 metre long noise wall is between 4.5 and five metres high, and combines pale grey concrete panels, hebel light-weight concrete panels and overlapping transparent panels. The works represent a win for the local community in an aesthetic manner reducing the impact of traffic noise on residential areas. In 2006–07 the RTA provided \$5.8 million to fund noise abatement for homes affected by high levels of road traffic noise. This sum included \$3.6 million to finalise the work identified under the northern Pacific Highway Task Force.



This noise wall along the Pacific Highway at Ewingsdale is just one of the measures the RTA uses to reduce highway noise.

Engine compression brake noise

The National Transport Commission (NTC) has developed a proposal to regulate noise from engine compression brakes. The RTA supports this approach particularly in areas where safe braking is not an issue.

The RTA continues to work with the NTC to finalise an engine brake noise standard. The NTC has sent a final Regulatory Impact Statement proposing an in-service engine brake noise standard to Transport Agency chief executives for comment. The proposal also requires the support of the Australian Transport Council.

Noise camera

To help reduce engine compression brake noise from heavy vehicles the RTA continues to develop technology in the form of a suitable noise camera to use as an enforcement device. Camera equipment is currently being trialled at Mt Ousley, and data is being collected on the frequency of use of noisy engine compression brakes.

Road noise guideline

The RTA is contributing to the development of the 'Planning Guideline for Residential and other Sensitive Building Developments alongside Major Roads' to be used in the Department of Planning's State Environmental Planning Policy for Infrastructure. This will include requirements to address noise for new residential development along nominated roads and rail corridors. Agencies involved include the Department of Planning, DECC, NSW Health, the RTA and Local Government and Shires Associations of NSW.

Future challenges of managing road and vehicle noise

- Continue to develop and implement programs to reduce noise from vehicles.
- Investigate new technology such as pavement type and finishes to reduce road traffic noise.
- Refine the RTA's noise abatement program to provide cost effective and equitable responses to residents affected by high levels of traffic noise.

PROTECTING BIODIVERSITY



This baby echidna was found and protected by RTA operations staff during initial works for the Ballina Bypass.

The RTA has many mechanisms in place to protect biodiversity. These include the RTA Environmental Impact Assessment Policy, guidelines and procedures, stringent environmental specifications, regular environmental audits and inspections of construction sites and environmental awareness training for RTA staff and council workers. Some of the RTA projects to protect and enhance biodiversity in 2006–07 are in table 8 on page 68.

TABLE 8. BIODIVERSITY PROJECTS

Activity	Purpose	Progress
Developing measures to minimise fauna on roads in Sydney region.	Management of wildlife on roads.	The RTA has been involved with a community working party to investigate measures for minimising roadkill on roads in Pittwater and Warringah local government areas.
Development of a call centre resource manual for managing response to animals killed or injured on roads.	Management of wildlife on roads.	The RTA funded the development of a manual by the RSPCA for call centre staff to more effectively manage calls from motorists regarding injured animals on roads.
Trialling the effectiveness of odour repellents.	Management of wildlife on roads.	The RTA provided \$14,910 for a post graduate study into the use of odour repellents for managing wildlife collisions. The study is building on promising results from previous RTA funded research.
Provision of funding for the installation of fauna exclusion fencing along the Newell Highway at Narrandera.	Management of wildlife on roads.	The RTA provided \$20,000 for the installation of koala fencing along a section of the Newell Highway, Narrandera.
Trialling effectiveness of fauna mitigation measures.	Minimising impacts to biodiversity.	The RTA contributed \$5000 to monitor the effectiveness of roosting boxes installed under the Prince Alfred Bridge at Gundagai. The RTA attended a national conference organised by the Department of Environment and Water Resources to discuss mitigation measures for habitat fragmentation in May.
Research into post construction and operational impacts of bridges on estuarine environments.	Improve understanding of the effect of bridges on estuarine environments.	The RTA is supporting a University of Western Sydney research project on the impacts of the Karuah Bypass on the Karuah River Estuary.
Fund research into effects of road construction and operation on koala populations adjacent to the Pacific Highway at Bonville.	Koala population research.	Research for the koala monitoring project undertaken by the RTA continued with funding of \$92,434 in 2006–07.
The RTA participated in a pilot of the Department of Environment and Climate Change (DECC) biobanking scheme.	To assess development of biobanking methodology that can be applied to road projects.	The RTA used the approved section of Oxley Highway upgrade in a pilot trial of the methodology in the biobanking scheme with DECC.

Threatened species

The RTA contributed to a number of Threatened Species Recovery Plans (TSRP) prepared by the DECC in accordance with Part 4 of the *Threatened Species Conservation Act 1995*. Refer to appendix 2 for full details.

Green and Golden Bell Frog, Arncliffe

The RTA continued managing the Green and Golden Bell Frog population in ponds constructed as a compensatory measure for the M5 East.

Woolooware Shorebird Lagoon

Agreement has been reached for handover of this compensatory habitat to DECC. The RTA has completed final maintenance works and will match the contribution of \$50,000 from the Department of Planning to enable the establishment of an ongoing management program by DECC.

Purple Copper Butterfly, Lidsdale

The RTA provided funds towards the monitoring and ongoing maintenance works for a population of Purple Copper Butterfly translocated from the road reserve of the Castlereagh Highway (SH18) near Lithgow in 2005–06. Monitoring at the site has indicated that the State and Commonwealth listed Purple Copper Butterfly population is expanding as a result of the ongoing maintenance and habitat enhancement actions.

Case Study

Pied Oystercatcher

In what is a first for a Pacific Highway Upgrade project, a pair of breeding Pied Oystercatchers has taken up nest and successfully hatched a chick on the Brunswick Heads to Yelgun project. Listed as a 'Vulnerable Species', the Pied Oystercatcher population in NSW is estimated at 250 with a significant proportion of that on the NSW North Coast.



Engineers and construction staff building the Brunswick River bridges in northern NSW, helped to protect the local environment for a family of vulnerable Pied Oystercatchers.

The RTA identified a nesting pair of Pied Oystercatchers just south of the new Brunswick River Bridge. The area was used for construction access and part of the alignment of a planned shared pedestrian/cycle path.

Working closely with its contractor, the RTA organised for the area to be parawebbed off and for alternative access arrangements to be used. Working with the shore bird expert, the RTA developed a number of strategies to ensure the well being of the nesting birds while at the same time allowing construction works to progress.

Once the egg had hatched, alterations were made to adjacent fauna/erosion and sedimentation fencing to allow the parents and chick (which was unable to fly) to make their way easily down to the Brunswick River at low tide to feed and shelter in the adjacent mangroves. The Pied Oystercatcher family has since been observed to be doing well, returning to the 'nest', located on the project, each day at high tide.

While it is presumed that the lack of available suitable habitat assisted the birds in their choice of nesting site the successful hatch demonstrates a Pacific Highway construction site provided suitable habitat for the successful breeding of Pied Oystercatchers.

Vegetation management

Cooks River/Castlereagh Ironbark Forest

Work by the National Trust of Australia (NSW) continued on the Cooks River/Castlereagh Ironbark Forest Bush Regeneration project at Beverley Grove, as part of compensation related to the M5 East. The five year contract with the National Trust for regeneration of this important remnant forest is now complete. The RTA has invested almost \$150,000 in a program specifically aimed at the removal of exotic species and the planting of natives.

Biobanking

Biobanking is an initiative of the NSW Government being led by DECC. The initiative, provided for in the *Threatened Species Conservation Amendment (Biodiversity Banking) Act 2006*, enables the establishment of a biodiversity banking and offsets scheme to address the clearing of native vegetation for urban development and the impact it has on biodiversity values, including threatened species.

During May and June 2007 the RTA assisted DECC in undertaking a biobanking pilot on the proposed Oxley Highway upgrade near Port Macquarie. The purpose of the pilot was to assess how the biobanking methodology would work for infrastructure projects such as roads. The outcomes of the pilot are expected to inform further development of the initiative.

Roadside environment

The RTA continued to host and fund the Roadside Environment Committee (REC). The REC is a multi agency advisory body that promotes the management of linear reserves to balance environmental values and safety.

Key achievements for the REC in 2006–07 included:

- Redesigned the linear reserves short course for works crews and subcontractors and delivered more than 120 training sessions.
- Funded the Catchment Management Authorities and Rural Lands Protection Boards to develop local and regional linear reserve management plans and assisted more than 60 local government authorities to develop or upgrade vegetation plans.
- Worked with State and Australian government agencies to develop a standard assessment protocol for linear reserve vegetation.
- Planned and funded the assessment of remnant vegetation in more than 350 'high value sites' and pioneered a statewide database.
- Distributed more than 160 significant vegetation marker signs and worked with private agencies and councils to develop a range of alternate signage systems aimed at protecting high quality remnants and corridors.
- Selected and assessed linear reserve funding applications in NSW, ensuring a strategic approach to conservation projects.
- Developed a database of research covering linear reserve conservation and worked with researchers to coordinate and fund the most innovative projects.

Case Study

Main Road 92



Sassafras planting along Main Road 92

A 54 kilometre section of Main Road 92 (MR92) between Hames Road (15 kilometres southwest of Nowra) and Nerriga is being upgraded. Threatened species, such as *Eucalyptus langleyi*, *Acacia bynoeana*, and the Yellow Bellied Glider were identified in the Environmental Impact Statement and Species Impact Statement and mitigation measures were identified and adopted during the construction process.

Prior to the construction of the project an ecologist inspected the threatened species populations and those areas outside the construction footprint were fenced off to exclude site vehicles and construction plant. Training was conducted to ensure that all staff were aware of the location and significance of threatened plants, and during clearing an environmental representative was present. No damage occurred to the threatened plants outside of the construction footprint, the populations have been monitored and are considered to be in a healthy condition. To mitigate the loss of *Acacia bynoeana* seed was collected from local species and spread within suitable habitat by representatives of DECC post construction.

It was important to ensure that the movement patterns of the Yellow Bellied Glider were accommodated within the project. Large mature trees between the existing road and the new construction were protected. With the retention of these trees the impact on the movement patterns of the glider has been minimised.

MR92 passes through Morton National Park and an ecologically sensitive area known as Bulee Gap. This portion of the road is steep, densely vegetated and was constructed by 70 convicts in 1841, where pick marks and old steel wheel grooves are still present. Given the sensitivity of the landscape the road has been designed to minimise its footprint on the landscape by using the existing alignment where possible, with a reduced design speed of 60 kilometres per hour. The design has further been modified to bypass a population of endangered orchid *Genoplesium superbum*, and reduce the impacts on biodiversity in the area, utilising retaining walls and bridges rather than batters and including a fauna underpass.

Snow and ice clearing

Snow and ice clearing is conducted within a number of locations throughout the State, and is regularly conducted during the snow season within the NSW alpine areas. Many of the areas where snow clearing is carried out are environmentally sensitive, and often within National Parks. The road safety and transport benefit of snow clearing needs to be considered in this environmental context. Five year trials have been conducted on the most efficient forms of snow clearing in conjunction with National Parks and Wildlife Service. The management of snow clearing within these sensitive receiving environments is an ongoing challenge for the RTA, which requires continual review for environmental improvement.



RTA staff provided support to motorists during the bumper 2007 snow season.

