

REVIEW OF OPERATIONS

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Key achievements in 2009–10

The planning and construction of around 100 major projects with a total expenditure of more than \$1.7 billion (excluding private sector expenditure), opening 17 of these projects to traffic, and completing a further seven major stages of these projects.

The handback to public ownership of the M4 Western Motorway on 16 February 2010.

Completion of deployment of the new GPS based bus priority system to the entire State Transit Authority fleet of over 2100 buses and modification of over 790 traffic signals to accept priority requests.

Completion of a number of key corridor projects and corridor upgrades including:

- 79km of four-lane divided highway opened on the Hume Highway.
- 45km of four-lane divided highway opened on the Pacific Highway.
- 12km widening of the F3 Freeway.





REVIEW OF OPERATIONS

Transport

RTA result: The road transport system supports reliable and efficient movement of people and goods

The NSW road transport system

The transport system is crucial to the economic prosperity and well-being of the NSW community. The RTA's role is to maintain, develop and operate the major road network to meet the needs of a growing population. This includes the day-to-day transport requirements of individuals and the growing freight task. In this role, the RTA manages a major program of new road and bridge works, from the inner suburbs of Sydney to the far corners of NSW.

The RTA also promotes alternatives to motor vehicle travel – such as public transport, cycling and walking – through the provision of infrastructure and a range of innovative programs to encourage sustainable methods of transport.

A key RTA role is the management of traffic on the road system. The RTA leads the world in technology to promote the efficient movement of traffic. The RTA also takes the lead in managing traffic during major planned events and unplanned incidents.

This chapter outlines the RTA's management of the road transport system over the past year. It is divided into four main sections:

Development – major projects and developments on motorways and other roads.

Alternative transport – buses, bicycles and pedestrians.

Traffic – speed and traffic flow.

Challenges and the way forward.

Chapter cover image: A prefabricated steel bridge is lifted into position as part of a bridge duplication at Lawson, October 2009. Photo taken by RTA staff member Dominic Callaghan.

Development

Project delivery

Appendix I contains details of progress on all major works.

Motorways

M2 Motorway upgrade

The RTA received a proposal to enhance and widen the M2 Hills Motorway (M2) from Transurban which holds the concession for the motorway. The proposal includes widening sections of the motorway from two to three lanes and construction of new west-facing ramps at Windsor Road and east-facing ramps near Herring Road, Macquarie Park.

The M2 is one of Sydney's busiest road corridors, providing an important link in the Sydney Orbital between the Westlink M7 Motorway (M7) and the Lane Cove Tunnel and carrying around 100,000 vehicle trips and more than 17,000 bus passengers a day.

Upgrading the M2 would improve safety, relieve congestion and prepare for additional growth, with 140,000 new homes and 100,000 new jobs planned for Sydney's north-west during the next 25 years.

The RTA signed an in-principle agreement with M2 Hills Motorway in October 2009 to develop the detailed design and environmental assessment (EA) for the upgrade. The EA was displayed for community comment during May and June 2010, and subject to planning approval, construction could commence before the end of 2010. Construction is expected to take two years to complete.



This artist's impression shows the proposed west-facing ramps at Windsor Road, part of the M2 Motorway upgrade.

M4 Motorway handover

Australia's first Public Private Partnership, the M4 Western Motorway (M4), was successfully transferred from Statewide Roads Ltd and returned to public ownership on 16 February 2010. The most noticeable outcome of this handover was the removal of the toll for the M4.

To maintain traffic flow, a number of infrastructure enhancement projects were undertaken to assist traffic management. Improvements included:

- Removal of the eastbound 24 hour T2 transit lane.
- Upgrading M4 interchanges at James Ruse Drive and Homebush Bay Drive.
- Installing five variable message signs and traffic management devices.
- Removal of the toll plaza area, which began on 16 February, after the toll charge was removed.

These were all completed on schedule. The RTA now maintains and operates the M4 on behalf of the people of NSW.

M5 East filtration trial

In April 2008, construction began on a \$65 million trial filtration plant to remove particulate matter and nitrogen dioxide from air extracted from the western end of the M5 South West Motorway (M5) East westbound tunnel. The plant was commissioned and began operating in early 2010.

The plant is capable of continuously drawing 200m³ of air per second from the westbound tunnel and removing particulate matter from this air. Some 50m³ per second of this is then further treated to remove nitrogen dioxide before all of the treated air is returned to the tunnel.

The operational trial of the plant commenced in March 2010 and is planned to take up to 18 months. The RTA will assess the efficiency of the filtration systems and the plant's effectiveness in reducing visible haze in the westbound tunnel.



Motorway Projects Branch representatives visit the M5 East filtration site in March 2010.

M5 Motorway widening

The RTA received a proposal from Interlink Roads, concession holder of the M5 Motorway, to widen sections of the motorway to three lanes in both directions between Camden Valley Way and King Georges Road.

High traffic volumes on the M5, especially during peak periods, are a source of delay and frustration for motorists. Widening the M5 from four to six lanes would improve the level of service and help cater for future growth in south-west Sydney.

The RTA signed an initial agreement with Interlink Roads in December 2009 to develop the proposal. The RTA is currently preparing environmental assessment documents and exhibition of the environmental assessment is expected in late 2010. Subject to planning approval and a contract being agreed for the delivery phase of the work, construction could commence in 2011.

M5 transport corridor study and M5 East expansion



The Australian and NSW governments have committed \$15 million for a feasibility study into potential improvements to the M5 transport corridor between Port Botany/Sydney Airport and south-west Sydney.

The study has examined a preferred transport strategy which outlines improvements to public transport services and capacity enhancement options for the M5 East Motorway. The initial preferred option was released for public consultation in November 2009.

The initial submissions period for community feedback on a proposed expansion of the M5 transport corridor closed on 12 March 2010. Consideration of the submissions and reporting of the findings is in progress. Preparations for the next phase of consultation, including a review of options for eastern access, are also in progress.

Pacific Highway Upgrading Program



The Pacific Highway not only links Sydney and Brisbane, but also passes through regions that continue to experience NSW's highest rates of population growth. This growth has increased pressure on the road transport system. In response, the RTA has overseen improvements in road infrastructure to allow safe and efficient transport along the route.

The Pacific Highway is part of the National Land Transport Network. The Australian and NSW governments have been jointly upgrading the Pacific Highway since 1996.

The Pacific Highway upgrade is being delivered in three stages:

- **Stage 1:** Hexham to Port Macquarie, Raleigh to Woolgoolga and Ballina to the Queensland border.
- **Stage 2:** Port Macquarie to Raleigh.
- **Stage 3:** Woolgoolga to Ballina.



Together, the State and Australian governments have committed \$3.6 billion to continue the upgrade of the highway over five years to mid 2014 to complete Stage 1 and start Stage 2.

By June 2010, 322km of the highway's 667km length were double-lane divided road. Since 1995, travel time savings of about 80 minutes and 70 minutes for heavy and light vehicles respectively have been achieved. A further 79km of highway are under construction, 20km under preconstruction, 115km under environmental impact assessment, and all other sections have the preferred route identified, with concept designs finalised for most of these.

The number of fatal crashes has fallen from 32 in 1996 to 19 in 2009, despite a 50 per cent increase in traffic on much of the highway.

Karuah to Bulahdelah sections 2 and 3



Construction on this \$253 million project began in March 2007, to provide 23km of dual carriageway, generally following the existing highway alignment. The project included seven pairs of new bridges and rest areas on the northbound carriageway at Nerong Waterholes and the southbound carriageway at Browns Flat. The upgrade was completed in October 2009.

Bulahdelah Bypass

Early work and detailed design began following planning approval in October 2007. The first stage of early earthwork construction has been completed south of the Myall River. The contract for major works was awarded in April 2010, and the \$315 million project is expected to be opened to traffic in 2012.



Cooperook to Herons Creek

The Cooperook to Herons Creek project incorporates the \$202 million Cooperook to Moorland and \$378 million Moorland to Herons Creek upgrades. Construction of these upgrades, which were combined to achieve economies of scale, began in October 2007 and the roads were opened to traffic progressively with the final section expected to open in late July 2010. The combined project provides 32.2km of dual carriageway, including bypasses of Moorland, Johns River and Kew.



Aerial view of the Pacific Highway (Cooperook to Herons Creek) showing Johns River Bypass, looking north.

Kempsey Bypass

In its 2009–10 Budget, the Australian Government announced accelerated funding of \$618 million to fast-track the Kempsey Bypass. The 14.5km bypass is a vital section of the Pacific Highway upgrade which will help to improve road safety and freight transport efficiency. The early works and main roadworks for the bypass will be delivered by an alliance and the Macleay River floodplain bridge works will be delivered by a design and construct contract. The early works commenced in December 2009 and major construction commenced in June 2010. It is planned that this work will be open to traffic in 2014.



Coffs Harbour (Sapphire) to Woolgoolga

This jointly funded project was declared Critical Infrastructure – a project that is essential for the State for economic, social or environmental reasons – by the Minister for Planning in December 2006. The contract for the design and construct project was awarded in April 2010. The project will provide 25km of four-lane divided carriageway controlled access highway. Five interchanges are to be provided as well as a bypass of Woolgoolga. Construction is expected to commence in August 2010 with completion scheduled for 2014.



Glenugie upgrade

The Australian Government has confirmed funding of \$54 million for the \$60 million Glenugie Upgrade Project, between Coffs Harbour and Grafton. The project is being fast-tracked with the Environmental Assessment completed in late 2009. An alliance agreement, that is, an agreement between the project owner and one or more other parties for the coordinated delivery of a project, was finalised in December 2009. Construction commenced in January 2010. The project is expected to be completed in late 2011.



Devils Pulpit

A design alliance has been formed to undertake environmental assessment and detailed design for the project. The Environmental Assessment for the 6.4km project was displayed in May and June 2010 and a submissions report is being prepared. The project will provide 5km of new divided carriageways and also provide earthworks for a further 1.4km of second carriageway. Subject to planning approval, construction is expected to commence in mid 2011, with completion expected in 2013.



Ballina Bypass

An alliance for the main construction of the bypass was formed in June 2008, and detailed design was completed in December 2008.

The \$640 million Ballina Bypass project will provide 11.6km of dual carriageway, extending from south of Ballina at the intersection of the Bruxner and Pacific highways to north of Ballina at the intersection with Ross Lane at Tintenbar. Construction work is now well advanced with significant progress made during 2009–10. Work has been carried out on the Cumbalum to Ross Lane section this year and is expected to be completed in late 2010. The work is expected to be opened progressively with final completion in 2012.



Tintenbar to Ewingsdale

Concept design for the proposed Tintenbar to Ewingsdale project has been completed and planning approval was received in January 2010. The project will provide 17km of four-lane divided carriageway between the Ballina Bypass (currently under construction) and the Ewingsdale interchange. Expressions of interest for project design and construction have closed and are being assessed. Preconstruction investigations are underway with commencement of major construction planned for 2012. Construction of some early works commenced in April 2010 on the southern tie-in to the Ballina Bypass (part of Tintenbar to Ewingsdale Project).



Banora Point

An alliance for the construction of the \$359 million 2.5km highway upgrade at Banora Point was formed in August 2009. The project is being jointly funded by the NSW and Australian governments. Preliminary works commenced in December 2009 and major construction commenced in May 2010. The project is expected to be completed in late 2012.



Sydney region projects

Alfords Point Bridge northern approach

The contract was awarded for the \$44 million Alfords Point Bridge northern approach in June 2009, with construction commencing in October 2009. The final stage is expected to be opened to traffic in mid 2011, and will eliminate tidal flow traffic arrangements from Alfords Point Road.

Bangor Bypass Stage 2

The contract for the \$35 million Bangor Bypass Stage 2 was awarded in June 2009. Construction commenced in December 2009 with the project expected to be opened to traffic in late 2010.

Camden Valley Way

In July 2009, the RTA awarded a contract for the \$60 million upgrade of Camden Valley Way between Bernera Road and Cowpasture Road. Construction commenced in September 2009 and is expected to be completed in mid 2011. In addition, the RTA progressed the \$43 million four-lane upgrade of Camden Valley Way between Cowpasture Road and Narellan Road by awarding the contract for the project in June 2010. This section is expected to be opened to traffic in 2012.



Excavators trim the verges on Camden Valley Way between Bernera Road and Cowpasture Road.

Cowpasture Road

Cowpasture Road was a 12.8km, 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, fully funded by the NSW Government.

Construction of the \$18 million upgrade from Main Street to Camden Valley Way began in June 2008 and was opened to traffic in November 2009. A contract was awarded for the \$60 million final stage of the Cowpasture Road upgrade, from North Liverpool Road to the M7, in November 2008. Construction began in January 2009, and completion is expected in late 2010.

F3 Freeway, Cowan to Mount Colah

Construction began in January 2007 to widen an 11.5km section of the F3 Freeway between Cowan and Mount Colah from four to six lanes. The \$94 million project was jointly funded by the Australian and NSW governments and was progressively opened to traffic, with the final section completed in November 2009. Now the F3 has six continuous lanes between the southern end of the freeway at Wahroonga and the Gosford exit at Kariong, a distance of approximately 43km.



F5 Freeway, Brooks Road to Narellan Road



This \$138 million project involves widening of the F5 Freeway from four to eight lanes between Brooks Road and Raby Road and from four to six lanes between Raby Road and Narellan Road. It also includes a pedestrian bridge over the F5 between Claymore and Woodbine. The upgrade will improve travel times and safety for local and long-distance traffic, improve traffic flow and alleviate congestion. This project is being delivered in stages to minimise disruption to traffic during construction. Work commenced between Brooks Road and Raby Road in 2009 and is scheduled for completion in late 2010. The final stage between Raby Road and Narellan Road is expected to be opened in late 2011.

Hoxton Park Road

Hoxton Park Road is being progressively upgraded to provide a divided road of at least four lanes and an off-road cycleway. It carries the Liverpool to Parramatta Bus Transitway on two separate, central lanes between Banks Road and Brickmakers Creek. A contract was awarded in February 2009 for the \$71 million final section between Cowpasture Road and Banks Road and work is expected to be completed in mid 2011.



A crane lifts planks into position on Hinchinbrook Bridge, Hoxton Park Road.

New Illawarra Road and Heathcote Road intersection

An upgrade of the intersection of New Illawarra Road and Heathcote Road, Lucas Heights was opened in March 2010. The project involved the installation of traffic signals at the intersection of New Illawarra Road and Heathcote Road at Lucas Heights, and a redesign of the intersection to reduce the traffic congestion and improve the safety of the intersection.

Great Western Highway



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 contributed \$360 million towards the upgrade, with the Australian Government contributing \$100 million and committing a further \$300 million.

Woodford to Hazelbrook

Work continued on the \$160 million upgrade between Woodford and Hazelbrook, with the Oaklands Road local traffic railway underpass and Hazelbrook Parade completed. Widening of the highway between Winbourne Road and Ferguson Avenue was opened to traffic in September 2009. A contract was awarded for the final stage from Station Street to Winbourne Road in January 2010, and construction has commenced. This project, funded by the NSW and Australian governments, is expected to be completed in late 2012.

Lawson



Construction of the \$220 million upgrade between Ferguson Avenue and Ridge Street began in March 2009 under an alliance agreement. Construction is underway between Bass and Ridge streets and is expected to be completed by early 2011. Construction of Stage 2 between Ferguson Avenue and Bass Street also commenced April 2010. This section also includes the relocation of 600 metres of the main western rail line and is expected to be completed in late 2012.

Wentworth Falls East



A contract has been awarded for the \$115 million joint funded upgrade of the section between Tableland Road and Station Street. Construction began in June 2009 and is expected to be completed in 2012.

Mt Victoria to Lithgow

Investigations and planning continued to develop options for the upgrade of the Great Western Highway between Mt Victoria and Lithgow. Extensive community consultation for selection of a new route continued during the year. The preferred route was announced in May 2010. The NSW and Australian governments have committed \$250 million towards the upgrade of the highway between Mt Victoria and Lithgow. A total of \$15 million of federal funds was allocated in the 2010-11 budget to commence a package of safety works on the existing highway as part of this project. Realignments at Little Hartley and River Lett Hill have also been committed.

Other projects on the Great Western Highway



Detailed design continued on the remaining sections of the highway to be upgraded between Bullaburra and Wentworth Falls. The Review of Environmental Factors was determined for the section between Ridge Street, Lawson and Genevieve Road, Bullaburra in November 2009.

Hume Highway

Southern Hume Highway Duplication

In June 2006, the NSW and Australian governments signed a Memorandum of Understanding to accelerate 67km of highway duplication (upgrade to four-lane divided road standard) with the Australian Government providing \$800 million to complete the work by December 2009. Two alliance teams for the duplication were engaged in December 2006; the Northern Hume Alliance for 35km and the Hume Highway Southern Alliance for 32km. Work began in October 2007 and the 65km section (2km shorter than the previous highway route) was progressively opened to traffic from mid 2009 and completed in December 2009. Completion of this section leaves only 21km of the Hume Highway as single carriageway through the towns of Tarcutta, Holbrook and Woomargama.



Bypasses of Tarcutta, Holbrook and Woomargama

Alliance agreements were finalised for the \$290 million Tarcutta Bypass and the \$265 million Woomargama Bypass in February 2010, and construction work is progressing well on both projects and expected to be completed in late 2011. Environmental assessment work continued during the year for the Holbrook Bypass and planning approval was obtained in April 2010. Tenders for construction of the Holbrook Bypass are expected to be invited in August 2010.



The first blast at the northern end of the Woomargama Bypass project, Hume Highway.

Sheahan Bridge duplication, Gundagai

The contract to design and construct the Sheahan Bridge duplication was awarded in September 2007. The \$70.6 million project was fully funded by the Australian Government and was completed in 2009. Traffic was switched to the new bridge in May 2009 to enable essential maintenance on the existing bridge. Both bridges were available to traffic as dual carriageways in December 2009.



Coolac Bypass

A contract was awarded in February 2007 for the \$171 million Coolac Bypass project and construction began in May 2007. The project included a 12km four-lane divided road bypass and a 4km reconstruction of the northbound carriageway between Muttama Creek and the Dog-on-the-Tuckerbox. The project was opened to traffic in August 2009. The project was fully funded by the Australian Government.



Other regional projects

Newell Highway

Moree Town Centre Bypass

The bypass will remove heavy vehicles from the town centre and improve safety and access. A contract was awarded in August 2007 for Stage 1 construction, which includes road work and a new Mehi River Bridge. Work continued in 2009–10 and is expected to be completed in early 2011. The \$56.2 million project is fully funded by the Australian Government.



Princes Highway

Lawrence Hargrave Drive intersection upgrade

A contract for construction of the \$26 million major upgrade of this intersection at the foot of Bulli Pass was awarded in August 2009. The new intersection will provide a bridge to separate northbound traffic on Lawrence Hargrave Drive from traffic on the Princes Highway and will significantly improve road safety, reduce congestion and improve traffic flows. The project is expected to be completed in late 2010.



The Bulli intersection upgrade, Princes Highway.

Wollongong Northern Distributor

The major construction contract for the \$116 million Northern Distributor extension of 3km through Wollongong's northern suburbs from Bellambi Lane to the Princes Highway at Molloy Street, Bulli was awarded in December 2006 and work began in April 2007. The project was opened to traffic in December 2009. It provides a four-lane divided carriageway with four new intersections along the route (including grade separated intersections at Campbell Street and Park Road).





Oak Flats to Dunmore

A contract for the \$108 million, 5.5km four-lane divided carriageway deviation of the Princes Highway linking the Oak Flats Interchange with the North Kiama Bypass was awarded in February 2007 and work began in June 2007. Work to upgrade Shellharbour Road to four lanes to provide improved connectivity with the Princes Highway was undertaken by the RTA and was completed in September 2008. The Oak Flats to Dunmore deviation was opened to traffic in October 2009. This completes a four-lane route between Sydney and south of Kiama, significantly contributing to improved road safety, reduced congestion and improved traffic flows on the Princes Highway.



Gerringong to Bomaderry

Work continued on planning for the future upgrade of the Princes Highway between Gerringong and Bomaderry. A number of route options were displayed in November 2007. The preferred route, including access arrangements for Gerringong and Berry, was announced in June 2009. As part of the June 2009 announcement, the RTA advised its decision to progress the upgrade program as three separate projects for the purpose of concept design and environmental assessment.

The type of environmental assessment for each project will reflect the level of environmental impact.

These projects are:

- Gerringong Upgrade (Mount Pleasant to Toolijooa Road).
- Foxground and Berry Bypass (Toolijooa Road to Schofield Lane).
- Berry to Bomaderry Upgrade (Schofield Lane to Moss Vale Road).

A review of environmental factors for the Gerringong upgrade was placed on display for community comment in June 2010. Planning continues for the Foxground and Berry bypasses and the proposed upgrade between Berry and Bomaderry.

South Nowra road safety improvements

Planning work continued for a four-lane upgrade of the Princes Highway at South Nowra, between Kinghorne Street and Forest Road, with planning approval being finalised during 2009–10. Tenders for construction are expected to be invited in the first half of 2011 with the project scheduled to be completed in 2013.

Conjola Mountain realignment

Funding for this \$58 million project includes a \$10 million contribution from the Australian Government arranged by the Southern Region of Councils. A contract for Stage 1 (bridge over Conjola Creek) was awarded in August 2007 and completed in December 2008. A contract for the remaining work was awarded in October 2008 and completed in April 2010.

Hunter Expressway – F3 Freeway to Branxton

In May 2009, the Australian Government announced \$1.451 billion (in addition to \$49 million previously provided) and the NSW Government committed a further \$200 million to construct the Hunter Expressway. During 2009–10, the RTA continued planning and preconstruction work for the 40km link between the F3 Freeway at Seahampton and the New England Highway west of Branxton. The four-lane divided road will relieve congestion on the New England Highway through Maitland and provide a high standard east–west connection between Newcastle and urban centres in the lower Hunter. The project will be broken into two contracts to reflect the complexity and challenges involved. Procurement processes for these contracts are progressing well and these are expected to be awarded in late 2010.

This project will also provide a direct boost to the NSW economy, is expected to create significant direct and indirect employment in the Hunter region and is scheduled to be opened to traffic in 2013.



Hundreds of core samples were extracted from the ground for analysis as part of geotech investigations for the Hunter Expressway project.

Other Newcastle and Hunter projects

Newcastle Inner City Bypass

Planning continued for the Newcastle Inner City Bypass to provide a high standard orbital road linking Newcastle's radial road network. Planning is progressing on the next stage of the bypass between Sandgate Road, Shortland and the Pacific Highway at Sandgate. Detailed design, land acquisition and public utility adjustments were progressed in 2009–10. A contract for early works was awarded in May 2010 for earthworks and utility adjustments, with tenders for the main contract expected to be invited in late 2010.

Preliminary planning for the Rankin Park to Jesmond section that would pass to the west of John Hunter Hospital has been finalised and a preferred route adopted for inclusion in Newcastle City Council's Local Environment Plan. Although it is not expected that this section of the bypass will be needed for many years, identification of the preferred route will provide certainty for local residents and businesses about the location of the proposed upgrade.

Tourle Street bridge replacement, Mayfield West

Construction began in October 2007, replacing the existing Tourle Street Bridge. The \$44 million project to provide a new two-lane crossing of the Hunter River was opened to traffic in May 2009. The removal of the old steel truss bridge continued during 2009–10 and is expected to be completed in late 2010.

Third Hunter River crossing at Maitland

Preliminary work began in March 2007 for a new two-lane road and bridge crossing of the Hunter River between East Maitland and Bolwarra. Stage 1 of the project, comprising an upgrade of 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, was completed in October 2007. Stage 2 work, consisting of bridge work over the Hunter River and roadworks between Paterson Road, Bolwarra and Melbourne Street, East Maitland, began in July 2009 and is planned to be completed in 2011. This \$65 million project is fully funded by the NSW Government.



Central Coast projects

Avoca Drive upgrade, Sun Valley Road to Bayside Drive, Green Point

Planning was completed in 2008 to extend the four-lane divided road south of Sun Valley Road for a further 1.2km to complete a continuous four lanes between the Central Coast Highway and Davistown Road. In April 2009, Gosford City Council began early works on a new link road as part of the project. A contract for major roadworks was awarded in June 2009 and construction commenced in September 2009. The \$40 million project is expected to be opened by mid 2011.



Central Coast Highway (The Entrance Road), Carlton Road to Matcham Road, Erina Heights

The \$100 million upgrade of this 2.2km length of highway will extend the four-lane divided carriageway from Erina to the north, and will significantly contribute to the four lanes planned for the section between the F3 at Kariong and Tumby Road at Wamberal. A contract was awarded in December 2009 and construction commenced in February 2010. The project is expected to be completed in late 2011.



Central Coast Highway (The Entrance Road), Matcham Road to Ocean View Drive, Wamberal

Planning continued for the upgrade of this 2.2km length of highway. The project is the final stage of a four-lane carriageway between the F3 at Kariong and Tumby Road at Wamberal. The planning approval for the project was achieved in June 2009 and construction contract is expected to be awarded in late 2010, with the project expected to be opened to traffic in 2013.



Central Coast Highway, Woy Woy Road intersection upgrade, Kariong

Planning continued for the upgrade of this critical intersection which controls access from the Woy Woy Peninsula and Gosford to the F3 Freeway. The \$18 million upgrade will increase the capacity of the intersection and reduce congestion that regularly extends towards the F3 Freeway in the afternoon peak periods. A school development by the Department of Education and Training at Kariong will change the demands at The Avenue, and a developer-funded pedestrian underpass is being coordinated with the road upgrade. A contract for the major construction works was awarded in March 2010 and is expected to be completed in early 2011.



Pacific Highway

Glen Road to Burns Road, Ourimbah

A contract was awarded in March 2008 for Stage 2 of the Pacific Highway widening between Glen Road and Burns Road, Ourimbah. Construction began in March 2008 and the \$52 million project was opened to traffic in January 2010.



Tuggerah to Wyong

The final stage of the \$42 million widening of the Pacific Highway from one lane to two lanes in each direction between Anzac Road and Johnson Road, with improved intersections, pedestrian facilities and a dedicated off-road cycleway, was opened to traffic in October 2009.



Other projects

Lanyon Drive, Queanbeyan

Design work to extend the four-lane section of Lanyon Drive from Tomsitt Drive (NSW) to the Monaro Highway (ACT) is being managed by ACT Roads with input from the RTA. The contract was awarded in October 2009 and construction is in progress. The project is expected to be opened to traffic in early 2011.

Nowra to Nerriga

Stage 1 of the reconstruction of Main Road No. 92 over a length of 24km was completed in June 2007. A contract for Stage 2 was awarded in July 2007, involving the reconstruction of a 9km section through Bulee Gap, including a new bridge. This work was opened to traffic in August 2009. A contract was awarded for Stage 3 in December 2008 with completion expected in late 2010.



Kings Highway improvements

This \$26.3 million project involves improvements along the Kings Highway between Queanbeyan and the new defence facility near Bungendore. The improvements include shoulder widening, intersection upgrades and a realignment on the eastern approach to Queanbeyan. Captain's Flat Intersection was completed in October 2009. The construction of the realignment commenced in February 2010 and is expected to be completed in early 2011.



New England Highway, Sunnyside realignment

This \$13.5 million upgrade of 2km of the New England Highway from 17–19km north of Armidale is designed to improve the road alignment to a safe 100km/h standard and to provide a consistent travel speed along the highway. Work commenced in March 2009 and was completed in January 2010. This project was fully funded by the Australian Government.



Bruxner Highway, Alstonville Bypass

The 6.6km Alstonville Bypass is estimated to cost \$97 million, and will provide significant benefits including quicker journey times, improved traffic flow and safety, and reduced through-traffic and congestion in Alstonville. Construction began in April 2009 and is expected to be completed in late 2010. This project is fully funded by the Australian Government.

Oxley Highway, Wrights Road to the Pacific Highway

This \$158 million project involves the realignment and widening of a 6km section of the Oxley Highway to provide a four-lane divided road from Wrights Road to the Pacific Highway, west of Port Macquarie. The project will improve road safety and provide shorter travel times for motorists travelling from the Pacific Highway and surrounding areas into Port Macquarie. It will also reduce traffic noise for residents living near the highway and improve access for all road users, including cyclists and pedestrians. Preliminary works began in February 2008 and the construction contract was awarded in October 2009. Major works commenced in January 2010 and are expected to be completed in late 2011.



Aerial view of the Oxley Highway upgrade at Port Macquarie, to the west from Wrights Road roundabout.

Network and corridor planning

Network and Corridor Planning Practice Notes were published in 2008. The team for this project won an Award for Planning Excellence in the category of Transport Planning in December 2009 from the Planning Institute of Australia NSW. See the Awards section on page 110 for further details.

The RTA published the first three corridor strategies in 2009–10, including Ballina to Tenterfield, Queanbeyan to Batemans Bay and Mona Vale to Macquarie Park.

This represents a significant contribution to the RTA's integrated strategic network and corridor planning processes to deliver a safe, sustainable and efficient road transport system.

The focus for each corridor strategy reflects the three key elements of current corridor performance:

- Road design and asset condition.
- Traffic efficiency.
- Road safety.

The strategic responses look at both the short term (five years) and longer term (25 years), based on the 'most likely' future scenario. These documents will assist in improving the RTA's capacity to manage and strategically enhance the road network.

Each corridor strategy is published on the internet, giving the public access to the documents. It is anticipated that the documents will be used to guide and analyse the need for the development of specific projects. To view the three corridor strategies and the *Network and Corridor Planning Practice Notes*, visit the RTA website.

Alternative transport

Bus priority

Inner West Busway along Victoria Road



The Inner West Busway, including the Iron Cove Bridge duplication, seeks to improve the efficiency and reliability of bus services between Gladesville Bridge and The Crescent at Rozelle, by providing city bound bus lanes during the AM and PM peak periods.

The project is estimated to cost \$175 million. Following extensive community consultation the proposal was revised to minimise local impacts while still providing the required improvements to public transport. Planning approval was achieved in March 2009. Construction has begun, and the project is expected to be opened to traffic in early 2011.

Strategic bus corridors



The release of the NSW 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. NSW Treasury allocated an initial \$90 million to the RTA's budget over three years (2005–06 to 2007–08) to implement bus priority measures on strategic bus corridors. A further \$100 million was allocated over four years from 2008–09 to accelerate the delivery of the Bus Priority Infrastructure Program. The funding is in addition to the RTA's \$15 million annual bus priority allocation. Bus priority 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, Burwood and Macquarie Park.

By June 2010, 112 bus priority infrastructure projects had been completed across Sydney. Construction was continuing on a further eight projects.

The Public Transport Information and Priority System (PTIPS) improves bus reliability by giving traffic signal priority to late running buses. Buses are tracked in real time using GPS technology. Buses requiring support to maintain timetable commitments are given priority at traffic signals. PTIPS also provides real time information to bus passengers via variable message signs at selected bus stops. It also provides accurate information on fleet and scheduling performance to enhance bus management and service planning. PTIPS is now fully deployed to the entire State Transit Authority fleet of more than 2100 buses and more than 790 traffic signal sites have been modified to accept priority requests. This number of buses is anticipated to rise to 4000 when those of the 15 metropolitan private bus companies are equipped.

Initial indications are that PTIPS is saving more than 7500 minutes of bus travel time per week in Sydney and Newcastle.

Bicycle programs

The RTA recognises that bicycle riding is an affordable, flexible, healthy and environmentally friendly form of transport. Promoting bicycle riding is an important part of the NSW Government's planning and transport strategy, particularly as it can reduce traffic congestion and reduce impact on the environment.

The RTA has lead work to prepare, and start implementing, a new, whole-of-government NSW BikePlan. The plan was completed on behalf of the Premier's Council for Active Living, as a joint project of the RTA and Department of Environment, Climate Change and Water. The NSW BikePlan was released on 16 May 2010 by the Premier and the Minister for Roads. More than 10 NSW Government agencies have lead responsibility for actions in the NSW BikePlan, reflecting the many different benefits of increased cycling.



The NSW BikePlan contains more than 150 actions to encourage more people to enjoy safer cycling in all parts of the State and to help achieve NSW Government targets for efficient transport systems, a cleaner natural environment, friendlier communities, and better population health. These targets include a priority added to the NSW State Plan in 2010 to increase the cycling mode share of trips under 10km in Greater Sydney to five per cent by 2016. The RTA will report against this target annually, which will require the existing mode share of cycling in Greater Sydney roughly to treble.

Bicycle usage increased by nearly 20 per cent during 2009 on Sydney routes that the RTA monitors with permanent bicycle counters. Compared with 2008, there was especially strong growth in weekday bicycle trips using the Sydney Harbour Bridge cycleway (30 per cent) and the Anzac Bridge shared path (25 per cent).



Bicycle infrastructure

The RTA is committed to making comprehensive provision for bicycles in new major road infrastructure and maintenance work. During 2009–10, bicycle facilities were constructed as part of the following road upgrades:

Ballina Road (Bruxner Highway), Lismore – Construction of a shared-use path from Gallagher Drive to Rous Road, Lismore.

Chatswood to North Sydney – Design development of the section of shared-use path between Merrenburn Avenue, Naremburn Chatswood and the Ridge Street Bridge, North Sydney.

Cowpasture Road – Construction of shared-use paths from Camden Valley Way to Main Street, Horningsea Park.

Falcon Street cyclist and pedestrian facilities – Pedestrian and cyclist bridge over the Warringah Freeway between Falcon Street at North Sydney and Merlin Street in Neutral Bay.



Glendale to Wallsend – Design development of a shared-use path along the disused tramway corridor from Frederick Street, Glendale to Ganney Road, Wallsend.

Great Western Highway – Construction of a shared-use path from Winbourne Road to Ferguson Avenue, Hazelbrook, and from Bass Street to Ridge Street, Lawson.

Kincumber Broadwater – Construction of a shared-use path along the western foreshore of the Kincumber Broadwater from Broadwater Drive, Saratoga to Carrack Road, Kincumber.

Learmonth Park, Bathurst – Construction of a shared-use path along Raglan Creek from Church Lane to Heresford Street, Bathurst.

Mulwala Irrigation Canal, Mulwala – Construction of a shared-use cantilevered bridge across the Mulwala Irrigation Canal, along Melbourne Street.

Pacific Highway – Construction of shared-use paths along the Pacific Highway from Burns Road to Glen Road, Ourimbah, and from Anzac Road to Johnson Road, Tuggerah.

Princes Highway – Construction of the Farrell Road pedestrian and cyclist bridge and shared-use paths: along Campbell Street under the Northern Distributor to Thompson Street; along Thompson Street from Kialoa Road to Park Road; and along the Northern Distributor from Park Road to Davidson Avenue and from Cotterill Avenue to Watts Lane. Construction of a shared-use railway level crossing east of the Dunmore Railway Station and shared-use paths along Tabbita Road and Shellharbour Road.

Other key cycleway projects specifically funded through the RTA's bicycle programs during 2009–10, included:

Unanderra Railway Level Crossing – Construction of a signalised and gated shared-use crossing of the South Coast Railway line at the Princes Highway, south-east of Nolan Street, Unanderra.

In recognition that most cycling takes place on local roads, the RTA offers joint funding to NSW local councils for the development and implementation of their local bicycle networks. During 2009–10, more than \$4.8 million was provided in matching funding towards 101 local cycleway projects in 76 local government areas.

Altogether, total RTA expenditure on bicycle facilities in 2009–10 was \$12.7 million and these funds helped to build more than 95km of cycleways, 48km of which were on-road (primarily road shoulders) and 47km off-road (paths).

The promotion of cycling

The RTA continued to support community events that encourage greater use of cycling. These included the City of Sydney Spring Cycle in September 2009 and the MS Sydney to the 'Gong Ride in November 2009. Around 11,000 and 10,000 bicycle riders participated in these events respectively. The RTA also promoted the benefits of cycling and safe cycling behaviour at the 'Ride for Life' and the 'Cronulla International Grand Prix' cycling events.

A Statewide marketing campaign to support NSW Bike Week (26 September to 4 October 2009) was undertaken, including the placement of banners on overhead bridges in Sydney together with street pole banners in North Sydney. The 2009 NSW Bike Week mail-out to advise every NSW primary and secondary school generated the strongest demand for cycling resources to date. Around 8400 people participated in 44 NSW Bike Week events across the State, with the RTA providing seed funding to more than 40 bicycle events organised by local communities throughout the State.

The RTA continued to support National Ride to Work Day (14 October 2009). RTA staff were encouraged to ride to work to assist with a national effort by bicycle riders to reduce greenhouse emissions. RTA offices across the State held initiatives such as 'ride to work day breakfasts', throughout the year, to encourage staff participation.

The RTA produced a number of publications to encourage safe cycling, including the new *Riding in Groups – A guide to riding safely on our roads*. This was a joint collaboration of the NSW Police Force, Bicycle NSW, Cycling NSW and the RTA, and was initiated by the Bicycle Advisory and the Road Freight Advisory Councils.

Pedestrians

The RTA implemented a number of initiatives to improve pedestrian access and safety. Facilities for pedestrians included pedestrian crossings; refuges; additional audio-tactile push buttons to assist vision-impaired pedestrians; kerb ramps; and pedestrian fencing. Key programs of works for pedestrians in 2009–10 included the following:

Pedestrian bridges – Construction was completed on bridges at Parramatta Road, Haberfield, and Silverwater Road, Ermington. Preparations for a bridge at Epping Road, Marsfield were well advanced.

State road multi-lane pedestrian crossing upgrades – By 30 June 2010, 55 of the 59 sites in the RTA's program to upgrade pedestrian crossings on multi-lane State Government-controlled roads had been upgraded. Traffic signals were installed at 43 sites. The remaining sites are scheduled to be completed in 2010.

Pedestrian facilities – A further \$3 million was spent in 2009–10 on pedestrian improvements on the arterial road network including 36 pedestrian facility projects.



By 30 June 2010, 55 of the 59 sites in the RTA's program to upgrade pedestrian crossings on multi-lane State Government-controlled roads had been upgraded.

Local government pedestrian facilities – Matched funding of \$1.4 million was provided to 60 local councils in 2009–10. This funding was used for 33 specific pedestrian facility works identified on the local network as well as continuing the implementation of councils' Pedestrian Access and Mobility Plans (PAMPs). These PAMPs have been prepared by councils, with RTA assistance, to determine measures which enhance safety, convenience and mobility in key areas of pedestrian movement, such as links between public transport, employment centres and other public venues.



To celebrate International Day for People with Disability (3 December 2009), the RTA and the Australian Institute of Transport Planning and Management once again conducted a 'Universal Access Workshop: the practical side of providing for people with disabilities'. The workshop provided participants with an insight into the design implications of ensuring access for people with disabilities; a summary of current Australian practice; and practical activities to demonstrate the barriers faced by people with disabilities when accessing road infrastructure. The workshop was held on 3 December 2009 and was well attended by council officers, consultants and RTA staff.

The RTA is installing an automated pedestrian counter on the pedestrian path on Sydney Harbour Bridge and a combined pedestrian and bicycle counter on the Anzac Bridge shared path for an enhanced understanding of trends in road use patterns.

Travel demand management

The increase in traffic volumes expected during the next two to three decades requires increased efficiency in roads and public transport. The RTA develops and implements travel demand initiatives designed to increase the efficient use of the road network. These initiatives include promoting modes of travel that are viable alternatives to conventional, single-occupant motor vehicle travel.

During 2009–10, the RTA implemented a number of measures, including:

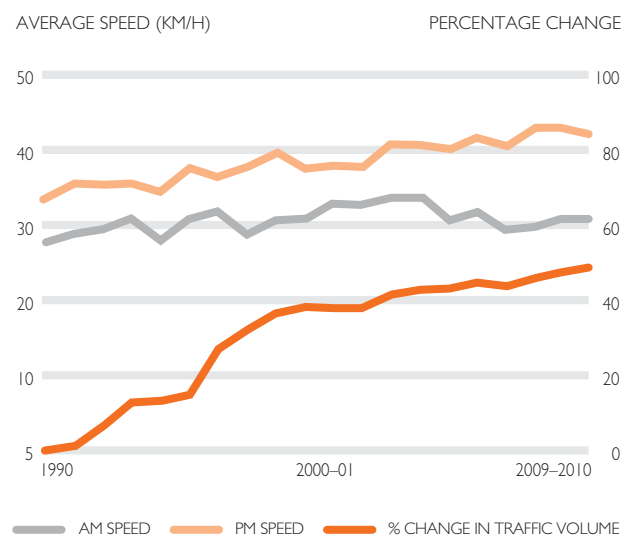
- Teleworking (working from home)** – The RTA promoted a manual to assist people in setting up and implementing a teleworking program within their organisation. A *NSW Teleworking Manual: A comprehensive guide to setting up and implementing a teleworking program* can be found on the RTA's website.
 
