REVIEW OF OPERATIONS

Transport

Transport

The RTA manages the road transport system to provide reliable and efficient movement of people and goods

The NSW road transport system

The transport system is crucial to the prosperity and well-being of the NSW community. The RTA's role is to develop the road network to meet the needs of a growing population, including 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 the State.

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.

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

Section cover image: Installation of a moveable median on the Sydney Harbour Bridge southern approach, September 2005. Photo taken by RTA photographer Geoff Ward.

Development

Project delivery

During the year, the RTA managed the planning and construction of 82 major projects with a total expenditure of almost $1.8 billion and opened 10 of those projects to traffic. Appendix 1 contains details of progress on all major projects.

Motorways

M5 East filtration plant 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 East westbound tunnel. The plant is due to be completed in late 2009, with the trial to begin in early 2010.

When completed, the plant will be capable of continuously drawing 200m^3 of air per second from the westbound tunnel, removing particulate matter from this air, removing nitrogen dioxide from 50m^3 of the same air and then returning the treated air to the westbound tunnel.

Following an operational trial of the plant that 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.

M2 Motorway upgrade

A proposal was received from Transurban, concession holder of The Hills M2 Motorway, to enhance and widen the motorway. The concept design has now been completed. The proposal includes widening sections of the motorway from two to three lanes in each direction, construction of new west facing ramps at Windsor Road and east facing ramps near Herring Road, Macquarie Park.

The M2 Motorway is one of Sydney's busiest road corridors, providing an important link in the Sydney Orbital between the M7 and Lane Cove Tunnel and carrying around 110,000 vehicles and 45,000 bus passengers a day.

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

The RTA is negotiating with Transurban to construct the upgrade under an agreement that would be value for money for the people of NSW.

M5 Motorway widening

A proposal was received from Interlink Roads, concession holder of the M5 Motorway, to widen sections of the motorway to three lanes in each direction between Camden Valley Way and King Georges Road.

High traffic volumes on the M5 Motorway, especially during peak periods. 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 is expecting a revised proposal and will then negotiate with Interlink Roads to construct the upgrade under an agreement that would be value for money for the people of NSW.

M5 transport corridor study

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 would result in a preferred transport strategy that outlines improvements to public transport services and capacity enhancement options for the M5 East Motorway.

The study is being overseen by a task force convened by the NSW Coordinator General, and includes the Chief Executive of the RTA and senior representatives from NSW Transport and Infrastructure, the Department of Planning and NSW Treasury.

M4 Motorway extension

The M4 Motorway services a significant economic corridor, from Penrith through Sydney Olympic Park to the city, which is expected to grow considerably in population and employment density. The NSW Government's Metropolitan Strategy for Sydney, released in December 2005, highlighted the critical significance of better linkages between Port Botany, Sydney Airport and Western Sydney.

Feasibility studies have been carried out to examine options to extend the M4 Motorway east of its termination at North Strathfield to the city and Port Botany and Sydney Airport. Motorway options were submitted to Infrastructure Australia for its consideration of national priority projects and for potential funding in late 2008. However, no funds were committed to the project from the Building Australia Fund (announced in conjunction with the May 2009 federal budget).

If a decision is made by the NSW Government to proceed with planning for the project, further development activities and a detailed environmental assessment will be undertaken before construction begins. Community and stakeholder involvement would form an important component of the development phase.

F3 Freeway to M2 Motorway link

A proposed motorway would connect the F3 Freeway at Wahroonga with the M2 at Carlingford. This motorway would fill a missing link in the national highway network between Melbourne and Brisbane.

In May 2004, the Australian Government announced a preferred corridor option for the link. Following the announcement, a number of representations were received from the community. A subsequent independent review of the corridor selection process, published in August 2007, concluded that the original 2004 study recommendations should be upheld: that is, the preferred Pennant Hills Road or 'Purple Route' corridor option should be progressed and an additional western corridor should be separately planned.

A proposal was submitted to Infrastructure Australia for its consideration of national priority projects and for potential funding in late 2008. However, no funds were committed to the project from the Building Australia Fund (announced in conjunction with the May 2009 federal budget).

If a decision is made by the NSW Government to proceed with planning for the project, further development activities and a detailed environmental assessment will be undertaken before construction begins. Community and stakeholder involvement would form an important component of the development phase.

Lane Cove Tunnel

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

Stage 2 of the project, which included the reconfiguration of Epping Road, and the introduction of bus lanes and a shared pedestrian/cycle path, was opened for use in March 2008. Transit lanes were also introduced on the widened Gore Hill Freeway from the Pacific Highway to the Warringah Freeway. Final landscaping was completed in September 2008. Local road amenity has been improved by introducing right turn access into Parklands Avenue and Centennial Avenue, Lane Cove.

In the first half of 2009, the tunnel was being used by around 58,000 vehicles every weekday. Tolling is fully electronic and interoperable with other Sydney toll roads.

Connector Motorways Pty Ltd has a contract to operate and maintain the tunnel and adjoining motorway areas for 30 years.

Following community consultation for the Falcon Street access ramps, the RTA determined a need for a new pedestrian/cycle bridge across the Warringah Freeway between Falcon Street at North Sydney and Merlin Street in Neutral Bay, providing direct access to Military Road.

The contract was awarded in July 2008 and construction of the new bridge and other pedestrian facilities began in September 2008. The $15 million project will provide a continuous, uninterrupted crossing for pedestrians and cyclists travelling along this busy route and is expected to be complete in August 2009.

Pacific Highway Upgrading Program

The Pacific Highway not only links Sydney and Brisbane, it also passes through regions that continue to experience the State'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 governments have committed $3.6 billion to continue the upgrade of the highway over the five years to mid 2014 to complete Stage 1 and begin Stage 2.

By June 2009, 277km of the highway's 667km length were four-lane divided road. Since 1995, the upgrade has achieved travel time savings of about 80 minutes for heavy vehicles and 70 minutes for light vehicles. A further 77km of upgraded highway are under construction, 75km are in preconstruction, 103km are being environmentally assessed 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 28 in 2008, despite a 50 per cent increase in travel on much of the highway.

Karuah to Bulahdelah sections 2 and 3

Construction began in March 2007 on this $262 million project to provide 23km of dual carriageway, generally following the existing highway alignment. The project includes seven pairs of new bridges and rest areas on the northbound carriageway at Nerong Waterholes and the southbound carriageway at Browns Flat. The upgrade is on schedule to be 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. Tenders for the main contract are expected to be invited in late 2009.

Coopernook to Herons Creek

The Coopernook to Herons Creek project incorporates the Coopernook to Moorland and Moorland to Herons Creek upgrades. Construction of these upgrades, which have been combined to achieve economies of scale, began in October 2007 and is expected to be completed by mid 2010. The project will provide 32.2km of dual carriageway, including bypasses of Moorland, Johns River and Kew.

Construction works on the Coopernook to Herons Creek project.

Bonville Bypass

The upgrade of this section of the highway between Perrys Road and Lyons Road south of Coffs Harbour was opened to traffic in September 2008. Completion of the 9.9km-long, $233 million Bonville Bypass resulted in 19.5km of dual carriageway between Coffs Harbour and Urunga.

Ballina Bypass

An alliance for the main construction of the bypass was formed in June 2008, and detailed design was completed in December 2008. Construction work is now well advanced.

The 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. The work is expected to be opened progressively with final completion by 2012.

Construction works showing the placement of pre cast super-t girders on the Teven Road Bridge (360m in total length).

Glenugie Upgrade

The Australian Government has confirmed funding of $54 million of the $60 million Glenugie Upgrade project, between Coffs Harbour and Grafton. The project, funded under the Nation Building Program, is being fast-tracked with the environmental assessment to be displayed in August 2009. The project is following a streamlined planning approval process to enable construction to begin by early 2010, through an alliance arrangement.

Kempsey Bypass

In its 2009-10 budget, the Australian Government announced funding of $618 million from the Building Australia Fund to fast-track the Kempsey Bypass. Significant planning work is already complete including the environmental assessment of the project. The 14.5km bypass is a vital section of the Pacific Highway upgrade. The early works and main road works for the bypass will be delivered by an alliance and the Macleay River floodplain bridge will be delivered by a design and construct contract. Early work is expected to begin in the first half of 2010 with major construction scheduled to start late in 2010.

Other highlights

The Pacific Highway upgrade also reached the following milestones in 2008-09:

- Display of the concept design for F3 to Raymond Terrace, Coffs Harbour Bypass, Wells Crossing to Harwood, Harwood to Illuka Road, and Illuka Road to Woodburn.

- Environmental assessment display and submissions report lodged with the Department of Planning for Tintenbar to Ewingsdale.

- Registrations of interest for a design and construct contract for Sapphire to Woolgoolga.

- Planning approval received for Sapphire to Woolgoolga, Kempsey to Eungai, Banora Point and Failford Road to Tritton Road.

- Requests for alliance proposals issued for Banora Point and Glenugie Upgrade.

- Councils advised of road boundaries for the Woolgoolga to Wells Crossing, Iluka Road to Woodburn and Woodburn to Ballina projects for inclusion in Local Environment Plans.

Sydney projects

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 $104 million project is jointly funded by the Australian and NSW governments and is expected to be completed by late 2009. Once the project is completed, the F3 Freeway will have six continuous lanes between the southern end of the freeway at Wahroonga and the Gosford exit at Kariong, a distance of approximately 43km.

Alfords Point Bridge

Construction of the $42 million duplication of Alfords Point Bridge over the Georges River began in early 2007. The project, which opened to traffic in August 2008, eliminated the need for tidal traffic flow arrangements on the bridge.

Alfords Point Bridge, opened to traffic in August 2008.

Alfords Point Bridge northern approach

Tenders for the Alfords Point Bridge northern approach were invited in December 2008 and a contract was awarded in June 2009. Construction is expected to begin in late 2009 with the final stage to be opened in early 2011.

Bangor Bypass Stage 2

Tenders for the Bangor Bypass Stage 2 were invited in December 2008 and awarded in June 2009. Construction is expected to begin in late 2009 with the project expected to be opened to traffic in late 2010.

Mamre Road

The Mamre Road/M4 overpass duplication was completed in February 2009 and is now providing benefits to both the local community and through traffic by reducing congestion and delays, particularly during peak traffic times.

Former Premier Morris Iemma, Dianne Beamer and the construction team during an inspection of the works on the $15 million Mamre Road bridge over the M4.

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 T-way 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 early 2011.

Cowpasture Road

Cowpasture Road is being progressively upgraded to a four-lane divided road for 12.8 km between the roundabout at The Horsley Drive, Wetherill Park, to Camden Valley Way, Leppington. The last two remaining lengths to be upgraded are from Main Street to Camden Valley Way and from North Liverpool Road to the M7 Motorway.

Construction of the $18 million upgrade from Main Street to Camden Valley Way began in June 2008 and is scheduled to be opened to traffic in late 2009. A contract was awarded for the $72 million upgrade from North Liverpool Road to the M7 in November 2008 and work began in January 2009. Completion of this section is expected in early 2011.

Camden Valley Way

In March 2009, the RTA invited tenders for the $65 million upgrade of Camden Valley Way from Bernera Road to Cowpasture Road. In addition, the RTA is progressing the concept design and environmental assessment for the four-lane upgrade of Camden Valley Way between Cowpasture Road and Narellan Road. Tenders are expected to be invited to construct the section between Cobbitty Road and Narellan Road by mid 2010.

Aerial photo of Camden Valley Way.

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

Leura to Katoomba

Section 1 of the Leura to Katoomba upgrade between Willow Park Avenue and East View Avenue was opened to traffic in May 2006. Section 2, between East View Avenue and Bowling Green Avenue, was opened in March 2009. The major feature of this project is a grade separated interchange at Leura Mall to provide access for local road users and preserve local heritage.

Woodford to Hazelbrook

Work continued on the $160 million upgrade from Woodford to Hazelbrook, with the Oaklands Road local traffic railway underpass and Hazelbrook Parade completed. Work continued on the highway widening between Winbourne Road and Ferguson Avenue and this work is expected to be opened to traffic in September 2009. Tenders will be invited for the final stage from Station Street to Winbourne Road in August 2009. This project is funded by the NSW and Australian governments.

Great Western Highway at Hazelbrook. The skywalk across Gloria Park has been constructed and is opened to pedestrians and cyclists.

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 detailed design of the section between Ferguson Avenue and Bass Street is well advanced.

Wentworth Falls East

A contract has been awarded for the $115 million upgrade of the section between Tableland Road and Station Street. Construction began in June 2009 and is expected to be completed in early 2012. This project is funded by the NSW and Australian governments.

Mt Victoria to Lithgow

Investigations and planning began to develop options for the upgrade of the highway between Mt Victoria and Lithgow. Community consultation for selection of a new route continued during the year. This project is funded by the NSW and Australian governments.

Other projects on the Great Western Highway

Planning, investigations and environmental assessments continued on the remaining sections of the highway to be upgraded between Bullaburra and Wentworth Falls. The environmental assessment for Bullaburra to Wentworth Falls was completed in September 2008, and the Review of Environmental Factors for Bullaburra was displayed for community comment in June 2009.

Improving access between cities and regions

Hume Highway

Southern Hume Highway Duplication

The Australian Government aims to have full dual carriageways on the Hume Highway between Sydney and Melbourne by 2012. There are 87km to upgrade between the Sturt Highway and Table Top, near Albury. In June 2006 the NSW and Australian governments signed a Memorandum of Understanding to accelerate 67km of duplication and the Australian Government provided $800 million to complete the work by December 2009. The interest earned on this funding will also be applied to the project. This will leave 20km of highway as single carriageway at Tarcutta, Holbrook and Woomargama.

Two alliance partners 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 substantial work has been completed. The project is on track for completion by December 2009, with a variety of sections opening to traffic from mid-2009.

Bypasses of Tarcutta, Holbrook and Woomargama

A contract was awarded in October 2007 to assist in the route selection and planning of the three bypasses. Preferred routes were confirmed in September 2008 and planning approvals are expected in 2009-10. The bypasses of Tarcutta, Holbrook and Woomargama will make up the final 20km of dual carriageway highway to be completed by 2012.

Sheahan Bridge duplication, Gundagai

A contract to design and construct the Sheahan Bridge duplication was awarded in September 2007. The $78 million project is fully funded by the Australian Government. On completion of this bridge duplication and the Coolac Bypass, the Hume Highway will be dual carriageway between Sydney and the Sturt Highway. Traffic was switched to the new bridge in May 2009 to enable essential maintenance on the existing bridge. Dual carriageways are scheduled to be opened in late 2009.

View of the duplicated Sheahan Bridge, Hume Highway, Gundagai.

Coolac Bypass

A contract was awarded in February 2007 for the $179 million Coolac Bypass project and construction began in May 2007. The project comprises a 12km four lane bypass and a 4km reconstruction of the northbound carriageway between Muttama Creek and the Dog-on-the-Tuckerbox. The project is expected to open to traffic in August 2009. The project is fully funded by the Australian Government.

Upgrade between Narellan Road and Brooks Road

Widening of the Hume Highway (F5 Freeway) between Narellan Road and Brooks Road began with awarding of a contract in November 2008. Work started in January 2009 on the section between Raby Road and Brooks Road which will provide four traffic lanes in each direction. The remaining section between Narellan Road and Raby Road will be widened to three lanes in each direction and is expected to be completed in late 2011. The project is jointly funded by the Australian Government (80 per cent) and the NSW Government (20 per cent).

Newell Highway

Moree Town Centre Bypass

The project 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 a new Mehi River Bridge and road work. Detailed design of Stage 2, comprising road work through Moree, is complete. Tenders for construction of Stage 2 have been delayed while land contamination is rectified by a third party. The $56.2 million project is fully funded by the Australian Government.

Princes Highway

Lawrence Hargrave Drive intersection upgrade

Tenders were invited in May 2009 for construction of a $31 million major upgrade of this intersection at the foot of Bulli Pass. 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 flow. Construction is scheduled to start in late 2009 and the project is expected to be completed by mid 2011.

Wollongong Northern Distributor

The major construction contract for the $110 million Northern Distributor extension in Wollongong was awarded in December 2006 and work began in April 2007. The Northern Distributor will be extended by 3km through Wollongong's northern suburbs from Bellambi Lane to the Princes Highway at Molloy Street, Bulli. It will provide a four-lane divided carriageway with four new intersections along the route (two grade separated intersections at Campbell Street and Park Road). The proposal also includes a shared pedestrian cycle bridge at Farrell Road and 2.5m sealed shoulders on both sides for cyclists. The project is expected to be opened to traffic in late 2009.

Oak Flats to Dunmore

Construction of the $120 million Oak Flats to Dunmore deviation continued. This 5.5km four-lane divided carriageway deviation of the Princes Highway will link the Oak Flats Interchange with the North Kiama Bypass, completing four lanes to south of Kiama. A contract for the work 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 has been carried out by the RTA and was completed in September 2008. When opened to traffic in late 2009 the project will significantly improve road safety, reduce congestion and improve traffic flows.

Former Minister for Roads Eric Roozendaal, Member for Kiama, Matt Brown, Member for Shell Harbour, Lylea McMahon, inspecting works in August 2008. The crane on site is the largest in Australia with a 1000 tonne rating.

Kiama Ramps

Construction of this $13 million project began in September 2007 to provide two additional ramps on the Kiama Bypass. The work was undertaken by the RTA with the southbound off load ramp completed in October 2008 and the northbound on load ramp completed in February 2009.

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.

South Nowra road safety improvements

Work began in June 2007 to widen part of the Princes Highway between South Nowra and Jervis Bay Road to four lanes, including duplication of the two-lane bridge over Currambene Creek. The $24.6 million project was jointly funded, with the Australian Government contributing $15 million and the NSW Government $9.6 million. The project was opened to traffic in November 2008.

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 with completion expected in March 2010.

New England Highway

Hunter Expressway – F3 Freeway to Branxton

In May 2009 the Australian Government announced $1.451 billion from the Building Australia Fund and the NSW Government committed a further $200 million to construct the Hunter Expressway. During 2008-09 the RTA continued planning work for the 39.5km link between the F3 Freeway at Seahampton and the New England Highway west of Branxton. The four-lane link will relieve congestion on the New England Highway through Maitland and provide an east-west connection between the Newcastle regional centre and urban centres in the lower Hunter. The project will be broken into two contracts to reflect the complexity and challenges involved and these are expected to be awarded in 2010.

This project will also provide a direct boost to the NSW economy and is expected to create significant direct and indirect employment in the Hunter region.

Weakleys Drive Interchange

The $51.8 million interchange at Weakleys Drive, Beresfield, was opened to traffic in October 2008. The interchange eliminates three sets of traffic signals for through traffic on the New England Highway. The project was fully funded by the Australian Government.

Other Newcastle and Hunter projects

Newcastle Inner City Bypass

Planning continued for the Newcastle Inner City Bypass to provide an 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 will be progressed in 2009-10.

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 this section of the bypass is not expected to be needed for many years, identification of the preferred route will provide certainty for residents and businesses about the upgrade's location.

Tourle Street bridge replacement, Mayfield West

Construction began in October 2007 to provide a new two-lane crossing of the Hunter River replacing the existing Tourle Street Bridge. The $44 million project was opened to traffic in May 2009. The old steel truss bridge will be demolished in 2010.

The new Tourle Street Bridge alongside the original steel truss bridge.

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 road work between Paterson Road, Bolwarra, and Melbourne Street, East Maitland, began in July 2009 and is planned to be completed in 2011.

Central Coast projects

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

Planning was completed to extend the dual carriageways south of Sun Valley Road for a further 1.2km to complete a continuous four lanes between the Central Coast Highway and Davistown Road. The environmental assessment was determined in August 2008, and in April 2009 Gosford City Council began early works on a new link road as part of the project. A contract for major road works was awarded in June 2009.

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

Planning continued for the upgrade of this 2.2km length of highway. The project extends 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 Tumbi Road at Wamberal. Planning approval was achieved in June 2009 and tenders for construction will be invited in August 2009.

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 Tumbi Road at Wamberal. A Review of Environmental Factors was displayed for community comment in October 2008 and planning approval was achieved in June 2009.

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

This $42 million project provides two lanes in each direction, a continuous off-road shared cycleway/footway, bus bays and pedestrian facilities for the full 1.5km length. Work began in March 2007 and was opened to traffic in July 2008.

Central Coast Highway (The Entrance Road), 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 upgrade would 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. Major construction is planned to start in early 2010.

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 June 2008 and the project is expected to be progressively opened to traffic as new sections are built, with full completion planned by mid 2010. The project is estimated to cost $52 million.

Tuggerah to Wyong

Construction of Stage 2 continued through 2008-09. The project involves widening the road 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. In February 2008, Stage 1 between Anzac Road and Mildon Road was completed, and the contract was awarded for the construction of Stage 2 between Mildon Road and Johnson Road. The full length is expected to be completed by late 2009.

Pacific Highway between Anzac Road and Johnson Road at Tuggerah (known locally as Tuggerah Straight) which has seen completed sections progressively opened to traffic.

Other rural projects

Lanyon Drive, Queanbeyan

Design work to extend the four-lane section of Lanyon Drive from Tompsitt Drive (NSW) to the Monaro Highway (ACT) is being managed by ACT Roads. The design is being finalised and planning approval for the work in NSW was achieved in June 2008. Construction will begin in 2009-10, in conjunction with work in the ACT.

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 is expected to open 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 a new defence facility at Bungendore. The improvements include shoulder widening, intersection upgrades and a realignment of the eastern approach to Queanbeyan. Work started in May 2008. Shoulder widening, and improvements at the Weetalabah Drive intersection have been completed. Improvements at other intersections are planned to be completed in late 2009 and construction of the realignment is scheduled to start in late 2009.

Shoulder widening along the Kings Highway.

New England Highway, Sunnyside realignment

This $13.5 million project involves upgrading 2km of the New England Highway from 17km to 19km north of Armidale to improve the road alignment to a safe 100km/h standard and to provide a consistent travel speed along the highway. Construction started in March 2009 and is scheduled to be completed in early 2010. This project is fully funded by the Australian Government.

Bruxner Highway, Alstonville Bypass

The 6.6km Alstonville Bypass is estimated to cost $101 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.

Construction works at the Alstonville Bypass, expected to be completed in late 2010.

Oxley Highway, Wrights Road to the Pacific Highway

This project involves the realignment and widening of a 6km section of the Oxley Highway to provide a dual carriageway 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 work began in February 2008 and tenders for the main construction contract were invited in June 2009. Major work is expected to start in 2009-10 and be completed in late 2011.

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 morning and evening 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 and the alliance agreement will be finalised in July 2009. Preliminary 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 has been allocated over four years from 2008-09 to accelerate the delivery of the bus priority 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 2009, 97 bus priority infrastructure projects had been completed across Sydney. Construction was continuing on a further 10 projects.

The Public Transport Information and Priority System (PTIPS) improves bus reliability by giving traffic signal priority to late running buses. Bus management and service planning will be improved through better information on fleet performance. When this new GPS-based bus priority system is fully deployed it will be the largest of its kind in the world. More than 4000 metropolitan buses operated by nine companies will be fitted with satellite tracking devices. More than 6500 bus routes, 100,000 timing points and 3500 traffic signal sites will be monitored to improve bus travel time reliability.

Broad scale deployment began in early 2008, with more than 1200 State Transit Authority buses equipped by June 2009.

Bus lane cameras

There are 34 bus lane cameras and 36 transitway cameras operating across Sydney.

Since bus lanes were introduced in the early 1990s, illegal use has had an impact on bus travel times and added to operating costs. A number of initiatives are in place to improve motorists' compliance with bus lane rules. These include colouring Sydney's bus lanes red and public education campaigns to increase road user awareness of how to use bus lanes. Enforcement strategies have been developed using camera technology that is able to detect and automate an infringement process for illegal use of bus lanes and transitways.

In 2008-09 six more bus lane camera enforcement zones were added to the 28 zones in the Sydney CBD. In addition there are 16 cameras on the North West Transitway and 20 cameras on the Liverpool to Parramatta Transitway.

Bicycle facilities

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 improve the environment.

The RTA is committed to making comprehensive provision for bicycles in new major road infrastructure and maintenance work. During 2008-09 bicycle facilities were constructed as part of the following major road upgrades:

- Alfords Point Bridge Duplication: shared use path along the eastern side of the new bridge over the Georges River, Padstow Heights.
- Great Western Highway – Leura to Katoomba, Section 2: shared use path along the northern side from East View Avenue, Leura, to Bowling Green Avenue, Katoomba.
- Mamre Road, M4 Overpass Duplication: shared use path along the western side of the new bridge over the M4, St Marys.
- Windsor Road – Windsor to MacGraths Hill: shared use path along southwest side from Flattes Lagoon Bridge to Macquarie Street, Windsor. Includes a bridge over South Creek.
- Central Coast Highway – Ocean View Drive to Tumbi Road, Stage 2: shared use path along southern side from Ocean View Drive to Pitt Road, Wamberal.
- New England Highway – Weakleys Drive Interchange: shared use path along eastern side from the Beresfield Smash Repairs' new driveway to Glenwood Drive, Thornton.

Footbridge and cycleway over the Wianamatta Creek, Windsor.

During 2008-09, the RTA built 32km of sealed road shoulders on major infrastructure projects.

The RTA bicycle program also funded the development and construction of other major cycleway projects during the 2008-09 financial year, including:

- Chatswood to North Sydney: design development of the section from Merrenburn Avenue, Naremburn, to the Ridge Street Bridge, North Sydney.

- Princes Highway, Lake Tabourie: completion of the shared use bridge and its approaches over Tabourie Creek, along the eastern side of the existing bridge.

In recognition that most cycling takes place on local roads, the RTA offers joint funding to NSW councils for the development and implementation of their local bicycle networks. During 2008-09, more than $5.6 million was provided in matching funding towards 103 local cycleway projects in 80 council areas. The total estimated RTA expenditure on bicycle facilities in 2008-09 was $29.3 million – these funds helped to build more than 97km of cycleways, 53km of which were on-road (primarily road shoulders) and 44km off-road (paths).

Bicycle promotion

The RTA continued to support community events that encouraged greater use of cycling. These included the City of Sydney Spring Cycle in October 2008 and the MS Sydney to the Gong in November 2008. About 8500 and 14,000 bicycle riders participated in these events, respectively.

> For the annual NSW Bike Week in September 2008, the RTA provided seed funding to more than 50 bicycle events organised by local communities throughout the State.

The list of these events was published on the RTA website. A State-wide marketing campaign to support NSW Bike Week was undertaken and including placement of banners on overhead bridges in Sydney.

The RTA also supported National Ride to Work Day. RTA staff were encouraged to ride to work to aid a national effort by bicycle riders to reduce greenhouse emissions. Initiatives such as 'ride to work day breakfasts' held at RTA offices across the State encouraged staff participation.

The RTA produced a number of publications to encourage cycling as an alternative mode of transport. These included *Share and be aware – Travelling together safely* and a new bicycle maintenance poster. For the first time the RTA produced a comprehensive online guide, *A handbook for bicycle riders*, covering the A to Z of bicycle riding. The RTA also produced a printed version of the handbook and a poster promoting it.

Pedestrians

The RTA implemented a number of initiatives to improve pedestrian access and safety. Facilities for pedestrians built in 2008-09 included pedestrian crossings, refuges, additional audio-tactile push buttons to assist vision impaired pedestrians, kerb ramps and pedestrian fencing.

Other work for pedestrians in 2008-09 included:

- Local government pedestrian facilities: matching funding of $1.5 million was provided for 33 local pedestrian facility works within 61 council areas.

- State government pedestrian facilities: $3 million was spent on 63 pedestrian improvement projects in the arterial road network.

- Pedestrian bridges: construction began on bridges at Parramatta Road, Haberfield, and Silverwater Road, Ermington. Community consultation and detailed design began for a bridge at Epping Road, Marsfield.

- State Road Multi-Laned Pedestrian Crossings: the $17 million program continued to upgrade pedestrian crossings on multi-laned State Government-controlled roads. Fifty-nine crossings will be upgraded as part of the program. By 30 June 2009, 49 of the 59 sites had been upgraded, with traffic signals installed at 38 sites. A further two sites are under construction, with eight sites in the design and community consultation stages.

New Haberfield pedestrian bridge.

The RTA helped local councils to prepare Pedestrian Access and Mobility Plans (PAMPs) for integrated pedestrian networks. Ninety-one councils now have a PAMP, including five completed during 2008-09. The RTA continued to support councils to implement these plans which enhance safety, convenience and mobility in key areas of pedestrian movement, such as between public transport and other public places.

