



Australian Government

BUILDING OUR FUTURE



Pacific Highway upgrade

Six month report card July to December 2018

Roads and Maritime Services



New bridge over Shark Creek looking south towards Tyndale, on the Glenugie to Maclean section of the upgrade. December 2018.

Ministerial Foreword

Deputy Prime Minister and Minister for Infrastructure,
Transport and Regional Development.

Dual carriageway from Hexham to the Queensland border, improving safety and saving up to two and a half hours on your journey. That's the Liberal and Nationals' Government's ambition for the Pacific Highway upgrade and that is the milestone almost within reach.

The Pacific Highway upgrade is among the most significant investments the Australian Government is making as part of our \$100 billion infrastructure pipeline. At the end of 2018, much of the upgrade is complete, with remaining sections on track to open in 2020.

The Pacific Highway is a major contributor to Australia's economy, carrying goods to markets, motorists to workplaces, and domestic and international tourists to holiday destinations up and down the coast. Many thousands of people drive the highway every day. The upgrade is vital in reducing congestion, increasing safety, bringing down the number of fatalities, boosting productivity and delivering shorter travel times.

That's why it was one of our top priorities when we came to Government six years ago and its construction – in the Woolgoolga to Ballina section alone – has created thousands of much-needed jobs for the North Coast.

The Woolgoolga to Ballina section in northern NSW is well under way. Of the more than 170 bridges to be constructed on this project, almost half are completed. Just before Christmas I inspected the last girder lift on the Broadwater Bridge over the Richmond River near Wardell and this too is progressing well.

The Liberal and Nationals' Government is committed to future proofing this significant corridor and has contributed \$971 million towards construction of the Coffs Harbour Bypass. The project is underway, with the Environmental Impact Statement expected to be released for public comment in the coming months. This is in addition to the \$1.6 billion for the M1 Pacific Motorway Extension to Raymond Terrace.

These are projects designed to help you get home sooner and safer and make a real difference to people's lives. These are long-held ambitions which are soon to become a reality. I look forward to the continued progress of these historic and much-needed projects, being delivered in partnership with the NSW Government and contractors.

Together, we will deliver the duplicated Pacific Highway the people of Australia need, expect, demand and deserve.

The Hon. Michael McCormack, MP

Deputy Prime Minister

Minister for Infrastructure, Transport and Regional Development



The Hon. Michael McCormack
DPM

Ministerial Foreword

Minister for Regional Transport and Roads

The Pacific Highway upgrade is a vital piece of the nation's infrastructure and is a key link in the National Land Transport Network and a significant investment for both the Australian and NSW governments.

With safety a key driver of the upgrade program, I was pleased to learn about the safety outcomes reported in this six month period. From 50 fatal crashes reported in 1996, down to nine deceased in eight crashes in 2018, this is a constant reminder of the important role we have in keeping our communities safe.

The report highlights progress across a number of areas as we move towards completion to dual carriageway in 2020 and planning for the Coffs Harbour bypass.

I appreciate patience shown by so many while the upgrade work impacts commuters and local communities. As paving continues at a great rate on the Woolgoolga to Ballina section we can start to see the road shaping before our eyes. I look forward to monitoring progress and outcomes in my new role as Minister for Regional Transport and Roads.

The Hon. Paul Toole, MP

Minister for Regional Transport and Roads



The Hon. Paul Toole, MP

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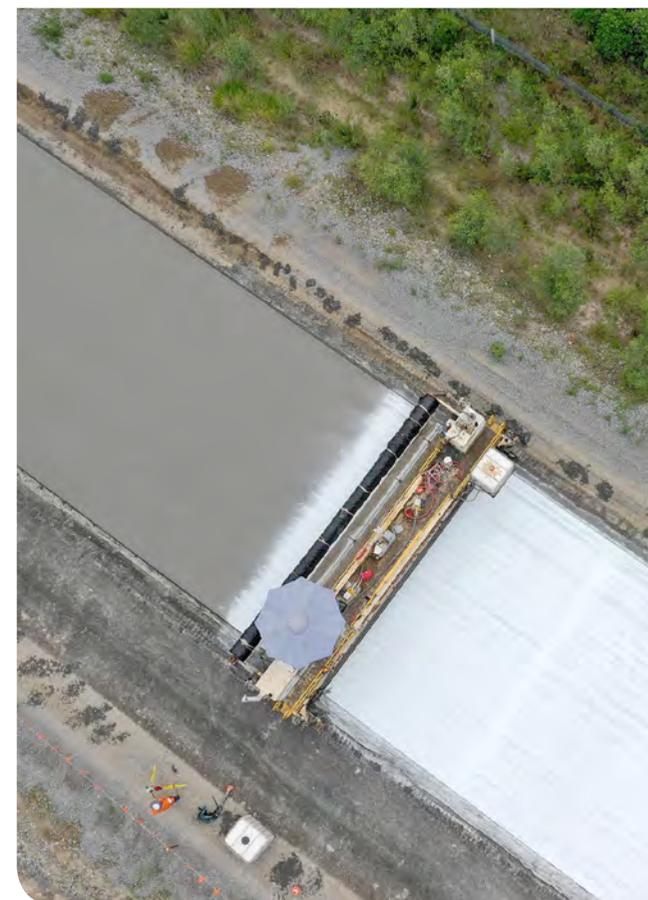
Overview

This report provides a progress update on the Pacific Highway upgrade program for the six months to 31 December 2018. The Pacific Highway connects Sydney and Brisbane and is a major contributor to Australia’s economic activity. The road is a vital piece of the nation’s infrastructure and is a key link in the National Land Transport Network. The Australian and New South Wales governments have a shared commitment to completing the duplication of the Pacific Highway in 2020. The upgrade is now 81 per cent complete with safety and travel efficiency benefits being realised on completed sections.

The remaining sections in major construction between Glenugie and Ballina are on track to progressively open to traffic before or during 2020.

Development of the Coffs Harbour bypass is also well underway with the projects’ environmental impact statement planned to be displayed in mid-2019. The project is expected to start construction in 2020, subject to all relevant planning and environment approvals being received.

An upgraded Pacific Highway must continue to service the needs of the travelling public and achieve transport efficiencies, while also ensuring ecological sustainability and meeting the needs of the coastal communities that live along the highway.



Aerial view of paving work continuing near New Italy, in the Devils Pulpit to Broadwater section of the upgrade. December 2018.



about **81%** of highway length now four lane divided road



129km of highway being built

Status of upgrade at December 2018



As of 31 December 2018, about 530 kilometres of the final 657 kilometre length of the Pacific Highway are four lane divided road. The remaining kilometres are all in major construction and are on schedule to open before or during 2020. This excludes the Coffs Harbour bypass as the existing Pacific Highway is already dual carriageway through this area. The Coffs Harbour bypass is in planning and subject to all planning and environmental approvals is expected to start construction in 2020.

Key project milestones achieved during the past six months

Glenugie to Ballina (December 2018):

- ✓ Consulted with the community on Preferred Concept Design for the Coffs Harbour bypass
- ✓ Port Macquarie to Coffs Harbour project team won a Premier's Award in Infrastructure delivery
- ✓ Published Operational Noise Report for Woolgoolga to Ballina project
- ✓ Completed Tabbimoble bridge before Oxleyan Pygmy Perch (OPP) breeding season started
- ✓ 48* bridges complete, 100 under construction out of a total of 155** bridges.

*This applied only to the G2B section, in this six month reporting period

**Total number of bridges in packages for G2B

Upgrade outcomes

Where are we now

About **530 kilometres** of the final 657 km length of the Pacific Highway are four lane divided road

The remaining kilometres are under construction.

