



Australian Government

BUILDING OUR FUTURE



Transport for NSW

Pacific Highway Upgrade - Six month report card



New bridge over Clarence River at Harwood looking south-west

July to December 2019

Ministerial Foreword

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

If you've taken a drive on the Pacific Highway in the past six months, you'll know there has been great progress. The Pacific Highway duplication from Hexham to the Queensland border is one of the largest road infrastructure projects in regional Australia and is transforming journeys along the New South Wales North Coast.

Upgrading this highway will save lives and is providing thousands of construction jobs to local people.

The Australian and NSW Governments have been jointly duplicating the Pacific Highway since 1996. More than 540 kilometres, or approximately 83 per cent of the 657-kilometre length of upgrade is now complete.

Once fully completed, it will boast a four-lane divided road with improved travel reliability and better access for communities along the route. All remaining sections of the upgrade are under way and the final section, from Woolgoolga to Ballina, is expected to be completed later this year.

We're already seeing travel time reductions of around two hours and fatal crashes have halved, down from more than 40 per year in 1996 to less than 20 in recent years. When complete, the full upgrade is expected to save motorists around 2½ hours.

By early December, the new bridge – an impressive sight! – over the Clarence River at Harwood opened to traffic. This is one of two major river crossings as part of the Woolgoolga to Ballina project and one of the more than 150 bridges being constructed as part of this section of the Pacific Highway upgrade. As part of this traffic change, interchanges at Yamba and Harwood/Watts Lane are also open.

This is about keeping vital infrastructure work moving forward – infrastructure which keeps people employed, regional economies ticking and supports safer, faster journeys for freight operators at a time when it is critical to keep essential goods flowing.

The Pacific Highway upgrade is just one of the many ways the Australian and NSW Governments are delivering for the regions and building for the future.

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 the biggest regional road infrastructure project in Australia, spanning multiple decades and many billions in funding from both the Australian and NSW Governments. This report highlights the significant progress we have made on this project and how close we are to the finish line.

With all these upgrades proceeding rapidly communities are beginning to see the future of the North Coast unfolding. This report shows the tremendous effort that the project team and contractors have put in to protect the local environment, heritage and beauty of the NSW North Coast – and for many this is close to home. The Pacific Highway Upgrade program has been generating local employment for many years as well as stimulating the economy and bringing more tourists and visitors to the region.

The transformation is not only amazing but life-saving. The upgrade has delivered a 70 per cent reduction in fatal crashes and is playing an important role 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 next step in transforming journeys along the North Coast, the Coffs Harbour bypass.

I appreciate patience shown by so many while the upgrade work impacts commuters and local communities and look forward to seeing delivery of a new Pacific Highway that will serve NSW for generations to come.

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 2019. 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 82 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 during 2020. Development of the Coffs Harbour bypass is also well underway with the projects’ environmental impact statement 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.



Dual carriageway between Whytes Lane and West Ballina open to traffic

Status of upgrade at December 2019



As of 31 December 2019, about 538 kilometres of the Pacific Highway are now four lane divided road. The remaining kilometres form part of the Woolgoolga to Ballina upgrade in major construction and are on schedule to open 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 2019):

- ✓ Moved traffic onto four kilometres of new road between Farlows Flat and Serpentine Channel including 1.5 kilometres of dual carriageway over the Clarence River at Harwood at reduced speed
- ✓ Opened 6.5 kilometres of dual carriageway between Whytes Lane and West Ballina at 110 kilometres per hour
- ✓ Completed all oversize and over mass deliveries.



about **82%** of highway length now four lane divided road



121km of highway being built

Upgrade outcomes

Where are we now

About **538 kilometres** of the final 657 kilometres length of the Pacific Highway are four lane divided road

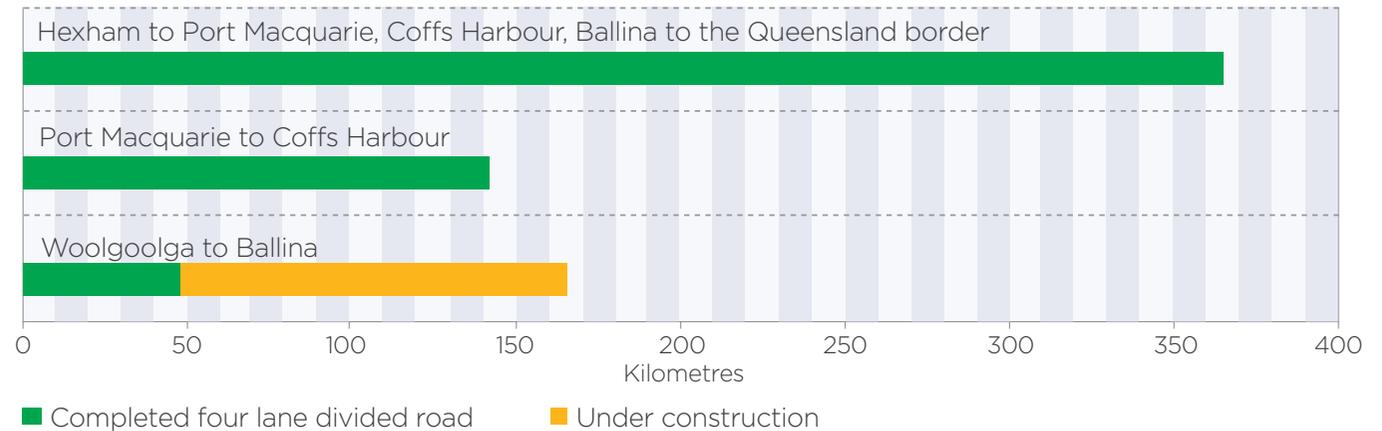
The remaining kilometres are under construction.

An average of about 2068 people have been employed on the highway upgrade from July to December 2019. This is compared to the 3162 workers employed in the previous six months. During the last six months, the number of people employed on the Woolgoolga to Ballina upgrade has slightly decreased which reflects the current stage of the project.

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

The wide centreline and median treatment used on the Pacific Highway upgrade is an engineering standard aimed specifically at reducing cross centre line crashes. This treatment splits the existing line to provide greater separation between oncoming vehicles. The treatment is applied to highly trafficked, high-speed roads in an effort to reduce the severity of head-on crashes.



Warrell Creek to Nambucca Heads section of the Pacific Highway upgrade features a widened centre median

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 15 in 2019. In 2019, 17 people died in 15 fatal crashes. Despite not being as low in fatalities as 2018, where 9 people died in 8 fatal crashes, 2019 is still statistically on trend with fatal crash forecasts for the Pacific Highway with the second lowest (second only to 2018) recorded crashes and deaths for many decades.



