



OUR STORIES

TECHNOLOGY-DRIVEN ROAD NETWORK MANAGEMENT

Congested roads affect travel time, which impacts on the state's economy and the wellbeing of Western Australians. The avoidable cost of Perth's congestion in 2018 was estimated to be \$1.6 billion. The Road Network Operations Centre (RNOC) is a purpose-built, world-class facility designed to help manage this congestion, optimise road network safety and performance.

The facility delivers situational awareness and a common operating picture, to enable rapid, effective and data-supported decisions in a real-time environment. It facilitates collaboration with critical first responders to manage operations, emergency incidents and events. With a focus on the customer journey, the RNOC incorporates technological capabilities required to address the current and future road network management needs; which will include operating Western Australia's first Smart Freeway in 2020.

Using Bluetooth Technology to Monitor Live Traffic

Addinsight is a bluetooth technology system that uses signals from devices inside motorists' vehicles to accurately map out journey times along parts of our road network. The information is updated in real-time every 30 seconds, building a historical database over time. Using this rich, real-time source of data, we are able to quickly recognise abnormal traffic conditions on our roads. These are typically due to incidents, which we can respond to more safely and efficiently. This allows the road network to quickly recover from the impacts and get back to normal operation.

Data Driven Decision Making

We harness and analyse a range of powerful data across our network, systems and third party providers to measure, monitor and understand the performance of our roads. This understanding is crucial for day-to-day operations and planning of our road network, helping us make informed decisions that lead to better outcomes for our customers.

This data comes from more than 3,000 sensors, 400 CCTV cameras, 600 Bluetooth beacons, detectors at traffic signals, internal systems, and WAZE and weather services.

Through new technologies and smarter operations, coupled with traditional civil widening, we will continue to focus on reducing the impact of congestion by optimising the existing infrastructure assets.

Managing Events Across Perth

Optus Stadium caters for up to 60,000 people during sport events and has the capacity to host up to 90,000 people for concerts. With over 50 events planned at Optus Stadium alone every year, that's over two million people that need to get to the stadium on different modes of transport every year.

The RNOC plays a key role in making sure that the road journeys to and from major events in Perth are managed safely and efficiently, whether it's for the sell-out AFL Derby, or over 35,000 people taking part in HBF Run for a Reason, that involves closure of our freeways.

Our teams work relentlessly in the background, together with a wide range of stakeholders, to ensure that the community enjoys their experience.

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ABORIGINAL EMPLOYMENT AND MAKING A DIFFERENCE

Increased employment opportunities to enhance wellbeing of Aboriginal people is a key commitment for Main Roads. To help us achieve this objective, in collaboration with Nudge, a for purpose charity, we developed a Strategic Business Case for Aboriginal Employment Initiatives.

Championed and led by our Aboriginal Employment Initiatives Taskforce, the business strategy includes: contract clauses with mandatory requirements and stretch targets for Aboriginal participation and employment; procurement through Aboriginal businesses; and incentive payments against these stretch targets for major works.

In the Kimberley, our maintenance activities are managed within the region. This model means direct engagement with local contractors and creates greater employment opportunities for Aboriginal communities.

The Broome – Cape Leveque Road Upgrade project is a direct managed works project, with construction staged over three to four years. This brings local Aboriginal communities and business, opportunities for employment and training over an extended period. A program of works like this is known to be more effective in delivering long-term economic and social benefits.

Achieving genuine increased capacity within Aboriginal communities and businesses, this longer construction program also provides time for local communities to adapt and prepare for the increase in traffic growth and visitors to the area.

Our approach also engages skilled work crews in the Kimberley who have inherent knowledge of the landscape and surroundings. This local knowledge is critical, especially in the far north where conditions have a major impact on road construction and maintenance activities.

For each project, we consult with local Aboriginal businesses from the early stages of the works. This helps our understanding and creates familiarity with Aboriginal businesses and local capabilities. It also helps us understand family and language groups and various cultures in the region, ensuring we have the best engagement model creating strong links and long-term mutually beneficial relationships.