Future challenges of biodiversity

The RTA will continue to be challenged to keep its ecological footprint to a minimum. Key challenges for 2007–08 include:

- Continue to participate in the whole of government development of biodiversity offset measures through development of biobanking.
- Utilise experience in designing flora and fauna mitigation strategies and the outcomes of research by developing best practice mitigation guidelines.
- Aim to ensure the RTA's biodiversity assessment and survey practices meet the requirements for environmental regulators and are of the highest standard.

URBAN DESIGN

In general, the purpose of urban design is to give three-dimensional physical shape to the development of cities, towns and villages within their natural settings.

Transport infrastructure, not least roads, is an integral part of cities, towns and villages in terms of their form, function and character. The RTA has developed an urban design approach to all its network management and new construction work whether large scale projects or small scale improvements in both urban and rural settings.

In summary, the RTA urban design approach is concerned with:

- How infrastructure fits into and shapes its broader built, natural and community environment.
- How all systems of transport are integrated into communities and the corridor design.

- The quality and safety of the public domain and travel experience associated with the corridor.

These goals are developed in 'Beyond the Pavement', RTA's urban design policy, which was published in 1999. Since then many projects have been planned, designed and implemented in accordance with Beyond the Pavement and urban design has become a mainstream activity.

As part of the Beyond the Pavement initiative design guideline documents have been produced: Bridge Aesthetics and Shotcrete Design Guidelines. The latest document in the suite (published in February 2007) is entitled the Noise Wall Design Guideline and covers the approach and principles needed to produce well designed and cost effective noise walls.

Achievements

The RTA measures its urban design performance in terms of comment and endorsement from stakeholders, communities and approval bodies, the awards it receives from industry and the quality and well being of the built and community environment left as a legacy of its completed projects.

Key projects implemented this year which exemplify the RTA urban design philosophy include:

- The Leura to Katoomba upgrade of the Great Western Highway, which retained the heritage character of the Leura ridgeline and provided a well designed addition to the highway and the village.
- The Lane Cove Tunnel project which achieved a high standard of design, neatly fitting the tunnel and expanded Gore Hill Freeway into the dense built form of the north shore area of Sydney. In time, with the maturing landscape, it will provide a distinctive road user experience.
- The Windsor Road alliance which successfully integrated the upgrade of Windsor Road at Baulkham Hills and Kellyville into a highly constrained and narrow corridor, providing a neat attractive environment for both residents and road users.
- The North-West T-way project, characterised by distinctive stations, bridges, landscape and road infrastructure and providing a stylish, refined image to help patronage of the buses.
- The Albury Wodonga Hume Freeway project, designed to fit into and complement the town's built form and character, integrated with Albury's main Dean Street, and providing new and upgraded open space and well connected footpaths and cycleways along and across the road and adjacent rail line.
- The Nabic upgrade of the Pacific Highway, which sensitively fitted the highway within the edge of the service town of Nabic and in the process, upgraded its streets, village green and shopping and eating areas. These facilities provide a memorable interchange and road side landscape that is also helping attract road users to stop and rest at Nabic.
- Successful restoration of the structurally damaged Junction Bridge (South West Region) in cooperation with the Heritage Office NSW and the community. The restoration was completed in an environmentally sensitive location using traditional construction techniques while also providing community access and maintaining the visual aspect and heritage significance.
- Pedestrian bridges delivered under the pedestrian bridges at schools program have been designed with urban design and community input for consistency with the urban context and to minimise environmental impact.

Corridor urban design

The RTA takes a broad approach to the design of its roads recognising that all projects need to be designed as a part of the road corridor, or network, in which they are situated. For example the Pacific Highway Corridor Urban Design Framework helps guide the planning and design of all Pacific Highway upgrades. To date similar frameworks have been developed for the Hume Highway, Great Western Highway, Windsor Road, Camden Valley Way and Richmond Road.

Details of the urban design guidelines and documents are included on the RTA website.

Future urban design challenges

The RTA will continue to implement urban design corridor strategies to ensure a whole of government approach to land use and transport planning.

The challenge for the future is to broaden this thinking and consider the urban design implications of the whole transport network and how it fits into and supports the communities, cities, landscapes and regions of NSW.

HERITAGE

Aboriginal culture and heritage

A Procedure for Aboriginal Cultural Heritage Consultation and Investigation is under development. Formerly known as the draft Aboriginal Liaison Protocol, the document outlines a procedure for consultation with Aboriginal stakeholders on Aboriginal cultural heritage matters and is designed to assist RTA staff when undertaking works which have the potential to impact on cultural heritage issues associated with road planning, development, construction and maintenance activities. The process is consistent with the DECC 'Interim Community Consultation Requirements for Applicants' (2004).



Staff from across the RTA undertook field investigations during an Aboriginal cultural heritage training seminar.

Aboriginal Cultural Heritage Advisors and selected members of the environment teams completed Cultural Heritage Identification training by DECC. The RTA-tailored courses, run over four days, were designed to improve cultural awareness and identify cultural heritage sites including scarred trees, middens and artefact scatters.

Heritage and Conservation Register

The RTA has a responsibility under section 170 of the *Heritage Act 1977* to identify and manage the items of heritage in its ownership or control. These items are predominantly bridges but also include vehicular ferries, property assets, movable collections and archaeological items.

The RTA Heritage and Conservation (S170) Register is regularly updated. There are 416 items on the RTA Heritage and Conservation Register including 35 State Heritage listed items. The condition of these items is summarised in table 9.

Since 2005, heritage assessments have been completed for RTA owned or controlled concrete slab and arch bridges in NSW, concrete beam bridges in Sydney, South West and Southern regions and identified archaeological items.



Bethanga Bridge, over the Hume Dam near Albury, has become the first structure to be jointly listed on the NSW and Victorian State heritage registers.

TABLE 9. CONDITION OF RTA HERITAGE ITEMS

Condition	Number of RTA Heritage Items
Good	177
Fair	109
Poor	77
Not known or applicable	53
Total	416
State Heritage Register Listings	35

State Heritage Register

The NSW Heritage Council approved an application under Section 60 of the *Heritage Act 1977* for a Statement of Heritage Impact assessment to be carried out on the proposed timber pier replacement of Tabulam Bridge, Tabulam.

Information regarding approved works on several of the 35 State Heritage Register listed items controlled by the RTA is provided in table 10.

TABLE 10. PROGRESS UPDATE FOR STATE HERITAGE ITEMS

Heritage item	2006–07 progress
Junction Bridge, Tumut (Item 430007)	Addendum Statement of Heritage Impact for the pier replacement on Junction Bridge, Tumut.
Glennies Creek Bridge, Middle Falbrook (Item 4300131)	Statement of Heritage Impact for the replacement of Abutment A on Glennies Creek Bridge, Middle Falbrook
Carrathool Bridge over the Murrumbidgee River, Carrathool (Item 4300165)	Statement of Heritage Impact for replacement of timber stringers and barrier replacement on Carrathool Bridge over the Murrumbidgee River, Carrathool.

Movable heritage

The RTA's collection of memorabilia relating to the Sydney Harbour Bridge was loaned to the Historic Houses Trust for the 'Bridging Sydney' exhibition celebrating the bridge's 75th anniversary. Items displayed from the collection included a commemorative scroll, invitations to the opening day ceremony, a menu signed by JJC Bradfield, commemorative matchbook covers, toll collectors' bags and rare items associated with the bridge.



The RTA donated a valuable collection of road-related memorabilia, belonging to Hugh Hamilton Newell, to the State Library of New South Wales for safekeeping.

The RTA also donated a valuable historical collection relating to Hugh Hamilton Newell, Commissioner for Main Roads from December 1932 until his sudden death in 1941, to the State Library of New South Wales. The collection, accumulated by Newell's family, included a range of items such as manuscripts, certificates, opening ribbons, photographs, letters, telegrams and newspaper articles. The collection was given to the RTA by Newell's grandson in 1999. The gem in the collection is a rare document signed by King Edward VIII. The document, a 'Grant of the dignity of a Commander of the Civil Division of the Order of the British Empire', otherwise known as an OBE, was awarded to Newell on 23 June 1936. The order is signed

by Edward and his mother, Queen Mary. The collection makes a valuable contribution to the NSW historical record and will be housed in the Mitchell Library.

Heritage bridge signage

The RTA is developing commemorative signage for heritage bridges as part of the management and interpretation of its heritage items. The signs display the name of the bridge, crossing and bridge design, as well as a drawing depicting the truss style. The first sign was installed at Junction Bridge over Tumut River; a McDonald Timber Truss bridge built in 1893. Signs will be rolled out across the State as refurbishments of bridges are completed. A study exploring the detailed management of RTA timber truss bridges was also commenced.



The RTA has developed signs to inform the community about heritage bridges. The signs inform motorists of the age and design of the bridge they are crossing.

Sydney Harbour Bridge 75th anniversary and national heritage listing

The Sydney Harbour Bridge celebrated its Diamond Jubilee on 19 March 2007. The 75th birthday celebrations were held on Sunday 18 March and were complemented by the Australian Government's announcement of the addition of the bridge to the National Heritage List. An oral history was recorded on the day. The celebrations were further complemented with an exhibition about the bridge at the Museum of Sydney.

Heritage asset management strategy

The 'State Agency Heritage Guide (Heritage Office, 2005)' requires all State agencies to develop heritage asset management strategies. The RTA Heritage Asset Management Strategy is being developed and will be submitted to the Heritage Council of NSW in 2007.

Conservation Management Plans

An updated version of the Conservation Management Plan for the Sydney Harbour Bridge was endorsed by the Heritage Council of NSW. A second version is being prepared for endorsement to take into account the national heritage values of the bridge, gazetted by the Australian Government on 19 March 2007 for the listing of the bridge on the National Heritage Register.

Oral History Program

Oral histories provide important records of the changing landscape and represent first hand experiences of individuals. The following oral histories were completed during 2006–07.

- 'Building Bridges', the second phase of the Lawrence Hargrave Drive dealing with the construction phase of Sea Cliff Bridge through to the opening ceremony, was released.
- The Remembrance Driveway and VC Rest Areas oral histories were launched on the 8 November 2006 on the occasion of the dedication of the Westlink M7/M5 Interchange as the Sir Roden Cutler VC Memorial Interchange. A Victoria Cross Rest Area in nearby Ash Road, Prestons, was also dedicated to Sir Roden.
- 'A Vital Link: The Euston to Robinvale Murray River Crossing' was completed.
- 'The Karuah Bypass' oral history was commenced. When completed, a compilation CD will be released highlighting key similarities and differences between the experiences recounted in the Karuah, Goulburn and Armidale bypasses oral histories.

All oral history materials are available for purchase through the RTA Library and MP3 versions of the compilations are available for download on the RTA website.

NATURAL RESOURCES AND WASTE

Waste

The RTA has a statutory requirement under the *Waste Avoidance and Resource Recovery Act 2001* to report on the implementation of its Waste Reduction and Purchasing Policy.

During 2006–07 the following waste reduction, recycling and resource recovery initiatives were progressed.