Upgrade outcomes

Travel time

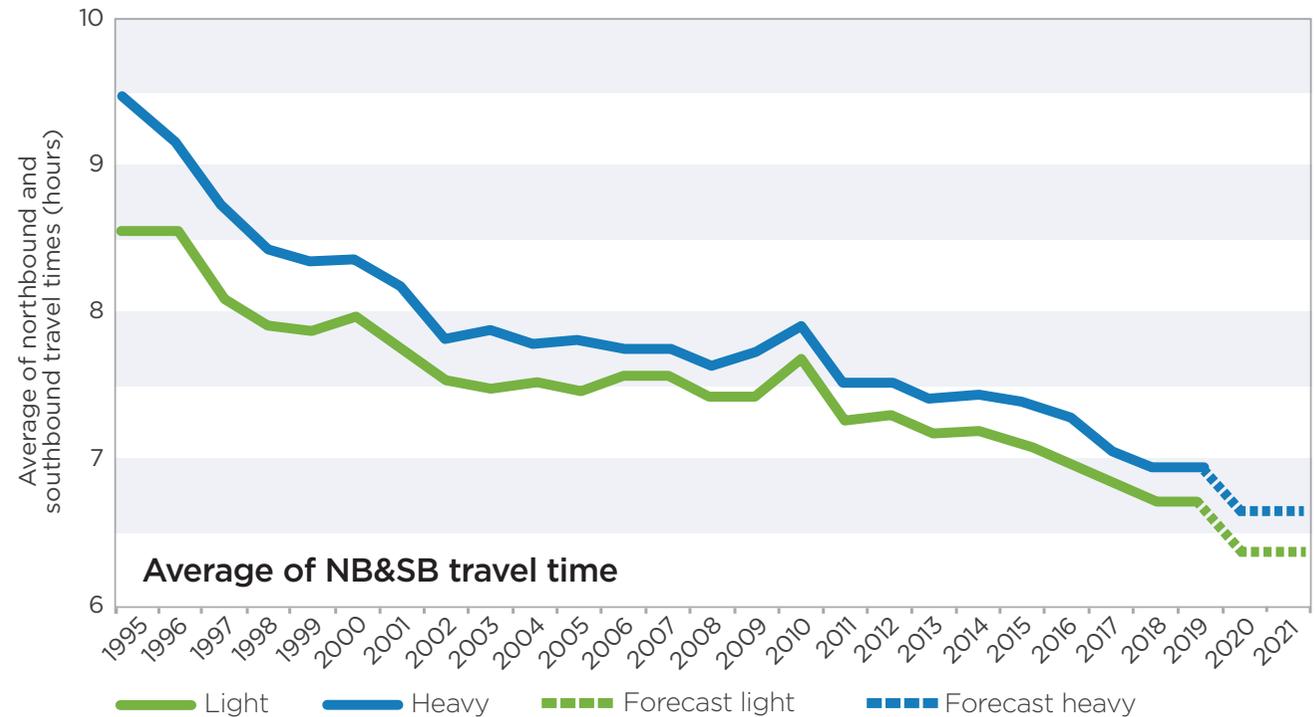
Since the start of the Pacific Highway upgrade program in the mid-1990s, travel time between Hexham and the Queensland border was usually tracked through a survey conducted in late November or early December each year. Since 2015, Google travel time data has been used instead of this manual method, almost 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 November 2018, a section of dual carriageway has opened to traffic at design speed limit from Whytes Lane to Pimlico. This change was expected to reduce travel times further by less than one minute. Based on the 2019 delay survey and estimated travel times these changes have reduced travel times by about 40 seconds which is consistent with expectations.

The average travel time between Glenugie to Ballina has reduced from 123.2 minutes to 114.7 minutes in the first half of 2019.

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

The Woolgoolga to Ballina project team continue 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 six per cent in the second half of 2019. In addition, there were also a number of Aboriginal businesses that continued to supply goods and services throughout 2019. The Woolgoolga to Ballina upgrade project continues to lead in civil construction and industry for Aboriginal participation. construction and industry for Aboriginal participation.

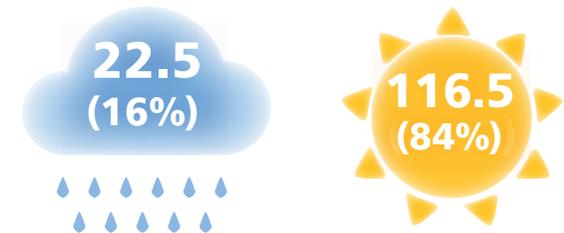
Expenditure update

The total expenditure for the upgrade program for the period July to December 2019 was \$617 million, with continued strong delivery in Woolgoolga to Ballina construction with an average monthly spend of \$102.8 million. Additional expenditure has been incurred for the development of the Coffs Harbour bypass. Expenditure on the program for the full year to July 2020 is expected to be \$1.06 billion.

Wet weather

Weather patterns in the period July to December 2019 included an average of 22.5 days of work lost across the upgrade projects to weather events. This compares to 52 days between January to June 2019. July was the month with most days lost to wet weather, losing 10.5 out of a planned five days of wet weather in sections between Glenugie and Ballina.

Average work days – July to December 2019 from 139 available working days*



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



Deck pours complete on the new bridge over Shark Creek

Workplace health and safety

Safety is a core value for Transport for NSW 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, Transport 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

A 'traffic light' reporting system is used to identify performance against prescribed safety targets. In the graph below, the green results show those activities that meet these safety requirements. During the period July 2019 to December 2019 84 per cent of results were rated green compared to 91 per cent green for the period January to June 2019. This demonstrates a slight

reduction in overall achievement of key measures and metrics for workplace health and safety including one red result in July to December 2019. 84 per cent Green results is consistent with average Transport results from projects other than Pacific Highway projects.