We remain committed to learning from our experiences, as well as working closely with contractors, Aboriginal businesses, organisations and the communities we serve in order to increase participation rates in our projects and provide sustainable employment and training.

We have been actively updating how we do things to ensure we make a difference within our industry. Feedback from Aboriginal communities and businesses we work with has been positive with praise for our ongoing commitment and level of engagement.

This positive feedback makes us even more determined to continue to work towards making a difference for Aboriginal people and their communities. Visit our YouTube site to view a video on our Aboriginal Engagement and Participation.



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SAFETY UPGRADES IMPROVE SOUTH WESTERN HIGHWAY

The South Western Highway is a key route connecting Perth with south-west communities including Pinjarra, Harvey, Donnybrook and Walpole.

Accessed by an average 4,000 vehicles per day, the section of highway between Waroona and Brunswick was narrow, and its poor geometry posed safety issues for the type and volume of traffic. Poor configuration contributed to road hazards and significant crash frequency.

In response to these safety concerns, we undertook significant improvement works on two sections of the highway – between Wokalup and Brunswick, and from Waroona to Yarloop.

Twenty-six kilometres of sealed shoulders are now widened to the edge of the road formation, helping reduce run-off-road crashes. Safety barriers are installed to help prevent run-off-road crashes at large culverts or high embankments.

Installing audible edge lines and a 600-mm wide centre-line treatment now increases vehicle separation and alerts drivers who cross the centre-line, reducing potential for head-on collisions.

Improvements to the roadside batters help mitigate the risk of serious crashes, whilst the removal of vegetation in discrete locations has improved sightlines to oncoming and through traffic.

The objectives for these improvements are reducing the number of killed and seriously injured road users on this section of highway along with improving the travel journey for all road users.

In addition to these upgrades, a budget allocation allows for planning and development work for future improvements at selected highway locations.

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IMPROVED TRAFFIC FLOW AND SAFETY IN MARGARET RIVER

Construction of the seven-kilometre Margaret River Perimeter Road was completed in early February 2019.

Extending from north of the Margaret River townsite and linking back to Bussell Highway south of Margaret River, the road provides an alternative, high-standard, free-flowing route for heavy vehicles around the town, reducing congestion and enhancing safety for pedestrians and local traffic.

With 2.5 million visitors to the region each year, the perimeter road is the catalyst for the future renewal of the main street into a modern and attractive tourist destination.

The perimeter road has improved traffic flow and efficiency on Bussell Highway through the town and reduced conflict between light and heavy vehicles in the main street.

Approximately 1,400 vehicles use the perimeter road each day and indicative counts show more than 20 per cent of these are classed as heavy vehicles. Consequently, the project is already meeting the key objective of improving safety by removing the majority of heavy vehicles from the town and, in turn, increasing transport efficiency for industry.

A one-metre wide painted central median on the new perimeter road offers additional safety with greater distance between opposing directions of traffic.

From 2012, a community reference group provided input into the project, and was responsible for the inclusion of a pedestrian footbridge over the Margaret River.

The project subsequently included: a large roundabout at the northern entrance to town, a new roundabout at John Archibald Drive, construction of a new 96-metre long road bridge and separate footbridge on the Darch Trail, a new entrance road to the airstrip, and a wide sealed shoulder for cyclists.

During construction more than 20 local businesses were engaged, 120 local workers employed and 20 traineeships created. More than 60 local primary students were also involved in planting more than 1,200 seedlings along the road. Planting and landscaping works will continue over the next four years. A video of the works that were carried out is available on our YouTube channel.



OUR STORIES

NORTHLINK WA NOW IN FINAL STAGES

NorthLink WA is now in its final stages with the southern section, one of the three projects making up this \$1.02 billion initiative, now complete and the central section on track to finish mid-2019. The northern section is due to open at the end of 2019.

NorthLink WA will provide an efficient alternative freight route, taking about 80 per cent of trucks away from the Great Northern Highway, reducing travel time and congestion for commuters and freeing local roads for local traffic.

