



Australian Government

BUILDING OUR FUTURE



MAKING IT HAPPEN



Aerial view of the Frederickton to Eungai alignment open to traffic (May 2016)

Pacific Highway upgrade

Six month report card January to June 2016

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Overview



Aerial view of work in progress to build the Nambucca River bridge (April 2016)

This report provides a progress update on the Pacific Highway upgrade program to 30 June 2016.

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 committed to completing the Pacific Highway upgrade by 2020.

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.

Roads and Maritime continued to make excellent progress across the highway upgrade program from January to June 2016:

- Tintenbar to Ewingsdale upgrade opened to traffic
- Frederickton to Eungai upgrade opened to traffic
- Stage two of the Pimlico to Teven upgrade opened to traffic
- Nambucca Heads to Urunga upgrade was nearing completion with all 37 bridges built
- Preferred tender announced to design and build the bridge over the Clarence River at Harwood
- Major work is progressing well on sections 1 and 2 of the Woolgoolga to Ballina upgrade, with over 2 million cubic metres of earthwork completed and work underway to build bridges and place road pavement.



about **66%** of highway length now four lane divided road



129 km of highway being built



View of the main alignment open to traffic on the Frederickton to Eungai project (May 2016)

Current status



As of 30 June 2016, 437 kilometres of the Pacific Highway upgrade are four lane divided road. About 129 kilometres of the highway is currently being upgraded to four lane divided road with the remaining sections being prepared for work. All projects will be open to traffic by 2020.

Key project milestones achieved during the past six months:

- ✓ Tintenbar to Ewingsdale opened to traffic
- ✓ Frederickton to Eungai opened to traffic
- ✓ Stage two of the Pimlico to Teven project opened to traffic
- ✓ Kundabung bridge opened to traffic
- ✓ Nambucca Heads to Urunga upgrade was nearing completion
- ✓ Wave 1 and 2 soft soil work is progressing well on the Woolgoolga to Ballina upgrade with Wave 4 also commencing work.



View of the main Nambucca Heads to Urunga alignment, looking towards East West Road overbridge (April 2016)

Upgrade outcomes

Where are we now?

At 30 June 2016:

437 kilometres are four lane divided highway – about 66 per cent

129 kilometres are being built.

The remaining sections of two lane highway are being prepared for major work.

An average of 3370 people per month worked on the Pacific Highway upgrade from January to June 2016.

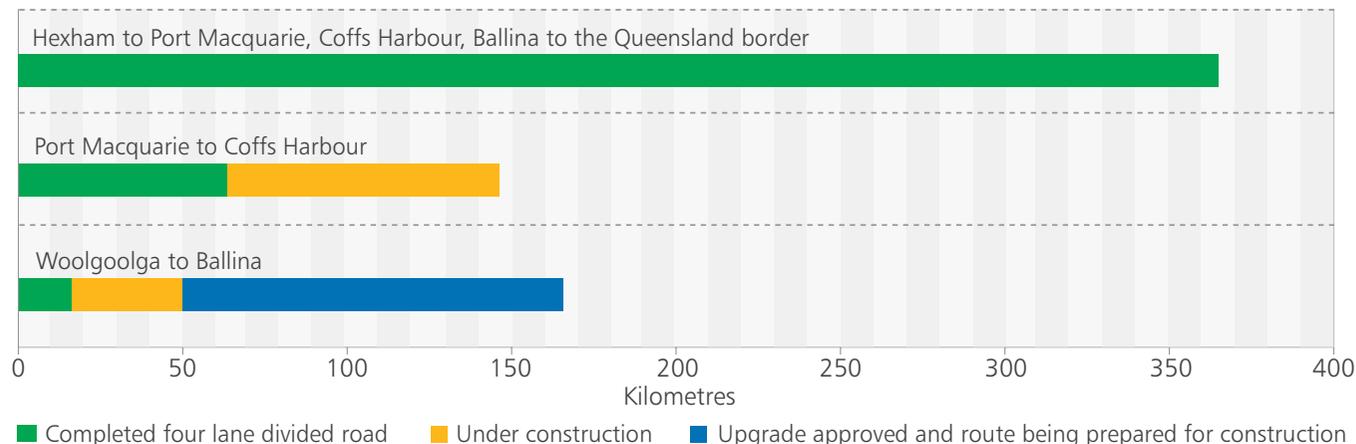
The peak employment period is expected to be during 2016 and 2017 when about 4000 workers are estimated to be employed as a result of the Pacific Highway upgrade.