Offices and general procurement

- In May 2007 most general use computers throughout the RTA had the printer drivers programmed to automatically select double sided printing. It is estimated that this will reduce total paper use in the organisation by up to 40,000 sheets per month.
- The RTA entered into a contract for the supply and maintenance of multi function (printer, fax and photocopying) machines. The contract includes the supply of high recycled content printing paper, take back and recycling of all toner cartridges. The contract also resulted in a significant reduction in the number of units used across the organisation.
- In June 2006, the RTA commenced an environmental risk assessment into the re-use of treated bridge timbers. At present bridge timbers are not being re-used due to concerns about surface treatment chemicals. Depending on the outcome of the risk assessment it is expected that a re-use trial will commence with a timber recycler in late 2007.
- Supply chain environmental management training was provided to the RTA's Strategic Procurement Group in late 2006. The training provided tools and guidance on how to incorporate the consideration of environmental management issues such as waste minimisation when tendering for goods and services. Since the workshop, environmental management considerations have been included in some major supply tenders including the supply of road signage.

TABLE 11.

Purchase of recycled content office materials 2006–07		
Office product	Total quantity purchased	Total quantity purchased with recycled content
A4 paper	72,319 reams	33,610 reams
A3 paper	2732 reams	1525 reams
Printing and publications paper	86,647 reams	23,968 reams
Office products recycled 2006–07		
Office product	Total quantity generated	Total quantity recycled
Toner cartridges	3842 units	2881 units
Computers (desktops and laptops)	3511 units	3511 units
Computer monitors	2985 units	2985 units

Construction and maintenance

The RTA continues to beneficially use waste materials in its construction and maintenance activities. Examples of major construction related waste re-use projects during 2006–07 include:

- Approximately 170,000 tonnes of crushed steel slag was used in the subsurface pavement during construction of the North Kiama Bypass. An additional 70,000 tonnes of steel slag aggregate was incorporated into the asphalt surface layer. Slag is a waste product that is produced during the steel making process and for this project it was sourced from the steelworks at Port Kembla located approximately 35 kilometres from the construction site.
- About 1500 tonnes of fly ash were incorporated into the 12,000 cubic metres of concrete used in the construction of the Sea Cliff Bridge at Stanwell Park. Power station fly ash is commonly added to concrete mixtures as it has cement like properties. Re-use of this common industrial waste material reduced greenhouse gas emissions that would otherwise have been produced by the increase in cement use.
- Upgrading works of the Pacific Highway at Bonville set an environmental example by recycling trees that were cleared. Logs of milling quality were sent to saw mills for processing or turned into fence posts on site. Poorer quality logs were used to make fauna friendly structures like koala and glider refuge poles, or sold as firewood. Tree roots were given to the NSW Riverbank Program for stream bank rehabilitation projects. The remaining tree limbs, roots and mulch were laid across exposed soil to help stop erosion and provide a surface for revegetation.
- Upgrading works on Cowpasture Road, Hoxton Park involved the use of a commercially produced recycled product made of recycled concrete and quarry scalps or crushed bricks. This product was used in the base layer of the road pavement and has been found to be particularly beneficial in situations where a more flexible pavement is required.
- Spoil-sandstone recovered from the Lane Cove Tunnel projects was re-used as the base layer in the widening of the southbound

lanes on the M5 Motorway. In the north bound lanes, existing pavement was milled and augmented with other materials before being re-used in the upper road layers.

Future challenges of managing natural resources and waste

The challenge for the RTA is to continue to increase the use of recycled materials in its construction and maintenance projects.

During the coming year the RTA will be developing recycled material guidelines and training programs to better educate road designers, project managers and others on the environmental and economic benefits of using recycled materials.

The RTA is also partnering with the DECC and private companies to trial the use of materials such as waste crushed glass in road pavements.

GREENHOUSE AND ENERGY

Energy usage

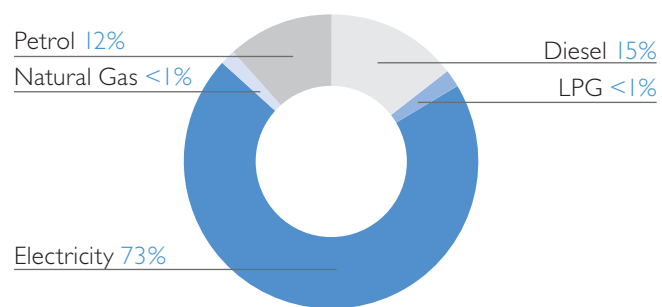
The RTA's construction, maintenance and administration activities are by their nature relatively energy intensive and result in the use of large amounts of electricity and fuels.

The major direct energy uses in the RTA include electricity to operate traffic signals, street lights and buildings and diesel and petrol which is used in road machinery and RTA vehicles.

The RTA also uses minor amounts of LPG and natural gas in some operations such as heating for buildings, light vehicles and in the manufacture of asphalt.

All of these energy uses generate greenhouse gas emissions. Figure 12 below shows the proportion of the RTA's direct greenhouse gas emissions by energy source for 2005–06. More up to date energy usage data for 2006–07 will be available in late 2007.

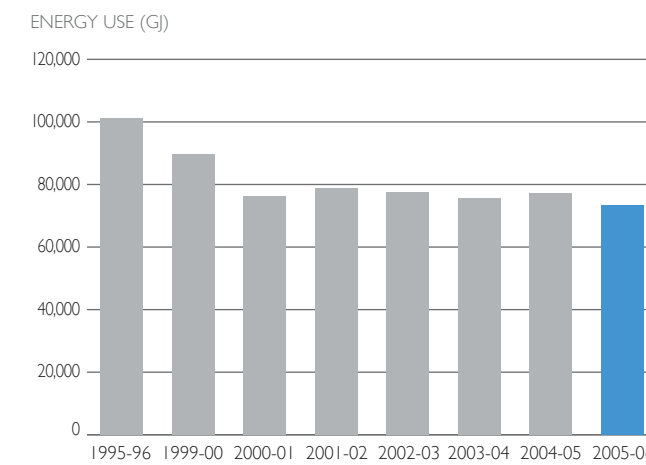
FIGURE 12.



The RTA is committed to reducing its energy use through the implementation of the NSW Government Energy Management Policy (GEMP). This policy aims to reduce energy consumption and greenhouse gas emissions from government operations.

The GEMP includes a target of reducing the energy consumption of government buildings by 25 per cent by 2005–06 (compared to 1995–96 baseline levels). This target has been met by the RTA with building energy consumption figures for 2005–06 showing an overall 27.8 per cent reduction in building energy use when compared to 1995-96 levels (see figure 13).

FIGURE 13. RTA BUILDING ENERGY USE



The reduction in building energy consumption has been achieved through:

- Installation of energy efficient light globes and removal of unnecessary fluorescent lighting tubes in the larger RTA office buildings.
- Installation of timer switches on kitchen hot water units.
- Adjusting the operating times of air conditioning equipment in large buildings.
- Installation of zoned lighting systems in major RTA buildings.
- Installation of smart meters in key RTA offices which analyse the electrical load profile of a building and assist in the identification of wasteful energy use practices.
- Conducting energy audits of all major RTA buildings and implementing energy efficiency recommendations.

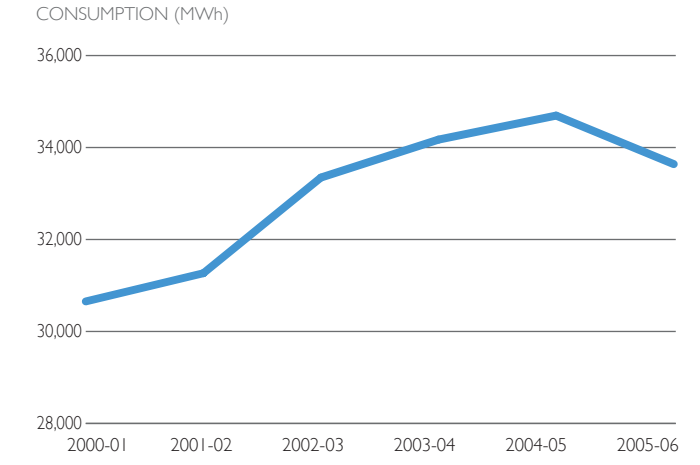
During 2006–07 additional energy efficiency measures were implemented, the result of which cannot yet be demonstrated with 2006–07 data. Measures included:

- The RTA continued to replace the State's older incandescent traffic lights with new highly efficient light emitting diode (LED) technology. When the project to replace LED lanterns at more sites is complete in 2007–08, it will result in an annual greenhouse gas emission reduction of more than 10,400 tonnes which is equivalent to the annual emissions produced by 2360 cars. Reductions in the energy consumed in the operation of traffic signals is already being realised as a result of this project (see figure 14).
- The 'EnergyStar' feature was activated allowing computer screens and hard drives to automatically switch into a low power or 'sleep' mode whenever a computer is left inactive for a set period of time.
- Ongoing purchase of accredited Green Power electricity.

In relation to the RTA fleet:

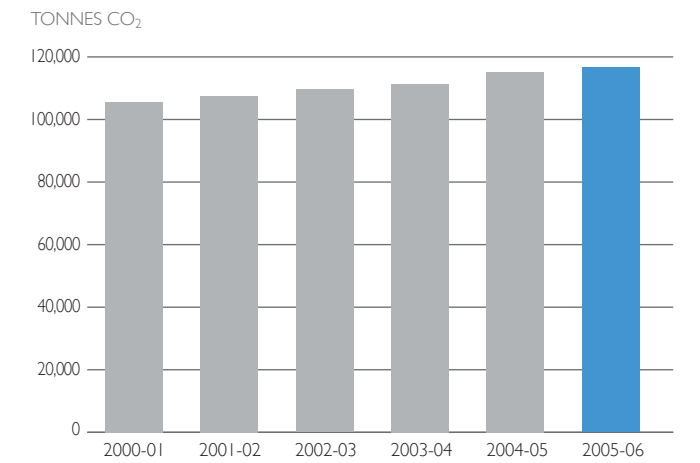
- The number of petrol-electric hybrid vehicles was increased from 23 to 34 (or two per cent of fleet).
- Motor vehicle choice has been changed to encourage selection of vehicles with a high environmental performance and to exclude vehicles with a low performance.
- Use of ethanol blended fuel has been encouraged where it is available.
- The vehicle pool has been changed to incorporate those with better environmental performance.

FIGURE 14. ELECTRICITY – TRAFFIC SIGNALS



Despite the improved energy efficiencies stated above, overall the RTA's total direct greenhouse emissions increased by 1.3 per cent in 2005–06 when compared to 2004–05. This is mainly attributable to increases in diesel consumption, increases in street lighting energy use and increases in the carbon dioxide emission rates associated with electricity used in NSW (The Australian Greenhouse Office provides annual emission rates for electricity consumed in each State. In 2006 the emission rate for electricity in NSW increased).

FIGURE 15. TOTAL GREENHOUSE GAS EMISSIONS



Earth Hour

The floodlights were turned off on three of Sydney's iconic bridges for an hour on 31 March 2007 in support of Earth Hour. The action, taken on the Sydney Harbour Bridge, Anzac Bridge and Northbridge Suspension Bridge, was a show of support for the initiative designed to increase awareness of global warming. All administration and office sites were switched to an economy cycle. This meant that all lighting was switched off except for emergency lighting. Motor registries and depots used energy deemed necessary to ensure security.

Future challenges

The challenge for the RTA is to achieve a reduction in overall greenhouse gas emissions despite the factors outlined above.