615 hazards were reported during this period a 36.2 per cent decrease in hazard reports compared to the previous six months in line with a 29.5 per cent decrease in project numbers and 16 percent decrease in total hours. Mobile Plant and Vehicle/Traffic related hazards were the most common type of hazards identified on Pacific Highway project sites. Hazards in these categories were 21 per cent each of total hazards and includes potential light vehicle or plant collision, defective vehicles or plant and incorrect site traffic management or plant interfaces. Workers on foot and electrical/hazardous substances were the second most common with 12 per cent and 9 per cent respectively

Figure 1: Traffic Lights 12 months to end of period 31 December 2019

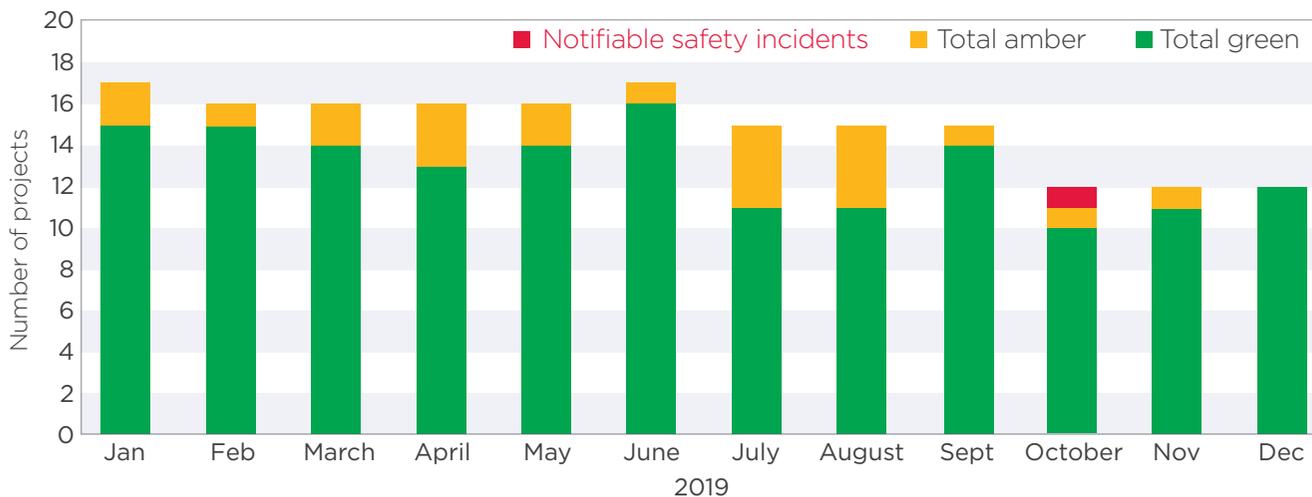


Figure 2: Reported hazards by category July to December 2019

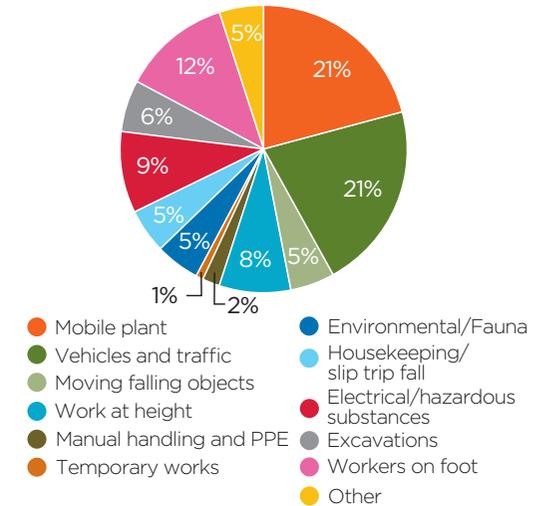
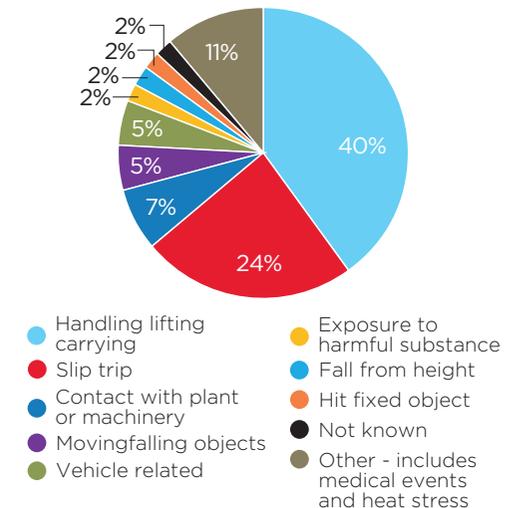


Figure 3: Reported injuries July to December 2019



Workplace health and safety

of total reports. These included pedestrian access, separation between workers and plant or vehicles and delineation/signage. Electrical/hazardous substances included unsafe electrical practices, defective or untagged equipment. Hazardous substances included storage and labelling of materials. 'Other' category (5 per cent) includes incorrect or absent personal protective equipment and incorrect documentation or approvals. Identifying hazards and resolving them has been a focus of Pacific Highway sites to maintain safe worksites and reduce overall risk to our workers and the public.

45 injuries were reported during the period. This represents a 58 per cent reduction in recorded injuries. The injuries in the current period included five lost time injuries and 12 medical treatment injuries.

Handling/Lifting/Carrying 40 per cent and slip trip fall 24 per cent were the two leading causes of injury consistent with the previous period. The category 'Other' includes injuries not otherwise classified or where the cause is uncertain. Unknown is illness related. 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.

Pacific Highway upgrade projects have been leaders in safety and innovation. Following are two examples where innovation and safety have been implemented by industry partners.

Pacific Highway upgrade project team supports locals during bushfires

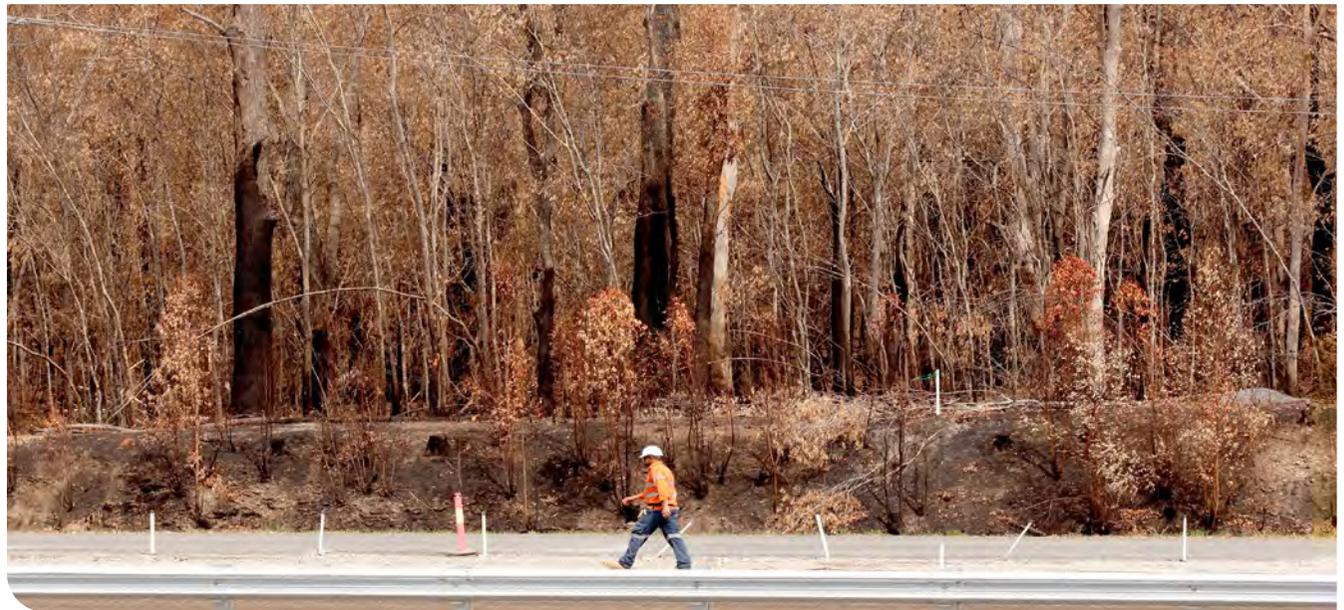
Transport for NSW, Pacific Complete and contractors working on the Pacific Highway upgrade project came together with Fire and Rescue NSW and NSW Rural Fire Service, Emergency Services and Police in November to support our local communities during the bushfires.