Roads and Maritime Services and its contractors, wherever possible, use local products and services for infrastructure construction projects.

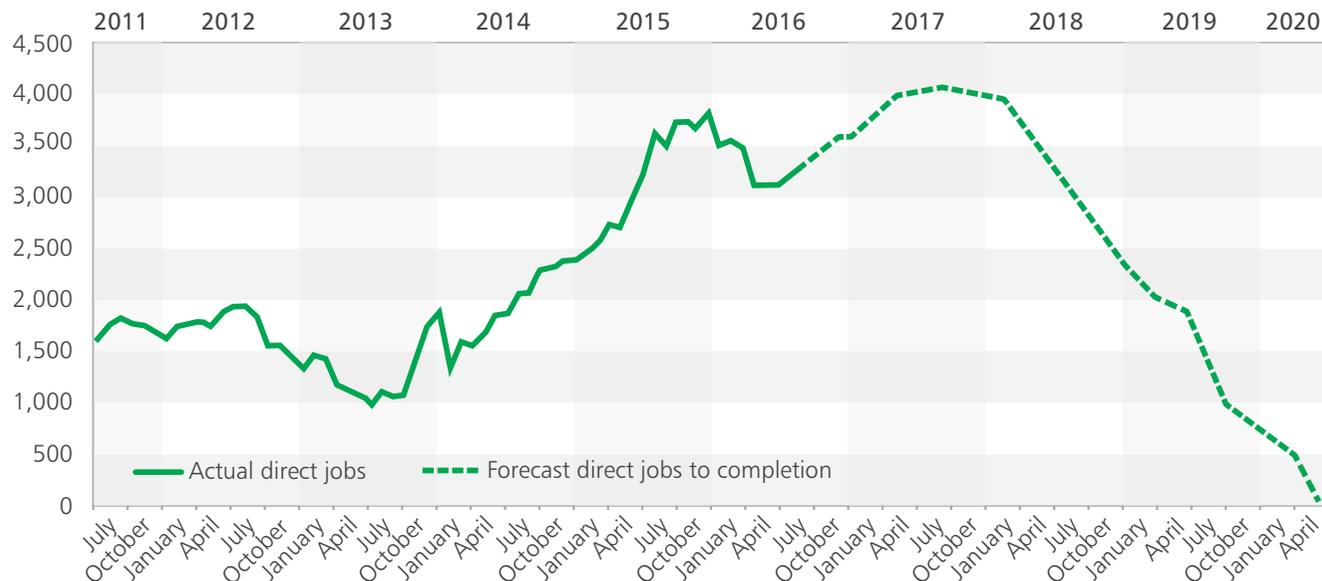
The graph to the right shows actual and predicted direct jobs. Future predictions have been estimated on the basis of 1.98 direct jobs per million dollars budgeted each year and future cash flows. It is anticipated that the number of indirect jobs would be three times the number of direct jobs. This graph is likely to change over time to suit packaging and procurement based on the schedule of work.

The Pacific Highway upgrade has plans in place for all of its construction projects, to encourage Aboriginal employment opportunities, including apprenticeship and traineeship programs. For the first six months in 2016 about 14 per cent of people employed on the Pacific Highway upgrade were Aboriginal.