'The Green Plan' forms part of the future corporate plan. It outlines the direction for 2007–08 and will assist in management of greenhouse gas emissions and in other aspects of environmental management. The three main components of the plan include:

- Green leadership in research policy and communication. The RTA needs to demonstrate leadership in areas in which it has influence. This will be achieved by developing research and creating policies that show how the impact on the environment will be reduced.
- Develop green partnerships. The RTA will work with the Department of Environment and Climate Change (DECC) to deliver environmental results under the NSW State Plan. The RTA will also work in partnership with industry, customers and other government departments.
- Reducing the RTA's footprint. Minimising the RTA footprint in greenhouse gas emissions and energy sets an example for others to follow. The RTA will reduce the impact of road projects on biodiversity and cultural heritage, increase the use of recycled materials in construction and maintenance, reduce the environmental impact of the RTA's properties and its fleets. It will also examine opportunities to avoid generating waste and reduce the environmental impact of goods and services supplied to the RTA.

LAND AND WATER

Managing erosion and sedimentation controls on construction sites

The RTA has continued to implement the Erosion and Sedimentation Risk Assessment Procedure for identifying high risk projects in the concept stage. It has registered 49 projects as high risk projects for erosion and sedimentation control.

Early recognition is required to prevent erosion risk and to ensure designed controls are adequate to meet the requirements of NSW guidelines. Soil conservation experts are also contracted to provide construction design expertise and site inspections of high risk sites to ensure appropriate implementation and maintenance of erosion and sedimentation controls is undertaken.

The RTA proactively reports environmental incidents on all its construction and maintenance sites to DECC.



Mulch bank for sediment control along a road at Bonville on the North Coast of NSW.

Training

An additional 72 RTA project managers and targeted environment and design staff undertook the two day erosion and sedimentation training in the past year. The RTA is committed to the continued training of key staff in the design, installation and maintenance of erosion and sedimentation controls.

Policy development

The RTA is working with DECC to finalise the road and highway chapter of Volume 2 of the Landcom document 'Managing Urban Stormwater – Soils and Construction' (The Blue Book). Volume 2 will provide industry-specific guidance for soil and water management on operations other than urban development sites – including road and highway construction, landfills, mines and quarries and unsealed roads. The RTA has prepared draft specifications to implement the requirements of Blue Book Volume 2 on approval by DECC.

The RTA has funded a combined modelling project with DECC to assist in determining the appropriate sedimentation control sizing criteria. Outcomes include completed modelling of sediment loads eroded from construction sites in six climatic regions of NSW. Hydrodynamic modelling of sedimentation basins has also been completed to determine the sediment capture rates of differently sized basins. The final stage, water balance modelling to determine the output of sediment from differently designed basins under long term recorded rainfall conditions, commenced in June 2007.

Policy for use of reclaimed water on construction sites

In December 2006, the RTA released an environmental and OHS policy to facilitate the use of reclaimed water on construction sites while maintaining worker safety and environmental protection. The use of reclaimed water for construction purposes is encouraged by the RTA to preserve water storage for higher level uses such as drinking water.

The policy positions have been developed to meet the requirements of the National Water Quality Management Strategy 2000.

Collection and reuse of rainwater at RTA depots

An upgrade of works depot sites to collect and reuse rainwater was commenced including the development of a prototype rainwater collection system at Granville. An additional \$1 million has been allocated to continue the upgrades as a priority project in 2007–08. This rainwater will be used for grey water purposes such as cleaning vehicles and equipment and for use in amenities blocks. A priority site list has been developed with the emphasis on larger sites and those most affected by drought conditions.

RTA Depot Environmental Improvement Program

Environmental improvement works on RTA Depots and other fixed sites continued across NSW over the past year. One and a half million dollars was spent on the clean up of contamination on several RTA depots including Bellambi, Broken Hill, Rockdale, Tumut, Granville and Finley.

Contaminated land

The RTA has continued to identify and manage potentially contaminated sites following the procedures in its Contaminated Land Management Guideline. Identification of potentially contaminated sites is required to determine potential liabilities in the purchase of land, and to ensure that land sold by the RTA is suitable for the intended purpose of the site.

Case Study

Investigation and management of contamination – Tourle Street Bridge, Mayfield West, Hunter Region

The RTA is replacing the Tourle Street Bridge in Mayfield West, Hunter Region. The new bridge will comprise an eight span structure with one lane in each direction, two metre shoulders on both carriageways and a pedestrian walkway.

Potentially contaminated material was identified in 2006 below the site on the southern approach to the bridge. Detailed soil and groundwater investigations contracted by RTA identified a gravel layer of fill material approximately one metre thick that is contaminated with polycyclic aromatic hydrocarbons (PAHs) and total petroleum hydrocarbons (TPH). The RTA engaged a DECC Accredited Contaminated Site Auditor to oversee the project.

DECC has undertaken an assessment of the risk of harm posed by the contamination and concluded that there are no reasonable grounds to believe that the contamination presents a significant risk of harm to human health and the environment. DECC noted that the nature of the contamination appears to be consistent with that on adjacent and nearby sites resulting from previous industrial activities and filling operations.

The RTA is progressing with the delivery of the project by identifying all potential impacts on the contamination as a result of construction activities, and providing mitigation strategies to prevent any displacement of the contamination. This includes contingency measures during construction and longer term monitoring to ensure that on-site contamination does not become mobilised during construction or operation of the road.



VALUE FOR MONEY



The RTA delivers value for money by building stakeholder relationships to ensure effective road transport outcomes. The chapter page pictures Chief Executive Les Wielinga, accompanied by the Hon. Eric Roozendaal, Minister for Roads, addressing community members at the opening of an infrastructure project. The RTA further involves the community by naming bridges after influential local identities and pioneering families.

The RTA takes its role as a service provider very seriously. The relationships it has with its stakeholders are integral to effective road transport outcomes. The RTA strives to provide optimal customer service, to be an employer of first choice and to work cooperatively with its strategic partners. These objectives ensure the RTA delivers value for money to the NSW Government and community.

CUSTOMER SERVICE

Motor registries

The RTA completed around 19 million registration and licensing transactions in 2006–07 for the 4.58 million drivers and riders and 5.08 million registered vehicles in NSW. This compared to 17 million transactions for 4.47 million drivers and riders and 4.97 million registered vehicles in 2005–06. Further details can be found in appendix 22. These transactions are delivered face-to-face in motor registries, by telephone through the RTA Contact Centre, and online.

The RTA has a network of 129 motor registries and a Contact Centre in Newcastle. Five Government Access Centres (GACs) and 33 agencies also provide RTA services. Services are also provided at 40 itinerant sites in remote areas. An itinerant site is a location that RTA staff visit to provide transactional services including knowledge and driver testing. This network of locations minimises travel and provides more convenient access for customers in regional locations. See page 224 for contact details.

More than 93 per cent of customers rated motor registry services 'good' or 'very good' in a survey conducted in May 2007.

The 2006 Motor Registry of the Year staff award was jointly won by one of the smallest and one of the largest registries in NSW. The Hay registry with three dedicated staff was a joint winner with the Campbelltown registry which ranked the highest for transactions per hour and customer service feedback.



RTA Contact Centre

In May 2007, the RTA Contact Centre was recommended for certification to the international Information Security Management standard which requires a system that ensures confidentiality, availability and integrity of information.

The contact centre provides accurate and timely licence, registration and tolling services over the phone. Centre staff play an active role in information security and have contributed to cost-saving process improvements.

Government Access Centres

The Government Access Centre (GAC) program continued in 2006–07, providing an alternative service delivery option for customers and enhanced partnering arrangements with government services providers. The program provides access to NSW Government information and services in rural and remote areas. In 2006–07 more than 22,000 transactions ranging from receipting payments to providing information and referrals for agency services were completed on behalf of nine key State Government agencies. These services were provided in addition to the GAC's host agency core business.

Innovations in registries

NSW Maritime Authority transactions

The RTA enhanced the partnering arrangement with the Maritime Authority by expanding the number of motor registries providing a selected range of recreational boat licensing and registration services in motor registries from May 2007. The following Maritime Authority transactions can now be completed:

- Boat and personal water craft licence knowledge testing.
- Acceptance of payments for renewal of boat registrations.
- Acceptance of payments for the renewal of boat licences.
- Acceptance of payments for renewal of mooring licences.
- Changes to vessel details.
- Changes to customer details.

The RTA and the Maritime Authority are sharing premises at Wagga Wagga Motor Registry to increase customer access by locating services in a single location. The co-location initiative allows agencies to share accommodation and utility costs and provides greater utilisation of government assets.

Identity management

The Proof of Identity Unit, established in March 2006, assists motor registries with high-risk or difficult identity management issues. The purpose of the unit is to help strengthen the RTA's customer enrolment processes (verifying customer details), reduce opportunities for the issue of inappropriate documents that could foster identity fraud and improve links with other identity issuing agencies. The RTA has undertaken the Austroads sponsored trial of facial recognition software.

The RTA is participating with Austroads to investigate new technologies to enhance identity security.

Touch screen monitors

Touch screen monitors have been installed in RTA motor registries and testing agencies. They provide enhanced screen clarity and incorporate a new privacy film coating that ensures only the person sitting directly in front of the computer can see the screen image. The monitors have a 16 microsecond response time to a touch and have a colour resolution of 16 million colours.

The monitors are used by customers doing their Driver Knowledge, Hazard Perception and Driver Qualification tests to obtain Learner, Provisional P2 and unrestricted licences. Almost half a million computer based licence tests are taken each year.

Registry technology update

The rollout of the new EFTPOS system to registries was completed earlier in the year and the conversion of the eBusiness applications was finalised in May. All licence and registration EFTPOS related transactions are now being processed through the new system and the old system is scheduled to be decommissioned in 2007.

MANAGEMENT OF THE AUSTRROADS REGISTRATION AND LICENSING TASKFORCE

The Austroads Registration and Licensing Task Force was established to assist road and transport agencies in their efforts to improve the security and integrity of vehicle registration and driver licensing systems, and to promote national consistency. The strategic priorities are focused on the following initiatives:

- Data integrity – national consistency and accuracy.
- Using technology to improve data security.
- Data exchange.
- Managing access to information.



The RTA's international reputation for excellence was recognised recently when two officials from Hong Kong's transport department visited. Seeking to establish a program for testing disabled drivers, the officials came to review the RTA's program and its training of examiners.

Future customer service challenges

- Support NSW State Plan focus on increasing customer accessibility, streamlining processes, and increasing the satisfaction of RTA services to customers.
- Further enhance the security of customer information, including proof of identity developments.
- Ensure a greater level of consultation with customer groups and increased community involvement

ONLINE SERVICES

Expansion of online services

The expansion of online services continued in 2006–07, including:

- Extension of E-Toll services (currently over 70,000 customers use the online E-Toll application regularly).
- Expansion of the online council agency network to 75 per cent.

- Enhanced dealer online system. More than 297 Authorised New Vehicle Inspection Scheme (ANVIS) dealers are participating in the scheme.
- Motor dealers, registries and the public can see the latest road vehicle descriptions including new car information such as cylinders and emissions online.
- As at June 2007, 14.3 per cent of weighted transactions were completed online.
- Ability to book rider training and rider tests in the online booking system.
- Introduction of BPAY service for myRego transactions.
- Pre-enrolment for the Intelligent Access Program with more than 90 per cent of transactions performed online at June 2007.