This included sharing timely information with residents about the status of bushfires, road closures, air quality and evacuations of worksites and properties. The standout activities included:

- BMD, a major contractor on the project, were in a unique position to use their water trucks and work crews to support local firefighting efforts. Gavin Hore,

Superintendent for BMD, headed up this support initiative coordinating the use of water trucks and staff, and acting as the key liaison between Fire and Rescue NSW and NSW Rural Fire Service (RFS). BMD made available four water trucks for use over a two week period, playing a valuable role, particularly when the fires were threatening properties on TullyMorgan-Jackybulbin Road, part of the Maclean to Devils Pulpit section of the upgrade. Two water trucks with crews were sent to extinguish the fire and help residents to evacuate when RFS trucks were unavailable to assist.

- Contractor BGC used their water truck contractors to assist RFS to extinguish fires in the Glenugie to Maclean section of the upgrade.



Devils Pulpit to Broadwater section of the Pacific Highway upgrade after bushfires impacted the area, December 2019.

Community support has continued long after the fires have been extinguished and activities have focused on providing support and raising funds for those impacted by the bushfires.

- Woolgoolga to Ballina upgrade project contractors donated prizes for a charity raffle. A total of \$38,375 was raised which will be distributed equally to the NSW SES, Salvation Army, Cancer Council & Clontarf Foundation within the local community



Members of the project team and SES representatives with funds being distributed from a charity raffle

- Team members from the Devils Pulpit to Broadwater section of the upgrade hosted a Secret Santa function and raised just over \$150 for the local WIRES (Australian Wildlife Rescue Organisation) to assist with costs of rescuing and nursing injured wildlife. The event focused on connecting with community, taking a moment to reflect on the time of the year and recognising the joint achievements on the upgrade project
- 35 new and expired First Aid kits were donated to WIRES to use on injured wildlife. Contractors have been asked to continue to provide expired first aid kits to support this as an ongoing initiative.

We wheely go nuts for safety!

In September 2019, a safety improvement initiative to make Wheel Nut Indicators mandatory across the Woolgoolga to Ballina upgrade project was implemented. The initiative aimed to have every working vehicle and piece of plant with wheel nuts fitted with plastic indicators by suitably qualified or competent persons, and to enforce this as a project requirement in future. The goal was to provide greater assurance that all wheel nuts had been tightened effectively and were not loosening on project vehicles.

The initiative was identified following a third incident involving a 'loss of wheel' on the project from a project vehicle. As there are more than 1300 project vehicles and mobile plant along the upgrade, plant and equipment maintenance and repairs play a critical role to ensuring safety of road users and workers.

The safety benefits of wheel nut indicators are not to be understated. Where a driver has no way of checking wheel nut tension and relies on daily visual inspections only, wheel nut movement indicators are a simple low-

cost device designed to help. The driver can identify if wheel nut movement has occurred and trigger a safety related defect report. This results in the vehicle being out of action until it has been repaired.

Each section of the Woolgoolga to Ballina project championed a campaign to have all project personnel, contractors and sub-contractors educated and informed about the importance of this safety control and how they could become compliant. Regular inspections to ensure compliance continue to manage this risk with all existing and new workers and vehicles on the project.

As rolled out there have been no further incidences of loss of wheel from plant or vehicles.



Wheel nut indicators fitted to a work vehicle, showing all wheel nuts tightened effectively

Environment

Fauna culvert success for Wardell Road

The Woolgoolga to Ballina Koala Management Plan includes a framework where Transport for NSW has committed to no Koala road-kills occurring as a result of the project, and in doing so is building a fully-closed (fenced) highway corridor, connectivity structures, and establishing 130 hectares of new koala habitat adjacent to the upgrade. In addition, Transport for NSW has installed fencing and other connectivity structures at two known koala hot-spots that occur on other roads near the project (part of Wardell Road and the existing Pacific Highway north of Wardell). The aim of

these measures is to reduce Koala mortality. Ongoing monitoring of fencing and connectivity structures on Wardell Road started in October 2019. This first month of monitoring revealed a koala heading north through the connectivity structure. This is particularly encouraging because it was before the fire in the Wardell heath and the structure allowed a safe crossing of Wardell Road.

Koala feed tree replanting

So far, koala habitat and food trees have been planted on 110 hectares of the total 130 hectares to be planted.

These revegetation sites are on both sides of the new highway and will connect existing koala habitat. This work is part of a revegetation strategy designed to improve habitat connectivity and provide new koala food trees on land that has been previously cleared.

Plant survival across the project continues to be very good. Some minor replanting has been required due to natural causes such as fire and drought. Trees are also growing well with average heights ranging between two metres to four metres, with some up to six metres in height.



Koala sighted using the Wardell Road fauna culvert in October 2019



Replanting sites north of Wardell (July, 2019). This work forms part of the revegetation strategy designed to improve habitat connectivity and provide extra koala food trees on land previously cleared for farming



Replanting sites north of Wardell

Special crossing for high fliers

The Pacific Highway upgrade project team has successfully recorded a Yellow-bellied Glider using a crossing structure at Halfway Creek. Other glider species are regularly recorded using crossing structures, but this is the first confirmed road crossing by a Yellow-bellied Glider after many years of monitoring, which makes it a significant find!

The Yellow-bellied Glider is listed as a vulnerable species under the Biodiversity Conservation Act 2016. It is a large, active, and vocal glider. Adults weigh 450 - 700 grams, they have a head and body length of about 30 centimetres and a large bushy tail that is about 45 centimetres long. It has grey to brown fur on its back with a cream to yellow belly, which is paler in young animals. The dark stripe down the back is characteristic of the group. It has a large gliding membrane that extends from the wrist to the ankle. It has a loud, distinctive call, beginning with a high-pitched shriek and subsiding into a throaty rattle.