- Improved priority for pedestrians** – The RTA commenced a trial near Redfern Station of measures to improve the priority given to pedestrians at traffic signals. The initiative is designed to encourage walking and the use of public transport.
- Workplace Travel Guide** – The RTA has participated in the development of a *Workplace Travel Guide*. The Guide aims to assist employers with reducing car travel by promoting walking, cycling and use of public transport as viable transport options to their employees. The *Workplace Travel Guide* can be found on the Premier's Council for Active Living website.
 

Traffic

Speed and traffic volume trends

The trends in AM and PM peak speeds on the seven major routes to and from Sydney have remained broadly consistent despite a growth in traffic on these routes of 47 per cent since 1990.

FIGURE 4. SPEED AND TRAFFIC VOLUME TRENDS, SYDNEY, 1990–2010



Between 2008–09 and 2009–10, overall travel speeds have remained unchanged for the AM peak period and decreased slightly for the PM peak period.

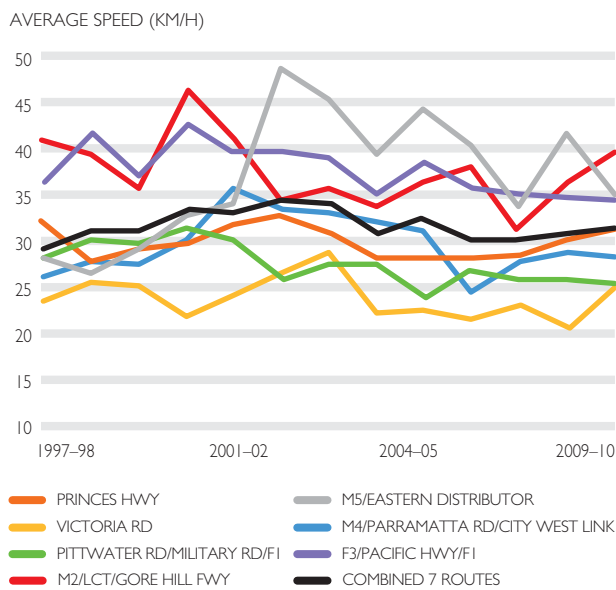
For the AM peak, the overall average speed of 31 km/h was unchanged between 2008–09 and 2009–10. Of the seven routes, speeds improved on three routes and were lower for four routes. Of these four, three corridors recorded only slight decreases of 1 km/h.

For the PM peak, there was a slight decrease from 2008–09 and 2009–10 in the overall average speed from 43 to 42 km/h. There was a reduction in speed on the M4 Western Motorway corridor, from 39 to 35 km/h, as a result of roadworks to remove the toll plazas. The Pittwater Road corridor decreased from 38 to 34 km/h due to delays in the Warringah area during the November survey period. The Pacific Highway/F3 Freeway corridor improved from 50 to 53 km/h following the completion of road widening near Berowra. There was also a small positive change on Victoria Road from 33 to 34 km/h and the Princes Highway was unchanged at 32 km/h.

Figure 5 shows the patterns in overall speeds on the seven routes in the AM peak since 1997.



FIGURE 5. AM PEAK SPEED TRENDS, SYDNEY, 1997–2010



Incidents and special events

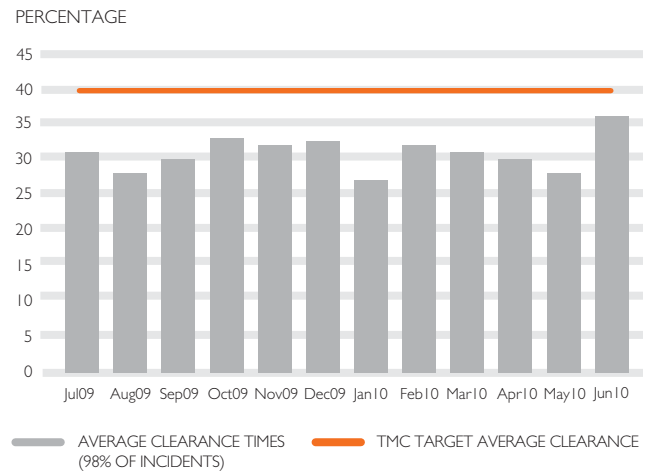
The RTA's Transport Management Centre (TMC) is responsible for 24-hour monitoring and management of the NSW road network. The TMC was opened in September 1999 to provide leading traffic management capability for the Sydney 2000 Olympics and celebrated its 10th year of operation in 2009.

The TMC works to clear unplanned incidents such as traffic crashes and breakdowns as quickly as possible and also ensures the impact of planned incidents such as roadworks are minimised.

The average incident clearance time of 98 per cent of unplanned incidents on Principal Transport Routes (PTR) has consistently measured below the target of 40 minutes. The annual average clearance time was 31.5 minutes, a reduction of nine per cent from the 2008–09 result of 34.66 minutes.

In 2009–10 there have been ongoing technology improvements at the TMC, including improvements to the video wall, a refurbished Transport Operations Room and a new version of the interagency computerised electronic messaging system.

FIGURE 6. CLEARANCE TIMES FOR UNPLANNED INCIDENTS, 2009–10



The TMC employs field-based traffic commanders to provide onsite incident management capability. Traffic Emergency Patrols are deployed on major routes in Sydney and surrounding areas to identify incidents and assist as they occur. Members of the public can report incidents as they happen via the 131 700 Traffic Incident Reporting Line. In 2009–10, this line received over 170,000 calls.

A Statewide network of closed circuit television cameras, variable message signs and variable speed limit signs enable the TMC to effectively detect, monitor and work to resolve incidents.

A key function of the TMC is to provide up-to-date traffic information and this is communicated via the RTA's 'Live Traffic' website, the 132 701 Traffic Information Line and roadside variable message signs.

TMC staff effectively plan and implement safe traffic arrangements for major events, ensuring minimal impact to the non-event community.

2009–10 saw a number of new and unique events, including the inaugural Breakfast on the Bridge, V8 Supercars at Homebush Bay and REPCO World Rally.

Annual marquee events including New Year's Eve, the City to Surf and Mardi Gras Festival continue to be successfully supported.

Incident management and traffic monitoring improvements

Incident management and traffic monitoring capability continue to be expanded at the TMC. Infrastructure improvements included the following:

- The \$30 million incident response system for the F3 Freeway between Wahroonga and Ourimbah has been substantially completed and includes median crossovers, Variable Message Signs and other monitoring equipment.
- The number of Variable Message Signs controlled by the TMC has increased to more than 200 Statewide, with additions on the F3 Freeway and Hume Highway.
- Installation of Variable Speed Limit Signs on the Sydney Harbour Bridge and Gore Hill Freeway, providing greater flexibility and safety in traffic management.
- Refurbishment of the Transport Operations Room within the TMC has commenced, including installation of a new video wall. Further enhancements to the video control system and other decision making tools are planned for 2010–11.



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), a computerised area traffic control system designed and developed by RTA traffic engineers. This world-leading system responds to traffic conditions in real-time by coordinating traffic signal timings to provide smooth traffic flows, and by processing requests for bus and emergency service priority at intersections. SCATS continued to be a success, with an expanding international market. At 30 June 2010, SCATS was licensed to 32,847 intersections in 141 cities across 24 countries worldwide.

The RTA currently distributes SCATS through an authorised distributors' network. The role of the SCATS distributors is to sell licences for SCATS and other related software internationally (excluding Australia, New Zealand and Singapore). Annual upgrade arrangements are in place with all RTA-supported SCATS users in Australia, New Zealand and Singapore. The annual update arrangements, along with local and international sales of SCATS and related products, also provide a guaranteed annual income stream to offset SCATS development and support costs.



The RTA continually improves SCATS and releases a new version each year. An Australian SCATS user group meets once a year to discuss SCATS enhancements. SCATS remains at the forefront of modern technology due to the feedback from SCATS users throughout Australia and worldwide, as well as ongoing innovation in design by RTA traffic engineers. The RTA

Commercial Development Committee has agreed to increase funding to 'future proof' the SCATS software as the next step in ensuring SCATS remains one of the elite adaptive traffic control systems internationally. This has many benefits, one of which is to ensure the public of NSW has the best traffic system available now and into the future.

For the past 30 years, SCATS has relied on direct telecommunication lines to control the operation of traffic signals by connecting them to computers across the State. However alternative connection solutions were needed before Telstra's planned withdrawal of its Permitted Attachment Private Line (PAPL) services on 31 March 2010. During the last two years, 2648 traffic lights in NSW were migrated to the RTA's new 'IP-over-phone line' solutions. As a result, the RTA is no longer tied to a single leased commercial telecommunications service or technology solution – providing future commercial and technical options and a 50 per cent reduction in telecommunications costs – a saving of about \$2.4 million per year.

To research longer-term enhancements to support SCATS capabilities, the RTA is continuing its collaborative research and development agreement with National ICT Australia Limited (NICTA). As NICTA is partly funded by the Australian and NSW governments, this collaboration comes at no financial cost to the RTA, other than the resource costs for staff working with NICTA researchers. The ARC Centre of Excellence for Mathematics and Statistics of Complex Systems (MASCOS) has been engaged to support the development of a statistical framework to guide traffic simulation studies.

See pages 87 and 93 to read more.



SCATS in action: Synchronising traffic lights to gaps in traffic, and coordinating vehicle flow.



Intersection and corridor improvements

Locations requiring improvements in traffic flow are identified by monitoring congestion and travel times on key routes. Improvements made at these locations include construction of traffic signals, roundabouts and general intersection upgrades.



The Pinch Point Strategy is a NSW Government initiative aimed at improving traffic flows at key congestion points on Sydney's major arterial road corridors. This five year strategy was announced by the Premier in November 2006 and \$100 million was committed to improvements on the road network, from 2007–12.

The Pinch Point Strategy is targeting peak hour traffic 'hot spots' on 23 corridors in Sydney and is implementing measures to provide more reliable travel times. Corridor strategies have been prepared and the identified works are underway.

Projects completed in 2009–10 as part of the Pinch Point Strategy include:

- Installation of traffic signals at Heathcote Road and New Illawarra Road, Lucas Heights.
- On King Georges Road, new traffic signals at Edgbaston Road, Beverly Hills and a right turn bay extension at Connells Point Road, South Hurstville.
- On Princes Highway, increased right turn bay capacity at Port Hacking Road and Formosa Street, Sylvania.
- On Cumberland Highway, increased right turn bay capacity at Briens Road and Redbank Road, Northmead.
- On Old Windsor Road, increased right turn bay capacity at Sunnholt Road, Parklea, Seven Hills Road, Baulkham Hills and Powers Road, Winston Hills.

Other locations where intersection improvements have been completed or progressed in 2009–10 included:

- Captain Cook Drive and Cawarra Road, Caringbah – traffic signal upgrade.
- Douro Street and Market Street, Mudgee – roundabout.
- Hillsborough Road Industrial Area, Warners Bay – upgrade package.
- Kingsway and Gannons Road, Caringbah – traffic signal upgrade.
- M4 Western Motorway and The Northern Road, Glenmore Park – upgrade package.
- Mitchell Highway at Bradwardine Road, Windradyne – roundabout.
- Mulgoa Road and Jamison Road, Jamisontown – new traffic signals.
- Snowy Mountains Highway and Jounama Road – intersection upgrade.

Traffic and transport modelling

The RTA continues to utilise 'advanced micro-simulation' – a vehicle-by-vehicle traffic modelling system designed to simulate scenarios such as changed traffic conditions – for the detailed modelling of complex traffic operations. For example, this was used to model the effects of the handover of the M4.

Detailed simulation models have been developed and are being maintained for:

- F3 Freeway.
- M2 Hills Motorway.
- Pinch Point.
- Sydney Airport and surrounds.
- Sydney CBD.
- The Central Coast Road Network.
- Warringah Freeway and Sydney Harbour crossings.

Many of these models incorporate a link to the SCATS signal control system that allows the actual signal operation to be modelled. The linkage to SCATS is one of several add-ons developed for the RTA to enhance the capabilities of traffic micro-simulation.

These models are supported by traffic models using a range of modelling techniques from intersection level analysis through to strategic modelling of the entire Sydney Greater Metropolitan Area. The RTA is continuing to develop and enhance traffic modelling guidelines to improve the standard of modelling throughout NSW.

Challenges and the way forward

Development

The RTA is working to meet the expectations of Sydney motorists in relation to reducing delay, management of congestion and maintenance of travel time. In addition it is addressing the need to meet increasing demands to ensure efficient traffic flow at unplanned events. Key priorities and challenges include:

- The creation of Transport NSW will help strengthen integrated planning and better partnerships with other agencies including the Department of Environment, Climate Change and Water (DECCW) and the Department of Planning (DoP), and particularly with the other NSW transport agencies. The RTA will continue to build closer relationships with DoP and DECCW to help streamline the approval process for high priority infrastructure projects, so that government infrastructure priorities can be achieved.
- The Australian Government's Nation Building Program continues to drive a substantial proportion of the RTA's Road Development Program including the Pacific Highway upgrade and the three Hume Highway town bypasses (Tarcutta, Woomargama and Holbrook) that will complete a four-lane divided highway between Sydney and Melbourne. Delivering these priority projects on time and budget is a key challenge for the RTA.
- Construction of high priority projects funded through the Building Australia Fund will continue, including the \$1.7 billion Hunter Expressway (F3 to Branxton link) and the \$618 million Kempsey Bypass on the Pacific Highway.
- Participation with other NSW Government agencies in the implementation of the NSW State Plan, Metropolitan Transport Plan, Transport NSW Corporate Plan, State Infrastructure Strategy, and Metropolitan and Regional Strategies.
- Work with Transport NSW and NSW Treasury to improve the Total Asset Management data requirements including project justification and prioritising in the State Infrastructure Strategy.
- Improvements to the Sydney Motorway network including widening the M2 Motorway and the M5 West Motorway, and planning for the M5 East expansion.
- The forward program of major projects to service Sydney's growth areas, primarily the north-west and south-west growth centres and the Western Sydney Employment Area, will continue to be a key focus of the RTA's liaison with Transport NSW and the DoP.
- Completion of the upgrades of Cowpasture Road and Hoxton Park Road to four lanes, the Inner West Busway along Victoria Road, the F5 Freeway widening between Ingleburn and Campbelltown, Alfords Point Bridge northern approach and Bangor Bypass Stage 2, and planning for the upgrade of Camden Valley Way to four lanes between Cowpasture Road and Cobbitty Road.
- The Australian and NSW governments have committed \$3.6 billion to continue the upgrade of the Pacific Highway over the five years to mid 2014. This includes construction of the Bulahdelah upgrade, Kempsey Bypass, Coffs Harbour (Sapphire) to Woolgoolga upgrade, Glenugie upgrade, Devils Pulpit upgrade, Ballina Bypass, Tintenbar to Ewingsdale upgrade and Banora Point upgrade.
- Continuing planning and preconstruction activities for the remaining Pacific Highway upgrade projects required to complete a four-lane divided highway between Sydney and Brisbane: Oxley Highway to Kempsey, Frederickton to Eungai, Warrell Creek to Urunga, and Woolgoolga to Ballina.
- Completing the upgrade of the Great Western Highway to four lanes between Sydney and Katoomba including completion of the Lawson upgrade, Woodford to Hazelbrook, and Wentworth Falls East sections by 2012.
- Deliver a range of essential projects on the Central Coast including upgrading various sections of the Central Coast Highway and completing the upgrade of Avoca Drive to four lanes between the Central Coast Highway and Davistown Road.
- Completion of the Lawrence Hargrave Drive intersection upgrade and construction of other projects on the Princes Highway, including the Gerringong upgrade, completing four lanes through South Nowra, realignment of the highway at Victoria Creek and the bypass of Bega.
- Completion of the third Hunter River crossing at Maitland and the Shortland to Sandgate section of the Newcastle Inner City Bypass.
- Completion of the bypasses of Moree and Alstonville.
- Implementation of urban design corridor strategies to ensure a whole-of-government approach to land use and transport planning.

Alternative transport

Key priorities and challenges include:

- Operational integration and performance of 1000 new buses onto the RTA's bus corridors.
- Continue delivery of the four year \$100 million accelerated Bus Priority Infrastructure Program.
- Commence the deployment of the Public Transport Information and Priority System (PTIPS) to private bus operators.
- Progress implementation of the NSW BikePlan, including associated cycleway network development and promotional initiatives.



- Provide improved traffic signal priority to pedestrians in high volume pedestrian activity areas.
- Promote teleworking and transport choices that can increase the effective use of the road network by reducing the number of single occupant private motor vehicle trips.
- Continue working with businesses, local councils and other organisations to develop and implement workplace travel plans which promote sustainable travel.

Traffic

The following actions are planned in order to address challenges and optimise service delivery:

- Deliver improved traveller communication through the enhanced Live Traffic website and adoption of new technology.
- Continue delivery of major events, including Breakfast on the Bridge, Sydney Running Festival, New Year's Eve celebrations, World Surfing Championships and the World International Triathlon Championships.
- Establish the former M4 Control Room as a back-up site for the TMC.
- Work to retain the skills, knowledge and expertise that risk being lost through staff retirements in key sections, particularly Transport Operations and TMC Systems.
- Continue implementing the \$100 million Pinch Point Strategy in Sydney.
- Continue to enhance incident management services.
- Continue to enhance the operational capability of the Sydney Coordinated Adaptive Traffic System.
- Engage with road users to assist in determining maintenance priorities.

F3 Freeway incident

On Monday 12 April 2010, a 16 tonne truck travelling north on the F3 Freeway near Jolls Bridge, collided with a fully laden fuel carrier. The incident caused significant traffic delays for more than 10 hours.

On 14 April 2010, Premier Kristina Keneally appointed former NSW Police Commissioner, Mr Ken Moroney, and commissioned an inquiry into the RTA's response to the crash on the F3 Freeway.

The results of the inquiry were released on 26 June 2010. The Moroney Report detailed 33 recommendations, which were accepted in principle by the NSW Government.

As a result the RTA reviewed key learnings from this incident and initiated the F3 Incident Management Improvement Program to help address these. The program has three major streams of work:

- Infrastructure.
- Operations.
- Customer focus, information and communication.

The outcomes from this program will be to enhance operations, infrastructure, communication and customer care in the event of further serious incidents on the F3.

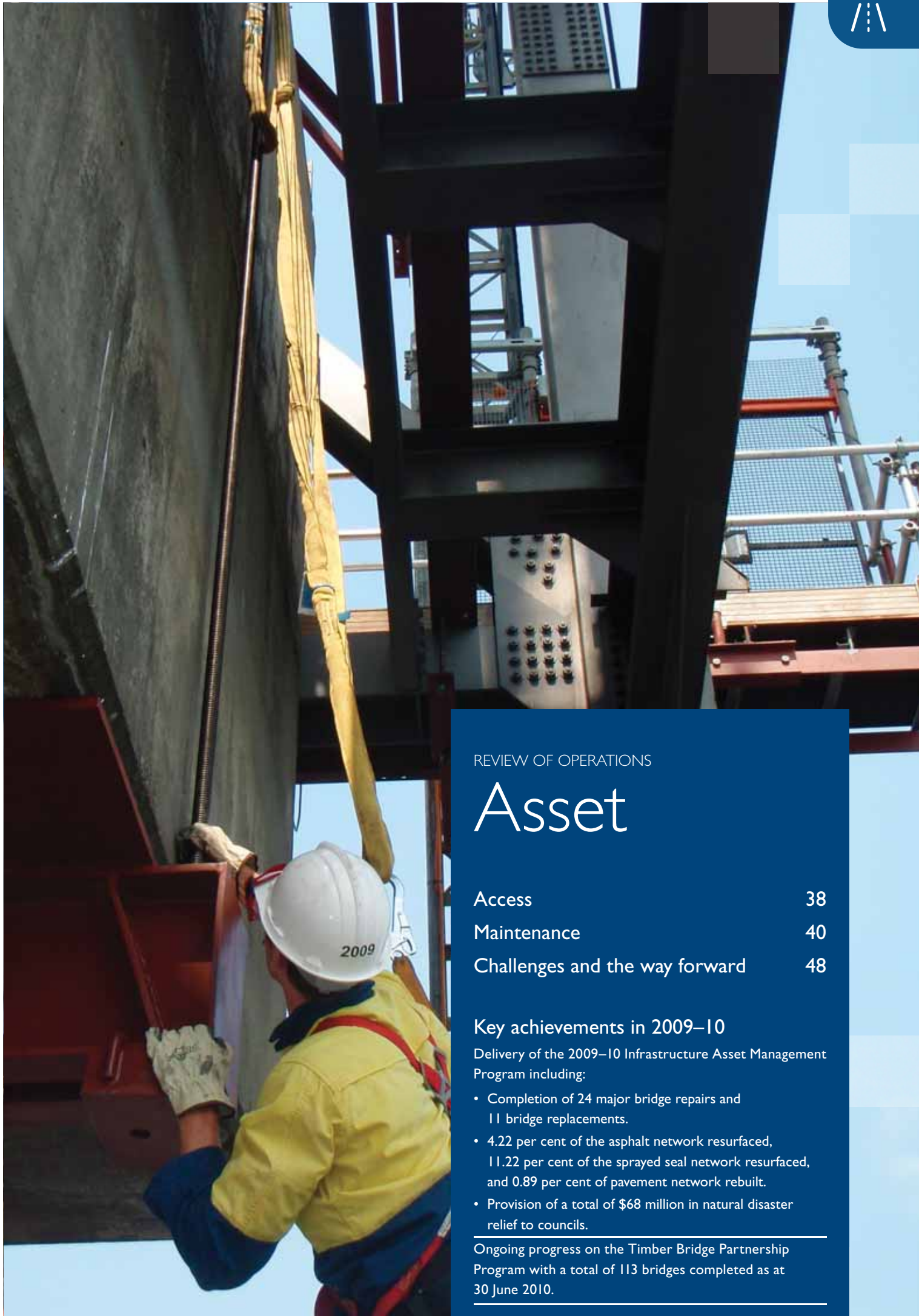
Power failure

Continuity of operations plans have been reviewed and updated following an external power failure on 2 September 2009 which caused interruptions to the operation of the TMC. Additionally, off-site support services are being established to ensure that disruption to operations are minimised.

Technology

Changes in technology present both an opportunity and a challenge for IT based systems. This will apply to SCATS as the system develops in the future. Large format outdoor advertising is likely to reach saturation by 2014. As this occurs advertising revenue per site will decrease. The RTA has embarked on a strategy to ensure that advertising revenue is optimised.

Maintaining strong commercial growth is important because it provides additional funds for road maintenance and services. A number of strategies have been put in place to continue revenue growth of the commercial revenue portfolio. These include product innovation, increased market penetration and new markets.



REVIEW OF OPERATIONS

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Key achievements in 2009–10

Delivery of the 2009–10 Infrastructure Asset Management Program including:

- Completion of 24 major bridge repairs and 11 bridge replacements.
- 4.22 per cent of the asphalt network resurfaced, 11.22 per cent of the sprayed seal network resurfaced, and 0.89 per cent of pavement network rebuilt.
- Provision of a total of \$68 million in natural disaster relief to councils.

Ongoing progress on the Timber Bridge Partnership Program with a total of 113 bridges completed as at 30 June 2010.



REVIEW OF OPERATIONS

Asset

RTA result: The condition and value of the road network meets acceptable standards

The road asset

The RTA manages around 18,000km of State roads, as well as nearly 3000km of Regional and local roads in NSW. The RTA is also responsible for more than 5000 bridges and a range of other assets such as traffic signals and tunnels.

The RTA is tasked with maintaining this enormous network to acceptable standards, in the context of an increasing population and increasing number of commuter and freight vehicles using roads.

The network is crucial to communities across NSW – in many ways it is the social and economic lifeblood of the State. This chapter details the work the RTA is doing to maintain the system, and shows what performance levels have been reached in the past year.

NSW is also a major gateway to Australia for goods coming in and leaving our shores. For this reason, the road network's role in assisting freight transport is essential. This chapter details how freight access is being managed across the road network in the face of continuing strong growth in the freight task.

This chapter outlines the RTA's management of the road network to ensure its condition and value meets acceptable standards. It is divided into three main sections:

Access – sustainable access for freight.

Maintenance – management of roads and infrastructure.

Challenges and the way forward.

Chapter cover image: Maintenance works on the Harwood Bridge, located on the Pacific Highway north of Grafton, December 2009. Photo taken by RTA staff member Tim Jarrold.

Access

Intelligent Access Program



The Intelligent Access Program (IAP) is a multi-jurisdictional initiative that allows road agencies to use certified satellite-based tracking technology to remotely check whether heavy vehicles are complying with conditions such as load limits and approved access to the road network.

This program has been in operation since 1 July 2006 (although mandatory from 1 July 2009 for all operators that intend to operate at Higher Mass Limits) and is an outstanding example of how state and territory governments, along with the Australian Government, adopted a strategic vision and worked collaboratively on a truly national road transport reform.

Satisfying a key part of the NSW Government's AusLink funding commitments with the Australian Government, the RTA was the first agency in Australia to make immediate use of the IAP and uses the program to monitor the expansion of the HML network.

The IAP experienced significant growth during 2009–10, with five service providers certified by Transport Certification Australia and 507 vehicles being fully enrolled in the program in NSW as at 30 June 2010. This represents an increase of 258 vehicles or 104 per cent growth from 30 June 2009. In addition, a further 71 vehicles were at various stages of enrolment at the end of 2009–10.

The RTA is currently developing policy which supports the mandatory enrolment of specific types of cranes in the program. This would provide improved access arrangements to relevant crane operators and improved compliance assurance for NSW roads.



Truck on the Coolac Bypass, Hume Highway.

Austroads Freight Program

Austroads programs are managed on a rotational basis between Australian states and territories and New Zealand. Between 1 July 2007 and 30 June 2010, NSW assumed responsibility for management of the Austroads Freight Program and on 1 July 2010 handed over management to Victoria.

The primary objective of the Freight 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:

- The use of technology in data collection.
- Best-practice models and tools for operators and regulators.
- Managing freight growth.
- Improving heavy vehicle access.

The Freight Program is supported by a taskforce, which includes senior staff from both freight and heavy vehicle policy and operational areas of Austroads' member organisations.

The task force work is undertaken in the context of:

- Increasing freight demand.
- Changed federal/state funding arrangements for road and rail infrastructure development and maintenance.
- Changing international standards for freight movement (eg container sizes) and heavy vehicle manufacture.
- A recognised need for better integration of the road and other transport modes.

Significant projects completed in 2009–10 through the Austroads Freight Program included:

- Freight Task – Industry Stakeholder Assessment.
- Feasibility study – Parking and rest opportunities in areas zoned for industrial purposes.
- A report into local government and the future freight task.
- Competency and Capability Matrix for Regulators.

Performance Based Standards



The nationally agreed Performance Based Standards (PBS) Regulatory Framework for heavy vehicles operating in NSW focuses on how well a heavy vehicle 'performs' on the road, rather than prescriptive dimension and mass limits. A PBS vehicle's performance is assessed against an agreed set of safety and infrastructure protection standards. The PBS approach enables innovation in the transport industry and achieves community benefits such as improved productivity, safer performance and the least possible impact on the road infrastructure.

At 30 June 2010, there were 37 PBS combinations with permits to operate in NSW and 84 vehicle designs approved by the National Transport Commission's (NTC) PBS Review Panel (PRP) under the PBS scheme. RTA played an active role on the PRP, attending all meetings and voting in favour of these combinations. Extensive work has been carried out with sections of industry wishing to operate new higher productivity vehicles. An example of the successful outcome of these discussions are the additional 'Super B' combinations that have commenced operating at Port Botany and the quad axle PBS approved semi-trailer carrying fully loaded containers of export meat from an abattoir to a private rail head in Dubbo.

The road network in NSW is continually being assessed for its capability to carry (and therefore be classified for use by) various PBS vehicles. In principle, routes have been identified for the different categories of PBS vehicles throughout NSW. These now appear on the NTC PBS website.

Road Freight Advisory Council sub-committees

Two Road Freight Advisory Council (RFAC) sub-committees were established to focus specialist effort on heavy vehicle priorities. These sub-committees enable the RTA and industry to work together to resolve industry related issues.

Last mile access sub-committee

The RTA and local government are responsible for the operation and management of the State's road pavement, bridge and road corridor infrastructure. The freight task is projected to double in size over the next 20 years and this means increased heavy vehicle movements will be required to deal with this task. The number of movements can be minimised if it is possible to use more productive vehicles that can safely carry more freight.

Individual councils are responsible for determining if Restricted Access Vehicles (those exceeding general access mass limits) are suitable to operate on their roads. The ability to 'optimise' freight productivity is often constrained by council approval required for access to higher productivity Restricted Access Vehicles, usually for the first and last mile (1.6km) of a journey.

In early 2010, the Road Freight Advisory Council established a sub-committee to consider 'Last mile' issues, which includes access for vehicles operating at Higher Mass Limits, 4.6 metre high vehicles and B-Doubles as well as the development of the AB-Triple and B-Triple networks.

Urban freight issues sub-committee

Curfew issues in urban areas, in particular night-time deliveries, primarily relate to access to off-road sites, for example supermarkets in shopping centres. In this situation, network access is not necessarily the issue which inhibits more efficient industry operations. The issue relates to the planning and consent conditions imposed upon the property owner that affect heavy vehicle access, which has consequences for the optimum use of the road network by requiring freight deliveries to be scheduled during daytime and peak traffic periods.

In early 2010 the Road Freight Advisory Council established a sub-committee to focus on delivery curfews in urban areas and in particular night time access to retail outlets. Managing this issue requires close cooperation and collaboration with local government and the NSW Department of Planning due to the interfaces with planning laws and community noise concerns.



National heavy vehicle chain of responsibility expansion



Chain of responsibility (CoR) legislation commenced in 2005 following the introduction of the *Road Transport (General) Act 2005*. CoR requires that all parties in the road transport and logistics supply chain have specific obligations under road transport law to prevent offences occurring. These parties include: consignor, consignee, loader, operator, scheduler and prime contractors who must take steps to prevent breaches under road transport law.

To date, strategies have been developed and successfully deployed for mass, dimension and load restraint, fatigue and speeding compliance. Investigations continue into various heavy vehicle industry sectors with the continued focus on education, used before sanctions and enforcement action to achieve compliance. The education process is ongoing and has gathered increased interest, especially with off-road parties in the logistics supply chain. Areas of the legislation that require strengthening have been included for consideration before the introduction of the Road Transport Consolidated Draft. This Bill and other amendments are soon to be considered by parliament. These provisions will enhance CoR legislation ensuring it is workable and allows for the desired outcomes.

Maintenance

Road management

The 184,859km NSW road network is a significant public asset, providing access across NSW for commuters, travellers, business and freight.

The road system can be divided into four categories:

- 17,984km of RTA-managed State roads including 4316km of National Network, for which the Australian Government provides a funding contribution, and 147km of privately funded toll roads.
- 2970km of RTA-managed Regional and local roads in the unincorporated area of NSW.
- 18,257km of council-managed Regional roads, which receive significant State grant funds administered by the RTA.
- 145,648km of council-managed local access roads, funded by local ratepayers and Australian Government programs such as the Financial Assistance Grants and the Roads to Recovery Program.

The RTA is also responsible for maintaining and operating:

- 3811 traffic signal sites.
- 7000 street lights.
- 434 traffic intelligent transport systems.
- 5071 bridges, major culverts and 22 tunnels.

- Five automated tidal flow systems.
- 56,000km of longitudinal line markings and other pavement markings.
- Two million reflective raised pavement markers.
- 72,000 guide signs with major structures and 190,000 parking, regulatory and warning signs.
- Nine vehicular ferries.

Other RTA assets associated with the road corridor include road shoulders, verges, drains, rest areas, slopes, retaining walls, noise walls, traffic barriers, signs and smaller culverts.

The RTA faces considerable challenges in managing the maintenance and renewal of the NSW road and bridge infrastructure to ensure it is safe and reliable, both now and into the future. Currently over 40 per cent of road pavements are more than 30 years old (Figure 7) and 82 bridges are over 100 years old (Figure 8). This requires strong risk management, practical planning and robust analysis of the future usage and performance of the road network.

Road users are keen to see roads maintained to provide a smooth journey. A performance indicator in the 2010 State Plan is to improve the quality (smoothness) of urban and rural State roads, so that 93 per cent of roads meet the national standard by 2016. During 2009–10 the road smoothness over the State network increased by 0.1 per cent.

The Auditor-General's 2006 performance audit, *Condition of State Roads* recognised that: "The RTA has done well to recognise the importance of measuring structural condition and progressively improve its methods to do so". The report made 14 recommendations for improvements. The RTA has initiated 12 projects to address the recommendations with 10 specific deliverables and two which are ongoing. The RTA has effectively completed seven of the specific recommendations and is well advanced to achieve other improvements. During 2009–10 specific achievements included:

- Updating work selection guidelines (to improve regional consistency).
- Completing a pavement condition model to predict structural performance in roads. Network-wide strength testing has been undertaken and has been supplemented in 2009–10 by 10,000km of strength testing using the Danish Traffic Speed Deflectometer (TSD). Further details about the TSD are provided later in this section.
- Commencing development of the corporate pavement management system (PMS) to improve analysis of road pavement needs and management of road pavement maintenance programs. Further details about the PMS are provided later in this section.
- Developing a methodology to predict the future condition of bridges.
- Analysing community costs and benefits associated with alternative approaches to road closures to undertake maintenance works.





The outcomes of the projects resulting from the Auditor-General's report will improve the RTA's capability to assess overall funding needs and distribute funds more effectively across the road network. The projects will also ensure consistent strategies are used across NSW and help the RTA to set appropriate condition targets and strategies for achieving the targets.

FIGURE 7. DISTRIBUTION OF CONSTRUCTION PERIOD FOR ALL STATE ROADS (INCLUDING NATIONAL NETWORK) AS AT 30 JUNE 2010

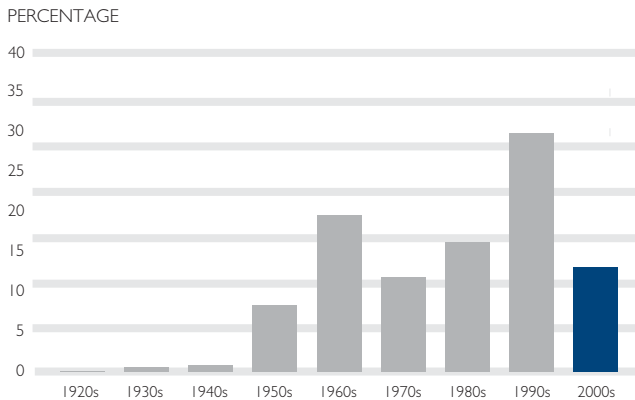
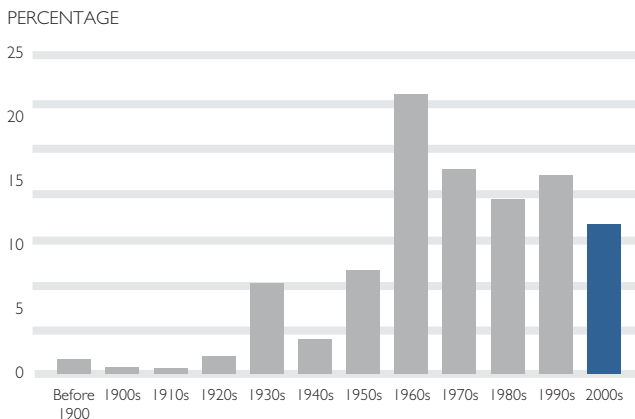


FIGURE 8. DISTRIBUTION OF CONSTRUCTION PERIOD FOR ALL BRIDGE SIZE STRUCTURES



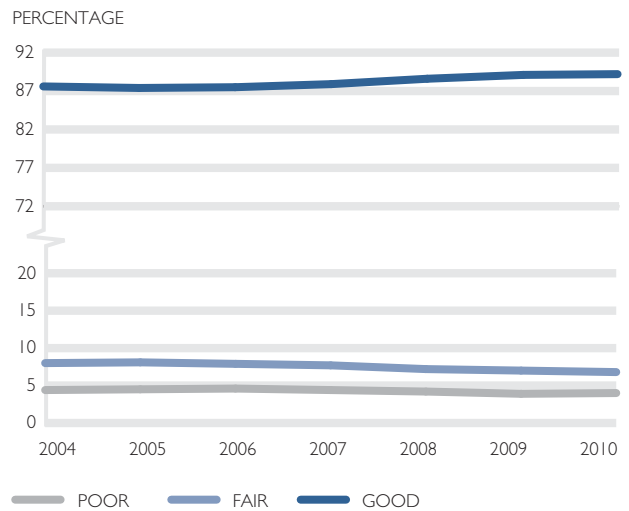
Infrastructure condition

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

- Ride quality:** This is a measure of the longitudinal profile and undulations of the road surface and is measured using vehicle-mounted laser technology. Smoother roads are more comfortable to drive and ride on and reduce the heavy vehicle dynamic loads that result in increased road damage. Smoother roads also cause less damage to vehicles and save fuel. The indicator is reported in terms of the percentage of travel on roads with 'good', 'fair' or 'poor' smoothness. The percentage of travel on roads with 'good' smoothness is a State Plan indicator with a target of 93 per cent smooth travel by 2016.

- Pavement durability:** This is a measure of the amount of surface cracking on the road. Cracks let water in, which can cause softening of the underlying road pavement leading the road to deteriorate prematurely. The road surface plays an important role in providing both a safe running surface for traffic and a waterproofing layer to protect the underlying pavement from moisture. Cracking is measured at highway speed by automated technology using the RTA's road-crack vehicle.

FIGURE 9. RIDE QUALITY ON STATE ROADS



The overall ride quality on State roads has remained stable compared to 2008–09 and has not shown the overall improvement trend from recent years (Figure 9).

During 2009–10 the RTA carried out significant works on the State road network that contributed to improving the smoothness of roads. This included:

- Delivery of 284km of new carriageway.
- Rebuilding or upgrading of 223km of carriageway (1.37 per cent of the road network).
- 180km of asphalt resurfacing (4.22 per cent of the asphalt network).

On Sydney roads there has continued to be a gradual improvement in the amount of travel on 'good' roads (Figure 10). This has been assisted by the increased level of resurfacing achieved across the Sydney network. When looking at the actual roughness of various road corridors (Figure 11) the Hume and South Coast networks have shown an improvement whilst other corridors in the north and west of the State have generally shown a slight increase in roughness since last year. This correlates with higher than average rainfall in these areas over the past two years. The presence of water can greatly accelerate the deterioration of roads especially natural gravel materials.