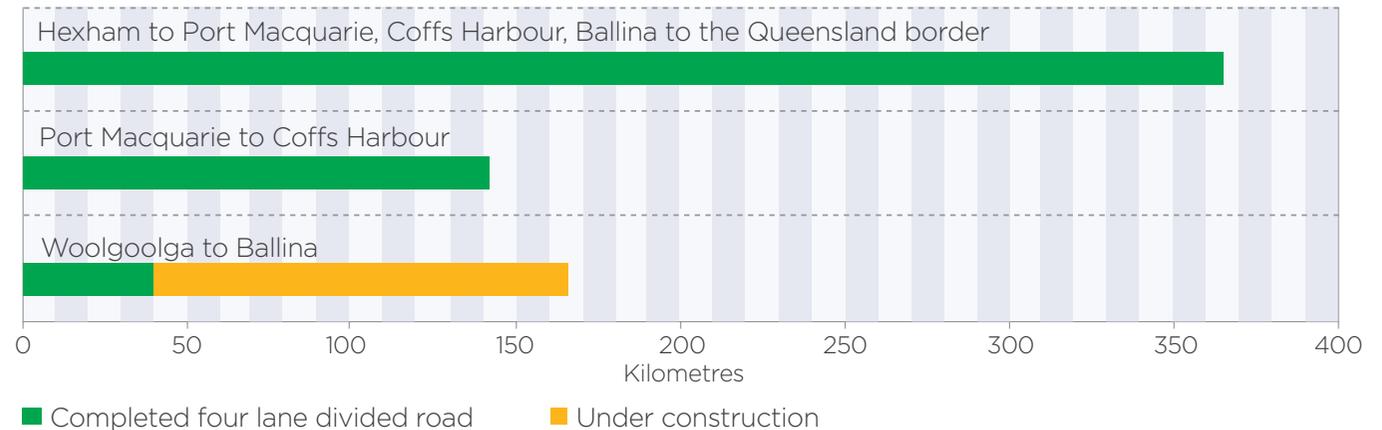
An average of about 3249 people have been employed on the highway upgrade from July to December 2018. This is compared to the 3300 workers employed in the previous six months.

During the last six months, the number of people employed on the Woolgoolga to Ballina upgrade has steadied. While work elsewhere on the highway has reduced as projects between Port Macquarie and Coffs Harbour have been completed.

Apart from some finalisation activities between Warrell Creek and Nambucca Heads, construction is focused between Glenugie (south of Grafton) and Ballina.

Roads and Maritime Services and its contractors, wherever possible, use local products and services for infrastructure construction projects. The graph to the right shows actual and predicted direct jobs. Future predictions have been estimated on the basis of 2.39 direct jobs per million dollars forecast to be spent. It is anticipated that the number of indirect jobs would be three times the number of direct jobs.

Four lane divided road status



Direct jobs created by the Pacific Highway upgrade



Upgrade outcomes

Safety update

All road users in New South Wales should be able to arrive safely at their destinations. Safety continues to be a key driver of the upgrade program.



Improving access to and from the Pacific Highway. Aerial view of Blackmans Point Road interchange, part of the Oxley Highway to Kundabung upgrade project. April 2018.

Fatal crashes and fatalities each year



Crashes reduced

Fatal crashes have halved, down from around 50 each year to less than 25 and most recently to 8 in 2018. In 2018, 9 people died in 8 fatal crashes. This compares with the previous five year average of 21 fatalities in 17 crashes.

Upgrade outcomes

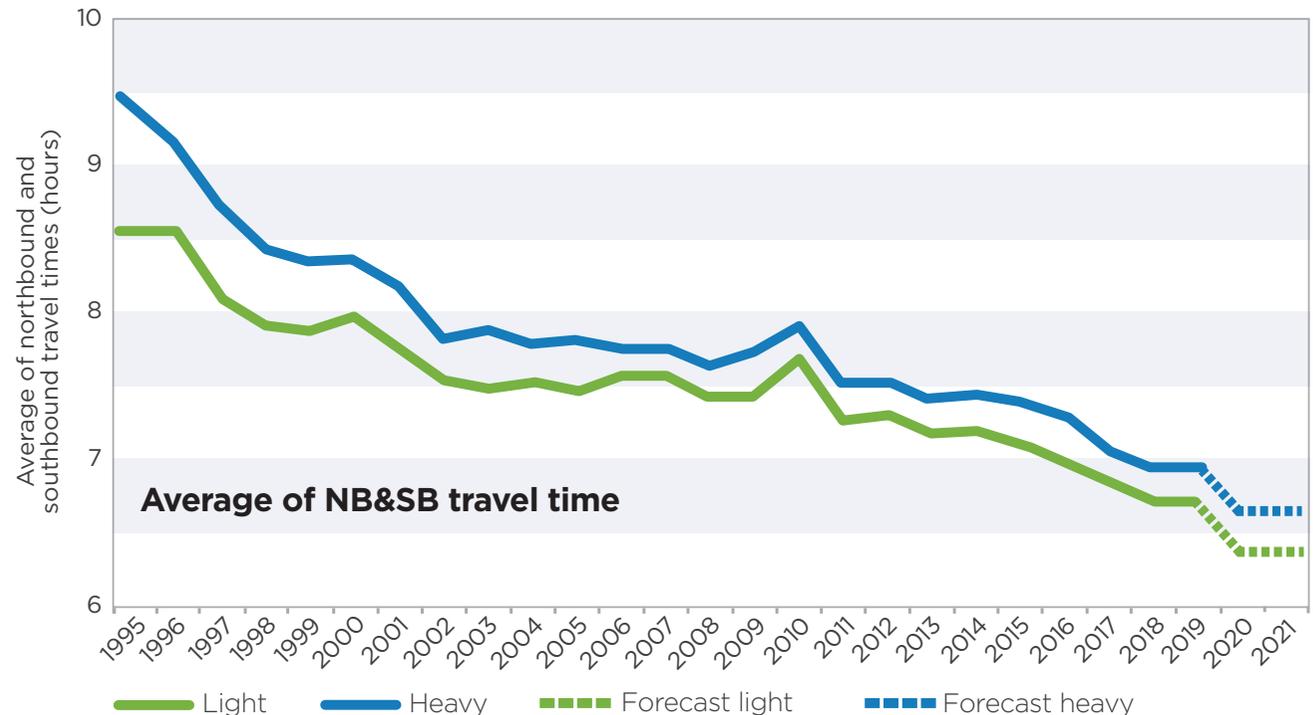
Travel time

Since the start of the Pacific Highway upgrade program in the mid-1990s, travel time between Hexham and the Queensland border was usually tracked through a survey conducted in late November or early December each year. Since 2015, Google travel time data has been used instead of this manual method, almost eliminating work health and safety risks previously associated with collecting the data. Google travel time data is relatively easy to collect and analyse, and is reliable. It is calculated based on large numbers of individual speed readings along a particular route (in this case, the Pacific Highway north of Hexham).

Annual travel time surveys have used the same start and end points to ensure the results over time can be compared. Since the previous travel time survey in 2017 new sections of the highway have opened to traffic (Oxley Highway to Kundabung, Warrell Creek to Nambucca Heads) and the speed limit has increased on other sections. Based on the 2018 travel time survey these changes have reduced travel times by a further 7 minutes.

It should be noted that actual travel time on the Pacific Highway can vary from the survey results. It can be affected by the amount of traffic on the highway, weather conditions, permanent changes in speed limit and work zone delays. Actual travel time is also dependent on the number of and time taken for recommended or mandatory rests to manage fatigue.

Travel time trends on the Pacific Highway, Hexham to Queensland border (adjusted for work site delays but not adjusted for recommended or mandatory rest stops).



Saving time

Motorists travelling the length of the Pacific Highway between Hexham and the Queensland border are now saving about two hours in travel time compared to 1996. When complete, the upgrade will cut travel time between Hexham and the Queensland border by between two and a quarter and two and half hours.



Upgrade outcomes

Aboriginal participation

The Woolgoolga to Ballina project teams continued to support the New South Wales Government's Aboriginal Participation in Construction (APiC) initiative. Aboriginal employment on the Woolgoolga to Ballina upgrade (Glenugie to Ballina sections) averaged eight per cent in the second half of 2018. In addition, there were also a number of Aboriginal businesses that continued to supply goods and services throughout the second half of 2018. The Woolgoolga to Ballina upgrade project continues to lead in civil construction and industry for Aboriginal participation.

Expenditure update

The total expenditure for the upgrade program for the period July to December 2018 was \$704.97 million. Expenditure forecasts and actual spend have generally been closely matched over the period. While the majority of this expenditure was for the Woolgoolga to Ballina upgrade, the remaining money was attributed to the closing out and finalisation of projects between Port Macquarie and Coffs Harbour.

The Woolgoolga to Ballina section has now awarded all major contracts required and work is well underway. Earthwork and clearing activities are nearing completion with bridge construction well advanced. The focus moving forward is starting concrete paving, finishing drainage, vegetation work and bridges.