The individual was recorded on eight different nights and footage shows three westward glide launches off a median glide pole, which means it has used the median pole to make a safe crossing over the dual carriageway road. From observation, it's likely the same individual which appears to be a female and in good condition.



Footage captured of a Yellow-bellied Glider using a fauna crossing structure on the Pacific Highway at Halfway Creek, south of Grafton

Case studies

Machinery making a difference on Woolgoolga to Ballina upgrade

A shiny black grader working on the Woolgoolga to Ballina upgrade of the Pacific Highway helped to kick-start important conversations around mental health among the team for R U OK? Day.

The grader's 30-year-old owner and operator, Tim Hayes, purchased the machine for his business in early 2019.

Having recently lost a friend to suicide, Mr Hayes painted the grader black to raise awareness and funds for the Black Dog Institute - a not-for-profit organisation focused on promoting wellbeing by understanding, preventing and treating mental illness.

He donates one dollar to the organisation for every hour he works on the grader. Mr Hayes said the cause



Tim Hayes, owner and operator of the grader painted black for 'R U OK Day' working on the Pacific Highway upgrade

is close to his heart, having worked in the construction and mining industry for more than 15 years, where he found depression prevalent, and had struggled with his own mental health in the past. Mr Hayes had received help and support during this time from the Black Dog Institute.

Transport for NSW seeks to promote dialogue around mental health for anyone who might be struggling.

The black grader captured the attention of workers, community members and motorists and proved to be a great conversation starter for R U OK? Day. Mental health and wellbeing remains a key focus for the organisation all year round.

For more information about R U OK? Day, go to <https://www.ruok.org.au>.

End of super-t's

All oversize, over mass girder deliveries for the Woolgoolga to Ballina Pacific Highway upgrade finished in July 2019.

The final girder delivery represents a significant milestone in a two and a half year program involving the manufacture and delivery of more than 8900 precast elements. Eight precast yards located in Macksville, Coffs Harbour, Tamworth, Ipswich, Harwood, Newcastle, Coraki and Brisbane worked to manufacture the elements required for the project.

This included more than 1,000 Super-T girders, 140 U girders, 5,000 parapets, 2,300 planks, 240 headstocks and 230 abutments to build 155 bridges between Glenugie and Ballina.

Six girders arrived on site each day during peak construction, all delivered on over size, over mass trucks and accompanied by police or pilot escort vehicles.

It's an incredible logistical feat which would not have been possible without the support of NSW Police Highway Patrol and the patience and care of motorists when sharing the road with these over size, over mass vehicles



Final girder being lifted for the Pacific Highway upgrade near Maclean



All oversize and over mass deliveries completed

Case studies

Pacific Highway upgrade Woolgoolga to Ballina worker profile

A new profile of the people behind the building of the Woolgoolga to Ballina Pacific Highway upgrade provides insights into workforce dynamics and the resulting benefits for the region.

The worker profile survey examines where people live, what services they use and if they relocated to work on the project.

The project is providing full time work for the majority of the workforce, with more than 70 per cent employed full time and 22 per cent employed casually.

The project brings together a broad range of experience and talent, with nearly half (46 per cent) having worked on other sections of the Pacific Highway upgrade.

Workers boosting the local economy

The workforce has provided a significant economic boost to local communities:

- More than 40 per cent of workers spending between \$200 and \$349 per week on top of rent and bills
- Close to 20 per cent of the workforce spends between \$350 and \$549 a week on top of rent and bills.

Community engagement

Workers have embraced the communities in which they live.

- 45 per cent have joined a club, team or association since starting on the project
- 15 per cent are volunteering their time

Locals, old and new

At the time of the survey, almost one in six workers have been working on the Woolgoolga to Ballina upgrade for two or more years, while nearly two thirds (63 per cent) anticipated working on the upgrade for another one to three years.

This means some workers will spend six years or more on this highway upgrade.

Aboriginal participation rates have exceeded Transport for NSW targets, with seven per cent identifying as Aboriginal and/or Torres Strait Islander and more than a third of these with one or two of the local Aboriginal nations of Gumbaynggir, Yaegl and Bundjalung. This group includes supervisors and contractors as well as workers, ensuring a broad range of skills and experience for Aboriginals engaged on the project.

Upskilling the workforce

A strong focus was placed on upskilling locals as part of the project and some early project initiatives have been successful as pathways to employment.

About eight per cent of workers indicated they attended either a job opportunity event or the Work Ready Program before gaining employment.

Three rounds of job opportunity roadshows were held across northern NSW, providing 970 job seekers with direct contact to project contractors, labour hire companies and employment agencies. The project team worked collaboratively with northern NSW training providers to support training of about 250 students.



The Pacific Highway upgrade project brings together a broad range of experience and talent, with workers embracing the community in which they live

Coffs Harbour bypass



Artist impression of the preferred concept design for Roberts Hill Tunnel

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

Once complete, the bypass will remove thousands of vehicles from the centre of town, making Coffs Harbour an even better place to live, work and visit. 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** - Removing thousands of vehicles from the Coffs Harbour CBD will make it a more attractive place to visit, shop and work.

The Coffs Harbour region will receive extensive benefits during the building of the bypass, with thousands of direct and indirect jobs created during construction. Transport for NSW will work with the relevant authorities to finalise the relevant planning approvals so construction can begin in late 2020 and will take four to five years to build, weather permitting.

July to December 2019

- Environmental Impact Study (EIS) on community display
- Refined designs on community display.

Community consultation

- The project's Community Consultative Committee met in September and November
- Met with directly impacted businesses
- Met with directly impacted stakeholders
- The Coffs Harbour project display office was reopened in September.

Environmental Impact Statement Exhibition

The EIS exhibition was an opportunity for the Coffs Harbour community to make a comment on the refined design changes, potential environmental impacts and proposed mitigation measures for the proposed bypass.

The refined design changes on display were:

- Three tunnels incorporated into the design
- Reducing road height
- Installing lower noise pavement
- Reducing road steepness
- Lowering the bridge over the North Coast Railway.

The potential environmental impacts from the project include:

- noise
- vibration
- traffic
- air quality, flooding
- Aboriginal and non-Aboriginal heritage

- socio-economic impacts
- agricultural property impacts
- biodiversity impacts.

The EIS was on display from the 11 September until the 27 October. Members of the project team were available to discuss the EIS at five community drop-in sessions and at six pop-up displays. The project display office located at Park Avenue, Coffs Harbour was opened five days a week during the display period.