FIGURE 10. RIDE QUALITY ON SYDNEY STATE ROADS

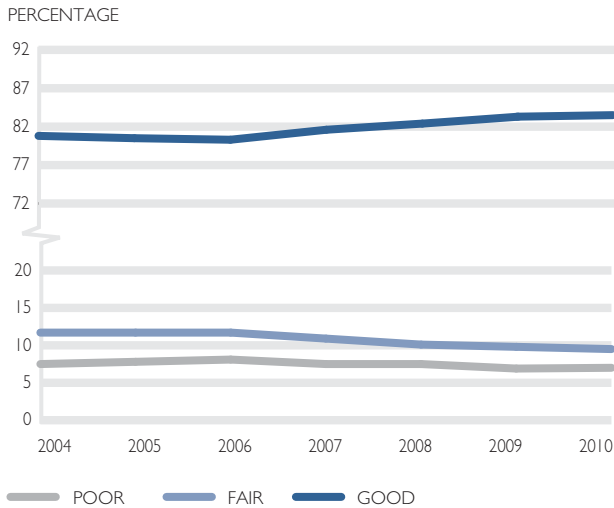


FIGURE 11. ROAD SURFACE ROUGHNESS PER CENT GOOD ON SELECTED STATE ROADS

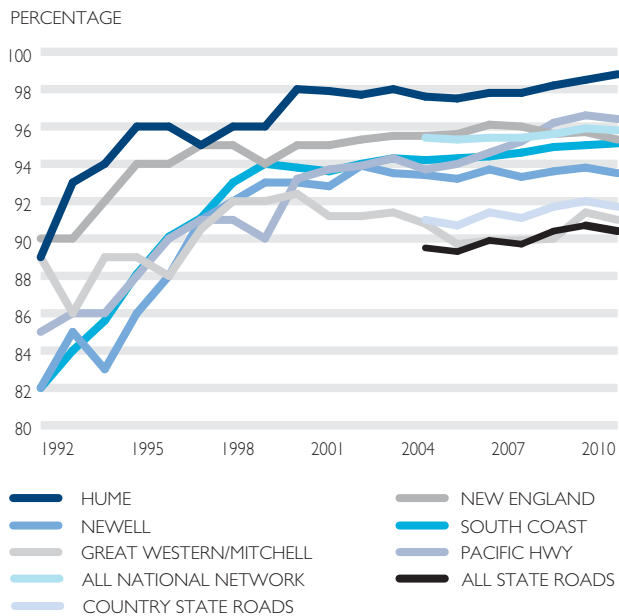


FIGURE 12. PAVEMENT DURABILITY – ALL STATE ROADS

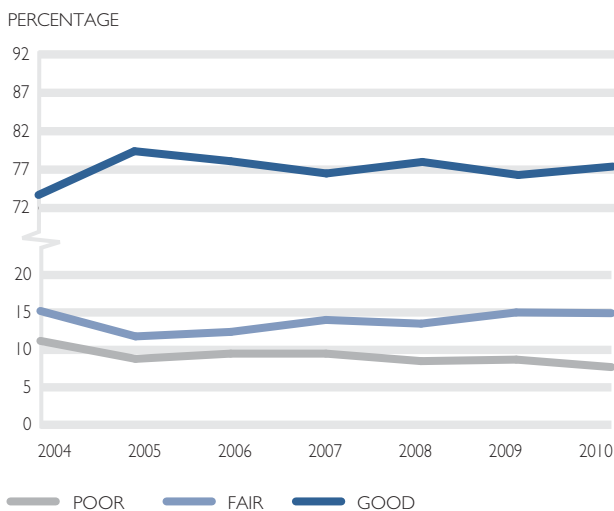


FIGURE 13. PAVEMENT DURABILITY – URBAN STATE ROADS

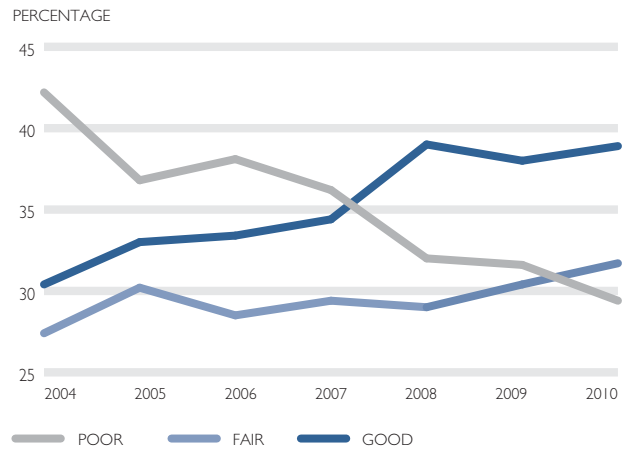
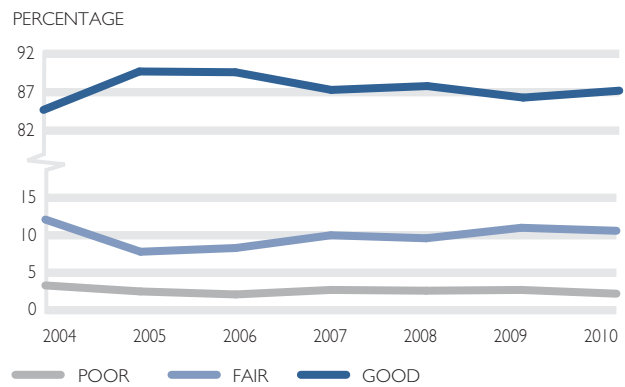


FIGURE 14. PAVEMENT DURABILITY – RURAL STATE ROADS



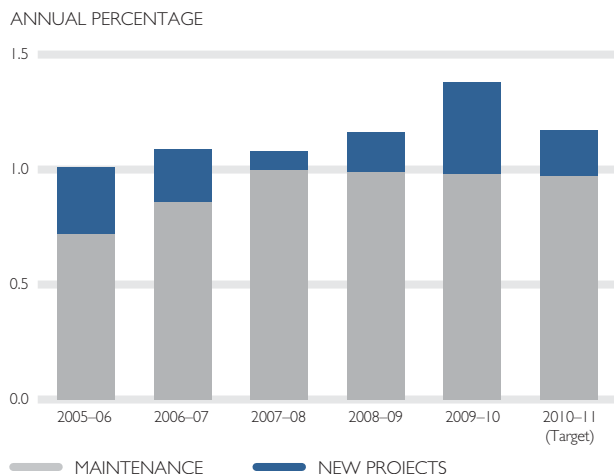
Pavement durability on the rural network has remained relatively stable over the last six years with extent of poor rated road cracking remaining at very low levels. Greater attention is required to minimise cracking on rural roads as rural pavements are more susceptible to variations in moisture. The RTA has minimised the potential adverse affects of increased rainfall by implementing a road pavement preservation strategy that focuses on:

- Rehabilitating roadside drainage.
- Maintaining the waterproof protective seal.
- Widening roads so that water runs further away from the road, thereby reducing soakage.
- Improving the surface of the road so water sheds off it.

Urban roads in general display a higher level of cracking than rural roads but tend to be more resilient as they are made of manufactured materials like asphalt. The RTA has recently increased its funding and focus on urban roads and has achieved a significant improvement in road condition, with the level of poor cracking dropping from a high of 42.2 per cent in 2004 to a low of 29.4 per cent in the current year.

As road pavements continually deteriorate over time, the RTA must eventually rebuild roads to ensure that the road network is sustainable and to restore pavement conditions to acceptable standards. The RTA mainly rebuilds existing road pavements through its maintenance program but new road carriageways also contribute to this aim.

FIGURE 15. REBUILDING OF ROAD PAVEMENTS



The contribution of rebuilding activity from new works is dependent on the nature of projects undertaken in any year, and whether they involve rebuilding existing pavement, or provision of new infrastructure. The contribution from new works tends to fluctuate from year to year. In 2009–10 the contribution to rebuilding from new infrastructure works was very high. As a consequence of this and the increased maintenance funding directed to rebuilding activities since 2007–08, the RTA exceeded its 2009–10 target and achieved the highest rate of road rebuilding since 2001.

Maintenance programs

The Infrastructure Asset Management Program establishes priorities for maintenance work and replacement activities on a risk basis to support ongoing safe and reliable travel on NSW roads. Roads constitute one of the largest public assets managed by government. Carefully planned maintenance programs are required to protect the original investment in these assets to ensure their service into the future. Affordable service levels are prioritised across the various components of the road infrastructure and programs are developed in line with corporate maintenance program guidelines. Routine maintenance work is delivered through a mixture of external council contracts and in-house providers. Maintenance specifications set consistent minimum levels of service and specify requirements for identifying and rectifying defects, procedures and management systems for worker safety, traffic control and safety, environmental protection and work quality.

Achievements during 2009–10 included delivery of the \$1.105 billion Infrastructure Maintenance Program which represented an increase of \$16 million compared to 2008–09. Significant program outcomes included:

- Completion of 24 major bridge repairs and 11 bridge replacements.
- 1.90 million m² of asphalt surface replaced (4.22 per cent of the asphalt network).
- 13.93 million m² of bitumen surface resealed (11.22 per cent of the sealed network).
- 1.65 million m² of road pavement rebuilt and/or widened (0.89 per cent of the total network).

Traffic Facilities Maintenance Program

The RTA delivered a \$109 million Traffic Facilities Maintenance Program, in addition to the Infrastructure Asset Management Program. Significant program outcomes included:

- \$4.9 million for upgrade of ageing traffic assets.
- Repainting of 16,794km of longitudinal line marking in rural areas using water-borne paint.
- Maintenance of 3811 sets of traffic signals.
- \$20 million for traffic block grants provided to local council.
- \$15.5 million to local council to support the provision of adequate lighting on important traffic routes.



Maintenance works on traffic signals.

Asset Renewal Program

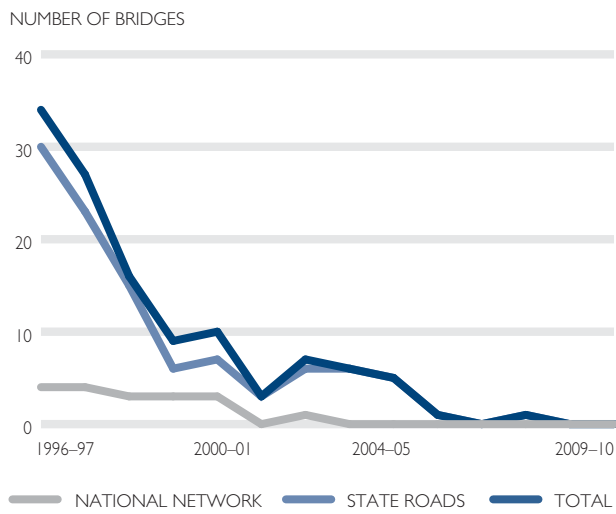
Since 2001, all of the funds from a series of increased RTA charges have been directed into maintenance of the RTA's State roads and bridges. The majority has been spent on rural roads and, in 2009–10, this expenditure was \$81.67 million.

Major works recently completed under the Asset Renewal Program include the reconstruction of:

- John Renshaw Drive at Black Hill.
- Waterfall Way at Marx Hill.
- Newell Highway north of Gilgandra.
- Newell Highway at Mungle Creek north of Moree.
- Mid Western Highway east of Cowra.
- Refurbishment of Harwood Bridge on the Pacific Highway.
- Widening of the Castlereagh Highway near Gulgong.
- Widening of the Silver City Highway at Coombah.



FIGURE 16. NUMBER OF BRIDGES ON STATE ROADS AND NATIONAL ROADS WITH CONSTRAINTS ON USERS, 1996–2010



In 2009–10, no bridges on State roads were 'constrained'. A bridge is constrained if it is closed to traffic completely or a temporary lane, load or speed restriction is imposed on travel. Bridges constrained for planned maintenance or traffic incidents are excluded from these figures. Constraints in previous years have included bridges:

- With load or speed limits.
- Which were closed or washed away.
- With a temporary support system in place.

Slope stability

During 2009–10 a total of 35 slopes were remediated at a cost of \$13.5 million. The RTA's risk management approach identified the key slopes to be remediated. Unfortunately some very heavy rainfall across NSW led to additional slope stability problems. This was particularly evident in the northern region where extreme rainfall caused the partial closure of the Oxley Highway west of Wauchope. At the same time, in the Sydney region, slope stability problems were experienced on Galston Gorge Road and Hawkesbury Road.

Culverts

During 2009–10, the RTA further improved management processes for culverts. A culvert management framework policy was adopted in September 2009. In accordance with this policy a Culvert Management Committee was established to provide advice on the management of culverts.

By 30 June 2010, around 45,000 of an estimated 60,000 culverts had been inspected by accredited inspectors with data collected on the physical dimensions and condition of each culvert.

A guideline and training package to enable staff to conduct culvert risk assessments has been prepared. A pilot training course was trialled with formal training to commence in July. To facilitate the process, a user-friendly software risk assessment application has been developed and made widely available.

A total of \$16 million was spent on the rehabilitation of culverts and drains to extend their life and to ensure they were functional. The RTA took advantage of some innovative techniques and products which are available for repairing and re-lining culverts.

Pavement Management System



In 2009–10, the RTA commenced implementation of a new Pavement Management System (PMS) to support decision-making. With a new PMS, the RTA will be better placed to direct limited budget resources for sustained performance, to raise confidence levels in decision-making, to validate investment decisions, and to support funding submissions. The RTA-PMS will involve improved business processes complemented by new decision support software tailored to assist policy, strategy, and the development of the pavement program across the NSW road network. The RTA has purchased software from Deighton Associates (Canada) as its decision support tool.

Good pavement management stems from blending engineering judgement and local knowledge with sound asset management principles. The RTA-PMS and associated business processes will support the principles of good asset management, namely:

- Clearly linking policy goals and decisions at all levels.
- Creating connection between investment decisions and expected results.
- Creating linkage between project selection and program level impacts.
- Taking a long-term view and minimising cost over the life of an asset.
- Improving quality of data that supports decision-making.
- Exposing performance that feeds back into the decision making processes.
- Ensuring clear accountabilities for performance improvement.

Further, the RTA-PMS will allow the RTA to model the long-term effect of funding scenarios and external influences such as climate change and changes in traffic loading on pavement performance.

Estimating 'structural remaining life' of roads



Estimating how long road pavements are going to last is a critical factor in determining maintenance programs. Australian road authorities generally do not have a sufficiently robust capability to forecast the long-term future structural condition of road pavements. In accordance with best practice elsewhere, the RTA has used surrogate indicators such as pavement age, road smoothness and road surface cracking. However, these methods do not reflect the structural remaining life very well. The only way to determine the remaining life is to measure the deflection of the road under a load, similar to that experienced when a heavy truck passes over the road. The RTA has recently developed sophisticated models that provide greater insight into the structural adequacy of the road network based on

extensive laboratory testing and field testing. The methodology for this model was delivered by ARRB in 2009–10. The benefits of an improved understanding of the remaining life of structures include:

- A more accurate assessment of the sustainable level of road replacement needed.
- Better alignment of resources and outcomes.
- Ability to develop models that provide confidence that long-term road condition targets can be achieved.
- Value for money – better information for identifying the best repair; optimal timing and location of repairs.
- Minimisation of the overall cost of maintaining roads at appropriate condition levels over the long-term.

Measuring the strength of roads

In October 2009, the RTA and the Danish Road Directorate established an agreement to use new vehicle based technology to assess the condition of roads on the NSW road network. This vehicle is known as the Traffic Speed Deflectometer (TSD). The RTA has collected and applied deflection data for use in pavement assessment and pavement design procedures for many years. Earlier methods for measuring pavement strength are costly and can cause disruption to road users as the test equipment must be operated while stationary or at very low speeds. The TSD has the major advantage of being operated at traffic speed. The recently completed trial has demonstrated that readings from the equipment are reliable and repeatable. The RTA is currently analysing the data collected by testing about 10,000km of State roads so as to form a better understanding of the structural adequacy of its road pavements. These outputs will be incorporated into the new Pavement Management System.



The 10,000km trial of the Danish Traffic Speed Deflectometer was successfully completed in June 2010.



The Danish Traffic Speed Deflectometer.

Bridge modelling

The RTA and the University of Technology, Sydney have developed a model for predicting the future condition of bridges based on currently available bridge inspection data. The software developed could analyse historical data and predict deterioration of bridge elements. Based on element deterioration, it is possible to predict the future condition of bridges or groups of bridges selected on a particular route, region, design era, material type or structure type etc. This software will be validated in 2010–11 to assess the reliability of predictions for the software to be a useful tool for bridge asset management in the RTA.

Sydney Harbour Bridge Strategy

The RTA has been developing a long-term maintenance strategy for the Sydney Harbour Bridge (SHB). Once completed it will guide the RTA on:

- Maintenance, rehabilitation and replacement of bridge elements.
- Maintenance logistics and access arrangements.
- Long-term funding and delivery of maintenance.

As part of the development of long-term maintenance strategy for the SHB, the following work has already been completed:

- Review of national and international bridge maintenance practices of similar structures.
- SHB information system and 3D model.
- SHB inspection and condition rating procedure.
- Condition rating of representative sample of the SHB elements.

Sydney Harbour Bridge

The Bridgeworks Alliance (BWA) is an alliance between the RTA, Baulderstone, Freyssinet Australia and Aurecon. It was formed to deliver strengthening and upgrade works on the bridge to significantly extend its lifespan. After a period of intensive design development, trials, and rigorous personnel training, BWA commenced construction in early 2008. The project was substantially completed early 2010 and was almost finalised by mid 2010. It delivered a final scope that includes:

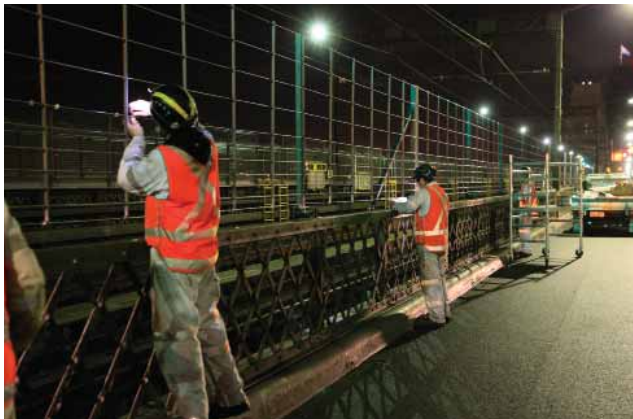
- Temporary arch access systems to facilitate strengthening.
- New main span under-deck access gantries.
- Upgraded access gantry support rails.
- Strengthened arch structure.
- New fire protection and deck drainage systems and improved expansion joints.
- Refurbishment of existing access gantries.
- Erection of a 1.4km fence extension separating the road and rail corridors.



The upgrade works were unique and technically demanding, and required exacting tolerances on a scale never previously undertaken in Australia. In response to these significant challenges, the BWA developed ground-breaking solutions. The project included a truly integrated team, a unique approach to safety, an uncompromising approach to quality commensurate with a Heritage Listed global icon. Innovative solutions were developed and implemented in an extremely constrained environment. This included an arch access system that allowed construction of the work with no unplanned delays to stakeholders and the installation of two Olympic swimming-pool-sized underdeck gantries to allow construction access to meet the challenging construction program.

A unique risk profile existed on the Sydney Harbour Bridge upgrade project as a result of both the critical nature of its location and the highly technical construction works. Much of the work was undertaken at height, requiring substantial items of steelwork to be installed directly over road, rail and harbour traffic, with the potential for dropped objects having catastrophic consequences, far beyond the norm. Safety was paramount for the project and a zero-harm culture was adopted by the alliance to address this issue.

This project, once complete in early August 2010, will be seen as a success technically, as well as in the way the alliance team were able to manage the many complex needs of the bridge environs in achieving their goal.



Night works on Sydney Harbour Bridge.

Harwood Bridge

The lift span of the Harwood Bridge underwent a major mechanical and electrical overhaul costing over \$7 million. The lift span towers 43m above the bridge deck and this height presented unique lifting and access challenges. A pair of resident osprey birds also required careful attention to ensure that this protected species was not harmed during the project. The project was completed in May 2010 and was delivered under an alliance with the RTA Road and Fleet Services (RFS), ahead of time and with savings of approximately \$0.75 million.



Overhaul of Harwood Bridge, over the Clarence River.

Timber truss bridges

The RTA manages 48 timber truss bridges in NSW. Of these 48 bridges, eight are on State roads, 20 are on Regional roads and 20 are on local roads. All of these bridges are of heritage significance with 29 of them listed on the NSW State Heritage Register. In 2009–10 the RTA completed a comprehensive strategic review of these structures to identify the most suitable representative set of timber truss bridges for long-term conservation that can meet the evolving operational needs of the road network. A detailed submission has been presented to the Heritage Branch of the NSW Department of Planning seeking the approval of the Heritage Council.



Funding assistance to local councils

The RTA offers full or partial funding to councils under a range of programs. The total funds disbursed in 2009–10 amounted to \$261 million, with \$174.7 million of this being grants for improving their urban and rural roads. Some of these specific programs are detailed below.

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. The program has been extended to June 2011.



Under the program, 171 of the 285 timber bridges on Regional roads in October 2006 have been approved for funding. During the year, councils requested that eight bridges previously approved be withdrawn from the program, while two bridges were added. A further 17 bridges have been replaced under other programs.

Expenditure during 2009–10 was \$17.9 million, with 57 bridges completed and opened to traffic, bringing the number of bridges upgraded under the partnership to 113, as at 30 June 2010.

Regional Road Block Grant and REPAIR Programs

The RTA provides ongoing funding assistance to councils for Regional roads by way of the Regional Roads Block Grant and Repair and Improvement of Roads (REPAIR) Programs.

The Block Grant Program provides every council with an entitlement grant which councils use on their Regional roads, according to council priorities. Councils may also apply for additional assistance for project grants on a 50:50 funding basis for major rehabilitation and development works on Regional roads. In 2009–10 the RTA provided Block Grants of \$130.8 million and REPAIR Program allocations of \$26.5 million.

Natural disaster repairs

Disasters cause severe and widespread hardship. The NSW Government funds repairs to RTA-managed State roads damaged by declared natural disasters and provides significant financial assistance to local councils to bring their roads and bridges back to their pre-disaster condition.

There were a significant number of natural disaster events throughout NSW during 2009–10, particularly on the North Coast, where some communities were impacted by up to five separate disaster events.

During the year, the RTA managed \$80.5 million of NSW Government funds to repair damage arising from declared storms and floods. Each claim required careful assessment to ensure compliance with the RTA's Natural Disaster Guidelines established with local government, as well as compliance with the Australian Government's Natural Disaster Relief and Recovery Arrangements. Major areas of expenditure during the year included:

- Impacts from the June 2007 Hunter Central Coast flooding – \$2.1 million.
- Impacts from the May 2009 North Coast flooding – \$35.2 million.
- Other North Coast storms and floods – \$9.5 million.
- February 2010 Far West flooding – \$6.8 million.
- March 2010 Riverina flooding – \$5.0 million.

The extensive nature of many of these events means that restoration works will continue into 2010–11 and, in some cases, later years.



The north coast of NSW experienced extensive flooding in May 2009 resulting in maintenance work during the 2009–10 financial year.

Other funding assistance

The RTA provides significant funding assistance to councils across a range of other smaller but important programs. In 2009–10 the RTA provided more than \$30.2 million for programs covering: installation and maintenance of traffic management devices such as lines and markings; subsidies towards the cost of providing high standard lighting on key traffic routes; council employment of road safety officers; council operation of programs to check heavy vehicle weights of loads; measures to address road safety black spots on council roads and provision for pedestrian amenity and safety facilities; contributions towards the maintenance of public bus routes, and provision of bicycle paths.

NSW Road Classification Review

Reclassification of a number of roads commenced from 1 July 2009. This followed a State-wide review of road classifications to reflect changes in road function and importance due to changes in land use, economic activity patterns, population distribution and construction of new roads.

More than 1100km of roads affecting 75 councils have been reclassified.

The NSW Government is providing an additional \$10.5 million over three years in Regional road funding to support the reclassifications, including the provision of transitional funding adjustments.

The classification of roads as State, Regional or local is a key element in the allocation of road jurisdiction and funding between the State and local governments. Periodic reviews of classification are necessary to support effective allocation of available resources to the State and Regional routes of greatest significance to the economic and social travels needs of NSW inhabitants.



Challenges and the way forward

Access

There are a number of challenges facing NSW in providing access to the varied requirements of the freight transport industry. The RTA will meet these challenges by:

- Addressing increasing freight volumes using NSW roads.
- Managing diverse and multiple needs of different industry groups utilising different vehicle combinations.
- Working with local government to ensure complete access across routes.
- Maintaining the safety and sustainability of the road network.
- Increasing driver safety and compliant road use through mobile speed and point-to-point camera programs.
- Participating in a new Road Freight Advisory Council sub-committee in 2010–11 to consider strategies to reduce incidents involving over height heavy vehicles.

Maintenance

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 within the NSW Auditor-General's report on the 'Condition of State Roads', are significant influences on RTA performance in this area.

To meet these challenges the RTA will:

- Continue to assess the maintenance and operational risks to critical road infrastructure and road systems.
- Continue to divert funds, where possible, to critical maintenance activities.
- Continue to strengthen older RTA bridges and to facilitate wider use of higher productivity vehicles across the network, where possible.
- Improve capability to model the impacts of increasing freight movements on the road network.
- Continue to consult with local government, internal providers and industry on infrastructure planning and freight access.
- Continue to implement the recommendations of the NSW Auditor-General's report.
- Continue to seek improvements in technology supporting road maintenance assessment and maintenance treatments.

- Continue to seek to increase the level of asphalt resurfacing and pavement rebuilding within available funding.
- Continue to review the RTA's 10 year Strategic Asset Maintenance Plan.
- Implement consistent service and technical standards.
- Continue the development of a comprehensive pavement management system to enhance decision making.
- Enhance the project delivery of maintenance and minor work through the alliance model with internal providers and road maintenance contracts with local councils.
- Seek opportunities for increased efficiencies in maintenance delivery.
- Continue to influence project development processes to deliver new infrastructures or systems that are robust and reliable to ensure long-term operation and minimum maintenance.
- Engage with road users to assist in determining maintenance priorities.
- Maintain and improve condition of regional networks with an expanding asset base with funding constraints.
- Manage risks associated with ageing operating systems on major bridge and tunnel infrastructure and sourcing technical skills to address these risks.

Another major challenge for the RTA is the sustainable rebuilding of assets to ensure they continue to be serviceable. As a response to this, the RTA seeks to apply leading research and the latest technology to improve the RTA's capability to more accurately forecast the structural condition of road pavements and to get the longest life out of maintenance treatments. Further description of this work is presented in Appendix 21.

Benchmarking

Benchmarking is undertaken to compare the performance of road maintenance activities carried out by various council providers and the RTA's internal maintenance workforce. Problems continued to be experienced in 2009–10 in producing timely and meaningful benchmarking data on maintenance activities across the State.

New systems will commence later in 2009–10 and a new benchmarking framework will be reassessed in early 2010–11, with new reports expected to be available from September 2010.



NSW Centre for Road Safety

The NSW Centre for Road Safety (CRS) is the peak body responsible for road safety in NSW. The Centre's goal is to reduce the number and cost of road fatalities and key injuries to the community by providing Road Safety to a new and existing public. The Centre works to develop and coordinate the State-wide road safety strategy, programs and campaigns.

The Centre's role is supported by the NSW's Safe System Framework approach to road safety, to that key areas are:

- Safer People Behaviour
- Safer Vehicles
- Safer Roads
- Safer Users

The Centre also develops and promotes policies and effective working relationships with other state, federal and local government agencies and community organisations, particularly NSW Police, Motor Accident Authority, NRSWA, local councils and the education sector in support of the State's road safety strategy plan.

The Centre is committed to being the world's leading centre for road safety research, innovation, policy and strategy through the support of expert knowledge within the Centre and the creation of top level relationships with relevant partners.

A key aim for the Centre is to directly contribute to the highest NSW roads reputation.



REVIEW OF OPERATIONS

Safety

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Key achievements in 2009–10

Initial implementation of a five year, \$170 million Road Toll Response Package and outsourced Mobile Speed Camera Program.

Commenced implementation of new 200 digital safety cameras and 20 point-to-point heavy vehicle speed enforcement lengths.

A program to improve school zone visibility including the installation of flashing lights at 100 school zone sites and dragon's teeth pavement markings at over 1300 schools.

Introduction of a Demerit Point Scheme for learner licence holders to encourage safe and responsible driving. The scheme extends the zero-tolerance approach and automatic suspension applying to speeding by P1 drivers to include learner drivers.

Implementation of new child restraint laws from 1 March 2010.

Commencement of the Helmet Evaluation Program, an annual assessment of new model motorcycle helmets.



Safety

RTA result: The safety of the road environment, vehicles and road user behaviour is maximised

The RTA and road safety

In the 2008 calendar year, NSW experienced its lowest number of fatalities since 1944 (374 fatalities). However, the road toll for 2009 increased to 453. This result represented an increase of 21 per cent over the previous year, but was the first annual increase since 2002.

Furthermore, this increased road toll level persisted for the first half of 2010. During the first six months of 2010, provisional data indicated that there were 225 fatalities on NSW roads, the same number as for the corresponding period in 2009.

The RTA is implementing a 'Safe system partnership' approach to road safety, used effectively in Europe. This approach recognises that human error is inevitable and requires vehicles, roads and roadside environments that are forgiving of road user error.

Road safety is a key priority for the RTA and it is being 'mainstreamed' throughout the organisation. Under this approach, all managers are accountable for road safety outcomes relevant to their area of responsibility. Road safety performance indicators and road safety impact statements guide investment decisions. Road safety impact statements are completed for all work programs to ensure programs and projects meet desired road safety outcomes. The Executive Road Safety Management Committee oversees a coordinated approach to road safety.

This chapter outlines the RTA's management of safety issues in the road transport system over the past year. It is divided into six main sections:

Fatalities – data, trends and key factors.

NSW Centre for Road Safety – improving road safety.

Safer roads – better safety of roads.

Safer vehicles – better safety features in vehicles.

Safer road users – better safety for road users.

Challenges and the way forward.

Chapter cover image: The NSW Centre for Road Safety display at the 2009 Australasian Road Safety Research, Policing and Education Conference. Photographer Geordie McRae.

Fatalities

There were 453 fatalities on NSW roads in 2009 – a 21 per cent increase from 2008 when 374 people died on our roads. The 2009 result was still the third lowest annual NSW road toll since 1945, when the population was less than half that of 2009.

The NSW fatality rate per 100,000 population in 2009 was 6.3, up from 5.3 in 2008, but still the third lowest figure since records began in 1908. This figure compares favourably with the rate for the whole of Australia, which was 6.8 fatalities per 100,000 population in 2009. International comparisons show NSW ahead of other Organisation for Economic Cooperation and Development countries such as France (6.9 fatalities per 100,000 population), New Zealand (8.6), Italy (8.7) and the United States (12.3), but still behind the leaders the Netherlands (4.1), the United Kingdom (4.3) and Sweden (4.3).

The revised NSW State Plan states, as its primary road safety target: "We will reduce road fatalities to 4.9 per 100,000 population by 2016." The 2009 result (6.3 fatalities per 100,000 population) lies slightly below the target line to achieve the target for 2016. The original NSW State Plan road safety target of less than 0.7 fatalities per 100 million vehicle kilometres was achieved in 2008 (0.57 fatalities per 100 million vehicle kilometres). The RTA travel estimates, based on extrapolated Australian Bureau of Statistics travel data, indicate that the fatality rate per 100 million vehicle kilometres in NSW in 2009 was 0.67.

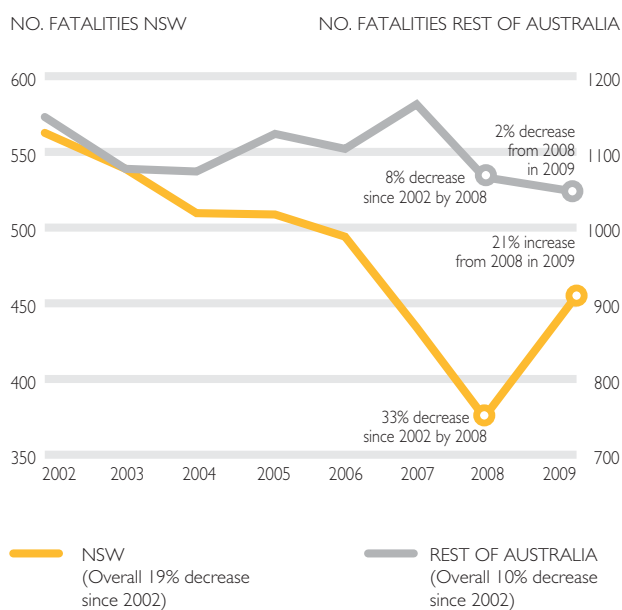
Factors in crashes

Analysis of fatal crashes for the calendar year ending 31 December 2009 revealed that:

- Speeding was a factor in around 46 per cent of fatalities.
- At least 21 per cent of fatalities were the result of a crash involving a driver or rider with a blood alcohol level above the legal limit.
- At least 21 per cent of people killed in motor vehicles were not wearing available restraints.
- Driver fatigue contributed to about 17 per cent of fatalities.
- At least nine per cent of motorcyclists killed were not wearing helmets. Motorcyclists accounted for 15 per cent of fatalities.



FIGURE 17: TRENDS IN ROAD FATALITIES
NSW VS REST OF AUSTRALIA 2002–09



NSW Centre for Road Safety

The NSW Centre for Road Safety is working to become a world-class road safety centre for policy development, high-level research, advice and delivery of behavioural change strategies. The Centre is overseeing the 'mainstreaming' of road safety into all RTA programs and developing plans to continue to improve road safety.

The Centre consists of four specialist areas – safer vehicles, safer people, safer roads and road safety technology. Each of these 'four pillars' of road safety represents a key component of the RTA 'Safe system partnership' (SSP) approach to road safety. This approach is based on the premise that the road, vehicles and the road environment must be designed and maintained with the recognition that motorists *do make mistakes*. It challenges road designers, vehicle manufacturers, network development, management decision-makers and vehicle regulation managers to achieve a balance in the key factors on the road network. This requires the following:

- Designing, constructing, maintaining and regulating a road system so that the impact and forces on the human body generated by crashes are less than those resulting in fatality or chronic debilitating injury.
- Designing, constructing and improving roads and roadsides to reduce the risk of crashes.
- Regulating or encouraging the development and adoption of high quality active and passive safety systems in vehicles.
- Speed management.
- Educating road users and encouraging them to obey the road rules.

- Using enforcement and penalties to deter road users from breaking the rules.
- Ensuring a program of targeted research to strengthen our knowledge and understanding of the interactions between different components of the safe system and the most cost-effective interventions for identified situations.
- Promoting shifts in community attitudes and behaviours relating to a number of factors, including speeding and impaired driving.
- Providing a Graduated Licensing Scheme that promotes safety and competence, NSW drivers progress through a three phase licensing stage and four tests (computer based and on-road), with driving restrictions being reduced as more on-road experience is gained.

The RTA policy, *Mainstreaming road safety across the RTA*, acknowledges the RTA's SSP approach by requiring RTA business areas to contribute to, and be accountable for, improved road safety outcomes. Another key element of this approach is the emphasis on partnerships with road-user and partner organisations (such as the NSW Police Force and Motor Accidents Authority).

The Centre provides strategic leadership to external partner organisations, the NSW community and internal RTA business areas to influence road-safety outcomes.

Highway safety reviews provide a clear example of the application of the safe systems approach. Reviews of the Pacific, Princes and Newell highways identified minor safety works and enforcement measures which have reduced fatalities on these highways. Following a safety review, \$30 million of safety works and initiatives are being delivered on the Newell Highway over the next three years. The first year of safety works was delivered in 2009–10.

Road Safety Roundtable

As a result of the deeply concerning increase in the NSW road toll in 2009, the then Minister for Roads (the Hon. Michael Daley, MP) and the Minister for Police (the Hon. Tony Kelly, MLC) convened the NSW Road Safety Roundtable on 9 July 2009. The Roundtable was established to seek input from key experts in the field of road safety to examine current trends and issues and to develop practical strategies. These experts represented government, non-government organisations and community stakeholders.

The key strategies identified at the Roundtable include:

- Investigate new ways to use camera technology (including mobile speed cameras).
- Review penalties for repeat offenders.
- Roll out safety measures for pedestrians such as pedestrian fencing and 40km/h pedestrian zones where appropriate.

The NSW Government released the outcomes of the Roundtable on 2 September 2009. The RTA and the NSW Police Force are working together to progressively deliver the strategies and actions arising from the Roundtable.



Road Toll Response Package

On March 29, 2010 the NSW Government announced a \$170 million road safety package and the re-introduction of mobile speed camera enforcement.

The RTA developed the Road Toll Response Package in response to the growing road toll and a significant increase in speed-related crashes, and to support the NSW State Plan objective to improve road safety and reduce fatalities (target of 4.9 per 100,000 population by 2016). The Package incorporates key actions from the Road Safety Roundtable (July 2009) and includes many of the successful initiatives being implemented by Victoria, South Australia, ACT and Queensland.

This Road Toll Response Package includes the following:

- Mobile speed cameras re-introduced from 19 July 2010 across NSW. Mobile speed camera locations and guidelines are determined by the NSW Centre for Road Safety in consultation with the NSW Police Force and NRMA Motoring and Services. Six cameras will be operating initially from 19 July 2010 and this will increase to 12,200 hours per month by July 2011. The mobile speed camera operations are outsourced to a private contractor working from marked cars parked by the side of the road and play an important part in the RTA's ability to reduce speeding related incidents.
- Activation of speed enforcement on all 200 safety camera locations.
- Increase in speeding fines by five per cent from 1 July 2010.
- Repeat offender strategy – commencing with issue of a warning letter at 6 demerit points and targeted communication.
- Allocation of additional \$5 million per annum for road safety marketing (includes mobile speed camera awareness campaign) for two years.
- Allocation of \$10 million per annum (for five years) for highway reviews of six State highways (Great Western, Mid Western, Mitchell, Oxley, Sturt and New England highways) with implementation of a tailored package of safety works.
- Allocation of \$10 million per annum (for five years) for wire rope barriers, audio tactile lines and road widening to prevent crashes including head-on and run-off road on curve crashes and/or reduce the severity of injury from a crash.
- Allocation of \$9 million per annum (for five years) for targeted safety works for council-managed roads with a serious crash history.
- Allocation of \$4 million per annum for pedestrian fencing (for three years) to protect pedestrians at intersections and long busy roads.
- Additional (five) chain of responsibility investigators to address heavy vehicle safety issues.
- Investigation of a five star safety accreditation scheme for the heavy vehicle industry to encourage best driving practices and reward companies that foster safe driving practices.

- Allocation of \$5 million to conduct a pilot study of electronic work diaries.
- Investigation of measures to improve safety for vulnerable road users.

Australasian Road Safety Research, Policing and Education Conference

The NSW Centre for Road Safety hosted the 2009 Australasian Road Safety Research, Policing and Education Conference at Darling Harbour, Sydney, from 11–13 November 2009.

The conference attracted more than 530 delegates including international road safety experts, police, engineers, health representatives, state road agencies, local government representatives, council road safety officers, research academics and government authorities.

The conference provided the Centre with an opportunity to showcase innovation, progress and new directions in road safety. This included different engineering approaches to improving safety on rural roads, strategies to assist young drivers to be safer drivers, options with regard to setting and enforcing speed limits and methods to deliver safe driving messages to the community.

As part of the conference, several important papers were released, including a report on safety assessments of roads and roadsides for Aboriginal communities.

Along with the conference, the Centre also hosted a Regional Road Safety Knowledge and Management Program funded through the World Bank Global Road Safety Facility. The program provided international delegates with the opportunity to present their country's key road safety challenges and achievements in a supportive professional environment.

This program aimed to increase low and middle income nations to manage road safety in their countries, road safety knowledge transfer and promote infrastructure and policy development.

The Centre, through the support of AusAid, was able to fund the participation of 14 delegates from low and middle income countries to attend the 2009 conference along with the Regional Road Safety Management Program.



Intelligent Speed Adaptation Conference



The NSW Centre for Road Safety hosted the first international Intelligent Speed Adaptation (ISA) Conference on 10 November 2009 at the Sydney Convention Centre.

The conference was highly successful, with over 150 delegates from 10 countries attending the event. Representatives from government, industry and research agencies discussed the latest results from ISA trials conducted in Australia and around the world. The Centre's aim in conducting the conference was to stimulate discussion about the future of ISA and examine some of the challenges faced in moving from research to implementation.



This road safety technology research vehicle was exhibited at the first international conference on ISA, held at Darling Harbour in November 2009.

Safer roads

Road condition

The RTA is implementing the 'safe systems' approach as a guide for best road safety practice. The approach focuses on the way different elements of the road system interact with each other to reduce impact on road trauma. As a result, the road network is strategically planned, designed, built, maintained and operated to warn, inform, guide and control the road user in relation to their required actions on the road. Most critically, the system must accept that people will make mistakes and must be designed to minimise the consequences when a road user makes an error.

Speed zoning guidelines training

Following the release of the new Speed Zoning Guidelines in May 2009, training was successfully conducted across NSW. Training outlined the principles and procedures to be applied in determining appropriate speed limits on NSW roads. In particular, it focused on setting speed limits using the Safe System Principles to manage risk and using the speed zone management system.

The guidelines ensure that speed zoning is made to be more sensitive to the conditions and crash history of the road. The NSW Centre for Road Safety continues to monitor implementation of the guidelines.

Speed limits

The NSW Centre for Road Safety reviewed speed limits on numerous roads across NSW and made adjustments to better reflect road safety and driving conditions. Examples include the Newell Highway (Victoria to Queensland), Cargo Road (Cargo to Orange), Epping Road (Macquarie Park), Kings Hill Road (Mulgoa), Chain-O-Ponds Road (Mulgoa), New Canterbury Road (Canterbury), Fisher Road (Lynwood Avenue to Pittwater Road, Dee Why), Strongs Road (Shoalhaven), Kangaloon Road (East Kangaloon), Pacific Highway (Merewether to Charlestown) and Ocean View Drive (Central Coast Highway to Terrigal Drive). This has the impact of ensuring that speed zoning is more sensitive to the road conditions.