In April 2009, the RTA and the Australian Institute of Traffic Planning and Management worked together to conduct a workshop titled 'Universal Access: the practical sides of providing for people with disabilities'. The workshop discussed the design aspects of providing access for people with disabilities, and summarised current Australian practice. The workshop was well attended and many RTA staff also participated.

The first automated bicycle and pedestrian counter in NSW was installed on the shared pedestrian and bicycle path under the Gore Hill Freeway viaduct at Naremburn. The device detects pedestrian and bicycle movements simultaneously using Piezo technology embedded in the surface to count the bicycles and an infra-red counter mounted in the overhead pod to count the pedestrians as they pass underneath. The new counter replaced the old system of using metal boxes and rubber tubes.

Travel demand management

The increase in traffic volumes expected over the next two to three decades demands 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 2008-09, the RTA implemented a number of measures, including:

- **Sustainable Travel Workshops:** the RTA carried out sustainable travel workshops at Wollongong University and Campbelltown Hospital.

- **Teleworking (working from home):** the RTA published a new 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.

- **Transport Access Guides:** these provide detailed information on public transport options, bicycle paths and walking time, and therefore encourage these 'active' transport options. The RTA produced guides for RTA motor registries and offices in Sydney and regional NSW. The guides are available on the RTA's website and encourage customers and RTA staff to use active transport modes.

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 more than 46 per cent since 1990.

FIGURE 4. SPEED AND TRAFFIC VOLUME TRENDS FOR SEVEN MAJOR ROUTES TO AND FROM SYDNEY

AVERAGE SPEED (KM/H) PERCENTAGE CHANGE

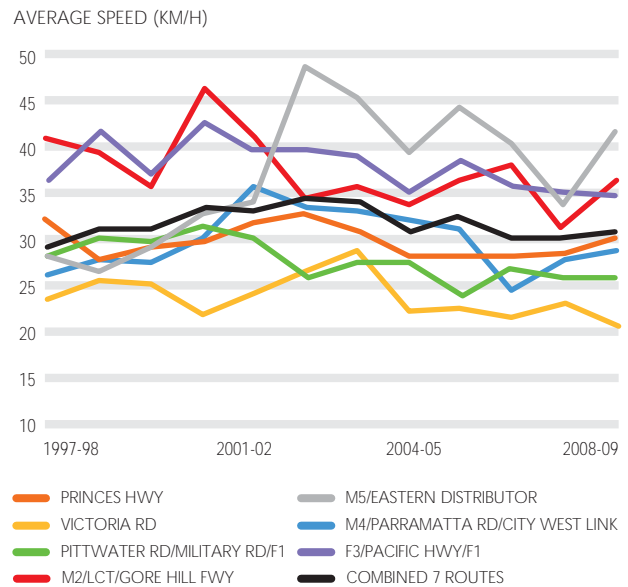AM SPEED   PM SPEED   % CHANGE IN TRAFFIC VOLUME
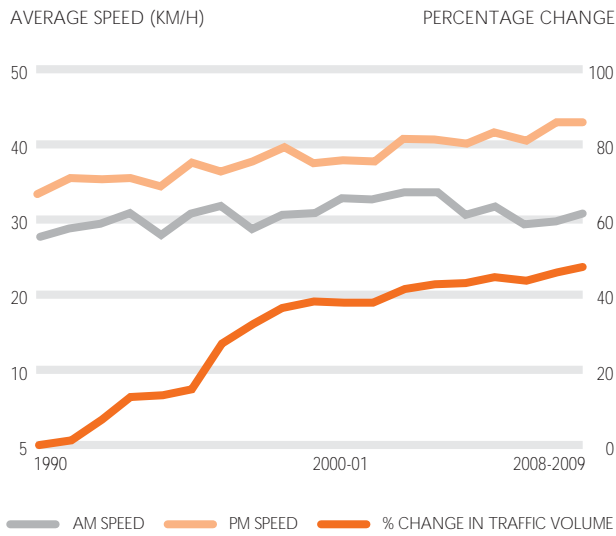
Between 2007-08 and 2008-09, overall travel speeds have increased slightly for the AM peak period and remained unchanged for the PM peak period.

For the AM peak, the rise between 2007-08 and 2008-09 in the overall average speed was from 30 to 31km/h. Of the seven routes, speeds on four improved, two remained the same and one was lower. The routes with a marked increase in speed were the M5 corridor which changed from 34 to 41 km/h and the M2/Lane Cove Tunnel/Gore Hill Freeway corridor which changed from 31 to 36 km/h. The Lane Cove Tunnel continues to perform well and there has been some improvement on the previously lower speeds west of Pennant Hills Road. The other two corridors that improved in 2008-09 were the Princes Highway, up from 28 to 30 km/h, and the M4/City West Link, up from 28 to 29 km/h. The only route with a decline in average speed was Victoria Road, which was down from 23 to 21 km/h.

For the PM peak, the overall average speed of 43 km/h was unchanged between 2007-08 and 2008-09. The routes with the highest change in speed were the M5 corridor, up from 48 to 56 km/h, and the M2/Lane Cove Tunnel/Gore Hill Freeway corridor which increased from 61 to 66 km/h. There was also a small positive change on Victoria Road from 32 to 33 km/h. The Princes Highway was the only corridor with a notable decrease from 36 to 32 km/h, due in part to roadworks. The other three corridors decreased slightly compared to 2007-08, although all of these were equal to or higher than their 2006-07 speeds.

Figure 5 shows the patterns in overall speeds on the seven routes in the AM peak over the past 10 years.

FIGURE 5. AM PEAK SPEEDS

AVERAGE SPEED (KM/H)

PRINCES HWY   M5/EASTERN DISTRIBUTOR
VICTORIA RD   M4/PARRAMATTA RD/CITY WEST LINK
PITTWATER RD/MILITARY RD/F1   F3/PACIFIC HWY/F1
M2/LCT/GORE HILL FWY   COMBINED 7 ROUTES

Note: From 2007-08, the Lane Cove Tunnel (LCT) is part of the M2 corridor (formerly parallel sections including Epping Road).

Keeping the traffic flowing

The focus for 2008-09 was to maintain consistent travel times for road users, particularly during peak hours by:

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

Incidents and special events

The RTA's Transport Management Centre (TMC) is responsible for the 24-hour monitoring and management of the NSW road network. The TMC works as quickly as possible to respond to and clear incidents such as crashes and breakdowns, and provides quality, up-to-date information to help road users make the best travel decisions.

Information is communicated through media and live radio reports, the RTA's 'Live Traffic' link on its website, a recorded traffic information telephone line (132 701) and on-road through Variable Message Signs.

Another key function of the TMC is supporting special and high profile events, including international events such as World Youth Day in July 2008. The TMC is responsible for traffic management to minimise the impact on the road network and the wider community.

The RTA is investing in a significant development program that will enhance the TMC's capabilities and meet the needs of road users. Ageing equipment and systems are being replaced by state-of-the-art technology.

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

- Deployment of traffic commanders to assume primary responsibility for traffic management around incidents on major roads.
- Deployment of a Traffic Emergency Patrol Service for major routes in Sydney and surrounding areas to identify incidents and assist as they occur.
- Operation of Variable Speed Limit Signs on motorways so that speed limits may be adjusted in response to traffic conditions.
- Expansion and operation of 582 Variable Message Signs (VMS) across Sydney's metropolitan area and selected major routes across the State. There are 150 static VMS that are directly controlled by the TMC.
- Expansion and operation of the network of 1400 closed circuit television cameras that monitor roads across Sydney and selected major routes throughout the State.
- Operation, management and maintenance of the Sydney Harbour Bridge lane control system and other electronic and manual tidal flow systems throughout the greater Sydney area.
- Development of the Sydney Transport Evacuation Precinct Plan in conjunction with other government agencies to control traffic operations and pedestrian movements in the City of Sydney in the event of a disaster.

Incident management and traffic monitoring improvements

The RTA expanded the coverage of the incident management and traffic monitoring system, which improved its ability to respond to traffic incidents. Improvements this year included:

- Upgrade of the tidal flow system on Windsor Road, Northmead.
- Installation of median crossovers on the F3 Freeway between Wahroonga and Ourimbah as part of the $30 million program of work from 2007-08 to 2009-10.
- Installation of closed circuit television cameras at key locations throughout NSW.
- Installation of detour signposting for the Murray River bridge crossings.
- Upgrading communications to traffic control signals at key locations throughout NSW.

The RTA and NSW Police Force conducted a major training exercise on the F3, Sunday 26 October, under live traffic conditions to train for the implementation of a contra-flow on the F3 Freeway between Ku-ring-gai Chase Road and Pacific Highway Wahroonga.

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). SCATS is a computerised Area Traffic Control system designed and developed by RTA traffic engineers. This world leading system, which uses the latest computing technology, responds to traffic demand in real-time and coordinates traffic signal timings to ensure smooth traffic flows. SCATS continued to be a success, with an expanding international market. At 30 June 2009, SCATS was licensed to 30,804 intersections across 138 cities worldwide.

Due to the high global demand for SCATS, the RTA appointed three SCATS authorised distributors in November 2008. The role of the SCATS distributors is to sell licenses 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. These users have the latest version of the SCATS software, reducing the demand on RTA resources to support superceded 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.

The RTA continually improves SCATS and releases a new version each year. An Australian SCATS user group meets once a year to discuss enhancements of SCATS. All major cities in Australia use SCATS, with the exception of most cities in Queensland. 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.

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 part funded by the Australian and NSW governments (Department of State and Regional Development), this collaboration comes at no financial cost to the RTA, other than the resource costs for staff working with NICTA researchers. The collaboration is pursuing research into new vehicle detection systems, new approaches to improve traffic signal control efficiency that take advantage of modern computing technology and the potential longer-term use of wireless mesh networks to replace conventional cable-based SCATS communication systems.

NICTA has also been engaged to assist the TMC in investigating the development of a Decision Support System that could assist the decision-making process in real time traffic operations.

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, in which $100 million was committed to improvements on the road network, starting in July 2007.

The Pinch Point strategy is targeting peak hour traffic 'hot spots' in 23 corridors in Sydney and will develop measures to provide reliable travel times. Draft corridor strategies are being prepared for more than half of these routes, with planning for the remainder to be undertaken by the end of 2009.

Projects completed as part of the Pinch Point program include:

- Extension and duplication of the right turn bay at Campbelltown Road and Blaxland Road, Campbelltown.
- Increase right turn bay capacity on King Georges Road and:
    - Stoney Creek Road, Beverly Hills.
    - Moorefields Road, Beverly Hills.
    - M5 Motorway, Beverly Hills.
    - Broadarrow Road, Beverly Hills.
    - Forest Road, Penshurst.
    - Roselands Drive, Roselands.
    - The Boulevard, Wiley Park.
- New right turn bay at King Georges Road and Punchbowl Road, Punchbowl.
- Increased right turn bay capacity at Princes Highway and Kingsway, Kirrawee; and Princes Highway and Heathcote Road, Heathcote.
- Local widening and installation of traffic lights at Richmond Road and St Marys Road, Windsor Downs.
- Parking rationalisation along Pacific Highway between Wilson Street and William Street, Chatswood.

Pinch Point Program: Completion of intersection upgrade at Narellan Road, Blaxland Road and Gilchrist Drive at Campbelltown.

Other locations where intersection improvements have been completed include:

- The Albury Bypass, Albury.
- Tugun Bypass, Tweed Heads.
- North West Transitway, Rouse Hill to Blacktown.
- Great Western Highway, Leura – Katoomba.
- Richmond Road and Quakers Hill Parkway, Quakers Hill.
- Old Windsor Road and Norbrick Avenue, Belle Vista.
- Mamre Road/M4 overpass duplication, St Marys.
- Barrenjoey Road, through Newport shops.
- Weakleys Drive, Thornton.
- Signalised roundabout at Princes and Illawarra Highways, Albion Park.
- Beach and Glenella roads, Batemans Bay.
- Lawrence Hargrave Drive and Railway Parade, Thirroul.
- Northern Distributor and York Road, Woonona.
- Anzac Parade and Haig Street, Maroubra.
- Stewart and Keppel Streets, Bathurst.
- Central Coast Highway, Erina.
- Widening the Pacific Highway, Tuggerah.
- Masons Parade and Dane Drive, Gosford.

Traffic and transport modelling

The RTA has supervised the introduction of 'advanced micro simulation' – a vehicle-by-vehicle traffic modelling system designed to simulate scenarios such as changed traffic conditions.

Advanced micro simulation has been used to model the benefit of detection and management of roadside incidents, management of E-Toll tags and lane changing on the Sydney Harbour Bridge.

Simulation models have also been developed for:

- Cashless tolling on the Sydney Harbour Bridge.
- General Holmes Drive level crossing.
- M4 removal of tolls, paramics modelling.
- Paramics model of Sydney CBD for CBD Metro operation.
- Sydney Airport SCATS paramics traffic model.
- F3 incident management testing, Wahroonga to Jilliby.
- Gosford Wyong paramics model.
- Pinch Point paramics/SCATS modelling.
- Bicycle planning in the CBD.

To support these models a number of ancillary studies and strategic models have also been undertaken on a number of issues including the impact of fuel prices, intersections, and tolling.

As part of its role and as a centre of excellence, the RTA has progressively introduced the standardisation of contracts including:

- Paramics and SCATS paramics modelling.
- Paramics calibration and validation reporting.
- Auditing of paramics and SCATS paramics models.

Future challenges

Road development

- The creation of the NSW Department of Transport and Infrastructure will help strengthen the partnerships with other agencies including the Department of Environment and Climate Change (DECC) and the Department of Planning (DoP) as well as with the transport agencies themselves. The RTA needs to build closer relationships with DoP and DECC to help streamline the approval process for high priority infrastructure projects, so that government infrastructure priorities can be achieved.

- The Federal 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 duplication of the Southern Hume Highway. Delivering these priority projects on time and budget is a key challenge for the RTA.

- Planning and delivery of high priority projects announced under the recent Building Australia Fund for NSW will continue, including the $1.45 billion towards the Hunter Expressway (F3 to Branxton link) and $618 million for Kempsey Bypass on the Pacific Highway.

- Participate with other NSW Government agencies in the implementation of the NSW State Plan, State Infrastructure Strategy and Metropolitan and Regional Strategies.

- Work with the NSW Treasury to improve the Total Asset Management data requirements including project justification and prioritisation for inclusion in the State Infrastructure Strategy.

- Planning of the Sydney Motorway Network including the M5 expansion and F3 to M2 link will continue. An air filtration plant will be built for the M5 East tunnel and trialled during 2010. Proposals to expand the capacity of the M2 and M5 Motorways will be assessed and implemented if approved by Government.

- The forward program of major projects that service Sydney's growth areas, primarily in the north-west and south-west, will continue to be a key focus of the RTA's liaison with the DoP.

- Complete the upgrading of Cowpasture Road and Hoxton Park Road to four lanes, and planning for the upgrade of Camden Valley Way to four lanes between Cowpasture Road and Narellan Road. Complete F3 Widening from Mt Colah to Cowan by 2009.

- Continue to deliver the upgrade of the Pacific Highway over the five years to 2014, following the commitment of $3.6 billion from the Australian and NSW governments.

- Complete the 67km Southern Hume duplication work within budget by December 2009 and commence construction of the bypasses of Tarcutta, Holbrook and Woomargama.

- Progress the Great Western Highway upgrade in the Blue Mountains.

- Plan and deliver accelerated upgrades on the Central Coast.

- Progress the development of Princes Highway upgrades.

- Continue to implement urban design corridor strategies to ensure a whole of government approach to land use and transport planning.

Alternative transport

- Deliver the balance of the four-year $100 million bus priority program.

- Continue broad scale deployment of the Public Transport Information and Priority System across the strategic bus corridors network.

- Continue the rollout of the bus priority enforcement systems.

- Develop a network of facilities to make cycling and walking more attractive.

- Publish and promote the proposed NSW BikePlan.

- Provide improved priority to pedestrians where high volume pedestrians traffic.

- 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.

- Ensure that multi-modal transport operations are improved as a result of major road projects, transport and integration.

Traffic management

- Continue implementing the Pinch Point program in Sydney.

- Implement traffic efficiency improvements in Penrith.

- Continue to enhance incident management and traveller information services in NSW.

- Continue to enhance the operational capability of the Sydney Coordinated Adaptive Traffic System.

- Begin the roll out of enhanced directional signposting featuring alpha-numeric road marking and improved road name signage.
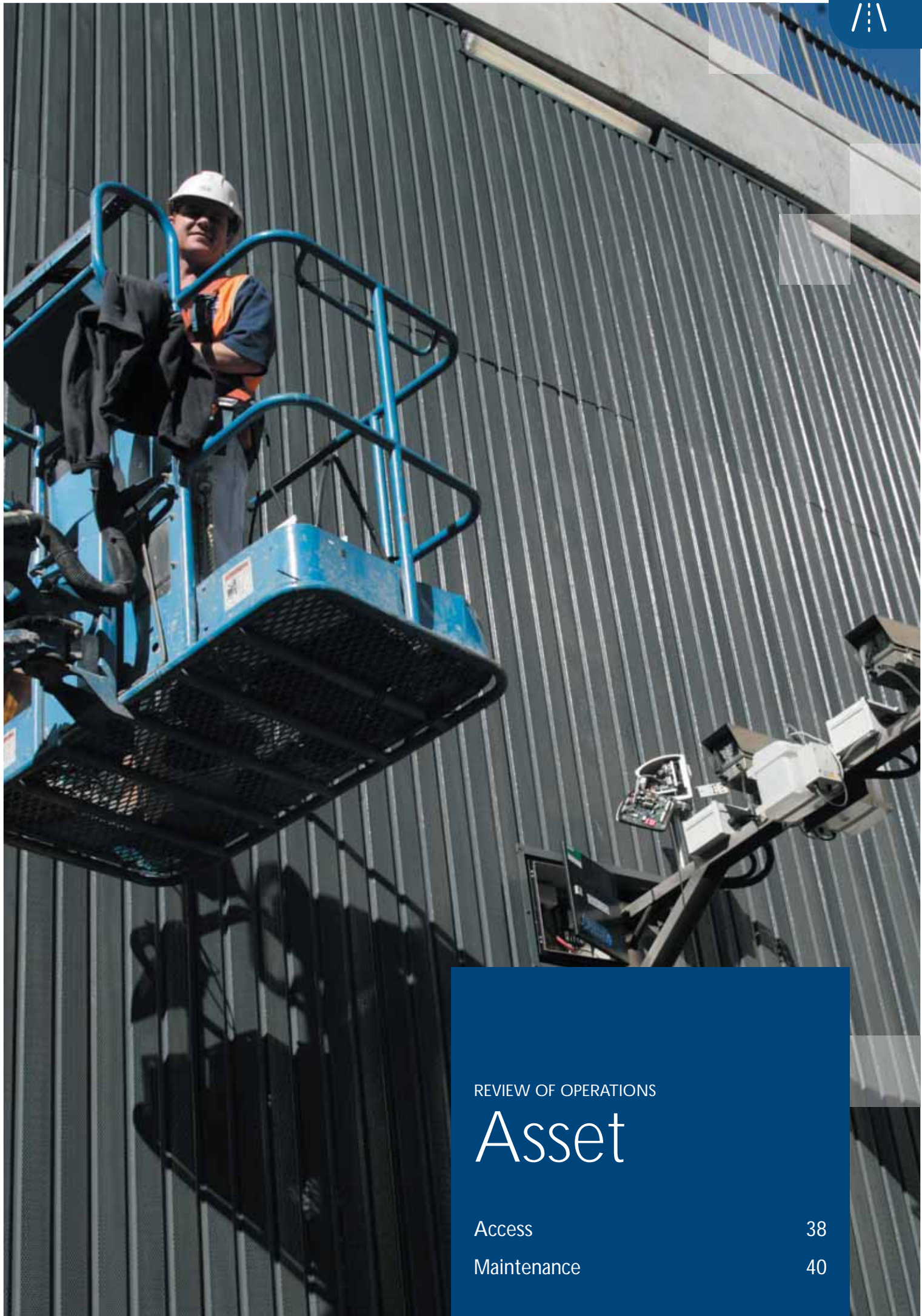
Asset

Asset

The RTA works to maintain the road network and provide sustainable access for freight

The road asset

The RTA manages about 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 task for the RTA is to maintain this enormous network at acceptable standards, in light of an increasing population and the rise in the 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 RTA's work 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.

Section cover image: Putting the finishing touches on the Cross City Tunnel, July 2005. Photo taken by RTA Photographer Geoff Ward.

Access

Intelligent Access Program (IAP)

The Intelligent Access Program (IAP) 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.

Praised internationally as a leading intelligent transport system, the IAP 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. The RTA used the IAP to monitor the expansion of the Higher Mass Limits (HML) network (for details of HML, see page 39).

IAP for HML was phased in from 1 July 2006 when the RTA offered transport operators the opportunity to pre-enrol for HML/IAP as a transitional arrangement. The program became operational in April 2008, when the first IAP service provider was certified.

From 1 July 2009, all higher productivity vehicles operating in NSW must be enrolled in the IAP. The RTA has been working closely with transport operators that intend to operate at HML to ensure they are fully enrolled in the IAP.

At 30 June 2009, there were 249 vehicles fully enrolled in the IAP. In addition, 699 vehicles had been issued with Interim IACs (Intelligent Access Conditions). Applications for a further 40 vehicles were being processed. An interim IAC is a condition set provided to a transport operator as part of the full IAP enrolment process. The transport operator needs this from the RTA before they can engage and finalise installation of the IAP device in their vehicle by a certified IAP Service Provider. The final IAC is issued with the access permit once full enrolment is confirmed.

Trucks leaving Mount White checking station.

Trials of incremental pricing

Incremental Pricing (IP) is intended as a first step towards the reform in the method of financing the road network. IP aims to recover the cost of additional road wear attributed to heavier loads than current statutory limits through a direct charge to operators. At the moment, road costs for heavy vehicles are recovered through fuel tax, registration, licensing and permit charges.

IP has the potential to improve heavy vehicle productivity ahead of a more fundamental reform to heavy vehicle charges endorsed by Council of Australian Governments (COAG) and involving the implementation of a broad-based 'Mass, Distance, Location' (MDL) charging regime.

In 2008-09 NSW worked with transport operators and stakeholders to examine the feasibility of conducting trials of IP to inform the reform process. However, work in NSW and nationally to establish IP trials uncovered practical implementation issues, many of which are still to be resolved.

At its June 2009 meeting, the Australian Transport Council (ATC) considered that, given the identified impediments to the timely implementation of IP trials in the short term, the lessons should be incorporated into national work now underway on the MDL framework. The current timeline for MDL is for a feasibility study to be completed by December 2011 with implementation by December 2014. Given the issues with IP, the ATC decided that individual jurisdictions could determine if they wished to continue with IP trials or reassign resources to developing MDL.

NSW will consider the available options for IP with regard to the potential implications for productivity and the recovery of associated road costs.

Austroads Freight Program

Austroads programs are managed on a bi-annual rotational basis between Australian states and territories and New Zealand. Between 1 July 2007 and 30 June 2009, NSW assumed responsibility for management of the Austroads Freight Program.

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:

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

The freight program is supported by a task force, which includes senior staff from both freight and heavy vehicle policy and operational areas of Austroad's member organisations. The task force's 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 2008-09 through the Austroads Freight Program included:

* An 'Industry Stakeholder Assessment' undertaken to study the volume and patterns of engagement of business and industry engaged in or with a significant interest in the growing freight task.
* A report into technology opportunities for compliance and enforcement.
* A report into local government and the future freight task.

Victoria officially takes over the freight program from 1 July 2009.

Higher productivity vehicles

Higher Mass Limits

Higher Mass Limits (HML) is a road freight productivity initiative under which, subject to satisfying certain conditions, eligible vehicles are allowed to carry loads to mass limits higher than otherwise allowed. Vehicles loading to HML are able to transport payload increases of between 10 and 13 per cent, providing a significant productivity benefit to road transport operators. HML has the potential to reduce the total number of individual truck trips, reduce the cost of transporting goods and produce, and improve road safety and environmental outcomes. This initiative satisfies the NSW Government's obligations under the AusLink funding agreement with the Australian Government.

Heavy vehicle combinations loading to HML are only permitted to travel on approved roads within the HML zone (these roads are judged as capable of accommodating the size of the loads). By June 2009, approximately 12,982km of the State road network within the NSW HML access zone and more than 2800km of Regional and local roads, which connect to the State road network, were approved for HML. To obtain HML access in NSW, registered operators must be enrolled under the Intelligent Access Program and obtain a permit to operate at HML on approved routes.

Quad Axle Pilot scheme

Following the COAG's agreement on the general use of quad axle groups to improve industry productivity, the RTA introduced a three-year pilot scheme for semi-trailers with quad axle groups. The pilot aims to assess the engineering and economic issues associated with the operation of quad axle groups at higher load limits than currently allowed within articulated freight vehicle configurations.

Since it began in 2007, the pilot has improved productivity and road safety by reducing the number of truck trips on NSW roads. Quad axle groups provide a payload increase of up to 28 per cent for a semi-trailer, with significant commercial benefits for operators (eg it allows the movement of fully laden shipping containers).

In addition to the quad-axle semi trailer pilot scheme, in 2008 the RTA introduced a three-year pilot of the quad-axle super B-doubles for operation in the immediate vicinity of Port Botany. Vehicles operating under this pilot scheme are approved under the Performance Based Standards Scheme and are able to carry two 40-foot containers, utilising a quad axle group. Previously, vehicles could only carry one such container.

At June 2009, six permits had been issued to super B-Double vehicles and nine permits to quad axle semi-trailers to operate under the pilot scheme. In 2008-09 a quad-axle semi-trailer vehicle operating under an Export Productivity Scheme in Dubbo was commissioned to work between a meat processing facility and a rail intermodal terminal.

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. The 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.

At 30 June 2009 the number of vehicles registered to operate in NSW under the PBS framework reached 17, and a total of 25 permits had been issued. The road network in NSW is continually being assessed for its capability to carry and therefore be classified for use by various PBS vehicles.

Maintenance

Road management

The 184,761km NSW road network is a significant public asset, providing access across the State for commuters, travellers, business and freight.

The road system can be divided into four categories:

- 17,981km of RTA-managed State roads including 4269km of National Network, for which the Australian Government provides a funding contribution, and 163km of privately funded toll roads.
- 2946km of RTA-managed Regional and local roads in the unincorporated area of NSW.
- 18,490km of council-managed Regional roads, which receive significant State grant funds administered by the RTA.
- 145,344km 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.

Aerial view of Warringah and Gore Hill freeways.

The RTA is also responsible for maintaining and operating:

- 5094 structures including bridges, major culverts and 22 tunnels.
- 3751 traffic signal sites.
- 4100 street lights.
- 400 traffic intelligent transport systems.
- Five automated tidal flow systems.
- 53,000km of longitudinal line markings and other pavement markings.
- Two million reflective raised pavement markers.
- 70,000 signs with major structures and 200,000 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. This requires strong risk management, practical planning and robust analysis of the future usage and performance of the road network.

A major challenge for the RTA is the sustainable rebuilding of assets to ensure they continue to be serviceable. As part of this, a key challenge is to use 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 described in Appendix 21.

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 and the RTA initiated 12 projects to address the recommendations. The RTA has effectively completed five of the recommendations and is well advanced in regard to a number of other improvements including:

- Establishment of an improved set of performance indicators.

- Development of a more rigorous and reliable method to assess the future condition of bridges.

- Development of a pavement condition model to predict structural performance of its road and assets. Network-wide strength testing has begun and will continue into next financial year, with continuing model refinement and calibration leading to the development of a final methodology.

- Improving consistency in regional maintenance decision-making, including a tool to provide RTA regions with a consistent form of access to road condition information.

One of the recommendations was to report on the progress of rebuilding efforts – this information has been included in this report in Figure 13. The Auditor-General's report can be found on the Audit Office of NSW website (www.audit.nsw.gov.au).

The RTA has continued to develop pavement models which, together with increased pavement testing, will allow the RTA to implement a better pavement management system. This system will provide advice on predictive funding and the shape of the future works program.

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. These projects will also ensure consistent strategies are used across the State and help the RTA to set appropriate condition targets and strategies for achieving the targets.