Over 100 community members attended the community drop in sessions and over 300 people showed up at the pop-up displays. During the five week display period almost 600 people visited the Coffs Harbour project display office.

Submissions were made via the the Department of Planning, Industry and Environment (DPIE) Major Projects website. There were 180 submissions received.

Design refinements

Feedback received from the community during the public exhibition of the EIS included refining interchange designs and improvements to bus stops and bus interchanges.

The main proposed refinements were:

- Englands Road interchange
- School bus stop on Coramba Road near Spagnolos Road
- Korora Hill interchange
- Bus interchange at Kororo Public School.

The key changes included:

- Removing two sets of traffic signals on Englands Road and replacing them with a large roundabout

- Replacing two signalised intersections at Korora Hill interchange and the northbound exit loop ramp, reducing the overall interchange footprint.

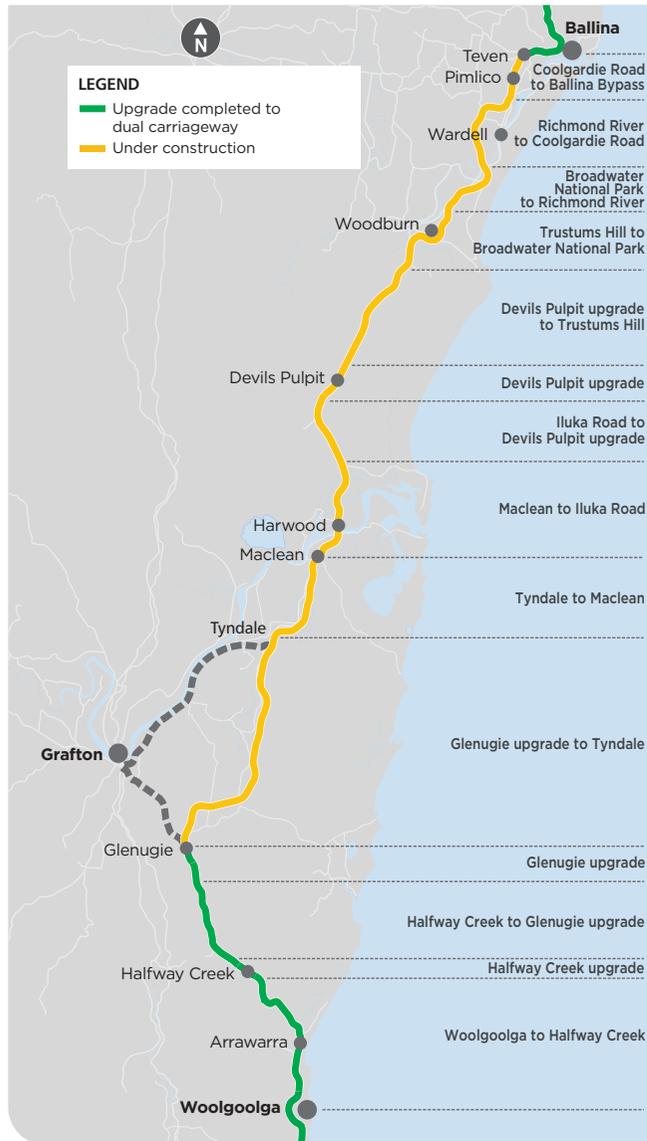
The refined designs were on display from the 27 November until the 13 December. Members of the project team were available to discuss the refined designs at one community drop-in session and one pop-up display. The project display office located at Park Avenue, Coffs Harbour was opened five days a week during the display period.

More than 10 people attended the community drop-in session, almost 90 people showed up to the pop-up display and over 80 people visited the project office. An additional briefing was held at the Kororo Public School where 25 parents attended. Submissions were made directly through the Coffs Harbour bypass project email and 29 submissions were received.



Community engagement

Woolgoolga to Ballina overview



The Australian and NSW governments are jointly funding the Woolgoolga to Ballina Pacific Highway upgrade. Transport for NSW, 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



Work continuing at Coolgardie interchange looking east

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

- July to December 2019, work progress:**
- ✓ Open nine kilometres of the northbound carriageway between Devils Pulpit and Woodburn, one lane each direction at reduced speed
 - ✓ Complete delivery of precast units
 - ✓ Open eight kilometres of dual carriageway across the project, including the bridge over the Clarence River at Harwood.

January to June 2020, expected work progress, weather permitting:

- Open the new southbound rest area at Mororo
- Continue to open new sections of road in stages
- Reach 85 per cent complete for construction.

 on average **2068** workers on site per month

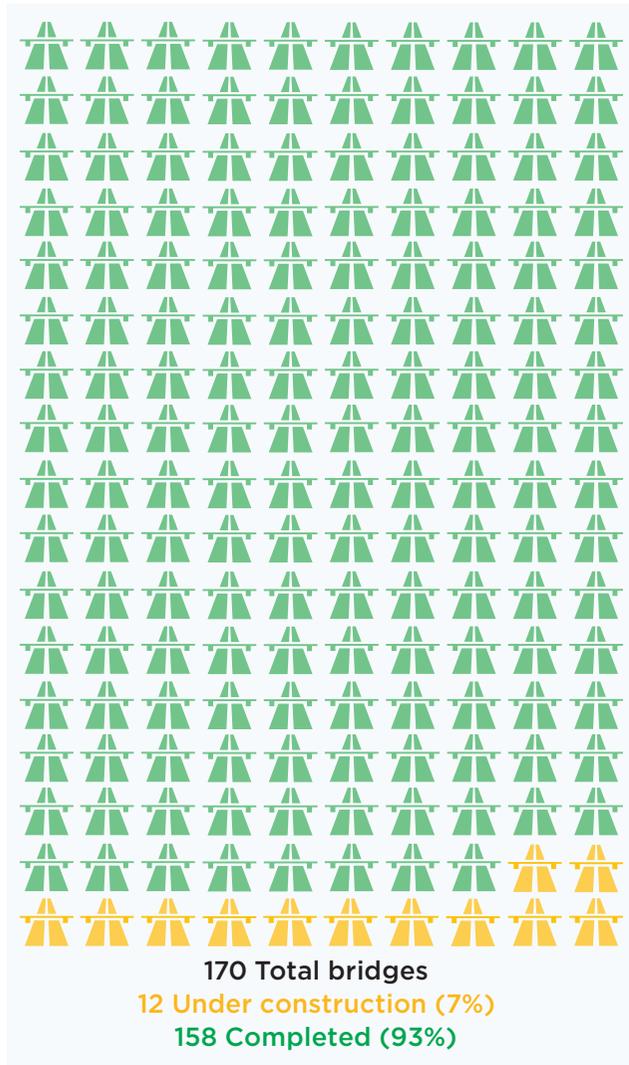
 on average **635** pieces of large machinery on site