Self-service business, internet business and other automated services, increased from eight per cent in June 2006 to 14 per cent in June 2007.

Customers can go to myRTA.com anytime of the day or night to renew vehicle registrations, order customised number plates, book a licence test, change address details and check demerit points.

RTA website

The RTA website recorded 13.97 million visits, a 23 per cent increase on 2005–06. The site continues to maintain its unrivalled position as the most visited NSW Government website, also ranking sixth in Australian government sites.

The myRTA.com page recorded 1,533,362 million visits, a 39.2 per cent increase on 2005–06. Just under one million demerit point checks were completed through the RTA website and 12 per cent of all registration renewal transactions were completed online.

The RTA has introduced a project to provide a secure user ID and password for the public to access online services. This will pave the way for expanding the use of RTA's current online services and provide a better service to the public. This is due to be implemented later this year.

The RTA has upgraded the 'Live Traffic' page on its website with the addition of 14 new cameras. There are now 24 cameras within the Sydney region that are accessible online assisting Sydneysiders to navigate the road network.

e-Safety check

All light vehicles, unless exempt, require a pink slip inspection report of roadworthiness. Pink slips are issued by Authorised Inspection Stations and prove that a vehicle has passed the required roadworthiness standards. An e-Safety Check is a pink slip report which is sent to the RTA electronically. Through a package of measures, the RTA increased the number of pink slips which are completed online to 57 per cent in 2006–07, up from 34.4 per cent in 2005–06.

e-Permits

In June 2007, an e-business facility was launched for transport operators who require Special Permits to move oversize or overmass loads. These loads can range from house moving through to the movement of major pieces of industrial plant and mining machinery. Over 30 per cent of Special Permit applications are now occurring online using this new service.

Electronic Road Vehicle Descriptor (RVD) sheets

RVDs provide technical information on the individual vehicle models, including trailers, in the Australian vehicle fleet. They are used by the auto-trades industry and also assist in the registration of vehicles entering the NSW fleet.

In 2006–07, the RTA successfully withdrew from paper distribution of RVDs, moving first to distribute RVDs in electronic format via a CD and then migrating this electronic format into online delivery via myRTA. Industry response to the improved convenience and security has been positive.

Motorways website

The completion of the Sydney Orbital Motorway network highlighted the need for a website to provide a single source of information about all Sydney motorways. The website www.sydnemotorways.com allows motorists to plan their trips using the motorways. By selecting an entry point and possible exit points, motorists can calculate the distance, motorways travelled on and the toll cost. There are detailed maps of every intersection, live traffic camera feeds, a street directory grid reference and information about every motorway that makes up the network.

New plate styles – online auction

The RTA continued to offer new styles of number plates with the release of slimline black Euro number plates in November 2006. A limited range of personalised black Euro number plates were auctioned, along with a small range of numeral-only vitreous enamel plates. Bidders were required to pre-register online. The auction raised \$4.1 million for road safety.

Limited edition Sydney Harbour Bridge shaped number plates were also released to commemorate the 75th anniversary of the Sydney Harbour Bridge in March 2007. These were sold in an online auction, raising more than \$520,000 for road safety funding. Standard issue Sydney Harbour Bridge number plates were released and the proceeds from the sale of 212 of these plates have also been directed towards road safety initiatives.

In early 2007 the RTA released coloured and metallic number plates for motorcycles and new personalised options, such as B3TTY, CHOPA, HARLY and HONDA. These new motorcycle number plates continue to be popular.

This year, more than \$4 million was received through online number plate sales and over \$1 million in telephone sales. The total income from the sale of number plates was more than \$66 million, all of which is to be directed into road safety initiatives.



An auction of limited personalised Black Euro number plates and rare numeral-only plates raised \$4.1 million for road safety.

Future challenges for online services

- Develop and implement online auctions for number plates.
- Develop an online system to bring sellers of number plates together with potential buyers.
- Further develop the range of heavy vehicle related e-services. This includes introducing interactive restricted access vehicle maps with search and zoom functions and introducing performance based standards vehicles with full online application and enrolment processes.
- Move to online mapping and route (access) requests.
- Develop a secure log-in facility where customers can manage all aspects of their fleet and review their compliance with RTA requirements.
- Establish e-business applications to manage incremental pricing trials.
- Assist all authorised inspection stations to obtain e-Safety Check accreditation prior to it becoming compulsory on 1 July 2008.

BUSINESS IMPROVEMENTS

Business Reform Program

The Business Reform Program was established late 2004 to drive improvements to organisational performance and ensure the RTA delivers integrated, efficient and customer focused services. The program is progressively reviewing the RTA's business to identify key areas for improvement.

The Business Reform Program supported the Chief Executive in the design and implementation of a major refocus of the organisation in October 2006. The RTA reorganised its directorate structure to improve its capacity to meet the challenges and priorities set by the NSW State Plan to provide better outcomes for communities across NSW.

Business Reform continues to support the RTA's refocus through a program of work designed to progressively build organisational capability in critical areas and ensure best alignment of organisational resources and processes to strategic community outcomes.

Other improvement initiatives during 2006–07 include:

- Development of a new operating model for the Engineering Technology Branch. Three new principal engineer positions were established for the critical areas of bridge technology, geotechnical and road pavement. The positions are accountable for driving technical capability improvements, developing high quality solutions to technical challenges, management of high level risks for major infrastructure projects, along with developing core skills and matching capabilities to projected annual requirements. The positions will provide industry leadership in developing capability and capacity.
- Implementation of new directions for the RTA's legal and environment functions to improve management of critical risks and the quality of advice to RTA managers. This involved the specialisation of legal portfolios for corporate law, environment and property law, infrastructure and road transport law. The General Counsel will also be accountable for knowledge retention as experienced employees leave the workforce.
- Review of the Road and Fleet Services business strategy. This involved matching staff numbers, crew sizes and depot locations with the projected size of the business and reviewing management and process issues. The benefits of cost savings, rationalisation of crews and depots and full implementation of alliance arrangements was reflected in lower overheads, increased income, productivity and operating surplus that was returned to RTA programs.

A key component of the Business Reform Program is an RTA-wide organisational assessment to be undertaken in 2007–08. This project will build on preliminary work in the Major Infrastructure Directorate in the first half of 2007 and will assist the RTA to refine its operating models, improve its high level processes and ensure resources are allocated effectively.

Integrated Management System (IMS)

The IMS continued to support key corporate initiatives and projects such as the implementation of an Executive dashboard to provide finance and human resources reporting. The extension of Employee Self Service has enabled staff to book training courses online and allowed the RTA to manage training and development needs. The online system training tool has also been extended to provide more than 100 tutorials. The tool provides on-demand user-driven training to increase performance and support face-to-face training workshops.

During the year the Project Management System was enhanced to provide project managers with a more efficient means to update the status of their projects.

Work has also commenced on two important projects. The first is an OHS and Environment Incident Reporting System to enable staff to report online via the intranet. The second is to implement a comprehensive time sheeting/internal billing system within Employee Self Service.

Voice Over Internet Protocol (VOIP)

The VOIP is an 18 month project to replace the RTA's voice equipment, which is up to 15 years old and beyond its economic life. The current internal voice network is based on obsolete architecture and the data network equipment (switches and routers) require significant upgrade to improve speed, memory and current features. Implementation of the VOIP equipment will:

- Implement appropriate Service Level Management currently not available to ageing equipment.
- Reduce total cost of ownership.
- Improve service.
- Integrate more easily with PC applications.
- Provide a more powerful, centrally controlled telephone system.
- Deliver optional new services in the future such as video/ audio conferencing from desktop and multimedia applications like e-learning.
- Reduce operating costs by 25 per cent.

Server consolidation

The Server Consolidation Program involved the consolidation of servers in the DRIVES, e-Business and SAP environments utilising newer technology hardware platforms and corresponding software releases. Within the three work environments 52 servers were reduced to 16. This will lead to a significant reduction in leasing costs, data centre hosting charges, and hardware maintenance costs.

Some additional application enhancements were made to make use of newer hardware/software functionality. This will make planned application upgrades more cost effective in the future. Further server consolidation in other business areas is scheduled for 2007–08 as part of the Infrastructure Capacity Plan.

IT benchmarking

In 2004, after a public tender, the RTA and Fujitsu entered into a contract for the provision of certain Infrastructure Services (the Data Centre contract). Under that agreement the RTA and Fujitsu periodically benchmark the IT services, and compare those services to the Australian market. It was agreed to engage an external organisation to conduct these periodic benchmarks. The recent benchmark data for the Value for Money assessment shows that the cost to the RTA of all services provided by Fujitsu continues to be lower than the comparison peer group.

Over the last two years the RTA and Fujitsu have implemented improvement projects which have reduced data centre operating costs by up to \$1 million per annum.

Low cost desktops

After successfully deploying desktops to motor registries using non-proprietary software and saving \$2 million per annum, the RTA conducted trials of various low-cost desktops for its corporate environment. This involved working with the market to provide a centralised open standards desktop model. The trials concluded that the technology is not currently available or mature enough to make the implementation cost effective, and the decision was made to review the situation next year. The RTA remains committed to using non-proprietary software to reduce operational costs.

DRIVES realignment project

DRIVES is the core IT system used to manage driver licensing and vehicle registration across NSW. This system is more than 15 years old and has become progressively more difficult to maintain. The RTA conducted a careful analysis of the basic coding structure of DRIVES and concluded it to be a robust and sound system. Faced with a replacement cost of over \$100 million, the RTA has chosen instead to restructure the code for the system in a three year process that will make it easier to maintain and support improved service delivery. Restructuring the code has commenced with outsourced partners and is expected to increase the life of DRIVES by more than 10 years. Internal improvements in development tools and processes are also reducing maintenance and development costs.

IT security accreditation

In continuing to enhance the security of customer information, the RTA successfully underwent audits in three areas of its operations, the Transport Management Centre (TMC), the RTA Contact Centre and Information Management and Information Technology. The audits were to ensure compliance with the current international information security standard ISO 27001. This is part of an ongoing program of compliance involving maintenance and periodic upgrade of information security within the RTA. The standard requires that risks to information be managed to reduce the likelihood of breaches of confidentiality, compromises in integrity or system failure which prevents access to information.

Corporate data warehouse

A new corporate data warehouse has been implemented. This will improve access to information by enhancing the ability to query and analyse data. The data warehouse will consist of data collected from the databases of corporate systems, and other sources where appropriate, to deliver better integration, access and consistency. The data will be loaded incrementally and integrated to build up the content of the warehouse. Initial adopters of the warehouse include management information for the RTA Compliance and Freight Strategy Branch.

Innovative accommodation

A major project at Argyle Street Parramatta to consolidate office accommodation for staff in western Sydney is well advanced and should be available for occupation from August 2007. The office has a contemporary open plan design to provide a flexible and efficient work environment. The open plan arrangement is supplemented by break-out rooms. The décor of the accommodation reflects the diversity of the NSW community and geography. A staff group provided input to décor and furniture selections, facilities and functionality.

The design has utilised eco friendly and energy wise concepts. This move has also provided the opportunity to implement industry best practice in IT server technology with a high speed network being used to connect the Argyle Street building with the pre-existing Parramatta office.