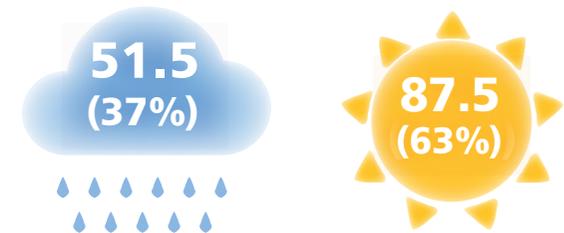
**All major contracts
now awarded**

Wet weather

Weather patterns in the period July to December 2018 included an average of 51.5 days of work lost across the upgrade project to weather events. This compares to 28 days between January and June.

October was the month with most days lost to wet weather, losing 16 out of a planned 6 days of wet weather in sections between Glenugie and Ballina.

**Average work days – July to December 2018 from
139 available working days***



* based on average number of work days across all projects under construction



Aerial view of the Tyndale North interchange looking north east. The interchange is part of the Glenugie to Maclean section of the upgrade. July 2018.

Upgrade outcomes



Concrete paving continues at Devils Pulpit, in the Devils Pulpit to Broadwater section of the upgrade. December 2018

Case study: Engineering feat – Port to Coffs road wins award

The Premier's Awards are an opportunity to highlight some of the exceptional work being done by individuals and teams who go above and beyond in the delivery of public services to the people of New South Wales. In November, the Port Macquarie to Coffs Harbour project team were presented with the 'Delivering Infrastructure' award. The 657 kilometre Pacific Highway upgrade is one of the largest infrastructure programs in Australia, with a critical stage of the project being the 150 kilometre link between Port Macquarie and Coffs Harbour.

The first 45 kilometres of this section was upgraded between 1996 and 2013 with the remaining sections progressively opening to traffic between 2016 and 2018. The Port Macquarie to Coffs Harbour section used a holistic and highly collaborative approach. The project's many challenges were addressed quickly by collaborating with external stakeholders, agencies and industry partners. The project worked closely with other parts of the organisation, and proactively built positive relationships with stakeholder groups such as councils by attending public meetings and consulting with key individuals.

Cost and time efficiencies led to the section being delivered \$1.2 billion under the estimate in the 2011 Infrastructure Australia submission, and half a billion less than the \$3.3 billion cost announced after contracts were awarded.

Since opening to traffic, the highway upgrade has improved connectivity between coastal towns and regional centres. There has been improved travel efficiency and reduced travel times between Port Macquarie and Coffs Harbour estimated to be saving more than 30 minutes. The greatest benefit has been the significant reduction in serious and fatal road crashes. Fatalities and severity of vehicle crashes have declined over the upgrade period with 13 fatalities recorded between Port Macquarie and Coffs Harbour in 2000, four fatalities recorded in 2017, and no fatalities recorded in 2018.



Members of the Pacific Highway Project Office – Karl Wisdom, Stuart Webster, Al McKinnon, Scott Lawrence and Wes Stevenson

Community

Driver behaviour campaign

To demonstrate the importance the Woolgoolga to Ballina upgrade project places on safe and courteous driving, a Driver Code of Conduct and awareness campaign was developed and implemented by Roads and Maritime and its Delivery Partner, Pacific Complete, during the last half of 2018.

A poster and video campaign was rolled out to eight site compounds between Glenugie and Ballina focusing on the importance of following the law and driving courteously before, during and after work. Group discussions and face to face conversations were held at regular All Hands meetings at site compounds and daily pre-start meetings at all work sites.

The aim of the campaign is to inform project staff about our expectations around driving behaviour and to influence behaviour change. The scope was broad, aimed at all project staff, including trips to and from work, light, heavy and oversize and overmass vehicles. Materials were developed in consultation with the NSW Police Highway Patrol and aimed to be informative and personalised to the workers. While key messages reminded staff of basic road rules, conversations were meaningful and highlighted the potential impact of unsafe behaviour on team mates, friends, loved ones and the broader community. The project team will continue to monitor driving behaviour in 2019 and adapt the materials as required to respond to emerging issues.

Monitoring

The project team and contractors working on the Woolgoolga to Ballina upgrade have speed monitoring in vehicles (In Vehicle Monitoring Systems – IVMS). These monitoring systems are regularly checked to ensure compliance with our expectation that all members of the project team behave in a professional manner when operating within our communities. When a concern is raised about poor driver behaviour, the project team investigates the complaint, referring to the IVMS when relevant, and takes appropriate and immediate action to address issues.

Monthly IVMS reports are also routinely reviewed as part of the ongoing monitoring of project contractor performance. Where negative driver conduct or trends are identified, the team requires action from its contractor partners. This often results in additional briefings for contractor staff as a group, and where required, conversations with individuals about their driving behaviour.



Managing holiday traffic

Holiday traffic operations

As part of its holiday traffic operations, Roads and Maritime implements various measures across our network to manage safety and traffic efficiency at key pinch points. During the Christmas/New Year 2018-19 holiday period, this included implementing variable message signs along the highway, managing end of queue traffic and providing incident response and traffic control plans. All road work, other than emergency work, stopped during the holiday period and speed restrictions were lifted where safe, to make travel easier.

An online campaign was launched, directing road users to our website with travel information. This approach aimed to reduce traffic queuing and delays on the highway by influencing driver behaviour. Information was provided to help drivers decide on preferred routes, days and times of travel to avoid peaks. The dedicated webpage included hour by hour data from last years' peak travel periods for known traffic hot spots, details for alternative routes and safety information for managing long distance travel.

On peak travel days, Roads and Maritime staff were deployed at key rest areas to promote safety messages and talk with road users, providing real time journey information and advice on alternative routes. A review of holiday traffic operations has provided some excellent feedback from both staff and road users on these initiatives.

As the Pacific Highway upgrade continues to be built and new sections of road are opened to traffic, these locations and measures are reviewed and amended considering changes to traffic arrangements as well as motorist behaviour.

Incident response: Worker profile - Meet Dan Wills



A Northern NSW local, Dan began his career with Roads and Maritime almost three years ago and now plays an integral part in managing the northern region network.

What role do you play in holiday traffic management?

I provide advice to other areas of the business to support operational management in response to holiday traffic. I develop strategies to maximise road network efficiency and influence the planning and delivery of projects to minimise impacts to the network. I also coordinate staff and our operational response to unplanned weather events and incidents on the state road network.

My team are the central point of contact for Roads and Maritime when dealing with emergency services.

What is the most rewarding part of your job?

I'm very fortunate to work with a broad range of stakeholders from emergency services, councils and members of the public to senior managers and project teams. Importantly providing a coordinated quick response to incidents and the network means I contribute to saving lives and improving customer's journey.

What does a typical day in the field look like for you?

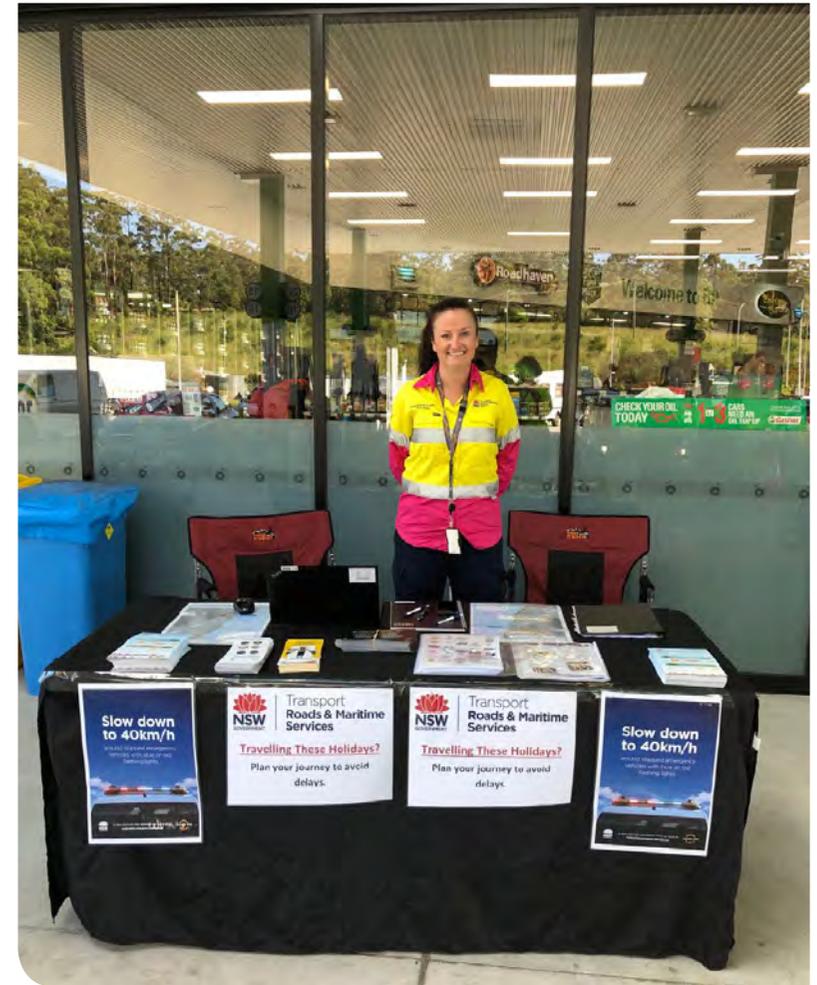
No two days are the same, depending on how the network is operating. Yesterday, the better part of the day was spent managing a highway road closure and coordinating Roads and Maritime and emergency staff respond to a bushfire in the area. Tomorrow, I could be reviewing traffic management plans, facilitating road access and providing advice to my peers.