Activity by central section contractor Great Northern Connect, a joint venture between BGC Contracting and Laing O'Rourke, has been intense throughout the year.

A major milestone was the opening of Western Australia's biggest freeway-to-freeway interchange at Tonkin and Reid Highway in March 2019.

A second interchange at Gngangara Road partially opened in May and the third interchange at The Promenade in Ellenbrook is on track for completion mid-2019.

Three new pedestrian footbridges were installed over Tonkin Highway, Hepburn Avenue and Gngangara Road; and a four-metre-wide principal shared path, connecting Morley to Ellenbrook, will also open mid-year.

On the northern section between Ellenbrook and Muchea, the highway has become clearly visible with more than six million tonnes of earth hauled to site.

This project, being constructed by CPB Contractors, features more than 150 drainage culverts, including six dual-use culverts with fauna underpasses.

In May, 24 tee-roff beams for the bridge across Muchea South Road and the railway line were installed. The beams ranged from 24 to 40 metres and weighed from 114 to 180 tonnes. The complex manoeuvre involved a 13-day road closure, as the beams could not be installed over live traffic.

At almost 70 per cent complete, work on three grade-separated interchanges with roundabouts at Neaves Road, Stock Road and Brand Highway is well underway.

Thirteen structures in this section are almost complete including 11 road bridges, a footbridge at Neaves Road and a pedestrian underpass at Stock West Road. As part of our ongoing commitment to keep the community informed we are doing regular updates on the Project website. This includes video footage of the works as they progress.

OUR STORIES

LARGEST GEOTEXTILE-REINFORCED SEAL IN OUR HISTORY

The Wheatbelt Region can now lay claim to completion of our largest Geotextile-Reinforced Seal (GRS) campaign to date. The region has some of the oldest roads in Western Australia, damaged through age and weathering.

GRSs are created by spraying a layer of bitumen onto a pavement then covering the bitumen with a layer of geotextile, a permeable fabric, and lightly rolling.

The treatment can be used to provide more robust waterproofing. Applying GRS on the Wheatbelt road network has helped seal cracks and its use can significantly reduce maintenance costs and improves the life of the road.

In total, 1.53 million square metres of GRS was laid equating to approximately 170 kilometres of the road network.

GRS is an engineering tool to prevent cracks being exposed to wet weather. It creates a very tough, bitumen rich waterproof membrane that resists the tendency for cracks to open up and become exposed to the elements.

The product was used on priority roads identified as having cracked pavements, and where standard single and double-coat seals had previously failed to adequately waterproof.

For the region to apply GRS, the road surface was cleaned then a bond coat of bitumen applied that the geotextile sticks to. The geotextile is rolled out and any creases are removed. Additional bitumen is then applied on top of the geotextile, followed by a spread of 14 mm aggregate then rolled. A final light coat of bitumen is applied to the 14 mm followed by a spread of 7 mm of sealing aggregate. Rollers then go over the entire section to secure the seal. Once completed, the road is open to traffic at low speed, until the seal has settled under heat and traffic.

This treatment is an innovative and cost effective way to increase the life and improve the safety of some of our ageing roads without having to completely reconstruct them. A video showing the region laying the GRS onto the bond coat can be viewed on our website.

OUR STORIES

BUILT BY LOCALS, FOR LOCALS

Sealing of the Bidyadanga Road and Airstrip has provided vital connectivity to Western Australia's largest remote Aboriginal community and has helped boost employment and training for local residents.

Bidyadanga Community lacked all-weather access via road and air, resulting in periods of inaccessibility. This meant no access for emergency and primary health workers and significant health consequences for the locals.

While the approximately 12-kilometre access road was adequate in dry conditions, it was often closed in wet weather. Four million dollars of funding was committed for the project to seal the remainder of the access road.

Developing a community-centric partnership with Kullarri Regional Communities Incorporated for this project helped create employment and training opportunities for local Aboriginal people from the Bidyadanga Community.