Four lane divided road status



Direct jobs created by the Pacific Highway upgrade

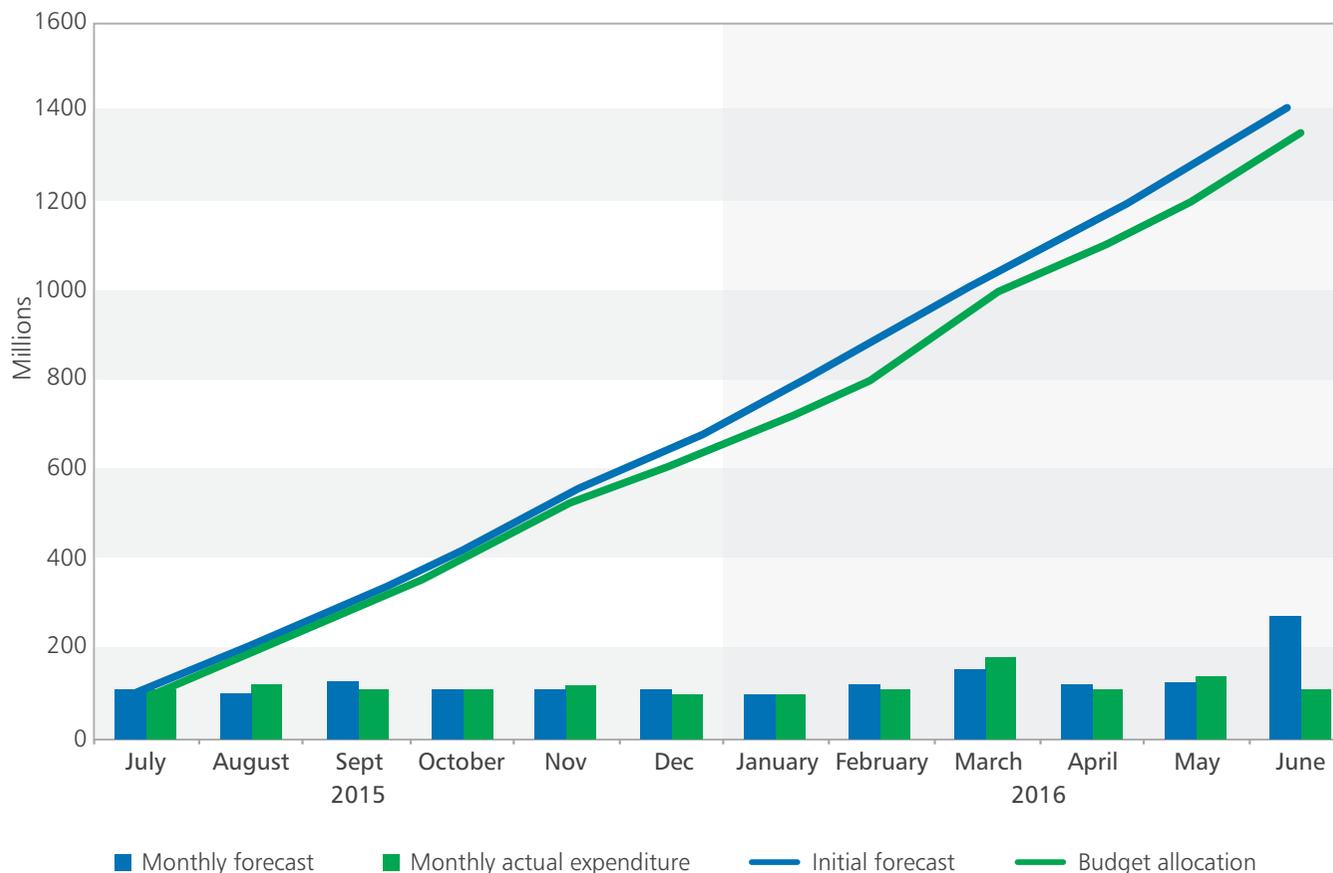


Upgrade outcomes

Expenditure update

The total expenditure for the upgrade program for the period January to June 2016 was \$712 million (see graph below). The graph below also shows monthly expenditure against forecasts and generally there has been a close match between the two.

Pacific Highway Program expenditure by month – July 2015 to June 2016



Wet weather

There was less wet weather in the period January to June 2016, than in the preceding six months.

January to June was the driest wet season experienced along the Pacific Highway upgrade since Roads and Maritime started collecting wet weather data in 2011.

The Warrell Creek to Nambucca Heads project was the most adversely affected by rain, with over 33 per cent of available working days lost to wet weather in the past six months.