Holiday traffic near the overpass for the new Iluka interchange, part of the Glenugie to Maclean section of the upgrade. December 2018.



Website information providing road users with data from last years' peak travel periods for known traffic hot spots



Holiday traffic information display at Nambucca highway service centre

Workplace health and safety

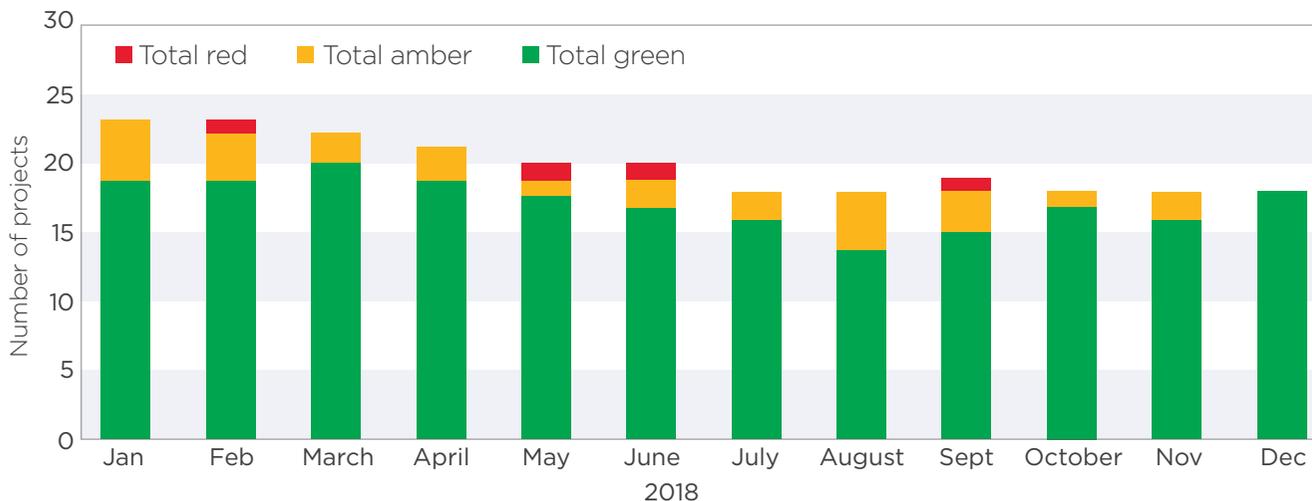
Safety is a core value for Roads and Maritime and its contract partners. We are focused on the safety of all road users and our workers.

As the agency responsible for enabling safe and efficient journeys throughout NSW, Roads and Maritime has a moral, legal and shared duty to ensure the health and safety of all our workers and others who may be affected by our activities. We consult and collaborate with our industry partners to eliminate risks and put safety first across the Pacific Highway upgrade.

Managing risk and sharing knowledge

Traffic light results reflect performance against lead (positive activities) and lag (outcome) indicators. In the graph below the green results show all indicators meet requirements. In the period July to December 2018 88 per cent of results were rated green compared to 86 per cent green for the period January to June

Figure 1: Traffic Lights 12 months to end of period 31 December 2018



2018. This demonstrates a slight improvement in overall achievement of key measures and metrics for WHS with a reduced frequency of red results in July to December.

Fifty two incidents were reported during this period, an overall decrease of 27 per cent compared to the preceding period. Plant related incidents were the most common type of incidents on Pacific Highway project sites. Incidents in this category were 29 per cent of total incidents and included collision between plant, plant roll over and plant striking people. Many of these incidents can be prevented by effective planning and maintenance of controls such as adequate delineation and separation of work areas and types of activities.

Sixty two injuries were reported during the period. The injuries in the current period included 6 lost time injuries and 25 medical treatment injuries. Manual Handling 40 per cent and slip trip fall 23 per cent were the two leading causes of injury. The category 'Other' includes

Figure 2: Reported hazards by category July to December 2018

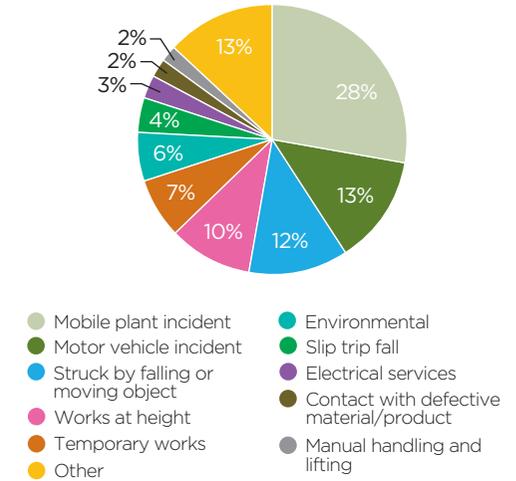
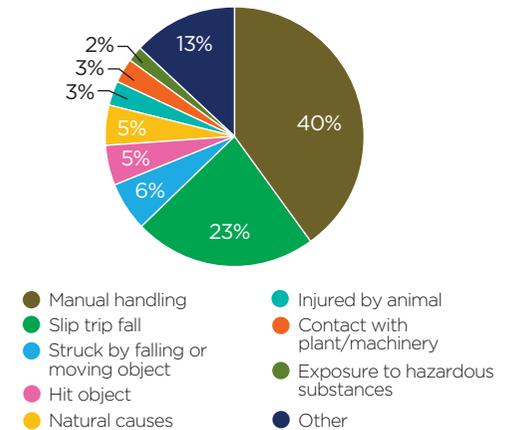


Figure 3: Reported injuries July to December 2018



* 'Other' includes contact with underground service or mobile plant, manual tasks such as slip, trip or fall, and environmental conditions

injuries not otherwise classified or where the cause is uncertain or unknown. Monitoring and inspection of sites to identify hazards and reduce risks associated with manual handling and slips, trips and falls remain a focus for all projects.

Safety initiatives – Separate Yourself

The Separate Yourself program aims to provide consistent guidance on worksites to separate workers on foot from vehicles and light vehicles from other larger machines.

Interactions between workers, mobile plant and vehicles on site are a key risk on the Pacific Highway upgrade program. The Separate Yourself* program was successfully relaunched in August 2018 with the identification of site champions, and updated materials to further integrate the program controls and embed the approach in operations on the Pacific Highway construction sites.

A follow up evaluation of the relaunched program was completed in October 2018. Results demonstrated that all projects had achieved an ‘Effective’ rating. This is an improvement from the previous evaluation in 2017 where some locations were evaluated as ‘Basic’. Maintaining the site standards and controls for the risks of people, plant and vehicle interactions will be a focus for sites in 2019.

Safety initiatives – E-Stop traffic signals

The risk of working next to live traffic and being struck by a vehicle is our number one safety risk. Traffic controllers are a group of workers who have significant exposure to this risk. A trial carried out by Woolgoolga to Ballina contractor CPB between 11 September and 4

October using e-stop portable traffic light sets at Evans Head Road Woodburn found improved worker safety conditions.

The objective was to assess the utility and safety benefits in conditions where the e-stop was used to control local traffic, while site traffic crossed on Evans Head Road.

Results during the trial demonstrated that traffic controllers are less directly exposed to live traffic, have less exposure to traffic in set up of the units and less manual handling risks. An additional benefit was the reduced training time for traffic controllers as the e-stop has fewer variables in operation. The e-stop’s smaller footprint compared to trailer mounted traffic light sets means they can be used in locations where there is limited road shoulder space.