In an example of business continuity planning, the Argyle Street building has the capacity to run the TMC.

The Document Management Centre, which is responsible for the storage of all RTA records, will relocate to new premises in

August 2007 at Auburn in Sydney. The new premises have been purpose designed and will increase storage capacity by up to 40 per cent to meet expected demand over the next five to 10 years. The centre comprises state-of-the-art storage and retrieval facilities as well as other new warehouse management and energy efficient technology.



RTA staff members in their new premises at Argyle Street, Parramatta.

Future challenges for business improvement

- Continue to work on key reform projects involving substantial redesign of RTA systems of work, structures, jobs and business processes.
- Develop and implement new arrangements for Infrastructure Maintenance to improve the planning, delivery and integration of this critical function with other RTA programs.
- Manage a range of key project initiatives across the organisation, including the implementation of the new NSW Centre for Road Safety.
- Establish new strategic directions and identify opportunities to drive improvements to the traffic management and engineering functions.
- Identify further opportunities to simplify business processes and reduce administrative support and overhead costs.

STAFF

Workforce capability

The RTA workforce is as diverse as the operations and services it undertakes. Staff include engineers, vehicle regulation inspectors, surveyors, environmental managers, traffic technicians, bridge workers, laboratory assistants, emergency breakdown officers and welders.

About 48 per cent of staff are employed in country locations, with 31 per cent of regional employees being wages staff and some 69 per cent salaried employees. Many RTA motor registry and contact centre employees are engaged in permanent part-time work. For more information about the RTA's staff numbers and status, see appendix 5.

The RTA's Hunter Region was awarded a Defence Reserves Support Council Certificate of Recognition by the Department of Defence at the Employer Support Awards.

TABLE 12. TOTAL EQUIVALENT FULL-TIME EMPLOYEES BY CATEGORY

Year	Salaried Staff	Wages Staff	Casual Staff	Total Staff
2003–04	5225	1636	46	6907*
2004–05	5228	1615	26	6869
2005–06	5150	1750	22	6922#
2006–07	5173	1718	33	6924

* From 2003–04 the equivalent full-time (EFT) count includes additional time worked by part-time motor registry staff.

School crossing supervisors became part of the RTA workforce effective October 2005.

The RTA is an equal opportunity employer and service provider. Information can be found in appendix 6.

Internal communications

With 6924 staff geographically spread across NSW, internal communications is an important function within the RTA. For dissemination of staff news, major policies and organisational announcements there are three main communications channels: intranet news, the Chief Executive's monthly team brief and the staff magazine, *Momentum*.

A confidential survey has been conducted on the effectiveness of internal communications. The survey results will be assessed and used to improve communications channels.

Staff awards

The RTA Staff Awards were launched in 1997. The awards scheme recognises excellent performance in areas of critical importance to the RTA and provides an opportunity to acknowledge and reward staff who have made an outstanding contribution to the organisation. An awards presentation ceremony was held on 17 November 2006. The Minister for Roads attended to present the 21 staff awards to 154 winners. Winners include staff from Hay, Grafton, Parkes, Newcastle, Sydney, Bega, Wagga Wagga and Wollongong.

Six new categories have been added in 2007.

Leadership survey

The RTA has adopted a Leadership Framework that reflects the organisation's core values and the key behaviours needed to drive the RTA's leadership and management capability.

An online assessment tool and coaching has been implemented to gather objective information about senior executives and managers. This assessment is being used to improve leadership development, assist with recruitment into the senior ranks and ultimately provide a mechanism for succession planning.

A profile is being developed for leaders at all levels of the organisation. This will assist with the design and implementation of programs in line with leadership development pathways.

The RTA has also conducted a Leadership Survey aligned to the new leadership competency framework. All directors and SES officers are required to participate in the annual leadership survey as part of their performance agreements. The survey achieved an overall response rate of 92 per cent (compared to 78 per cent last year) from a total of 1218 surveys sent to diverse staff across the RTA. A total of 137 RTA leaders received feedback from their direct reports who totalled 984 staff.

The survey results showed that the impact of the RTA's leaders on bottom line results and on employee engagement was excellent and compared favourably to industry benchmarks. Some of the key strengths identified in RTA leaders show they:

- Are committed to achieving the RTA's business objectives.
- Demonstrate organisational awareness.
- Demonstrate ethical beliefs and live the RTA's values.
- Operate with integrity.
- Are performance focused.
- Are committed to a healthy, safe work environment.

Human Resource Strategy

The newly restructured and refocused Human Resource (HR) Strategy team is working to develop the RTA's people, improve its organisational culture and deliver effective human resources practice and initiatives. The new approach will focus on three areas of service delivery – strategic, operational and transactional. The appointment of four business partners within the team reflects the collaborative approach being followed between human resources specialists and business areas. HR strategy is aimed at giving the organisation quick response to change and issues such as:

- An ageing workforce.
- Competition in a shrinking global job market.
- Effective partnerships with the private sector.
- Offering diversity to generation Y.

Targeted recruitment programs

The RTA's employment programs target the recruitment of graduates, trade apprentices, trainees and para-professionals and provide both financial support and work experience to undergraduate university students. These initiatives are designed to assist with addressing the RTA's future workforce capability needs.

Apprentices

The four year trade apprenticeship program is designed to rotate apprentices between workshops and worksites across NSW to ensure they gain exposure to a broad range of skills and experiences. As at June 2007 the RTA employed 52 trade apprentices. In 2006–07 the RTA recruited 16 apprentices across a range of trade classifications including electricians, painters, bridge and wharf carpenters and plant mechanics.

Traineeships

The RTA recruited 61 trainees in 2006–07. The trainees are working towards the attainment of a variety of Vocational

Educational and Training qualifications. Traineeships are located in the RTA Contact Centre, regional offices, administration centres, motor registries and other RTA functional centres. As at 30 June 2007 the RTA employed 108 trainees.

Graduate Recruitment and Development (GRAD) Program

A total of 60 graduates were admitted to the RTA's GRAD Program during 2006–07, an increase from 45 in 2005–06, to better support future skill needs. The graduates represent a range of disciplines, for example, chemistry material science, urban design/town planning, transport planning, policy, traffic and transport engineering, computer systems engineering, land economics, environment and community liaison.

The RTA has an average graduate retention rate on program of 97 per cent. As at 30 June 2007 the RTA had 104 graduates participating in the GRAD Program.



New graduates during their orientation program.

Undergraduate Scholarship, Rural Cadetship and Para-professional programs

The RTA's Undergraduate Scholarship Program encourages undergraduates from universities throughout NSW to consider careers in the roads industry. At 30 June 2007 the RTA had 80 undergraduates in the program studying disciplines such as civil engineering and surveying.

Six of the 80 undergraduates are employed on the RTA's Rural Cadetship Scheme. This scheme targets undergraduates from rural NSW. The RTA is a proud employer in regional NSW and further support of the regional communities in which it operates is demonstrated through its focus on targeting initiatives specifically at regional areas. In addition to the Rural Cadetship Scheme, over 60 per cent of all scholarships offered by the RTA are awarded to students from regional areas. This commitment aims to attract engineering and related professions back to rural locations to work upon completion of their undergraduate degree.

In order to address the impact an ageing workforce is having on technical support staff, the RTA has initiated a Para-professional Program. There are 12 participants on the initial rotational program who combine on-the-job experience and a course of study through the University of Southern Queensland at an Associate Diploma level that articulates to a degree in civil engineering.

STAFF ACHIEVEMENTS

RTA staff have received a number of accolades both individually and within teams. They have produced many innovations within the workplace. This is recognition of some of these achievements.



Chief Executive Les Wielinga presents Vince Taranto with an Austroads Achievement Award.

Vince Taranto, Senior Project Analyst won an Austroads Achievement Award for managing a project to upgrade the Traffic on Rural Roads (TRARR) simulation program. The TRARR program simulates vehicles travelling on two-way rural roads with emphasis on overtaking manoeuvres. It is the only program of its type on the market. TRARR ceased to operate in 2000 due to changes in operating systems. Vince applied for Austroads funding to upgrade the program and then managed the project.



Ron Ferguson was presented with his Austroads Achievement Award by Michael Bushby, Director Network Management.

Ron Ferguson, Manager Information and Technology, Infrastructure Maintenance Branch received an Austroads Achievement Award for effective project management. Ron was recognised for project management of AT1006 – Standardised Measurement of Road Condition and ASI120 – Road Condition Monitoring Guidelines.



RTA trainee, Rachel Shea, won the 2006 Gili Award for TAFE NSW Aboriginal Trainee of the Year.

Rachel Shea, an RTA trainee was presented with the Gili Award for 2006 TAFE NSW Aboriginal Trainee of the Year. The award recognises students who have made contributions to their communities through training and education.



Western Region Manager Lew Laing at the proclamation of the Kamilaroi Highway.

Lew Laing, Regional Manager Western Region was awarded a Public Service Medal for his contribution to the NSW community. An RTA employee for more than 40 years, Lew has demonstrated a commitment to public service both at work and in his personal life.



Mark Gordon, Manager Survey Services and Chris Harrison, General Manager Engineering Technology, congratulate Jim Ollis, Quality and Statistical Control Officer (centre) on his award.

Jim Ollis, Quality and Statistical Control Officer won the 'Extra Dimension' category at the NSW Awards for Excellence in Surveying and Spatial Information. Jim consolidated a range of surveying requirements that were previously covered in other contract documents into one specification. This specification has been put forward to the Roads Working Group of the Intergovernmental Committee on Surveying and Mapping for adoption as the road national standard for construction surveys in Australia and New Zealand.



RTA undergraduates Elizabeth Donati, Sean McMahon and Celeste Swain (front with awards), were recognised by the University of Newcastle for their achievements at the RTA.

The University of Newcastle Industry Scholarship Scheme Sponsor and Scholar Dinner recognises the achievements of students attending the university and the organisations that support them. RTA undergraduate, Celeste Swain, won the Foundation Award for best first year work placement. Celeste worked in the Project Services Section, Hunter Region.

Sean McMahon was a finalist for the Foundation Award. Elizabeth Donati was a finalist for the Insignis Award for the best series of work placements. The RTA was recognised for its role in developing university undergraduates.



The RTA's Bega Sealing Unit trialed a new type of road binder.

The Bega Sealing Unit pioneered a new road binding procedure and produced technical guidelines for the rest of the RTA to follow. Unlike traditional bitumen road binders, the emulsion binder can be applied in colder months, increasing productivity. The new binder is also safer to apply. The Bega Sealing Unit worked with the manufacturer SAMI Pty Ltd to trial the mixture and develop new technical procedures.

The occupational health and safety team won the 11th annual Thomson and Blake Dawson Waldron 'Inside OHS Competition'.



Jai Reddy – Registered Land Surveyor and RTA graduate.

Jai Reddy is only the second RTA graduate to pass the Surveyor Registration examinations and become a Registered Land Surveyor while still participating in the GRAD program. The current industry standard is seven years. He became the youngest Registered Land Surveyor in NSW at the time of his registration.