FIGURE 6. DISTRIBUTION OF CONSTRUCTION PERIOD FOR ALL STATE ROADS (INCLUDING NATIONAL NETWORK) AS AT 30 JUNE 2009
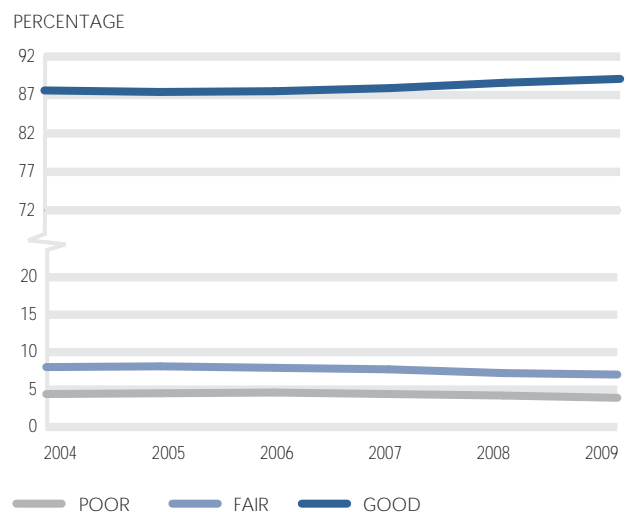
PERCENTAGE OF NETWORK
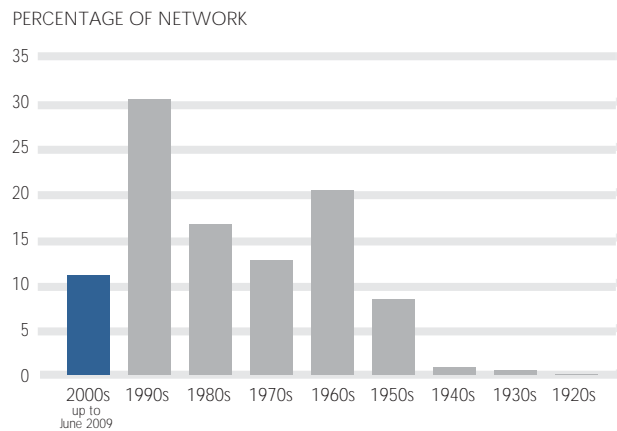
Infrastructure condition

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

- **Ride quality:** using vehicle-mounted laser technology, ride quality is measured by the longitudinal profile of the road surface. This surface profile is then converted, through a computer modelling process, to the undulations that a standard vehicle would experience. Resulting road roughness measurements for each road section are then rated as 'poor', 'fair' or 'good'.

- **Pavement durability:** this is a measure of the amount of surface cracking on the road. 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 that can seriously reduce the strength and durability of the road. Cracking is measured at highway speed by automated technology using the RTA's road-crack vehicle.
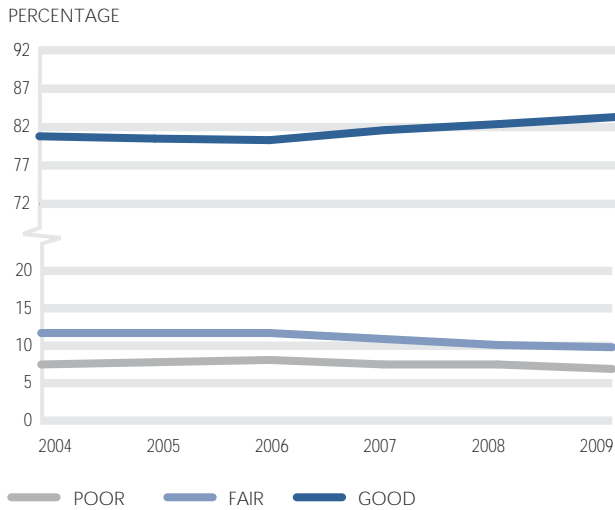
FIGURE 7. RIDE QUALITY ON STATE ROADS

PERCENTAGE

The percentage of road surface roughness rated as good on State roads and the National Network continues to improve, with major routes such as the Hume, Pacific, Newell, Great Western and Mitchell highways all indicating improved performance. In particular, the improvement of the Pacific Highway reflects the significant level of investment in that route over recent years.

FIGURE 8. RIDE QUALITY ON SYDNEY STATE ROADS

PERCENTAGE

The 2006 NSW Auditor-General's report, *Condition of State Roads,* highlighted the ride quality on Sydney's roads as being below that of other capital cities and country roads. Over the past three years additional pavement works in the Sydney area have resulted in an improvement in the condition of roads. This focus will continue in future years and further improvements are expected.

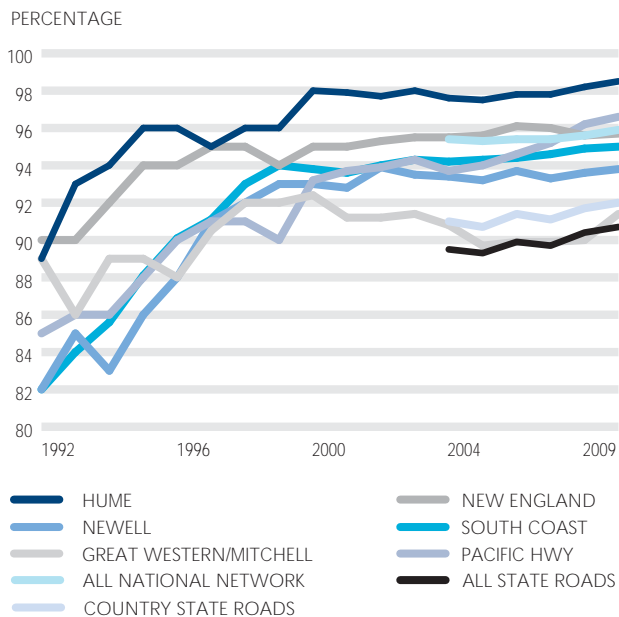**FIGURE 9.** ROAD SURFACE ROUGHNESS % GOOD ON SELECTED STATE ROADS

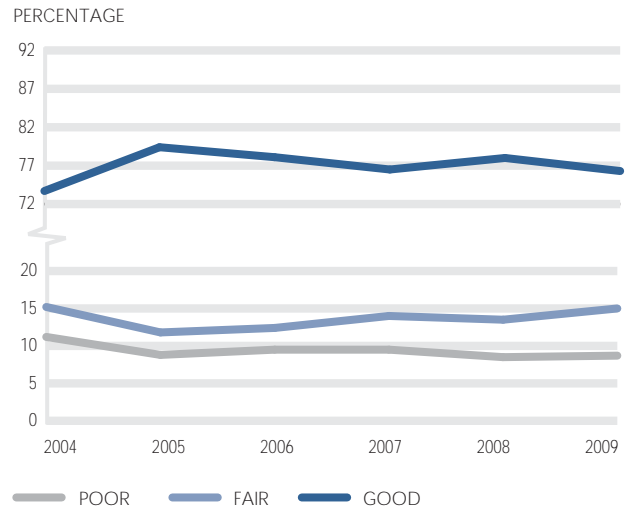PERCENTAGE

FIGURE 10. PAVEMENT DURABILITY – ALL STATE ROADS

PERCENTAGE

FIGURE 11. PAVEMENT DURABILITY – URBAN STATE ROADS
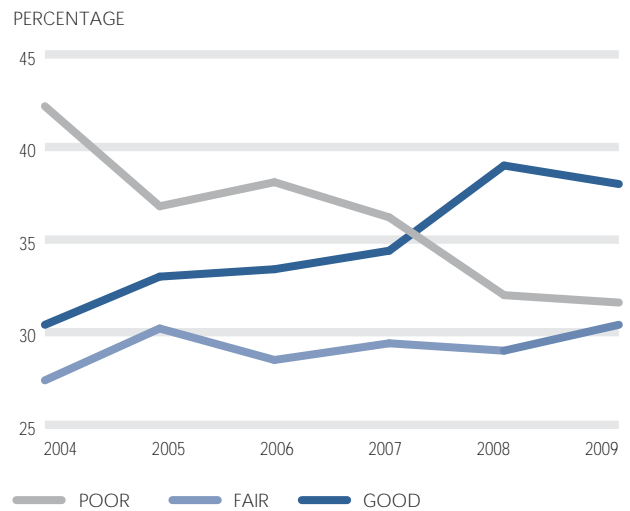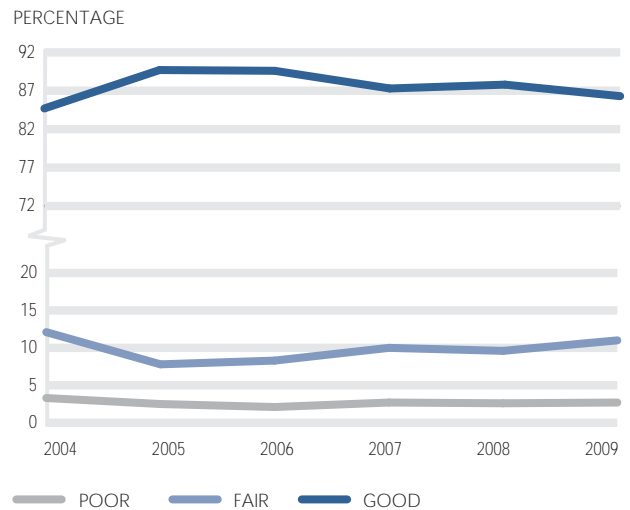
PERCENTAGE

FIGURE 12. PAVEMENT DURABILITY – RURAL STATE ROADS

PERCENTAGE

Pavement durability on the rural road network has been relatively stable over the past five years, and shows significantly less poor-rated pavement than urban roads. The RTA has previously given priority to the weaker and more water sensitive rural granular pavements ahead of the urban asphalt roads made from manufactured materials. These urban roads are more resilient to prolonged rainfall than natural gravel roads. Urban roads are also typically lower speed, and therefore represent less of a road safety risk than rural high-speed roads. Following the recommendations of the Auditor-General, additional attention is being given to the urban network without diminishing the maintenance effort on the rural network.

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

FIGURE 13. REBUILDING OF ROAD PAVEMENTS

ANNUAL PERCENTAGE

MAINTENANCE   NEW PROJECTS
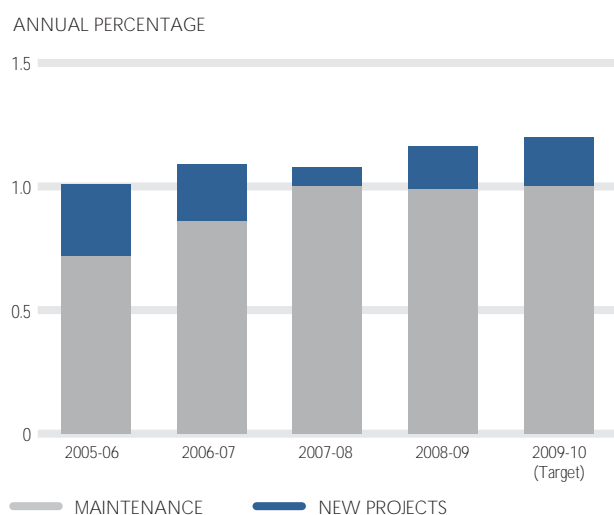
The method of calculating the maintenance and new works contribution has changed.

1. Maintenance now includes the contribution to the pavement rebuilding from lane/shoulder-widening works.

2. The new method discounts the contribution from new works based on the remaining life of the pavement being replaced.

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. Increased funding has been applied to pavement rehabilitation and reconstruction activities under maintenance since 2007-08.

Maintenance program

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 State roads. Roads are 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 2008-09 included delivery of the $1.089 billion Infrastructure Maintenance Program which represented an increase of $103 million compared to 2007-08. Significant program outcomes included:

*   Construction of 10 replacement bridges.

*   1.66 million m^2 of asphalt surface replaced (3.9 per cent of the asphalt network).

*   12.7 million m^2 of bitumen surface resealed (10.1 per cent of the sealed network).

*   1.83 million m^2 of road pavement rebuilt and/or widened (0.99 per cent of the total network).

Endeavour Bridge after concrete repair work, cathodic protection of reinforcements and application of anti-carbonation coatings work.

Traffic Facilities Maintenance Program

The RTA delivered a $106.2 million Traffic Facilities Maintenance Program, separate from the Infrastructure Maintenance Program. Significant program outcomes included:

- Upgrade of aging traffic assets valued at $2.5 million.
- Repainting of 16,794km of longitudinal line marking in rural areas using water-borne paint.
- Maintenance of 3751 sets of 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 2008–09, this expenditure was $76.1 million.

Major works recently completed under the Asset Renewal Program include:

- Widening of the Gwydir Highway near Pallamallawa.
- Reconstruction of Great Western Highway west of Lithgow.
- Reconstruction of Mitchell Highway west of Nevertire.
- Reconstruction of Mid Western Highway at Patersons Flat.
- Reconstruction of Hume Highway between Hoxton Park Road and Elizabeth Drive, Liverpool.
- Reconstruction of Main Road 84 near Balgalal Creek.
- Reconstruction of Newell Highway, Forbes.
- Reconstruction of Riverina Highway 41-50km west of Finley.
- Replacement Bridge at Grubbenbum Creek on the Mid Western Highway.

FIGURE 14. NUMBER OF BRIDGES ON STATE ROADS AND NATIONAL ROADS WITH CONSTRAINTS ON USERS

NUMBER OF BRIDGES

NATIONAL NETWORK   STATE ROADS   TOTAL
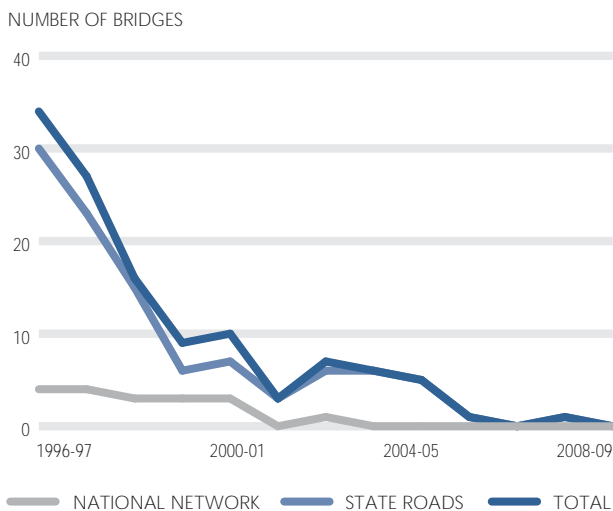
These constraints may include:

- Bridges with load or speed limits.
- Bridges closed or washed away.
- Bridges with a temporary support system in place.

Slope stability

In 2008-09 the RTA continued to use a risk management approach to deal with road slopes. More than 30 slopes were remediated or repaired, and major work was completed at Mulligans Bluff on the Gwydir Highway where the highway has been closed to one lane for many years.

Other highlights included:

- Major stability work requiring a full seven-week closure of Bulli Pass on the Princes Highway Bulli.
- Works at Kariong on the Central Coast Highway.
- Work on Putty Road.
- Planning of new slips on Lawrence Hargrave Drive.
- Start of works on Berkley Cuttings on F6 at Berkley.
- Investigative drilling to upgrade groundwater wells on Mt Ousley.

Reducing the risk of rock falls: Stabilising a section of the slope using shotcrete.

Culverts

During the year, the RTA further improved management processes for culverts. A guideline for consistent collection of culvert inventory and condition was released in October 2008. Thirty accreditation training courses were run, 498 inspectors were trained and a State-wide inventory collection process began. At 30 June 2009, 15,244 culverts had been inspected out of an estimated 33,000 culverts across the RTA road network.

A guideline for culvert risk assessment was also published in October 2008. An accredited training program for detailed risk assessment will begin after the completion of a trial to validate the risk assessment procedures. A culvert management framework policy is being completed.

Funding assistance to local councils

The RTA offers full or partial funding to councils under a range of programs, 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 now been extended by 12 months to June 2010.

Under the program, 177 of the 285 Regional road timber bridges have been approved for funding. At 30 June 2009, 56 bridges had been upgraded under the partnership.

Regional Road Block Grant and REPAIR Programs

In addition to the Timber Bridge Partnership, significant funding assistance for Regional roads includes the Regional Roads Block Grant and Repair and Improvement of Roads (REPAIR) programs.

Under the Block Grant Program the RTA provides every council with an entitlement grant to help in the management of council Regional roads, according to council priorities. In addition, councils may apply for additional assistance for project grants on a 50:50 basis for major rehabilitation and development works on Regional roads. In 2008-09 the RTA provided Block Grants of $124.6 million and REPAIR Program Grants of $25.5 million.

Other funding assistance

The RTA also provides significant funding assistance to councils across a range of other smaller but important programs. In 2008-09 the RTA provided more than $62 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 blackspots on council roads and provide for pedestrian amenity and safety facilities, contributions towards the maintenance of public bus routes and provision of bicycle paths.

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 councils to repair their roads and bridges.

In 2008–09, the RTA managed $47.2 million of NSW Government funds to repair damage from declared storms, flooding and bushfires, of which $39.9 million was provided to councils to repair Regional and local roads. There was significant expenditure to restore damage that occurred in previous years, as well as to respond to events that occurred during 2008-09. Major areas of expenditure during the year resulted from the following declared natural disasters:

* December 2007 Central West flood – $10.8 million.
* June 2007 Hunter Central Coast storm and flood – $15.1 million.
* January 2008 Far North Coast flood – $13 million.
* November 2008 Tamworth and North West storms and flood – $2.5 million.
* February, March and May 2009 North Coast floods – $3.6 million.

North coast floods: Ulmarra Ferry grounded in the Clarence River.

NSW Road Classification Review

Following a State-wide review of road classifications, the Minister for Roads announced in May 2009 that there would be an increase in funding to councils to support the reclassification of more than 1100 km of roads affecting 75 councils. 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. The review was undertaken by an independent panel of three members who were asked to consult with councils and identify any roads which should be reclassified because of alterations in road function due to changes in land use, economic activity patterns, population distribution and construction of new roads.

Such periodic review and updating of road classifications helps to ensure that funds and resources are targeted to roads of most importance to the State's economic and social development.

Improved information for local government

The management of the road network is shared between the NSW Government (through the RTA) for State roads and local councils for Regional and local roads. Details of the working arrangements are set out in a manual – 'RTA arrangements with councils for road management' – known as the 'Yellow Book'. The manual was published in 1993 and outlines the administrative, financial and legal frameworks relating to a range of programs, such as Regional Road Block Grants and natural disasters.

In 2008-09 the RTA replaced the 1993 manual with a more comprehensive web version. The new 'Local Government Relations' link on the RTA internet is a one-stop-shop for local government officers and RTA staff to access updated information previously covered in the 1993 manual. In addition, there is a wide range of useful information on topics such as heavy vehicles, road maintenance council contracts, road safety as well as technical documents which serve as a base for the working arrangements between local government and the RTA.

Future challenges

Heavy vehicle access

- Support the COAG's reforms to enhance the efficiency, productivity and sustainability of road and rail freight infrastructure through the reform of heavy vehicle road user charges, and contribute to the national debate on user access.
- Continue to promote the use of innovative, higher productivity vehicles to improve freight movement.
- Continue to implement the IAP to facilitate better use of the network to match the right truck to the right road.

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

To meet these challenges the RTA will:

- 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.

- 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.
- 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.
- Increase the level of asphalt resurfacing and pavement rebuilding.
- Continue to review the RTA's 10-year Strategic Asset Maintenance Plan.
- Revise and implement consistent service and technical standards.
- Enhance the planning of maintenance through the development of a comprehensive pavement management system (to begin in 2009-10).
- Enhance the project delivery of maintenance and minor work through the alliance model with internal providers and road maintenance contracts with local councils.
- Maintain and improve the performance of the road network within available funding.
- Seek opportunities for increased efficiencies in maintenance delivery.
- Continue to influence project development to construct infrastructures or systems that are robust and reliable to achieve long-term operation and maintenance.

REVIEW OF OPERATIONS

Safety

Safety

The RTA works to maximise the safety of the road environment, vehicles and road user behaviour

The RTA and road safety

NSW has again broken records with further reductions in the road toll.

The calendar year 2008 was the sixth year in a row that the road toll has decreased in NSW – the first time this has happened since records began 100 years ago. This record has been achieved despite there being 15 times as many vehicles, 11 times as many licensed drivers and double the population on our roads since 1944 – the last time so few fatalities were recorded on NSW roads.

However, the road toll has been increasing significantly in 2009. During the first six months of 2009, provisional data indicated that there were 232 fatalities on NSW roads, an increase of 66 (or 40 per cent) compared to the same period in 2008.

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 roads and roadside environments that are forgiving of driver 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 being completed for 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 year, as a further sign of the prioritisation of road safety, the NSW Centre for Road Safety began reporting directly to the RTA Chief Executive.

This chapter summarises the measures the RTA has taken in the past year to improve the safety of roads, vehicles and users. It also provides data about road fatalities in the past year, trends in road fatalities and the key factors behind the figures.

Section cover image: RTA staff member, Devaraj Muniswamy, at the Huntingwood Crashlab, September 2007. Photographer Geordie McRae.

Fatalities

There were 374 fatalities on NSW roads in 2008 – a 14 per cent reduction from 2007 when 435 people died on our roads. This result is the lowest annual NSW road toll since 1944, when the population was less than half that of 2008.

The NSW fatality rate per 100,000 population in 2008 was 5.4, the lowest figure since records began in 1908. This also compares favourably with the rate for the whole of Australia, which was 6.7 fatalities per 100,000 population in 2008. International comparisons show NSW ahead of other Organisation for Economic Co-operation and Development countries such as France (7.5 fatalities per 100,000 population), Italy (8.7), New Zealand (9.4) and the United States (13.6), but still behind the leaders the Netherlands (4.3), the United Kingdom (5.0) and Sweden (5.2).

The NSW State Plan states:

" we will reduce road fatalities to **0.7** per 100 million vehicle kilometres travelled by 2016**"**.

Based on Australian Bureau of Statistics travel data for 2008, the fatality rate per 100 million vehicle kilometres in NSW in 2008 was **0.57**.

Factors in crashes

Analysis of crashes for the calendar year ending 31 December 2008 revealed that:

- Speeding was a factor in around 41 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 18 per cent of people killed in motor vehicles were not wearing available restraints.

- Driver fatigue contributed to about 16 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 15. TRENDS FOR FATALITIES
NSW v REST OF AUSTRALIA 2002-2008

NO. FATALITIES NSW   NO. FATALITIES REST OF AUSTRALIA

NSW
(33% decrease since 2002)

REST OF AUSTRALIA
(7% decrease since 2002)
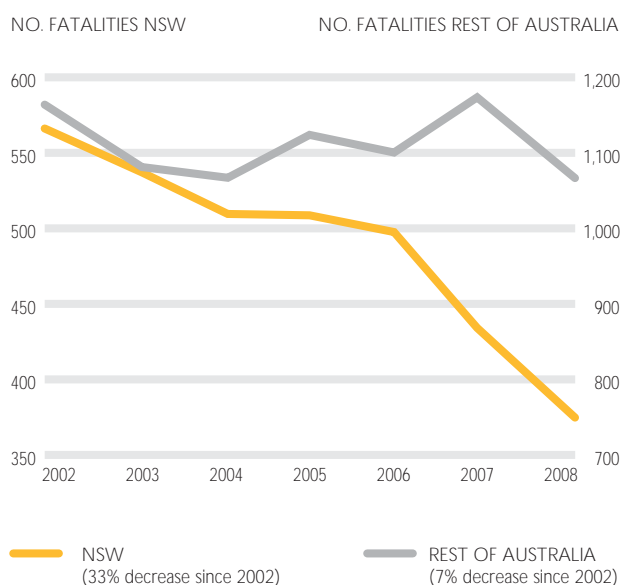
NSW Centre for Road Safety

The NSW Centre for Road Safety became fully operational on 1 January 2008, and a stand-alone Directorate reporting to the Chief Executive in December 2008. It 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 projects and policy to continue to improve road safety.

The centre consists of four specialist areas – safer vehicles, safer people, safer roads and road safety technology. These 'four pillars' of road safety each represents a key component of the RTA Safe System Partnership 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 and, especially, severity of crashes.

- Regulating or encouraging the development and adoption of high quality active and passive safety systems in vehicles.

- Speed management, in view of the risks in any part of the system.

- 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.

The RTA policy, *Mainstreaming road safety across the RTA*, acknowledges the RTA's Safe System Partnership 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. 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 are a clear example of the application of the safe systems approach. Reviews of the Pacific and Princes highways identified minor safety works and enforcement measures which have greatly reduced fatalities on these highways. The safety review of the Newell Highway was recently released and the RTA will deliver $30 million of safety works and initiatives over the next three years.

The centre continued to implement recommendations from the RTA Road Safety Challenge, including:

- Developing road safety key performance indicators across all areas of the organisation.

- Refining road safety impact statement methodology.

- Undertaking region-wide crash analysis studies.

- Providing road safety learning and education packages.

The centre developed a package of safety initiatives in 2008-09 to support State Plan, Priority 7, to make our roads safer. The package of initiatives approved for implementation includes:

- 200 digital red-light cameras, replacing outdated technology with added speed capability.

- Point-to-point speed camera enforcement for heavy vehicles for the first time in NSW.

- A Graduated Licensing Scheme for motorcyclists.

- A new speeding penalty regime.

Safer roads

Road condition

The RTA is implementing the 'safe systems partnership' 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 be designed to minimise the consequences when a road user makes an error.

Speed zoning guidelines

The RTA published the *NSW speed zoning guidelines* (2009) outlining the principles and procedures to be applied in determining appropriate speed limits on NSW roads. The guidelines, to be used in conjunction with relevant Australian Standards and Austroads documents, provide guidance for traffic practitioners in reviewing and installing speed limits to achieve an appropriate balance between safety and mobility on public roads.

The new guidelines ensure that speed zoning is more sensitive to the conditions and crash history of the road. The NSW Centre for Road Safety is monitoring implementation of the guidelines and will ensure both regular and responsive speed limit reviews across all NSW roads.

Speed limits

Speed limits have been reviewed on numerous roads across NSW with adjustments made to better reflect road safety and driving conditions. Examples include the Mitchell Highway (Bathurst to Orange); Captain Cook Drive, Kurnell; Kosciusko Road (East Jindabyne); Pacific Highway (Macksville to Urunga); New England Highway (Rutherford to Lochinvar); Ocean Drive (Port Macquarie to Kew); Illawarra Highway (Golden Vale Road to Camaroo Lane); Moss Vale Road (Kangaloon Road, Bowral to Burradoo Road, Burradoo); Princes Highway (King Horne Street to Warra Road, Bomaderry); Picton Road (Mt Ousley Road to Hume Highway); Botany Road (Botany to Alexandria) and Hawkesbury Road, Fairfield.

Speed Zone Management System

A Speed Zone Management System has been developed to record and map the locations of all speed limit signs and zones in NSW. The system provides an asset register, helps facilitate speed reviews and is enabling a trial of an in-car speed zone warning system (Intelligent Speed Adaptation). The data from the Speed Zone Management System is also used for travel times for the Safe-T-Cam system which targets speeding heavy vehicles. Speed zones for State roads are mapped into the database and, to date, 30 per cent of all NSW roads have been mapped.

Road safety and Aboriginal communities

The RTA is leading the assessment of road safety issues affecting about 65 Aboriginal communities. The assessments are being undertaken in close consultation with local councils. The assessments focus on roads within communities as well as the roads connecting Aboriginal communities with the nearest townships. The assessments began in April 2009 and, by 30 June, 23 communities had been assessed.

These assessments are being undertaken as part of the delivery of the State Plan Priority S7 – Safer Roads, and to assist the Department of Aboriginal Affairs (DAA) in its delivery of State Plan Priority F1 – Improved health and education for Aboriginal people. The RTA is planning to submit the final report on the assessments to the DAA in late 2009.

Left to right: Scott Single, Aboriginal community elder, Barry Gunther, RTA, Soames Job, RTA and Richard Swan, Aboriginal community elder, at a recent Aboriginal infrastructure road safety assessment in Stanley Village, Moree.

Pedestrian areas

In 2008-09, 40km/h zones were installed or upgraded in eight pedestrian areas and a further two sites were under construction. The program includes the installation of traffic calming measures, 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.

Specialist safety advice

The NSW Centre for Road Safety regularly provides road safety engineering advice on a range of projects through informal and formal meetings such as the Major Projects Review Committee (which reviews all major road infrastructure projects). The RTA ensures that each major project, from planning through to delivery, addresses road safety engineering principles. This is supported by a number of key management tools which have clear road safety objectives and outcomes, such as Road Safety Audits, Road Safety Impact Statements, Development Program Guidelines, Project OHS Development Plans, and ProjectPack.

Road Safety Impact Statement/ Safety BCR Calculation Model

The Road Safety Impact Statement / Safety BCR Calculation Model project involved developing and implementing analytical tools to sensitively quantify the safety outcomes of new engineering works. This project facilitated an improved methodology that focused on the impact of trauma rather than just on crashes.