D'Antoine, a Derby-based Aboriginal registered business, in partnership with Gungulla Mackay provided the majority of machinery for the delivery of works. Twenty-five Aboriginal people worked on the project including 12 employees from the local community, five employees from Derby and four employees working as cultural monitors for vegetation clearing operations.

Additionally, traffic management training was held onsite in the community providing an accessible, on-the-job experience increasing Aboriginal participation in delivery of the works. This gave the opportunity for further collaboration with Aboriginal businesses and resource provision for Kimberley projects.

During construction we worked with a number of organisations to ensure essential services continued. Kimberley Aboriginal Medical Services needed to maintain medical and evacuation services, so regular communication with them meant interruption was minimised. We also worked with the Water Corporation who allowed access to water bores.

A multi-agency approach ensured ongoing maintenance of the road and airstrip during construction. Agencies included the Department of Communities, responsible for ongoing asset management of the airstrip, and the Department of Planning, Lands and Heritage, which arranges the road reservation.

This upgrade now provides all-weather access for critical medical services including health clinic visits, access to primary care workers and medical evacuations. Video footage of the project can be viewed on our YouTube channel.

OUR STORIES

COLLABORATIVE APPROACH TO MANAGING LOCAL ROADS

Our commitment to managing an efficient, reliable and safe road network was reinforced when we renewed, for the fifth time, the State Road Funds to Local Government Agreement (SRFLGA) in collaboration with WA Local Government Association (WALGA).

The agreement provides an allocation of funds to local governments for the improvement and maintenance of our state's roads and bridges and aims to provide certainty of funding for local government.

The SRFLGA also highlights the strong working relationship between local and state government and provides a collaborative approach in the way both levels of government meet the challenge of maintaining and improving more than 150,000 kilometres of road networks.

While there has been significant State Government investment on local road election commitment projects outside of the agreement, it is anticipated that this funding will contribute \$966 million to the local road network. Funding is based on 20 per cent of the state's vehicle licence fee collections.

The agreement recognises the importance of improving road safety, providing opportunities for Aboriginal employment, facilitating local economic development through local employment and encouraging more sustainable road construction practices through the use of recycled materials.

This builds upon the previous agreements negotiated in 1995, 2000, 2005 and 2011 and reinforces the strong working relationship between local government and the state government.

Funding also supports tourism, via the agreement's State Initiatives Program, for National Park roads and upgrades on Rottnest Island and on Kings Park roads.

OUR STORIES

ANIMAL WELFARE A PRIORITY WITH OUR FIRST FAUNA BRIDGE

Along with 37 new road bridges, nine new interchanges and more than 150 kilometres of road safety barriers, NorthLink WA features the state's first dedicated fauna bridge. Whilst we have many animal underpasses throughout the State this is a first for us.

Contractor Great Northern Connect, a joint venture between BGC Contracting and Laing O'Rourke, has built the bridge as part of the NorthLink WA central section.

There are 12 fauna underpasses along Western Australia's newest stretch of freeway, but the jewel in the crown is our first ever fully vegetated fauna bridge.

Located north of Ellenbrook, the bridge will connect bushland known to house abundant wildlife. At 12 metres wide, it will provide a natural route that encourages and allows animals of all kinds to cross the freeway safely.

During the design phase, the contractor indicated a preference to keep the profile of Tonkin Highway as low as possible to reduce noise and visual intrusion for residents of Ellenbrook.

Because of this low profile, a fauna overpass was a more viable option at this location, with better environmental outcomes than fauna underpasses used elsewhere on the project.

With construction now complete, the fauna bridge will be densely landscaped to mimic the natural environment by using trees, bushes, shrubs and ground covers native to the area.

Natural barriers such as heavy logs will be placed at each entrance to discourage unauthorised human access. Mounding and rockeries are built into the design providing habitat and cover for crossing animals.

The bridge will be closely monitored and maintained, ensuring continued habitat connectivity for the long-term sustainability of our treasured wildlife.

OUR STORIES

COMMITMENT TO INFRASTRUCTURE SUSTAINABILITY RECOGNISED

Winning the 2018 Organisational Leadership in Infrastructure Sustainability Award once again shows our contribution and commitment to sustainability.