Average work days – January to June 2016

From 107 available working days



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

Upgrade outcomes

Crashes

Since the start of the Pacific Highway upgrade, the number of fatal crashes continue to trend downwards. Fatal crashes have halved, down from more than 40 each year to about 20 in recent years.

In 2015, 23 people died in 18 fatal crashes. This is comparable with the previous five year average of 19 crashes and 23 fatalities. Preliminary data indicates there have been 14 fatal crashes in the period January to June 2016.

Travel time

Since the start of the Pacific Highway upgrade program in the mid-1990s, travel time between Hexham and the Queensland border has been tracked.

In 2016, Google travel time data was used instead of the manual method used in the past, getting rid of any work health and safety risks previously associated with

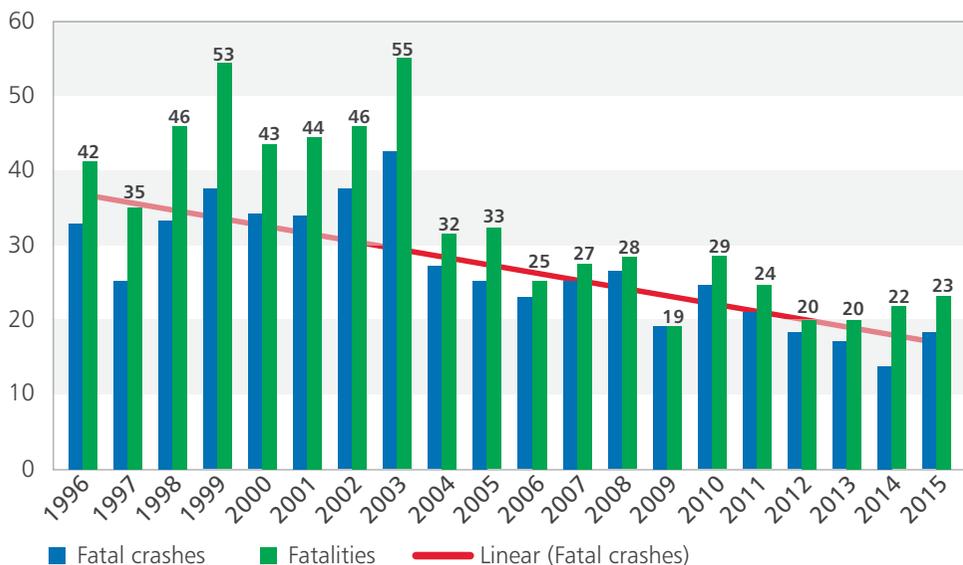
collecting the data. Google travel time data is relatively easy to collect, analyse, and is reliable. It is based on speed readings collected from large numbers of individual speed readings along a particular route.

Annual travel time surveys are conducted at the end of each year using the same start and end points to ensure the results can be accurately compared.

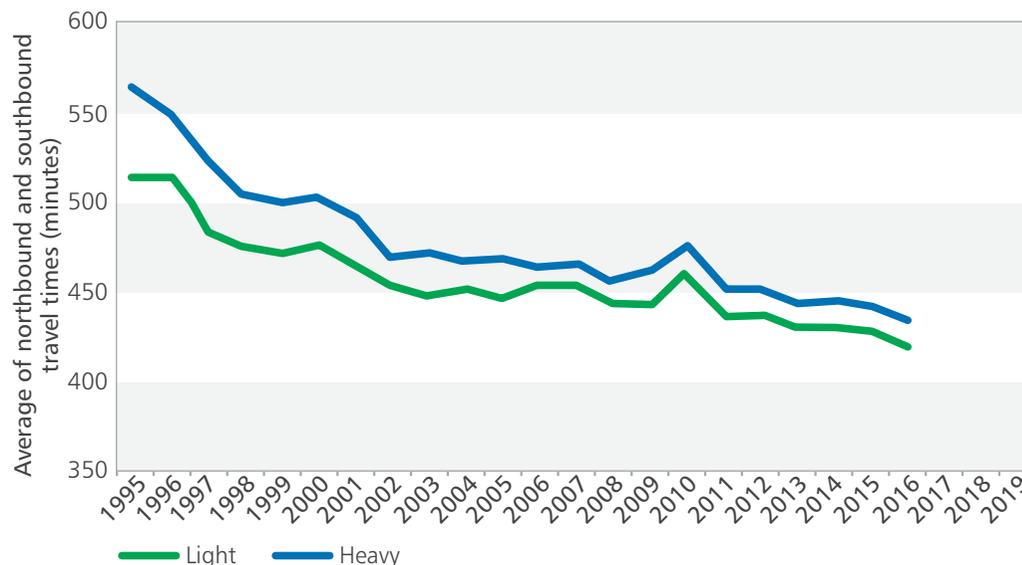
Since the last report, an estimated additional seven minutes of travel time was saved with the openings of Tintenbar to Ewingsdale and Frederickton to Eungai. At the time these projects were opened, the adjoining Kempsey bypass and Ballina bypass posted speed was increased to 110km/hr.