Crashcam

The RTA's Crashcam program continued with two new sites. Sites are distributed across the State in high crash frequency locations where traditional crash investigation and analysis has not had a significant impact. Crashcam provides invaluable footage of crashes, 'near miss' incidents and driver behaviour to help determine the causes of crashes and identify appropriate remedial treatments.

In 2008-09, two new Crashcam sites were installed. The first, commissioned in August 2008, was at the intersection of the M4 and The Northern Rd, South Penrith. The second site, commissioned in May 2009, is at the intersections of the Pacific Highway and Harrington Rd/Coopernook Rd, Coopernook.

Safety upgrade programs

Crash related treatments

A total of $24.7 million in State funds was spent in 2008-09 on treatments to 158 high crash risk 'black spots'. Work by the RTA included intersection improvements, road realignments, clear zone enhancements and safety barrier installation. The Australian Government's Nation Building Black Spot Program (formerly known as the Auslink Black Spot Program), administered by the RTA, implemented a further 118 crash reduction projects with total federal funding of more than $15 million.

Newell Highway

A review of road safety was conducted on the Newell Highway. Similar to highly successful reviews conducted on the Pacific and Princes highways, the review team comprised corporate and regional road safety staff, police and community representatives. As a result of the review, $30 million will be spent over a three-year period, with work expected to start by the middle of 2009-10. The package will include new line-marking and signposting to provide motorists with better guidance, the upgrade of a number of minor intersections and new signs warning drivers of upcoming intersections.

Picton Road

The $12 million program of safety works on Picton Road includes upgrading sections of the road to reduce the risk of vehicles losing control in the wet, improving line marking and medians to better separate opposing traffic and reduce the potential for head-on crashes, and new enforcement bays to provide police with more opportunities to catch dangerous drivers. A total of $750,000 was spent in 2008-09 with the overall program to be finished by mid 2011.

Minister for Transport David Campbell, Minister for Roads Michael Daley, Wollondilly MP Phillip Costa. Minister for Roads Michael Daley announces a $12 million program of safety improvements for Picton Rd, February 2009.

Railway level crossing upgrades

In 2008-09, six major railway level crossing upgrades were undertaken as part of the Railway Level Crossing Safety Upgrade Program. These major improvements included converting sites from passive to active traffic control by using lights, bells, boom gates or illuminated signs to warn motorists that a train is approaching a level crossing.

Safer road users

New drivers

Young driver initiatives

In 2006 there were 80 P plate drivers involved in fatal crashes in NSW. This figure fell to 68 in 2007 and then decreased further to 65 in 2008-09.

Young drivers aged 17 to 25 years represented 13 per cent of all licensed drivers. In 2006 they were involved in 30 per cent of all fatal crashes, while in 2008-09 they were involved in 27 per cent of all fatal crashes.

Preliminary crash data shows a 29 per cent decline in fatalities from crashes involving speeding P1 drivers in 2008-09 compared to 2006.

In 2008 the RTA continued to introduce further reforms to improve the safety of new drivers. Learner and provisional licence holders now face immediate roadside suspension and confiscation of a licence for speeding more than 30km/h over the limit. Learner drivers face immediate suspension and license confiscation if they drive without a supervisor holding an unrestricted licence.

The RTA expanded its school education program with the release of a new driver education resource for senior high schools – 'Limiting Risks Protecting Lives'.

> The RTA continued to promote young driver safety through a range of education programs with schools and TAFE, as well as through its sponsorship of the Speed Blitz Blues, Rotary Youth Driver Awareness presentations and the Youthsafe Injury Prevention Program.

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.

Motor Cycle Graduated Licensing Scheme (GLS)

A new two-stage provisional licence scheme for motorcyle riders began on 1 June 2009. The scheme requires motorcycle riders to hold a Provisional P1 licence for a minimum of 12 months and a Provisional P2 licence for a minimum of 24 months before upgrading to an unrestricted Class R (rider) licence.

The scheme gives riders time to gain confidence and experience on the road. Restrictions for P1 drivers include a zero blood alcohol limit, a maximum speed restriction of 90km/h and a loss of licence for incurring four or more demerit points. For P2 drivers it also means a zero blood alcohol limit, a maximum 100km/h speed limit and a licence suspension for their second speeding offence.

Demerit points scheme for learner drivers

The Road Transport (Driver Licensing) Amendment (Demerit Points System) Act 2008 was passed by Parliament in October 2008. The legislation provides for a demerit points scheme for learner licence holders and is scheduled to be introduced in the second half of 2009. The scheme will include an extension of the zero-tolerance approach to speeding.

Child road safety

In 2008-09, the RTA continued to implement the NSW Government plan to improve child road safety. The plan, announced in 2006, included flashing school zone speed alert signs, fixed speed cameras in school zones, a drop-off and pick-up initiative and increased fines and demerit points for offences in school zones.

The installation of the third group of 11 new school cameras in February 2009 completed the NSW Government's commitment for 50 school zone cameras, announced in May 2006 as part of the Safety Around Schools Initiative. This brings the number of cameras in school zones to 65 operating in 44 school zone locations. In general, the numbers of vehicles detected speeding during school zone times is at the lower end of the expected range, which is a very positive compliance outcome.

In May 2009, the Minister for Roads announced a $14 million program to install 'dragon's teeth' pavement marking at the entrance of school zones to make them more visible to motorists. The new markings will be installed at more than 10,000 school zones in 2009-10 and 2010-11.

In September 2007 the Minister for Roads announced that an additional 400 flashing lights units would be installed over four years. The 40 km/hour flashing lights assist to lower traffic speed in school zones and improve speed compliance. In 2008-09, 151 school zones were equipped with flashing lights. To date, 316 school zones have had flashing lights installed.

Launch of the 'dragons teeth' initiative to further improve road safety around schools. Left to right: Ron Delezio; Local MP Kristina Keneally; Minister for Roads Michael Daley; and Director Centre for Road Safety Soames Job at Eastlakes Public School.

School zone speed cameras

The installation of the third group of 11 new school cameras in February 2009 completed the NSW Government's commitment for 50 school zone cameras, announced in May 2006 as part of the Safety Around Schools Initiative. This brings the number of cameras in school zones to 65 operating in 44 school zone locations.

Road safety education in schools

The NSW Centre for Road Safety's School Road Safety Education Program consists of the Early Childhood Road Safety Education Program and the School Road Safety Education Program.

The Early Childhood Road Safety Program, funded by the RTA, delivers road safety education and information to those who work with and support children under five years and their families.

The School Road Safety Education Program (Kindergarten to year 12) supports the delivery of road safety education through mandatory components of the school curriculum in government, Catholic and Independent schools. The RTA funds road safety educational support to schools, professional development activities, and policy advice to assist teachers to deliver road safety education.

Early childhood education

In 2008-09 more than 3200 early childhood services across NSW were registered with the RTA-funded Early Childhood Road Safety Education Program at Macquarie University. Each service received a free copy of the *Kids and Traffic Gazette* and *Road Safety Songs and Rhymes for Young Children* music CD. The program offered nine different professional development workshops in early childhood road safety education to staff, management and families in children's services across NSW.

Primary education

In Term 3, 2008, a new Kindergarten Orientation Day resource was distributed to all NSW primary schools. This resource assists schools to provide parents and carers with the best road safety information and advice before their child begins school. The project is supported by a road safety pack of brochures, stickers and a fridge magnet giving the main road safety messages for students beginning primary school.

During 2008-09, additional road safety education resources were developed and produced. These included the 2009 road safety education catalogue from which schools can order RTA road safety education resources; the 2009 'Road safety issues around schools and advice and take home notes for schools' which communicates safety around schools advice to parents, carers and the school community; a double CD of road safety stories and songs for students; a new helmet-fitting poster and updated brochure, *The law and safety advice for bicycles, foot scooters, skateboards and rollerblades.*

These resources and sample copies of basic brochures on safe school travel were also included in the RTA's annual Bike Week mail-out to all NSW primary schools.

High school education

In March 2009, the Centre for Road Safety produced and distributed a new educational resource, via a professional development course for high school teachers across NSW. The resource, 'Limiting risks, protecting lives – Choices for novice drivers and their passengers', was developed provide road safety education for students in years 10 and 11 through their student welfare programs. The resource provides activities to challenge students' attitudes about driving. It aims to promote deeper thinking and better decision-making about road safety for drivers and passengers.

Older drivers

The NSW population as a whole is expected to age over the next 30 years, 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 among pedestrian fatalities and drivers involved in fatal crashes.

A number of reforms to the licensing system for older drivers were announced in April 2008. The following reforms were progressively introduced:

- Redesigning the over 85 driving test, making it more practical, with testing every two years beginning on 1 July 2008.
- An annual medical check-up from the age of 75 to aid the early identification of issues such as deteriorating eyesight and dementia (implemented 1 December 2008).
- Introduction of a voluntary driver assessment scheme through accredited driver training organisations like the NRMA and the Australian Driver Trainers Association (implemented 1 December 2008).
- Maintaining modified licence options for drivers aged over 85 (implemented 1 December 2008).

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 1500 interlock licences have been issued and 834 participants have successfully completed the program to date. In 2008-09, 355 interlock licences were issued.

Two key publications were published in 2008-09, providing information for participants and criminal law specialists.

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 37,605 roadside drug tests of 8245 heavy vehicle drivers and 29,360 light vehicle drivers. Of these, 825 drivers, or one in 46, tested positive to one or more of the illicit drugs.

Sober driver program

The NSW Sober Driver Program (SDP) 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, which combines educational and remedial approaches and activities, is delivered in two formats – a standard nine week format and a condensed three week format. Participation is by referral from a magistrate or a probation and parole officer. The program is funded by the RTA, and delivered by the Probation and Parole Service of the Department of Corrective Services. A total of 6706 participants have enrolled in the program to date.

A previous independent evaluation of the Sober Driver Program showed that repeat drink drive offenders who completed the Sober Driver Program are half as likely to have re-offended compared to those offenders who have not completed the program.

In 2008-09, there was a 10 per cent increase in delivery of the program, contributing to the goals of the NSW State Plan. This increase was seen across the State and enabled more participants who meet the SDP criteria to access the program. In 2008-09, 850 people completed the course which was delivered 85 times in 44 location across the State.

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.

Drink driving

Drink driving continues to be a major problem. The *Paranoia* campaign highlights the risk of being caught by mobile RBT's. The key message – 'You won't know where. You won't know when' – challenges the driver to think twice before drinking and driving due to the unpredictability of mobile policing.

The campaign uses television, radio and press messages. The television advert uses an emotive 'hook' to capture the target audience, while press and other elements of the campaign provide rational information about the police presence on the roads.

The recent evaluation of the campaign showed that exposure to the 'Paranoia' ad was high with 83 per cent of all respondents having seen or heard Paranoia advertising, peaking at 85 per cent for regional and rural males. Importantly the evaluation found that higher exposure to the campaign was associated with increased perceived risk of being breathalysed.

Double demerit points

Double demerit points are enforced during high-risk periods, such as holiday long weekends. A new double demerit points campaign was launched in April 2009. The TV advertisement highlights the fact that a speeding or seatbelt offence could result in the driver losing their licence. It uses visual and sound effects to highlight the message that during the double demerit points period you could 'blow your licence'. This campaign is conducted during every holiday double demerit period.

'Speeding. No one thinks big of you.'

The 'Speeding. No one thinks big of you campaign' continued to be a key advertising campaign aimed at young drivers throughout 2008-09.

Independently conducted campaign research showed the campaign maintained a 97 per cent awareness among young male drivers and recorded a 92 per cent awareness among the wider community in its second year. It continued to encourage 70 per cent of male drivers to obey the speed limit. This result illustrates the campaign's contribution to making speeding socially unacceptable amongst the target audience.

The campaign received top prize in the State and National AMI awards for social marketing and was short-listed for 2009 Australian Effie Awards.

Motorcycle safety

The motorcycle cornering campaign continued throughout 2008-09. The campaign uses highly appealing motorcycle riding images to prompt riders to think about the technical issues associated with riding corners safely. Media elements were print, outdoor and convenience advertising.

Plan your corners.

SET UP ▶ START WIDE ▶ FINISH TIGHT

Driver fatigue

National reforms to reduce the risk of fatigue crashes in heavy vehicle industry were introduced in September 2008. These world-first reforms focus on the causes of driver fatigue, rather than just regulating hours, and have implications for everybody in the chain of responsibility in the industry.

An information campaign for heavy vehicle owner drivers and the supporting workforce in this industry was launched in September using direct mail, print, outdoor and radio advertising.

The Driver Reviver Program continues to encourage drivers to take a rest break, particularly on longer trips over holiday weekends. The RTA supports the Driver Reviver Program with 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.

Driver fatigue advertising is mainly targeted at holiday periods where there is high traffic volume and when people are known to drive long distances or outside normal driving hours.

School safety

At the start of each school term, the RTA used live-read radio spots to remind drivers about the operating times of 40km/h school zones. VMS also remind motorists of school zone times.

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.

RTA SpeedBlitz Blues sponsorship

For the seventh year, the RTA was the major sponsor of the NSW men's cricket team, the RTA SpeedBlitz Blues. The sponsorship is one component of the RTA's marketing campaign to change attitudes of 17-25-year-olds to speeding by making it socially unacceptable.

On-ground road safety events at domestic cricket matches and a major prize of a match with the RTA SpeedBlitz Blues team were used to promote the anti-speeding message.

A number of RTA SpeedBlitz Blues players travelled with the 'RTA SpeedBlitz Blues On the Road' school roadshows, visiting more than 25 secondary schools across NSW and reaching around 2000 students in 2008-09.

Left to right: RTA staff Nicole Douglas and Rachel Nelson volunteering at the SpeedBlitz Blues cricket expo.

Local Government Road Safety Program

The Local Government Road Safety Program is a partnership between the RTA, NSW councils, and the Motor Accidents Authority. The RTA and councils fund the positions of road safety officers employed across NSW councils to develop and implement educational and behavioural road safety projects within their local communities.

Council road safety officers continue to work in consultation with local police, health and community groups, council rangers, liquor accords and local businesses to develop and deliver local projects including:

- Alternative transport schemes servicing licensed venues and special events.
- Local pedestrian campaigns.
- Speed reduction measures on local roads.
- Road safety issues around local schools.
- Child restraint fitting days.
- Driver fatigue.
- 'Helping Learner Drivers Become Safer Drivers' workshops for parents and supervisors of learner drivers.

In 2008, the Centre for Road Safety contracted the Australian Road Research Board to carry out a strategy review of this program. The RTA is considering the review's recommendations and is strongly committed to maintaining an effective partnership with local councils to deliver community road safety projects.

Regulation and enforcement

Enhanced Enforcement Program

The Enhanced Enforcement Program 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 during holiday periods. The RTA contributed $9.4 million in 2008-09 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. Such operations are supported with communication campaigns both State-wide and locally.

Heavy vehicle initiatives

Fatigue reform

The Heavy Vehicle Driver Fatigue Reform was implemented in NSW, Queensland, South Australia and Victoria in September 2008. NSW was the only State to implement the Heavy Vehicle Speeding Compliance Regulation at the same time as the fatigue legislation. The fatigue reform applies to trucks and truck and trailer combinations with gross vehicle mass (GVM) of over 12 tonnes and buses and coaches that seat over 12 adults, including the driver. The speed compliance legislation applies to heavy vehicles with a GVM of more than 4.5 tonnes.

The key element of the reform includes a general duty in road transport law, consistent with Occupational Health and Safety laws, to manage fatigue. This changes the focus from regulating hours to managing fatigue. It includes 'chain of responsibility' provisions which extend to parties in the supply chain, namely drivers, operators, employers, loaders, unloaders, schedulers, consignors, consignees and prime contractors. There is a duty on all of these parties to take reasonable steps to ensure a driver does not speed or drive while impaired by fatigue.

There are three fatigue management schemes in the fatigue legislation: Standard Hours, Basic Fatigue Management and Advanced Fatigue Management. These provide alternative work and rest requirements with varying levels of flexibility, in return for controls to manage fatigue, and compliance responsibilities on operators and drivers.

Following extensive consultation with industry stakeholders on the implementation of these laws in NSW, a range of modifications to the new laws were announced by the Minister for Roads. These include work diary exemptions for local area journeys, flexibility for livestock carriers if they encounter unexpected delays and a blanket exemption for the emergency services.

The RTA is continuing to work with industry groups and fatigue experts to consider other practical improvements to the new laws for specific industry sectors including primary producers, waste collectors, concrete suppliers and passenger bus operators.

At the request of NSW, the National Transport Commission has agreed to undertake a national review of the Basic Fatigue Management work and rest hours option, which will consider enabling fortnightly work schedules and greater flexibility in rest break requirements.

A comprehensive communication plan to increase awareness and knowledge of the new heavy vehicle driver fatigue laws was delivered to the trucking industry and included a direct mail pack with a letter, brochure, three fact sheets, information bulletins, a poster and a DVD; 90 fatigue reform public information sessions attended by over 4400 people; pages on the RTA and National Transport Commission websites; and attendance at industry events and meetings.

Basic/advanced fatigue management

The basic and advanced fatigue management schemes were introduced in September 2008 as part of the new heavy vehicle driver fatigue law. Basic Fatigue Management (BFM) and Advanced Fatigue Management (AFM) allow the driver, operator and/or owner greater flexibility for managing fatigue levels and scheduling. Accreditation encourages operators to take more responsibility for management of the fatigue of their drivers, while encouraging drivers to be more active in monitoring their own fatigue levels. Operators are required to have their fatigue management systems periodically audited to ensure compliance with the BFM or AFM systems.

To make it easier to join the schemes, operators can apply online. At 30 June 2009, 196 operators were accredited in the BFM scheme with 3313 drivers covered by these accreditations.

Transition arrangements are in place for operators/owners and drivers who were enrolled in the previous accreditation scheme. These transitional arrangements enable drivers to access the BFM hours until the end of September 2009. There is also an exemption in place to allow operators who were enrolled in the previous accreditation scheme to employ new drivers to drive BFM hours. This exemption also expires at the end of September. It is anticipated that there will be an increase in applications for accreditation leading up to this date.

Heavy Vehicle Checking Stations

The RTA's seven 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.

Any heavy vehicle with a Gross Vehicle Mass greater than eight tonnes (4.5 tonnes for Chinderah) is required to enter a HVCS. Vehicles that fail to enter can be followed up for action by the RTA.

The RTA has equipped its busiest HVCS with automated screening lanes, Weigh-in-Motion, Safe-T-Cam and Truckscan technology to perform compliance checks for gross mass, group axle mass, vehicle height, speed, tailgating, registration status, defect status, valid vehicle configuration for road type, Safe-T-Cam checks for driver fatigue, and non-compliance history checks.

Heavy Vehicle Inspection speed enforcement (Safe-T-cam)

The RTA has 27 Safe-T-Cam sites at 24 locations, strategically located on major freight routes across NSW. Combined with 11 Safe-T-Cam sites operated by the South Australian Department of Transport, Energy and Infrastructure, the Safe-T-Cam network continues to target heavy vehicles which have travelled at excessive average speed, travelled beyond prescribed driving hours, attempted to avoid detection by Safe-T-Cam, failed to enter a HVCS or that are unregistered. This resulted in 382,623 potential incidents being identified between July 2008 and June 2009. These are forwarded to the RTA for verification and further investigation when required.

A software upgrade is being rolled out at Safe-T-Cam sites to enhance the system.

Heavy Vehicle Checking Station at Mount White, Southbound.

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 the 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.

Combating speed

Speeding vehicles are a major contributor to death and injury on NSW roads. Almost 40 per cent of fatal crashes and 16 per cent of injury crashes in NSW are the result of speeding.

The *Road Transport Legislation Amendment (Traffic Offence Detection) Act 2009* was assented to on 26 June 2009 to allow for point-to-point camera enforcement for heavy vehicles and the installation of red light cameras (some with speed capability). These important new road safety technologies are being introduced in support of the State Plan, Priority S7, to make NSW roads safer.

Red light cameras

In December 2008 responsibility for the Red Light Camera Program was handed to the RTA from the NSW Police Force.

Red-light cameras address the extremely dangerous behaviour of vehicles running red lights. Research indicates that red light cameras reduce casualty crashes by 25-30 per cent. The RTA is replacing outdated wet film red-light cameras with digital red-light cameras at 200 intersections. They will be placed in locations with a history of a high crash rate.

The new digital red-light cameras will have the ability to conduct speed enforcement. Twenty-nine locations will be capable of combined red-light and speed enforcement and, at any one time, nine of these locations will be actively enforcing both red-light running and speeding. This includes four locations with permanent red-light and speed enforcement and five locations chosen from the 25 other locations on a rotational basis.

As part of the rollout of these new cameras, the RTA is working with five camera suppliers to test the new technology at five locations. The testing aims to improve the speed of infringement delivery and ease of transmission and storage of images. Work on the integration of the system with the existing camera enforcement network is ongoing.

The selection of the first 50 digital red-light camera locations is being finalised.

Point-to-point camera enforcement for heavy vehicles

In April 2009, the Minister for Roads announced that point-to-point cameras would be installed in 2009-10 and 2010-11 to enforce heavy vehicle speeding over 20 lengths of road with a history of heavy vehicle crashes. Point-to-point technology works by detecting a vehicle at the start and end of a length of road and calculating the average speed. The lengths of road proposed for point-to-point enforcement will be on 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. Heavy vehicles make up only 2.6 per cent of vehicle registrations and 7.4 per cent of kilometres travelled by NSW vehicles, but they are involved in almost 20 per cent of NSW road fatalities.

Left to right: Minister for Roads Michael Daley, RTA Chief Executive Michael Bushby, and Director Centre for Road Safety Soames Job announcing that point-to-point cameras would be installed to enforce heavy vehicle speeding.

Speed cameras

At 30 June 2009, 172 fixed speed cameras were operating at 141 locations in NSW. Sixty-seven of the cameras were operating in country NSW and 105 in metropolitan areas.

Attitudes to speeding

The Centre for Road Safety is researching community attitudes to speeding. This research will inform the development of further behavioural projects including public education campaigns to address speeding.

Illegal street racing legislation

A range of initiatives were introduced to curb illegal street racing, including roadside suspension of driver licences, wheel clamping and registration suspension for owners of vehicles. Increased penalties for street racing and burn-out offences were also introduced.

Changes to speed break points and demerit points for speeding

Low-level speed offences were redefined in 10km/h break points, with the lowest band attracting one demerit point only. The break points are those intervals of speeds identified for penalty above the posted speed limits – for example, driving 60km/h in a 40km/h zone would have two break points.

The zero tolerance to speed currently applying to provisional P1 licence holders still applies under the new penalty regime. Speeding penalties for P2 drivers have been strengthened and they will now lose their licence on their second speeding offence. The increases in fines and demerit points for higher level offences, starting from 1 July 2009, are designed to reduce speed-related deaths and injuries on NSW roads.

Safer vehicles

Intelligent Speed Adaptation

The RTA is conducting a trial of Intelligent Speed Adaptation (ISA) technology with ISA devices being installed in about 100 cars in the Illawarra (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.

The RTA has used GPS satellites to locate more than 4000 speed signs in the demonstration area and map almost 950 speed zones. More than 1.2 million speed compliance data records have been collected from GPS data recorders fitted to vehicles as part of the trial.

The trial evaluates the potential road safety benefits of ISA systems in NSW and assesses the acceptability of ISA systems to NSW drivers. Results of the trial will be released at an International ISA Conference to be hosted by the NSW Centre for Road Safety in November 2009.

The RTA-branded 'ISA car' is fitted with the device and used to demonstrate how the technology works.

Power assisted pedal cycles

The NSW Centre for Road Safety has led research and discussion at the national level to develop a robust definition for power assisted pedal cycles that could be used as the basis of an Australian Design Rule. The definition is needed to ensure a clear distinction between genuine power assisted pedal cycles – where the primary source of power comes from the rider pedalling and the motor is used to provide additional power to assist the rider when necessary, for example when travelling uphill or against the wind – and other electric cycles, which are in fact a form of moped or motorcycle. This definition will also support a revision of the relevant Australian Road Rules, to ensure power assisted pedal cycles used on or near roads are safe and the rules for their construction and operation can be enforced by the relevant authorities.

Snow chains and snow driving

Following extensive research and public consultation, improvements to snow and alpine driving safety have been achieved through the release of a Vehicle Safety Information Sheet on snow chains and snow driving. This information will be supported with targeted local road safety advertising.

National Code of Practice for Light Vehicle Construction and Modification

The RTA has participated extensively in a review of the National Code of Practice for Light Vehicle Construction and Modification. The code will establish nationally uniform procedures and standards for construction or modifications of light vehicles.

Coronial recommendations

Fatal crashes are often investigated by the NSW Coroner to determine their causes and decide on recommendations to reduce the incidence of such crashes. In 2008-09, Coronial recommendations considered and acted upon by the NSW Centre for Road Safety included the positioning of safety warning triangles for disabled heavy vehicles if stopped on roads with higher speed limits, security of spare wheels and tyres when carried on heavy vehicles, and safety of vehicles with raised suspension.

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 2008-09 survey was completed in June 2009 and detailed results will be available for analysis in the second half of 2009.

Australasian New Car Assessment Program

> The RTA is a major sponsor of the Australasian New Car Assessment Program (ANCAP), which has been crash testing and reporting on popular new model passenger car safety 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 risk of cheaper, poor safety rated imports remains significant.

Of particular note this year is the success of Australian manufactured cars that were tested, with both the Ford Falcon (FG Series) and Holden Commodore (VE Series) achieving the maximum five-star safety rating.

ANCAP result brochures are distributed through motor registries and NRMA branches. There is also a link to the ANCAP website on the RTA website.

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 2008-09, UCSR data covered vehicles manufactured between 1982 and 2007 that were involved in more than three million crashes between 1987 and 2007 (based on reports to police in Australia and New Zealand).

The *Used Car Safety Ratings Buyer's Guide 2009* covers the majority of popular vehicles available in the Australian marketplace. It has safety ratings for 239 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

The RTA is a principal sponsor of the Child Restraint Evaluation Program (CREP), which evaluates child restraints to determine the comparative protection provided to their occupants and their ease of use.

The results are presented in a brochure, *Safer child restraints: Your guide to buying a child restraint*, that also provides advice about safe use of child restraints. The brochure is distributed at RTA motor registries and through the branches of co-sponsors, the NRMA and RACV. It is also available on the RTA website.

This is an ongoing program that annually assesses new models of child restraints and the brochure is updated accordingly. In 2008-09, an additional 13 child restraints were evaluated and the 2009 brochure, which included 34 child restraint models in 51configurations, was launched in April 2009.

ANCAP crash tests of the Holden Cruze in April 2009 achieved a five star result.

Helmet Evaluation Program

The Helmet Evaluation Program is a new RTA research and reporting program designed to assess the relative safety performance of motorcycle helmets available in Australia. The information will help motorcyclists to purchase the safest motorcycle helmet. The assessment protocol compares helmets in impacts beyond the requirements of the Australian Standard and determines how well they will protect the wearer's head in a range of crash scenarios. It also assesses important rider comfort factors.

Pedal and motorcycle helmet performance study

The RTA is co-funding an Australian Research Council Linkage Grant project, along with the Victorian Transport Accident Commission, NRMA, Dv Experts, Melbourne University and the Australian Transport Safety Bureau. The research program, by the University of NSW School of Risk and Safety Sciences, 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 lab testing and numerical simulation. It is also 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. This is a three-year study program that is in its second year.

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 and recommendations will be published in the September 2009 issue of the Accident Analysis and Prevention Journal and presented at the RTA-hosted Road Safety Education and Policing Summit in November 2009.

Appropriateness and effectiveness of child restraints

This study project was funded by an Australian Research Council Linkage Grant and was undertaken by the Prince of Wales Medical Research Institute and the University of NSW Injury Risk Management Centre. The research was co-funded by the Centre for Road Safety and the Motor Accidents Authority.

> The program sought to define child restraint usage patterns across the population, identify patterns of restraint misuse, the limitations of current restraint designs in terms of biomechanical and anatomical factors, and determine the injury and cost implications of these findings.

The research was completed in 2008-09 and final reports and recommendations were provided to the RTA and presented at a number of important Australian and international road safety conferences.

The key finding of this study showed that there is a clear need to encourage appropriate restraint use for child occupants over the age of two years. Approaches may include the planned legislative changes to require child restraint use up to four years of age and booster seats up to seven years of age. These need to be supplemented with education and other programs to maximise adherence with these requirements. The study also strongly recommends the need for education campaigns to reduce the misuse of child restraints.