Speed Zone Management System

For the first time it is possible to record and map the locations of all speed limit signs and zones in NSW using the newly developed Speed Zone Management System. It captures speed data, provides an asset register, helps facilitate speed reviews and is enabling a trial of an in-car speed zone warning system (ISA). The data from the Speed Zone Management System are also used for travel times for the Safe-T-Cam system which targets speeding heavy vehicles. All speed zones along all NSW roads were mapped into the database by June 2010. Validation of this data will continue into 2010–11.

Road safety and Aboriginal communities

The RTA led the assessment of road safety issues affecting 66 Aboriginal communities. The assessments were undertaken in close consultation with the communities and local councils. The assessments focus on roads within communities as well as the roads connecting Aboriginal communities with the nearest townships. The RTA submitted the final report on the assessments, including identification of works and estimates of costs, to Aboriginal Affairs NSW in late January 2010.

Pedestrian areas

During 2009–10, 40km/h pedestrian activity areas (areas of high pedestrian activity with 40km/h speed limit to protect pedestrians) were installed or upgraded in 12 pedestrian areas. The program included the installation of traffic calming measures, as well as provision of safe and convenient pedestrian crossings and 40km/h speed limits.

For information on initiatives undertaken to improve pedestrian access and safety please see the Transport chapter.



Road safety impact statement

A new road safety impact statement / safety benefit cost ratio (BCR) calculation model was developed and implemented to improve the accuracy of the road safety economic evaluation and road safety impact statement process. These analytical tools are superior to all existing models as they sensitively quantify the safety outcomes of new engineering works. This model facilitated an improved methodology that focused on the impact of trauma rather than just on crashes.

A comprehensive training program on the new model was delivered to stakeholders across the RTA and local government.

Crashcam

The RTA's Crashcam Program is a recording system which provides invaluable footage of crashes, 'near miss' incidents and driver behaviour to help determine the causes of crashes and identify appropriate remedial treatments. The program continued in 2009–10 and two new Crashcam sites were installed – one site at the intersection of New South Head Road and McLachlan Avenue, Sydney, and the second site at the intersections of, the Oxley Highway and Kable Street, Tamworth.

Safety upgrade programs

Crash related treatments

A total of \$25.3 million in State funds was spent in 2009–10 on treatments to 146 high crash risk locations. Work by the RTA included intersection improvements, road realignments, clear zone enhancements and safety barrier installation.

The Federal Government's Nation Building Black Spot Program, administered by the RTA, contributed a further 253 crash reduction projects with funding of \$54 million.

Great Western, Mitchell and Mid Western highways

The NSW Centre for Road Safety conducted a review of road safety during June 2010 on the Great Western Highway, Mitchell Highway and the Mid Western Highway. The review team comprised RTA staff, NSW Police Force officers and community representatives. For the first time, a number of community information workshops were also held as part of the review process which invited councils, local community, local transport operators and emergency service representatives. A report on the review will be released during 2010–11.



Newell Highway

A review of road safety was conducted on the Newell Highway and as a result of the review, \$30 million is being spent over a three year period commencing from 2009–10. The \$30 million package includes new line-marking and signposting to provide motorists with better guidance, safety barriers and the upgrade of a number of minor intersections and new signs warning drivers of upcoming intersections. A total of \$9.3 million has been spent in 2009–10.

The NSW Centre for Road Safety is also conducting a trial of a number of new wide centreline delineation configurations on the Newell Highway. These will further separate opposing traffic flows on rural undivided roads and cater for overtaking manoeuvres, where appropriate. This wide centreline is expected to have a beneficial effect on reducing crashes caused by fatigue and driver inattention.



New wide centreline being trialled on the Newell Highway.

Picton Road

In February 2009, the NSW Government announced a \$12 million dollar program of safety improvements for Picton Road and the Federal Government also allocated \$3.7 million under the Federal Stimulus Package to help upgrade Picton Road. A total of \$10.1 million has been spent on the program to date with the overall program to be finished by mid 2011. Works undertaken to date include the following:

- Median barrier and widening at the Eastern Curve.
- Median barrier and widening west of Cordeaux Colliery.
- Asphalt overlay south of the NRE Colliery entrance.
- Upgrade left turn at the Almond Street junction.
- Curve widening and median barrier at the Mt Keira Road junction.
- Reinstating the median between Hume Highway and Janderra Lane.

On 7 June 2010, the NSW Government announced an additional \$25 million package of safety works for Picton Road over the next three years. This program of works will provide further treatments including median barriers, overtaking lanes



and curve improvements. The road safety improvements will address the most prevalent types of crashes occurring along this busy road, such as off-road to the right, head-on and wet road surface crashes. These improvements have been designed to reduce the impact of these crashes and the incidence of vehicles crossing onto the wrong side of the road.

Rural Rest Area Strategy

The Rural Rest Area Strategy was released by the Minister for Roads on 25 March 2010 in response to heavy vehicle fatigue legislation introduced in September 2008. The strategy is based on the National Transport Commission's *National Guidelines for the Provision of Rest Area Facilities* and internal RTA work enhancing those guidelines. The strategy aims to identify and provide a major heavy vehicle rest area every 100km along key rural freight routes by upgrading an existing site, constructing a new facility or enhancing a site near a service station.

The new rest area sites will meet the basic needs of heavy vehicle drivers by offering improved amenities and providing rest opportunities to reduce driver fatigue.

The RTA has been allocated a total of \$17.8 million under the Federal Government's four year \$70 million Heavy Vehicle Safety and Productivity Program for 2008–12, which has been matched by the NSW Government. The program will assist in delivering a significant part of the major heavy vehicle rest areas identified in the rural rest area strategy.

The joint \$35.5 million program has committed to the following projects:

- 10 new rest areas on the Newell, Princes, Barrier and Sturt highways.
- 42 rest area upgrades on the F5 Freeway and Hume, Newell, Sturt, Great Western, Mitchell and Princes highways.
- Pre-building work on three bridges in Orange, Singleton and Warialda and strengthening of a steel bridge over the Hunter River at Denman, which would make the Golden Highway available for Higher Mass Limit vehicles to use.

Railway level crossing upgrades

The State-wide Railway Level Crossing Improvement Program is jointly funded by the RTA and Transport NSW. In 2009–10 the program expenditure was \$10 million, which included seven construction projects and four design projects. A major railway level crossing upgrade package was completed this year at Riverstone, Sydney.

Safer roads research into engineering treatments

The NSW Centre for Road Safety conducted eight full-scale crash tests during 2009–10 as part of its research into improving the road safety outcomes of road infrastructure (engineering treatments) for road users. These crash tests were undertaken for the 'Safety barriers comparative testing' project which is comparing the performance and road user outcomes

between wire rope safety barriers, guard rail and concrete safety barriers. The results of this project will be analysed and released during 2010–11.

Utility poles in the road corridor

The NSW Centre for Road Safety published policy guidelines on *Reducing trauma as a result of crashes involving utility poles* in August 2009. The Centre is working with relevant utility agencies to progressively reduce the fatalities resulting from utility pole trauma.

Technical directions

The NSW Centre for Road Safety released three technical directions during 2009–10 to improve road safety outcomes for road users including: *Dragon's teeth at School Zones*; *Placement of bulk and skip waste containers*; and *Colour of wire rope safety barrier posts*.

Safer vehicles

Intelligent Speed Adaptation



The RTA conducted a trial of Intelligent Speed Adaptation (ISA) technology with ISA devices being installed in more than 110 cars in the Illawarra region (Wollongong, Shellharbour and Kiama).

ISA is an in-car speed warning device that advises drivers of the speed limit and can also physically limit the vehicle's travelling speed.

More than 7.5 million speed compliance data records were collected from GPS data recorders fitted to vehicles as part of the trial.

Early results from the project released in November 2009 showed that advisory ISA is effective in reducing the proportion of time drivers spend travelling over the speed limit. The results showed that the time spent travelling more than 5km/h above the speed limit almost halved when the advisory ISA system was installed into trial vehicles.



The ISA technology on trial warns drivers when they travel over the speed limit.

Power-assisted pedal cycles

The NSW Centre for Road Safety has taken national leadership in an initiative to revise the defining characteristics of power-assisted pedal cycles. The Centre is working on a submission to the relevant federal authorities proposing changes to the specifications for power-assisted pedal cycles in both the Australian Design Rules which specify the technical requirements, and the Australian Road Rules, which specify how they are used. The proposed characteristics should encourage the uptake of the cycling, increase the variety and quality of products available to the public, and maintain road safety.

Heavy vehicle roadworthiness survey

The RTA has surveyed heavy vehicle roadworthiness every three years since 1992. The survey involves roadside inspection of around 1600 heavy and public passenger vehicles, with major and minor defects identified and recorded. The vehicles are selected at random, within pre-defined target numbers, according to vehicle type and category. The survey allows the RTA to track trends in heavy vehicle roadworthiness so it can strategically target compliance enforcement resources to the most significant risks. The survey also allows the RTA to measure the effectiveness or impact of any regulatory changes to heavy vehicle safety standards or maintenance regimes. The latest survey was completed in 2009 and detailed results have been made available to other RTA stakeholders to enhance enforcement programs and to the heavy vehicle industry.

Crashlab

The RTA Crashlab, part of the NSW Centre for Road Safety, provides a broad range of testing services to government and industry clients. As the only government-owned road safety facility of its kind in Australia, Crashlab provides comprehensive research capabilities and unbiased testing of vehicle occupant and road user protection technologies and equipment. The testing contributes to ongoing improvement in equipment and vehicle safety standards, and roadside barrier design and use.

During 2009–10, Crashlab conducted 66 vehicle crash tests and 430 dynamic sled tests on child restraints, seat belts, bus seats, aircraft seats, wheelchair restraints and miscellaneous devices. Around 24,000 impact tests were conducted on bicycle and motorcycle helmets. In addition, more than 120 tests were conducted on fall arrest devices covering industrial safety, sporting and recreational harnesses for product development and certification to the Australian Standard.

Crashlab's research testing included a comparison of wire rope, steel guardrail and concrete safety barriers against a range of vehicles from a small 820 kg passenger sedan up to an eight tonne truck at speeds up to 100km/hr. The results of this research will be used to enhance guidelines on the optimal application of safety barriers for the greatest road safety benefit.

Crashlab obtained and developed new equipment to assess the safety performance of motorcycle helmet visors and external projections such as peaks and ventilation ducts. As part of its product certification work, Crashlab developed additional test methods to evaluate new and existing child restraints to the revised Australian Standard AS/NZS 1754:2010. The 66 vehicle crash tests conducted in the crash barrier included a test program commissioned by the Department of Infrastructure, Transport, Regional Development and local government. This formed part of international research on the development of a global technical requirement for vehicle occupant protection against side-on impacts with trees and poles. Crash test dummies and Crashlab's diverse expertise continues to help the Australian Army to develop enhanced occupant seating providing protection against landmines for military vehicles.



RTA staff member Andrew Stanley preparing a crash test dummy in a process referred to as 'dummy calibration'.



Australasian New Car Assessment Program

The RTA is a major sponsor of the Australasian New Car Assessment Program (ANCAP), which has crash tested and reported on over 300 vehicles since 1993. Since ANCAP began, safety levels in cars have increased significantly. It is expected that a combination of the testing regime and public demand for safer cars will increase the availability of vehicles with higher safety ratings. The program highlighted the risk of cheaper, poor safety-rated imports with some vehicles tested in 2010 scoring the two lowest ratings.

Of particular note this year is the success of Australian manufactured cars that were tested, with the Ford Falcon utility wagon (FG series styleside box), Holden Commodore VE Omega utility wagon and Toyota Aurion (AT-X) achieving the maximum five-star safety rating.

Used Car Safety Rating

The RTA is a major sponsor of the Used Car Safety Rating (UCSR) scheme, which provides consumers with a comparative assessment of the overall crash safety rating of a vehicle. This includes its impact on unprotected road users and occupants of other vehicles, based on actual crash data.

In 2009–10, UCSR data covered vehicles manufactured between 1982 and 2008 that were involved in more than three million crashes between 1987 and 2008 (based on reports to police in Australia and New Zealand).

The *Used Car Safety Ratings Buyer's Guide 2010* covers the majority of popular vehicles available in the Australian marketplace. It lists safety ratings for 199 vehicles. The UCSR brochures are distributed through RTA motor registries and NRMA branches and are available on the RTA website.

Separate studies have shown a strong correlation between the ANCAP score for new vehicles and the UCSR score, which is based on real world safety performance.

Child Restraint Evaluation Program

This is an ongoing program that annually assesses new models of child restraints and the brochure is updated accordingly. In this year's version, the way the restraints are rated has been improved, providing a five-star rating system that better reflects the comparative performance beyond that required by the standards for child restraints sold on the Australian market. This is to align Child Restraint Evaluation Program (CREP) results with commonly accepted five-star safety rating schemes (such as Australasian New Car Assessment Program) and to ensure that poor performance in one test is not masked by a very good performance in another. In 2009–10, an additional 10 child restraints were evaluated and the 2010 brochure, which included 44 child restraint models in 67 configurations is planned to be released in July 2010.



RTA staff member Darren Small: Child restraints are rigorously tested as part of the RTA's evaluation process.

Helmet Evaluation Program

The Helmet Evaluation Program (HEP) is a new program that commenced in 2009–10 to annually assess new models of motorcycle helmets. The results are presented in a brochure titled *Safer Motorcycle Helmets: Your guide to choosing and buying motorcycle helmets*, released on 8 May 2010. In the 2009–10 program, 12 helmets (eight full face and four open face helmets) were evaluated both in term of crash protection and comfort level performance as well as the likelihood for the helmets to fit a wide range of head sizes.

Pedal and motorcycle helmet performance study

The RTA is co-funding an Australian Research Council Linkage Grant project that aims to assess and improve the performance of helmets via a study of their performance in real world crashes. The project will analyse impact characteristics and injury outcomes, utilising laboratory testing and numerical simulation. It is recognised that helmet design can influence inappropriate or non-use, therefore the study will investigate how to improve the use of helmets through design. The body of understanding of the biomechanics of head and neck injury will also be improved. Most of the project phases have been completed, including the ergonomic study of helmet fit and retention, cyclist speeds and speed perception and development and utilisation of the oblique helmet rig. Trauma data from St George Hospital (200 cases) have been received and are currently being analysed to assess the pattern of injury in pedal and motorcyclists.

Laboratory evaluation of child safety harnesses

The RTA was a partner in a research program with Prince of Wales Medical Research Institute on the safety performance of child safety harnesses when used correctly and incorrectly. The results were compared to the performance of a lap-sash seat belt. The findings suggest that the risks associated with child safety harness systems most likely outweigh any potential benefits, in frontal impacts at least.



The program results were published in the September 2009 issue of the *Accident Analysis and Prevention Journal* and presented at the RTA-hosted Road Safety Research, Policing and Education Conference in November 2009. The results of this research are being incorporated into training and public education programs as well as informing policy and regulation development.

Pedestrians and four-wheel drive vehicles

The University of Adelaide's Centre for Automotive Safety Research has been funded by the RTA to explore the appropriateness of test procedures for assessing the safety of 4WDs in pedestrian crashes – specifically child head impacts, adult head impacts and impact to the lower extremities.

The study shows that the addition of a bull bar to the front of a vehicle increases the speed of the pedestrian's head impact with the bonnet, resulting in increased risk of more severe head injuries. This speed increase appears to be more a product of the geometry of the bull bar than its material. This suggests that bull bar geometries could be altered to improve pedestrian protection. Combined with a soft material, such as polymer, this may lead to a safer bull bar designs for pedestrians.

Optimising protection for motor vehicle rear-seat occupants

While a significant amount of research and development engineering has been applied to front seat occupants to protect them in crashes and minimise injuries, safety for rear seat occupants has been left behind. The NSW Centre for Road Safety has funded a research program to be undertaken by NeuRA (Neuroscience Research Australia). NeuRA has established a partnership with the Monash University Accident Research Centre's Australian National Crash In-Depth Study to evaluate a range of real world crashes in which rear seat occupants have been injured. In 2009–10, the researchers compared the risk of injury to front and rear seat occupants in cars made between 1990–96 to that in newer cars. They found that front seats have far outstripped rear seats in terms of safety features, resulting in adults now being better protected sitting in the front seat than in the rear. Furthermore, while all adults in newer cars are relatively safer in the front seat, the effect is greater for older adults. In addition, children are still safer sitting in the rear seat.

Vehicle Safety Compliance Certification Scheme

Work progressed to implement the Vehicle Safety and Compliance Certification Scheme to replace the current Engineering Certification Scheme. It will provide a mechanism to ensure that only people licensed under the scheme can assess modified, individually constructed, and imported vehicles and certify compliance with applicable vehicle standards. A review of the scheme was completed, including extensive industry consultation workshops on the proposed scheme framework and competency criteria, and new vehicle standards. Work is progressing to implement regulatory changes by early 2011.

Mobile crane safety

Introduction of an annual roadworthiness inspection scheme for mobile cranes is under way. The RTA consulted with the Crane Industry Association on the design and business rules for the scheme, including examiner qualifications and the communication strategy for implementing the scheme. The RTA carried out mock inspections with industry representatives including delegates from the Crane Industry Association and the Motor Traders' Association during May. The inspections were performed by RTA Inspectors Vehicle Regulation and industry Heavy Vehicle Examiners. The scheme is scheduled for implementation by September 2010.

Office of Transport Safety Investigations

Crashes involving buses are often investigated by the Office of Transport Safety Investigations (OTSI) to determine their causes and to decide on recommendations to reduce the incidence of such crashes. OTSI recommendations considered by the NSW Centre for Road Safety included the design of an externally mounted footrest on a bus. In 2009–10, the RTA provided information to the Department of Infrastructure, Transport, Regional Development and Local Government to support an amendment to the Australian Design Rules to improve bus safety.

Further, in 2009–10, the Centre coordinated the provision of advice to OTSI in relation to various bus safety investigations. The Centre provided:

- Updates on the RTA's response to OTSI recommendations relating to the following:
 - The serious injuries of a young cyclist after being struck by a bus on 12 November 2007 at Parklea.
 - The importation and registration of overseas-sourced buses in NSW (systemic investigation).
 - Bus accidents occasioning death and serious injury West Pennant Hills, Rutherford and Sydney CBD.
- Information to assist in the investigation into the death of a nine year old pedestrian struck by a school bus at Ingleburn on 5 August 2009, and comments on draft report.
- Comments on a draft OTSI report and coordinating the RTA response to the final report into the investigation into a bus wheel separation incident at Medowie on 8 February 2010.
- Assistance on its investigation into a fatal coach crash at Barrengarry Nature Reserve on 14 May 2010.

Staysafe inquiries

The RTA provided detailed submission and appeared at the public hearings for two Staysafe inquiries including:

- Pedestrian Safety.
- Heavy Vehicle Safety.



Safer road users

New drivers

In 2006, a total of 80 P plate drivers were involved in fatal crashes in NSW. This figure fell to 68 in 2007 and then decreased further to 61 in 2008 and 57 in 2009.

Young drivers aged 17–25 years represented 14 per cent of all licensed drivers. In 2006 they were involved in 30 per cent of all fatal crashes, while in 2009 they were involved in 24 per cent of all fatal crashes.

Preliminary crash data show a 50 per cent decline in fatalities from crashes involving speeding provisional P1 licence drivers in 2009 compared to 2006

In 2009, the RTA continued to introduce further reforms to improve the safety of new drivers. Major speeding reforms were extended to target provisional P2 licence holders. As of 1 July 2009, changes were made to the number of demerits for speeding offences committed by P2 licence holders. P2 drivers and riders will have their licence suspended for any second speeding offence.

The RTA continued to communicate road safety messages to young people through its sponsorship of the RTA SpeedBlitz Blues, and the Youthsafe Injury Prevention Program. Youthsafe held a forum on community-based mentoring programs to investigate safe transport options.

The RTA, working with local councils, continued to deliver 'Helping learner drivers become safer drivers' workshops across NSW local government areas. These workshops inform supervisors of learner drivers of the licence conditions for learner and provisional plate licence holders. Culturally appropriate resources and advertising support targeted workshops for Aboriginal and Arabic communities.

Child road safety

Child restraints

New national child restraint laws were introduced on 1 March 2010.

All children up to seven years old must now be safely fastened into the correct restraint for their age and size. A ministerial exemption order was made to provide parents and carers with a transitional period until 30 June 2010 to enable them to fully comply with the new laws. The new laws were supported by a public awareness campaign in February and June 2010.

The NSW Centre for Road Safety in cooperation with the NRMA and Royal Automobile Club Victoria have tested 44 child restraints and published the results in the brochure *Child Restraint Safety Ratings: Your guide to buying child restraints*.



The new laws were advertised in a public awareness campaign.

School zones

Flashing lights

The RTA continues to implement a range of initiatives to improve child road safety in and around school zones. The NSW Government's \$46.5 million Flashing Lights Program, which began in 2008, is delivering flashing lights to 100 school zones a year over four years.

The RTA selects the school zone sites for the rollout on an ongoing basis to maximise road safety in school zones. The school zone sites chosen are based on a number of factors, including crash history, crash risks, approaching speed limits, road environment and visibility, ensuring that schools with the highest priority get flashing lights first.

Under the four year program, flashing lights had been installed in 251 school zones as at 30 June 2010. The total number of school zones with flashing lights is 416.

Fluorescent school zone signs

School zone signs are being upgraded with fluorescent yellow/green panels as part of the RTA's ongoing maintenance program. Over 3000 school zone signs have fluorescent panels.

Dragon's teeth

'Dragon's teeth' are triangular road markings that are being painted at the start of each of NSW's 10,000 school zones to further increase their visibility for motorists and provide a constant reinforcement to slow vehicles to 40km/h around schools in school zone times.

\$14 million was allocated to roll out the Dragon's Teeth Program in NSW. A total of \$4.1 million has been spent in 2009–10 with the overall program expected to be completed by December 2010.

Performance audit of school zones

The NSW Audit Office conducted a performance audit in 2009 to determine if school zone initiatives have made a difference to safety around schools. The audit concluded that fatalities and injuries involving school-aged pedestrians has decreased significantly between 1998 and 2008, in line with the introduction of a range of measures targeting safety around schools. The RTA is strongly committed to increasing safety for children across the road network and especially during school travel times.



Early childhood education

The Early Childhood Road Safety Program, funded by the RTA, delivers road safety education and information to those who work with and support children aged under five years and their families. The 2009–10 summer edition of the *Kids and traffic gazette* was also sent to every NSW children's service in NSW.

Primary education

During 2009–10, additional road safety education resources were developed and produced to meet the increased demand from schools. A range of resources were updated including several helmet posters, road safety and signs stickers, brochures on safe school travel and school bus safety and *The law and safety advice for bicycles, foot scooters, skateboards and rollerblades*. The demand for kindergarten orientation day road safety packs for students commencing primary school has doubled.

Road safety issues around schools: Advice and take home notes for schools is a publication which communicates advice about safety around schools to parents, carers and the school community. This has been updated to include current child road safety information and to promote newly available brochures and posters to parents and carers.

Work has commenced on a draft Request for Proposal for the development of the Stage 3 road safety education resource. This resource will incorporate the use of the interactive white board in NSW classrooms.

High school education

During 2009, an independent and external evaluation assessed the penetration and recognition of road safety education by current students in NSW schools and recent former students in both rural and metropolitan areas. All student interviews were conducted outside of the school environment to ensure that the results would be completely independent of any influence by teachers or schools.

Interviewees demonstrated a widespread recognition of specific materials from each of the stages of road safety educational resources produced by the RTA school education program:

- Messages and themes about risks faced and how to be safer as a pedestrian, as a passenger in cars (buses), especially the use of seat belts, were widely recalled.
- For young driver materials/resources, drink driving was the most acknowledged issue followed by the effects of speed.
- Topics recalled as being taught included drink driving, seat belts and speeding.

Almost all of the students interviewed (98 per cent secondary school and 97 per cent primary school) showed evidence of exposure to one or more of the key themes of the NSW School Road Safety Education Program materials.

This research demonstrates that students do remember key road safety education themes and messages that were a part of their school-based educational experiences. The majority of road safety

education material is recognised through this study as having being presented by the students' classroom teachers from their own school. Their recall of key road safety messages is consistent with those highlighted in the RTA's educational school resources.

Aboriginal road safety

Aboriginal Driver Instructor Program

Research has identified that many regional and remote Aboriginal communities suffer from a lack of licensed mentor drivers and access to qualified driving instructors. This program aims to build the capacity of Aboriginal communities to assist its members with achieving the required 120 hours of supervised driving instruction. The program aims to train 30 Aboriginal driving instructors during 2010–12. The program was piloted in 2009 and is now available in western NSW.

Aboriginal Driver Education Program

Research has identified that low levels of literacy amongst Aboriginal communities is a significant barrier for driver licensing outcomes. The RTA has developed a program designed to enable Aboriginal people to read and understand the *RTA road users' handbook*. The program focuses on improving language, literacy, numeracy and computer skills, and increasing the knowledge of road law and road safety amongst Aboriginal people. A pilot course was conducted during May and June 2010. A Driver Knowledge Test (DKT) fee exemption has been introduced for Aboriginal people who complete this training. The course is nationally accredited, with participants who successfully complete the course receiving a qualification in Access to Work and Training. TAFE NSW will be implementing the program across NSW from 2011.

Aboriginal communication resources

An Aboriginal communication resource program has been developed to assist with the dissemination of culturally appropriate resources to the Aboriginal community. The first Aboriginal licensing communication resource is a DVD containing Driver Knowledge Training questions and answers presented as audio and visual, using Aboriginal talent. It is scheduled for release in 2010.

Drink and drug driving

Alcohol Interlock Program

The Alcohol Interlock Program is available for courts as an option in sentencing drivers convicted of certain serious drink driving offences. The program allows convicted drivers to suspend part of their licence disqualification period if they install an alcohol interlock device in their car and obtain an interlock driver licence. An alcohol interlock is an electronic device that tests a driver's breath and prevents a motor vehicle from being started if the driver's concentration of alcohol exceeds the pre-set limit of





0.02. The benefits of the program are that offenders are able to continue to drive legally and have a greater chance of maintaining employment if they need to drive a car as part of their job.

More than 1919 interlock licences have been issued and 1156 participants have successfully completed the program to date. In 2009–10, 356 interlock licences were issued.

Drug driving

Roadside drug testing (RDT), which uses oral fluid samples to test for the presence of three illicit drugs, began in NSW in January 2007. Since RDT began, the NSW Police Force has conducted 66,209 roadside drug tests of 14,738 heavy vehicle drivers and 49,700 light vehicle drivers. Of these, 1330 drivers, or one in 50, tested positive to one or more of the illicit drugs.



Sober Driver Program

The NSW Sober Driver Program is an education and relapse prevention program for repeat drink drive offenders who are convicted of two or more offences within five years. The program's overall goal is to reduce drink driving re-offending. The program is funded by the RTA, and delivered by Community Offender Service Branch of Corrective Services NSW. A total of 7616 participants have enrolled in the program to date.

In 2009–10, the course was delivered 74 times in 42 locations across NSW, with 629 people completing the program. The second major independent evaluation of the program has begun with the final evaluation report due in late 2010.



Road safety marketing campaigns

Campaigns

Road safety campaigns are key components of public education strategies to raise community awareness of important road safety issues and encourage behavioural change. The RTA uses a wide range of communication channels to deliver public education and road safety messages so as to maximise the road safety benefits achieved by these campaigns.

Drink driving

Drink driving continues to be a major problem and is the second biggest behavioural issue to be addressed, after speeding. The RTA's 'Paranoia' campaign highlights the risk of being caught by mobile Random Breath Tests (RBT). The campaign challenges the driver to think twice before drinking and driving due to the unpredictability of mobile policing. It uses the key message 'Mobile RBT. You won't know where. You won't know when.'

This campaign has continued to run on television, radio, in print and outdoor media, and online. Evaluation shows the campaign is still reaching the target audience and was noticed and remembered by them.



Double demerit points

Double demerit points are enforced during high-risk periods, such as holiday long weekends. The RTA continued to run its 'Don't blow your licence' campaign on television, radio, online and in print media. This campaign is conducted during every holiday double demerit period. Research shows the campaign continues to be effective especially in reminding people of the association between the double demerit period and speeding and seat belt offences.

'Speeding. No one thinks big of you.'

The RTA extended the use of the award-winning 'Pinkie' advertising. The 'Speeding. No one thinks big of you' advertising campaign ran during the year on television and in cinemas, continuing to target young males. In 2009 this campaign won the prestigious Grand Effie advertising award. See the Awards section on page 109 for further details.

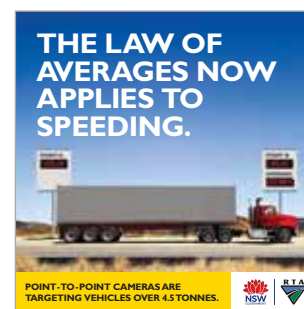
Motorcycle safety

The campaign for safe cornering on motorcycles continued throughout 2009–10. Motorcycle and scooter sales have increased in recent years and this campaign is designed to appeal to motorcyclists while prompting riders to think about the technical issues associated with riding corners safely. The campaign ran in motorcycle magazines and also on outdoor panels on popular motorcycle routes where available.

Targeting speeding heavy vehicle drivers

Point-to-point speed enforcement cameras are a new technology where the average speed between two points is measured to determine if a driver has been speeding. These cameras are being introduced to manage speeding in the heavy vehicle industry. All vehicles over 4.5 tonnes are affected by the *Road Transport Legislation Amendment (Transport Offence Detection) Act 2009*.

The key theme and tagline for the campaign is 'The law of averages now applies.' This highlights the crucial message about how the technology works. The campaign ran in industry magazines and print media, on outdoor billboards on roadsides and in truckstops, as well as online and on radio.



School safety

At the start of each school term, the RTA provided short scripts to radio stations and funded the delivery of live on-air messages on school zone operating hours across NSW, targeting the end-of-school and back-to-school weeks to remind drivers about 40km/h school zones.



Driver fatigue

Fatigue is one of the major behavioural issues associated with road crash and trauma on NSW roads. The RTA targeted driver fatigue through radio advertising and continued the Driver Reviver Program to encourage drivers to take a rest break, particularly on longer trips over holiday weekends. The RTA supports the Driver Reviver Program, providing guidance on road safety at Driver Reviver sites and promotion through advertising and variable message signs (VMS). Comprehensive information is also available on the RTA website at www.rta.nsw.gov.au. Driver fatigue advertising is mainly targeted at holiday periods where there is high volume of traffic and people are known to drive long distances or outside normal driving hours.

Rail level crossing motorist awareness campaign

Research has shown that two thirds of rail level crossing collisions occur in rural or regional areas. Every year since 2002, a motorist awareness campaign has been implemented to raise awareness of rail level crossings. This campaign is managed by the RTA on behalf of the Level Crossing Strategy Council, whose membership includes RailCorp, Rail Infrastructure Corporation and Australian Rail Track Corporation.

Enhanced enforcement policing advertising support

A new outdoor image and campaign message was introduced to support local enforcement operations which are conducted by regional police commands throughout the year. The on-road police presence reminds drivers to keep to the road rules and works to deter drivers engaging in unsafe driving. The campaign message, 'Speeding? You're in our sights', was used across NSW in outdoor, press and radio formats and with local images and road toll information.

Safety cameras

The introduction of new digital technology in cameras to catch drivers who run red lights at intersections with traffic lights provided an opportunity to conduct a campaign to raise driver and community awareness of the risks of speeding through intersections and running a red-light. The new digital cameras, called 'safety cameras', are installed at intersections with a history of fatal crashes. The advertising campaign ran throughout the State using radio, press, outdoor advertising and online advertising to inform drivers. The key message was that 'Red light cameras enforce red light and speeding laws' and it finished with a reminder to 'Think twice at traffic lights.'

Changes to speeding penalties campaign

Changes to the existing demerit point scheme for all motorists, motorcyclists and heavy vehicle drivers came into effect on 1 July 2009. A short-term campaign communicating these speeding penalties changes used print, radio, outdoor and online media. In addition, there was a direct mail-out to all 420,000 provisional drivers outlining the specific changes which applied to them.



Child restraint legislation campaign

On 1 March 2010, new national child restraint laws, the 7th Amendment package of the Australian Road Rules (Rule 266), were introduced in NSW for children up to seven years of age. A comprehensive campaign, specifically aimed at parents and carers, ran from February– June 2010. The campaign was a mix of media advertising including targeted print media, magazines, radio, outdoor and online and was supported by posters in shopping centres and parent rooms. Every early childhood centre and primary school in NSW was also notified of the changes, and a letter and supporting campaign material was distributed to parents and carers.

RTA SpeedBlitz Blues sponsorship

For the eighth year, the RTA was the major sponsor of the NSW men's cricket team, the RTA SpeedBlitz Blues. The sponsorship aims to change driver attitudes towards speeding by making it socially unacceptable. It provides an invaluable opportunity to use players as well-respected, non-authoritative sources to communicate with drivers about the consequences of speeding. The sponsorship is valued at \$1.7 million over a three year term.

During this financial year, a number of new initiatives were implemented to leverage the sponsorship, including launching a new online campaign called the 'Slow Down Pledge' at www.slowdownpledge.com.au.

The Slow Down Pledge is an initiative encouraging drivers and passengers to take the pledge to slow down on the roads. This was launched on 16 December 2009 by the then Minister for Roads and Transport, the Hon David Campbell MP and the RTA Chief Executive.

To promote the anti-speeding message, three domestic cricket matches incorporated interactive road safety events featuring the RTA's crashed car display. The display was also featured at a community day in Wollongong, along with six players from the RTA SpeedBlitz Blues.

A number of RTA SpeedBlitz Blues players also travelled with 'On the Road', an interactive educational road show. It visited more than 25 secondary schools across NSW, reaching over 4250 students. In 2009–10, for the first time, the road show was expanded to include Wetherill Park TAFE. More than 500 students were involved in this presentation.

A number of competitions also ran throughout the season including a competition at the 2010 Royal Agricultural Society of NSW Sydney Easter Show.



Cricket fans encouraged to take the RTA's Slow Down Pledge at a domestic cricket match.



Local Government Road Safety Program

The Local Government Road Safety Program is a partnership between the RTA and NSW local councils. The RTA and councils will continue to jointly fund the positions of road safety officers employed in NSW councils to develop and implement educational and behavioural road safety projects within their local communities until 30 June 2012. Council road safety officers continue to consult with local police, health and community groups, council rangers, liquor accords and local businesses to develop and deliver local road safety projects.

During 2010–11, the NSW Centre for Road Safety, with the assistance of regional RTA officers and local councils, will conduct a pilot to test an alternative funding model and approach to the implementation of local road safety projects. The RTA through, the Centre, is strongly committed to maintaining an effective partnership with councils to deliver local road safety projects.

Regulation and enforcement

Enhanced Enforcement Program

The Enhanced Enforcement Program (EEP) is a partnership of the RTA and the NSW Police Force to reduce road trauma.



The program, which began in 1995, builds on the success of State-wide operations to reduce fatalities and injuries on all NSW roads. State-wide operations are conducted during periods of high travel volumes, for example school holidays, with additional operations conducted throughout the year. From 1 July 2009 to the end of February 2010, the RTA has funded enhanced enforcement to support police operations targeting speeding, drink driving, fatigue, heavy vehicle safety, and seatbelt and helmet use. These operations are now underpinned by detailed crash data that clearly outline the road safety priorities. EEP operations are supported with communication campaigns which are conducted State-wide and locally.

Combating speed

On 29 March 2010, the then Minister for Transport and Roads announced the re-introduction of mobile speed cameras to help address the rising road toll. The Minister also announced that all safety cameras would enforce speeding as well as red light offences.

Safety cameras

As part of RTA's commitment to road safety and the reduction of the road toll, new safety cameras are being installed across urban and rural NSW.

Safety (red light and speed) cameras address the extremely dangerous behaviour of vehicles running red lights and speeding. Research indicates that red light cameras reduce

casualty crashes by 25 to 30 per cent. The RTA is replacing outdated wet film red light cameras with safety cameras (digital red-light speed cameras) at 200 intersections. They will be placed in locations with a history of a high crash rate. These cameras will be installed over four years at intersection across NSW.

As at 30 June 2010, there are 25 sites at various stages of development. One site, St Johns Road Canley Vale, is currently issuing infringements, 16 sites are at the 'warning letter phase', two sites are being commissioned, one site is ready to be certified and a further five sites are under construction.

Mobile Speed Camera Program

Mobile speed cameras are being re-introduced from 19 July 2010 across NSW. Mobile speed camera locations and guidelines are determined by the NSW Centre for Road Safety in consultation with the NSW Police Force and NRMA Motoring and Services. Six cameras will be operating initially from 19 July 2010 and this will increase to approximately 12,200 hours per month by July 2011. The mobile speed camera operations play an important part in the RTA's ability to reduce speeding related incidents.



Point-to-Point Camera Program for heavy vehicles

There are 20 point-to-point speed enforcement lengths planned to enforce heavy vehicle speeding across NSW by 2011. Each site will have bi-directional cameras installed to track vehicles travelling in both directions. The lengths of road proposed for point-to-point enforcement are highways that are known heavy vehicle freight routes with a significant heavy vehicle crash history. This new enforcement technology has been targeted at heavy vehicles because they are over-represented in serious road crashes.



Point-to-point camera technology measures the time it takes a heavy vehicle to travel between two points and calculates the average speed of the heavy vehicle. When the vehicle's average speed is higher than the average speed for the length of road, an infringement will be issued for speeding.

At 30 June 2010, two point-to-point lengths were operating – on the Pacific Highway between New Italy and Harwood (north of Grafton) and on the Great Western Highway, between Meadow Flat and Raglan (east of Bathurst).

Fixed speed cameras

At 30 June 2010, 172 fixed speed cameras were operating in NSW. Fifty-six of the cameras were operating in country NSW and 116 in metropolitan areas.



Attitudes to speeding

The NSW Centre for Road Safety has conducted a large scale survey into community attitudes to speeding. This research involved the survey of 1500 drivers. The results of the survey were presented at the 2009 Australasian Road Safety Research, Policing and Education Conference. This research has been used to inform the development of behavioural programs and will continue to be used in the development of further behavioural projects including public education campaigns to address speeding.



Slow Down Road Show

The RTA began its community Slow Down Road Show in late 2008. The show aims to deliver messages directly to the community about the consequences of speeding in an effort to change driver behaviour. It is an interactive display that features two crashed cars – one crashed at 60km/h and the other at 100km/h.

The Slow Down Road Show continued its travels throughout 2009–10. During this time, the road show visited more than 10 locations across NSW, reaching more than 440,000 members of the community. Locations included the Royal Agricultural Society of NSW's 2010 Royal Easter Show, where the display won a Gold Commercial Exhibit Award for the second consecutive year. See the Awards section on page 111 for further details.



The Slow Down Road Show display at the Royal Easter Show, April 2010.

Changes to speed break points and demerit points for speeding

A new penalty regime was introduced on 1 July 2009 to reduce speed-related deaths and injuries on NSW roads. Low-level speeding offences were redefined in 10km/h break points, with the lowest band attracting one demerit point. Fines and demerit points were increased for higher level speeding offences with speeding penalties for provisional P2 licence holders also strengthened.

Demerit points scheme for learner drivers

A demerit points scheme for Learner licence holders was introduced on 28 September 2009. The scheme provides an extension of the zero-tolerance approach and automatic suspension applying to speeding by provisional P1 licence holders to include learner drivers. Under the scheme, a learner licence is suspended, or a licence application or renewal refused, for a period of three months if the learner incurs 4 or more demerit points within a three year period. The minimum number of demerit points for any speeding offence committed by a learner is 4. The allocation of demerit points for certain traffic offences is designed to encourage safe and responsible driving.

Changes to learner log book provisions

In December 2009, changes were implemented to the Graduated Licensing Scheme to allow one hour of structured driving tuition by a professional driving instructor to count for three hours towards the 120 hour driving experience log book requirement. Learner drivers still need to complete a total of 120 hours of driving; up to 30 hours will be recorded in the driver's log book for 10 hours of professional driving instruction.