It should be noted that travel time on the Pacific Highway is not only based on the amount of traffic on the highway, but can be affected by new speed limits in place on particular sections of the highway, completed since travel time surveys began in 1995.

Fatal crashes and fatalities each year



Travel time trends on the Pacific Highway, Hexham to Queensland border (adjusted for work site delays)



Community

A snap shot of community consultation carried out for the Pacific Highway upgrade in the past six months:



Over 10,900 face to face meetings



Distributed 203 separate letters to over 68,600 householders/people interested in the project



Managed about 75 media releases, inquires and community events, including site tours and opening events.



Aerial view of Wave 1 soft soil work near Harwood bridge (April 2016)

17 Community Information Sessions held April to May 2016

Woolgoolga to Ballina upgrade

During late April and May the community team from the Woolgoolga to Ballina Pacific Highway upgrade held 17 community information sessions along the 155 kilometre alignment.

More than 300 people attended the evening briefings with many welcoming their first opportunity for face to face discussions about the project since the Environmental Impact Statement (EIS) stage.

The main issues raised were around flooding, access, operational noise, the increase in heavy vehicles and the potential damage they could cause to local roads. Other community concerns raised included construction impacts such as noise, vibration, dust, workforce accommodation and the bridge over the Clarence River at Harwood.

The project team enjoyed engaging with the community and getting to hear first-hand about their concerns with many welcoming the imminent completion of the Pacific Highway between Hexham and the Queensland border.

The team will have the opportunity to do it all again in August with a round of community drop in sessions planned in August for the display of refined design and Urban Design and Landscape Plans.



Frederickton to Eungai opening event

Roads and Maritime Services were joined by first responders to the scene of the 1989 Clybucca bus crash, at the opening of the new Frederickton to Eungai Pacific Highway upgrade in May this year.

A one minute silence was held at the opening event to remember the victims of the Clybucca bus crash and to pay respect to the wider community who were impacted by the tragedy. The event also acknowledged and celebrated the brave efforts of first responders who provided emergency services at the scene.

The opening of the new Frederickton to Eungai upgrade was welcomed, providing 26.5 kilometres of four lane divided road, a new interchange at Stuarts Point Road and safe, modern rest areas on both sides of the highway at Cooks Lane south of Barraganyatti. The new road from Frederickton to Eungai will greatly improve the efficiency and safety of travel on this section of the highway, particularly for the high volumes of local traffic currently using the road.

Roads and Maritime thanks those who attended to remember those who lost their lives on the road and celebrate the opening of the new, safer road.



Emergency responders to the scene of the 1989 Clybucca bus crash, celebrating the opening of the new Frederickton to Eungai upgrade (May 2016)



Frederickton to Eungai opening event (May 2016)

Finishing the job

Completing a four lane divided highway between Hexham and the Queensland border remains an important issue for local communities and is a priority for the Australian and NSW governments, both of which are committed to having the upgrade completed by 2020.

There is now four lane divided highway between:

- Hexham and Port Macquarie
- Kempsey and Eungai
- Urunga and Woolgoolga
- Ballina and Tweed Heads.