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: appropriateness of test methods

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 initial study was performed late in 2008-09 and results of the assessment will be available in the second half of 2009.

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 the rear seat occupant has been left behind. The Centre for Road Safety has funded a research program to be undertaken by the Prince of Wales Medical Research Institute. The institute 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. The study will investigate the injury mechanisms and develop a range of engineering and behavioural counter measures. In 2008-09 the project was scoped and all necessary arrangements (including medical ethical approvals, staff training and creation of necessary databases and information exchange protocols) were put in place. The research began in earnest in June 2009 and will run for three years.

Crashlab

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 on-going improvement in equipment and vehicle safety standards.

During 2008-09, Crashlab conducted 49 vehicle crash tests and 450 dynamic sled tests on child restraints, seat belts, bus seats, aircraft seats, wheelchair restraints and miscellaneous devices. More than 30,000 impact tests were conducted on bicycle and motorcycle helmets. In addition, more than 200 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 activities included the development of a 'cork screw' vehicle roll-over capability for the study of occupant restraint effectiveness and causes of injury in this type of crash. A series of vehicle crash tests were also conducted to identify and document the consequences of incorrect child restraint usage, which still remains a common problem. The results and graphic footage will be available for use in future safety campaigns. Crash test dummies and Crashlab's diverse expertise also helped the Australian Army to develop enhanced occupant protection against landmines for military vehicles.

A vehicle undergoing the 'cork-screw' vehicle roll-over test, developed by the Crashlab for the 'Rollover Crashworthiness Symposium' in October 2008.

Future challenges

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

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.

Other challenges will be to:

- Set speed limits that appropriately reflect and manage risk, using the new speed zoning guidelines.
- Facilitate and undertake collaborative research, analysis and investigation of road safety engineering strategies targeted at promoting best practice and road safety engineering.
- Exchange of 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.
- Complete the road infrastructure assessments of Aboriginal communities.
- Develop new partnerships with agencies such as the Department of Planning, Energy Australia and Integral Energy to address road safety concerns with infrastructure such as power poles.
- Deliver key safety works on the Newell Highway and undertake a safety review of the Great Western Highway.
- Continue and improve the rollout of 'blackspot' work.

Safer road users

- Continue to meet the challenge of making speeding a socially unacceptable behaviour.
- Review public education campaigns to ensure their ongoing relevance and effectiveness.
- 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 red light and speed cameras.
- Develop the new Local Government Road Safety Program for 2010 and beyond.
- Amend the Australian Road Rules to enhance road safety where required.
- Monitor and evaluate the rollout of reforms to the licensing system for older drivers.
- Continue the focus on heavy vehicle driver fatigue and refresh fatigue campaigns for light vehicles.
- Safely manage the increasing freight activity which will lead to an increase in heavy vehicle movements and is likely to lead to increases in the number and size of heavy vehicles.
- 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 to improve the visibility of school zones.

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.

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 presents a real road safety challenge.

REVIEW OF OPERATIONS
Environment

Environment

The RTA is working to minimise impacts on the natural, cultural and built environments

The RTA and the environment

This chapter outlines the RTA's measures to protect the environment. It is divided into three main sections. The infrastructure section contains information about environmental initiatives related to RTA road work and bridge building, including how the organisation protects threatened species and biodiversity. The organisational section focuses on the RTA's internal environmental measures, from reducing water use in office buildings to improving the efficiency of its light vehicle fleet. The final section, emissions, discusses the important work the RTA does to reduce emissions from vehicles.

Section cover image: The Pied Oystercatcher is a State threatened species. This chick successfully hatched and fledged on site during the building of the Brunswick River Bridges on the Brunswick Heads to Yelgun project. Parents and chick were carefully monitored and protected by site engineers and construction team. Photo taken by RTA staff member Peter Borrelli.

Infrastructure

Infrastructure planning and road works

Environmental assessment

In all of its activities, the RTA works to minimise the impact on the natural, cultural and built environments. The RTA also has statutory responsibilities to assess the environmental impact of its activities as part of the planning process. The *Environmental Planning and Assessment Act, 1979* (EP&A Act) provides the framework for these assessments, during which the RTA identifies measures to avoid, minimise, mitigate, manage, monitor and, if necessary, offset the environmental impact of its activities.

During 2008–09 the Minister for Planning approved four RTA projects under Part 3A of the EP&A Act, as follows:

- Banora Point upgrade (Pacific Highway).
- Kempsey to Eungai upgrade (Pacific Highway).
- Sapphire to Woolgoolga upgrade (Pacific Highway).
- Inner West Busway (Sydney).

In addition, the Minister for Planning approved seven modifications to RTA projects that had been previously assessed and approved under Part 3A of the EP&A Act. The Part 3A modifications were:

- Ballina Bypass modifications (Pacific Highway).
- Moorlands to Heron Creek (Pacific Highway).
- Albury-Wodonga national highway modification (Hume Highway).
- Hume Highway duplication modification.
- Bangor Bypass Stage 2 modification.
- Main Road 92 upgrade modification.

Environmental assessments were exhibited for public comment during 2008-09 for the following projects:

- Failford Road to Tritton Road (Pacific Highway).
- Central Coast Highway upgrade – Carlton Road, Erina to Matcham Road, Erina Heights.
- Central Coast Highway upgrade – Matcham Road to Ocean View Drive, Erina Heights.
- Marx Hill (Waterfall Way).
- Cameron's Corner (Waterfall Way).
- Shark Creek stage three (Pacific Highway).

During the year the RTA also completed 247 Reviews of Environmental Factors (REFs). These assessments examine potential environment impacts of projects under Part 5 of the EP&A Act. REFs are prepared in accordance with the *RTA Environmental Impact Assessment Policy, Guidelines and Procedures.*

The RTA referred one project 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, Water, Heritage and the Arts.

The referred project – Central Coast Highway upgrade, Matcham Road to Ocean View Drive, Erina Heights – was determined not to be a controlled action and did not require approval from the Minister.

More information on the environmental impact assessment of RTA projects, including the projects listed here, can be found on the RTA website.

Environmental performance

The RTA is required to hold Environment Protection Licences (EPLs) under the *Protection of the Environment Operations (POEO) Act 1997* for certain activities that trigger the licensing schedule in the Act. The RTA currently holds nine EPLs under the POEO Act. These EPLs were issued for various activities including road construction for the F3 and F5 widening projects and a gravel extraction quarry at Mewburn.

In 2008, amendments to the POEO Act resulted in variations to licensing requirements for waste management and the potential need to licence RTA stockpiles. The Department of Environment, Climate Change and Water (DECCW) issued the RTA with a temporary exemption to the licensing of stockpiles to allow a comprehensive stockpile audit to be undertaken. The audit will review the location and environmental management of RTA storage stockpiles across NSW.

In the past year, the RTA's Environment Branch continued a program of voluntary licence compliance audits as part of its environmental performance improvement program. The audits revealed one non-compliance, which was a significant decrease compared to previous years (to 21 September 2008, the EPL return date). This administrative issue involved a non-compliance of the community notification requirements of the EPL for out–of-hours works. The identified non-compliance has been rectified and the RTA will use the audit's results to improve compliance and procedures.

In 2008-09, a strategic focus was placed on the environmental performance of the RTA's major project contractors, with the RTA's Environment Branch starting to develop a contractor environmental performance database. This will assist in the RTA's contractor performance reporting processes.

During 2008-09, the RTA received one Penalty Notice from DECCW, for a breach of the *National Parks and Wildlife Act 1974*, which related to a vegetation clearing incident in Western Region in May 2007.

Noise management

Engine compression brake noise

The RTA continued to progress trials of an engine brake noise camera, in response to the Australian Transport Council's unanimous approval in 2007 of a proposal from the National Transport Commission to introduce an in-service standard for engine brake noise.

In 2007, the RTA erected a permanent engine brake noise camera site at Mt Ousley and trialled, at two sites, two noise cameras set at the new engine brake noise standard. These systems operate on a similar principle to speed cameras. Following camera detection, the RTA sends heavy vehicle operators a letter notifying them that they have exceeded the standard with information on how to reduce engine brake noise (such as ensuring the vehicle's exhaust system is in good condition or fitting a specially designed muffler).

Technology for the fixed engine brake noise camera, a prototype portable trailer and a hand-held system have now been developed. The RTA took possession of the new prototype trailer on 30 June 2009. The hand-held sound meters have been trailled since March 2009 to evaluate systems and develop procedures for operation. All these systems are to be used at locations experiencing high levels of engine compression brake noise.

RTA Noise Abatement Program

In 2008-09, the RTA treated 88 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 58 homes) with the remaining treatments in the Illawarra, Hunter and Northern areas of the State. The RTA spent $3.1 million on the Noise Abatement Program in 2008-09.

Internal noise limits for new dwellings

Construction of dwellings and other noise sensitive developments such as churches, hospitals and schools on land near roads carrying more than 40,000 vehicles on average each day triggers the need to consider noise mitigation measures under the State Environmental Planning Policy (Infrastructure) 2007. In addition dwellings must meet specific internal noise levels for bedrooms and other living areas. Maps showing the location of roads carrying more than 40,000 vehicles on average each day have been published on the RTA's website. The maps are available to help home builders identify when they must account for internal levels of traffic noise in the construction of a new dwelling.

In late 2008, the NSW Department of Planning gazetted a new guideline to assist in the planning, design and assessment of development in, or adjacent to, rail corridors and busy roads. The guideline supports provisions of the State Environmental Planning Policy (Infrastructure) 2007 dealing with incorporating noise mitigation measures in new dwellings around high volume roads and rail lines. The guideline is available on the DECCW website.

Land and water

RTA Contaminated Land Management Consultant Panel

In 2008-09 the RTA selected a new panel of contaminated land management consultants, following a public tender. The panel consultants provide services including preliminary and detailed site investigations, site management and remediation strategies, cost estimates, site validations and third party auditing services.

The tender was publicly advertised through the NSW Government's E-tendering system and an advertisement in the *Sydney Morning Herald*. Twenty-three proposals were received by the due date and all were assessed against selection criteria that evaluated their ability to provide high level technical services to the RTA across NSW.

The RTA appointed five companies to the panel:

- ENSR/AECOM.
- Parsons Brinkerhoff.
- GHD.
- JBS Environmental.
- Sinclair Knight Merz (SKM).

Water Sensitive Urban Design Guidelines

The RTA prepared draft RTA Guidelines for Water Sensitive Urban Design (WSUD). WSUD is an approach that considers water management as a key element in the planning and design of road infrastructure development.

The draft guideline includes an analysis of the WSUD techniques that are generally available to industry. The draft guideline identifies techniques which are applicable to RTA projects given the constraints which may apply to a range of road development situations. It seeks to:

- Promote effective WSUD principles for use in RTA projects.
- Minimise the use of pipes and other hard drainage elements by utilising landform, natural materials and vegetation in a project's stormwater design.
- Identify WSUD techniques that improve quality of stormwater runoff, control erosion, promote groundwater infiltration, re-use rainwater for irrigation and provide a more aesthetically integrated road design.
- Identify WSUD techniques that are cost effective over their working life including during construction and maintenance.

The draft guideline is expected to be approved as a final version in the coming financial year.

Environmental performance reviews

The RTA's Environment Branch conducted a series of environmental performance reviews on several major projects. The reviews included site inspections of projects and evaluation of the understanding of, and compliance with, environmental requirements, with a focus on erosion and sedimentation control performance. The reviews provide feedback and recommendations to the project teams. In the past year, the RTA reviewed the Ballina Bypass and Coopernook to Herons Creek projects on the Pacific Highway and the Northern and Southern Hume Highway Duplication alliances.

The outcomes of the reviews are reported to the RTA Executive Environment Committee. They inform the executive about performance issues and good examples of innovative techniques, and provide recommendations for improving site practices and policy directions. The RTA has used the reviews for the ongoing development of policy and guidelines.

Design of up-gradient stormwater diversion and temporary cross drainage

Environmental performance reviews of the RTA's major projects have identified up-gradient clean water diversion and the transfer of clean water across construction sites as a major issue that requires additional guidance. The separation of clean water from above a construction site reduces the volume and velocity of stormwater that may cause erosion on exposed areas. The effective management of this issue is essential to achieve the required performance on our construction sites.

The RTA has contracted a specialist engineer to inspect major works sites and interview site engineers, designers and environment staff. The engineer will provide guidelines and a series of model drawings which will be reviewed by relevant RTA Directorates before their approval and release in the 2009-10 financial year.

Protecting biodiversity

The RTA uses many mechanisms to protect biodiversity including route selection and design, Environmental Impact Assessment policies, guidelines and procedures and stringent environmental specifications. The RTA also conducts regular environmental audits and inspections of its construction sites. The RTA engages specialist ecologists to assist in its work and environmental awareness training is provided to RTA staff and council workers. An outline of the RTA's projects to protect and enhance biodiversity in 2008-09 are included in Table 7 on page 71.

An example of the RTA's commitment to biodiversity is the connectivity measures and threatened species monitoring being undertaken as part of the Hume Highway duplication. These measures assess the impact of construction on the population of threatened Squirrel Gliders, woodland birds and legless lizards. This project has also involved the construction of crossing structures for arboreal animals and the implementation of a biodiversity offset strategy.

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.

Green and Golden Bell Frog, Arncliffe

The RTA is continuing to manage the Green and Golden Bell Frog population in breeding ponds constructed as a compensatory habitat measure for the M5 East Motorway. Regular monitoring has occurred since the ponds' construction in 2000 to record changes to the frog population. The 2008 calendar year was a very good season for Green and Golden Bell frogs at Arncliffe, with breeding evident and populations increasing following a period of drought.

Purple Copper Butterfly, Lidsdale

The RTA continued to fund monitoring and habitat enhancement works for a population of threatened Purple Copper Butterfly at Lidsdale. The Purple Copper Butterfly is listed as a threatened species under State and Commonwealth legislation. The RTA worked closely with DECCW to translocate the butterfly larvae and upgrade habitat as part of the Castlereagh Highway (SH18) upgrade near Lithgow in 2005–06. Population monitoring in December 2008 confirmed that the butterfly population at Lidsdale is continuing to expand as a result of habitat enhancement. The RTA met representatives from Lithgow City Council, the NSW Department of Lands and the DECCW in April 2009 to discuss ongoing management of the site.

Purple Copper Butterfly, Lidsdale.

A scientific article on this project was published in *The Journal of Ecological Management and Restoration Vol.9 No.2* August 2008.

Glider crossings on the Hume Highway duplication

The Hume Highway duplication project between the Sturt Highway and Mullengandra in southern NSW is an example of the RTA's commitment to minimising impacts on biodiversity. One of the key issues identified during the environmental impact assessment process was the need for the project to maintain safe movement of threatened Squirrel Gliders.

Where possible the highway was designed to avoid areas of vegetation that could be used by Squirrel Gliders to glide across the highway. For those areas of vegetation that could not be avoided, the RTA sought to retain as much vegetation in the road corridor as possible and incorporated a range of innovative glider crossing structures. The RTA consulted with biodiversity specialists and DECCW to design and install glider poles and rope bridges that provide opportunities for Squirrel Gliders to safely cross the highway. In one 300m section, two sets of three glider poles and a rope bridge were installed.

While it is too early to assess the success of the poles, the RTA is monitoring the Squirrel Glider population with scientists from Melbourne University.

Squirrel Glider poles on the Hume Highway duplication.

Vegetation management at Beverly Grove

The RTA, as part of its commitment to reducing biodiversity impacts from the construction of the M5 East Motorway, has been managing a remnant patch of vegetation at Beverly Grove. The vegetation, near the motorway, contains the endangered ecological community of the Cooks River/ Castlereagh ironbark forest.

> The RTA has entered a new five-year contract with the National Trust to continue bush regeneration and maintenance to improve the condition of the ecological community and ensure its ongoing viability.

Duffys Forest endangered ecological community

The RTA has prepared a plan of management for two adjacent parcels of land in Frenchs Forest owned by the RTA. The land is about 3.25 hectares in area: about two thirds is vegetated by remnant bushland in excellent condition and the remaining third is cleared bushland covered in a range of environmental and noxious weeds. Most of the remnant bushland on the site is identified as Duffys Forest Ecological Community, an endangered ecological community listed under the *NSW Threatened Species Conservation Act 1995*. A two-year plan of management has been prepared and will be implemented by a bush regeneration contractor beginning early in 2009-10.

TABLE 7: BIODIVERSITY PROJECTS

Activity	Purpose	Progress in 2008-09
Developing measures to minimise road impacts on biodiversity	Management of wildlife on roads	The RTA has been part of a community working party to investigate measures to minimise road kill in Pittwater and Warringah Local Government Areas. The RTA is researching the issue of road kill and animal collisions at a State-wide level, involving collaborations with DECCW and wildlife rescue groups.
Contribution to the NSW Wildlife Council	Management of wildlife on roads	For the second year, the RTA provided $20,000 to the NSW Wildlife Council. The council coordinates wildlife carer groups and advises carers on wildlife management policy.
Trialling the effectiveness of odour repellents	Management of wildlife on roads	The RTA continued to fund a postgraduate university project on the use of odour repellents for reducing wildlife collisions. The study concluded in April 2009, with results identifying the need for further species specific trials. Expenditure in the 2008-09 financial year was $4990.
Hume Highway Threatened Species Monitoring Program	Minimise impacts on biodiversity	The RTA continued this program as part of the Hume Highway duplication. The monitoring includes Squirrel Gliders, threatened woodland birds, threatened reptiles and threatened fish.
Fund research into effects of road construction and operation on koala populations adjacent to the Pacific Highway at Bonville	Koala population research	The Pacific Highway upgrade at Bonville was opened to traffic in November 2008. In 2008-09, the RTA provided funding of $190,667 to the Australian Museum for studies on the effectiveness of mitigation structures such as underpasses and overpasses for koalas. Koalas have been recorded using the underpasses in 2009. The monitoring program will continue for another two years.
Threatened orchid translocation project at Bulahdelah	Minimise impacts to biodiversity	The RTA has worked with experts from the CSIRO to develop a management and translocation plan for threatened orchids potentially impacted by the Pacific Highway upgrade at Bulahdelah. The research for the project has successfully identified the fungi that are associated with some of the orchids, and some of the methods of pollination.
Research into effectiveness of measures to allow threatened fauna to move across roads	Minimise impacts on biodiversity	The RTA continued to participate in a joint research project with VicRoads and the University of Melbourne to determine the effectiveness of fauna crossing structures for roads. The RTA provided $50,000 for this project in 2007-08. Preliminary results are being used in design of crossing structures for RTA projects.

CONTRIBUTING TO ACHIEVING RTA BLUEPRINT

Roadside environment

The RTA continued to support the NSW Roadside Environment Committee (REC). The RTA funded the REC'S secretariat support and meeting costs in 2008-09. The REC was formed in 1994 to encourage better management of linear reserves and the roadside environment. It comprises 11 organisations:

- RTA
- Nature Conservation Council
- Country Energy
- Rural Fire Service
- Rail Corp
- Institute of Public Works Engineering Australia
- Local Government and Shires Association of NSW
- Livestock Health and Pest Authorities
- DECCW
- NSW Department of Lands
- Catchment Management Authorities (supporting member).

Achievements of the REC in 2008-09 included:

- The appointment of Molino Stewart Pty Ltd to provide the secretariat to the REC for three years.
- Publication of best practice information on management of linear reserve environments on the REC website.
- Liaison with local government procurement and the RTA to develop a procedure for local councils to purchase Significant Roadside Environment Area (SREA) signage.
- Support for local councils with guidelines and advice for the design of SREA signage.
- The start of negotiations with catchment management authorities to further support roadside environment initiatives including the implementation of roadside vegetation management plans by local councils.
- Provision of a report to the NSW Environmental Trust on the successful outcomes of the trust-funded project that supported local councils in their development of roadside vegetation management plans.
- Assistance for community members with inquiries about linear reserve environment issues such as fire management, threatened species, weed management, biodiversity and litter.

Oxley Highway BioBanking and offset strategy

BioBanking is a new approach developed by DECCW that enables the impact on biodiversity of a development to be offset by ensuring the protection and improvement of biodiversity on other land. The BioBanking scheme provides a process to calculate the amount of biodiversity credits that would be required to offset the loss from the proposed development. These credits are then obtained from landowners who commit to enhance and protect biodiversity values on their land through a BioBanking agreement. In determining the amount of credits required, the BioBanking assessment methodology considers the amount of clearing, the value of the vegetation to be removed, the impacts on threatened species and the impact on the local and regional landscape. It also takes into consideration the mitigation actions proposed by the developer.

The RTA is undertaking the Oxley Highway Upgrade between Wrights Road and the Pacific Highway at Port Macquarie. Although mitigation and management measures have been incorporated into the project to minimise biodiversity impacts, some clearing of vegetation and impact on threatened species habitat will still occur. As a result, the RTA has committed to developing a biodiversity offset package for the project, and DECCW and the RTA have agreed to trial the BioBanking scheme as a method for implementing this package. The RTA has used the assessment methodology to calculate the offset requirements and is now working with DECCW to see how BioBanking credits could be purchased through the scheme.

More information on BioBanking can be found on the DECCW website.

Heritage

Aboriginal culture and heritage

In 2008 the RTA released the RTA 'Procedure for Aboriginal Cultural Heritage Consultation and Investigation'. The procedure has been used to guide the RTA's consultation with Aboriginal communities when development may impact on indigenous heritage. It has resulted in a consistent application of the RTA's best practice Aboriginal heritage consultation and investigation management processes across the State.

More than 280 RTA staff completed training in the procedure in 2008-09.

Heritage and conservation register

Under S170 of the *Heritage Act 1977* (NSW) the RTA is required to maintain a register of heritage items that it owns or controls. The RTA S170 Register contains 303 items, including bridges, vehicular ferry crossings, sections of convict-built road, property assets and movable heritage.

At 1 July 2008 there were 422 items on the S170 Register. The total number at 30 June 2009 was 303. This decrease is largely due to the incorporation of individually listed items of movable heritage (including historic surveying, road-making machinery and office equipment) into a single listing representing the RTA's movable heritage collection, and removal of some items with notification to Heritage Branch of the Department of Planning in accordance with Section 170A of the *Heritage Act 1977*.

The S170 Register can be seen on the Environment section of the RTA's website.

Condition reporting of heritage items

A primary purpose of the S170 Register is to monitor the condition of heritage items in public ownership. The condition of items in the register is shown in the table below.

TABLE 8. CONDITION OF HERITAGE ITEMS ON RTA HERITAGE AND CONSERVATION REGISTER

		2007-2008	2008-2009
Total number of RTA items		422	303
State Heritage Register items		35	35
Condition	Good	202	92
	Fair	130	129
	Poor	80	80
	Not known / not applicable	10	2*

* Includes reburied archaeological heritage.

Removals from the S170 Register

During the year the RTA advised the Heritage Branch of the NSW Department of Planning that the following items were to be removed from the S170 Register:

- 10 Cambridge Street Enmore (SHI No. 4305611).
- Adelong Creek Bridge (SHI No. 4301627).
- Adelong Flood Channel Bridge (SHI No. 4301626).
- Four Mile Creek Bridge (SHI No. 4309534).
- Native Dog Creek Bridge (SHI No. 4309635).
- St Helena Creek Bridge (SHI No. 4309533).
- Yamble Bridge (SHI No. 4300180).

State Heritage Register

The RTA has 35 items on the NSW State Heritage Register, primarily bridges, including the Sydney Harbour Bridge, and a number of late colonial timber truss bridges.

The Heritage Council has approved the following work on State Heritage items, under section 60 of the *Heritage Act 1977*:

- Rehabilitation of Clarencetown Bridge over the Williams River.
- Upgrade of Coonamit Bridge over the Wakool River.
- Truss upgrade of Dunmore Bridge, Dunmore.
- Abutment replacement of Beckers Bridge over Webbers Creek.

Other projects that were undertaken on heritage items in RTA ownership included:

- Heritage assessment of the historic Peats Ferry Road alignment near Brooklyn.
- Conservation of one of the original maintenance cranes removed from the Sydney Harbour Bridge and its transfer to the National Museum of Australia. A second crane is being conserved for eventual public display.

Oral history

Oral history provides an important record of our changing society. It documents in spoken word the first-hand experiences of individuals and complements the formal written historical record.

The RTA undertook the following oral history work during 2008-09:

- An oral history examining the bypasses of Goulburn, Armidale and Karuah was completed. It highlights the planning processes and construction of these projects and the various ways that the towns have changed since being bypassed.

- A major oral history of road safety began. Road safety thinking and practices have evolved over the years, and this project will record the recollections of current and former staff and several prominent academics who have made major contributions. Interviews will focus on the three basic strands of road safety – the vehicle, the road environment and the driver – and the significant developments within each area. Also covered will be the changes in the administrative structures, from the Traffic Accident Research Unit to the NSW Centre for Road Safety.

- An oral history on the Gerringong-Bomaderry upgrade.

- Planning began for an oral history of tolling on Sydney Harbour Bridge, following the removal of cash tolls on 11 January 2009.

CDs of the RTA's oral histories are available for purchase through the RTA Library, and mp3 versions are available for free download from the RTA website.

Other heritage activities

RTA Heritage Committee

The RTA's Heritage Committee meets quarterly to discuss issues relating to projects and policy development with key external stakeholders. The committee includes representatives from:

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

The meetings also enable members to raise issues with the RTA. Examples of key projects discussed during the year include:

- Mount Victoria to Lithgow (route selection).
- Bulahdelah Bypass.
- The timber bridge strategy.
- Inner West Busway.

Research, public events and other activities

The move of the RTA's corporate headquarters from Centennial Plaza, Surry Hills, to Miller Street, North Sydney, provided an opportunity to present some of the RTA's extensive movable heritage collection throughout the building. Items displayed, such as historic survey equipment, were from both the RTA and the former Department of Main Roads. Sixteen oil paintings by artist Dudley Parker are displayed in the Miller Street offices including in the Chief Executive's office. A program to label heritage items across the State will improve the security of items.

During construction of the Great Western Highway duplication in the Blue Mountains, masonry walling and mid-19th century roadway stonework was exposed. The stonework was cleaned and archivally recorded and, where possible, retained *in situ.*

View of sandstone block road base c.1860 exposed and recorded at Leura during duplication works for the Great Western Highway in December 2008. Ref: Final Archaeological Report – Great Western Highway, Leura-Katoomba, Stages I, II and III. Archaeological Management and Consulting Group Pty Limited, March 2009.

A timber procurement strategy for the long-term supply of timber bridge stock has been developed by URS Forestry Services, New Zealand. The aim is to ensure the creation and maintenance of a sustainable supply of timber that meets dimension and strength standards for timber bridge construction.

Finding of Milestone 1

Milestone 1 was built in 1814 and originally set in place on the corner of George and Liverpool streets in Sydney. It was placed at an exact distance from the Obelisk in Macquarie Place and has special significance for the history of the NSW road system as it was used as the base point for road measurements from 1933. Milestone 1 had been hit by a number of vehicles and was regularly repaired. It was removed in 1987 but has recently been identified in a City of Sydney depot after an RTA-initiated search. The RTA has been in contact with the City of Sydney regarding its conservation and eventual display.

Old Peat's Ferry Road, Brooklyn

During slope stabilisation of the Old Pacific Highway at Brooklyn in August 2008, a surviving portion of the Peat's Ferry Road was identified on a ridge on the western side of the highway.

The road was built in the 1840s to link rural communities to the Hawkesbury River and Sydney. Travellers would cross the river via Peat's ferry service. The road largely went out of use in the 1930s when the Pacific Highway was constructed and the ferry service replaced with a bridge that came to be known as Peat's Ferry Bridge.

The heritage item consists of a retaining wall of formed sandstone blocks, up to eight courses, or more than 2.2m, in height. While sections of the road have suffered partial collapses, about 60m of the road's length can still be viewed, and a longer section has been surveyed

The wall presented a rock fall risk to the Pacific Highway so a rock fall fence was built in a position that did not affect the wall and using materials that would minimise visual impact.

A remaining section of the heritage item retaining wall, built in the 1840s from formed sandstone, standing over 2.2m in height.

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. The RTA's approach has three main concerns:

1. How infrastructure fits into and helps shape its context (including built form, topography and landscape).

2. How connectivity and ease of movement of people is provided in a place.

3. The design quality (including durability, functionality and aesthetics) of the public domain and the visual experience of travel.

These goals are developed in the RTA's urban design policy, called *Beyond the Pavement: RTA urban design policy, procedures and design principles* as well as in accompanying guidelines on bridges, noise walls, landscape and slope stabilisation. This year, further work was undertaken on water sensitive road design and vandalism avoidance.