Road transport legislation – consecutive disqualification periods

Amendments to road transport legislation were delivered on 27 November 2009. These were designed to remove an anomaly where a person becomes eligible to apply for a licence even though disqualification periods set by the courts are still to be served. The legislation ensures that all licence disqualification periods that have been ordered by the courts are served before a licence can be issued.

'Fail to nominate' provisions introduced

Enhancements were made to legislation to strengthen and streamline processes for registered operators to nominate an offending driver at the time a camera-recorded traffic offence or parking offence was committed. This will enable the appropriate allocation of fines and demerit points and reduce red tape in the fine collection process.

Heavy vehicle initiatives

Fatigue reform

The RTA continues to consult industry stakeholders on the implementation of national heavy vehicle driver fatigue model laws in NSW following their introduction in September 2008. As a result, industry comment was sought on a range of amendments to the NSW laws, including a permanent work diary exemption for local area journeys, exemptions to reduce unnecessary paperwork for farmers, community transport services and motor repairers and dealers, and more flexibility in driver rest break requirements. In addition, the RTA identified a range of necessary improvements to the national model laws, including changes to demerit point offences, the rules for counting work and rest time and the design of driver work diaries.



The new laws enhance the National Heavy Vehicle Accreditation Scheme to provide more flexible driver work and rest time limits to operators with effective fatigue management systems. During 2009–10, the RTA granted 531 NSW based operators Basic Fatigue Management accreditation.

In September 2009, five Sydney public transport bus operators were granted Advanced Fatigue Management (AFM) accreditation under new heavy vehicle driver fatigue laws. AFM accreditation contributes to Sydney's night-time bus services, including the Night Ride network, being able to operate safely and efficiently.

Heavy Vehicle Checking Stations

The RTA's eight Heavy Vehicle Checking Stations (HVCS) are a key part of the RTA's heavy vehicle enforcement program and are strategically located on major freight routes.

In December 2009, the RTA opened its eighth HVCS on the Pacific Highway in Bonville. This new HVCS will give RTA inspectors the ability to carry out checks on heavy vehicles travelling north on the Pacific Highway and completes the RTA's 'whole of route' heavy vehicle enforcement strategy for the Pacific Highway.

Additionally, the RTA is planning to enhance the targeting of heavy vehicles at HVCS by improving analysis of intercepts, optimising screening settings, and modifying screening software. The RTA will also improve the management of heavy vehicles as they transit through a screening lane by installing Transportable Infra-Red Traffic Logger units in the 2010–11 financial year.

Safe-T-Cam

Safe-T-Cam is an investigative tool used to record and monitor heavy vehicle movements and to detect potential breaches of road transport law and forms part of the RTA's overall compliance and enforcement strategy for heavy vehicles operating in NSW. Safe-T-Cam detects and provides data on heavy vehicle incidents relating to:

- Driver fatigue.
- Registration.
- Failure to enter heavy vehicle checking stations.

Over the past 12 months, the Safe-T-Cam network was audited as part of the NSW Auditor General's investigation into heavy vehicle accidents. The final report made specific recommendations concerning improvements needed to optimise the functioning of the Safe-T-Cam network.

As part of the RTA's response to the Auditor General's recommendations, the RTA conducted a review of the Safe-T-Cam business model. PricewaterhouseCoopers was successful in the tender process and reviewed the current business model with an aim to recommending a best-practice business model for the network covering policy development, integration with other compliance strategies, provision of IT software and services, maintenance of the infrastructure, and definition of roles and responsibilities of the stakeholders.

The recommendations stemming from this review have been distributed to all internal stakeholders to the network for comment. A working party comprising representatives from RTA stakeholder groups is due to meet in July 2010 to develop an implementation plan of the recommendations.

During the first six months of 2010, the RTA developed policy and procedures documentation outlining the business rules to be applied to potential offences detected by the Safe-T-Cam network. This, and a review of the Three Strikes Policy, completes a review cycle started in 2009 that involved updating policy and procedures to reflect changes to the adjudication process and general practices around the use of Safe-T-Cam.

Automatic Number Plate Recognition

The RTA began evaluating new Automatic Number Plate Recognition (ANPR) camera technology as part of its efforts to reduce the number of unregistered vehicles on NSW roads. The RTA is helping the CrimTrac Agency (Commonwealth Department of Justice) in its scoping study into ANPR technology.

Trials of three ANPR camera systems at Clunies Ross Street, Prospect, and three at the Great Western Highway, Eastern Creek, are coming to a conclusion. The trials are establishing clear benchmarks for equipment performance that will form a part of tender requirements for future camera programs.

Challenges and the way forward

Fatalities

After six consecutive years of reductions in the road toll, NSW is experiencing a significant increase which is eroding some of the gains made since 2002. Developing and implementing further initiatives to reduce road trauma will be essential. Some of the key challenges for road safety are:

- Freight activity on NSW roads will increase at roughly twice the rate of increase for all motor vehicle travel.
- Lifestyle choices and increasing petrol prices over the past decade have led to significant increases in motorcycle registrations and pedal cycle usage resulting in lower occupant protection in the event of a crash.
- The recovery of the farming sector in NSW after the lengthy drought can be expected to contribute to increased travel on country roads, particularly farming produce haulage by heavy trucks.
- The NSW population is expected to 'age' over the next three decades with the proportion of those aged 70 years or more increasing from 10 per cent to 17 per cent by 2036, and those aged 80 years or more increasing from four per cent to eight per cent over the same period. Crash statistics show that the elderly are over-represented amongst pedestrian fatalities and drivers involved in fatal crashes.



- The expected entry into the passenger and light truck market of manufacturers from developing countries is expected to bring an influx of cheap imported vehicles. Independent crash testing of these vehicles suggests that they have a relatively poor crash performance. The low cost of these vehicles is also attractive to our worst performing drivers, in particular the young and inexperienced as well as the elderly and frail.

Safer roads

The fundamental challenge for the RTA as it develops safer roads is to further integrate the safe system approach to minimise the severity of road crashes. Initiatives include:

- Facilitate and undertake collaborative research, analysis and investigation of road safety engineering strategies targeted at promoting best practice and road safety engineering innovation.
- Exchange road safety knowledge, information and research to build safer road partnerships with road safety practitioners in NSW and beyond.
- Represent the RTA on peak committees and forums to provide leadership and constructive influence in the development of NSW, local and national road safety outcomes.
- Develop, implement and monitor performance in improving safety of NSW roads and roadsides.
- Integrate road safety engineering into policies, planning, strategies, business processes, programs and operations across the RTA.
- Continue partnerships with agencies such as the Department of Planning, Energy Australia and Integral Energy to address road safety concerns with infrastructure such as utility poles and roadside advertising.
- Deliver key safety works on the Newell Highway, Great Western Highway, Mitchell Highway and Mid Western Highway and undertake a safety review of the New England Highway.
- Review, implement and monitor the NSW Speed Zone Guidelines and associated policies and support system.
- Lead and monitor the development and implementation of pedestrian activity areas, including the Sydney CBD 40km/h speed zone project.
- Deliver safety works under the 'Safety barriers', 'Council managed roads' and 'Pedestrian fencing' programs.
- Develop strategies to implement works on roads identified in the Aboriginal community assessments undertaken for the Aboriginal Affairs NSW.
- Investigate measures at signalised intersections to improve pedestrian safety and amenity.
- Investigate, develop, review and implement training sessions on promoting safer roads practices and best practices.

Safer vehicles

The RTA will continue to advocate and advise on safer vehicles. The challenges in this area will be to encourage more:

- Australian manufacturers to achieve the maximum five-star result in the ANCAP testing.
- Manufacturers to make electronic stability control 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.
- Purchasing of five star ANCAP rated vehicles as basic models rather than the purchasing of additional safety features found in luxury vehicles.

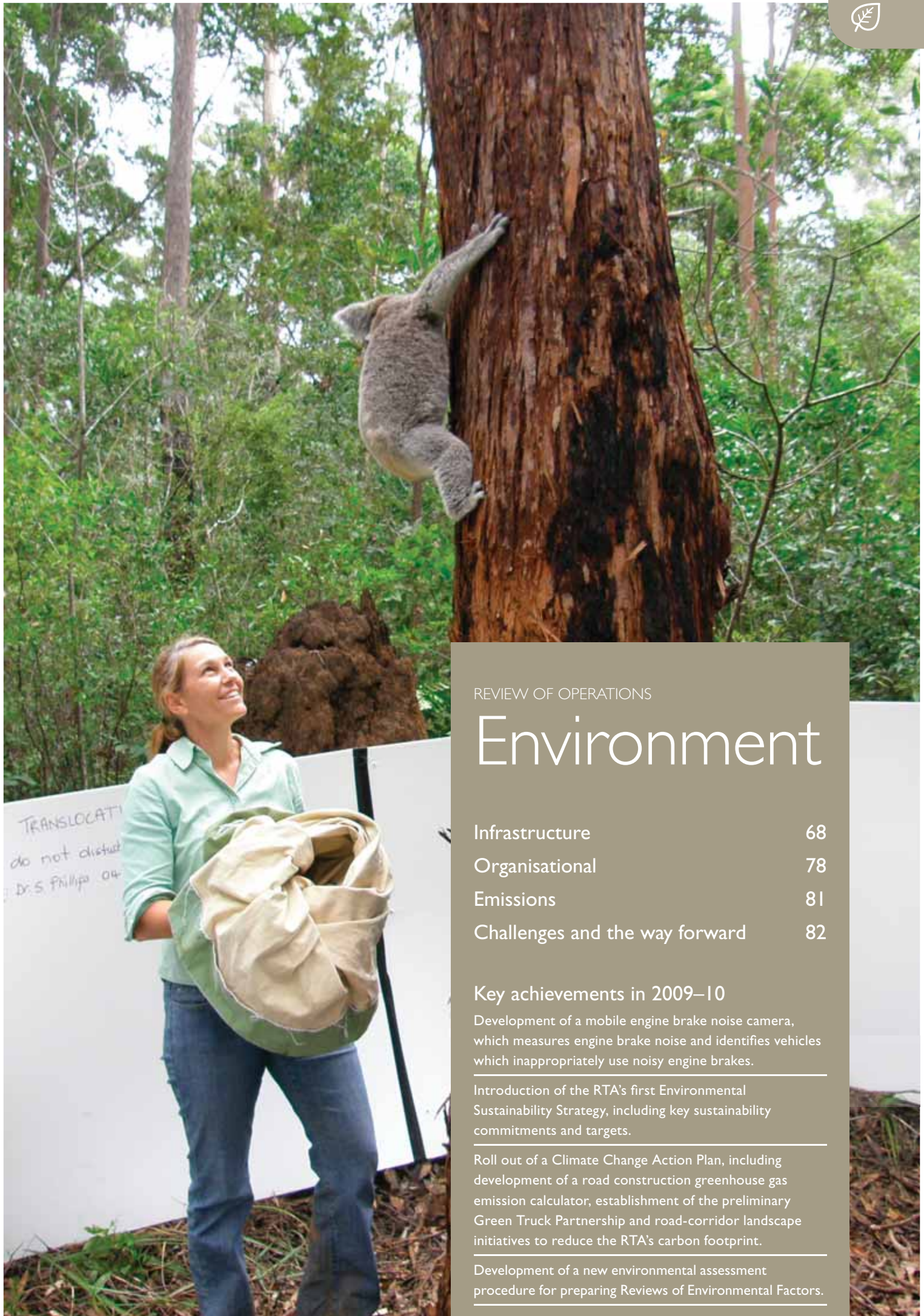
Increasing fuel costs are leading to the increased use of motorcycles, scooters, bicycles, and smaller and more fuel efficient cars, which generally offer their occupants less protection in a crash. The RTA continues to promote ANCAP as a means of choosing the safest vehicle within price and environmental performance parameters.

The forecast increase in the number and size of heavy vehicles and the increases in smaller light vehicles and motorcycles present a real road safety challenge.

Safer road users

The key focus is to continue to develop and evaluate initiatives to target unsafe road user behaviour. Initiatives include:

- Continue community education and enforcement to reduce speeding.
- Continue to implement initiatives to increase child road safety across NSW, including the further installation of flashing lights in school zones and the installation of 'dragon's teeth' pavement markings and fluoro school zone signage to improve the visibility of school zones.
- Continue to meet the challenge of highlighting the impacts of speeding.
- Review school and community road safety education programs and campaigns to ensure their ongoing relevance and effectiveness.
- Implement high visibility RTA / NSW Police Force operations to target speeding, drink driving, fatigue, heavy vehicle safety, seatbelt use and helmet use.
- Implement point-to-point speed enforcement for heavy vehicles and introduce safety cameras.
- Pilot the new Local Government Road Safety Program.
- Amend the Australian Road Rules to enhance road safety where required.
- Continue the focus on heavy vehicle driver fatigue and refresh fatigue campaigns for light vehicles.
- Complete the \$14 million Dragons Teeth Program to reinforce the visibility of school zones.



REVIEW OF OPERATIONS

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Key achievements in 2009–10

Development of a mobile engine brake noise camera, which measures engine brake noise and identifies vehicles which inappropriately use noisy engine brakes.

Introduction of the RTA's first Environmental Sustainability Strategy, including key sustainability commitments and targets.

Roll out of a Climate Change Action Plan, including development of a road construction greenhouse gas emission calculator, establishment of the preliminary Green Truck Partnership and road-corridor landscape initiatives to reduce the RTA's carbon footprint.

Development of a new environmental assessment procedure for preparing Reviews of Environmental Factors.



Environment

RTA result: Impacts on the natural, cultural and built environments are minimised

The RTA and the environment

The RTA aims to minimise the impact on the natural, cultural and built environments in all of its activities. This ranges from improving the organisations' environmental footprint, to working to reduce emissions from vehicles and protecting threatened species and biodiversity during road works. The RTA also has statutory responsibilities to assess the environmental impact of its infrastructure projects as part of the planning process.

This chapter outlines the RTA's measures to minimise impact on the environment over the past year. It is divided into four main sections:

Infrastructure – environmental initiatives related to construction and maintenance of roads and bridges.

Organisational – internal measures to improve the RTA's use of resources.

Emissions – cutting down emissions from vehicles.

Challenges and the way forward.

Chapter cover image: RTA staff member Simone Garwood releasing a koala into a nearby conservation area as part of a translocation project for koalas affected by the Oxley Highway upgrade near Port Macquarie.

Infrastructure

Infrastructure planning and road works

Environmental assessment

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides the framework for environmental assessments where the RTA identifies measures to avoid, minimise, mitigate, manage, monitor and, in some cases, offset the environmental impact of its activities.

The RTA is committed to setting an industry benchmark for quality environmental impact assessment. The RTA's framework for ensuring quality environmental assessment is the Environmental Impact Assessment Guidelines. An important initiative developed over 2009–10 was the Environmental Assessment Procedure for Project Reviews of Environmental Factors (REFs).

During 2009–10, the Minister for Planning approved six RTA projects under Part 3A of the EP&A Act. These approvals included:

- Erskine Park Link Road Concept Plan (Western Sydney Employment Hub).
- Glenugie upgrade (Pacific Highway).
- Holbrook Bypass (Hume Highway).
- Tarcutta Bypass (Hume Highway).
- Tintenbar to Ewingsdale (Pacific Highway).
- Woomargama Bypass (Hume Highway).

In addition, the Minister for Planning approved several modifications to RTA projects that were assessed under Part 3A of the EP&A Act. Modifications were approved for the following projects:

- Banora Point (Pacific Highway).
- F3 Freeway – Branxton Link. (Hunter Expressway)
- Kempsey to Eungai (Pacific Highway).
- Main Road 92 upgrade project (Nowra to Nerriga)
- Sapphire to Woolgoolga (Pacific Highway).

During the year, the RTA determined 212 REFs. These assessments examine potential environment impacts of projects assessed under Part 5 of the EP&A Act. The REFs were prepared in accordance with the RTA's Environmental Impact Assessment Guidelines.

The RTA referred six projects to the Australian Government Department of Environment, Water, Heritage and the Arts (DEWHA) for a decision on whether assessment and approval would be required under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). Where projects have or are likely to have a significant impact on a matter of national environmental significance (known as a 'controlled action' under the EPBC Act), approval is required from the Australian Government Minister for the Environment.



CASE STUDY

Glenugie upgrade – Partnerships in environmental impact assessment



In June 2009, the Glenugie upgrade (Pacific Highway) received funding under the Nation Building Fund, contingent upon construction commencing in January 2010.

The project team included project development staff, environmental specialists and the private sector contractor working in close cooperation to ensure high quality environmental assessment in a short timeframe. The project team developed a collaborative approach and engaged early and meaningfully with regulatory agencies for the environmental assessment of this critical infrastructure. Environmental issues were flagged early in the assessment process. For example, the impact upon the threatened species Square-fruited Ironbark (*Eucalyptus tetrapleura*) and Swamp Tea-tree (*Melaleuca irbyana*) and the need for offsets were identified. Discussions with the NSW Department of Environment, Climate Change and Water (DECCW) and DEWHA contributed to a biodiversity offset strategy developed concurrently with the environmental assessment in order to manage the impact on these species.

Partnerships across the organisations and effective consultation with government agencies resulted in the efficient production of a high quality environmental assessment and EPBC Act referral.



High visibility flagging protects vegetation on the Glenugie upgrade construction site.

The referred projects included:

- Glenugie upgrade (Pacific Highway).
- Holbrook Bypass (Hume Highway).
- M2 Motorway upgrade.
- Tarcutta Bypass (Hume Highway).
- Tintenbar to Ewingsdale (Pacific Highway).
- Woomargama Bypass (Hume Highway).

The M2 Motorway upgrade was determined not to be a 'controlled action'. The remaining projects were all 'controlled actions', requiring approval from the Minister for the Environment.

Visit the RTA website at www.rta.nsw.gov.au for more information on the environmental impact assessment of RTA projects, including the projects mentioned here.

Environmental performance

The RTA recognises that effective environmental management is essential for successfully undertaking its activities and ensuring the long-term sustainability of the NSW road infrastructure. The RTA's strategic environmental direction and broad environmental objectives are outlined in the Green Plan section in the *RTA Corporate Plan 2008–12: Blueprint*, available on the RTA website. To achieve these objectives, the RTA maintains an environmental management system (EMS) which provides a structured approach to planning and implementing environmental protection measures.

The RTA has recently undertaken a review of its EMS and developed an improvement plan for a more effective EMS. The revised EMS will deliver the following outcomes:

- Enhanced planning elements to better link the RTA's environmental aspects and impacts with organisational environmental objectives, targets and programs.
- Better integration of the EMS with other RTA management systems.
- Improved processes and procedures for project environmental risk assessment.
- Revised contract environmental specifications that will deliver improved contractor environmental performance.
- Development and implementation of the RTA-wide environmental awareness training program.
- Implementation of a comprehensive EMS internal audit program.

The RTA is required to hold environment protection licences (EPLs) under the *Protection of the Environment Operations Act 1997* (POEO Act) for certain activities that trigger the licensing schedule in the Act. For the year 2009–10, the RTA held 13 EPLs under the Act. These EPLs were issued for the activities shown in Table 7.



**TABLE 7. ENVIRONMENT PROTECTION LICENCES
ISSUED 2009–10**

Project/site name	Licensed activity
Ashby Dry Dock	Marina and boat repair facility
Bulahdelah Bypass	Road construction
Central Coast Highway	Road construction
F3 Freeway Widening	Road construction
F5 Freeway Widening	Road construction
Great Western Highway – Woodford to Hazelbrook	Road construction
Lawson Rail Alignment	Railway systems activity
Mewburn's Gravel Quarry	Hard rock gravel quarrying
Mortlake Slipway	Marina and boat repair facility
Newcastle Inner City Bypass	Road construction
Oxley Highway Upgrade	Road construction
Rockdale Depot	Transport of waste
Wagga Depot	Transport of waste

In 2008, amendments to the POEO Act resulted in more stringent licensing requirements for waste management and the potential need to license large waste-storage stockpiles. Because of these potential implications, DECCW issued the RTA a temporary exemption to waste storage (stockpile) licensing. During 2009–10, the RTA undertook a comprehensive audit of its stockpile sites and reviewed the environmental management processes for those sites. While the audit showed that the vast majority of stockpiles managed by the RTA present a very low environmental risk, and only a few held sufficient material to require licensing, the RTA will be carrying out a comprehensive program to improve the environmental performance of its stockpile sites.

In the past year, the RTA continued its program of voluntary licence compliance audits as part of its environmental performance improvement program and annual return of EPLs. The audits revealed 21 non-compliances, which was an increase compared to last year. These non-compliances range from administrative issues such as community communication requirements and failure to include requirements of site inspection reports to some potentially serious water quality discharges from road construction sites. These types of non-compliances have been, or are in the process of being, rectified and the RTA will use the audits' results to improve compliance and procedures.

During 2009–10, the RTA received one Penalty Notice from DECCW for a breach of a licence condition on the Oxley Highway Upgrade.

Noise management

Engine compression brake noise

Throughout 2009–10, progress continued on the use of engine brake noise technology to allow future enforcement of a national standard for engine brake noise. As part of this trial, the RTA installed a fixed noise camera site at Mount Ousley, which has been used to trial and test different equipment. The RTA has also been conducting field trials of a 'prototype' relocatable trailer and portable sound monitoring devices. It is proposed to use these technologies for enforcement purposes at locations with high levels of engine brake noise once trials have been concluded and a regulatory framework has been implemented.

The engine brake noise camera trailer system is a 'world first' innovation and the Road User Strategic Projects Technical Team, which pioneered this, was awarded the 2009 RTA Staff Award for Environmental Sustainability.



The mobile engine brake noise camera trailer system at work.

Noise Abatement Program

In 2009–10, the RTA spent \$2.6 million treating 57 dwellings exposed to high levels of road traffic noise under the RTA's Noise Abatement Program. Architectural noise treatments include sealing around doors and windows, installing mechanical ventilation and replacing doors and windows with acoustically rated units. The majority of building treatments were provided in the Sydney region (approximately 47 homes) with the remaining treatments in the Illawarra, Hunter and Northern regions of NSW.

NSW Government noise policies

The RTA was a large contributor to the development of the draft Road Noise Policy that was released by DECCW in June 2010 for public comment. The RTA acknowledges the importance of addressing the impact of road traffic noise during road projects and recognises the direct effects traffic noise can have on those living around heavily trafficked roads.



Land and water

Erosion and sedimentation management procedures

The RTA is committed to improving performance in limiting construction site erosion and controlling sedimentation. As part of this commitment, the RTA Erosion and Sedimentation Management Procedure was endorsed in November 2009. The procedure replaces the former RTA Erosion and Sedimentation Risk Assessment Procedure, 2005.

The purpose of the procedure is to identify potentially high risk projects in the concept design stage of project development. The procedure provides a process to manage identified risks through design and construction including the use of specialist soil conservation consultants. The requirements of the procedure are implemented through the RTA Major Project Management System, ProjectPack.



Stormwater controls minimise erosion on the Ballina Bypass construction site.

Erosion and sedimentation control training

As part of its commitment to improving erosion and sedimentation control performance, the RTA has continued to provide two-day technical training to RTA staff including project managers, site engineers, environment staff, surveillance officers and designers. This year, 108 RTA staff were trained across NSW.

The RTA also facilitated delivery of this training to key representatives from some of its major project construction contractors. During 2009–10, 35 contractor staff received training.

Environmental performance reviews

The RTA conducted a series of environmental performance reviews on major projects in 2009–10. These reviews included site inspections and assessment of compliance with environmental requirements, with a focus on erosion and sedimentation control performance. In 2009–10, the RTA reviewed the Cowpasture Road and Hoxton Park Road projects in Sydney Region, the River Lett Hill project in Western Region, Alstonville Bypass and the Oxley Highway upgrade in Northern Region and the Ballina Bypass on the Pacific Highway.



The outcomes of the reviews are reported to the RTA's Environment Executive Committee. They inform the Executive of performance issues and good examples of innovative techniques and provide recommendations for improvement in site practices and policy directions. The RTA has used the outcomes of these reviews to convey environmental performance expectations to senior management from major project contractors.

Contaminated land management

The RTA continued to identify and manage contaminated land as part of project development, property purchase and RTA property sales. The works ranged from minor assessments of potentially contaminated stockpiles to complete route assessments for new projects.

Surplus sites that the RTA sells are assessed to ensure they are suitable for the intended land use. Depending on the results of technical investigations, the RTA may use various remediation techniques to ensure sites are suitable for sale.

Protecting biodiversity

Biodiversity refers to the variety of life forms, including different plants and animals and the genes they contain and the ecosystems in which they live. Australian ecosystems contain many species found nowhere else in the world. Road reserves often contain important biodiversity that is rare in the surrounding landscape. The RTA is committed to the protection of biodiversity along road reserves and considers biodiversity issues carefully during route selection and road design for all infrastructure projects.

Biodiversity protection is achieved through the development and implementation of 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. An outline of how the RTA protected and worked to enhance biodiversity in 2009–10 is included in Table 8 on page 72.

An example of the RTA's commitment to biodiversity is the monitoring of threatened species taking place as part of the Glenugie Upgrade Project, Pacific Highway. Monitoring for Rufous Bettong (*Aepyprymnus rufescens*), Yellow-bellied Gliders (*Petaurus australis*) and Spotted-tailed Quolls (*Dasyurus maculatus*) is being carried out to assess the effectiveness of fauna crossing structures.

Threatened species

The RTA contributed to a number of threatened species recovery plans prepared by DECCW in accordance with Part 4 of the *Threatened Species Conservation Act 1995*. Refer to Appendix 2 for full details.





TABLE 8. BIODIVERSITY PROJECTS

Activity	Purpose	Progress
Developing measures to minimise road impacts on biodiversity.	Management of wildlife on roads.	The RTA is part of a community working party to investigate measures to minimise roadkill in Pittwater and Warringah local government areas. The RTA is researching the issue of road kill and animal collisions at a Statewide level involving collaborations with DECCW and the NSW Wildlife Council.
Contribution to the NSW Wildlife Council.	Management of wildlife on roads.	The RTA provided \$20,000 to the NSW Wildlife Council, which coordinates wildlife carer groups and advises carers on wildlife management policy.
Fund research into effects of road construction and operation on koala (<i>Phascolarctos cinereus</i>) populations adjacent to the Pacific Highway at Bonville.	Koala population research.	The RTA has funded the Australian Museum to research the effectiveness of mitigation structures such as underpasses and overpasses for koalas. Sensors have recorded koalas using the underpasses.
Development of draft guidelines for protecting biodiversity during construction and maintaining connectivity.	Provide best-practice guidance and encourage consistency across NSW in protecting biodiversity during construction activities and maintenance works.	Draft biodiversity guidelines in consultation with DECCW and Industry & Investment NSW (Fisheries) have been developed.
Research into the effectiveness of measures to allow threatened fauna to move across roads.	Minimise impacts on biodiversity.	The RTA participated in a joint research project with VicRoads and the University of Melbourne to determine the effectiveness of fauna crossing structures for roads. Preliminary results are being used in the design of crossing structures for RTA projects.
Monitoring of the Purple Copper Butterfly (<i>Paralucia spinifera</i>) at Lidsdale.	Minimise impacts to biodiversity.	The RTA provided funds for the monitoring of and ongoing maintenance works for a population of Purple Copper Butterfly translocated from the road reserve of the Castlereagh Highway near Lithgow in 2005–06. Enhancement works on site have been effective at retaining a viable population on site.
Vegetation management at Beverley Grove adjacent to the M5 East Motorway.	Minimise impacts on biodiversity.	The RTA continues to manage a remnant patch of vegetation containing the endangered ecological community of the Cooks River/Castlereagh Ironbark Forest. The RTA has entered into a contract with the National Trust to carry out bush regeneration works.
Green and Golden Bell Frog (<i>Litoria aurea</i>), Arncliffe.	Minimise impacts on biodiversity.	The RTA continues to manage the Green and Golden Bell Frog population in ponds constructed as a compensatory measure for the M5 East Motorway. Regular monitoring of the frog population has been carried out since 2000. 2009–10 was a good season for the Green and Golden Bell Frogs at Arncliffe with two separate breeding events. The RTA is seeking to establish a management committee with Council and the Department of Planning for ongoing operation of the ponds.
Duffys Forest endangered ecological community.	Minimise impacts on biodiversity.	The RTA owns two adjacent parcels of land in Frenchs Forest containing Duffys Forest endangered ecological community. A plan of management has been prepared by the RTA to maintain the forest. The bush regeneration of the area is being managed by the National Trust Bushland Management Service.
Hume Highway threatened species monitoring program.	Minimise impacts on biodiversity.	The monitoring includes threatened woodland birds, reptiles and fish. Monitoring of Squirrel Glider use of the glider pole structures suggests Squirrel Gliders are using the structures and populations are being maintained.
Biodiversity offsets.	Offsetting for unavoidable biodiversity impacts.	A Biodiversity Offset Strategy for the Hume Highway Duplication was developed in consultation with the Nature Conservation Trust is being implemented. Offset strategies were approved for the Hume Highway bypasses at Tarcutta and Woomargama and the following sections of the Pacific Highway upgrade: <ul style="list-style-type: none"> • Glenugie upgrade. • Sapphire to Woolgooga. • Kempsey to Eungai.



Roadside environment

The RTA continued to support the Roadside Environment Committee (REC) and funded the REC's secretariat and meeting costs in 2009–10. The REC is a multi-agency advisory body that promotes the management of linear reserves to balance environmental, social and economic values. The REC member organisations are:

- Catchment Management Authorities.
- Country Energy.
- Department of Environment, Climate Change and Water.
- Institute of Public Works Engineering Australia.
- Land and Property Management Authority.
- Livestock Health and Pest Authorities.
- Local Government and Shires Association.
- Nature Conservation Council.
- RailCorp.
- NSW RTA.
- Rural Fire Service (RFS).

Key achievements for the REC in 2009–10 included:

- A strategic plan for 2010–13 was developed and included goals for development of environmental management best practice for linear roadside reserves; training, awareness and promotion of the REC.
- An audit of roadside vegetation management plans (RVMPs) was carried out in NSW, finding 73 per cent of councils surveyed had RVMPs but very few were readily available to the public.
- A stakeholder mailing list and review of the REC speaker's kit and website was carried out as part of the communication plan.
- Two electronic REC newsletters were produced and emailed to over 140 stakeholders across NSW and interstate.
- Discussions with the RFS were initiated regarding the development of a strategic approach to bushfire management in linear reserves.
- Clear zone assessment spreadsheet trials are taking place. The aim is to provide a simple approach to assessing and treating hazardous road segments or sites while minimising any adverse impacts on biodiversity.
- A number of presentations were given to the REC. These included BioBanking (DECCW), Roadside Environment Program (Hunter and Central Coast Regional Environmental Management Strategy), Spatial Information eXchange (Land and Property Management Authority), Austroads Guidelines (RTA), and litter reduction strategies (DECCW).

CASE STUDY

Translocation of koalas, Oxley Highway upgrade

The RTA is currently upgrading a section of the Oxley Highway, near Port Macquarie. The upgrade passes through an area of habitat known to consist of a koala (*Phascolarctos cinereus*) population of regional and State significance.

The environmental impact assessment for the project determined a significant impact on the local koala population as a result of the loss of known breeding and foraging habitat, fragmentation of known core and secondary habitat and restriction or modification to the movement of the local koala population.

With the support of DECCW, NSW Koala Preservation Society, the RTA and two independent scientific peer reviewers, a proposal to translocate affected koalas to a nearby conservation area was developed. The translocation proposal was approved by DECCW. Biolink Environmental Consultants and the NSW Koala Preservation Society carried out the translocation on behalf of the RTA. Koala translocations began in February 2010.

Nine adult koalas and two joeys were successfully moved into the conservation area. Radio tracking collars were used to monitor how the koalas use and move about in their new environment. Information gathered from the radio tracking study indicated that each animal has established a home range with repeated use of favoured feed trees. The translocation project will continue to be monitored until 2012. Information gathered will assist in developing national translocation methodology for koalas as part of the action under the National Koala Conservation and Management Strategy 2009–14.



RTA staff member Simone Garwood: A translocated koala is released in her new home.



Heritage

Aboriginal culture and heritage

The RTA's Procedure for Aboriginal Cultural Heritage Consultation and Investigation sets out a clear process for all RTA projects to ensure effective and appropriate consultation with the Aboriginal community. The procedure has continued to be monitored throughout its first two years of implementation. Amendments already adopted include an increase in the rate paid to Aboriginal Sites Officers engaged under the procedure, to bring payments in line with current market rates.

Aboriginal Heritage Impact Permits

DECCW issued 12 Aboriginal Heritage Impact Permits (AHIPs) under Sections 87 and/or 90 of the *NSW National Parks and Wildlife Act 1974*. These permits allow the RTA to undertake investigations on, or remove Aboriginal archaeological sites or objects. Permits were obtained for the following RTA projects:

- Aberdeen Bridge replacement project.
- Barton Highway – Gounyan Curves duplication.
- Bega Bypass.
- Camden Valley Way – Narellan Road to Cobbitty Road.
- Cudgegong pavement reconstruction.
- Erskine Park Link Road.
- Gerringong upgrade.
- Great Western Highway – Woodford to Hazelbrook Stage 5 upgrade.
- Main Road 92 upgrade – Stage 3.
- Oxley Highway upgrade.
- Princes Highway – Gerringong to Bomaderry upgrade.
- Princes Highway – Victoria Creek upgrade.

Aboriginal archaeological investigations, not requiring AHIPs, were also undertaken for the Hume Bypass projects and Pacific Highway upgrade projects.

Heritage and Conservation Register

The Section 170 Heritage and Conservation Register, required by the *Heritage Act 1977*, was submitted to the Heritage Council in December 2009. The register documents in detail the RTA's State and locally significant heritage assets. The register currently has 319 items, predominantly bridges, but also including movable heritage, archaeological items and buildings. A Geographic Information System interface search tool has been developed for internal RTA use to allow for more flexible access to data held on the register.

The Director of the Heritage Branch, NSW Department of Planning, congratulated the RTA on the quality of its register which was formally endorsed on 7 July 2010.

The register is available for the public to view on the Environment pages of the RTA website at www.rta.nsw.gov.au.



The RTA's Section 170 Register list includes Ferry No. 7, Ashby Dry Dock, as a moveable heritage item.

State Heritage Register

The RTA has 37 items on the NSW State Heritage Register, primarily bridges. This year the Yooroonah Tank Barrier, which crosses Waterfall Way at Ebor and partly lies within the road reserve, was added to the State Heritage Register. The tank barrier consists mainly of timber posts and cast concrete tetrahedra as well as supporting structures and is one of the best preserved of the local defence lines built in World War II remaining in NSW.



The 1942 Yooroonah Tank Barrier at Waterfall Way is now listed on the State Heritage Register.

The Heritage Council approved the following work on State Heritage items listed under the *Heritage Act 1977*:

- Chatswood Reservoir / Boundary Road intersection.
- Dunmore Bridge refurbishment.

Oral history

The RTA's Oral History Program supplements the organisation's documented history with spoken word recollections of the people involved in all aspects of its technical, operational and policy development.

The most recently completed oral history, *Towards a safer system: innovations in Australian road safety* interviewed 29 people, many within the RTA or its predecessors, who made significant contributions to the development of a road safety culture in Australia.

The oral history of toll collection on Sydney Harbour Bridge is nearing completion. The oral history records the memories of the people who collected the tolls, the politics of the workplace and the impact of operational changes.

MP3 versions of the oral histories are available for download from the Environment pages of the RTA website at www.rta.nsw.gov.au.

Other heritage activities

RTA Heritage Committee

The RTA's Heritage Committee meets quarterly to discuss issues relating to the management of heritage assets and policy development for heritage conservation. The committee includes representatives from:

- Engineers Australia.
- The Heritage Branch, NSW Department of Planning.
- The National Trust of Australia (NSW).
- The Royal Australian Historical Society.

The Committee has entered its 30th year and three members have sat on the Committee since the beginning. Originally formed to discuss the conservation of historic bridges, the role of the group has expanded. Over its 30 years the committee has provided specialist guidance to RTA on the value of its heritage resource for the people of NSW. The meetings also present projects which have significant heritage issues and provide an opportunity for stakeholders to raise issues with the RTA.

CASE STUDY

Archaeology at Alstonville

The Alstonville Bypass impacts on an area of vacant land opposite the site of the former Ocean View Hotel, which was built in 1884 and demolished by 1908. A large refuse deposit on the vacant land was assessed as having archaeological potential, as it was associated with the hotel and life on the rural frontier at the time of Federation in 1901.

The RTA commissioned an archaeologist to undertake an excavation to sample the deposit and to explore questions about the relative balance of trade items from NSW and Queensland (at the time these states were separate colonies vying for economic dominance). The excavation looked for evidence of lifestyles at this relatively remote location.

The artefact material recovered included large amounts of bottle glass, plus domestic and personal items. The artefacts are undergoing analysis and will be offered to the local historical society for their collection.



Archaeologists excavate a site associated with the late 19th century Ocean View Hotel which will be impacted by the Alstonville Bypass.

CASE STUDY

Conservation of historic road pavement

Construction and maintenance works frequently reveal old road surfaces buried beneath the modern road pavement. Current road construction works through the Blue Mountains town of Lawson have revealed several substantial stretches of cut sandstone block road formation, probably dating from the mid 19th century.

Old road construction techniques display the different needs of 19th century roadmakers compared to those of today. Generally local materials were used wherever possible to reduce costs, and labour-intensive techniques were employed. Workers, whether convicts, contractors or unemployment relief workers, built many of NSW's most important roads by hand.

The RTA's policy is to retain old road fabric where possible beneath new road surfaces. Detailed archival recording to NSW Heritage Council standards complements the preservation and provides future researchers with needed information. If retention is not possible, due to poor condition or design constraints, then RTA works in consultation with local government and the Heritage Branch, Department of Planning to find alternative interpretative methods. These can include salvage of the road material for use in other public works and installations.



This horse shoe was found embedded in a wheel rut on an exposed mid 19th century roadway uncovered on the Great Western Highway, Lawson. The scale is in centimetres.



Urban design policy

Roads and streets and their bridges, footways, cycleways and verges are a major part of our cities, towns and the countryside and, as such, have a powerful influence on the form, function and character of the places in which we live. In recognition of this, the RTA has developed an urban design approach to its infrastructure works, with three main concerns:

1. How infrastructure fits into and helps shape its context (including built form, topography and landscape).
2. How connectivity and the general permeability of the movement of people is provided in a place.
3. The design quality (including durability, liveability and aesthetics) of the public domain and the visual experience of travel.

These goals are developed in the RTA's urban design policy, *Beyond the Pavement: RTA urban design policy, procedures and design principles* which was the recipient of the 'Australia Award for Urban Design 2010'. The policy is accompanied by other guidelines on bridges, noise walls, landscape and slope stabilisation. Two further guidelines on water sensitive road design and vandalism avoidance are under development.

Beyond the Pavement: RTA urban design policy, procedures and design principles, received the 'Australia Award for Urban Design 2010'.



A related document *Guidelines for landscape character and visual impact assessment* sets down a methodology for assessing the impact of a project on both the general character of an area as well as on the residential and other viewpoints in that area. This guideline provides clear reporting on potential impacts and promotes design iteration to avoid and minimise those impacts, and thereby improve the project urban design outcome.

Further policy development work this year has included research investigating the carbon asset of the state road landscape. The study has investigated the carbon cycle in relation to the road network and how best to manage and safeguard it. The study has also developed and tested a method for calculating the total carbon stored in all trees, shrubs and soil throughout the whole 20,000 or so kilometres of the State road network. The next stage of the work will be to apply this method to calculate the RTA's total carbon inventory.

Integrating urban design into infrastructure project development and delivery

In the RTA, urban design thinking is applied in all stages of project development and delivery:

- In the **initiation phase** when network and corridor strategies are developed with urban design objectives governing their implementation.
- In the **development phase** when options are assessed and design outcomes developed which maximise benefits to the built and natural environment.

- In the **implementation phase** when designs are refined and design quality pursued in the detailed design and construction stages
- In the **finalisation phase** when projects are reviewed and landscapes are established for the operation of the road.

Urban design in the initiation phase

The RTA takes a broad approach to the planning of its roads, recognising that all projects need to be designed as a part of a road corridor, or network strategy, which responds to the contexts in which they are situated. For example, the Pacific Highway Corridor Urban Design Framework helps guide the planning and design of all Pacific Highway projects north of Newcastle. Other urban design frameworks developed this year include studies for the North West and South West Growth Centres in Sydney. These have focused on integrating land use and transport planning to help produce liveable new population centres for Sydney.