Following the success of this trial, a second trial has started between Tullymorgan-Jackybulbin Road and Mororo Bridge with Woolgoolga to Ballina contractor BMD. Should the trial demonstrate successful outcomes, Roads and Maritime will look to implement e-stop traffic signals in a number of locations across the region.

Safety initiatives – Heavy vehicle safety

The Woolgoolga to Ballina project requires transporting over 8500 pieces of pre cast concrete elements such as culverts and bridge girders. Additionally large amounts of construction earth, concrete and asphalt are transported by heavy vehicles. These activities create a risk for our workers and the public. At the Pacific Highway safety forum held in August 2018 Roads and Maritime and its industry partners focused on areas of compliance with heavy vehicle regulations and the requirements of the heavy vehicle national law.

This is the seventh year the biannual forum has been held. In 2018 the focus was on collaborating on best practice for the safety of workers and the public, ways to reduce risk and demonstrating compliance for the works requiring heavy vehicles.

A number of ongoing and new initiatives were identified that reduce the risk of heavy vehicle operations. These include; upgraded requirements for assurance on the management plans for heavy vehicle operations, driver behaviour code of conduct, access and egress requirements at project gates, strategies to maximise the onsite haulage of materials, rock check stations prior to entering public roadways, systems for weighing and checking loads, scheduling of deliveries to minimise impacts and formal checks and audits of operations. Heavy vehicle safety will remain a focus in 2019 as projects progress to completion.



A worker trialling an e-stop portable traffic light set at Evans Head Road, Woodburn

Environment

Monitoring fauna structures

A key objective of the Pacific Highway Upgrade program is to manage the delivery of projects with ecologically sustainable development principles, by adopting an 'avoid, minimise and mitigate and offset' approach for environmental impacts.

As part of the Pacific Highway upgrade we have been building and monitoring fauna connectivity structures to protect wildlife and allow them to move freely through habitats to access food, water and mates. When highways are built, we must provide opportunities that allow wildlife to safely cross the highway to minimise impacts on access to foraging and breeding habitat. Between Glenugie and Ballina, we are building a total of 49 dedicated structures and 70 combined structures. Combined structures are those that have been modified to encourage fauna movement. These structures are in addition to about 215 other structures such as drainage that could allow for incidental fauna crossing.

As part of our connectivity strategy we have been monitoring and collecting data for more than 16 years to understand what species are using the crossing structures. This research informs the measures used in our current and future highway upgrade projects.

The road crossing structures that have been implemented and continue to be monitored are being used by a variety of threatened species right along the Pacific Highway corridor. Monitoring of fauna connectivity structures to date have shown that they are used by a wide variety of native fauna including threatened species such as the Long-nosed potoroo at



A brush-tailed phascogale found during the Oxley Highway to Kempsey monitoring program

Tugun bypass, the brush-tailed phascogale at Glenugie and Oxley Highway to Kempsey upgrade, Squirrel gliders and Yellow-bellied gliders north of Coffs Harbour and koala populations at various locations along the highway between Karuah and Chinderah.

The crossing structures have been specifically designed and built to suit the range of wildlife living in habitats either side of the road, or under bridges in the case of fish and amphibians. Our monitoring program is showing the success of glider poles, rope crossings, dedicated fauna culverts fitted with climbing logs, fish underpasses and fauna overpasses.



Yellow-bellied gliders (*Petaurus australis*) using one of the highway nest boxes on the Frederickton to Eungai project

Koala monitoring report

The first annual monitoring report recently released shows that the year one population estimate in both the Broadwater and Bagotville populations is very similar to the koala population estimate before construction starting. This is positive news demonstrating that the koala population is in line with approved Koala Management Plan predictions and highlights the success of measures in place.

Ongoing population monitoring helps us to measure the effectiveness of our mitigation measures, including the koala exclusion fencing, food tree plantings and connectivity structures. Koala monitoring has occurred throughout the construction period and is planned to continue well after the road opens to traffic.

Sandpiper Ecological Surveys was awarded the koala population monitoring program for the Woolgoolga to Ballina upgrade project.

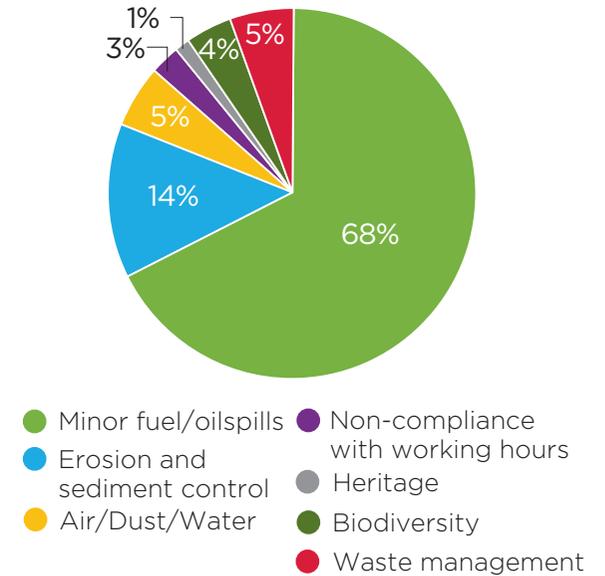


A koala using an underpass structure on the Oxley Highway to Kempsey project



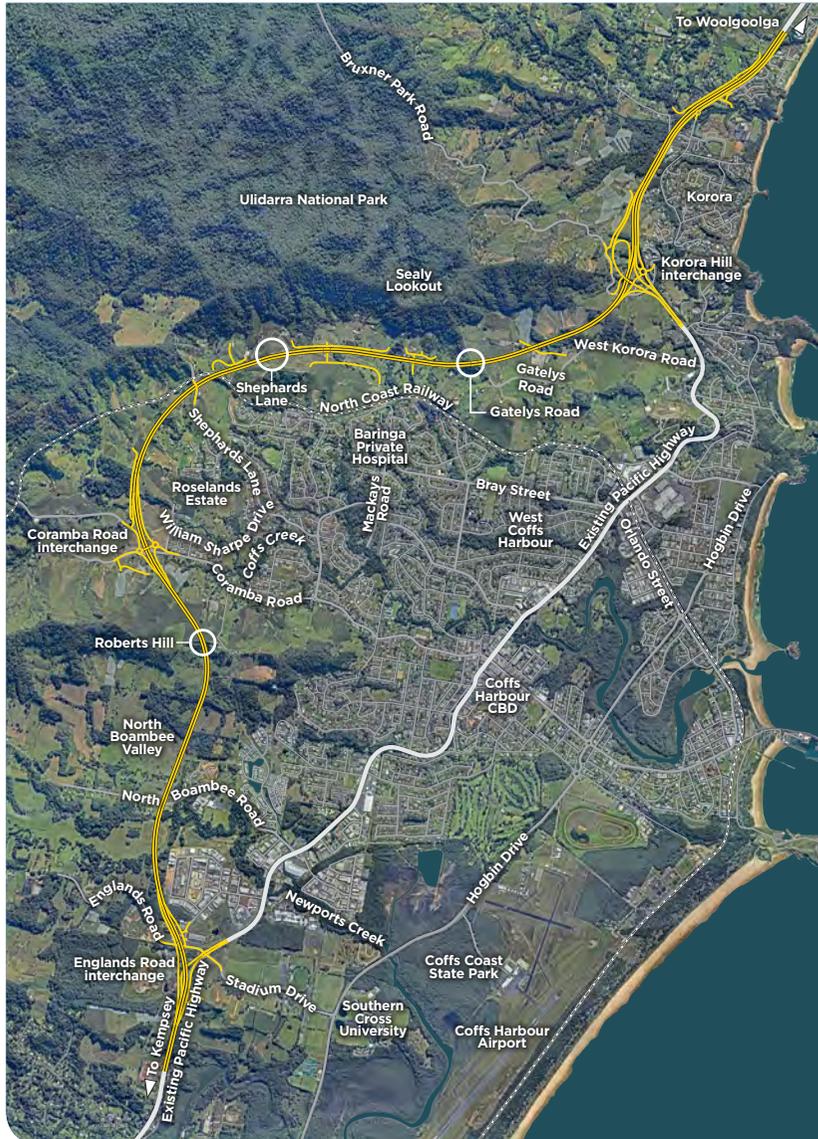
Food tree plantings are a key strategy in maintaining koala populations

Environmental incidents recorded July to December 2018 (Port Macquarie to Ballina)



Over 130 environment inspections carried out for project sites between Port Macquarie and Ballina between July 2018 and December 2018. The vast majority of these inspections recorded 'green status' which indicates the sites were demonstrating good environmental practice with only minor corrective measures required.