A related document, *Guidelines for landscape character and visual impact assessment*, was published in February 2009. This 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 approaches to avoid and minimise those impacts, and thereby improve the project urban design outcome in the first place.

Also completed this year was a guidance note on revegetation practices, hydroseeding and slope stabilisation. This guidance will improve landscaping by reducing costly reseeding and minimising weeds.

Integrating urban design into infrastructure project development and delivery

Urban design thinking is applied to all stages of project development and delivery:

- In the initiation phase when network and corridor strategies are developed including urban design objectives.

- 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 operations stage of a 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 a 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 upgrades. A similar framework has been compiled this year for Kangaroo Valley Road and frameworks are under development for Bringelly Road, The Northern Road and Camden Valley Way in the Sydney south west growth centre.

Urban design in the development phase

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

Urban design objectives played a significant role in helping to finalise the Gerringong to Bomaderry preferred route on the Princes Highway. Achieving the best possible fit with the topography, landscape and built form was a high priority. Also on the Princes Highway, the Urban Design Section has provided input into the design and visual assessment of the Victoria Creek upgrade project south of Moruya.

Urban design involvement was integral to the design development of road improvement options around the base of Sydney Harbour Bridge. A collaboration between the RTA and the Government Architect's Office is refining the design solution which needs to sensitively balance engineering, aesthetic and heritage issues.

The Pacific Highway Warrell Creek to Urunga environmental assessment incorporates an urban design and visual impact working paper, which is helping to resolve visual impacts for residents along this project between Coffs Harbour and Port Macquarie.
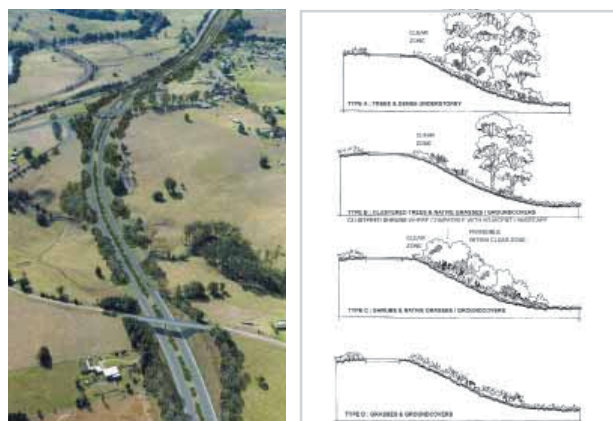
Urban design strategies for the Warrell Creek to Urunga Pacific Highway Upgrade

Hume Highway bypasses of Tarcutta and Woomargama are being planned. Ensuring a good relationship between the towns and their bypasses is an important consideration. The quality of the architecture of the infrastructure and the landscape design, the access points, the visibility of the towns from the bypasses and the sensitive minimisation of impacts are all being addressed as part of the urban design work for the projects.

Urban design in the implementation phase

During 2008-09 Pacific Highway upgrades from Karuah to Bulahdelah and Coopernook to Herons Creek received significant urban design input, particularly in relation to landscape works. Ballina Bypass progressed in accordance with the urban design plans with further refinements to the sculptural/artistic treatments at the Teven Road interchange in consultation with the local Aboriginal community. The detailed design of the Bulahdelah Bypass was substantially completed.

The Inner West Busway in Sydney was approved and design stages largely completed. The project has had significant urban design involvement in the design of the new bridge crossing of Iron Cove Bay and its integration with the Bay Run and local parks.

Photomontage of the new crossing of Iron Cove Bay. Bridge engineers and urban designers participated in the design of the proposed structure. Input was provided from urban design contractors, the RTA and the Government Architect's Office.

Other projects included:

- The Northern Distributor extension at Wollongong, including noise walls, bridges and landscape.
- The Oak Flats to Dunmore project on the Princes Highway.
- The Hume Highway duplication projects with bridges being finalised, and hydroseeding and planting work being undertaken.
- The Falcon Street pedestrian bridge at Cammeray.
- The completion of the Weakleys Drive interchange landscaping near Maitland.
- A bus priority project at the intersection of Windsor Road and Old Northern Road in western Sydney.

Baulkham Hills bus priority project

All projects, whether small or large, need to be implemented so that their impact on the built environment is minimised or, more desirably, the built environment is improved.

This is achieved by considering the built environment beyond the immediate traffic and transport objectives of the project, working with the RTA Urban Design Section and employing the right urban designers for the job.

Following these principles the RTA achieved a practical, robust and successful project and urban design outcome.

The bus lane and bus bay were carefully designed to fit into the urban area. To compensate for the impact of road widening, the local park and frontage of the bowling club were redesigned with new landscape, improved boundaries and sympathetic paving materials. The pedestrian crossing was retained on the axis of the park at Olive Street to connect the bus stop and shops on either side of the arterial road. A new tree-lined and direct footpath has been created with ramps for prams and disabled access.

Bus priority project at the intersection of Old Northern Road and Windsor Road, Baulkham Hills, Sydney.

Urban design involvement in projects includes landscape design and management. When the project is completed it is only the beginning for the new landscape. Monitoring, plant replacement, plant thinning and trimming, grass cutting and adaptation of the landscape is an important area of work for the RTA. There are many projects in this phase of work:

- Landscaping work in the major corridor upgrades of the Pacific Highway, Hume Highway and Great Western Highway continued.
- Planting on the Yelgun to Chinderah Freeway on the Pacific Highway has grown impressively over the past five years and the road landscape looks mature, which helps screening and allows the road to fit into the area.
- The City West Link in Sydney has also developed well. The eight-year-old gum trees are nearing 20m high and the creepers on the noise walls provide a green corridor and protection from graffiti. This last year saw additional planting of native grasses to repair gaps in the landscape.

The finalisation phase is also an opportunity to reflect on the urban design outcomes. For example, graffiti vandalism and damage to noise walls is a significant issue. In response, measures have been developed and a guideline prepared to inform the planning and design stages of projects and reduce the need for costly repairs and graffiti removal.

Urban design achievements in 2008-09 also include:

- The Shell Corner project on the Great Western Highway at Katoomba won an Australian Institute of Landscape Architects Design Excellence Award.
- The Pacific Highway Brunswick Heads to Yelgun project was highly commended in the Planning Institute of Australia awards.

Shell Corner upgrade on the Great Western Highway, winner of the Australian Institute of Landscape Architects Design Excellence Award 2008.

Many of these projects are showcased in the 2009 publication prepared by the RTA Urban Design Section, *Achievements in road design* available on the RTA website.

Organisational

Green Plan

The RTA continued to deliver its Green Plan aimed at:

*   Green leadership in research, policy and communication.
*   Developing green partnerships.
*   Reducing our footprint.

The following section summarises the key RTA achievements during 2008-09 to deliver the Green Plan objectives.

Resources and waste

Due to time delays involved in obtaining and collating electricity, fuel and gas data for all RTA operations across the State, 2008-09 energy data was not available at the time of publishing this report. Energy consumption and greenhouse information provided in the figures below relates to the previous financial year.

Energy

The RTA Energy Management Plan provides a framework for reducing energy use in office buildings, motor registries, work centres, traffic signals, street lights and the RTA's light and heavy vehicle fleet.

> The RTA regularly tracks its performance in implementing the Energy Management Plan and reports annually on its direct energy consumption, in accordance with the NSW Government Energy Management Policy (GEMP) and the NSW Government Sustainability Policy.

In 2007-08 the RTA consumed 723,718 gigajoules (GJ) of energy. Energy consumption has decreased by four per cent compared to 2006-07 due to reduced petrol and electricity usage. 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, operating 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 2007-08 compared to previous years. These fuels however still provide a relatively small proportion of overall energy (about four per cent).

The RTA's direct energy usage profile for 2007-08, in terms of proportion of energy consumed (GJ) by energy source, is shown in Figure 16.

FIGURE 16. ENERGY USE PROFILE
(% of direct energy consumption as measured in gigajoules)

Unleaded Petrol 22%
Ethanol Blended Petrol 2%
Electricity 39%
Automotive Diesel 34%
LPG 2%
Natural Gas 1%
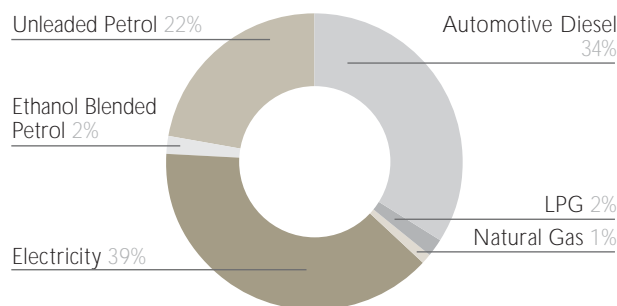
## Improved environmental performance of the light vehicle fleet

The trend in RTA fuel consumption in its light vehicle fleet since 2000-01 (Figure 17) shows a significant drop in the amount of unleaded petrol consumed in the past three years. There are three reasons for the improving environmental performance of fleet vehicles: the greater use of E10 (a blend of 10 per cent ethanol and 90 per cent unleaded petrol), a greater number of LPG-fuelled vehicles, and the increased fuel efficiency of petrol-powered vehicles.

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

- A target average Environmental Performance Score (EPS) for passenger vehicle fleets of 13.5 by June 2011. The RTA average passenger EPS was 12.3 as at June 2008 and 12.55 as at June 2009 and is continuing to trend upward towards the target.

- A target that 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 25 per cent in June 2009, exceeding the Government target.

FIGURE 17. HISTORICAL FUEL USE IN THE RTA LIGHT VEHICLE FLEET

FUEL CONSUMPTION IN LIGHT VEHICLE FLEET
kL/YEAR
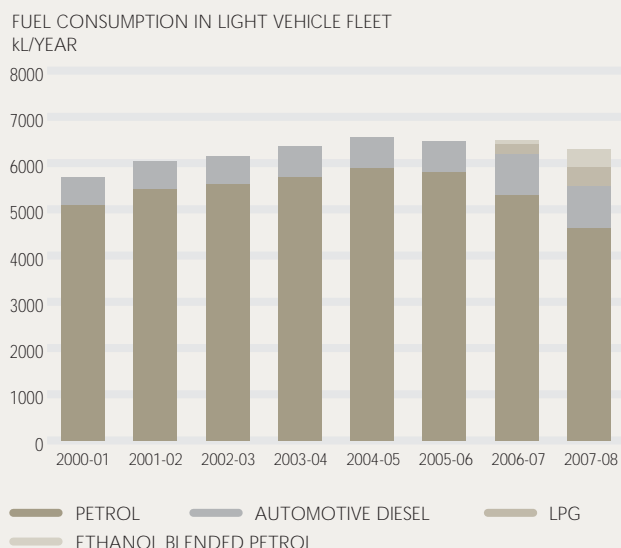
Note: Ethanol blended petrol data not collected prior to 2006-07.

Climate change

Climate Change Plan

The RTA Climate Change 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.

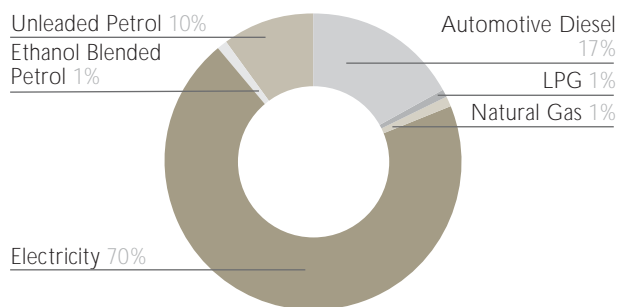- Manage the RTA's transition to a low carbon economy.

Actions to achieve the objectives of the Climate Change Plan will be refined and developed during 2009-10.

Greenhouse gas emissions

Reducing RTA greenhouse gas emissions is an objective of the RTA Green Plan and Climate Change 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 2007-08 is shown in Figure 18 below.

FIGURE 18. DIRECT GREENHOUSE GAS EMISSIONS PROFILE
(% of direct greenhouse gas emissions as measured in tonnes of carbon dioxide equivalent)

Unleaded Petrol 10%
Ethanol Blended Petrol 1%
Automotive Diesel 17%
LPG 1%
Natural Gas 1%
Electricity 70%

In 2007-08 the RTA emitted 112,090 tonnes of greenhouse gas (measured in units of carbon dioxide equivalent) which was about 5 per cent less than in 2006-07. This was due to:

- Reduced electricity consumption in traffic signals due to the completion of the incandescent lamp replacement project.

- Reduced electricity consumption in RTA buildings compared to the previous year.

- Increased use of LPG and ethanol blended petrol and reduced petrol consumption in the RTA's light vehicle fleet.

Earth Hour

On Saturday March 28 the RTA again showed its support for climate change action by participating in Earth Hour 2009.

As Earth Hour began, the lights used to illuminate 996 global landmarks – from mountains to historic buildings and modern architectural wonders – were switched off or dimmed. The landmarks included many of the world's most recognised emblems including the pyramids, the Acropolis, the Eiffel Tower, the dome of St Peter's and the Empire State Building. The RTA is proud to be associated with Earth Hour by switching off non-essential lights on the Sydney Harbour Bridge, the Anzac Bridge and the Northbridge suspension bridge.

Proud supporter of a worthy cause: The RTA once more supported Earth Hour by switching off non-essential lighting on the ANZAC Bridge.

Heavy vehicle emissions

The RTA owns and operates a truck fleet of 580 heavy vehicles and about 600 items of heavy plant and equipment, such as heavy rollers and water tankers.

Controlling greenhouse gas emissions from the heavy vehicle fleet is an important part of managing the RTA's overall carbon footprint. The fleet consumes about 5.6 million litres of diesel per annum, resulting in the emission of an estimated 14,000 tonnes of carbon dioxide (see Figure 19). This represents about 17 per cent of the RTA's total direct greenhouse gas emissions.

FIGURE 19. ANNUAL GREENHOUSE GAS (GHG) EMISSIONS OF RTA HEAVY VEHICLE FLEET

TONNES CO_2-e ('000)

2006-07   2007-08
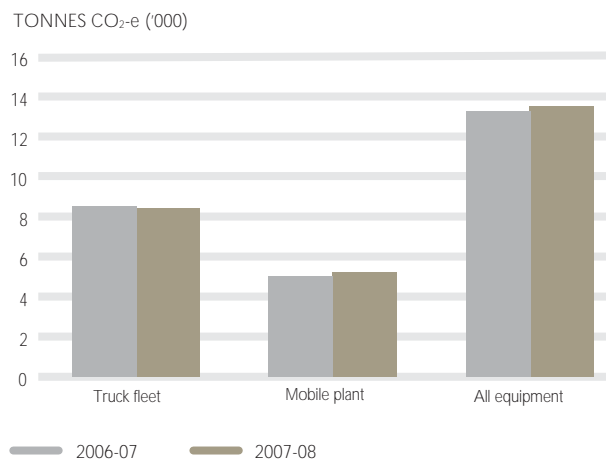
In 2008-09 the RTA prepared a heavy vehicle emissions improvement plan that identified opportunities to reduce heavy vehicle diesel consumption and associated greenhouse gas emissions.

The key potential improvements include:

- Trialling small hybrid trucks (between 3.5 tonne and 9 tonnes) for use by the RTA in the Sydney Metropolitan area.

- 'Eco-driving' training courses, to inform drivers about fuel efficient driving practices.

- Introduction of alternative systems to power cabin air conditioning, lighting systems, and plug-in appliances such as laptops, rather than running these systems on the main engine.

- Trialling the installation of larger or additional fuel tanks on some heavy plant and equipment to reduce the frequency with which equipment needs to be refuelled (this often involves carting in fuel from long distances, particularly in country areas).

The RTA will trial some of these measures during 2009-10 to investigate which deliver the best fuel reduction prospects and which should be implemented in the RTA heavy vehicle fleet.

Water management

The RTA has prepared Water Management Plans for three areas of operation which are known to consume significant amounts of water – administration properties, road maintenance and road construction.

The plans are based on a review of RTA water management policies and practices and baseline water use data. The development of the plans also considered the findings of water efficiency checks completed in 2008 as part of the RTA's involvement in Sydney Water's 'Every drop counts' program.

The plans identify immediate and long-term opportunities to save water and recommend measures to improve water management, including benchmarking and tracking water use.

Implementation of the plans will help the RTA to achieve its corporate goal of reducing potable water consumption by 15 per cent by 2010-11, compared to 2005-06 levels.

CASE STUDY

Rainwater tanks

Three rainwater tanks made from High Density Polyethylene were installed and commissioned this year at the Ballina Depot in Northern Region. Similar rainwater tanks have also been installed at the Wyong, Granville, Tamworth and Goulburn work centres and the Woodburn Timber Storage Facility and Bathurst Heavy Vehicle Inspection Station.

The tanks are designed to save water, in line with the RTA's Water Management Plan and the NSW Government's Sustainability Policy.

Another 18 sites have been identified for potential installation of water tanks in 2009-10.

Emissions

Alternative fuels

The RTA continues to conduct emissions tests on a variety of vehicles to assist the Liquid Petroleum Gas (LPG) after market equipment industry. The testing ensures that LPG fitted vehicles continue to meet emissions standards. Eighty-eight LPG kits were tested in 2008-09.

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.

The Ministry of Transport requires Metropolitan Bus Systems Contract Operators to join the Clean Fleet Program and the DECCW Model Waste and Recycling Collection Contract also requires waste management contractors to join the Clean Fleet Program.

The RTA is implementing a strategy to increase participation in the program, including direct promotion via mail-outs to all metropolitan councils and shires and all organisations with registered diesel vehicles. At June 2009 there were more than 6000 vehicles in the program.

Diesel emissions

The RTA sponsors a free TAFE course on reducing heavy vehicle emissions. The course, run in Sydney, Shellharbour, Kurri-Kurri, Tamworth and Wagga Wagga, is designed for truck and bus owners, drivers and operators, diesel mechanics and fleet and workshop managers. One module of the course is about how to join the Clean Fleet Program. In 2008-09, 39 courses were run, attended by 337 participants.

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 vehicle exhaust systems to filter out particulate matter and improve air quality. The continuing success of the program has led to further funding being provided by DECCW for a co-contribution style retrofit program. Seventy fleets participate in the co-contribution program and more than 400 vehicles have been fitted with the devices.

Light vehicle emissions testing

In 2008-09, the RTA conducted 1282 emissions tests on light vehicles at Botany and Penrith motor registries. Vehicles are referred for testing by DECCW and modified vehicles are referred by engineering certification signatories.

National In-Service Emissions (NISE) 2 Federal Government Study

The Federal Government provided funding to the RTA to project manage emissions testing of a representative sample of the Australian light vehicle fleet built between 1994 and 2007. Testing began in November 2007 and 254 in-service vehicles were tested to the appropriate emissions Australian Design Rules for the age of the vehicle. In June 2009 a report was submitted to the Australian Department of Environment, Water, Heritage and the Arts. The findings will provide valuable up-to-date emissions data for modelling and future policy development.

Smoky vehicle enforcement

During 2008-09 RTA inspectors reported 18 vehicles that were considered to be emitting excessive visible smoke. As a result, six Penalty Infringement Notices were issued by DECCW.

Emission standards

New emission standards (Euro 4) for new light vehicle models were introduced for all vehicles manufactured from 1 July 2008. The standards are aimed at improving air quality.

Emissions training

Training sessions were run for University of Western Sydney environmental students and TAFE apprentice motor mechanics to demonstrate the RTA's light vehicle emissions testing facilities. During 2008-09, 70 students attended these sessions.

Future challenges

- Develop better systems for analysing and reporting on the environmental performance of RTA's contractors.

- Implement the RTA Water Management Plans for RTA properties and road construction and maintenance works.

- Develop actions under the RTA's Climate Change Plan.

- Enhancing reporting systems and key performance indicators to track the RTA's progress towards sustainability.

- Continue working with DECCW on resource recovery opportunities in road construction.

- Implement the RTA's heavy vehicle emissions reduction plan and promote any positive outcomes to other agencies and fleet managers.

- Develop best practice guidelines to protect biodiversity during construction projects.

- Implement conservation strategies for asset classes, such as timber truss bridges, that reflect amendments to the NSW Heritage Act 1977 to provide for representative listing, while also meeting road user and network requirements and broader community expectations of heritage stewardship.

- Track international development of new approaches to reducing motor vehicle noise such as low noise tyres that are currently a focus in Europe, and ongoing development of quieter pavement technologies.

REVIEW OF OPERATIONS

Services

Services

The RTA strives to meet the community's needs

The RTA's services

The RTA works to meet the needs and expectations of its broad range of customers, such as those who use its licensing and registration services and those who are affected by the RTA's road work 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 highlights key activities that the RTA has undertaken in the past year to serve the people of NSW.

Section cover image: RTA motor registry staff member, Alexandra Garas, serving customers in Parramatta. Photographer Christopher Shain.

Customer service

In 2008-09 the RTA provided registration and licensing services to 4.72 million licence holders and 5.33 million registered vehicles in NSW.

These services were delivered through motor registries, agencies, the RTA Contact Centre and online.

Motor registries

The RTA has a network of 129 motor registries, a Contact Centre in Newcastle, five Government Access Centres and 33 agencies which provide RTA services. Services are also provided at 40 itinerant sites in remote areas.

> A survey of customers conducted in May 2009 found that 94 per cent rated motor registry services as 'good' or 'very good'.

In 2008-09, the motor registry network was improved through the relocation and refurbishment of several sites:

- Parramatta Motor Registry moved to new premises at Argyle St, Parramatta, within walking distance of a major transport interchange.
- Driver testing services were relocated from Parramatta to upgraded premises at Silverwater Motor Registry. Saturday trading was also introduced at Silverwater.
- City South Motor Registry moved to new premises in Surry Hills closer to Central Station, following the relocation of the RTA head office to North Sydney.
- New premises were opened at St Marys making it easier for the local community to access essential services and providing a comfortable environment for customers. Trading hours were also extended to Saturdays.

New premises at St Marys Motor Registry.

RTA Contact Centre

The RTA Contact Centre provides support to customers by offering accurate and timely information on licence, registration and tolling services over the telephone. Customers can obtain information or in some cases choose to complete business while on the telephone rather than visit a motor registry.

Government Access Centres

The Government Access Centre (GAC) program continued during 2008-09, delivering services to customers in remote and rural NSW, and enhancing partnerships with government service providers. Transactions, ranging from receipting payments to providing information and referrals for agency services, are completed on behalf of nine key State Government agencies. These services were provided in addition to the core business of each GAC's host agency. Services at some GACs were expanded to include driver knowledge testing.

Tolling

Electronic tolling on the Sydney Harbour Bridge

The Sydney Harbour Bridge became a cashless motorway on 11 January 2009. The cashless system has improved traffic flow, allowing up to 1500 vehicles per lane an hour to cross the bridge compared to only 400 vehicles an hour under the previous system.

The move to cashless tolling on the Sydney Harbour Bridge was a phased process, with lane and booth changes progressively introduced from May 2008.

Minister for Roads Michael Daley at the Sydney Harbour Bridge to accept last cash toll taken on the bridge.

Time of day tolling

Time of day tolling came into affect on the Sydney Harbour Bridge and Sydney Harbour Tunnel on 27 January 2009. Time of day tolling means motorists who travel into the city outside peak hours now pay less than peak users, discouraging unnecessary peak hour trips.

Motorists have adapted well to the changes. There has been an average daily reduction of 953 vehicles using the harbour crossings in the peak period between 6.30am and 9.30am on weekdays since the introduction of time of day tolling when compared to the same period for 2008. Traffic volumes show an increase in people travelling before the morning peak period begins at 6:30am, with a weekday average increase of 547 vehicles using the harbour crossings in the hour before the peak period begins (compared to 2008 data).

The smooth transition to time of day tolling was assisted with a comprehensive communications strategy and the promotion and uptake of new E-Toll products.

E-Toll tags and passes

RTA E-Toll launched short-term tags through selected motor registries in May 2008. This product was specially developed for motorists who do not have an electronic tag but want to travel on toll roads for a short period.

While using this product, motorists are charged a $5 weekly fee plus any tolls incurred. This allows motorists to enjoy the benefits of an electronic tag while avoiding the payment of a tag deposit.

Easy Toll tags were launched in December 2008. Easy Toll tags allow motorists to manually top up their E-Toll account as they go, with cash payments accepted over the counter at any motor registry in NSW. Easy Toll tags are also available without any requirement for the payment of a tag deposit, as motorists can instead elect to pay a small monthly management fee.

Both products have been popular additions to the suite of RTA E-Toll products. To date, more than 4,310 short-term tags have been rented, while 15,900 customers have signed up for an Easy Toll tag.

From December 2008, motorists have been able to use RTA E-Toll passes on any toll road in NSW. Since the introduction of E-Toll passes in July 2007 a total of 255,388 have been sold.

Identity management

In September 2008, the RTA issued a Request for Proposal for the supply, installation and maintenance of a facial recognition system. A steering group was established to assess tender responses, including reference site visits and a product trial for short-listed companies. The steering group assessed the proposal from Sagem Australasia Pty Ltd (Sagem) as best meeting the tender requirements and a contract with Sagem was executed in May 2009.

> The new facial recognition system will help protect the community against identity fraud by making it harder for people to illegally obtain licenses.

The system uses biometric technology, which identifies each person according to the unique underlying bone structure of his or her face. The system can be used to compare the photographic image taken when a person applies for a licence, against the images stored within the RTA database. This means that the program can identify someone who tries to apply for more than one licence or photo card using more than one identity.
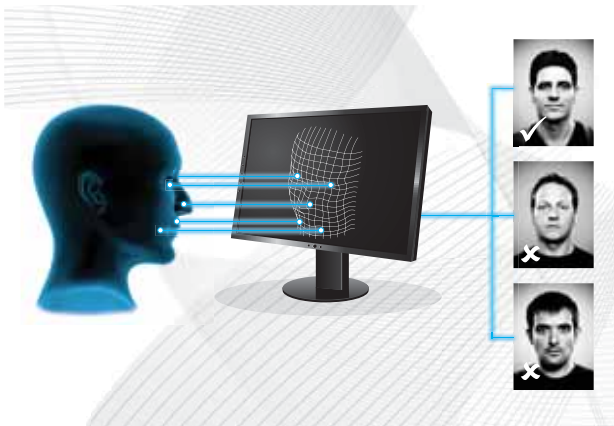

Illustration showing how the biometric data is measured and used to identify an individual.

Austroads Registration and Licensing program

The RTA continued to manage the Austroads Registration and Licensing Task Force in 2008-09.

The following projects were completed this financial year:

- The Australian Transport Council approved the Smartcard Licence Interoperability Protocol (SLIP) and its associated schedules in November 2008. SLIP will ensure the interoperability of smartcard driver licences for Australian jurisdictions using this technology.

- A feasibility study was completed on options for 'Greater Harmonisation of Registration and Licensing Practices' as requested by the Council for the Australian Federation.

- A Memorandum of Understanding was signed with the Commonwealth Attorney-General's Department for participation in the Document Verification Service System. The National Document Verification Service is an online system allowing authorised government agencies to verify key documents presented by individuals as evidence of identity.

- Support and participation in CrimTrac's Automatic Number Plate Recognition Project, as part of a federal proposal that will be linked across all Australian states and territories. The proposal aims to address major crime, counter-terrorism and road safety.

- The RTA commissioned a research report on the feasibility of introducing additional biometrics (biological data gathering) for driver licensing and vehicle registration. The report provides a five-year outlook for the use of additional biometrics that will complement and strengthen identity management.

- A project was undertaken to improve the security and identity management of Australian driver licences.

NEVDIS

The National Exchange of Vehicle and Driver Information System (NEVDIS) is a database that provides road agencies with access to information on all registered vehicles and licensed drivers in Australia. It was implemented in an effort to reduce licence fraud, vehicle theft and vehicle fraud. The RTA supports the NEVDIS Administration Unit under the Memorandum of Understanding between Austroads and the RTA.

In 2008-09, the NEVDIS Administration Unit achieved the following:

- Began a strategic review to identify and analyse alternative technical models for NEVDIS to meet policy and business requirements including a preferred service delivery model that will support future business directions.

- Participated in the National Document Verification System as an issuer, user and as a hub for all jurisdictions.

- Provided the Demerit Point Exchange System to ensure the transfer of demerit points between jurisdictions, enabling licence suspension, cancellation or driver disqualification in any jurisdiction.

- Completed a review of the Demerit Point Exchange System including identification of immediate and longer-term options for improvement and recommendations for system improvements.

- Ensured the heavy vehicle codes in NEVDIS supported the National Heavy Vehicle reforms to heavy vehicle charges by 1 July 2009.