This artist's sketch shows Transit Boulevard, one of the road types used in the urban design frameworks for the Sydney Growth Centres.

Urban design in the development phase

An urban design approach continued to be applied successfully on projects in the options investigation and development stages.

Of note this year has been route selection and refinement work for Mount Victoria to Lithgow on the Great Western Highway. Urban design objectives played a significant role in helping to finalise the preferred corridor and investigate the impact of the proposal on the communities and landscape along this historic and challenging route.



Great Western Highway, Victoria Pass.



Significant urban design input has also occurred on the privately funded M2 Motorway and M5 Motorway west upgrades. Project planning has involved a strong focus on visual impacts and the achievement of an appropriate urban design outcome for the areas through which the motorways pass.

Urban design in the implementation phase

The 2009–10 year proved to be a significant year in the implementation phase of projects. Urban design input was applied across a wide range of projects around the State. The Hunter Expressway and Kempsey Bypass projects have been undergoing detailed design development throughout much of the year with multi disciplinary collaborations set up between engineers, urban designers and environmental experts.

The construction of Pacific Highway upgrades including Coopernook to Herons Creek and Ballina Bypass continued to require design monitoring. The Banora Point upgrade project commenced this year with significant urban design input into the detailed design including the architectural and landscape development of the viaduct, the landbridge and park, the high walled cuttings through the Banora Point ridge line and the gateway interchange for Tweed Heads.

Detailed design commenced for the final stage of the Great Western Highway Lapstone to Katoomba upgrade at Bullaburra East and continues to implement the urban design objectives of the Great Western Highway Urban Design Framework.

Construction of the Inner West Busway in Drummoyne and Rozelle continued, with significant work carried out on Iron Cove Bridge. Design decisions made in 2008, such as tapering piers, setback from the old bridge and the slender girder with cantilevered deck are now able to be seen in their built form. Proposals for the new King Georges Park area (used as a construction site) have been developed in liaison with the council and residents and design work was finalised for the ramp connection from the new bridge to the 'Bay Run'.



Construction of the new bridge adjacent to the existing bridge over Iron Cove Bay, June 2010.

The Northern Distributor extension in Wollongong was also completed in December 2009. The project includes new cycleways and footpaths, bridges, noisewalls and landscape, all designed to create a distinct identity for the project and good connections along and across the road. The grey blue signature colour used on the project represents the misty blue of the Illawarra escarpment, which provides a nearby backdrop to the coastal plain.



Northern Distributor extension in Wollongong, November 2009.

Urban design in the finalisation phase

Urban design involvement in projects includes landscape design and management input. When the project is completed it is only the beginning for the establishment and eventual maturation of the landscape. Consequently, ongoing monitoring, plant replacement, plant thinning and trimming, grass cutting and adaptation of the landscape is an important area of work.

The Pacific Highway, Bonville Bypass opened in 2008 and is a good example of the need for monitoring. Just two years after opening, the landscape has grown significantly with acacias and gums regenerating extensively throughout the project. Selective clearing will be needed to avoid maintenance problems in future years.



Vegetation growth on the Bonville Bypass, Pacific Highway, in June 2010, just two years after opening.



Organisational

The RTA is one of the largest infrastructure and service organisations in Australia and we recognise our activities have an impact on the environment. This section summarises the key organisational environmental impacts and highlights how the RTA is moving towards becoming a more environmentally sustainable organisation.

Environmental sustainability strategy

In June 2010 the RTA's Environment Executive Committee endorsed the environmental sustainability strategy *Towards a more sustainable RTA*. The strategy aims to provide staff, contractors and the community with a shared understanding of the environmental sustainability issues relevant to the RTA and includes a series of sustainability commitments and targets in the key environmental theme areas.

- Air quality.
- Biodiversity.
- Climate change.
- Energy management.
- Heritage.
- Liveable communities.
- Materials selection.
- Waste management.
- Water management.

The commitments in the strategy will be used to guide the identification of environmental sustainability opportunities in the RTA so that they can be translated into specific actions to be incorporated into existing RTA business processes.

Implementation of the strategy will deliver a number of benefits to the RTA including:

- Reducing greenhouse gas and other air emissions associated with our operations.
- Reducing the RTA's environmental footprint by better management of energy, water, waste and the way the organisation designs, builds and operates roads.
- Attracting and retaining talented staff who want to work for an organisation committed to environmental sustainability.
- Reducing potential environmental and economic risks.
- Enhancing research and development opportunities.
- Promoting a culture of innovation.

RTA Australian Institute of Management Sustainability Training Project

The Australian Institute of Management (AIM) in conjunction with the RTA and Canon Australia has been successful in receiving funding from the DECCW to develop and trial a training program to increase the skills of executives and managers in environmental sustainability and energy efficiency. The training program will focus on integrating sustainability through strategic planning, cultural change, workplace policies and practices.

Funding is provided through the NSW Government's \$20 million Energy Efficiency Training Program.

Resources and waste

Energy

The RTA reports in October of every year on its direct energy consumption, in accordance with the NSW Government Energy Management Policy (GEMP) and NSW Government Sustainability Policy¹.

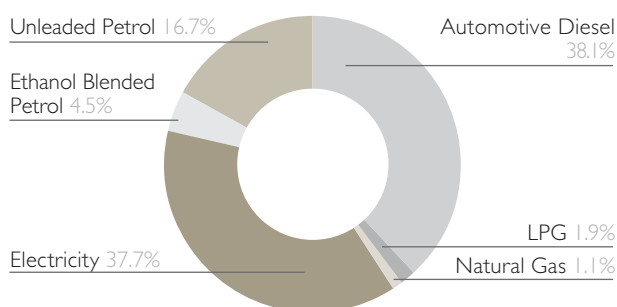


In 2008–09 the RTA consumed around 745,893 gigajoules (GJ) of energy. The RTA's major direct energy uses include electricity to operate traffic signals, street lights and buildings, and diesel and petrol for road machinery and RTA vehicles. The RTA uses minor amounts of LPG and natural gas for heating buildings, light vehicles and plant and asphalt manufacture.

There was a significant increase in the consumption of both LPG and ethanol blended petrol (E10) in the light vehicle fleet in 2008–09 compared to previous years.

The RTA's direct energy usage profile for 2008–09, in terms of proportion of energy consumed (gigajoules) by energy source, is shown in Figure 18.

FIGURE 18. RTA ENERGY USE PROFILE
(Per cent of direct energy consumption as measured in gigajoules)



Environmental performance of RTA light vehicle fleet

The environmental performance score (EPS) is a rating score out of 20 given to all light vehicles sold in Australia and is based on the greenhouse gas emissions and air quality impact of vehicles. The higher the EPS score the better the environmental performance of a vehicle.

The NSW Cleaner Government Fleet Program sets performance targets for government fleets including:

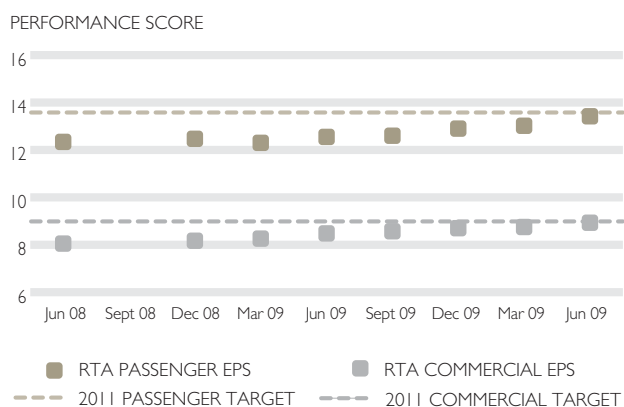
- A target average EPS for passenger vehicle fleets of 13.5 by June 2011.
The RTA average EPS was 12.55 as at June 2009 and 13.42 as at June 2010 and is continuing to trend upward towards the target.
- A target average EPS for commercial vehicle fleets of 9 by June 2011.
The RTA average commercial vehicle EPS was 8.48 as at June 2009 and 8.93 as at June 2010 and is continuing to trend upward towards the target.

¹ Due to the time delay in obtaining data and collating energy reports, all annual report energy data is 12 months in arrears.



Figure 19 shows how the RTA is tracking against target EPS for the light vehicle fleet since June 2008.

FIGURE 19. ENVIRONMENTAL PERFORMANCE SCORE FOR THE RTA LIGHT VEHICLE FLEET

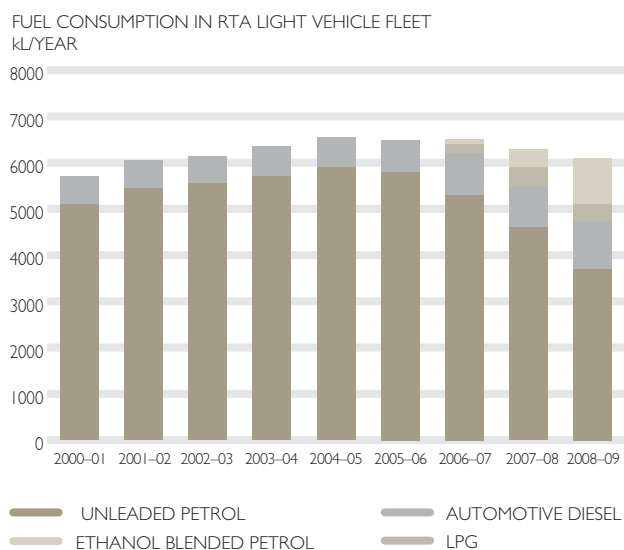


Fuel consumption in RTA light vehicles

There has been a significant decrease in the amount of unleaded petrol consumed in the past three years (see Figure 20). This is attributable to the increasing environmental performance of fleet vehicles including greater use of E10, a greater number of LPG fuelled vehicles compared to previous years and increased fuel efficiency of petrol-powered motor vehicles.

A target 20 per cent of all fuel used in government fleet light motor vehicles should be E10. The use of E10 in the RTA light vehicle fleet has been gradually increasing, from 15.8 per cent in July 2008 to 23.2 per cent in July 2009, exceeding the NSW Government target.

FIGURE 20. FUEL CONSUMPTION IN RTA LIGHT VEHICLE FLEET



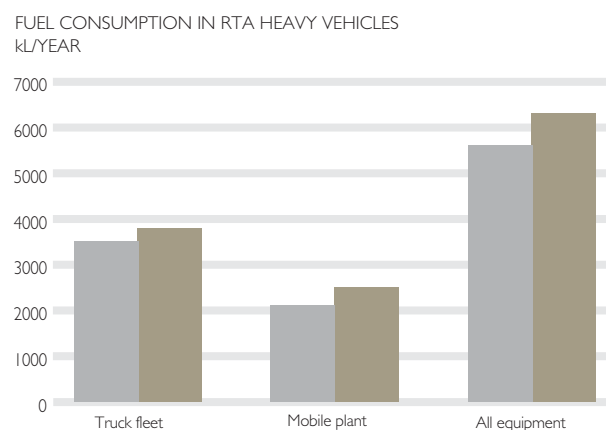
Note: Ethanol blended petrol data not collected before 2006-07

Fuel consumption in RTA heavy vehicles

The RTA owns and operates a truck fleet of 672 heavy vehicles and about 608 items of heavy plant and equipment, such as heavy rollers and water tankers.

The fleet consumed about 6.4 million litres of diesel in 2008-09, which is approximately a 14 per cent increase in consumption compared to the previous year (see Figure 21). The RTA is currently piloting an eco-driving training course for its heavy vehicle operators to reduce diesel fuel consumption.

FIGURE 21. FUEL CONSUMPTION IN RTA HEAVY VEHICLE FLEET



RTA Waste Reduction and Purchasing Policy

The RTA reports every two years to DECCW on the progress of its Waste Reduction and Purchasing Policy (WRAPP). The latest WRAPP progress report was submitted in October 2009. WRAPP initiatives implemented by the RTA include:

Procurement of construction-related goods and services

In relation to use of recycled materials, road construction contracts include RTA technical specifications that state the type, quality and quantity of construction materials to be used. A number of RTA specifications allow for the use of recycled materials in road construction and maintenance.

The range of applications for recycled materials is increasing as technology develops and field trials prove the suitability of recycled materials as substitutes for raw products. For example:

- Following extensive testing and trials the RTA has amended its specifications to allow re-used crumbed rubber derived from waste tyres in spray bitumen and asphalt mixes.
- RTA specifications were revised to allow for the use of powdered glass as a pavement binding agent. All RTA construction and maintenance specifications contain environmental management specifications.
- Development of an internal guide for road designers and



project managers that lists the commonly used recycled materials in road construction and maintenance along with the relevant RTA specifications that allow for their use.

Procurement of administrative goods and services

The RTA continues to include WRAPP principles (and/or specific requirements relating to WRAPP) in tenders and contracts as they are reviewed. This involves:

- Specifying that all new office fit outs more than 1000m² achieve a minimum four-star rating under the Green Building Council rating scheme where cost effective.
- Specifying that all timber and timber products used in new and refurbished RTA buildings and road infrastructure projects be sourced from sustainably managed forests which have obtained Forest Management Certification. (The re-use of felled timbers from road construction activities is permitted provided legal approval has been granted for their removal as part an environmental assessment process.)

Integration of WRAPP principles in corporate planning and policy

- The RTA WRAPP targets for waste management have been incorporated as part of the sustainability strategy, including sustainable building strategy for RTA properties.
- WRAPP principles and targets are being incorporated into RTA Depot Management plans.

Climate change

Climate Change Action Plan

The Executive endorsed the RTA Climate Change Action Plan in October 2009. This plan aims to build the RTA's capacity to manage the transition to a low carbon economy.

The plan outlines how the RTA will:

- Reduce its carbon footprint.
- Help to reduce the carbon footprint of road transport.
- Adapt the RTA road transport system to the impacts of climate change.
- Manage the RTA's transition to a low carbon economy.

Key actions which have been undertaken for 2009–10 include:

- Development of a road construction greenhouse gas emission calculator.
- Investigation of future opportunities for reductions in tunnel power consumption.
- Trialling of measures outlined in the Heavy Vehicle Fleet Emissions Plan.
- Investigation of opportunities to reduce the RTA's carbon footprint through road-corridor landscape initiatives.
- Development of a Vehicle Emissions Measure for NSW that will enable changes in vehicle emissions to be tracked.

- Establishment of the Green Truck Partnership (GTP). Ten technologies were identified for assessment during a trial which commenced in 2009–10.
- Provided support to DECCW for the development of an electric vehicle strategy for NSW and provided input into the NSW and National Electric Vehicle Taskforces.



Electric vehicles

The RTA is a member of the NSW Electric Vehicles Taskforce, an inter-agency group which was first convened in 2009. The Taskforce considers the technology, infrastructure, policy and legislation necessary to support the uptake of electric vehicles.

The RTA provided input into the Taskforce's initial recommendations report, which has been accepted by the NSW Government. Electric vehicles must now be included in Government fleets as they become available and recharging facilities must be available for these vehicles.

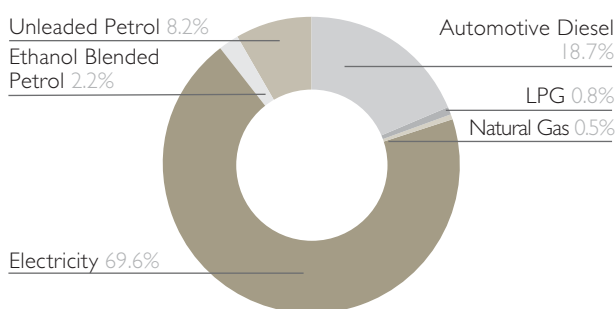
The RTA has ordered a Mitsubishi i-MiEV, the first mass produced electric vehicle available in Australia. The RTA will also install charge points at several locations.

RTA greenhouse gas emissions

Reducing RTA greenhouse gas emissions is an objective of the Green Plan section in the *RTA Corporate Plan 2008–12: Blueprint* and the Climate Change Action Plan. All carbon based energy sources consumed by the RTA generate greenhouse gas emissions. The proportion of the RTA's direct greenhouse gas emissions by energy source for 2008–09 is shown in Figure 22.

FIGURE 22. RTA'S DIRECT GREENHOUSE GAS EMISSIONS PROFILE

(Per cent of direct greenhouse gas emissions as measured in tonnes of carbon dioxide equivalent)



In 2008–09 the RTA emitted 114,030 tonnes of greenhouse gas (measured in units of carbon dioxide equivalent) which was an increase of 1.7 per cent on 2007–08. This is due to the increase in use of automotive diesel and E10 which only partly offset the reduction in unleaded petrol use.



An Energy Savings Action Plan is in place to produce improved performance in energy efficiency and greenhouse gas emissions. The following are examples of initiatives being implemented.

Energy efficiency audits of RTA buildings

The RTA owns or leases approximately 380 buildings including administration offices, motor registries, works centres, depots and heavy vehicle inspection stations.



Energy audits were conducted on the top 40 energy consuming buildings in June 2010. These 40 buildings combined consume approximately 60 per cent of RTA's property energy use. The audit reports include energy efficiency recommendations. Cost-effective measures will be implemented over the next year to reduce energy demand and greenhouse emissions.

Greenstar rating for RTA Head Office

The Green Building Council of Australia (GBCA) awarded the RTA with a four-star rating for the fit out of RTA's head office at 101 Miller Street, North Sydney. The four-star rating represents 'best practice' in sustainable office design and construction.



Key sustainability initiatives included use of low volatile organic carbon paint, adhesives and sealants, workstations, tables, chairs and compactors made out of recyclable materials, use of alternative materials to PVC, individually switched lighting zones, proximity and good access to public transport and water efficient fixtures and fittings. A credit point was earned for innovation by exceeding the green star benchmark for PVC minimisation. More than 80 per cent of the waste generated during construction phase was recycled.

Eco-driving training

In June 2010 the RTA piloted an eco-driving training course for RTA staff who drive heavy vehicles. Eco-driving is a driving style that emphasises smooth driving to reduce fuel consumption. Common eco-driving techniques include:



- Shifting up through the gears as soon as possible.
- Maintaining a steady speed in the optimal engine revolutions per minute range.
- Avoiding heavy and/or sudden acceleration or braking.
- Using the highest gear possible.
- Looking ahead to anticipate the actions of other drivers and predict likely changes and interruptions to traffic flow.

The RTA drivers who participated in the trial achieved an average fuel saving of 18 per cent in metropolitan conditions. The RTA is finalising a training video and program to train other heavy vehicle operators during 2010–11.

Green Truck Partnership

The Green Truck Partnership (GTP) was established 1 July 2009 and is an alliance between the RTA and the road transport industry. The GTP has been initiated following concerns from road transport operators about a gap in the availability of independent research findings of products that seek to improve the environmental performance of heavy vehicles. At present, heavy vehicle operators are relying on information from manufacturers when seeking to purchase a product to improve the environmental performance of their heavy vehicle.

The GTP has commissioned independent testing of a number of products that claim to improve the environmental performance of heavy vehicles. The testing will begin in the second half of 2010.



Emissions

Diesel Retrofit Program

The Diesel Retrofit Program aims to improve the emissions performance of heavy diesel vehicles operating in the Sydney Greater Metropolitan area. Under the program, after-treatment devices are fitted to a vehicle's exhaust system to filter out particulate matter, resulting in improved air quality.

The continuing success of the program has led to further funding being provided by DECCW for a co-contribution style retrofit program. Eleven fleets are participating in the co-contribution program and 92 vehicles have been fitted with these devices, with orders for additional devices for 80 additional vehicles committed to the program.



Clean Fleet Program

The Clean Fleet Program is an audited vehicle maintenance program designed to improve air quality by reducing diesel emissions. Participants are eligible to seek a fuel tax credit under the Federal Fuel Tax Credits Program. Participants must meet standards for using clean fuel, correct engine settings, regular vehicle maintenance and effective fault identification and repair.

At June 2010 there were 6805 vehicles in the program (including Metropolitan Bus System contract operators and RTA vehicles).



Alternative fuels

The RTA continues to conduct emissions tests on a variety of vehicles to assist the liquid petroleum gas (LPG) aftermarket equipment industry (the industry that converts vehicles to LPG after they are bought). The testing ensures that LPG fitted vehicles continue to meet applicable emissions standards. Twenty-nine LPG kits were tested in 2009–10.



Diesel emissions awareness course

The RTA sponsors a free TAFE course designed for truck and bus owners, drivers and operators, diesel mechanics and fleet and workshop managers on 'How to reduce heavy vehicle emissions'. One module of the course details how to join the Clean Fleet Program. The course is run throughout NSW in Sydney, Shellharbour, Kurri-Kurri, Tamworth and Wagga Wagga. The course was extended during 2009–10 to Coffs Harbour, Dubbo, Taree and Wollongbar TAFEs. In 2009–10, a total of 41 courses were run with 281 participants attending.

Light vehicle emissions testing

In 2009–10, the RTA conducted 1075 emissions tests for light vehicles at Botany and Penrith motor registries. Vehicles are referred for testing by DECCW and modified vehicles are referred by engineering certification signatories.

Smoky vehicle enforcement

During 2009–10 RTA inspectors reported 32 vehicles that were considered to be emitting excessive vehicle smoke to DECCW. This resulted in 10 Penalty Infringement Notices and three advisory letters being issued by the DECCW.

Vehicle emission standards

New emission standards (Euro 5) were introduced from 1 January 2010. These apply to new model heavy vehicles which run on diesel, liquefied petroleum gas, petrol or natural gas and have a gross vehicle mass greater than 3.5 tonnes. The new standards are aimed at achieving improved air quality.

Vehicle emissions training

Training sessions were run for the University of Western Sydney environmental students and TAFE apprentice motor mechanics to demonstrate the RTA's light vehicle emissions testing facilities. During 2009–10 a total of 95 students attended these sessions.

Reduction in fuel use for ferries

A continuing program to replace the vehicular ferries on the Hawkesbury River resulted in reduced fuel use. The improved hull design of the new ferries has lessened the risk of oils and contaminants entering the waterways and has minimised the impact on shorelines.

Challenges and the way forward

Infrastructure

Several areas for improvement have been identified over the course of this year. These included improving the process for efficient delivery of high quality environmental assessments by:

- Continuing to develop, review and implement the Environmental Impact Assessment guidelines.
- Delivering training for RTA project staff.

Preventing environmental incidents on construction sites is a primary concern. The RTA will continue to drive improvements in contractor environmental performance by:

- Developing new educational tools for contractors.
- Developing more effective contract specifications.
- Producing technical guidance for high-risk erosion and sedimentation control issues.
- Facilitating the delivery of RTA developed erosion and sedimentation training packages for key project staff and local councils.

Effectively managing the impact of linear infrastructure on fauna movement is a continuing issue. The RTA is working to understand the effectiveness of connectivity measures to better inform fauna habitat connectivity strategies on future projects by:

- Monitoring and researching fauna use of connectivity measures.
- Developing best practice benchmarks.

The RTA is improving the delivery of the Noise Abatement Program by reviewing the procedure for prioritising noise-affected residents for treatment and mitigation measures used for architectural treatment of residences.

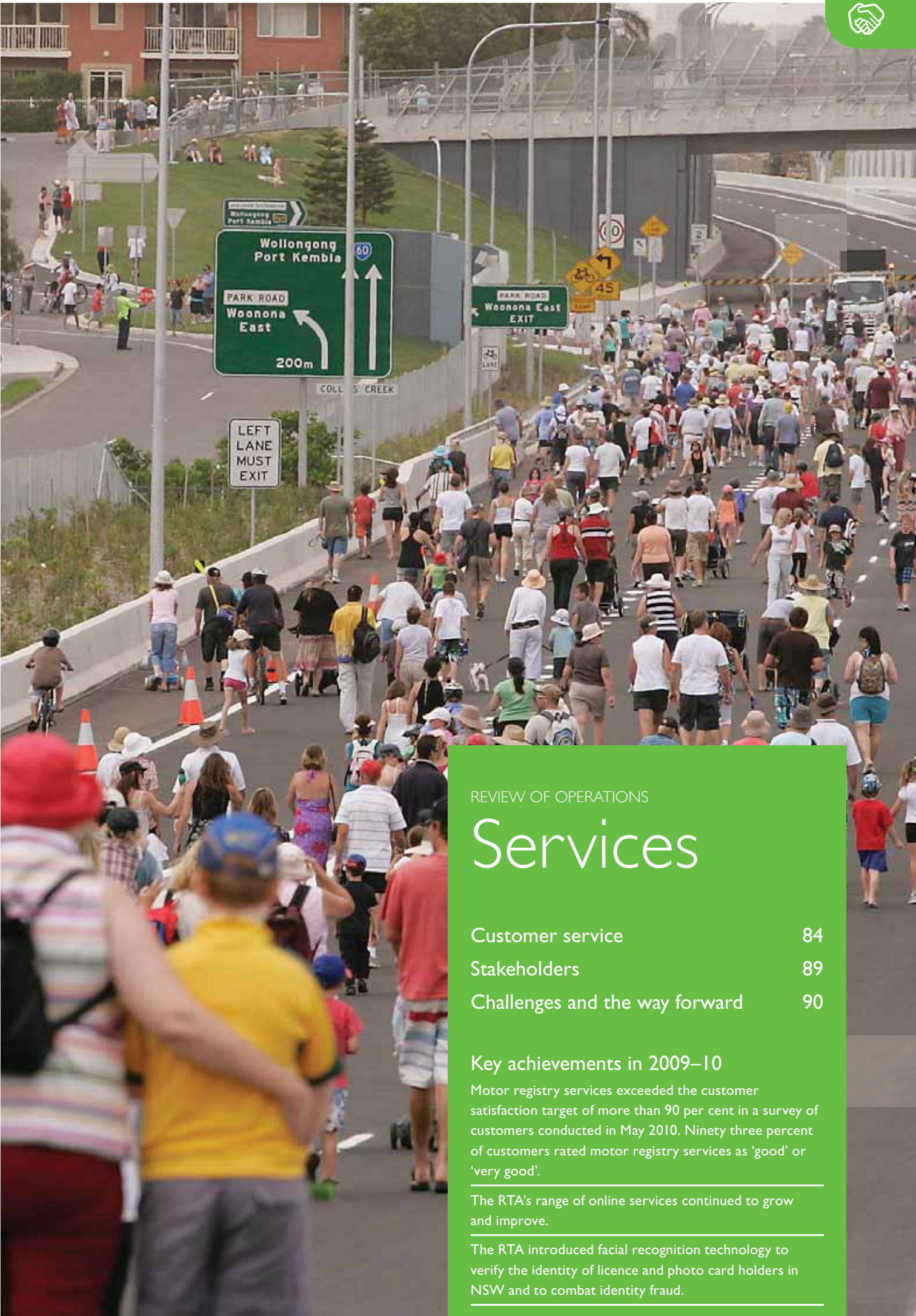
Organisational

Mainstreaming sustainability into existing business practices is a future challenge. The RTA will improve sustainability outcomes by:

- Implementing the RTA Sustainability Strategy.
- Raising staff awareness through sustainability education initiatives.

Emissions

To reduce fleet vehicle emissions, the RTA will support operators of heavy vehicles by continuing to promote the Clean Fleet Heavy Vehicle Maintenance Program and Diesel Retrofit Program.



REVIEW OF OPERATIONS

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Key achievements in 2009–10

Motor registry services exceeded the customer satisfaction target of more than 90 per cent in a survey of customers conducted in May 2010. Ninety three percent of customers rated motor registry services as 'good' or 'very good'.

The RTA's range of online services continued to grow and improve.

The RTA introduced facial recognition technology to verify the identity of licence and photo card holders in NSW and to combat identity fraud.



REVIEW OF OPERATIONS

Services

RTA result: Meeting community needs

The RTA's services

The RTA works to meet the needs and expectations of its broad range of customers and stakeholders, such as those who use its licensing and registration services and those who are affected by the RTA's roadwork and management of the NSW road system.

The RTA provides its services in many ways, including through an extensive network of motor registries which are the central point for licensing and registration transactions. This network also provides important information to the community about issues such as the comparative safety of new and used cars and the safety and ease of use of child restraints.

This chapter outlines how the RTA has worked to meet the needs of the people of NSW over the past year. It is divided into three main sections:

Customers – accessible, high quality, data integrity and identity management.

Stakeholders – a focus on effective consultative, communication and partnerships.

Challenges and the way forward.

Chapter cover image: Community celebration to mark the opening of the Northern Distributor extension, November 2009. Photographer Geordie McRae.

Customer service

RTA services are delivered through motor registries, agencies, online, the RTA Contact Centre, Government Access Centres (GACs) and itinerant sites for regional and rural customers.

In 2009–10 the RTA provided registration and licensing services to 4.79 million drivers and 5.46 million registered vehicles in NSW.

Motor registries

The RTA has a network of 128 motor registries, a Contact Centre, six GACs and 34 agencies offering RTA services. To support regional and rural customers, services are also provided at 37 itinerant sites in remote areas.

In 2009–10, the motor registry network was improved through the relocation and refurbishment of several sites:

- Charlestown and Cardiff motor registries were amalgamated to a single new location at Warners Bay, which opened for business on 27 July 2009, providing modern and comfortable facilities for customers and staff. Trading hours were extended to include Saturday trading. This location also provides a processing facility for motor dealers in the Newcastle and Central Coast areas.
- Narooma Motor Registry relocated to new premises in August 2009 during a major shopping centre redevelopment project. The new motor registry is within walking distance of the previous location.
- Wetherill Park Motor Registry relocated to new premises in June 2010, providing enhanced driver testing facilities for customers, including 10 dedicated driver testing counters and 20 driver testing applicant car parking spaces. The new location is only a short distance from the previous location, making it accessible and convenient for the local community.
- A number of motor registry upgrades were undertaken during 2009–10, including relocations for Singleton and Raymond Terrace. The new premises provide customers and staff with modern facilities which incorporate the latest design features such as improved public seating, newly designed transaction counters and a new queuing system.
- Maclean Motor Registry had a complete refurbishment within Council chambers.
- Balranald Council Agency was converted to an online agency. An agency is a third party provider, such as a local council or a police station, which conducts driver licensing and vehicle registration business on behalf of the RTA, usually in remote areas.

A new workforce management scheme has been implemented in all motor registries and a new queue management system is currently being rolled out, and has been installed in 61 per cent of motor registries to date. These new state-of-the-art systems will provide forecasting and scheduling information to allow motor registry managers to better manage customer waiting times and associated staffing requirements.



Wetherill Park Motor Registry now features state-of-the-art customer facilities including a new voice operated queuing system.

RTA Contact Centre

The Contact Centre provides support to over 3.7 million customers annually by offering accurate and timely information on licence, registration and tolling services over the telephone.

Customers can obtain information or choose to complete business while on the telephone rather than visit a motor registry.

Government Access Program

The Government Access Program (GAP) provides services to customers in rural and remote NSW through a network of Government Access Centres (GACs). In 2009–10 the GAP continued to deliver these services, which includes transactions ranging from receipting payments to providing information and referrals for agency services that were completed on behalf of nine key State government agencies.

These services were provided in addition to the GAC host agency core business. The successful introduction of a new online service (OneGov Direct Access Service) for RTA hosted GACs has delivered significant benefits to the RTA by removing numerous paper-based processes and allowing content to be tailored to specific RTA requirements. It is intended that OneGov Direct Access Service will be made available to all non-RTA hosted GACs in 2010–11 so that these host agencies may gain similar benefits.

Tolling

E-Toll tags

Most of Sydney's motorways are toll roads and some are fully electronic, meaning that motorists need a tag or a pass to use them. Advertising campaigns were launched before Christmas and Easter to promote E-Toll tags and passes to people who might be driving into Sydney for the holiday periods. An online campaign was launched in May and June 2010 to promote the tags and a mobile E-Toll stand was developed to promote the tags at shows, events and shopping centres.

Rental car tolling solutions

In order to provide a comprehensive and cost-effective tolling solution to rental car customers, the RTA has been running an on-road trial for the past 12 months with a major rental car company. This solution also has potential for other rental car companies.

The trial proved to be successful in eliminating the toll notices incurred by rental car customers, and provided them with a cost-effective and effortless means of paying tolls. This solution also eliminated the associated processing overheads that rental car companies and toll road operators incur in processing toll notices, which has resulted in a significant saving of time and cost.

The solution provides customers with a choice in relation to their tolling arrangements. When hiring a rental car, they can opt into the arrangement with the RTA at a cost of \$2 per day plus tolls incurred, or they can utilise their own electronic tag or purchase a Casual User Pass.

This RTA-initiated tolling solution provides a comprehensive alternative to current tolling products offered to rental car customers and also offers a more economical and efficient process for Australian toll roads to collect tolls from rental car customers.

E-Toll office at Sydney Airport

The closure of the E-Toll office at Milsons Point in October 2009 impacted greatly on the taxi industry, as it formed approximately 95 per cent of the office's customer base. In order to continue to provide E-Toll services to the industry, the office was relocated to Sydney Airport, adjacent to the taxi holding precinct. It opened for business on 2 November 2009 with the support of the NSW Taxi Industry Council. Currently the site provides frontline support to the NSW taxi industry, with over 50 customers per day.

Coloured E-Toll tags

Coloured E-Toll tags have been added to the suite of electronic tolling products available through the RTA E-Toll. Tags are now also available in a range of 10 colours (black, white, pink, royal blue, red, green, yellow, purple, orange and light blue) and are available to new and existing customers via myRTA.com. From 2010–11, customers will also be able to purchase coloured E-Toll tags over the counter at any motor registry.



Online services

The RTA's range of online services continued to grow and improve in 2009–10.



RTA website

The RTA website recorded more than 27.5 million visits in 2009–10, a 31 per cent increase on 2008–09. The site continued to maintain its unrivalled position as the most visited NSW Government website and the number one State Government website in 2009–10 (awarded by Hitwise).

myRTA.com

myRTA.com allows customers to complete a wide range of RTA transactions in a secure online environment, including renewing vehicle registration, changing address details and booking licence tests.

For 2009–10, the proportion of eligible transactions completed online increased from 30.2 per cent to 38.8 per cent, representing an additional 760,000 transactions on the previous year.

This growth was encouraged by marketing activity throughout the year, including a presence at the NSW Royal Easter Show, and a number of campaigns promoting the myRTA.com brand and services such as myRego, myAddress, myTests and Vehicle History Check.

myRego

The RTA's myRego system allows customers to renew their vehicle registration via the internet or telephone. During 2009–10, the RTA redesigned its myRego internet application, based on usability testing, to better meet customers' needs. In 2009–10, 2.135 million vehicle registrations were renewed via myRego, which represented approximately 45 per cent of all eligible registration renewals.

Dealer online

The RTA's dealer online (DOL) system allows motor dealers to conduct registration transactions online. In 2009–10 the RTA implemented significant system enhancements and new transactions to DOL. These enhancements included the facility to register new light trailers and conduct registration renewals, with enhanced functionality to better suit motor dealer requirements.

The percentage of new vehicles registered via DOL increased from 49.8 per cent in July 2009 to 71.4 per cent in June 2010, representing a total of 195,000 new vehicles registered online.

New inspection station search facility

A new inspection station search facility was added to the RTA internet site in February 2010, replacing an internet page previously titled e-Safety Check. The new search is not confined to e-Safety Check stations and allows people requiring a vehicle inspection to choose an Authorised Inspection Station that can provide the specific inspection that they need. The search can be done by suburb, town or postcode and includes all NSW postcodes including station locations outside NSW.

Vehicle History Check

The RTA has continued to promote its Vehicle History Check service online at myRTA.com. It is a new information service for people considering buying a second hand car currently registered in NSW.

The service, which was launched in March 2009, is a comprehensive search of a vehicle's history and costs \$18 per search.

The service has been promoted throughout the year on the RTA website and Geared.com.au and a press advertising campaign was executed in June 2010. Posters and flyers were displayed in motor registries.

Licensing reforms for older drivers

An online facility was introduced to allow externally accredited licence assessors to update results over the internet following an older driver assessment. The online system is an efficient service as it allows the assessor to check an older driver's eligibility before undertaking the assessment and removes the need for the older driver and the assessor to attend a motor registry following the assessment. Approximately 85 per cent of assessment results are updated through the new service.

Sydney motorways website

The motorways website at sydney-motorways.com.au provides the public with comprehensive motorway information, including entry and exit points and toll costs. In 2009–10 there were more than 248,000 visits to the website (a six per cent increase on 2008–09) and 69,804 toll calculations (a two per cent increase on 2008–09).

Geared

Geared.com.au is a site for 16–25 year olds, which aims to be the definitive source of all the information that they need, including how to gain and keep their licence. The site promotes safe driving skills to young people, who are over-represented in crash statistics. In 2009–10 there were more than 215,000 visits to the website (an 18 per cent increase on 2008–09).

Pink plates

The RTA has continued to promote its partnership with the McGrath Foundation, a charity dedicated to promoting breast cancer awareness and fundraising for specialist breast care nurses in Australia.

Since April 2009, for every set of pink plates sold, the RTA has donated \$15 (\$50 for Prestige Plates) to the charity. This offer has been promoted through numerous advertising campaigns as well as on the RTA website, Geared.com.au and myPlates.com.au.



Sydney Coordinated Adaptive Traffic System

Sydney Coordinated Adaptive Traffic System (SCATS) is sold throughout Australia and internationally. It has been distributed to 141 cities in 24 countries worldwide, controlling more than 32,000 intersections.



The SCATS website was launched in October 2009 and promotes ongoing sales of SCATS products and provides technical advice and support to existing SCATS customers, distributors and traffic signal controller manufacturers. Its audience includes existing and prospective SCATS customers, SCATS distributors, equipment manufacturers and RTA technicians.

See pages 33 and 93 to read more.



Screenshot of the SCATS website homepage.

RTA Live Traffic website

The RTA Live Traffic website at livetrafficnsw.com.au is being enhanced to improve the customer experience and help motorists make the best possible travel decisions. It will provide more information about incidents, roadworks, special events and hazards. This will be displayed on a dynamic map, providing greater functionality to allow trip planning, filtering for current conditions, access to 66 live web cameras and live variable message signs showing real-time traffic messages.

myPlates

During 2010, the myPlates.com.au website experienced a 76 per cent increase in visitors and a 91 per cent increase in page views. This growth can be attributed in part to improvements in branding across all marketing material that promoted the website to customers. Also supporting this growth were direct electronic marketing activities through partners such as the National Rugby League, Holden and the McGrath Foundation. The RTA introduced a series of improvements to its website's layout and educational material. These improvements included the new 'Products and pricing' dynamic page, the 'Hints and tips' pages and the 'Small business case studies'.



Customer Insights Panel

The RTA's Customer Insights Panel was established in October 2009 to obtain customer opinions, feedback and input on a wide range of RTA products, services, policies, communication and challenges to assist with current and future RTA direction and policy decisions.

The market research company Taylor Nelson Sofres was

engaged to build the Customer Insights Panel. A representative sample of 1 500 RTA customers was recruited both online and through RTA motor registries to complete monthly online surveys throughout the year.

The results of the surveys have been used to refine the RTA's approach to customer and interaction.

Identity management

Facial recognition technology

In December 2009, the RTA introduced a Facial Recognition System (FRS) to verify the identity of licence and photo card holders in NSW and hence combat identity fraud and improve security. All photographs in the RTA's computer system are analysed by a facial recognition system. The system works by measuring the distances between facial features (eg eyes, nose, and mouth), and then comparing the measurements against other images stored in the RTA's database to check if the person already exists in the system. The system will recognise if a person tries to apply for more than one licence or photo card. It can also confirm the identity of existing licence and photo card holders by comparing them to their previously stored images.



Austrads Registration and Licensing Program

Austrads is the association of Australian and New Zealand road transport and traffic authorities and aims to promote improved road transport outcomes. Austrads members are the six Australian state and two territory road transport and traffic authorities; the Department for Infrastructure, Transport, Regional Development and Local Government; the Australian Local Government Association; and the New Zealand Transport Agency. Austrads utilises the expertise of its member organisations to achieve its outcomes.



The Austrads Registration and Licensing Task Force (RLTF) is responsible for progressing initiatives that focus on enhancing the security and integrity of registration and licensing information.

The RTA continues to take a lead role within the RLTF in the development of national policy initiatives to improve the security and integrity of registration and licensing information and harmonise practice in these areas across Australia. In 2009–10, the RTA commissioned a research report for the use of additional electronic technologies that can be used by road transport agencies to look at registration and vehicle



management, including enforcement activities.