Staff training and education

The RTA is a leading provider of technology, professional and technical skills in many areas, including road safety, traffic management and road building. To maintain and grow this technical capability, more than 20 new internal technical training programs were designed by RTA technical experts during 2006–07. This brings the total number of existing specialist technical programs available to RTA staff to almost 200. These training initiatives have built on the Chief Executive's commitment to strengthen the RTA's capability in project management, contract management and many technical areas.

During 2006–07, 5379 staff attended a total of 1919 approved training courses in both the technical and non-technical areas. New arrangements to manage training achieved a saving for the RTA including \$90,134 for external programs.

Sound project management practices for non-construction projects have been an area of focus with 373 staff attending formal training.

A suite of suggested staff development options (including on-the-job experience, internal training and external training) have been identified for a range of critical RTA technical functional capabilities. These will support the holistic career development of technical staff and ensure the RTA's ongoing technical expertise.



RTA cadets and para-professionals inspect the Windsor Road site during orientation.

Sponsored programs

To ensure the long term capability of the RTA across all disciplines, the following sponsorships were approved in post-graduate qualifications:

- Graduate Certificate in Project Management 20 sponsorships.
- Advanced Certificate in Transport and Traffic Management 15 sponsorships.
- Master of Technology in Pavements 5 scholarships.
- Master of Engineering in Pavements 2 scholarships.

An additional 14 sponsorships were approved to enable existing RTA female staff to participate in the Department of Premier and Cabinet's 'Top Steps Program' initiative that supports women in middle management.

Young Professionals Network

To assist its young professionals establish networks and develop their careers, the RTA has launched the Young Professionals Network. The network hosts a range of activities including roundtable forums with guest speakers and informal discussions about the key issues facing the organisation. The network will also provide a valuable resource to the Executive.

Staff orientation

The RTA has revised its formal orientation program, and commenced delivery in November 2006. The revised program, including an increased focus on the role, responsibilities and achievements of the RTA, has been delivered to 148 new staff.

Staff retention

To deliver its corporate objectives the RTA needs a workforce that can plan, develop and sustain the professional, technical and management skills required to ensure success. This needs to be achieved in a culture that recognises performance and values the diversity of its staff and the community it represents.

Targeted recruitment and staff training are tools used to ensure the RTA has the best fit of employees with the right skills and experience to service the NSW community. Staff retention is key to maintaining this high quality service and the RTA strives to be an employer of first choice.

Sponsored programs, the availability of flexible working arrangements such as teleworking and recognition through staff awards are all means of securing staff retention.

The proportion of staff (salaried, wages and casual) leaving the RTA each year is represented as the separation rate.

TABLE 13. SEPARATION RATES

Year	Separation rate
2003–04	6.39%
2004–05	5.99%
2005–06	6.29%
2006–07	8.46%

Note: The 2005–06 separation rate included in last year's annual report did not include School crossing supervisors (accounting for 3.63 per cent of the separations). This group has now been included in the 2006–07 figures.

Staff productivity

Workforce capability

The RTA is deploying key resources to address the crucial area of Workforce Capability. Working against a strategic business plan, the critical areas of workforce planning, professional, technical and leadership development, talent management and staff development are being addressed.

In one initiative, the RTA has established a high level steering group of senior managers to coordinate and facilitate a strategic approach to workforce development and renewal. The Human Resource Strategy Branch is supporting the development of a sustainable skilled, flexible and adaptable workforce to enable achievement of the RTA's business and community objectives.

Strategic workforce initiatives and policies have been developed. These include a trial of a new capability approach to resourcing

key positions in the environment and engineering technology branches. Specific staff training has been developed to assist staff in the Engineering Technology Branch work within the new approach.

NSW Premier's Capability Taskforce

The RTA has participated in a number of initiatives with the Department of Premier and Cabinet aimed at addressing critical skill shortage issues as part of the NSW Public Sector Workforce Strategy. In particular, the Engineering Taskforce and Accountancy Taskforce have provided advice on appropriate strategies to enhance targeted recruitment, improve public sector employment branding, and mitigate skills shortage and ageing workforce risk in key infrastructure areas.

Austrroads Capability Taskforce

The peak industry body at a national level is aware of the challenges facing infrastructure development and delivery through ageing workforces and skills shortages in critical areas, particularly engineering. The taskforce has collaboratively developed marketing materials, a website, and strategies for implementation in each jurisdiction to combat skills shortages through targeted recruitment. The RTA contributes to this process.

Capability in trades and non-trades grades

Competency based assessment continues to underpin an enterprise classification structure for trades and non-trades wages staff. The Wages Classification Structure Assessment Project is currently in the 'maintenance' phase. This phase ensures the competency of staff who are upgrading their skills for new positions. New staff entering the RTA's road construction and maintenance workforce, including apprentices and trainees retained after the completion of their training in civil construction, are also assessed. The project has delivered 580 workplace based assessments in 2006–07. As at 30 June 2007, 97 per cent of wages staff had met all criteria associated with their nominated units of competency.

The result demonstrates the continued encouragement to multi and cross-skilling in the wages staff grades allowing for flexible deployment and greater productivity gains at the micro-economic level.

A project is underway to implement plant operator training and assessment of competency. This will ensure proper certification and safe working of staff associated with plant and machinery operation.

Future challenges in staff management

- Manage workforce skills shortages due to retirements and skill gaps in several technical fields.
- Implement the Technical Capability Review outcomes.
- Build professional and technical leadership through development plans and knowledge management.
- Expand the mentoring program and develop leadership and management proficiency.
- Complete the Workforce for the Future Plan.
- Ensure the development, retention and attraction of identified skills and capabilities by providing effective career pathways, managing succession within the context of an ageing workforce and improving the efficiency of recruitment processes.

A SAFE AND HEALTHY WORKPLACE

Chief Executive's Occupational Health and Safety (OHS) Statement

The RTA is committed to providing a safe and healthy workplace and eliminating conditions or hazards that could result in personal injury or ill health. Workplace health, safety and welfare are essential elements of effective roads and traffic operations that must not be compromised by production demands.

The Executive and senior management provide leadership that supports and enables the vision of a safe workplace. This has included identification of opportunities to provide a positive executive participation at the workplace and in supporting the effective identification of hazards and risks faced in RTA workplaces.

Policy and commitment statement

An annual review of the RTA OHS Policy statement confirms its commitment to providing leadership, direction, resources and support, to ensure workplaces are safe and without risk to health.

The policy clearly confirms the RTA's commitment to effective consultation between management and employees on the development, implementation and refinement of the OHS program and seeks the cooperation of all employees in realising OHS objectives.

Risk management

A risk management approach to OHS has continued to be applied across all of the RTA's activities during the year. Executive oversight has been applied where necessary to focus resources on the higher risk activities. Significant OHS risks that have been addressed during the year include those in the areas of construction, road maintenance, traffic control, working near utilities and effective workplace implementation of OHS policies and procedures.

A variety of targeted risk assessment approaches have been applied to these areas including:

- EnSite – a risk assessment before commencement of each major project of greater than \$5 million.
- Situational Awareness is a workplace level risk management review tool. It has been rolled out to minimise complacency in crews with routine repetitive situations such as traffic signal maintenance and traffic clearance operations.
- Risk profiles and action plans have been included in the working together training for office managers.

Road maintenance

The 2007 Safety Summit for Road Services Managers confirmed the effectiveness of the OHS improvement action plan which included better incident management, an ongoing focus on the role of line managers and supervisors and the increased use of workplace injury measures to identify OHS hot spots. The summit also identified a renewed focus on resources for developing lessons learned from critical incidents and near misses.

Traffic control at worksites

The corporate strategy for improving traffic control at worksites was implemented during 2006–07. The strategy aimed at four key areas – increased awareness and status of traffic control at RTA worksites, traffic control specification review, public awareness and enhanced enforcement.

Regional working groups of traffic control practitioners have enabled increased sharing of lessons learned and identification of good practice solutions. This was supported by development of a traffic control at worksites awareness training package that highlights common issues encountered when implementing standard approaches.

Public awareness was addressed through a television campaign that highlighted the status of RTA roadworks as a place of work and introduced the slogan 'be roadwork aware – slow down, take care'.

Utilities

Utility strikes including unplanned contacts with underground and overhead electricity, gas, water and telecommunication services continued to be a major cause of potentially serious incidents through 2006–07. An increased focus of attention on utilities within the RTA and contractors has resulted in improvements with 57 utility strikes recorded in 2006–07 compared to 67 strikes in 2005–06.

Contractor safety

Forging cooperative relationships with the civil construction industry, the RTA continues to achieve high performance of safety on its funded projects. The RTA continues to set benchmark standards in OHS management of contractors. The OHS Branch coordinated the review of the corporate OHS management systems of approximately 180 pre-qualified contractors and has introduced an OHS registration scheme for the traffic control industry. The OHS Branch also developed an overhead utilities awareness workshop with delivery encompassing both internal stakeholders and contractors statewide.

Work continues between the RTA and local government to improve OHS performance in road construction and maintenance. Implementation of the local council improvement strategy commenced this year with workshops that were held around the State. Desktop audits were then undertaken for 85 local councils operating on behalf of the RTA under maintenance contracts. Additionally, councils requiring further assistance were individually mentored to enable greater levels of compliance.

The RTA has also developed and made available to all contractors and councils via internet a range of model documents, assessment tools and informative resources to assist them to continue to achieve high standards of health and safety.

Despite these efforts and achieving all project injury rates (approximately 10 per cent of the national average and better than the NSW average), one contractor death occurred at an RTA worksite in 2006–07. The RTA continues to work closely with its private sector partners to learn from such events.

OHS program delivery

The task of delivering OHS programs is a cooperative effort between the OHS Branch, regionally based OHS facilitators and line managers and their staff. This is complementary to line management responsibilities for implementation and ownership of the OHS activities within the local workplace.

The OHS Branch has a key role in measuring the extent of OHS management system implementation through audits and inspections. Each directorate is required to complete an annual assessment of compliance with the safety management system using a new self assessment tool. This was supported by the commencement of a three year corporate audit program to confirm compliance. Frequency of audit is based on an assessment of the key business risks within each directorate.



To help manage traffic issues, lead and asbestos contaminants and OHS risks, the team repainting Tom Ugly's Bridge devised an innovative containment structure to protect staff and contain contaminants.

Working Together injury and training targets

The RTA has adopted the NSW Government's Working Together injury prevention and management targets. The OHS targets are:

- A 40 per cent reduction in workplace injuries by June 2012 with at least a 20 per cent reduction to be achieved by June 2007 (base year 2001–02).
- 90 per cent of RTA managers to receive OHS training.
- A 15 per cent reduction in average claim costs to be achieved by June 2008. (Base year 2004–05).

All targets have been met.

At 30 June 2007, the workplace injury rate (based on RTA data) was 6.4 per hundred equivalent full-time employees, a 30 per cent reduction from the 2001–02 base year. This result exceeded the interim target and is well on track to achieving the longer term goal of a 40 per cent reduction by 2012.

The RTA used the Working Together strategy as an opportunity to address the risk of non-compliance with OHS policies and procedures. Three separate training packages were developed that focused on the issues related to RTA construction managers, construction contractors and office based managers.

The construction packages delivered a full day of training while the office managers' package took a half day. Classes, which were delivered by corporate OHS staff, were interactive with a

series of group activities and workplace scenarios. All managers with more than four direct reports were identified to attend the training. At 30 June 2007 a total of 1175 managers had graduated, achieving the 90 per cent attendance rate. Additional courses are being scheduled to maintain the training for new starters and other managers who have missed out.