- Provided safety recall information to vehicle manufacturers on request.

- Implemented the regular execution of data cleansing to prevent the issue of multiple drivers' licences by different jurisdictions, preventing the issue of multiple heavy vehicle log books by different jurisdictions and other initiatives to support the 'one vehicle – one Vehicle Identification Number' principle.

- Supported the National Transport Commission with input to its project for the harmonisation of demerit points.

- Undertook the Vehicle Information Request Service pilot to assess the merit of supplying vehicle data to insurers via an information broker. A major objective of this initiative is to reduce motor vehicle fraud.

- Supported the SLIP project through representation on the steering committee and the provision of expertise, advice and technical support.

- Supported a CrimTrac feasibility study on upgrading its National Police Reference System.

- Supported the Commonwealth Attorney-General's Department to develop the Personal Property Security Register to ensure written-off and stolen vehicle information is provided as part of future vehicle financial encumbrance checks.

- Completed the connection and data upload to ensure Tasmania is part of NEVDIS.

Vehicle identification and inspection

The Vehicle Identification and Inspection Unit (VIIU) controls and combats fraudulent use of the RTA's registration system to launder re-birthed and stolen vehicles.

It conducts inspections on high-risk vehicles in the Sydney, Newcastle and Wollongong areas. Outside these regions, VIIU has a monitoring program to detect vehicle re-birthing.

VIIU manages the Written-off Vehicle Register (WOVR), the allocation of Vehicle Identification Numbers (VINs) and inspections to identify re-birthed vehicles before registration. The WOVR ensures that insurers, dealers, dismantlers and other individuals comply with the law in relation to written-off vehicles, and provides notifications where necessary.

The VIIU manages the issue of VINs and chassis and engine numbers for trailers, low-volume, imported and rally vehicle types, which are primarily identified by manufacturers and Authorised Unregistered Vehicle Inspection Stations. Each year the VIIU issues around 10,500 VINs. The unit inspects approximately 17,531 vehicles annually.

In 2008-09, 41,112 vehicles were reported as written off – a 13.8 per cent increase on the previous year. The VIIU has responded by increasing the WOVR audit program. The VIIU remains at the forefront of the RTA's efforts to ensure that only vehicles correctly identified are eligible for registration. The RTA has been working closely with the NSW Police Force in response to changes in the methods of people involved in vehicle crime.

Tow trucks

The RTA's achievements in relation to tow trucks included:

- The relocation of the former Tow Truck Authority to the RTA office in Argyle Street, Parramatta.
- Remake of the Tow Truck Industry Regulation 2008, which commenced on 1 September 2008.
- Amendments to the *Tow Truck Industry Act 1998*, which were passed by NSW Parliament on 29 October 2008.
- The formation and inaugural meeting of the Tow Truck Advisory Council (TTAC).
- The expansion of tow truck licensing services at Wollongong, Botany, Blacktown and Newcastle from 1 April 2009.
- Expansion of compliance and enforcement operations within the Botany and Grafton areas, with the assistance of Vehicle Regulation Inspectors.

Road transport legislation

In February 2009, Cabinet approved the consolidation of the six road transport Acts into one. The objective is to ensure that road laws are better understood and more easily accessed by the public, the police, the courts and the legal profession. The RTA expects the Road Transport Bill, which consolidates the six Acts, to proceed through the NSW Parliament in 2010.

Online services

The RTA's range of online services continued to grow and improve in 2008-09.

RTA website

The RTA website recorded more than 21 million visits in 2008-09, a 29 per cent increase on 2007-08. The site continues to maintain its unrivalled position as the most visited NSW Government website, the most visited state and territory government website and the sixth most visited government site.

The increase in visits to the online services pages, myRTA.com, was a significant part of this growth.

myRTA.com

myRTA.com allows customers to access a range of services through the RTA website. The site gives customers the convenience of making online payments, renewing registration, changing their address details and booking licensing tests.

This year the percentage of online transactions increased from 23.6 per cent to 31.3 per cent. This increase was supported by marketing campaigns which used online, radio and press advertising to promote the address change, registration and vehicle history check services.

Sydney Motorways website

The motorways website at sydneymotorways.com.au provides the public with comprehensive motorway information, including entry and exit points and toll costs.

In 2008-09 there were more than 234,000 visits to the website (a 43 per cent increase on 2007-08) and 68,436 toll calculations (a 30 per cent increase on 2007-08).

The majority of visitors to the site arrived there directly by typing the website address, indicating that there is strong awareness of the site.

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 to know to gain and keep their licence. The site promotes safe driving skills to young people, who are over-represented in crash statistics.

In 2008-09 there were more than 182,000 visits to the website, with more than 1126 people registering on the site. Each month an electronic newsletter was sent to registered users advising them of new content and features on the site.

Screenshot showing the Geared.com.au homepage.

e-Safety Check

The RTA authorises around 6000 Authorised Inspection Stations across NSW to conduct 'pink slip' inspections on light vehicles. Inspections are compulsory on many vehicles before renewing registration. The scheme conducts more than three million inspections annually.

The RTA's e-Safety Check, which replaced the paper-based pink slip inspection report, became compulsory for the 6000 Authorised Inspection Stations from 1 July 2008. The system transmits inspection results electronically which allows customers to conveniently renew their registration without having to go to a motor registry.

In March 2009, the RTA began a trial of new electronic schemes for Authorised Unregistered Vehicle Inspection Stations and Heavy Vehicle Authorised Inspection Stations. The electronic schemes will complement the e-Safety Check by electronically transmitting not only inspection results but also vehicle details to the RTA. These details are used to provide vehicle information for unregistered or interstate registered vehicles seeking to enter the NSW fleet.

The new electronic system will also allow inspection stations to clear defect notices online. Customers will no longer need to present a signed defect notice to a motor registry to have it cleared from the system.

Vehicle history check

A new online vehicle history check was introduced to allow vehicle buyers the chance to gain more information about a vehicle before purchase. The additional information includes registered owners of a vehicle, odometer readings and whether the vehicle has been classified as a 'written off' vehicle and, if so, for what reason (eg flood, hail damage etc).

In 2008-09, there were 47,000 vehicle history checks completed through the online service with the majority of these being free to customers. Of the 47,000 checks completed, about 5000 were for the additional information available through the payment of a fee.

Launch of RTA Vehicle History Check. Left to right: Motor Traders Association David Smith, RTA Group General Manager of Driver and Vehicle Services Terry Hickey, and Minister for Roads Michael Daley.

Heavy vehicle online renewal

A new online service was implemented in December 2008 to allow heavy vehicle operators to renew their registration online for three, six and 12 month periods.

By 30 June 2009, approximately 1500 heavy vehicle renewals were completed through the online service.

Prosecution Pilot Program

The RTA, NSW Police Force, the Attorney-General's Department and the State Debt Recovery Office (SDRO) established a six-month pilot program for the RTA to undertake Police prosecution work for camera-detected offences in three NSW metropolitan Local Courts.

The new pilot has been set up to improve the criminal prosecution process relating to traffic matters. The program included a training and evaluation program, provided to the RTA court advocates by the NSW Police Force.

The Police Prosecutors mentored the RTA court advocates to further develop their confidence and capabilities when presenting evidentiary briefs and prosecuting camera-detected matters.

Following a positive evaluation of the pilot, the program will be extended to other metropolitan courts. The program has fostered stronger relationships between a number of agencies, as well as ensuring efficient court processes.

Mobility Parking Scheme

The Mobility Parking Scheme (MPS) provides parking concessions to eligible people who have a mobility disability to help them travel independently either as a driver or passenger. Enhancements to the MPS were introduced this year including regulatory changes to improve on-road enforcement by providing clearer powers for local council officers and a requirement for a medical report about a driver licence holder's fitness to drive. This is required when a person holds both a driver licence and an MPS card and has not previously notified the RTA of any medical condition. This new requirement ensures that NSW drivers are medically fit to drive, contributing to safer roads in NSW.

Data integrity review

The RTA has commissioned an independent review of the integrity of its driver licensing and registration database – DRIVES. The review was commissioned by a steering committee with representatives from the RTA, the Department of Premier and Cabinet, the Attorney-General's Department, Ministry for Police and NSW Crime Commission.

The review, which identified records that require further analysis, was completed during 2008-09. Analysis of these records will be completed by September 2009 with a final report to be presented to the steering committee in October 2009.

Pink number plates

On 22 April 2009, a new range of pink special number plates was launched in partnership with the McGrath Foundation, a charity dedicated to breast cancer awareness. For every set of pink plates sold, the RTA made a donation to the charity ($15 for slimline and $50 for Prestige plates).

A marketing campaign, including press and online advertising, website content and publicity, launched and promoted the new pink plates. In addition, the first set of numeral only hot pink plates was released and auctioned for $74,000 – of which 25 per cent was donated to the McGrath Foundation. The auction received significant media coverage, as did the launch of the new pink plates products and the partnership with the charity.

By the end of June, 1600 pink plates had been sold, raising $43,470 for the McGrath Foundation and McGrath breast care nurses in NSW.

Glen McGrath at the launch of the new range of pink special number plates. The pink plates were launched in partnership with the McGrath Foundation.

Stakeholders

National Transport Policy

At the February 2008 Australian Transport Council (ATC) meeting, NSW was given the task of managing, coordinating and developing an 'Economic Framework for an Efficient Transportation Marketplace' (EFETM) as part of the multi-jurisdictional development of the National Transport Policy Framework (NTPF) for the ATC.

National reforms arising from the development of the NTPF aim to support a more efficient national transport system across all modes. The economic framework is a key element in delivering the goal of a seamless national transport marketplace and, in particular, will allow better signals for the efficient, productive, safe, sustainable and timely provision and use of transport infrastructure and services.

A new National Transport Policy (NTP) secretariat was subsequently established within the RTA to provide support for the development of the EFETM and an inter-jurisdictional reference group of senior officials that was consulted during the development of the EFETM. It also led developments on national transportation policy initiatives, including heavy vehicle regulatory issues and heavy vehicle charging reform.

The major achievements of the NTP Secretariat during 2008-09 are listed below.

Final taskforce report

In September 2008, the Minister for Roads, on behalf of the ATC, established a Ministerial Taskforce of eminent experts to provide strategic guidance to the development of the EFETM. The taskforce released an issues paper in December and invited public submissions. These were received in January 2009 and helped to inform a draft report to the Standing Committee on Transport in April 2009. A final report was presented in May, which recommended a number of principles that should underpin a new economic framework for land transport.

The ATC will respond to the report in early 2010 and this will form the basis of advice to the Council of Australian Governments (COAG). The report was also provided to the Prime Minister, the Treasurer, the Minister for Finance and Regulation and the Chair of the Review of Australia's Future Tax System.

Review of regulatory approaches to transport safety law

The ATC endorsed the secretariat's review of transport safety law in November 2008 which supports the move towards an efficient and seamless interface between transport safety law and Occupational Health and Safety law. This approach will also support the delivery of a single body of national heavy vehicle law as recommended by ATC to COAG in May 2009.

Reform of heavy vehicle charges

On behalf of the ATC, the secretariat coordinated, completed and submitted the end of Phase I of the COAG Road Reform Plan (CRRP) to ATC in May 2009 and to COAG in July 2009. The report advised on the outcome of research into heavy vehicle related externalities, Community Service Obligations, refinements to the cost base used for setting heavy vehicle charges and progress in implementing incremental pricing trials for higher productivity vehicles.

On the basis of the report, COAG agreed to proceed to the next phase of the CRRP. Following ATC consideration of a proposal developed by the secretariat, a Board of Management was created for the CRRP which will be accountable for delivering all funding and related institutional issues associated with the CRRP, including incremental pricing.

Community consultation

The RTA works with the community in an open, consultative and inclusive manner. Throughout 2008-09, the RTA continued to demonstrate its commitment to involving the community whenever its activities and decisions were of potential interest to residents and other stakeholders.

The RTA strived to engage a range of groups including residents, property holders, private organisations, special interest groups, local communities, road transport groups, local councils, and state and federal government agencies.

Targeted and flexible community involvement programs were prepared for many projects to ensure the community's voice was heard. These programs included:

* Providing information through letters, questionnaires, community updates, advertisements, displays, the RTA website and dedicated telephone lines.
* Holding public meetings, policy round tables, community liaison groups, workshops and individual interviews.
* Calling for public submissions or distributing questionnaires and surveys.

Bulahdelah upgrade community interest group tour, November 2008.

In 2008-09, local communities were involved in more than 250 different construction and maintenance projects. This community involvement included:

* At least 15 different community focus or liaison groups that met several times to resolve issues.
* More than 297 community meetings, workshops and briefings for stakeholders.
* About 123 displays, including 69 staffed community information sessions.
* Around 777 community updates and household letters prepared and distributed.
* More than 30 other community events such as staffed marquees at major public events, celebrations of completed work, or road or bridge naming events.

In addition to these activities, RTA staff also held regular meetings throughout the year with individuals, such as property owners, to directly discuss a range of projects.

Other community involvement

The relationship between the RTA as service provider and the NSW community is a dynamic one.

The RTA seeks community feedback and input to its service delivery through both formal and informal channels.

This relationship includes:

* 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.

World Youth Day

More than 300,000 Catholic pilgrims from Australia and overseas travelled to Sydney for World Youth Day celebrations in July 2008.

The RTA played a leading role in managing all traffic arrangements, with a number of specialist teams working to ensure the week-long celebrations were a success for pilgrims, residents and business. About 200 RTA staff formed the core team of planners and operators.

RTA teams worked closely with the World Youth Day Coordination Authority and other government agencies to develop and implement a seamless approach to traffic and transport.

The RTA worked for more than a year on extensive traffic management plans, resident parking schemes and a communication plan, including a comprehensive community relations component.

The RTA managed 547 special event clearways and 340 road closures, installed about 18,000 traffic signs, catered for about 500 buses and support vehicles transporting an estimated 30,000 pilgrims, and managed more than 3000 inquiries over three weeks.

It was the biggest traffic and transport operation in Sydney's history, after the 2000 Sydney Olympics, and it was delivered successfully and seamlessly and without incident.

World Youth Day: Pilgrims make their way across the Sydney Harbour Bridge to Randwick racecourse for the final Papal Mass.

Future challenges

- Strengthen identity management by introducing a new customer enrolment model and facial recognition technology.

- Deliver services that meet customer needs by implementing myRTA.com and initiatives for whole-of-government services.

- Improve camera data certification by making camera compliance certification available on the State Debt Recovery Office or RTA website.

- Quality implementation of the new modernisation project to improve customer experiences of all tolling transactions and toll road use.

- Ensure the effective and timely implementation of COAG heavy vehicle productivity, safety and compliance initiatives.

- Develop an understanding of and gain support for extended best practice regulatory principles and strategies that enhance the governance and effectiveness of the RTA's regulatory frameworks, schemes and practices.
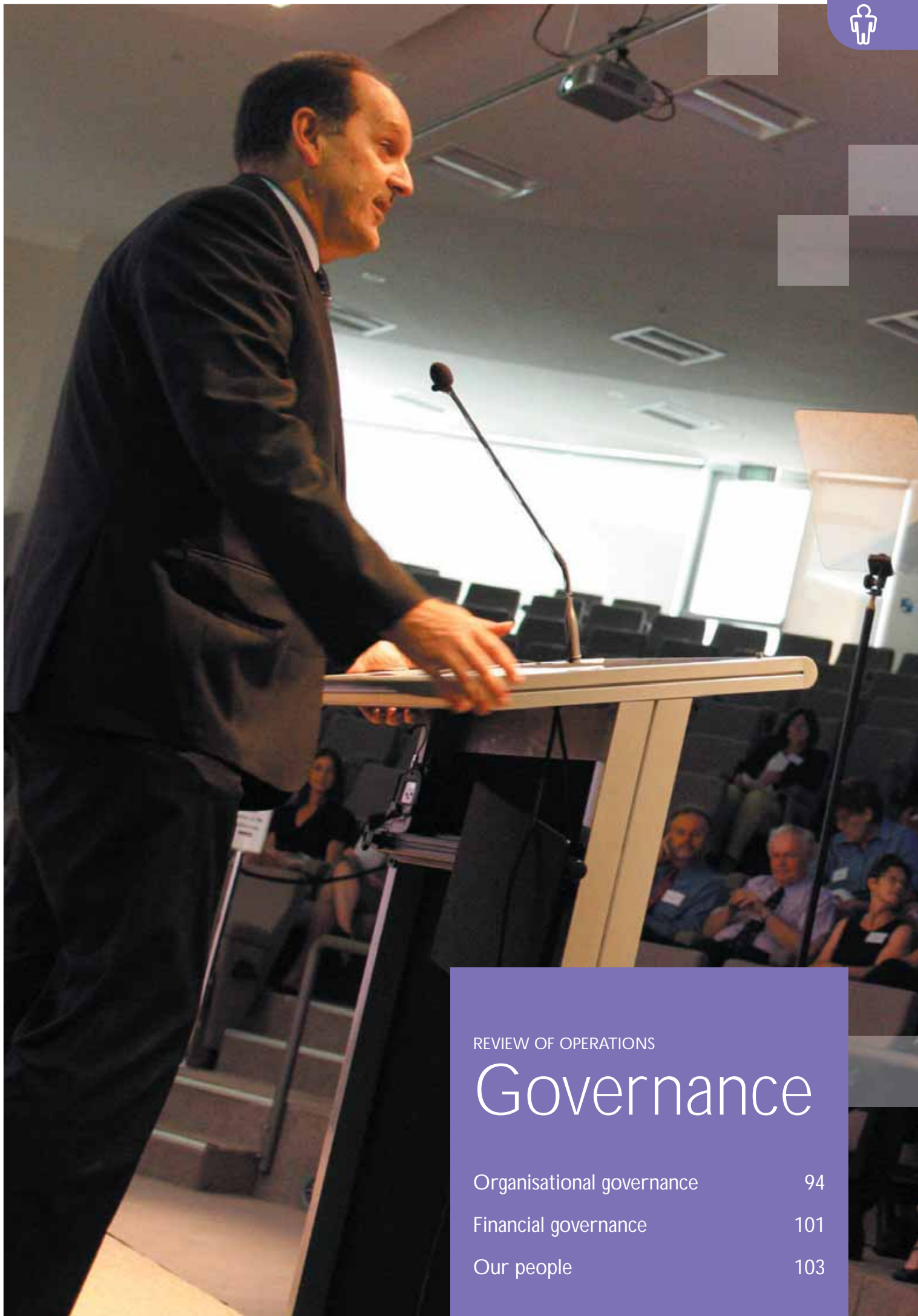
Governance

Governance

The RTA ensures that its investment and its people are aligned to its vision

Governance of the RTA

The RTA is one of Australia's largest asset managers and service providers, with a multi-billion-dollar budget serving 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 details activities by the RTA in the past year to strengthen organisational governance in relation to:

• Finances, including business opportunities, accountability and performance.

• Organisational factors, including planning and risk management, performance management, operational and information systems and the reporting framework.

• RTA staff, including developing a high performance culture, workforce capability, diversity and equity and Occupational Health and Safety (OHS).

Section cover image: Chief Executive Michael Bushby addressing RTA staff at the staff awards ceremony.

Organisational governance

Executive

The Chief Executive, seven Directors, General Counsel, General Manager Governance and General Manager Environment 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 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.

TABLE 9. EXECUTIVE COMMITTEES

Committee name	Purpose
Legislation	To oversee the RTA's legislative program including: • 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. The committee meets bi-monthly.
Road safety	To review the RTA's development and implementation of road safety strategy, policy and initiatives, including: • 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. The committee meets bi-monthly.
Environment	To review the RTA's environmental performance and provide strategic direction on programs and policies, including: • Leading continuous improvement of the environmental culture across the RTA. • Reviewing environmental performance and advising on priorities for allocation of environmental resources. • Leading the review of policy and contractual implications of serious environmental incidents. • Ensuring effective coordination of performance improvement strategies, environmental policy and incident management across the RTA. The committee meets bi-monthly.
Commercial development	To steer the RTA's commercial strategy and to ensure the appropriate and coordinated identification, prioritisation and delivery of commercial opportunities. Responsibilities include: • 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. The committee meets bi-monthly.
Audit and risk	To provide assurance to the Governance Committee that the RTA has an effective process in place to identify risks and an effective control framework to manage those risks. In terms of audit, the committee: • Approves internal and external audit programs and reports. • Reviews performance of internal and external audit functions. • Reviews internal control frameworks. • Approves external reporting of financial information. • Reviews compliance with audit and finance related policies, procedures, central agency requirements and applicable laws and regulations. In terms of risk management the committee: • Reviews risk management practices. • Reviews the RTA's corporate risk profile. • Reviews compliance with risk management standards, policies, central agency requirements, relevant legislation and regulations. • Approves internal and external risk reporting. The committee meets quarterly.

Finance strategy	To set the direction of the RTA's financial strategy, including: • 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. The committee meets monthly.
Governance	To provide reasonable assurance to the Executive that the RTA has in place an appropriate governance framework that is operating effectively. The Governance Committee reviews: • 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. The committee meets twice a year.
Workforce and reform	To coordinate and facilitate a strategic approach to organisational efficiency and workforce development and renewal, including: • 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. • Monitoring the implementation of the Workforce Capability Plan. • 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. The committee meets bi-monthly.
Occupational health and safety	To review the RTA's Occupational Health and Safety (OHS) performance and provide strategic direction on OHS programs and policies, including: • Review of OHS performance and advice on priorities for allocation of OHS resources. • Review of serious incidents. • Ensuring effective coordination of risk management, OHS policy, claims and management across the RTA. • Monitoring of the effectiveness of the implementation of the RTA OHS Strategic Plan. The committee meets bi-monthly.
Major projects	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. The committee meets monthly.

Network management	To provide road network management leadership and advice, and discuss and support road network management activities across the RTA.
	The Network 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.
	  – State Infrastructure Strategy.
	• Considering operational activities, including recent and developing route delays.
	• Incorporating road safety and freight productivity outcomes into network management activities.
	The committee meets monthly.

Executive appointments and remuneration

The Minister for Roads 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 go to Appendix 4.

Strategic and business planning

Integrated strategic and business planning

The RTA uses corporate strategic plans to link results and services with broader Government priorities and to align internal business plans to deliver results. The plans used to communicate the RTA's contribution to Government priorities are the Corporate Plan, the Results and Services Plan and the Total Asset Management approach.

The RTA's strategic direction and planning are also promoted through the corporate framework (see pages 14-15) that provides the RTA's high level outcomes, results, and priorities and is an integral component of the corporate plan. It allows alignment of the corporate plan, business plans and the strategies employed to achieve the RTA's results.

These high level outcomes are then translated throughout the organisation through internal strategic plans that help to drive and coordinate the business activities of the RTA to deliver its intended outcomes. These internal strategic plans are cross-directorate plans that provide a three to five year framework and 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.

Planning and performance reporting guidelines exist within the organisation to maintain an effective and consistent planning and performance reporting system.

State Plan

The State Plan sets out the priorities for Government action to deliver better services and improve accountability across the public sector.

The RTA has lead agency responsibility for coordinating with partner agencies to deliver the S7 – Safer roads priority and is also identified as a partner agency contributing to a variety of other State Plan priorities.

The NSW State Plan challenges the RTA to improve the efficiency of the road network and reduce vehicle emissions, as well as maintain and invest in infrastructure, and support public transport usage.

Corporate strategic plans

The RTA has a number of corporate level strategic plans that collectively help to drive and coordinate the allocation and management of resources and activities of the organisation in order to deliver its intended outcomes. These include the Results and Services Plan, the Total Asset Management approach and the Corporate Plan. These are in line with NSW Treasury's requirements and link agency funding with achievement of Government priorities through demonstrating agency results and services and represent a considered approach to planning and asset management.

The RTA continues to work with NSW Treasury to improve the information provided within these strategies.

Business improvements

Workplace Change and Culture

The former Business Reform Program responsibilities were transferred to the Human Resource Strategy Branch during the reporting period. Under the management of Workplace Change and Culture, which sits as part of the HR Strategy Branch, the business improvement program is driving initiatives to ensure the RTA delivers integrated, efficient and customer-focused services.

Initiatives during 2008-09 included:

- Business improvement projects to create savings to fund the wages and salary increases from the 2008 industrial awards and achieve projected cost savings. Key projects are related to travel and accommodation, video-conferencing and sick leave reduction.

- Start of high performance environment diagnostic work, including developing clear, individual performance measures as a result of education sessions. The purpose is to drive innovation and sustain organisational performance.

- Completion of new organisational arrangements for OHS to ensure the RTA maintains a safety performance approach, a positive safety culture, and continuously improves and delivers effective and value-for-money OHS practice, process and initiatives.

- Realignment of the Compliance and Freight Strategy Branch to meet the needs of the emerging national reforms and ensure transparency and consistency of compliance activities.

- The introduction of new organisational structure and management arrangements in the Ministerial Coordination Branch. The objective was to foster strategic partnerships to deliver optimal business outcomes, resource management and engage staff in key initiatives that support the RTA's *Blueprint* corporate plan.

- Training and roll-out of the Enabling Change Toolkit. This kit is designed to:

  – Support the adoption of effective and robust processes for introducing change, including project management methodologies consistent with the scale and complexity of the organisational design and change initiative.

  – Provide practical tools and process guidance that will allow teams to focus on the development of solutions rather than developing their own project processes.

  – Avoid duplication and time wasting by providing templates for common tasks and outputs.

  – Increase the awareness, understanding and skills of team members who may be involved in organisational design and change initiatives.

Integrated Management System

The Integrated Management System (IMS) is the RTA's strategic platform for managing people, time and money. Based on the SAP suite of software, it supports finance, purchasing, HR/Payroll, project management, Employee Self Service, the Cashback scheme and several internal Help Desks. Following a comprehensive assessment of the SAP upgrade options, an upgrade project was started in June 2008 and completed in November 2008. As well as upgrading SAP and related software, the project introduced the following improvements:

- More Employee Self Service options.

- Manager Self-Service, a new service for online approval of employee requests and human resource reporting.

- A streamlined accounts payable process that includes scanning of invoices, automatic matching of invoices to purchase orders and goods receipts, and automatic payment of trade vendor invoices.

- Enhancements enabling the management of electronic remittance and payment to vendors and to employees for payment of expense claims.

- Strengthening the underlying security configuration to support formal segregation of duties across the organisation.

Other improvement projects started include:

- Transition from position-based to role-based authorisation profiles.

- Enhancement of technical configuration change management processes.

- Automation of training course access and approval.

The upgrade also positions the RTA to take advantage of the new whole-of-Government licence for SAP software, which offers significant cost savings and the opportunity to access a wide range of functionality.

The second stage of the SAP upgrade project was initiated in this financial year and will be completed by June 2010. This will see the Customer Relationship Management function upgraded, ensuring continued support for internal service desks and access to online complaints management.

Voice Over Internet Protocol

The RTA successfully completed the upgrade of its voice equipment to Voice Over Internet Protocol (VOIP), with the final project completed at the Sydney Harbour Bridge office. The equipment had been up to 15 years old and beyond its economic life. The upgrade was completed on time and on budget. The new technology is a firm foundation for future improvements to the RTA's communications systems.

New head office

Another major success for the RTA was the consolidation of staff in a new head office in North Sydney. The site has been recognised as one of the best installed IT infrastructure sites in Australia. The RTA 'future proofed' the move by installing the very latest cabling technology, allowing the delivery of first class video/voice technology services to every RTA desktop in the new office. The move will also result in a reduction in aggregate occupancy expenditure over the term of the lease when compared to the previous head office in Surry Hills.

The new RTA head office at Miller Street, North Sydney.

Information Technology benchmarking

Benchmarking of the RTA's Information Technology (IT) services resulted in sustained cost savings and improvements in 2008-09. The RTA and its outsourced service provider Fujitsu, which has provided infrastructure services to the RTA data centre since winning a public tender in 2004, have implemented ongoing improvements to reduce data centre costs by up to $1 million per year. In addition to sustained cost savings, the recent benchmarking study also showed continuing improvements in customer satisfaction and staff morale.

DRIVES realignment project

DRIVES is the core IT system used to manage driver licensing and vehicle registration across NSW. DRIVES is one of the largest systems of its kind in the world and is now more than 16 years old. Faced with a replacement cost of more than $100 million, the RTA has embarked on an extensive annual enhancement program to restructure parts of the DRIVES system. This is expected to extend the life of DRIVES by more than 10 years and will make it easier to maintain and support service delivery.