The RTA also contributed to the RLTF program through its participation in the following projects:

- Review of overseas licensing undertaken to provide a uniform approach to overseas licence recognition.
- Development of a policy framework to inform the national recognition of roadworthiness entry standards to enhance customer service and mitigate potential risk for registration of re-birthed vehicles.
- The assessment of medical fitness to drive procedures to ensure they are robust and appropriate.
- National review of heavy vehicle and motorcycle instructor training and assessment standards to promote a national approach to the training and assessment of heavy vehicle and motorcycle instructors through the creation of common competency standards and national assessment instruments.

National Exchange of Vehicle and Driver Information System

The National Exchange of Vehicle and Driver Information System (NEVDIS) provides all Australian road agencies with access to national registration and licensing information. NEVDIS assists in reducing licence fraud, vehicle theft and vehicle fraud.

The RTA hosts the NEVDIS Administration Unit under a Memorandum of Understanding between Austroads and the RTA. The NEVDIS Administration Unit responds to the day-to-day operational demands of registration and licensing jurisdictions, vehicle manufacturers or importers and police jurisdictions in relation to driver and vehicle management issues.

Key highlights during 2009–10 included the following.

- A strategic review of NEVDIS objectives and service delivery model to support future business direction.
- Completion of a strategy study into commercialisation of NEVDIS data.
- Development of the interface for the Commonwealth Document Verification Service to enable authorised participating government agencies including the RTA to verify key identification documents including driver licences and passports in real time.
- Commencement of a data quality assessment of NEVDIS data and improved automated data cleansing programs.
- A data realignment exercise between NEVDIS and Victoria's vehicle registration system scanned around six million records and corrected over 20,000 of them.
- Enhancements to the Demerit Point Exchange System and the support of new 9 digit licence numbers for Queensland.
- Completion of the business requirements document with the Attorney General's Department for the Personal Property Securities Register (PPSR) project, which is a national system to replace REV's, the current system for identifying vehicles carrying a debt. Also the successful negotiation of a funding agreement and commencement of development of software for the implementation of PPSR.

The focus of NEVDIS over next three years will be on improving business and operational efficiency, data quality, and attaining sustainable funding through initiatives to seek alternative sources of funds. Also, NEVDIS capabilities will be expanded via key projects such as: PPSR, the Vehicle Information Request System and importing historical data to build towards a national data set and registration/licensing functions.

NSW Photo Cards

Pensioners and war widows who apply for a NSW Photo Card from 30 April 2010 will not be charged a card fee. A NSW Photo Card is a voluntary card for people who do not hold a current NSW driver licence or other form of photo identification, to help them access government services and commercial goods and services that require photo identification. War widows under 60 years of age receive concessions on their driver licence and vehicle registration. This change means that all war widows are now able to receive free NSW Photo Cards.

Weight tax changes

In February 2010, the NSW Premier announced changes to light motor vehicle weight tax rates to increase revenue for transport infrastructure and promote the use of lighter, more environmentally responsible vehicles. 'Hybrid' motor vehicles (such as petro-electric vehicles) are exempt from the changes to motor vehicle tax. Other groups or vehicles not affected by these changes are pensioners, eligible carers, private registered operators of motor vehicles modified for wheel chair access, trailers and motorcycles. This initiative commenced on 1 July 2010, and will be administered through the existing RTA registration system.

Tow truck legislation

Three year operator licences and driver certificates

In December 2009, the *Tow Truck Industry Amendment Act 2008* came into operation. This amended the *Tow Truck Industry Act 1998* to extend the maximum term for a tow truck operator licence and driver certificates to three years. The changes support financial and administrative savings for both industry applicants and the RTA. Before these amendments, operator licences and driver certificates could only be granted for up to a maximum of 12 months. As of 30 June 2010, 50 operator licences and 212 driver certificates had been issued for three years.

Scrap Metal Exemption Authority

The *Tow Truck Industry Amendment (Scrap Metals Exemption) Regulation 2009* came into force in December 2009. The object of this legislation is to exempt people who use crane-type tow trucks to tow motor vehicles to scrap-metal facilities from the requirement to hold a tow-truck operators licence or a driver's certificate under the *Tow Truck Industry Act 1998*. These amendments represent administrative and financial savings, and a reduction in red tape, for a specific segment of the towing industry. As of 30 June 2010, 20 Exemption Authorities had been issued.



Tow Truck Industry Pilot Training Program

The RTA, in partnership with the Transport and Logistics Industry Skills Council, completed a pilot training program for the tow truck industry in December 2009. Tow truck licensees were invited to participate with three Registered Training Organisations (RTOs) engaged by the Skills Council to implement the pilot program. This incorporated training and assessment of 34 tow truck drivers in six metropolitan and four regional areas.

The program includes four specific units of competency in the Transport and Logistics Training Package (TLI07). It is the first nationally accredited tow truck driver program to provide qualifications that can be transferred between state jurisdictions and between various job categories within the wider transport industry. The program is aligned to the National Training System and will assist in improving the profile of the industry, both amongst the general public and for those considering the tow truck industry as a choice for employment or career progression.

Stakeholders

COAG Road Reform Plan

The COAG Road Reform Plan (CRRP) Project Board was established in July 2009 to deliver a feasibility study by December 2011 considering alternative models of heavy vehicle road charging and funding, including mass-distance-location based charging. Subject to COAG agreement, the CRRP Project Board will also oversee the implementation by December 2014 of an alternative heavy vehicle charging and funding regime.

The reform of the national heavy vehicle charging and funding arrangements represents a significant opportunity to improve the efficiency and safety of heavy vehicles operating in NSW and support the long-term sustainability of funding of NSW roads.

The RTA, in consultation with a multi-jurisdictional team, prepared a Policy Framework establishing the objectives and principles for the CRRP to guide the development of the reform, and an Evaluation Framework to ensure that the reforms remain consistent with those objectives and principles. These frameworks were endorsed by the Australian Transport Council in April 2010.

The RTA has been actively involved in the development and assessment of heavy vehicle charging and funding reform options, including in the technical analysis required to support the assessment of reform options.

National Heavy Vehicle Regulator

In July 2009, COAG decided to establish a single National Heavy Vehicle Regulator (NHVR) to improve productivity and safety in the heavy vehicle sector.

A key future milestone is the signing of a National Partnership Agreement by the Australian and State and Territory governments in late 2011. This document will outline the manner in which governments will cooperate to establish a National Heavy Vehicle Regulator by the end of 2012.

The NHVR and the national law will be implemented nationally through template law. Queensland will be the host jurisdiction for the national law, the NHVR Act and the NHVR office. The NHVR and the national law are to be operational on 1 January 2013.

The RTA is supportive of the NHVR initiative and has been actively involved in the development of tools for the NHVR once it becomes active. Achieving road safety and asset protection are the underlying principles of NSW's continued participation in this reform.

Construction industry

The RTA relies on the construction and related industries to deliver infrastructure projects efficiently and effectively. The RTA regularly consults with the industry through meetings with industry associations, one-on-one meetings with contractors and consultants, industry briefings and quality forums. The RTA has a contractor performance reporting system to encourage its service providers to operate at the standard expected.

Community consultation

The relationship between the RTA as a service provider and the NSW community is dynamic. The RTA seeks community feedback and input to its service delivery through both formal and informal channels such as:

- Responding to 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.

The RTA works with the community in an open, consultative and inclusive manner. Throughout 2009–10, the RTA continued to involve the community when its activities and decisions were of interest to residents and stakeholders. The RTA worked with residents, property holders, organisations, interest groups, local communities, the driving community, road transport groups, local councils and both State and federal agencies.

The RTA prepared targeted and flexible community involvement programs for traffic, safety, construction and planning projects across NSW. Over 250 projects are the subject of community discussions each year. These programs involved:

- Providing information through letters, questionnaires, community updates and information brochures, the website, advertisements, displays and information phone lines.
- Holding public meetings, policy round tables, community consultative groups, workshops and discussions with residents at their homes.
- Calling for public submissions, distributing questionnaires and surveys and market research.



In 2009–10, community involvement activities included:

- At least 19 different community consultative groups that met several times to resolve specific issues.
- More than 445 community meetings, workshops and briefings for stakeholders.
- About 61 separate display topics, and over 60 staffed display sessions.
- More than 1200 community updates, and household letters widely distributed.
- More than 35 other community events, such as staffed marquees at public events, celebrations of completed work, road or bridge naming events and safety road shows.



Community consultation on the Bulahdelah upgrade landscaping plan, June 2009.

Other community involvement

Breakfast on the Bridge

On Sunday 25 October 2009, around 6000 people attended the first ever community picnic on Sydney Harbour Bridge. The RTA was involved in managing the closure of the bridge redirecting traffic, and communicating the temporary closures to the community and road users.

The bridge was closed fully to traffic from 1am, when a convoy of 10 semi-trailers and seven rigid trucks and trailers were led onto the bridge for the laying of more than 10,000 m² of real turf across lanes 1 to 6, pylon to pylon. All turf laying – a first for the ‘coat hanger’ – was completed by 5am.

An event fair was set up, with coffee carts, hay bales, apple trees, music, vintage vehicles, 15 cows and a piano. Ticket holders arrived from 6.30am for the two hour event, with RTA cleaning crews starting the ensuing clean up shortly after 9.30am.



Picnickers leave Sydney Harbour Bridge after breakfast.

Challenges and the way forward

Customer service

The following actions are planned in order to address challenges and optimise service delivery:

- The use of E-Tolls has grown considerably over the last few years and the RTA is currently investigating the possibility of offering customers additional payment channels where an E-toll can be used as the method of payment, instead of cash or credit cards.
- Deliver services that meet customer needs by enhancing the myRTA website to improve usability and expand the range of transactions that can be undertaken online. The introduction of an online service to replace registration documents and driver licences is scheduled for May 2011.
- Implementation of the F3 report recommendations to improve customer services.

Weight tax exemptions

The RTA had already developed a paper on ‘Registration Futures’ to provide a number of vehicle registration business improvements, when the February 2010 NSW Government announcement was made that there would be a one-off increase in motor vehicle weight tax rates for light motor vehicles to help fund the Metropolitan Transport Plan to take effect from 1 July 2010. Subsequent exemptions for hybrid vehicles, and further exemptions announced in May 2010 for holders of the Commonwealth Carer Allowance, and wheelchair accessible vehicles, expanded the scope of the work. Budget and time constraints meant that major IM&IT system changes could not be implemented in time and manual work-arounds and a Ministerial Exemption Order were required ahead of the legislation coming into effect.

The challenge for the RTA in 2010–11, will be integrating the weight tax exemptions with the RTA’s broader proposals to restructure the vehicle registration system which includes vehicle environmental factors impact, vehicle safety and various road user charging models.



REVIEW OF OPERATIONS

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Key achievements in 2009–10

Development of a tailored RTA Governance Framework and establishment of an RTA Governance Committee, providing assurance to the Executive that the framework is in place and operating effectively.

Establishment of an audit and risk attestation process to report on the implementation of the audit and risk management process across the organisation.

Launch of the RTA People Plan, which is the HR focus from the overall Corporate Strategy and Plan.

Identification of critical skills and development of the Critical Skills Initiative addressing key skill shortages.



REVIEW OF OPERATIONS

Governance

RTA result: Aligning our investment and people to our vision

Governance of the RTA

The RTA is one of Australia's largest asset managers and services providers, with a multi-billion-dollar budget servicing millions of customers, communities and stakeholders. For this reason, the RTA seeks to uphold the highest standards of organisational governance, coupled with sound strategic planning and performance management across its business.

This chapter outlines how the RTA has worked over the past year to strengthen organisational governance. It is divided into four sections:

Financial governance – business opportunities, accountability and performance.

Organisational governance – executive, strategic and business planning, business improvements, governance and risk management.

Our people – including developing a high performance culture, workforce capability, diversity and equity and Occupational Health and Safety (OHS).

Challenges and the way forward.

Chapter cover image: A new employee safety campaign was launched in March 2010, designed to encourage staff to stop and think about what they need to do to work safely, and to take action to make their workplace safe. Sydney Harbour Bridge Alliance Rigger Gary Digance wears his safe work gear. Photo taken by RTA photographer Geoff Ward.

Financial governance

Financial strategy

Financial strategy within the RTA is directed towards facilitating effective decision-making regarding the allocation of resources to deliver programs and services to the NSW community. The focus during 2009–10 has remained on enhancing business efficiency and risk management across all RTA operations through the provision of timely, accurate and relevant information and reporting systems. The Finance Strategy Committee continued its governance role, including the direction of funding allocations and review of program and resource budget performance.

The financial strategy is supported by the following key reporting and review areas:

Policy and procedure review

An ongoing review and update of financial policies and procedures is conducted to ensure that the RTA has a robust Financial Management Framework to mitigate risk and to support the RTA's statutory and business requirements. Policy and procedure focus areas in 2009–10 were procurement card use, banking and cash receipting and development of an insurance policy and procedure manual.

Financial dashboard

The RTA's financial dashboard continues to provide business critical advice to the RTA Executive and senior management by providing a single consistent reference point to aid key decision-making across all RTA operational areas. During the year, minor enhancements were made to improve reporting on the RTA's commercial businesses.

Management reporting

There was continued reporting emphasis on the alignment of program expenditure with specific funding allocations and receipts. This process continued to be refined in terms of matching government appropriations received to their source, nature and underlying funded program.

During 2009–10, the RTA developed and refined monthly reporting of operating results, financial position and capital works to Transport NSW, in addition to existing management and stakeholder reporting.

State Plan framework

The NSW State Plan guides the RTA's operations and activities. The RTA developed a Financial Framework to monitor expenditure against State Plan priorities for which the RTA is a lead or partner agency. The RTA tracks initial budget allocations to these priorities as well as movements in the budgets, together with the reasons for any changes. Actual expenditure is closely monitored.



Transport NSW

As part of the evolution of Transport NSW during 2009–10, the RTA worked with transport agencies on the development of a single integrated budget spanning all operating entities within Transport NSW. The key objective of this budget approach was to increase capacity for a 'whole-of-transport-system approach' to financial resource allocation that will significantly enhance efficiencies among the individual transport operating entities. As part of this process, the RTA continues to be responsible for developing its own budget, within the framework of all NSW strategic transport plans for aggregation into the Transport NSW single integrated budget.

Strategic investment

Sound strategic investment decisions are fundamental to the development of a strong and sustainable road system for NSW. The priorities set out by the NSW State Plan require targeted investment to support program delivery.

The Commercial Development Committee (CDC) continued to steer the process of pursuing business opportunities to improve services and generate additional resources for investment in maintenance. The CDC prioritises, approves and controls commercial initiatives. This Evaluation and Approval Framework provides a governance model that enables the RTA to develop business opportunities within market constraints.

The governance of strategic investment decisions is through the Finance Strategy Committee, which integrates strategic risk and a robust Investment Decision Framework. The assessment of risk is managed through the Corporate Risk Framework, which continues to be refined.

Corporate card and purchasing card

The RTA's use of corporate credit and purchasing cards has been in accordance with the Premier's memorandum and the Treasurer's directions.

Financial performance

For details of the RTA's financial performance in 2009–10, refer to the Financial Statements (see page 113).

Advancing business opportunities

Traffic information and systems

The RTA collects traffic-related data from a variety of intelligent transport systems and continues to improve and increase the types of real-time traffic information provided to commercial subscribers and the public. RTA traffic information now includes traffic volumes, traffic conditions, some motorway data, planned events, special events and road occupancies. Trials for collecting real-time travel time information were successfully completed in 2010.

The RTA-developed SCATS (Sydney Coordinated Adaptive Traffic System) is now used in 141 cities worldwide. During the year, a dedicated SCATS website – www.scats.com.au – was commissioned to promote and support both the SCATS product and SCATS users.

Revised annual upgrade arrangements are in place with all RTA-supported SCATS users in Australia, New Zealand and Singapore. This revision motivates SCATS users to employ the latest version of the SCATS software, reducing the demand on RTA resources to support superseded versions. The annual update arrangements, along with local and international sales of SCATS and related products, also provide a guaranteed annual income stream to offset SCATS development and support costs.

See pages 33 and 57 to read more.

Special Number Plates

The Special Number Plates business continued its strong revenue growth, bringing in \$62 million, which was a 12 per cent increase on 2008–09 like-for-like revenues (which excludes the 2008–09 plate auction revenue). A series of marketing initiatives supported this growth, including new partnerships with Sydney Telstra 500 and the Sydney Film Festival.

Revenues were buoyed by strong new car sales during the year. The business also added to its product portfolio, expanding the range of colour plates available for motorcycles and launching the High Performance Plate range in conjunction with the Sydney Telstra 500 event. The financial year ended with the business launching the State's first ever corporate-branded special number plate with SG Fleet.

RTA Road and Fleet Services

The RTA's commercial arm, Road and Fleet Services (RFS), provides comprehensive road, bridge and traffic facility construction and maintenance services, and complementary plant and equipment supply and maintenance. The RFS enjoyed another good year in a challenging business environment, achieving a record income of \$765 million and a surplus of \$71.9 million, representing a rate of return of 9.4 per cent. This was achieved with lower than predicted overheads and increased productivity of staff.





These results were achieved through a combination of effective planning, strong commercial focus and a rigorous pursuit of increased efficiency. RFS responded to the NSW Government's mini-budget cost-saving targets by undertaking a comprehensive review of its work practices and implementing a series of cost-saving initiatives. One major change was the move to roadside maintenance by contracts on selected road corridors. Contracts were awarded for mowing, weed spraying and rest area cleaning, allowing staff to return to more critical road maintenance tasks. Competitive pricing and the reduction in plant and equipment required for roadside maintenance will deliver substantial long-term cost savings to the RTA and the community.

In response to the *RTA Corporate Plan 2008–12: Blueprint* agenda item of Advancing Business Opportunities and new external income targets, RFS developed a marketing strategy to expand its client base and develop new markets for its products and services. The strategy included a review of market opportunities and business models and the nomination of dedicated client managers. One of the first steps taken under this strategy was to approach all agencies in Transport NSW to advise them of the capabilities of RFS and its ability to contract to these agencies cost-effectively. This resulted in additional work including reconstruction of bus depots and other infrastructure works. Coupled with its existing external work program, the new strategy saw RFS achieve \$33.4 million in external income. Securing external work supplements RTA income for essential programs and maintains a high level of commercial rigour in the business.

Various counter-measures were implemented during the year to address the increase in lost time injuries. These included a thorough review of the overall approach to safety as part of the annual Safety Summit, reinforcement of safety programs and close monitoring of performance trends. RFS also implemented the 'Stop and Reset' Program to reinforce safety basics. As a clear demonstration of management commitment to safety as the top priority, work stopped at all RFS sites in January and May 2010 for all teams to review their safety practices.

RFS continued its record in progressive technical innovation.

Some examples of achievements include:

- Design and construction of new line-marking trucks by the Fleet Services Section. These set a new benchmark in productivity, safe operations and environmental protection. The state-of-the-art machines have attracted significant interest from other road authorities, with good prospects for sales into this market.
- Construction of a new vehicular ferry for Sackville and the development of an automated lane changing trailer for the M5.
- Refinement to the Variable Message Sign (VMS) and Variable Speed Limit Sign (VSLS) technology by Sydney Traffic Services' ITS Manufacturing Unit, thereby strengthening its client base. Installation and commissioning of 109 VSLS for the Sydney Harbour Bridge, development of portable VSLS for roadworks and development of remote controlled, variable road condition signs for outback South Australia using satellite technology were particular highlights.

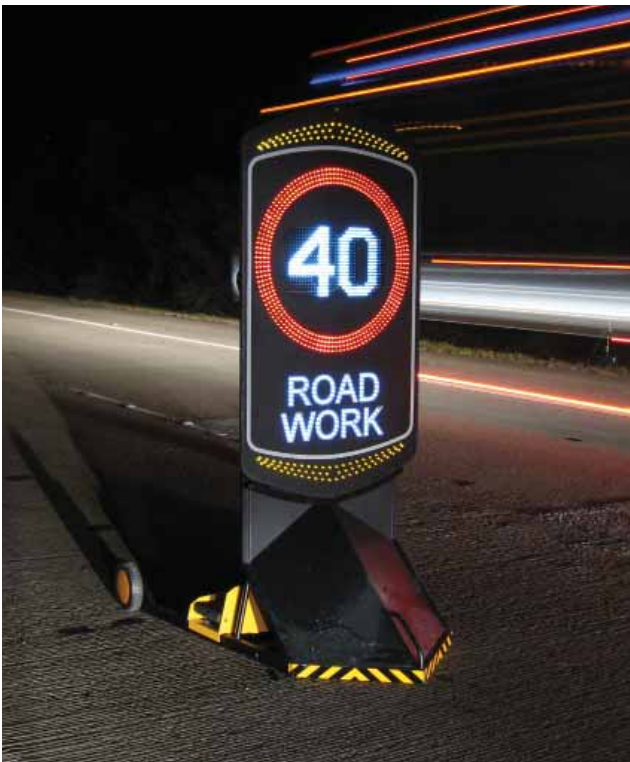
- Mechanical and electrical upgrade of the Harwood lift span bridge, completed ahead of schedule, under budget and with innovations in site safety and efficiency. Innovations implemented for the project are transferable to similar lift span bridges in NSW, including Hexham and Batemans Bay.
- Removal of the M4 Motorway toll plaza structure over two nights in March with minimal disruption to traffic. The redundant plaza structure was removed safely in one piece using a 300 tonne crane.
- Full implementation of the Field Input Data Operations (FIDO) maintenance management system, completed in conjunction with the work practices project. FIDO is now achieving its intended function – real-time, electronic capture and recording of road maintenance data.

Other key achievements included:

- Completion of the Coombah Shoulder Widening Project on the Silver City Highway south of Broken Hill, undertaken in a Significant Indigenous Heritage Area with the risk of unearthing human remains.
- Effective management of the Alliance contracting approach to deliver maintenance and other minor works during the year. Improved resource distribution, higher staff productivity and meticulous scoping and planning of the program of works ensured an even and balanced distribution of work across the year, delivering 47 per cent of the approved CFA Program in the first half of the year.
- Innovations in processes adopted for the mechanical and electrical upgrade of Wardell Bridge. These utilised unique repair methods to avoid fabrication of brand new sheaves, and innovative work techniques to work around a threatened species, thereby reducing project cost and time.
- Cost efficiencies through strategic design and competitive tendering for the Warringah Freeway bus layover project.
- Efficiencies in packaging pavement and corridor works, bundling of major pipe repairs (on Alpine Way) and route-based environment assessments on bridges.
- Development of improved techniques through leading research in pavement technology by the specialist groups in the Engineering Technology Branch. This included development of warm asphalt mix technology, development of heavy duty sprayed seals, trial of manufactured sands in asphalts and concrete pavements and development of reinforced asphalt overlays.
- Use of alternate pavement materials (eg substituting CEMEX DGB20 for heavy duty material on Gilgandra Truck Stop project).
- Efficiencies through reuse/reduction of material including reduction in sub-base and earthwork, reduced overlays, disposal of soil, regrades to reduce imported material and use of in-place select in cuts.
- A number of productivity gains were achieved through improvements to designs. Examples include:
 - Use of lower cost architectural treatments on Avoca Drive upgrade.



- Redesign of carriageways and lane merge modifications on Tuggerah Straight Stage 2.
- New style of contract for minor repairs during cleaning and inspection of culverts.
- Redesign and deletion of gabion drop structures (energy dissipating devices to cascade water down a steep embankment; a method used where it is not practical to construct drainage lines on steep grades) and energy dissipators on Main Road 92.
- Exceeded the combined revenue target of \$55 million for rents receivable from leased properties and property sales.
- Developed a new model for the delivery of large format advertising signs on RTA-owned land, which is forecast to deliver 12 per cent increase in revenue to the RTA in 2010–11.
- Signed a contract with a media group for 17 signs in the Sydney metropolitan area and achieved an overall seven per cent increase in revenue from outdoor advertising contracts at a time when the industry reported year-on-year contraction.
- Completed the timely sale of a \$28 million redevelopment site known as Willoughby Market Gardens, despite a depressed development market due to the global financial crisis.
- Established the remote connection of several country-based real estate agencies to the RTA's Property Information System, delivering improvements in property management functions including cost savings in administrative functions and property cyclical maintenance.



Award winning Portable Variable Speed Limit Sign (VSL) for roadworks.

Organisational governance

Executive

The Chief Executive, seven Directors, General Counsel, General Manager Governance and General Manager Environment together form the Executive of the RTA.

The Chief Executive manages and controls the affairs of the RTA and is involved in all major decisions about policy and planning. The Chief Executive also has a wider role in interacting with heads of other transport and road agencies in NSW, across Australia, and internationally. The Chief Executive is accountable to the Minister for Roads and Parliament for the RTA's overall performance and compliance.

The RTA Executive supports the Chief Executive in ensuring effective governance of the organisation and has collective responsibility for key functions related to organisational strategy and performance. The Executive meets weekly to discuss operational issues, with meetings to discuss policy and strategy held once a month. Executive Committees manage a number of key issues within the RTA.

Each committee comprises directors and key managers from across the organisation to ensure an integrated approach to the management of these issues.

For more information about organisational governance, including the organisational structure, see page 10.



TABLE 9. EXECUTIVE COMMITTEES

Committee name	Purpose		
Legislation	<p>To oversee the RTA 's legislative program including:</p> <ul style="list-style-type: none"> • Developing and reviewing organisational priorities for legislation. • Coordinating cross directorate legislative proposals. • Directing and overseeing strategic legislative projects. • Providing advice to the Chief Executive on legislative matters. <p>The committee meets bi-monthly.</p>		
Road safety	<p>To review the RTA 's development and implementation of road safety strategy, policy and initiatives, including:</p> <ul style="list-style-type: none"> • Leading the development and integration of a road safety culture and ensuring effective coordination of road safety initiatives across the organisation. • Reviewing the NSW road toll including crash factors and trends. • Overseeing the development and implementation of specific road safety initiatives. • Determining the road safety priorities across the State. • Developing and implementing a communication plan that will convey road safety priorities to the whole of the RTA. • Reviewing road safety objectives and targets set out in other directorate and branch business plans. • Reviewing the RTA's road safety performance and assessing the extent to which RTA delivered and sponsored projects and programs are contributing to road safety outcomes. • Reviewing the Road Safety Impact Statement for the RTA's annual Road Maintenance Plan and Traffic Management Plan. • Reviewing the contribution that major projects make to achieving road safety benefits. • Overseeing research activities. <p>The committee meets bi-monthly.</p>		
Environment	<p>To provide strategic direction and leadership to RTA environmental programs and policies including:</p> <ul style="list-style-type: none"> • Promoting and monitoring implementation of initiatives in the RTA's Green Plan, which is a chapter in the <i>RTA Corporate Plan 2008–12: Blueprint</i>. • Mainstreaming environmental performance improvement initiatives across the RTA. • Reviewing environmental performance and improvement priorities. • Reviewing incident trends and ensuring effective management response. • Ensuring effective coordination of resources to implement performance improvement strategies, environmental policy and incident management across the RTA. <p>The committee meets bi-monthly.</p>		
Commercial development	<p>To steer the RTA's commercial strategy and to ensure the appropriate and coordinated identification, prioritisation and delivery of commercial opportunities. Responsibilities include:</p> <ul style="list-style-type: none"> • Endorsing commercial budgets and business plans for identified business units. • Referring endorsed commercial budgets to the Finance Strategy Committee for approval. • Holding business units accountable for the successful delivery of commercial opportunities and recording of cash return on investment. • Approving expenditure on external consultants contracted by business units in support of their commercial strategies or opportunities. <p>The committee meets monthly.</p>		
Audit and risk	<p>To provide independent assurance to the Chief Executive that the RTA's risk and control frameworks are operating effectively on an ongoing basis, and related external accountability requirements are being met.</p> <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>In terms of audit, the Committee:</p> <ul style="list-style-type: none"> • Approves the internal audit programs. • Reviews performance of internal and external audit functions. • Reviews internal control frameworks. • Approves related external reporting of financial information. • Reviews compliance with audit and finance related policies, procedures, central agency requirements and applicable laws and regulations. <p>The committee meets at least once a quarter.</p> </td> <td style="vertical-align: top; width: 50%;"> <p>In terms of risk management, the Committee:</p> <ul style="list-style-type: none"> • Reviews the organisation's Risk Management Framework. • Reviews the RTA's risk profile. • Reviews compliance with risk-management standards, policies, central agency requirements, relevant legislation and regulations. • Approves internal and external risk reporting. </td> </tr> </table>	<p>In terms of audit, the Committee:</p> <ul style="list-style-type: none"> • Approves the internal audit programs. • Reviews performance of internal and external audit functions. • Reviews internal control frameworks. • Approves related external reporting of financial information. • Reviews compliance with audit and finance related policies, procedures, central agency requirements and applicable laws and regulations. <p>The committee meets at least once a quarter.</p>	<p>In terms of risk management, the Committee:</p> <ul style="list-style-type: none"> • Reviews the organisation's Risk Management Framework. • Reviews the RTA's risk profile. • Reviews compliance with risk-management standards, policies, central agency requirements, relevant legislation and regulations. • Approves internal and external risk reporting.
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Committee name	Purpose
Finance strategy	<p>To set the direction of the RTA's financial strategy, including:</p> <ul style="list-style-type: none"> • Assessing the allocation and/or reallocation of funding for priority programs. • Formulating the organisation's finance strategy including setting of bottom line targets, approving operating and capital projects and allocating internal budget funds in accordance with the RTA's priorities. • Developing financial governance arrangements. • Monitoring the expenditure of funding against approved budgets. • Monitoring the realisation of benefits from organisational reform initiatives. • Managing processes including financial planning, budgeting, project estimating and performance reporting. • Reviewing forward programs for both State and federal funds. <p>The committee meets monthly.</p>
Governance	<p>To provide reasonable assurance to the Executive that the RTA has in place an appropriate governance framework that is operating effectively.</p> <p>The Governance Committee reviews:</p> <ul style="list-style-type: none"> • The effectiveness of the RTA's Governance Framework and its operation. • The effectiveness of governance reporting, both internally and externally. • General governance issues affecting the organisation on behalf of the Executive. <p>The committee meets at least twice a year.</p>
Workforce and reform	<p>To coordinate and facilitate a strategic approach to organisational efficiency and workforce development and renewal, including:</p> <ul style="list-style-type: none"> • Monitoring the implementation of the RTA People Plan. • Overseeing the Business Improvement Program including setting priorities and reviewing project progress and outcomes. • Recommending priorities for the development and implementation of strategic workforce initiatives. • Oversee workforce renewal and succession planning to ensure sustainable workforce capability. • Providing advice to the Chief Executive and Executive on options for addressing significant workforce related matters. • Establishing and reviewing organisational priorities for learning and development including consideration of applications for financial assistance for identified tertiary courses. • Evaluating the effectiveness of relevant strategic workforce initiatives and policies. <p>The committee meets bi-monthly.</p>
Occupational health and safety	<p>To review the RTA's occupational health and safety (OHS) performance and provide strategic direction on OHS programs and policies, including:</p> <ul style="list-style-type: none"> • Reviewing of OHS performance and advice on priorities for allocation of OHS resources. • Reviewing of serious incidents. • Ensuring effective coordination of risk management, OHS policy, claims and management across the RTA. • Monitoring the effectiveness of the implementation of the RTA OHS Strategic Plan. <p>The committee meets bi-monthly.</p>
Information communications technology (ICT)	<p>To provide oversight and reasonable assurance to the RTA Executive that the RTA has in place an effective and efficient organisation-wide ICT Strategy and Governance Framework. This includes:</p> <ul style="list-style-type: none"> • Ensuring the ICT Strategy and Framework is focused on delivering the RTA's business strategy across the RTA. • Maximising the overall benefits to be realised from investment in ICT projects. • Supporting business areas in delivering cost saving initiatives as part of the NSW Treasury ICT expenditure review. <p>The committee meets monthly.</p>

Executive appointments and remuneration

The Minister is responsible for approving the Chief Executive's appointment and contract, and for determining remuneration.

The Chief Executive approves senior executives' appointments and contracts. The contracts have a term of up to five years and include annual performance agreements. The Chief Executive determines the remuneration of senior executives in accordance with determinations issued by the Statutory and Other Offices Remuneration Tribunal. For additional information on executive appointments, remuneration and performance see Appendix 4.



Strategic and business planning

Integrated planning

The RTA uses corporate strategic plans to link results and services with broader government priorities and to align internal business plans. This keeps us focused on the results we deliver for NSW and communicates the RTA's contribution to government priorities.

The RTA uses the *RTA Corporate Plan 2008–12: Blueprint*, the Results and Services Plan and the Total Asset Management approach to communicate this strategic intent to the NSW Government.

The RTA's strategic direction and planning are also driven through the Corporate Framework (see pages 8-9) that defines the RTA's high level results and priorities, and is an integral component of the Corporate Plan. It sets the strategic direction that is filtered through layers of integrated plans to ensure a focus on achieving the RTA's results. The RTA Corporate Plan, business plans, operational plans and some individual plans are linked through the common language of the RTA's results.

These high level results are also translated throughout the organisation through internal strategic plans that help to drive and coordinate business activities. These internal strategic plans are often cross-directorate plans that provide a 3–5 year strategic direction, and set priorities for key areas of business (core and business support functions) and policy. These plans also provide the basis for making decisions about the allocation of resources and set out medium- to long-term performance targets. These plans are in line with NSW Treasury, Department of Premier and Cabinet, and Transport NSW guidelines and advice (where required).

Planning and performance reporting guidelines exist within the organisation to maintain an effective and consistent planning and performance reporting system.

NSW State Plan

The NSW State Plan sets out the priorities for government action, designed to deliver better services and improve accountability across the public sector.

The RTA is the lead agency responsible for delivering a number of NSW State Plan targets within Better Transport and Liveable Cities priorities. These include Improve the Road Network, Maintain Road Infrastructure, Improve Road Safety and Increase Walking and Cycling. The RTA is in partnership with other agencies to contribute to various other NSW State Plan priorities.

These key priorities challenge the RTA to improve the efficiency of the road network, reduce fatalities on the roads, maintain and invest in infrastructure, and support healthier living through cycling and walking.

Metropolitan Transport Plan

The Metropolitan Transport Plan was released in February 2010, setting a transport vision for Sydney, a 'city of cities'. It aims to effectively link Sydney's land-use planning with its transport network.

Rapid urban growth is currently presenting challenges with planning and development of population centres, and the transport response to this. The RTA is contributing to this long-term vision for transport and infrastructure which impacts on the way Sydney functions effectively. This includes jobs, services and housing and improvement of connections between them.

The RTA will be leading a number of essential services including: getting Sydney moving to promote a happier, healthier lifestyle; improving the bus network including strategic bus corridors; and increasing the efficiency of the road network.

The plan was released for public comment in 2010 and will be merged with the Metropolitan Strategy in the second half of 2010, to form the Metropolitan Plan.

Key strategic committees

The RTA uses a number of non-executive committees to drive and monitor the strategic direction of its works:

- The Network Committee meets each month to provide road network management leadership and advice, and discuss and support road network management activities across the RTA. This committee provides a forum for:
 - Coordinating network planning activities.
 - Discussing the Total Asset Management approach, with reference to Road Network Capital Investment Plans, Road Network Strategic Asset Management Plan and State Infrastructure Strategy.
 - Considering operational activities, including recent and developing route delays.
 - Incorporating road safety and freight productivity outcomes into network management activities.
- The Major Projects Review Committee meets each month to consider and endorse the scope of all development projects with an estimated cost of \$10 million or more and major traffic management projects or other sensitive projects as determined by the Chief Executive.

Business improvements

Workplace change and culture

The Workplace Change and Culture Business Improvement Program is driving initiatives to ensure the RTA delivers integrated, efficient and customer-focused services. Key organisational change and business improvement programs continued to be managed across the RTA throughout 2009–10, including the following:

- Business improvement projects to implement saving



initiatives to fund the wages and salary increases from the 2008 award negotiations. Key initiatives implemented included new arrangements for overnight accommodation, video conferencing facilities and sick leave management.

- Further development and implementation of the High Performance Framework to better support business units to deliver results required to achieve the RTA Corporate Plan. The focus of the framework is to build the capability of RTA leaders to understand the environment required to enable high performance for teams and individuals. 2009–10 saw the rollout of a number of skill-building workshops for managers and team leaders to enhance their ability discuss and support performance improvement with team members.
- Completion of new organisational arrangements for vehicle regulations, ensuring that the RTA is given the Inspectorate that it needs to meet the emerging challenges of the next 5–10 years and position the RTA optimally in advance of the establishment of the National Heavy Vehicle Regulator in 2010.
- Completion of new organisational arrangements for Governance Branch to ensure that the structure adequately underpinned the Branch's revised mandate. It is now required to develop, improve and facilitate governance within the RTA and to improve the overall efficiency and effectiveness with which the Branch operates.



Information and Communication Technology Strategy

This year, the RTA implemented the revised Information and Communications Technology (ICT) Strategy and governance arrangements, with the inaugural meeting of the ICT Executive Committee occurring in November 2009. The ICT Strategy has been developed to enable the RTA to:

- Improve the alignment and cross-organisation leveraging of ICT investment and infrastructure to meet the RTA's goals.
- Improve the balance between supply and demand to efficiently meet the needs of the RTA and the wider community.
- Increase the transparency of funding of ICT projects across the organisation and prioritise ICT initiatives and projects, according to areas of greatest need.
- Identify core capabilities or technologies where skills need to be enhanced, developed or procured.
- Improve the realisation of benefits for ICT investment.
- Improve the performance of the RTA's ICT in the eyes of our customers, stakeholders and staff.

Work is continuing across the organisation to implement consistent governance arrangements for ICT projects and to roll out a communication strategy across the organisation.

Information technology projects

In the 2009–10 financial year, the RTA delivered over 100 major projects ranging in cost from \$100,000 to \$4 million. These projects included upgrades to core RTA technology infrastructure across NSW and the development and enhancement of key systems to support road safety and regulatory programs.

The RTA also delivered core infrastructure to establish three new motor registries, relocate three existing motor registries, and upgrade telecommunications capabilities to support 3G connectivity for all motor registries across NSW. Core infrastructure was also delivered to 23 site offices, supporting major road building projects across NSW.

The RTA delivered four major releases and 12 minor releases for the core DRIVES and e-Business systems. These provide enhancements and new functionality to support legislative changes, regulatory and process improvements, and outcomes for customers.

RTA Wide Area Network Upgrade

The RTA successfully completed the upgrade of its Wide Area Network, facilitating high bandwidth data paths between its major Sydney corporate offices and data centres. The high-speed fibre links cater for data replication, data backup and video conferencing and provide business continuity capability in the event of a major failure.

The motor registry network infrastructure was improved with the replacement of Integrated Services Digital Network backup services with the latest 3G technology telecommunications infrastructure. This provides the business continuity and sustained levels of service required by the public of NSW in the event of motor registry main network link failures.

The RTA continued to build on its investment in voice over internet protocol (VOIP) by migrating the Transport Management Centre and the RTA Contact Centre facilities to this technology. See the Awards section on page 109 for details of this project, which won the Australian Institute of Project Management Award.

Video conferencing

The RTA successfully deployed significant Statewide room-to-room based video conferencing infrastructure. This initiative formed part of the overall RTA efficiency and cost-savings program, in addition to decreasing the carbon footprint by reducing the need to travel. The infrastructure comprises 37 room facilities spread across 23 RTA offices.



Michael Bushby, RTA Chief Executive, demonstrates new video conferencing technology.



Information technology benchmarking

Benchmarking of the RTA's information technology (IT) services has resulted in overall cost efficiency and productivity improvements in 2009–10. Productivity improvements featured across all key areas of IT support including Desktop, Service Desk, Management Services and Storage. Additionally, the benchmarking study also showed continuing improvements in customer satisfaction resulting in the highest levels of satisfaction ever recorded at 3.8 out of 5. (The previous highest recorded was 3.7 out of 5, in 2005.)

IT security accreditation

The RTA continued to enhance the security of customer information. Two key IT areas of the organisation – the Transport Management Centre and Information Management and Information Technology Branch – were audited by a third party certification body in 2010 and were successful in retaining their accreditation.

The audits were to ensure compliance with the international standard for information security management ISO 27001. The standard requires that risks to information be managed to reduce the likelihood of breaches of confidentiality, compromises in integrity or system failures which prevent access to information. The RTA also continues to work towards compliance to the Payment Card Industry Data Security Standard.