 about **85%** complete

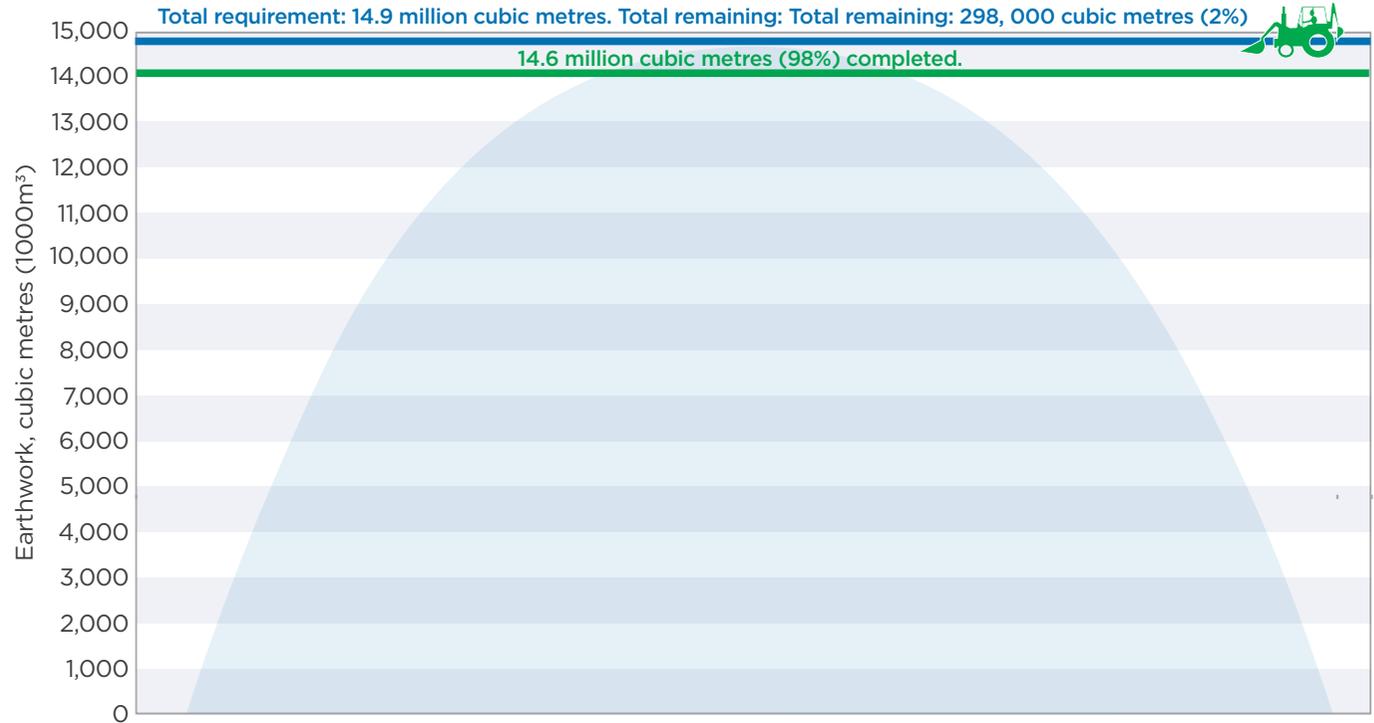
*Wet weather days - impacts to work vary depending on rainfall event and activities being carried out

Woolgoolga to Ballina overview

Bridges



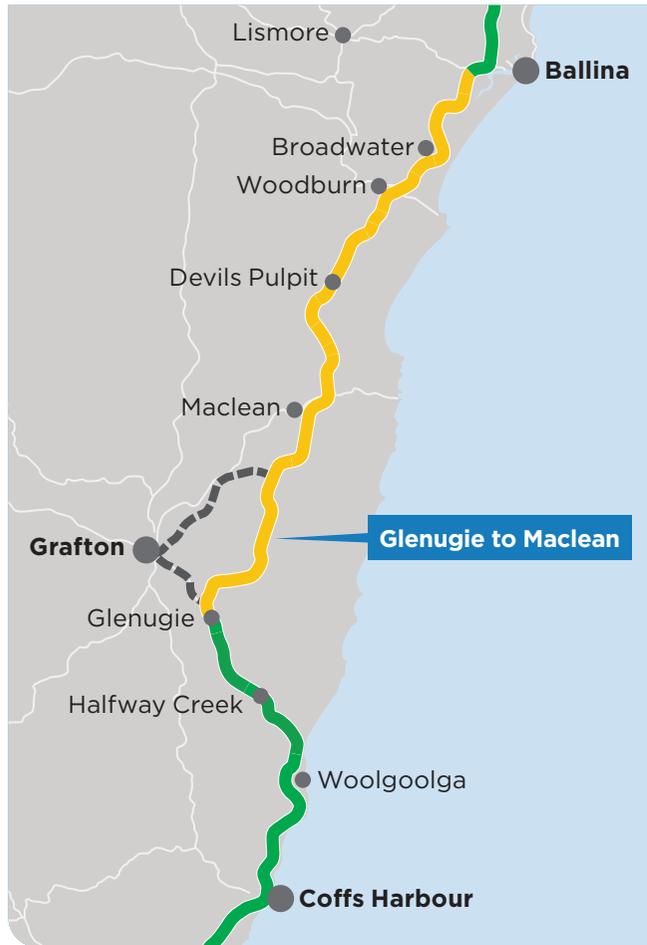
Earthwork



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.

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

July to December 2019, work progress:

- ✓ Complete concrete paving between Tyndale and Maclean
- ✓ Complete bridge work between Glenugie and Maclean
- ✓ Start work on Pinebrush rest area.

January to June 2020, expected work progress, weather permitting:

- Complete work on the Tyndale and Glenugie interchanges
- Demobilise batch plants at Avenue and Coldstream roads.



Artist impression of Maclean interchange looking north, source: Urban Design and Landscape Plan

 on average **351** workers on site per month

 on average **242** pieces of large machinery on site

 about **89%** complete

Main contract partners on site

Seymour Whyte Constructions
BGC Contracting Pty Ltd

*Wet weather days - impacts to work vary depending on rainfall event and activities being carried out



Maclean interchange looking north, October 2019

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.

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

July to December 2019, work progress:

- ✓ Open to traffic Chatsworth Road north and south overpass bridges
- ✓ Open to traffic Yamba interchange to Serpentine, including the new bridge over the Clarence River at Harwood.

January to June 2020, expected work progress, weather permitting:

- Open to traffic Iluka interchange
- Open old Mororo Bridge to local traffic.