About 50 per cent of targeted areas of DRIVES have been restructured with the assistance of a number of vendors. The majority of benefits are expected to be realised during 2010-11, as the program nears completion. This initiative also includes improvements to development tools and processes to further reduce maintenance and development costs.

IT security accreditation

The RTA continues to enhance the security of customer information. Three key IT areas of the organisation – the Transport Management Centre, the RTA Contact Centre and Information Management and Information Technology Branch – were successfully audited by a third party certification body this year.

The audits were to ensure compliance with the international information security standard 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.

Corporate data warehouse

The corporate data warehouse was established to improve access to information by enhancing the ability to query and analyse data. Continuous updates capture data from various RTA corporate systems databases and other sources, where appropriate, to deliver better integration, access and consistency.

Risk management

The RTA has a well-established, enterprise-wide corporate risk framework and system. This systematic approach 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 as part of business management and performance reporting systems and processes.

Internal audit

The Governance Branch provides a high quality, cost-effective auditing service for the RTA. This auditing function 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.

Licensing and registration

Regular audits were conducted this year on motor registry operations, other service delivery outlets, back offices supporting licensing and registration, and external organisations' access to information. The risk management framework for dealing with the exposures in these operations is continually reviewed to ensure controls remain effective and appropriate. Outcomes of investigations and other reviews are incorporated into the auditing programs, where appropriate, to ensure any additional risks highlighted are adequately addressed.

IT

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 focus on aspects of operating systems such as access and permissions security.

IT audit staff maintained membership of a range of steering committees and working parties to enhance their focus on critical IT processes and systems, IT security and e-commerce, IT infrastructure and the provision of risk/control advice. Audit and risk staff worked closely with business units on risk assessments of new IT initiatives and system purchases and developments.

Systems Inspector Karl Hanghofer and apprentice Mark Harris at the Rockdale depot.

Engineering

The review of major engineering programs, systems and products continued to be the main focus.

Major reviews undertaken included:

- Bridge Information System data reliability.
- Managing environmental issues (following up NSW Audit Office findings).
- Establishment and implementation of the Alliance Management System audit (Ballina Bypass Alliance).
- Coopernook to Herons Creek Alliance Project (product quality audit).

Audits were prioritised based on the identification and analysis of major operational risks and an assessment of the control environment addressing these risks. In conjunction with line management, audits resulted in the identification of a range of opportunities for improvement to controls and practices.

Finance and operations

The Annual Financial and Operational Audit Program's coverage for 2008-09 included the RTA's financial support functions and a range of activities in road safety, traffic and other RTA businesses. The audit projects included an independent assessment of risks and compliance with policies, procedures and Treasury guidelines.

Some of the key audit projects included business continuity planning, e-tendering, corporate online banking, cash management and investments, accounts receivable, Traffic Management Centre procurement and financial services, minor contracts administration in Road Services, use of purchasing cards, as well as the financial and administrative support functions at selected administration centres in Business Services Group.

The Financial and Operations Section also performed the year-end accruals verification for the NSW Audit Office.

Investigations

The RTA performs 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 for action, including consideration of disciplinary action. Recommendations are made to line management to address any weaknesses or areas of concern relating to risks, policies, procedures or controls.

Internal corruption claims are also referred to the ICAC in compliance with the *ICAC Act 1998*.

Fraud by community members that impacts on the RTA's business is primarily referred to the NSW Police Force for investigation and prosecution. Where appropriate, these matters are also referred to RTA senior management to address any policy, procedure and control issues identified by the investigations. Matters referred by law enforcement agencies, such as identity fraud and motor vehicle re-birthing, are also investigated.

Corruption risk management

The RTA has implemented a range of initiatives to minimise the risk of corrupt activity by staff and business partners.

Highlights during the year included:

- Development of a 'Probity Plan' template which must be used by staff involved in the procurement of goods and services worth more than $150,000.
- The delivery of ethics seminars to 160 senior officers by leading business ethics academics and consultants.
- Conducting probity seminars with staff to reinforce the corruption-resistant culture of the RTA.
- The provision of corruption information through the RTA's intranet.
- Provision of advice to staff and management on a broad range of corruption risks and ethical, probity and policy issues.

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 2008-09 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. A policy focus area in 2008-09 was awareness of the procurement process for non-construction goods and services.

In support of this focus, a Commercial Contracts Manual, together with supporting policies and procedures, was developed and published during the year. The purpose of the manual was to provide a structured framework to define the processes required when committing RTA resources. This has significantly enhanced the integrity of purchasing and procurement decisions across the RTA.

Dashboard

The dashboard continues to provide business critical advice to Directors and senior management by providing a single consistent reference point to aid key decision-making across all RTA operational areas. The dashboard will be refined to reduce duplication of reporting and to integrate the dashboard development platform within the business intelligence module of the RTA's Integrated Management System (IMS). Another dashboard development initiative planned for 2009-10 is further enhancement of reporting on the RTA's commercial businesses.

Management reporting

There has been an increased reporting emphasis on the alignment of expenditure with specific program funding allocations. This process continues with a reporting process developed to reconcile government appropriations received to their source, nature and underlying funded program.

An enhanced operational capital budgeting and business initiatives reporting system is being developed in IMS. The key objective of this system is to better align expenditure to the asset replacement plan and enhance benefits realisation 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.

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.

A Commercial Development Committee (CDC) has been established to steer the process of pursuing business opportunities to improve services and generate additional resources for investment in the road network. Underpinning the CDC is a commercial assessment panel whose role is to evaluate commercial opportunities as they are identified and recommend suitable business cases to the CDC. 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.

Strategic risk forms an integral component of a robust investment decision framework. The corporate risk management framework 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 2008-09, refer to the financial statements (see page 113).

Advancing business opportunities

Traffic Information and Systems

The RTA generates traffic-related data and information from a variety of systems and sources. Work has begun to coordinate the management of this information and approaches from the market to use this information for commercial purposes. An example of successful engagement with market participants is the start of an agreement with Intelematics Australia for the supply of traffic and incident data for the Suna Traffic Channel.

The RTA-developed SCATS (Sydney Coordinated Adaptive Traffic System) is used in more than 138 cities worldwide. During the financial year the number of distributors for this system was increased to three to continue to grow sales around the world of this market-leading technology.

Special Number Plates

The special number plate business of the RTA continued its growth in a challenging economic environment. New marketing initiatives were completed in 2008-09 including the rebranding of the business to 'myPlates', the launch of 22 new colour plate styles, the restructure of prices to remove annual fees on standard content plates and the development of sales through car dealers. The financial year finished on a high note with a highly successful rare plate auction generating nearly $2.4 million in sales for 49 numeral-only plates.

Rare number plates auction held at the Classic Throttle Shop, North Sydney, June 2009.

RTA Road and Fleet Services

The RTA's commercial arm – Road and Fleet Services – enjoyed another good year despite the economic downturn. Road and Fleet Services posted a record income of $749.6 million, with a surplus of $55.4 million. This was achieved by strengthening business operations, effective planning and delivery of an enhanced alliance works program and staff productivity. Marketing of the technical skills of Road and Fleet Services secured an external income of $36.9 million.

Other key achievements included:

- Ongoing improvements and consolidation of the alliance contracting approach to deliver maintenance and other minor works. In addition to improved resource allocation, efficiency, productivity and delivery of works through early and meticulous scoping and planning of work, the approach ensured an even and balanced distribution of work across the year with the delivery of 48 per cent of the Corporate Finance Approved program in the first half of the year (a marked improvement over 42 per cent delivered at the same period in the previous financial year).

- Introduction of the Land Use Plans, Development Applications and Proposals geo-database to track land use development matters referred to the RTA for assessment (including draft statutory instruments, development applications and other proposals).

- Significant progress in implementing the Field Input Data Operations (FIDO) maintenance management system. FIDO allows maintenance and defect data to be entered electronically from the field, providing accurate and timely information to allow more efficient maintenance reporting and planning.

- Implementation of the new performance-specified maintenance contract to replace the long-term contract in the north area of Sydney Region. The new contract is expected to improve maintenance and the long-term condition of the network.

- Establishment of a centre of engineering knowledge and expertise by recruiting key technical staff for the specialist groups in Engineering Technology Branch.

- Reduction in project risks and costs through an improved overlay pavement design on Dane Drive and Masons Parade, Gosford.

- Innovative designs and treatments on the Bulahdelah Bypass project which reduced traffic impacts and costs.

- Use of alternative pavement materials for longer pavement durability and reduced maintenance costs.

- Efficiencies though reuse/reduction of material.

- Alternative traffic control methods resulting in reduced traffic management costs, less impact on the environment and reduced traffic disruptions.

- Productivity gains through improvements to designs including an innovative fall-protection barrier system on the HW11 Crossover Bridge project and pavement treatment to prevent strains on the Hume Highway caused by mining.

Our people

A safe and healthy workplace

Occupational Health and Safety statement

The RTA is committed to providing a safe and healthy workplace and eliminating conditions or hazards that could result in personal injury or ill health. Workplace health, safety and welfare in road and traffic operations are always given precedence over production demands.

The Executive and senior management provide leadership that supports and enables the vision of a safe workplace. This leadership facilitates a positive engagement with the workforce that encourages a strong safety culture, enhancing the safety and well-being of RTA staff.

Policy and commitment statement

The RTA Occupational Health and Safety 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 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 continued to be applied to all of the RTA's activities. Significant OHS risks were 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.

Road maintenance

The 2009 Safety Summit for Road and Fleet Services managers identified key focus areas for OHS. These included improving the quality of SAFE Engagements (behaviour audits), increasing near miss reporting, disseminating lessons from incidents, working on foot around plant, working near utilities, working near traffic, working at heights, 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 continue to maintain certification to AS 4801 (Australian Standard for Occupation Health and Safety Management Systems) and accreditation with the Office of the Federal Safety Commission.

Traffic control at worksites

Traffic control at worksites was improved in 2008-09. Key actions included information sharing by regional working groups of traffic control practitioners, re-evaluation of speed zone authorisation processes, the development of a Technical Direction on working with the NSW Police Force to identify roadwork sites that require a police presence, and speed zone enforcement.

Utilities

Utility 'strikes', such as unplanned contacts with electricity, gas, water and telecommunication services, continued to be a major cause of potentially serious incidents. Continued efforts to prevent these incidents included the formation of a Utilities Coalition to review incidents and develop strategies to prevent utility strikes. In 2008-09 there were 93 serious incidents reported.

Contractor safety

The RTA continued to achieve a high safety performance for its projects and set benchmark standards in OHS management of contractors. The annual contractor safety forum provided an opportunity to share best practice. The forum, held in November 2008 and attended by more than 70 contractors and RTA employees, discussed tools and systems to drive stronger safety cultures and performance.

The NSW Civil Industry Coalition, which includes key RTA contractors, was established to address serious incidents in construction projects. The coalition successfully negotiated a number of initiatives including the WorkCover Noise Memorandum of Understanding among industry partners, the incorporation of site safety rules into OHS contract specifications, a Safe Work Method Statement review system, and revisions to the strategy of managing contact with utilities.

Improvements were made to the traffic control registration scheme to reduce the risks to road workers from traffic. The scheme is now a mandatory condition of contracts, including alliance business models and single invitation maintenance contracts with local government. Work continues between the RTA and local government to improve OHS performance in road construction and maintenance through desktop audits and monitoring of local councils' maintenance contracts.

OHS program delivery

The RTA delivers its OHS program through a central OHS Branch working with regional OHS facilitators, line managers and their staff. This ensures 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, with a near 100 per cent response rate recorded in 2008-09.

RTA staff carrying out an OHS inspection on the Great Western Highway.

Working Together targets

The RTA has performed well in NSW Government's Working Together injury prevention and management targets and well above the average for all Treasury Managed Fund (TMF) agencies. The Working Together reduction targets represent the improvements in performance from previous reference years required by the Working Together Strategy.

TABLE 10. WORKING TOGETHER PERFORMANCE – WORKCOVER AS AT JUNE 2008

Working Together target	RTA	NSW public sector result
1. Injury prevention – 20%	25%	6%
2. Injury management – 10%		
8 wks	-1%	8%
12 wks	1%	7%
26 wks	-3%	9%
3. Average claims cost – 15%	42%	25%
4. Suitable duties – 10%	-354%	-22%

The RTA performed above the standard required in targets one and three and its performance was better than the public sector as a whole. Target two has not been achieved by the RTA as a result of WorkCover's methodology in generating the data. Workers have been deemed unfit for work for the full eight, 12 or 26 weeks regardless of whether they only had one day off or less in that time. Target four has not been achieved by the RTA, or by the NSW public sector as a whole. This result is caused by an increase in employees unable to be placed in suitable duties from one person in 2005-06 to four people in 2008-09, coupled with a reduction in overall claims for weekly benefits of 16.5 per cent, which creates a poorer statistical result. WorkCover has noted the inadequacies of these two targets and will modify the targets for 2009-12.

The 2008-09 workplace injury rate was 4.9 per 100 equivalent full-time employees, a 47 per cent reduction from the 2001–02 base year. This result exceeded the 40 per cent reduction target set for 2012. The average claims cost for 2008-09 was $12,026, better than the WorkCover target of $16,012.

OHS performance reporting

The RTA continued to use forward (lead) and delayed (lag) performance indicators. A strategy to increase near miss reporting began in 2008-09 to ensure that high consequence risks are identified and controlled. EnSafeOnline, the RTA's new online incident reporting and investigation system, was implemented in 2007-08 and continues to be upgraded to ensure that all incidents are reported and investigated appropriately.

Staff health, fitness and well-being

The AlphaOne Integrated Workplace Health and Fitness Management Program is a behavioural and organisational change program designed to improve the health, fitness, safety and quality of life of RTA employees. Stage four of the five-year program was completed, with 1650 staff at 70 worksites attending education sessions on health issues. Of these, 1270 staff underwent voluntary health and fitness assessments. Analysis of data has improved the matching of employees' fitness to their tasks, with a positive manager survey indicating that more than 83 per cent of participants felt that the course met their expectations.

Details of injuries and prosecutions under OHS ACT

OHS incidents

The most significant risks of serious injury to RTA employees and contractors are working in the vicinity of traffic and moving plant, working at heights and utilities. One contractor fatality occurred at a RTA work site. The most common cause of workplace injuries across the RTA in 2008-09 was musculoskeletal disorders.

Prosecutions

There were no prosecutions for breaches of the *Occupational Health and Safety Act 2000* (OHS Act) in 2008-09.

OHS indicators

All OHS indicators have shown an improvement over the past year except for a slight increase in total claim costs.

TABLE 11. OHS STATISTICAL INDICATORS

Performance indicator	2007-08	2008-09	Change
Incidents reported	2204	1788	19% reduction
Number of compensable injuries (all claims)	427	377	12% reduction
Total claims costs	$2.6 m	$2.7 m	3% increase
Lost time injuries	190	156	18% reduction
Number of workplace injuries	412	352	15% reduction

TABLE 12. FIVE-YEAR WORKPLACE INJURY TREND

	2004-05	2005-06	2006-07	2007-08	2008-09
Average number of work related claims per 100 employees	7.5	7.4	6.4	6.1	4.9
Average cost of work related claims per employee $	365	358	332	329	269

TABLE 13. WORKERS COMPENSATION CLAIMS

1998-09	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
811	726	643	595	668	608	577	548	473	427	377

Workforce capability

The RTA has strengthened its resources in critical skills development, succession management and knowledge management. These moves are in response to the increased global competition for scarce road-based technical skills such as engineers, road designers and surveyors. The RTA has established a Professional and Technical Skills Advisory Board made up of some of the organisation's most talented and senior professionals to oversee and inform the skills development program and advise the RTA Executive Workforce and Reform Committee. The RTA is focused on ensuring its workforce is not only ready now, but is prepared for future demands.

> The RTA is proud of the ability and dedication that all staff bring to their work. To ensure that the capability of the organisation remains high, the RTA invests significantly in the development of its workforce.

As well as investing in targeted employment programs to bring graduates, paraprofessionals, apprentices and trainees into the RTA and supporting the study of undergraduate students in specific disciplines, the RTA provides generous support for the continuing education and development of its permanent workforce. The RTA also invests significantly in Aboriginal employment programs, as well as programs to maintain, encourage and develop the diversity of our workforce.

A number of initiatives are underway, including:

- Strengthening the RTA Alumni Program.
- A program to capture knowledge from key staff retiring from the organisation and staff with critical skills.
- In collaboration with Engineers Australia, the e+ development program for engineers.
- The leadership development program.
- Development of an RTA Online Learning Centre.
- Transformation of the recruitment process.
- Development of workforce strategies for skill priorities in areas such as civil engineering, road designers, traffic and transport management and policy.

Leadership development

The RTA's workforce strategy addresses the full spectrum of leadership skills required by an organisation integral to the community of NSW. Our world-class leadership development framework is informed by global best practice.

This framework reflects the core values and the key behaviours needed to drive the RTA's leadership and management capability. It is being used to improve leadership development, assist with recruitment and succession planning and to ensure that the RTA has a strong basis for continuing organisational leadership. The RTA conducts an annual assessment of managers against this framework.

Workplace innovation

As well as concentrating on building the workforce of the future, the RTA continues to implement initiatives to improve the work environment for our staff. The RTA supports innovation in workplace practices and processes through management and staff development, enhanced workforce mobility and flexibility, internal communication, employee health awareness and development programs, diversity and equity initiatives, and improved workplace conduct support.

Teleworking

The RTA encourages teleworking – a flexible work practice that enables staff to balance their work and personal commitments. Teleworking reduces vehicle kilometres travelled and car dependency, and improves air quality. The RTA holds workshops on the implementation of sustainable travel initiatives including teleworking. It also continues to promote the benefits of teleworking to government agencies and businesses via manuals, meetings, forums and the internet. The RTA provides opportunities for staff to telework on a regular or needs basis. Staff have access to telecentres in Penrith and the Central Coast, and hot desks across the organisation. Staff are also able to telework from home.

Targeted recruitment programs

The RTA's targeted employment programs bring graduates, paraprofessionals, apprentices and trainees into the organisation. Through these programs we provide both financial support and work experience to ensure 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 worksites across NSW to ensure they gain exposure to a broad range of skills and experiences. In 2008-09 the RTA recruited apprentices across a range of trade classifications including electricians, painters, bridge and wharf carpenters and plant mechanics. In June 2009 the RTA employed 71 trade apprentices.

Traineeships

RTA trainees are working towards a variety of vocational education and training qualifications. Traineeships are located in the RTA Contact Centre, regional offices, administration centres, motor registries, road construction and other RTA functional centres. As at 30 June 2009, the RTA employed 133 trainees.

Graduate Recruitment and Development Program (GRAD)

RTA graduates come from a range of disciplines such as chemistry/material science, urban design, town planning, transport planning, policy, traffic and transport, engineering, computer systems engineering, land economics, environment and community liaison. Over recent years, the GRAD program has consistently averaged a retention rate of 97 per cent. At 30 June 2009 the RTA employed 152 graduates.

Left to right: Graduates Jeff Seeney and Amy McCann with staff member Zen Huang at work at Miller Street, North Sydney.

Undergraduate scholarship, 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 professionals to return to these rural communities to work after completing their degree. At 30 June 2009, the RTA supported 123 undergraduates studying the disciplines of engineering and surveying. Twenty-four of the 123 undergraduates were 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 2009 there were 41 participants in the programs with 36 of those in the Road Designer in Training Program.

Capability in trades and non-trades grades

Competency-based assessment continues to underpin an enterprise classification structure for trades and non-trades wages staff in the RTA Road and Fleet Services business. The Wages Classification Structure Assessment Project is a key mechanism in maintaining a responsive and capable operational workforce. It ensures the competency of staff who are upgrading their skills for new positions within the organisation.

All new staff entering the RTA's road construction and maintenance workforce, including apprentices and trainees retained after the completion of their training, are also assessed. The Wages Classification Structure Assessment project encourages wages staff to develop multi-disciplinary skills and training, allowing for flexible deployment and greater productivity gains at the grass-roots level.

A new plant operator safety certification system of competency-based training and assessment was developed and implemented. This system ensures compliance-based certification of staff working with mobile plant and construction/maintenance machinery.

Staff training and education

The RTA is a leading provider of technology, professional and technical skills in many areas including road safety, traffic management, road and bridge building and maintenance. To maintain and grow its capability, the RTA supports on-the-job and formal training delivered by RTA technical experts or external specialists. During 2008-09, 8029 staff (including contractors, skill-hire and business partners) attended a total of 3999 approved training courses at a cost of $2.81 million (excluding GST). Technical, OHS and environmental training accounted for 61 per cent of the training. Outsourcing training for vendor management saved $170,111 for external programs.

Commercial Contracts Template training was provided to 247 staff who have a role in tendering and managing contracts for the RTA. The training ensures staff know the correct guidelines for the tendering and evaluation process for goods and services, the correct policy and NSW government legislation.

The environment remained a key focus area for 2008-09. Aboriginal cultural heritage training was delivered to 303 staff and Environmental Procedures for Routine and Minor Works were provided to 641 staff.

The RTA continues to develop e-Learning to provide flexible options for staff development. Initiatives included the establishment of an online learning centre.

Working ethically and professionally

In accordance with the principles of good governance, all RTA staff attended an internally developed, one-hour, interactive Code of Conduct and Ethics presentation. Approximately 8600 staff (including contractors, skill-hire and business partners) attended a total of 670 sessions.

The Workplace Practices Unit also developed and ran a 'Working with Young People' presentation for Driver Testers and others (24 sessions, 339 staff) and Disclosure Officer training (eight sessions, 72 staff) for senior RTA officers receiving and dealing with protected disclosures. In addition to the Code of Conduct and Ethics sessions, a total of 1951 staff attended 150 conduct-related presentations including:

- Managing unsatisfactory performance and conduct.
- Grievance resolution.
- Harassment, Discrimination and Workplace Bullying.

Strategies to resolve workplace grievances continued with the appointment of mediators to the RTA's Grievance Resolution Mediation Panel and the appointment of Grievance Contact Officers for a three-year term.

Workplace Conferencing, which deals with multi-party disputes, has been successfully trialled. This resource is offered in addition to facilitated discussions and mediation. In 2008-09, there were 34 facilitated discussions, mediations or workplace conferences. The vast majority of disputes were resolved to the satisfaction of the parties concerned.

Sponsored programs

The RTA sponsors many of its staff to undertake postgraduate qualifications across a range of disciplines to ensure continued capability across all functions. Sponsorships were approved in the following postgraduate qualifications:

- Master of Technology in Pavements (Centre for Pavement Engineering Education CPEE).
- Master of Engineering in Pavements (CPEE).
- Advanced Certificate in Transport and Traffic Management (Institute of Transport and Logistics Studies ITLS).
- Master of Transport Management (ITLS).

Staff orientation

The RTA continued to deliver its formal orientation program. The program includes an increased focus on the role, responsibilities and achievements of the RTA, and was delivered to 377 new staff during the year.

Internal communication

> With about 7123 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 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 video clips and Flash software to produce presentations and illustrations.

In 2009-10 the challenge for the organisation continues to be to investigate and adopt communication tools and channels that further improve internal communication.

External panels

NSW Premier's Capability Taskforce

The RTA is a significant public sector employer and plays a major role in many of the NSW Public Sector Workforce Strategies. The RTA has participated in strategies to address accounting and engineering skill shortages and to improve the attractiveness of the public sector as an employer. The RTA will continue to play a major role in the development and implementation of public sector workforce strategies as part of the NSW Premier's Capability Taskforce, particularly as they apply to key infrastructure areas.

Austroads Capability Taskforce

Through its membership of this peak industry body, the RTA contributes to work to ease the workforce capability pressures shared by road infrastructure organisations across Australia and New Zealand. This forum is used to raise the profile of the industry rather than the individual profile of just one agency.

In 2008-09, the RTA took a leading role in the delivery of the National Skills Marketing Plan – an Austroads Capability Taskforce campaign to promote engineering skills in the roads sector, targeting senior high school and first year university students.

The RTA played a key role in the start of the Austroads Capability Taskforce project 'Australia and New Zealand Roads Capability Analysis – 2009 Update'. This project aims to assess future skilled labour supply and demand in the roads sector, and is using data from a similar project in 2006 as a baseline for comparison.

Staff awards

The RTA Staff Awards recognise excellent performance in areas of critical importance to the RTA and provide an opportunity to acknowledge and reward staff who have made an outstanding contribution.

An awards presentation ceremony was held on 27 February 2009. The event was attended by the Minister for Roads who presented 20 awards to 177 winners. Winners included staff from nine regional and four metropolitan work locations.

Staff achievements

The RTA's staff continued to receive accolades from industry and other external bodies for the high quality of their work.

•   The RTA project team responsible for the Pacific Highway Upgrade from Brunswick Heads to Yelgun won a prestigious Engineering Excellence Award. The Newcastle Division of the Institution of Engineers recognised the team for its outstanding achievements in the design and delivery of this complicated project.

    The prizes are awarded each year in recognition of the expertise of individuals and organisations across a range of engineering and environmental criteria.

    The 8.7km project has delivered significant improvements to road safety, transport efficiency and community access, and a high environmental standard.

Left to right: Peter Borrelli, Stephen Summerell, Ron Homes and Joe Canceri.

•   The RTA's expertise in surveying was recognised with two major industry awards.

    The 2008 NSW Excellence in Surveying and Spatial Information Awards were announced in September 2008. Competition for the awards is intense and open to private industry, the public sector and academia.

    The RTA has been a sponsor of the awards since 2002. The surveying discipline of the RTA has won nine major awards since 1998 – more than any other organisation.

    Jai Reddy, Project Development Manager and RTA Graduate of the Year in 2007, received the $15,000 2008 Surveyor-General's International Fellowship from the Surveyor-General and Director-General of the Department of Lands, Warwick Watkins.

    RTA Manager Surveying Mark Gordon was presented with the major award of the evening, the prestigious 2008 NSW Professional of the Year.

An RTA submission on road boundaries in national parks was also a finalist in the 'Extra Dimension' category. The entry was submitted by John Gillies and Ray Gilmour, Manager of Survey Technologies and Practice.

Left to right: Peter Collins, Director Regional Operations & Engineering Services, Jai Reddy, Project Development Manager, Mark Gordon, Manager Surveying, and Chris Harrison, General Manager Engineering Technology, at the 2008 NSW Excellence in Surveying and Spatial Information awards evening.

•   The RTA won a gold award for its interactive and informative stand in the Home, Garden and Lifestyle Hall section of the 2009 Royal Easter Show.

    The stand carried a strong road safety message and was developed around the theme of 'My life, my way. My RTA'. The stand included a display on child restraints, a tolling booth where e-tags and passes could be purchased, and a display of number plates, including the newly launched RTA pink plates.

    Ninety RTA volunteers staffed the stand over 14 days.

Providing a strong road safety message and great customer service: the winning RTA stand at the Royal Easter Show.

- RTA contractor Parsons Brinckerhoff, in partnership with the RTA, received a high commendation award from Engineers Australia (Sydney Division) for the Kempsey to Eungai upgrade of the Pacific Highway.

  The award recognises excellence in the ability to influence decisions, practices and future directions as documented in investigations and other formal reports. The project team received the award for the recently released environmental assessment.

  The Kempsey to Eungai upgrade will feature the engineering and construction of 40.8km of upgraded highway, bypassing Kempsey and Frederickton. The project will include 2.15km of bridge crossings over the Macleay River and floodplain.

  A key to the project receiving a high commendation was its community/stakeholder involvement program, which actively embraced all facets of the local community and aimed to address the issues affecting it.

Striving for success: the RTA's Chris Clark and Ray Dallen from Parsons Brinckerhoff accept the award at the Engineering Excellence Awards 2008.

- The RTA won a gold award at the 12th NSW Premier's Public Sector Awards for its efforts in reducing speed-related deaths and injuries in NSW.

  The RTA took top honours in the 'delivering better services' category. In the past two years there has been a major decline in the number of people dying in speed-related crashes in NSW, which can be attributed to a combination of factors, including effective enforcement, tougher reforms, successful marketing and education campaigns and a change in driver behaviour and attitudes.

  The RTA also won bronze in the same category for its delivery of the North-West T-Way project. In total there were 37 nominees in this category.

  The Premier's Public Sector Awards formally recognise and reward achievements of excellence by the New South Wales public sector.

Left to right: NSW Premier Nathan Rees presents the gold award to Tracey Arthur, General Manager Corporate Communication, and Soames Job, Director NSW Centre for Road Safety.

Future challenges

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.

HR

- The most significant challenges that face HR include:
  - Global economic challenges.
  - The ageing of the 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 *Blueprint*, the RTA Corporate Plan, through three broad streams of activity:
  - 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.