The award, from the Infrastructure Sustainability Council of Australia (ISCA), recognises the organisation exhibiting the most outstanding performance, leadership and greatest contribution to advancing infrastructure sustainability in Australasia.

This is the second time we have won this award, having previously received it in 2014, illustrating our continuing dedication to sustainability. We define sustainability as a commitment to 'creating lasting benefits through an integrated consideration of social, environmental and economic aspects in all that we do'. In other words, we meet the needs of today without compromising those of future generations.

The judges acknowledged Main Roads' leadership and significant contribution to advancing sustainability, highlighting examples such as:

- being actively involved in building staff capability, sustainable practices and sharing knowledge and experience across the industry
- setting an internal standard to utilise the Infrastructure Sustainability (IS) Rating tool across all infrastructure projects

- aligning with the United Nations Sustainable Development Goals
- being an award winner in category three, Earth Award for the Third Avenue Bridge Replacement by contractor BMD Constructions
- being an award winner in category one, Earth Award for the Enviro Infrastructure for Refurbishment of Bridge 0930, Haydn Bunton Drive
- winning the IS Impact Award and the IS Outstanding Achievement Award for the NorthLink Southern Section.

ISCA developed and administers the infrastructure sustainability (IS) rating scheme which evaluates the performance of infrastructure assets during planning, design, construction and operations.

By using the rating tool to independently assess and verify our claims for sustainability, the IS scheme is effectively an independent auditing process looking at both 'process' and 'outcome' to determine the extent to which an infrastructure project embeds sustainability. The ISCA is a not-for-profit peak industry body operating in Australia and New Zealand with the purpose of advancing sustainability outcomes in infrastructure.



OUR STORIES

TEAMWORK ENSURES COMMUNITY AND ROAD USER SAFETY

In March 2019, Tropical Cyclone Veronica caused widespread damage to the Pilbara region – flooding roads, spreading debris and isolating communities. In some areas the cyclone brought in excess of 300 millimetres of rain, more than a year's worth, in one day.

Our Pilbara Team worked hard to make the road network safe and to reopen routes to traffic as soon as possible. Where necessary, detours were established and emergency repairs began immediately.

More than 1,600 kilometres away our Customer Information Centre worked to ensure support was provided to the region – both to road users and to local Main Roads personnel, extremely busy with local matters, by allowing them time to tend to the safety of their own families and homes.

Keeping the travelling public informed was the main aim during and after Cyclone Veronica and entailed, for example:

- 6,288 calls received by our Customer Information Centre with 63 per cent of callers choosing the 'self-service' option
- 270 Travel Map updates and 46 traffic broadcasts published online
- 1,244 kilometres of road closed across the Pilbara

- six emergency response teams deployed to undertake repairs
- 175 permits issued for delivery of essential supplies and services
- three flights to inspect the network
- 12 Corporate Crisis Management team meetings
- 10 Main Roads properties requiring repair
- \$7 million estimated full-recovery cost.

We worked with agencies to ensure community and road user safety. These included the Department of Fire and Emergency Services, who helped us to survey road conditions and undertake preliminary damage reports. When it was deemed safe we also escorted a convoy of Horizon Power trucks through the damaged area to provide much needed fuel supplies. This assisted in preventing the potential for energy restrictions in the region.

OUR STORIES



INTERVIEW WITH OUR SENIOR ADVISOR ABORIGINAL ENGAGEMENT DENNIS KICKETT

During the year we welcomed Dennis Kickett to Main Roads. Dennis has traditional ties to the people from the Ballardong and Whadjuk language groups. He brings to Main Roads extensive experience around Aboriginal engagement having worked in Government and private industry, mainly in the resources sector.

Dennis said that since joining, a big focus for him has been on developing and building effective relationships internally and externally with our local Aboriginal businesses and suppliers.

He said that his role provides a focus on developing an effective strategy to enable Main Roads practitioners to embed broader diversity outcomes and real opportunities through our projects and partnerships with our major contractors.