Coffs Harbour bypass



Proposed route of the Coffs Harbour bypass

The Australian and NSW governments are funding the Coffs Harbour bypass. The project includes a 14 kilometre upgrade from England's Road in the south to Sapphire in the north.

The existing highway through Coffs Harbour forms part of the Sydney-Brisbane freight corridor and carries up to 35,000 vehicles per day. The area is already experiencing high levels of congestion, and traffic volumes are expected to increase over time in line with population growth.

The Coffs Harbour bypass project will improve connectivity, road transport efficiency and safety for local and interstate motorists.

Significant benefits to Coffs Harbour and the region once it is open to traffic include:

- **reducing travel times** - motorists are expected to save around 11 minutes travel time
- **travel efficiency** - bypassing 12 sets of traffic lights will enable more consistent, reliable travel; particularly for heavy vehicles
- **safety** - the existing highway has a casualty crash rate three times higher than the network average. By reducing traffic on the existing highway we make it much safer for all road users
- **improved CBD amenity** - about 17,000 vehicles will use the bypass each day when it is open. By reducing the traffic through the Coffs Harbour CBD it will be able to grow as a regional centre and make it an even better place to live, work and visit.

The Coffs Harbour region will receive economic benefits during the building of the bypass, with about 500 direct and 1500 indirect jobs created during construction.

Roads and Maritime will work with the relevant authorities to finalise the relevant planning approvals so construction can begin in 2020 with an expected completion date of 2024, weather permitting.

 **Improve motorist and pedestrian safety**

 **Better and more reliable trips**
for people, business and freight

 **Up to 12 traffic lights bypassed**

 **Save up to 11 minutes travel time**

 **Reducing traffic from existing Pacific Highway a key objective**

July to December 2018

- ✓ Released preferred concept design
- ✓ Preferred concept design submission period from 24 September – 30 November
- ✓ Reviewing submissions received and investigate design refinements in response to community feedback
- ✓ Developing the environmental impact statement
- ✓ Opened community display centre in Coffs Harbour on 19 November.

Community consultation

- Held three community information displays and three shopping centre pop-up displays to discuss the preferred concept design
- Met with directly impacted property owners
- Met with individual residents to discuss their questions and concerns about the project.

Community issues

- Concerns over the noise, visual, Aboriginal heritage and construction impacts
- Community has stated a preference for tunnels rather than land bridges and cuttings
- Design of the Korora Hill interchange and the need for Coramba Road interchange
- Impacts to agriculture as a result of property acquisition.

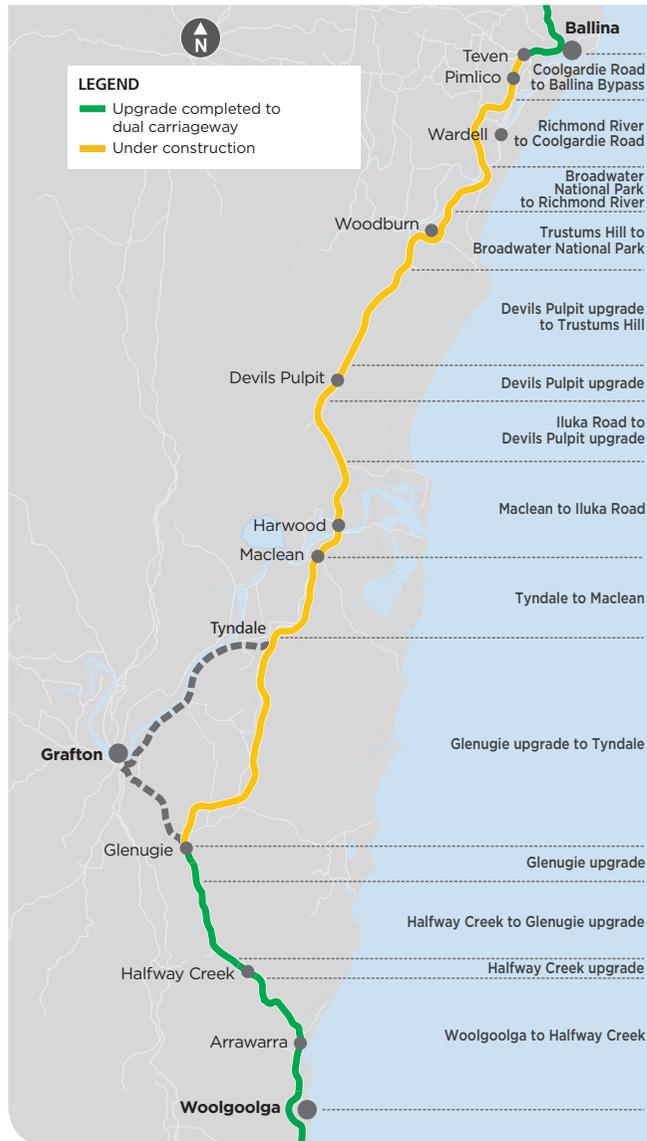
January to June 2019

- Reviewing submissions received and investigate design refinements in response to community feedback
- Developing the environmental impact statement.



Artist impression of the preferred concept design for the Coramba Road interchange. Design is based on 2018 preferred concept design. Design is subject to further refinement.

Woolgoolga to Ballina overview



The Australian and NSW governments are jointly funding the Woolgoolga to Ballina Pacific Highway upgrade. Roads and Maritime Services, Pacific Complete and contractor partners are working together to deliver the project.

Key features of the Woolgoolga to Ballina upgrade:

- 155 kilometres of dual carriageway
- \$4.945 billion
- More than 170 bridges to be built
- 14.9 million cubic metres of earthwork
- Nine interchanges
- Five towns/villages bypassed

51.5 days were lost to wet weather in the past six months.

- July to December 2018, work progress**
- ✓ Completed bridge decks on the bridge over Clarence River at Harwood
 - ✓ Started concrete paving across all sections
 - ✓ Published operational noise report
 - ✓ At house noise treatments have started with 15 properties completed.

January to June 2019, expected work progress, weather permitting

- Release 2018 Woolgoolga to Ballina workforce survey
- Complete manufacture of precast units
- More than 50 percent of bridges built.

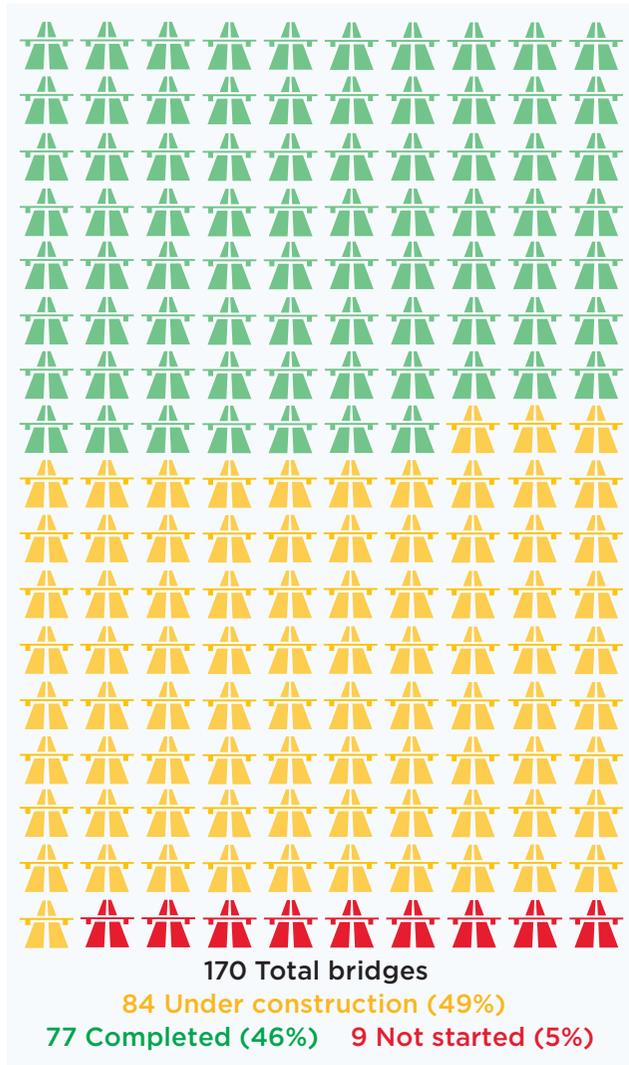
on average **2773** workers on site per month