Yamba interchange looking north, October 2019

 on average **459** workers on site per month

 on average **242** pieces of large machinery on site

 about **87%** complete

Main contract partners on site

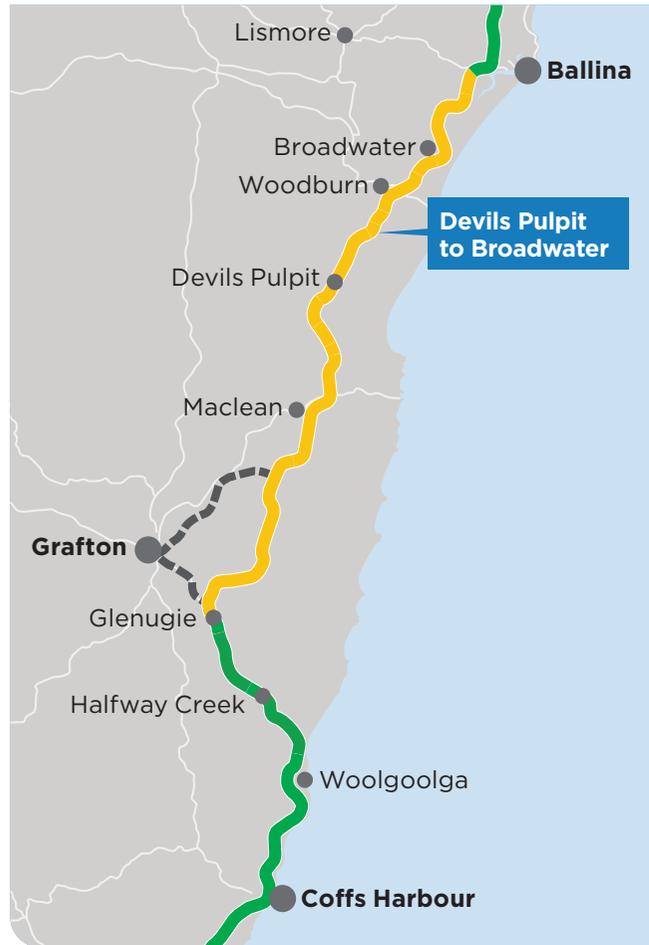
Golding Contractors
SEE Civil
Bielby Hull Albem Joint Venture
Tropic Asphalt

*Wet weather days - impacts to work vary depending on rainfall event and activities being carried out



Artist impression of Yamba interchange looking north, source: Urban Design and Landscape Plan

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 new bridge over the Richmond River. In this area the upgrade bypasses Woodburn and Broadwater and includes the Woodburn and Broadwater interchanges.

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

July to December 2019, work progress:

- ✓ Open to traffic a nine kilometre section of northbound carriageway between Devils Pulpit and New Italy, one lane each direction
- ✓ Complete Oxylan Pigmy Perch structures.

January to June 2020, expected work progress, weather permitting:

- Open to traffic the overpass bridge that forms part of the future Woodburn interchange.



Broadwater interchange looking north, October 2019

 on average **708** workers on site per month

 on average **294** pieces of large machinery on site

 about **81%** complete

Main contract partners on site

Bielby Hull Albem Joint Venture
CPB Contractors

*Wet weather days - impacts to work vary depending on rainfall event and activities being carried out



Artist impression of Broadwater interchange looking north, source: Urban Design and Landscape Plan

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.

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

July to December 2019, work progress:

- ✓ Open to traffic Whytes Lane overpass bridge
- ✓ Open to dual carriageway section between Whytes Lane and West Ballina.

January to June 2020, expected work progress, weather permitting:

- Complete work on the Coolgardie interchange
- Demobilise the site compound in Pimlico.



Artist impression of Coolgardie interchange looking north, source: Urban Design and Landscape Plan

 on average **249** workers on site per month

 on average **31** pieces of large machinery on site

 about **93%** complete

Main contract partners on site

Georgiou Group
Quickway Constructions
Lendlease Engineering

*Wet weather days – impacts to work vary depending on rainfall event and activities being carried out



Coolgardie interchange looking north, October 2019

Projects being built

Project snapshot

Contractors: Pacifico

Form of contract: Design and build

Start date of major construction: August 2016

Completion date: Opened to traffic in December 2019

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.

July to December 2019, work progress:

- ✓ Complete revegetation work.

January to June 2020, expected work progress, weather permitting:

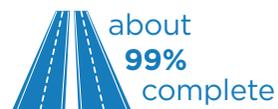
- Open to 110 kilometres per hour.



Artist impression of the bridge over the Clarence River at Harwood looking south-west, source: Urban Design and Landscape Plan



Looking west at bridge lift of Harwood bridge with traffic on the new bridge



*Wet weather days - impacts to work vary depending on rainfall event and activities being carried out

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.

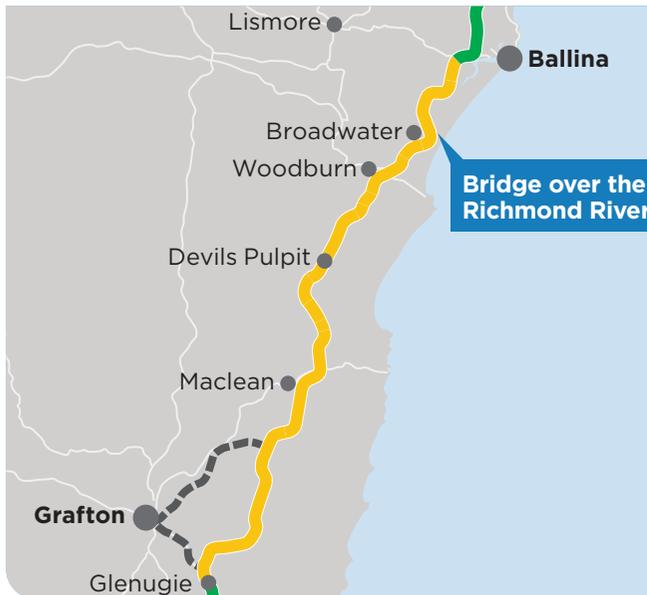
*8 days were lost to wet weather in the past six months.

July to December 2019, work progress:

✗ Complete revegetation work.

January to June 2020, expected work progress, weather permitting:

• Complete revegetation work.



Bridge over the Richmond River at Broadwater looking south-east, October 2019



Artist impression of the bridge over the Richmond River at Broadwater looking south-east, source Urban Design and Landscape Plan

 on average
17 workers
on site per month

 on average **4**
pieces of large
machinery on site

 about
99%
complete

Main contract partners on site

Lendlease Engineering

*Wet weather days - impacts to work vary depending on rainfall event and activities being carried out