The approach being taken is broken into different components focusing on how we want to work and engage with local Aboriginal people throughout the state. Dennis said the fact is that we have highly skilled Aboriginal people ready, developing their own businesses, and wanting to work with us and our large contractors.

He said that as he talks to different people around the state its clear that we have a long history of employing local Aboriginal people and he feels that this can be built upon further through opening the doors for the next generation. The aim is that through the continued work of Main Roads it will enable the next generation to be a part of Australia's mainstream business economy.

Dennis believes that it is important to have the courage to challenge mindsets in a healthy way, and to work together as one to achieve genuinely sustainable outcomes that will make a difference. We are not exactly at the beginning of the journey and we can certainly build on what we have. There is still much more to do and he will try to work with everyone to facilitate and guide that process.

Dennis said that he believes there is a very strong commitment to succeed and to make a difference and for those people that want to be a part of that, he will do what he can to get the right outcome.

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INAUGURAL AWARD WIN FOR HARDWORKING TRAINEE



Becoming a role model and inspiration to her family, youth and community members, and encouraging them to pursue their dreams and career pathways, is a goal that Cynthia Nelly is already well and truly on her way to achieving.

Her dedication and drive saw her being awarded the inaugural Nudge Clerical Trainee of the Year.

Nudge is a for-purpose charity focusing on getting young people into jobs and training opportunities. It is committed to empowering business through community employment. The awards, launched last year, acknowledge and recognise the contribution across sectors and industries of trainees and organisations in their commitment to training.

A proud young Aboriginal Yamaji woman, Cynthia won the award from a field of 33 clerical trainees state-wide. She has quickly become a respected member of the Mid West – Gascoyne Geraldton office receiving praise from her co-workers for the hard work she has put in throughout the year, both in her formal traineeship requirements and in her work environment.

She recently completed her Certificate III in Business with Registered Training Organisation, Trainwest and will continue on to the Certificate IV in Business and take advantage of the many opportunities Main Roads has to offer. She says this will help to increase and enhance her knowledge and skills, to gain more personal and professional development and help build her career pathway.

Speaking from personal experience, Cynthia says advantages and opportunities that are offered to youth through traineeships from organisations such as Main Roads can lead to many positive impacts. She sees these opportunities through training, employment and upskilling as vital to achieving great outcomes. Not only are there benefits for employers but the flow-on effect for trainees, their families and communities from taking on full-time roles is immeasurable.

OUR STORIES

SUCCESSFUL SAFETY FORUM BECOMES A REGULAR EVENT

During the year, we hosted a two-day forum promoting, through speakers and topics, a positive safety culture and providing an opportunity to network and knowledge share. This brought together our business managers, safety personnel and representatives as well as colleagues from our portfolio partners.

Some of our own safety champions gave informative presentations on a broad range of topics including:

- asbestos management
- risk perception
- Direct Managed Works
- journey and traffic management
- effective communication for engaging our people.

External guest speakers included representatives from the Public Transport Authority, Department of Transport, WorkSafe, RiskCover, Department of Mines, Industry Regulation and Safety and HBF. They presented on a range of subjects including injury management, WorkSafe and legislation updates, exercises for stretching, and internal safety processes.

SafetyWise facilitated a two-hour Incident Cause Analysis Method Lite training, and attendees were able to participate in the challenging session as well as have this recognised in their personal performance record. We also heard from a road safety advocate who spoke of his personal road trauma and recovery story and a mental health awareness proponent on the importance of this in the workplace and home.

We were able to network and build our understanding of the safety risks faced by co-workers in the regions, on projects, and in other agencies and how these are managed across the portfolio. Discussion from a panel of key safety advocates at the conclusion of the forum also gave an opportunity for questions beyond the presentations and training.

The feedback from participants was positive and the intention is to host a similar event across the Transport Portfolio in two years.

We will continue to discuss safety, health and wellbeing priorities and share our stories, with the objective of having a unified approach to best practices and leading the way with safety in the Western Australian Government.