Disaster recovery exercise

The annual data centre disaster recovery (DR) test took place in mid 2009. The exercise involved simulating major network failures at the North Ryde Data Centre, resulting in all services that have dedicated contingency being failed over to the Ultimo Data Centre (GSDC). RTA application testing was then performed to verify that these systems had 'recovered' successfully at GSDC, determining where continuity of service could be achieved in the event of such a network failures.

Any issues highlighted during the DR test, which could not be resolved on the weekend itself, were captured and the appropriate internal and/or external technical teams were engaged to investigate further. The high level purpose of performing such a DR test is essentially to identify such problems and implement appropriate solutions to avoid future recurrences of the same problems in the event of a similar (real life) scenario. To this end, the 2009 DR test was considered a success.

DRIVES Vendor Management Framework

In 2009, the RTA tendered for CA: GEN and Java software development services. The tender resulted in three proponents being appointed. The main driver for panel appointment was to satisfy the increasing demand in the development area. As part of this engagement, a detailed Vendor Management Framework was developed to bridge the gap between business needs and the technical management of vendors engaged to provide development services related to DRIVES systems. This was achieved by developing and sustaining an effective and beneficial operational partnership with DRIVES vendors.

Web Gateway for NSW Agencies

The 'Web Gateway for NSW Agencies' application was developed, allowing customers to save time on change-of-address notifications. Once the customer has notified one agency that they have changed address, then all agencies will be subsequently advised. To date, the participating agencies are the NSW Electoral Commission and the State Debt Recovery Office (SDRO). The participating agencies also benefit from cost savings related to mail-outs and processing of 'return to sender' procedures and data entry. These initiatives have improved the data integrity of both the Electoral Roll and the SDRO.

Information Management and Information Technology Quality Control Section

Information Management and Information Technology's Quality Control Section has tested over 70 projects, processed hundreds of change requests and raised and retested over 3800 defects across the RTA in the last 12 months, expending an effort of 82,000 hours of testing.

Integrated Management System

The Integrated Management System (IMS) is the RTA's strategic platform for managing people, time and money. Based on the SAP ECC6 suite of software, it supports finance, purchasing, human resources, payroll, project management, self-service leave management, the Cashback scheme and several internal Help Desks.

Improvement initiatives undertaken during the year include the following:

- Enhancement of technical configuration change management processes in Solution Manager.
- Automation of training course requests and approval using Online Learning module.
- Automation of hotel broker accommodation bookings and payments in the Employment Self-Service portal.
- Continuing transition from position-based to role-based authorisation and security profiles.
- Commencement of a feasibility study to integrate property portfolio management within the SAP real estate module.
- Commencement of an organisational review of the Financial Systems Support and IMS HelpDesk Team.

Westpac Integrated Banking System

The RTA successfully implemented an automated system solution for the transfer of electronic funds transfer (EFT) payment files to the RTA's corporate banker (Westpac). EFT files were previously manually handled by RTA staff when uploading to the banking system.

The RTA approached Westpac in seeking assistance with improvements in payment processing and worked closely with Westpac, Fujitsu and Qvalent (suppliers of IT systems) to develop a total business and system solution that:



- Provides a secure straight-through-processing and automated method for the RTA to submit payment files.
- Delivers and receives information in a format required by the RTA's Integrated Management System.
- Supports the automation of data processing within the RTA to provide:
 - Savings of time via faster transfer of financial data files.
 - Significantly lower fraud risk.
 - Greater productivity by reducing the resources needed to previously undertake the file transfer process manually.

The development of the user interface by the RTA is the first of its kind among all NSW Government agencies. In addition to overcoming the technical challenges presented, the project was successfully delivered within the agreed timeframe, on budget.

Readsoft Webcycle

The Readsoft Webcycle project was successfully implemented in November 2009. This software allows the automation of the end-to-end accounts payable function through the scanning of invoices, automated matching and by utilising workflow for the certification and approval process.

This has improved the controls over accounts payable through automated matching, workflow, online approvals, validation and processing. It has provided cost savings and efficiencies through the ability to manage the end-to-end process; it has improved cash management and allowed a more consistent approach to accounts payable; and it has helped achieve a better balance between volumes, skills and resources.

It also provides a platform for future improvements in the accounts payable function, which will allow further efficiencies and cost savings.

Governance and risk

Governance Framework

The Governance Branch leads the RTA in adopting and implementing the RTA Governance Framework in close partnership with the Executive and staff responsible for the RTA's day-to-day operations. The RTA Governance Framework identifies 14 key elements that are fundamental to achieving good governance within the RTA. It documents the key processes, systems and tools that need to be in place to ensure that these key elements are operating effectively across the organisation.

INTERNAL AUDIT AND RISK MANAGEMENT ATTESTATION FOR 2009–10 FINANCIAL YEAR FOR THE ROADS AND TRAFFIC AUTHORITY, NSW

I am of the opinion that the Roads & Traffic Authority, NSW has internal audit and risk management processes in place that are, in all material respects, compliant with the core requirements set out in Treasury Circular NSW TC 09/08 Internal Audit and Risk Management Policy. As a consequence the senior management of the Roads & Traffic Authority are able to understand, manage and monitor the organisation's risk exposures.

I am also of the opinion that the Audit and Risk Committee for Roads & Traffic Authority is constituted and operates in accordance with the independence and governance requirements of Treasury Circular NSW TC 09/08. The Chair and members of the Audit and Risk Committee are:

1. Michael Ellis, independent Chair
2. Dr Elizabeth Coombs, independent member
3. Greg Fletcher, independent member
4. Peter Wells, Acting Director Customer and Regulatory Services, internal member
5. Geoff Fogarty, Director Major Infrastructure Services, internal member

In addition, I note the following as per Section 1.2.8 of TPP09/05:

"The department head or governing board of the statutory body is required to set out which service delivery model for the Internal Audit function has been established in the department or statutory body, including the reasons for establishing that model, in the annual Attestation Statement required by the Policy."

In this regard the RTA's Governance Branch has adopted a "co-sourced" service delivery model, as defined in the policy, ie:

"... co-sourced service delivery with in-house management, where the department or statutory body provides and manages internal audit services through a combination of in-house resources and contracted services delivered by an appropriately qualified third party provider".

A major reason for this is related to the diverse nature of the RTA's operations, ie they include a strong focus on large infrastructure projects as well as a strong front-line community presence in regard to, for instance, the licensing of road users and registration of vehicles for use on the roads. In conjunction with the current climate of rapid technological change this means that, to effectively manage its major risks, a wide range of technical engineering, financial and ICT audit and risk expertise is required. My view is that a co-sourcing model is the most effective and efficient way to procure this.

Michael Bushby | Chief Executive



Risk management

The RTA has a well-established, enterprise-wide Risk Management Framework which describes the RTA's approach to risk management. It consists of a set of key elements that provide the foundations (ie assumptions, principles, values, policy, roles, accountabilities, rules for decision making) and processes (ie systems, tools and templates) for developing, implementing, monitoring, reviewing and continually improving risk management.

This systematic approach to risk allows the consistent identification and assessment of the major risks for each area of the RTA's business operations and for the organisation as a whole. Risks are managed and regularly reviewed at all levels of the organisation as part of the business management and performance reporting systems and processes.

Internal audit / assurance

The Governance Branch provides an auditing and associated assurance function that is focused primarily on the four areas of high risk to the RTA – licensing and vehicle registration management, information technology, engineering and financial and operational aspects.

Customer and regulatory services

Over the year, the RTA undertook regular monitoring of motor registry operations, other service delivery channels and back office functions supporting customer and regulatory services business. The Risk Management Framework and the control environment for dealing with the exposures in these operations is continually reviewed and strengthened to ensure controls remain effective and appropriate. Lessons learned from the outcomes of investigations and other reviews of the business are incorporated into the risk management program, to ensure effective management of risk.

Information technology

Information technology (IT) audits this year covered newly purchased and installed systems, systems under development and, to a limited extent, those in production. IT security and e-commerce audits focused on aspects of operating systems such as access and permissions security. A major strategy of the IT audit staff was to maintain membership of a range of internal steering committees and working parties. This allowed them to focus on critical IT processes and systems, IT security and e-commerce, IT infrastructure and the provision of risk / control advice on projects that were identified as high risk to the organisation. Audit and risk staff also worked closely with business units on risk assessments of new IT initiatives, system purchases and developments.

Some of the major reviews included:

- Integrated Management System upgrade.
- Corporate Data Warehouse – Vehicle Regulation.
- National Heavy Vehicle Accreditation Scheme.
- Court and Case Management System.

Engineering

A major part of the RTA's operations are engineering related, and the independent review carried out by this group of qualified and experienced engineers represents an important assurance function for the Chief Executive.

The main focus of the group continued to be the review of major engineering programs, systems and products. Major reviews undertaken included:

- Pacific Highway – overall program review.
- Strategic Bus Corridor Program.
- Major Drainage Rehabilitation Program.
- Ballina Bypass Alliance – geotechnical audit (Pacific Highway).
- Alliance Maintenance Agreement – product quality audit.

Audits were prioritised on the basis of the identification and analysis of major operational risks and on an assessment of the control environment in place to address these risks. In conjunction with the cooperation of line management, audit outcomes resulted in the identification and addressing of a range of exposures.

Finance and operations

The Annual Financial and Operational Audit Program's coverage included the RTA's financial support functions and a range of activities in road safety, traffic management and other RTA business units. The audit projects included an independent assessment of risks and compliance with policies, procedures and Treasury guidelines to provide assurance to the Chief Executive that these were being complied with.

Some of the key audit projects for the 2009–10 year included:

- Budgeting and financial forecasting.
- Efficiency improvement and wages strategy savings.
- General receipting and banking.
- Purchase order and service entry release process.
- RTA property acquisitions.
- RTA property sales and leasing.
- School crossing supervisors.
- Vendor creation.

The Financial and Operations Assurance Section also performed audits of selected administration centres in Business Services Group and an independent review of year-end accruals for the NSW Audit Office.



Corruption and fraud investigations

The Corruption and Fraud Investigations (CFI) Section's major responsibility is to manage the organisation's relationship with the Independent Commission Against Corruption (ICAC).

In this regard it performs or oversees a range of internal corruption and fraud investigations, as well as investigations into maladministration and serious and substantial waste.

Where appropriate, matters are investigated and outcomes forwarded to RTA senior management to action, including consideration of disciplinary action against appropriate staff. Recommendations highlighted by these investigations are also referred to line management, to address any weaknesses or areas of concern relating to risks, policies, procedures or controls, and to internal audit for consideration in the preparation of their audit programs.

As part of its role managing the organisation's relationship with ICAC, CFI refers allegations of corruption to it in compliance with the *Independent Commission Against Corruption (ICAC) Act 1998*. Fraud by community members that impact on the RTA's business are primarily referred to the NSW Police Force for investigation and prosecution and, where appropriate, are further referred to RTA senior management to address any policy, procedure and control issues.

Corruption and fraud risk management

In addition to the investigation of allegations of corruption and fraud, the RTA also developed and implemented a Corruption and Fraud Prevention Framework. This includes a range of initiatives to minimise the risk of corrupt and fraudulent activity by staff and business partners. Highlights during the year included:

- The delivery of corruption and fraud / ethics seminars to 117 staff, across high risk business environments to reinforce the corruption resistant culture of the RTA.
- The provision of anti-corruption information through the RTA's intranet.
- The provision of advice to staff and management on a wide range of corruption risks and ethical, probity and policy issues.

Our people

A safe and healthy workplace

RTA's safety beliefs

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 in road and traffic operations are always given precedence over production demands.

The RTA has four safety beliefs. These are:

- All injuries can be prevented.
- Safety first, work second.
- Everyone is responsible for safety.
- Working safely is a condition of employment.

The RTA Executive provides leadership that supports these safety beliefs and facilitates a strong safety culture, ensuring the safety and well-being of RTA staff.



Posters promoting the RTA's four safety beliefs were displayed in workplaces across the State as part of the RTA's employee safety campaign.

Policy and Commitment Statement

The RTA Occupational Health and Safety (OHS) Policy Statement confirms the RTA's commitment to providing leadership, direction, resources and support, to ensure workplaces are safe and without risk to health. The policy states that the cooperation and involvement of all employees at every level is required to achieve the RTA's health and safety objectives. The policy describes the RTA's safety beliefs 'All injuries can be prevented Safety first – work second; Everyone is responsible for safety, and Working safely is a condition of employment.' In particular, the policy 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 to achieve OHS objectives.



Risk management

A risk-management approach to OHS continues to be applied to all of the RTA's activities. Significant OHS risks are addressed in the areas of construction, road maintenance, traffic control, working at heights, 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:

- Project 'whole-of-life' risk control documents – a risk assessment at the concept and design stage aimed at improving OHS through better design.
- Environment and safety risk assessment undertaken by stakeholders for projects in the range of \$250,000 to \$5 million, with an OHS development plan for major projects worth more than \$5 million.
- Situational awareness risk assessment to provide traffic signal and maintenance crews with tools to identify and deal with risks encountered during routine maintenance at each site.
- Risk profiles developed by each RTA business area so that hazards can be eliminated or controlled, and reviewed on an ongoing basis.

See the Awards section on page 111 for details of RTA winning the Workcover NSW Safe Work Awards 2009.

Road maintenance

The 2010 Safety Summit for Road and Fleet Services managers identified key focus areas in OHS. These included improving the quality of SAFE Engagements (ie management tool to conduct safety conversation with employees), increasing near-miss reporting, disseminating lessons from incidents, working on foot around plant, working near utilities, working near traffic, dispelling the fallacy of 'no time for safety' and looking out for one another to create a culture of mutual protection.

The RTA Road and Fleet Services Branch continued to maintain certification to AS 4801 (Australian Standard for Occupational Health and Safety Management Systems) and accreditation with the Office of the Federal Safety Commission.

Utilities

Utility 'strikes', such as unprecedented contacts with electricity, gas, water and telecommunication services, continued to be a major cause of potentially serious incidents. The RTA has issued a number of safety alerts to reinforce the requirement for risk mitigation and implementing controls for overhead and underground utilities strike. Through quarterly RTA Utilities Coalition meetings, incident information and prevention strategy is discussed and actions are developed for reducing utilities strike.

Contractor safety

The RTA continued to achieve a high safety performance for its projects and set benchmark standards in OHS management of contractors. The RTA positively engages its contractors on OHS matters through various forums and briefings. The annual contractor safety forum provided an opportunity to share best practice. The forum, held in November 2009, was attended by more than 100 contractors and RTA employees. They discussed tools and systems to drive stronger safety cultures and performance. The breakfast briefing and quarterly Contractor Coalition meetings at RTA's sites are other modes of knowledge sharing with contractors.

The RTA's Contractor Prequalification and Audit Program provides robust approach to ensure compliance of OHS at every project site.

The G22 specification is being revised to simplify some of the OHS requirements for contractors, and key performance indicators are being included as a guide. These measures will be implemented to enhance the RTA's safety performance over the coming 12 months. The Specification RTA G22 contains the RTA's requirements for both the contractor's corporate OHS management system and project OHS management plan. Specification RTA G22 is a 'proforma' model specification and must be customised by the tender documenter for each specific project. Customisation requires insertion of the various OHS issues into the body of G22. It is recommended that G22 specific OHS management plan is aligned with the RTA OHS management plan.

OHS program delivery

The RTA delivers its OHS program through specialist OHS staff including regional OHS facilitators, line managers and their staff. This ensures there is ownership of OHS activities in each local workplace. Audits and inspections ensure that each area of the RTA is implementing the OHS management system. Each area is required to complete an annual self-assessment of compliance. The Executive OHS Committee oversees the results of these assessments to ensure that they are carried out and to identify trends or issues to be addressed in the following year.

OHS performance reporting

The RTA continued to use forward (lead) and delayed (lag) performance indicators to measure OHS performance. A strategy to increase near-miss reporting began in 2008–09 with a target ratio of at least one near-miss reported for every injury. Near-miss reporting increased significantly in 2009–10 but continued to lag behind the number of injuries recorded with a near-miss to injury ratio of 0.7. Education in near-miss reporting via the Critical Tools for Safety Leaders workshops and an improved incident management system, will drive near-miss reporting and ensure that the target is met in 2010–11.



The RTA's online incident reporting and investigation system has been subject to a complete system upgrade over the course of 2009–10, with the new version due to be released early in the 2010–11 financial year. The upgraded system allows incident reporting and investigation to be carried out more easily and will drive better quality investigations. The system is expected to be a significant factor in increasing near-miss reporting and in preventing repeat incidents.

Staff health fitness and well-being

The fifth stage of the AlphaOne Program was concluded and, as in previous years, the assessment results showed a range of individual improvements. RTA staff from all regions and different business units had the opportunity to receive health information which provided them with the skills and knowledge to review and manage their own health, fitness and quality of life. Many staff used the online program to continue with their actions to monitor and improve their health and fitness.

More than 3000 employees accessed the annual influenza vaccination program with a view to reducing exposure to the annual flu strains, including H1N1.

OHS staff have worked jointly with Corporate Real Estate to ensure that all new capital works and refurbishment projects have had the benefit of meeting all ergonomic and access requirements.

Details of injuries and prosecutions under OHS Act

OHS incidents

The most significant risks of serious injury to RTA employees and contractors include working in the vicinity of traffic and moving plant, working at heights and utilities. The most common cause of workplace injuries across the RTA in 2009–10 was 'body stressing' (ie manual handling and/or ergonomic injuries). A tragic incident occurred on 10 June 2009 when a B double truck hit RTA's parked maintenance vehicle, resulting in a fatal injury to one of the RTA's employees. The RTA's management team established a senior working party to address risk associated with our workers while working on road corridors including maintenance activities. The focus of the working party is to implement strategies reducing risk of an injury or incident to our workers while working near high speed high volume traffic.

Prosecutions

There was one prosecution for a breach of the *Occupational Health and Safety Act 2000* (OHS Act) in 2009–10. This prosecution is for an incident involving a fatality to a sub-contractor on Epping Road in 2008.

OHS indicators

The near-miss reporting strategy was effective, showing a considerable increase in near-miss incidents reported in 2009–10. Lag indicators (ie injuries and workers compensation claims) remain consistent or slightly higher than previous years. Strategies have been implemented to drive down injuries in 2010–11.

TABLE 10. OHS STATISTICAL INDICATORS

Performance indicator	2007–08	2008–09	2009–10	Change on previous year
Incidents reported	2204	1788	1996	12% increase
All injuries (incl. first aid only)	1108	956	1081	13% increase
Near misses reported	294	419	760	81% increase
Near miss: injury ratio	0.27	0.44	0.70	59% increase
All compensable injuries (including journey claims)	427	377	470	25% increase
Total claims costs (\$ million)	\$2.6	\$2.7	\$3.2	19% increase
Compensable workplace injuries	412	352	418	19% increase
Lost time injuries	190	156	193	24% increase

FIGURE 23. OHS PERFORMANCE INDICATORS

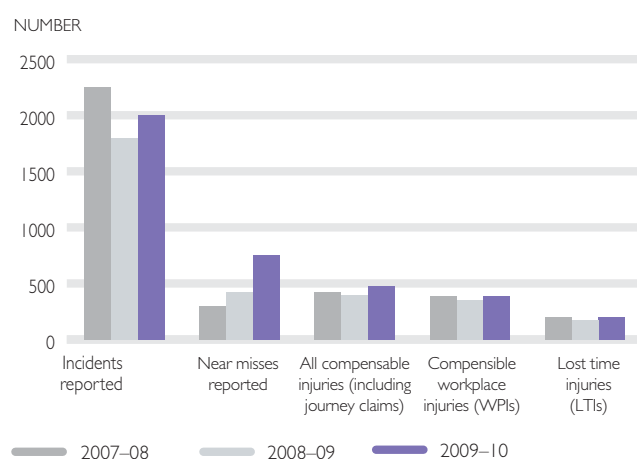




TABLE II. FIVE YEAR WORKPLACE INJURY AND WORKERS COMPENSATION TREND

	2005-06	2006-07	2007-08	2008-09	2009-10
All workers compensation claims	548	473	427	377	470
Workplace injuries	492	430	412	352	418
Average number of work-related claims per 100 employees	7.4	6.4	6.1	4.9	5.8

Facilitate the appropriate use of flexible work options

The RTA has a strong history of supporting staff through flexible work practices (including pre and post retirement). As the organisation continues to face the challenges of an ageing workforce, critical skill shortages and the current economic climate, flexible work practices support the retention of both staff and knowledge, boost staff satisfaction, and provide assistance with workforce planning.

Flexible work options will be piloted with staff over the age of 55, with the view to organisational roll out. Flexible work practices allow staff to combine work and personal responsibilities. They benefit the organisation through greater productivity, flexibility and efficiency.

Align work and development plans with business plans

There has been a continued focus on developing a High Performance Framework to better support our business to deliver results required to achieve the RTA Corporate Plan. The RTA has been building the capability of its leaders to understand the environment required to enable high performance for teams and individuals. During the year it conducted skill building workshops for managers and team leaders to enhance their ability and discuss and support performance improvement with team members. The next phase of the RTA High Performance Framework will be to link individual work and development plans to the RTA business planning process so that all employees are able to plan, measure and monitor their contribution to achieving the RTA Corporate Plan 2008-12: Blueprint and Transport NSW Corporate Plan 2010-2014: Moving Together.

Recognition of specialist engineers

As a result of the RTA agreeing to a change in the engineers' award, a professional engineer, regardless of their grade for field of engineering, can now apply to be

recognised as a specialist. Following consultation with a range of internal and external stakeholders, a policy and procedures were developed. This provides the framework to facilitate the claim for specialist skill. Being successful in claiming a specialist skill is an important initiative which recognises and rewards those specialists.

Knowledge continuity

Over 220 RTA employees were engaged to 'continue' the knowledge of 18 subject matter experts (known as 'sages') through a series of facilitated workshops designed to build a culture of knowledge sharing. This is particularly important within the organisation as it assists with business continuity.

MyJourney

The new MyJourney Program targets all RTA staff aged 55 and over to acknowledge their ongoing contribution to the RTA and focus on knowledge sharing, working intentions and retirement preparedness. This program began with four out of the 20 planned seminars being delivered by the end of June. This involved 170 participants, which is equivalent to 12 per cent of the 55 and over demographic. A further 26 per cent are enrolled to attend during the 2010-11 financial year.

Improvements to the RTA learning centre

In August 2009 the RTA delivered an online portal for staff called Learning@RTA. It aims to help staff access learning and development opportunities and offers a one-stop location for training services. It provides a catalogue of approved training programs for electronic application and approval and has created the foundation for delivery of e-Learning programs. The system replaced a paper-based process.

From August 2009, 70 per cent of all training requests were received through the learning centre, with the remaining 30 per cent mainly consisting of field staff who did not have access to a computer. The learning centre objective is to support organisational success through a system that enables targeted skill and knowledge development for both immediate and future requirements. Identifying and building the right skills at the right time are outcomes that are enabled via the online learning centre.

The e-Learning Project was a key achievement this year. This involved the registration of all training online, making a total of 79 e-Learning packages available to staff.





Targeted recruitment programs



The RTA's targeted employment programs bring graduates, para-professionals, apprentices and trainees into the organisation. Through these programs, the organisation provides both financial support and work experience to ensure that the skills needed by the RTA are grown progressively and professionally. The RTA also works with the State's leading universities to support and attract students through a program of scholarships and cadetships.

Apprentices

The Trade Apprenticeship Program rotates apprentices between workshops and work sites across NSW to ensure they gain exposure to a broad range of skills and experiences. In 2009–10 the RTA recruited apprentices across a range of trade classifications including electricians, painters, bridge and wharf carpenters and plant mechanics. In June 2010 the RTA employed 74 trade apprentices.



RTA Metal fabricator apprentice Matt Kemenade.

Traineeships

RTA trainees are working towards a variety of vocational education and training qualifications. Trainees are located in the RTA Contract Centre, regional offices, administration centres, motor registries, road construction and other RTA functional centres. As at 30 June 2010, the RTA employed 126 trainees.

Graduate Recruitment and Development Program

RTA graduates come from a range of disciplines such as survey, urban design, town planning, transport planning, policy, traffic and transport, engineering, computer systems engineering, environment and community liaison. Over recent years, the Graduate Recruitment and Development Program (GRAD) has consistently averaged a retention rate of 97 per cent. At 30 June 2010, the RTA employed 144 graduates.

Undergraduate scholarships, rural cadetship and para-professional programs



The RTA's Undergraduate Scholarship Program encourages university undergraduates to consider careers in the roads industry. The rural cadetship scheme targets undergraduates from rural NSW and aims to support engineering and related professions to return to these rural communities to work after completing their degree. At 30 June 2010, the RTA supported undergraduates studying the disciplines of engineering and surveying. A total of 37 of the 144 graduates are employed in the RTA's Rural Cadet Scheme.

The RTA's para-professional programs are proving to be very successful in generating renewable pools of talent in critical technical skill areas. These programs combine on-the-job experience with a course of study towards the attainment of an Associate Diploma of Engineering. At 30 June 2010, there were 60 participants in the programs with 53 of those in the Road Designer in Training Program.

Transforming recruitment in the RTA



The RTA's e-Recruitment project is an online recruitment system to streamline and improve the RTA recruitment process. It aims to maximise the RTA's opportunity to find, communicate with and appoint quality candidates and will assist in streamlining and automating operational work associated with the selection and appointment processes within the RTA.

Phase I of the RTA's e-Recruitment project went live on 11 December 2009. Completion of this phase delivered the following benefits:

- Internal and external candidates can apply for positions online simply and quickly.
- Relationship management with candidates has improved through better communication processes. These include automated acknowledgement of applications and the ability to track individual applications through the recruitment process and candidate surveys.
- Recruitment administration has been streamlined. This includes the automation of various previously manual and paper-based tasks, resulting in a reduction in time spent on administration and improved 'time to fill' timeframes.
- The RTA has the capacity to build talent pools to source candidates for future vacancies.
- Online data provides a better understanding of which advertising media are yielding the best applicant results.

The implementation of phase one of the e-Recruitment system has also provided an opportunity to streamline the management of excess staff across the RTA. All deployment records have been entered into the e-Recruitment system and from 1 July 2010 tracking and reporting of excess staff will be via the new system, replacing previous manual record keeping. Further work is being undertaken to perform job-matching for excess staff via the e-Recruitment system.



Internal communication

With about 7267 full-time equivalent staff spread across NSW and a diverse workforce, both in age and professions, internal communication is a priority at the RTA.

The RTA has three main communication tools to engage staff about organisational issues, projects, policies and events – a Chief Executive team briefing, the staff magazine *Momentum* and the RTA intranet.

A monthly team brief from the Chief Executive provides managers across the business with a framework for two-way communication with their teams about issues of strategic importance.

The RTA staff magazine, *Momentum*, features key achievements, projects and activities in which staff are involved. There are 11 issues a year and each issue includes a branch profile to introduce the team and explain their roles and functions.

Staff news is published on the RTA's intranet home page. This is the main vehicle for more time-critical announcements and information. This year has seen an increased use of internal newsletters to promote business-specific information, such as the Human Resources Strategy Branch's *People Matters* and the refocused *Health & Safety News*.

There is also a dedicated intranet for frontline staff called 'Frontline'. Key news and policy updates relating to customer service are located here.

In March 2010, the RTA also launched a new employee safety campaign called 'Stop.Think.Act.' The campaign forms part of a plan to promote a strong safety culture within the organisation. At the centre of the campaign are four safety beliefs. These safety beliefs form the core key messages of the campaign. A visual identity with a strong call to action and striking colours was developed for the campaign to ensure that safety remains top of mind with all employees. A series of staff engagement activities and supporting collateral such as posters have been integral to the roll out of the campaign. The campaign will be evaluated to benchmark its success and impact on encouraging staff to 'stop' and 'think' about what they need to do to work safely, and to take 'action' to make their workplace safe.

In 2010–11 the challenge for the organisation will be to develop policies and guidelines for Web 2.0 communication tools and evolve channels that further enhance opportunities for internal communication.

Austrroads capability taskforce

The objective of the capability task force is to provide Austrroads member authorities with national strategies, including skills attraction and development, to ensure sustainable levels of capability relating to technical skills specific to the roads sector. These skills include road and bridge design, construction and maintenance, traffic management, project delivery and project management and road safety.

2009–10 saw the RTA-led Capability Taskforce Project, the National Skills Marketing Plan, come to fruition, with a multimedia campaign deployed across all states and territories. The campaign seeks to influence course and subject choices for final year high school students and first year university students respectively, leading to an increased talent pool of suitably skilled engineers, surveyors, project managers and other roads specific technical disciplines. Early results show that the campaign is achieving its objectives, with applications for graduate positions within road authorities in most states and territories increasing markedly since the campaign launch.

The RTA also project managed the delivery of Austrroads Capability Taskforce, *The Australia and New Zealand Roads Capability Analysis 2009 Update*. The report built on the results and methodology of the original 2006 report. The 2009 Update report included more robust processes for the collection of data and greater scrutiny to underlying assumptions about the nature of the current and future labour forces.

The report will inform Capability Taskforce strategies in coming years as to the specific capability needs of the roads sector in terms of what skills are needed, where they are needed, and when.

Staff awards

The RTA Staff Awards continue to recognise excellent performance in areas of critical importance to the RTA. These awards provide an opportunity to acknowledge and reward staff who have made an outstanding contribution.

An awards presentation ceremony was held on 26 February 2010. The then Minister for Transport and Roads, the Hon. David Campbell MP, attended the event and presented 18 awards to 62 winners. Winners included staff from eight regional and seven metropolitan work locations.

The Road User Strategic Projects Technical Team, which pioneered the engine brake noise camera trailer system, was awarded the 2009 RTA Staff Award for Environmental Sustainability.



Staff achievements

RTA staff members, employees and contractors received a number of external awards and accolades from industry and professional organisations, acknowledging their high standard of achievements. The sample here presents a snapshot of the year's successes.

Commendation for Courage

John Wall, Principal Analyst Road, Safety Technology, NSW Centre for Road Safety received the State Emergency Service's highest honour a 'Commendation for Courage' for his outstanding display of bravery in helping save a truck driver's life.



RTA staff member and SES volunteer John Wall.

2009 Civil Contractors Federation Earth Award

Hume Highway Southern Alliance (comprising Abigroup, Sinclair Knight Merz and the RTA) won this award in Category 5, for projects over \$75 million. The project involved the duplication of over 30km of the Hume Highway in south western NSW.

The Civil Contractors Federation Earth Awards recognise excellence in civil construction, environmental management and project management. The Alliance team won the award for demonstrating excellence in all of these areas, in particular for setting a new benchmark in environmental management, minimising inconvenience to Australia's busiest freight route, construction innovations, addressing problems that arise in working in extreme conditions and working safely.

2009 Effie Awards

The RTA advertising campaign 'Speeding. No one thinks big of you' won the Grand Effie for the most effective campaign in the inaugural Australian Effie Awards. Clemenger BBDO, Sydney produced the campaign, better known as 'Pinkie', on behalf of the RTA.

The Advertising Federation of Australia introduced the awards in 1990 as the Advertising Effectiveness Awards, to showcase the power and effectiveness of advertising and marketing in Australia. 'Speeding. No one thinks big of you' also won three gold EFFIEs in the Best State Campaign, Most Original Thinking and Government, Corporate and Social Services Categories.

2009 National Award for Bridge Design

Hume Highway Southern Alliance won this award at the Cement Concrete and Aggregates Australia Public Domain Awards, for its innovative design of Tumbarumba Bridge on the Hume Highway. The bridge was designed by Alliance members Leighton Contractors and Jackson Teece Architects.

Urban Designer Michael Sheridan said the award was a great recognition for the Alliance, and explained how all disciplines were brought together to produce a well integrated design, which is the essence of what the new urban design policy framework *Beyond the Pavement* is meant to achieve.

Australian Institute of Project Management Award

The RTA has won a prestigious Australian Institute of Project Management Award for the RTA Internet Protocol (IP) Telephony Transformation Project. The project delivered the new IP telephone system with 216 sites receiving 6500 handsets – representing a major investment in new equipment and technology.

An IP phone is a more powerful, centrally controlled telephone system that is scalable and integrates more easily with PC applications such as the RTA phone directory. The project created a standardised platform across the RTA, which meant a reduction of operating costs.

Dual ISO accreditation

Following two rigorous external audits, the Transport Management Centre (TMC) in Eveleigh successfully achieved dual re-certification to the International Standard ISO 27001:2006 Information security management system and the revised International Standard ISO 9001:2008 Quality management systems.

International Standards Organisation (ISO) develops and maintains standards used to ensure global consistency and business excellence. These standards are recognised in over 162 countries. To maintain this dual certification is testament to the TMC's adoption of world's best business practices. TMC is the only business unit within RTA to secure dual accreditation.



Cement Concrete and Aggregates Australia Public Domain Awards

An innovative bicycle path constructed in Broken Hill received national honours with a commendation in the 'Paths Category' at the Cement Concrete and Aggregates Australia Public Domain Awards at The Mint in Sydney. The project was supported through part funding by the RTA and the efforts of RTA Western Region staff.

The awards put a spotlight on the best examples of infrastructure found in the public domain across Australia, setting benchmarks in cost effectiveness, innovation, functionality, durability and aesthetics.

NSW Excellence in Surveying and Spatial Information Awards

This year the RTA achieved a successful result in every category entered.

As one half of a joint venture with Sinclair Knight Merz (SKM), the RTA won the 'Extra Dimension' category with its submission 'A New Approach to the Capture and Documentation of Road Infrastructure'. In the highly competitive Cadastral Surveying category, the RTA was awarded 'Highly Commended' (second place) for Steve Bennett's 'Cadastral Survey for the Sea Cliff Bridge deviation of Lawrence Hargrave Drive near Clifton'.

There were an impressive seven RTA submissions in the University Student Projects of the Year. The category was won by RTA GRAD Narelle Underwood for her project 'The Surveyor's Role in Developing a Sustainable Society', while RTA GRAD Ryan Fifield received a 'Highly Commended' accolade for his project 'Strata Titles: Issues and Innovations'.



Steve Bennett, Registered Land Surveyor, Goulburn office; Alexandra Lyle, RTA GRAD, Parramatta; Grant Kilpatrick, Survey Manager Southern Region; Jim Ollis, recently retired Manager Survey Technology & Practice, Parramatta; Narelle Underwood, RTA GRAD, Wollongong; Chris Harrison, A/Director Regional Operations & Engineering Services; Ryan Fifield, RTA GRAD, Parramatta; Mark Gordon, RTA Manager Surveying.

Reporting Excellence Award for Reporting Renovation

The RTA has also been recognised for its outstanding efforts in delivering high quality analytic reports. In awarding the 'Reporting Excellence Award for Reporting Renovation for 2009', the judging panel noted that the organisation has crafted sophisticated reports that are aligned to the business and associated audience's needs.

2009 National HR Leadership Awards

This is the premier awards program for recognising Australian Best Practice organisations.

The RTA won a special commendation for its People Plan, including the knowledge continuity initiative – a great credit to the organisation.

NSW Planning Institute Awards

The Planning Institute of Australia presents annual awards for excellence, innovation and achievement in urban and regional planning in and by NSW planners.

A group from the Strategic Network Planning Branch in Network Management received an Award for Planning Excellence. This was in the category of Transport Planning, for publication of the RTA's *Network and Corridor Planning Practice Notes*.



Members of this award winning team: from left to right – Marco Morgante, Paul Wade, Natalie Camilleri, Jennifer Adam, and John Brewer.



Indigenous Support Award

For many years, the RTA has supported the Indigenous Australian Engineering Summer School. This is an annual five day live-in program which provides 20 Aboriginal students entering Years 10, 11 and 12 with a taste of engineering as a career.

Richard Boggon, Acting Director Corporate Services, was presented an award on behalf of the RTA by Vice Patron, General Michael Jeffery, AC, as a show of appreciation for the considerable support provided to the Summer School.



Richard Boggon, Acting Director Corporate Services receiving the award from former Governor-General Michael Jeffery on behalf of the RTA.

NSW Woman of the Year

The RTA Southern Region's Road Safety and Traffic Manager, Trish McClure, was named the '2010 Woman of the Year for Keira Electorate'.

Trish was nominated for her work with children with disabilities and their families as President of the Para Meadows Foundation which she established with a couple of friends some eight years ago. The Foundation has raised significant funds to assist in enhancing the quality of life for children with disabilities and their families in the Illawarra.



Former Minister for Roads, David Campbell and Trish McClure: Trish was presented with her award at the Premier's Reception for International Woman's Day at Parliament House on 8 March 2010.

2010 Gold Commercial Exhibit Award, Royal Agricultural Society of NSW

RTA's stand at the Sydney Royal Easter show won this prestigious award for the second year running. The interactive and informative display featured in the Home Garden and Lifestyle Hall, and included the RTA's Slow Down Roadshow, a toll booth, a display of the evolution of child restraints, the Slow Down Pledge, and for the first time a careers display.



Representatives from the Royal Agricultural Society of NSW Rolfe Chyrstal, Chief Steward (left) and Glen Dudley (right) present Michael Stanley, Manager Workforce Capability, Karen Edwards, General Manager Human Resource Strategy and Melinda Kelly from Corporate Communication the gold award.

WorkCover NSW Safe Work Awards 2009

The RTA won the category of Best Workplace Health and Safety Management System. This award recognised the RTA's effective health and safety management system which has been implemented across the organisation, as the best of its kind in the public sector.



Challenges and the way forward

Financial governance

The introduction of number plates with 7–10 characters was delayed due to a range of issues raised by key stakeholders. These issues and potential impacts require further review and consultation before this project can proceed.

Investigation of the proposal to have Special Number Plates delivered directly from the manufacturer to the customer will take longer than originally anticipated. RTA technology staff are working closely with the vendor and other key participants to assist the delivery of this project.

The impact of the Global Financial Crisis on the Australian economy resulted in the RTA's commercial activities operating in a depressed economic environment. RTA's growth in commercial revenue slowed as a result.

The following actions are planned in order to address challenges and optimise service delivery:

- The RTA is developing new ventures, and is seeking to optimise commercial returns for the NSW Government and the community by leveraging innovation and intellectual property within the RTA, along with its specialist technical and professional services capacity.
- A number of strategies have been put in place to continue revenue growth of the commercial revenue portfolio through product innovation, increased market penetration, and new market development.
- Resource investment decisions for delivering both core operations and new ventures will need to sustain a focus on outcomes for the community, and also be timely and responsive to new market opportunities. Ongoing review of potential commercial opportunities and the capability required to deliver these, will support timely commencement of new ventures for the RTA.

Organisational governance

The size, complexity and diversity of the RTA make the development and implementation of governance strategies and tools to achieve organisational objectives both difficult and time consuming. Broadening and formalising the governance role (as distinct from the day-to-day management role) of the Senior Executive will be a key focus.

In response to current challenges, over the coming year, the RTA plans to:

- Review the Executive Charter and establish a new Executive Committee Framework and supporting systems to facilitate the achievement of the RTA's corporate objectives.

- Develop a framework to provide assurance that the RTA's operations and activities comply with applicable laws and other legal requirements.
- Review the RTA's Policy Development Framework to better enable the organisation to coherently formulate policy, and ensure consistent application and good practice. This initiative will include improved accountability and enhanced evidence based decision making.
- Review RTA risk maturity, including its Risk Management Framework, strategies and processes.

Our people

Human resources

The most significant challenges that face HR include:

- Global economic challenges.
- The ageing workforce.
- Critical skills shortages.
- Growing demands on the NSW road system.

To meet the challenges ahead the RTA needs a workforce with the right mix of professional, technical and management skills. The RTA is building on the agenda outlined in *RTA Corporate Plan 2008–12: Blueprint*, through three broad streams of activity. These are:

- Renewing our workforce: recruiting motivated, skilled and ambitious staff and developing ways to retain our experienced staff and plan for their successors when they decide to move on.
- Growing our own: developing our people, their leadership potential, skills and expertise, through a suite of programs.
- Driving innovation: sustaining the RTA's performance by fostering innovation across all areas of the RTA.

OHS

Working near high-speed, high-volume traffic continues to pose the greatest risk to RTA staff and contractors. A significant work program continues 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.

Increasing near-miss reporting is an important proactive strategy aimed at better identification and control of risks before injuries occur. Near-miss reporting is also an important component of the strategy to prevent high consequence incidents through site-specific risk-control mechanisms.

Ensuring strong safety leadership is critical to achieving a safe work culture. Strategies to strengthen leadership skills include training and mentoring programs and implementation of leadership tools such as SAFE Engagements, reward and recognition and performance management programs.