Working Together targets for injury management

Reporting on the Working Together Targets 2, 3 and 4 for Injury Management are dependent on WorkCover reports which are only provided at six monthly intervals. The baseline for each target is the year 2004–05 with a completion year of 2008.

The targets are as follows:

- Target 2: 10 per cent reduction in employees off work at eight weeks, 12 weeks and 26 weeks from the date of injury by June 2008.
- Target 3: 15 per cent reduction in the average cost of claims by June 2008.
- Target 4: 10 per cent improvement in the percentage of injured workers who are placed in suitable duties within one week of their obtaining a medical certificate that they are fit for suitable duties by June 2008.

The latest figures received from WorkCover for Target 2 are as at December 2005. They indicate that the RTA is on target with the 10 per cent reduction in employees off work at eight, 12 and 26 weeks.

TABLE 14.

Target 2 2008	Present performance as at December 2005
13% at 8 weeks	13.2% at 8 weeks
9.3% at 12 weeks	9.8% at 12 weeks
3.8% at 26 weeks	2.6% at 26 weeks

Target 3 requires an average claims cost of \$15,553 by 2008. Based on WorkCover actuarial reports as at June 2006 the average claims cost for the RTA is on target at \$9915.

Target 4 indicated that as of 2005 the RTA had three employees deemed fit for suitable duties but none had been provided. As of June 2006 the RTA is achieving targets with only one employee in this category.

Safety culture and performance reporting

Lead and lag performance indicators together with post incident analysis have been used to provide continuous improvement in RTA safety performance throughout the year. All managers have received Working Together training to determine the workplace and organisational factors that contributed to the incidents, enabling development of lessons learned that extend beyond the immediate cause of an incident. Employee behaviour is also assessed as part of each investigation using the RTA's just and fair consequence model. The model distinguishes between normal behaviour, errors and violations to ensure fair treatment for all.

The AlphaOne Integrated Workplace Health and Fitness Management Program has been implemented for 20 work groups across the State with more than 300 staff from road

services, motor registries and vehicle regulations attending health forums that link personal health and behaviours with workplace risks. More than 80 per cent of participants have taken up the offer of a fitness assessment. A further follow up with the trial group from Wyong who participated in 2003 indicates that they are continuing to improve or maintain the gains achieved at the conclusion of the program, with no participants scoring in the high risk health category.

Details of injuries and prosecutions under OHS ACT

OHS incidents

Working in traffic continues to be the most significant risk of serious injury to RTA employees and contractors. The most common cause of workplace injuries across the RTA in 2006–07 was 'body stressing'.

Prosecutions

There were no prosecutions for breaches of the *Occupational Health and Safety Act 2000* (OHS Act) during 2006–07.

All OHS indicators have shown an improvement over the past year.

TABLE 15. OHS STATISTICAL INDICATORS

Performance Indicator	2005–06	2006–07	Change
Incidents reported (all incidents)	2195	2145	2% reduction
Number of compensable injuries (all claims)	548	473	12% reduction
Total claims costs	\$2.9 m	\$2.6 m	10% reduction
Lost time injuries (LTI)	244	209	14% reduction
Number of workplace injuries	492	430	12% reduction

FIGURE 16. FIVE YEAR WORKPLACE INJURY TREND

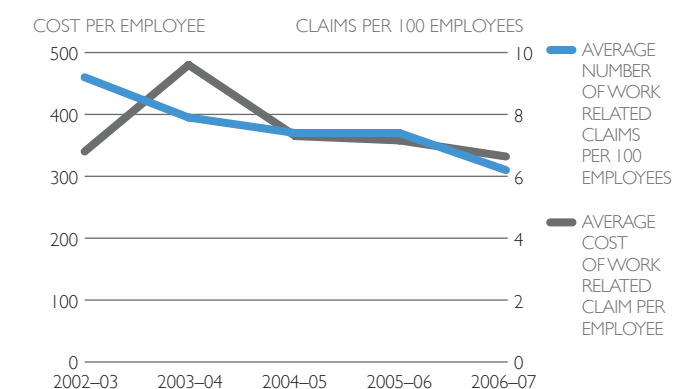
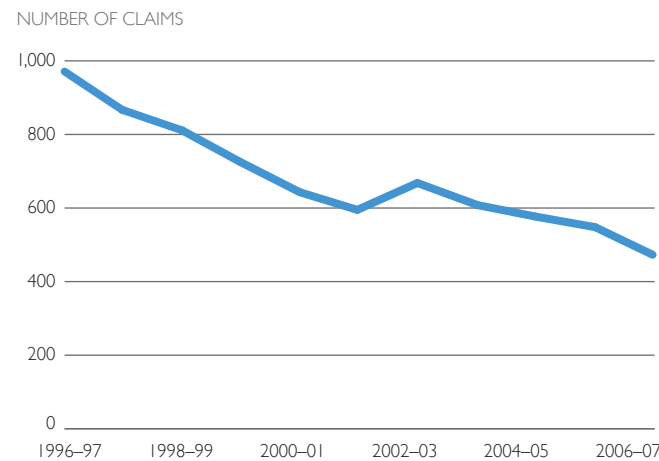


FIGURE 17. WORKERS COMPENSATION CLAIMS



Future OHS challenges

- Working near high speed, high volume traffic continues to pose the greatest risk to RTA workers and contractors. A significant work program has commenced to address the management of this risk and will continue to be a key priority into the future. Similarly, working near mobile construction plant and in the vicinity of underground and overhead utilities also present continuing challenges. These risks are being identified through continuous improvement in OHS risk management strategies that endeavour to close the gap between documented management systems and risk management practice on the job.
- Identifying opportunities for senior management OHS leadership is an important facet of OHS management at the RTA and presents another important area for continuous improvement.

STAKEHOLDER PARTNERSHIPS

Austrroads and Australian Transport Council (ATC)

As a member organisation, the RTA continued to play a strong role in Austrroads – the association of Australian and New Zealand road transport and traffic authorities.

Austrroads' purpose is to contribute to the achievement of improved Australian and New Zealand transport related outcomes by undertaking research, promoting improved practice, facilitating collaboration between road agencies and providing expert advice to the ATC and the Standing Committee on Transport.

During the year the RTA provided input to a range of Austrroads programs which covered strategic and technical research as well as endorsement of Austrroads publications. More information on Austrroads can be found on the website www.austrroads.com.au.

The ATC is the Ministerial forum established in 1993 for Australian, state and territory transport policy and legislative issues at a national level. The RTA provided advice to the Minister for Roads for ATC meetings during 2006–07 on a number of matters, including the COAG national transport agenda, the Productivity Commission Road and Rail Freight Infrastructure Pricing Inquiry and transport security.

Community consultation on infrastructure projects

A major function of the RTA is construction and maintenance of roads and bridges throughout NSW. There is a vast range of stakeholders involved in this work including individuals, private organisations, community and road transport groups, local councils and State and Australian government agencies.

The RTA is committed to community consultation to reach improved outcomes and aims to ensure not only that the community is involved in decision making, but to increase that involvement and ensure it is effective.

Community involvement programs are tailored to individual projects to enable targeted and flexible consultation. Communication channels can include:

Community involvement programs are tailored to individual projects to enable targeted and flexible consultation. Communication channels can include:

- Community updates, advertisements, displays and noticeboards.
- Community information evenings, workshops, shopfronts, household and business meetings.
- Motor registries, website information and 1800 toll free phone lines.

In 2006–07, local communities were involved in hundreds of infrastructure construction and maintenance projects. This involvement included:

- About 135 community focus or liaison groups.
- About 75 public meetings or workshops.
- About 50 staffed information displays.
- About 620 community updates and household letters were prepared and distributed.

These figures do not include meetings between RTA staff and individuals, such as property owners, to discuss projects which happen on a regular basis.



A community liaison group inspects progress on the Brunswick Heads to Yelgun Pacific Highway upgrade.

Other community involvement

The relationship between the RTA as service provider and the NSW community is a dynamic one. The RTA seeks community feedback and input to its service delivery through both formal and informal channels. This includes:

- Consumer or stakeholder complaints, correspondence and inquiries.
- Media liaison.
- Marketing and promotion.
- Product and service launches and openings.
- Research via tools such as surveys or focus groups.
- Meetings and representations.

Sydney Harbour Bridge 75th anniversary

A recent unique opportunity for the RTA to provide a community service was in the celebrations of the Sydney Harbour Bridge's 75th anniversary.

Close to 200,000 people walked across the bridge on Sunday 18 March in the longest public walk since its opening. This was just one aspect of the celebrations to mark the 75th anniversary. More than three years ago, the RTA began collaborations with the Historic Houses Trust of NSW to create 'Bridging Sydney', an exhibition at the Museum of Sydney.

RTA staff worked on a historic ABC documentary on the bridge and developed merchandise. They also set up and managed the dedicated event call centre to deal with the mass of comments, requests and enquiries that were generated in the lead-up to the event.

Getting the bridge ready began years before the actual day. More than two years ago, the Sydney Harbour Bridge Alliance team began a series of rectification works on the bridge.

On the day, staff from across the RTA came together with other government organisations to make the birthday celebration a success. This was a fine example of inter governmental and community cooperation.

The Premier released the following words of commendation following the Sydney Harbour Bridge 75th anniversary celebrations:

"I was proud of our Bridge yesterday.

I was prouder still of the State's public sector workers who made the Bridge celebrations a triumph of planning and organisation.

They helped ensure a happy and memorable day for thousands of Sydneysiders, visitors and their families.

From RTA staff, transport workers, police and emergency crews, standby ambulance and medical teams, protocol and special events staff of the NSW Premier's Department, traffic controllers – not to mention the many private contractors who helped with lighting and other installations – the entire effort was outstanding.

Congratulations on a job well done"

Other stakeholders

The RTA works closely with other state, Australian and international government agencies, local councils, community and road transport groups and private organisations. Many examples of stakeholder liaison on specific projects or actions have been included throughout this report.

The RTA also works to shape and influence the integrated transport policy landscape and the strategic environment within which it operates. A list of the committees and significant advisory groups in which the RTA takes part are in appendix 3.

The RTA provides support and in kind support to various non-government community organisations details of which can be found in appendix 19.

Future stakeholder management challenges

The RTA will continue to engage with its stakeholders to effect positive transport outcomes. Specifically this will involve:

- Ensuring efficient resource or investment allocation through advice on priorities for future investment.
- Continuing liaison with government and non-government stakeholders to ensure a consistent 'fit' between land use changes and road investment.
- Improving relations with the Aboriginal community through targeted road safety programs.
- Continuing to contribute to the national debate on roads related issues through participation in a range of inter-jurisdictional and inter-agency bodies.
- Continuing to balance the competing needs and aspirations of stakeholder groups to ensure balanced and equitable outcomes.

When the Swan Hill Bridge spanning the Murray River needed to be scheduled for four night closures to allow strengthening works to be completed in safety, the community was concerned about the impact to business.

RTA staff consulted with stakeholders in the region and Swan Hill River Cruises agreed to provide a ferry service on the affected nights. More than 700 passengers were transported and there has been interest in a follow up service. This was a successful example of community consultation.