about **66%** complete

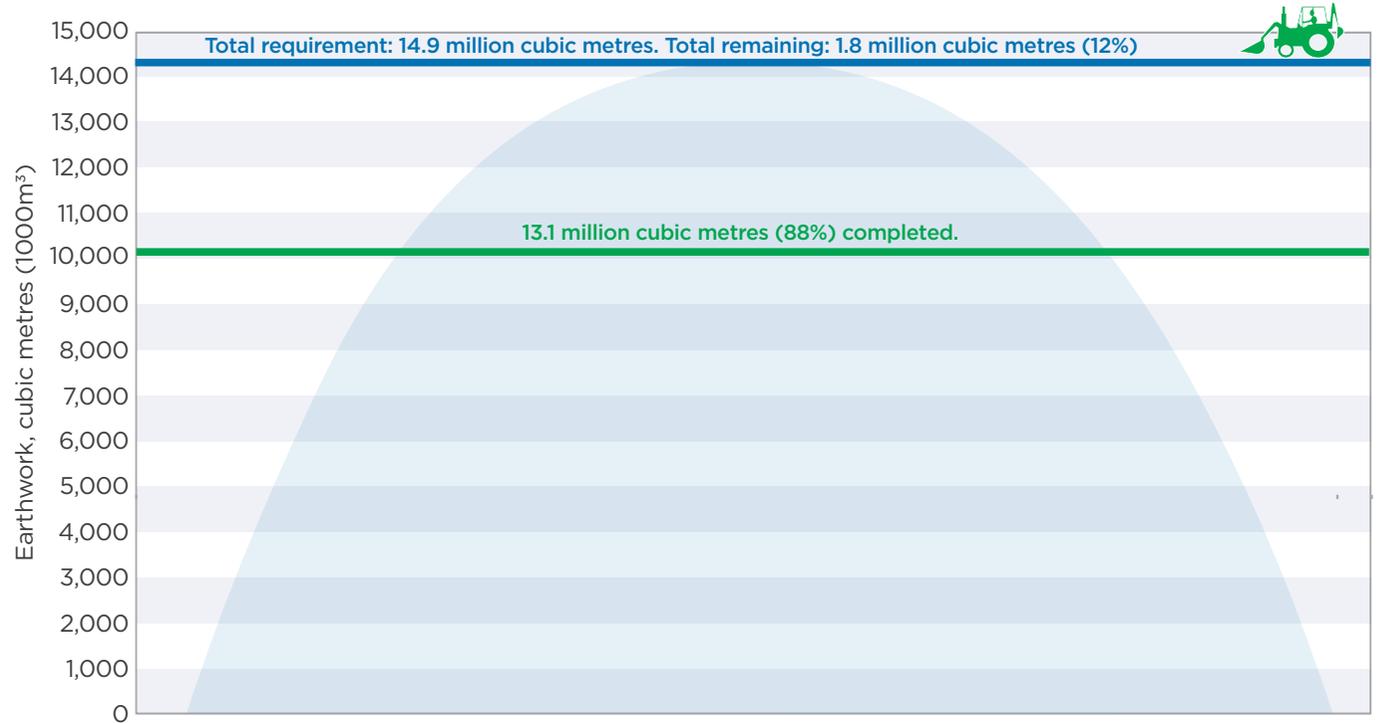
on average **1170** pieces of large machinery on site

Woolgoolga to Ballina overview

Bridges



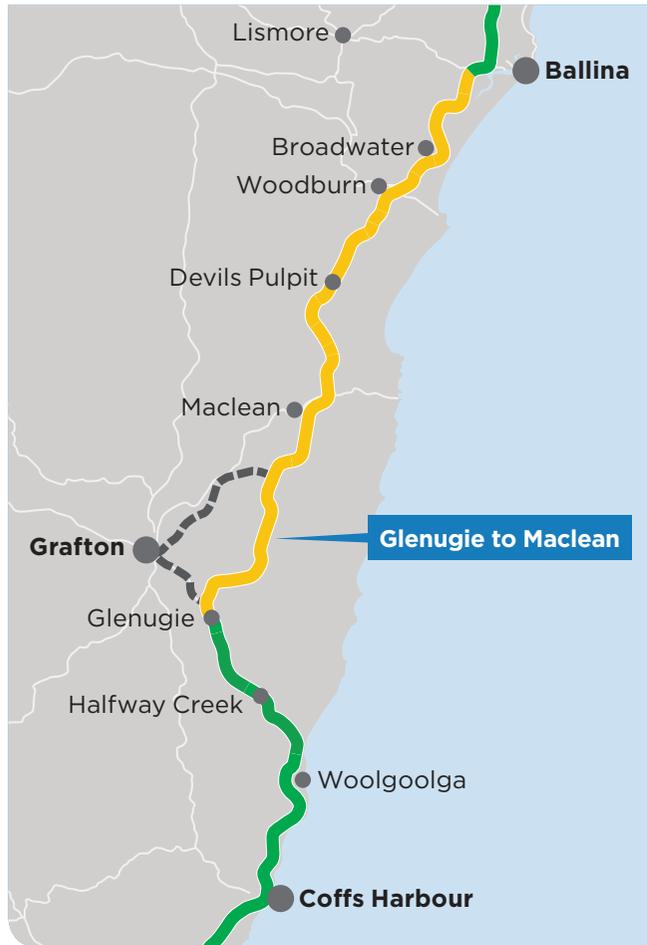
Earthwork



Road surface (road carriageway kilometres)



Projects being built



Glenugie to Maclean

The Glenugie to Maclean section of the Woolgoolga to Ballina, Pacific Highway upgrade, extends more than 48 kilometres. Diverging from the existing Pacific Highway at Glenugie, the new alignment heads east passing through Pillar Valley, joining the existing Pacific Highway at Maclean. The upgrade in this location includes the Glenugie, Tyndale and Maclean interchanges.

35.5 days were lost to wet weather in the past six months.

July to December 2018, work progress:

- ✓ Start work on building Tyndale interchange north
- ✓ Open first overpass bridge to traffic
- ✓ Start mainline paving
- ✓ Start deck pours for Shark Creek bridge.

January to June 2019 expected work progress, weather permitting:

- Complete the Byrons Lane overpass bridge
- Complete Somervale Road overpass bridge
- Finish bridge construction between Glenugie and Shark Creek
- Complete bridge over Champions Creek south
- Open to traffic McIntyres Lane overpass bridge, Gulmarrad
- Open new northbound lanes at Glenugie, one lane in each direction.

Community issues:

- Consultation completed for the start of temporary concrete batch plant operations at Avenue Road, Lavadia and Coldstream Road, Tyndale.

 on average **752** workers on site per month

 on average **316** pieces of large machinery on site

 about **53%** complete

Main contract partners on site

Seymour Whyte Constructions
BGC Contracting Pty Ltd
BMD Construction
FKG

July 2018



Aerial view north of Tyndale looking north

December 2018



Aerial view north of Tyndale looking north

Projects being built



Maclean to Devils Pulpit

The Maclean to Devils Pulpit section of the Woolgoolga to Ballina Pacific Highway upgrade extends more than 29 kilometres. The upgrade in this location generally follows the existing Pacific Highway and includes Yamba, Harwood and Iluka interchanges.

29 days were lost to wet weather in the past six months.

July to December 2018, work progress:

- ✓ Finish the first stage of piling work on all bridges between Maclean and Devils Pulpit
- ✓ Finish Chatsworth Road North local road connection, Chatsworth Island
- ✓ Open new Ryans Lane local road, Chatsworth Island
- ✓ Open new Old Mill Road connection and close Watts Lane, Harwood.
- ✓ Completed installation of girders on Mororo Bridge.

January to June 2019, expected work progress: weather permitting

- Complete the southbound off ramp and east roundabout at the Iluka interchange
- Install the final girders for the overpass bridges at Chatsworth, Iluka and Serpentine Channel (north) roads
- Open southbound lanes between Iluka and Mororo Road, single lane in each direction
- Open northbound lanes between Maclean and Yamba interchange.

Community issues:

- Complete consultation about the temporary asphalt batch plant to supply asphalt between Maclean and Devils Pulpit.

Main contract partners on site

Golding Contractors
 SEE Civil
 Shamrock Construction
 BMD Constructions
 Bielby Hull Albem Joint Venture
 Davbridge
 AFS

 on average **344** workers on site per month

 on average **153** pieces of large machinery on site

 about **57%** complete

July 2018



Work on Iluka interchange

November 2018



Work on Iluka interchange

Projects being built



Devils Pulpit to Broadwater

The Devils Pulpit to Broadwater section of the Woolgoolga to Ballina, Pacific Highway upgrade begins about 13 kilometres north of Mororo Road and extends about 34 kilometres north to the Richmond River Bridge. In this area the upgrade bypasses Woodburn, Broadwater and Wardell and includes Broadwater and Wardell interchanges.

38.5 days were lost to wet weather in the past six months.

July to December 2018, work progress:

- ✓ Start building the new bridge over Tuckombil Canal, Woodburn
- ✓ Finish bridge at Tabbimoble before the start of the Oxleyan Pygmy Perch (threatened fish species) spawning season in October
- ✓ Finish first stage of clearing.

January to June 2019, expected work progress: weather permitting

- Complete bridge on Woodburn interchange
- Open to traffic Woodburn Evans Head Road overpass bridge
- Open northbound lanes between Mororo and Devils Pulpit.

 on average **786** workers on site per month

 on average **211** pieces of large machinery on site

 about **47%** complete

Main contract partners on site

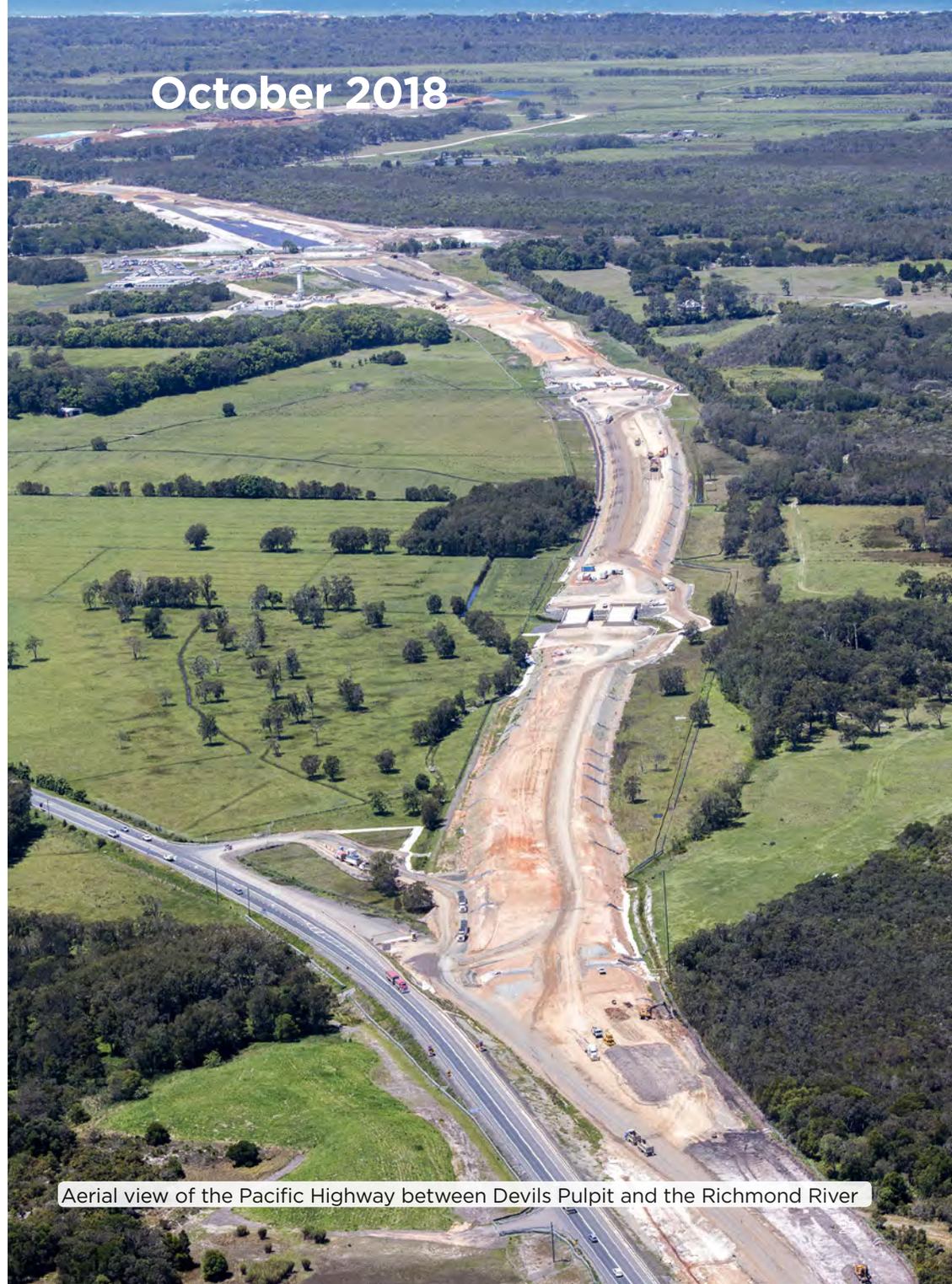
AFS
Bielby Hull Albem Joint Venture
CPB Contractors

July 2018



Aerial view of the Pacific Highway between Devils Pulpit and the Richmond River

October 2018



Aerial view of the Pacific Highway between Devils Pulpit and the Richmond River

Projects being built



Broadwater to Ballina bypass

The Broadwater to Ballina bypass section of the Woolgoolga to Ballina, Pacific Highway upgrade, extends more than 18 kilometres from the new bridge over the Richmond River at Broadwater to just south of the Ballina interchange.

40.5 days were lost to wet weather in the past six months.

July to December 2018, work progress:

- ✓ Move traffic onto new northbound carriageway to enable soft soil treatment on future southbound carriageway, one lane in each direction

January to June 2019, expected work progress, weather permitting

- Complete general earthwork on southbound alignment north of Whytes Lane bridge
- Start parapet installation on Whytes Lane bridge
- Carry out about 14.8 hectares of re-vegetation work between Broadwater and Ballina
- Finish fauna crossing culvert at Wardell Road
- Finish building more than half of the bridges in this area
- Finished building Old Bagotville and Montis' roads.

 on average **531** workers on site per month

 on average **390** pieces of large machinery on site

 about **65%** complete

Main contract partners on site

Georgiou Group
Quickway Constructions
Lendlease Engineering

July 2018



Aerial view of the Pacific and Bruxner highways near Ballina, looking south

December 2018



Aerial view of the Pacific and Bruxner highways near Ballina, looking south

Projects being built

Project snapshot

Contractors: Pacifico

Form of contract: Design and build

Start date of major construction: August 2016

Completion date: Open to traffic before or during 2020

Project value: Forms part of the Woolgoolga to Ballina upgrade

New bridge over Clarence River at Harwood

The new bridge over the Clarence River at Harwood will be the longest of 170 bridges to be built as part of the Woolgoolga to Ballina Pacific Highway upgrade. The project involves building a 1.5 kilometre long, four lane divided bridge, about 20 metres east of the existing Harwood Bridge.

14 days were lost to wet weather in the past six months.

July to December 2018, work progress:

- ✓ Finish mainline paving
- ✓ Finish pouring decks.

January to June 2019, expected work progress: weather permitting

- Completion of northern bridge approach slab and associated drainage.



New bridge over Clarence River at Harwood (December 2018)

 on average **236** workers on site per month

 on average **71** pieces of large machinery on site

 about **98%** complete

 **1** contractor company on site

Project snapshot

Contractors: Lendlease Engineering

Form of contract: Design and build

Start date of major construction: June 2017

Completion date: Open to traffic before or during 2020

Project value: Forms part of the Woolgoolga to Ballina upgrade

New bridge over Richmond River at Broadwater

The new bridge over the Richmond River at Broadwater will be one of two major bridges for the Woolgoolga to Ballina Pacific Highway upgrade.

13 days were lost to wet weather in the past six months.

July to December 2018, work progress:

- ✓ Finish piling
- ✓ 80 percent of concrete deck pours are complete

- ✓ Install first overwater headstock
- ✓ Start marine girders.

January to June 2019, expected work progress: weather permitting

- Complete deck concrete pours
- Complete installation of all expansion joints
- Delivery of final precast pieces.



Aerial view of the new bridge over the Richmond River at Broadwater

 on average **124** workers on site per month

 on average **29** pieces of large machinery on site

 about **91%** complete

 **1** contractor company on site



For more detailed information visit the project website at www.pacifichighway.nsw.gov.au or call the Pacific Highway office on **1800 653 092**