Major work is progressing well on the first two sections of the 155 kilometre Woolgoolga to Ballina upgrade – the 14 kilometre Woolgoolga to Halfway Creek section and the 12 kilometre Halfway Creek to Glenugie section.

Major work activity is also in progress for Waves 1 and 2 soft soil work on the Woolgoolga to Ballina project with Wave 4 also commencing work.

Work is continuing on a number of other key activities between Woolgoolga and Ballina, including planning work, land acquisitions, preliminary investigations, early soil settlement and preconstruction work on critical sections.

The Frederickton to Eungai, Tintenbar to Ewingsdale and Stage 2 of the Pimlico to Teven upgrade all opened to traffic in the past six months. The Nambucca Heads to Urunga project remains on track to open to traffic in July 2016.

Major work is well underway on the 20 kilometre Warrell Creek to Nambucca Heads upgrade and all projects within the 37 kilometre Oxley Highway to Kempsey upgrade. These sections will be completed during 2017, weather permitting.



Key project milestones – how are we travelling?

Did we do what we said we would between January and June 2016?

Achieve major work progress:

- ✓ Complete finishing work for the Tintenbar to Ewingsdale project
- ✓ Complete the Frederickton to Eungai project and open to traffic
- ✓ Complete stage 2 of the Pimlico to Teven project and open to traffic
- ✓ Complete all 37 bridges on the Nambucca Heads to Urunga project
- ✓ Complete work to build the Pipers Creek twin bridges on the Kundabung to Kempsey project
- ✓ Blackmans Point interchange bridges and roundabout will be complete on the Oxley Highway to Kundabung project
- ✓ Complete work to build Stumpy Creek bridge, Smiths Creek bridge southbound and Pipers Creek bridge on the Kundabung to Kempsey project
- ✓ Complete work to construct the Kundabung overbridge and open to traffic
- ✓ Open the intersection of Albert Drive and the existing Pacific Highway on the Warrell Creek to Nambucca Heads project
- ✓ Complete Eggins Drive stage 1 work, including opening the Sherwood Creek Road and overpass to traffic on the Woolgoolga to Halfway Creek project

- ✓ Complete work to construct bridges at Halfway Creek on the Halfway Creek to Glenugie project.

Planning for major work on the Woolgoolga to Ballina project:

- ✓ Award tenders for soft soil treatment work packages for Wave 3 at Shark Creek to Maclean and Wave 4 at Tuckombil Canal
- ✓ Tender, evaluate and award Wave 5A, 5B and 5C early foundation treatments
- ✓ Obtain Environment Protection Licence for sections 3 (Glenugie to Tyndale) to 11 (Pimlico to Teven)
- ✓ Award contract to design and build the new bridge over the Clarence River at Harwood.

In the next six months (July to December 2016) we will:

- Complete the Nambucca Heads to Urunga project and open to traffic
- Complete work to build the bridge over the Wilson River on the Oxley Highway to Kundabung project
- Complete stage one of the traffic switch between Barrys Creek and Smiths Creek on the Kundabung to Kempsey project
- Complete six local road overbridges and open to traffic on the Warrell Creek to Nambucca Heads project
- Complete the remaining nine bridges on the Woolgoolga to Halfway Creek project
- Complete bridges at Halfway Creek and Wells Crossing on the Halfway Creek to Glenugie project
- Complete Wave 1 and 2 soft soil work on the Woolgoolga to Ballina project.



Stage 2 Pimlico to Teven project (April 2016)

Workplace health and safety

Safety is a core value for Roads and Maritime. We are focused on the safety of all road users, including motorists 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

Incidents involving large machinery and equipment continue to pose the biggest safety risk for all Pacific Highway project sites. Although 32 per cent (figure 1) of incidents reported between January and June involved large machinery and equipment, slips, trips and falls were the most prevalent source of reported injuries on project sites, accounting for 43 per cent (figure 2) of all reported injuries.

At our workplace health and safety workshop in May, our industry partners presented lessons learned and discussed engineering solutions implemented on Pacific Highway upgrade projects.

Work health and safety traffic light status July 2015 to June 2016. (Comparing lead and lag indicators)

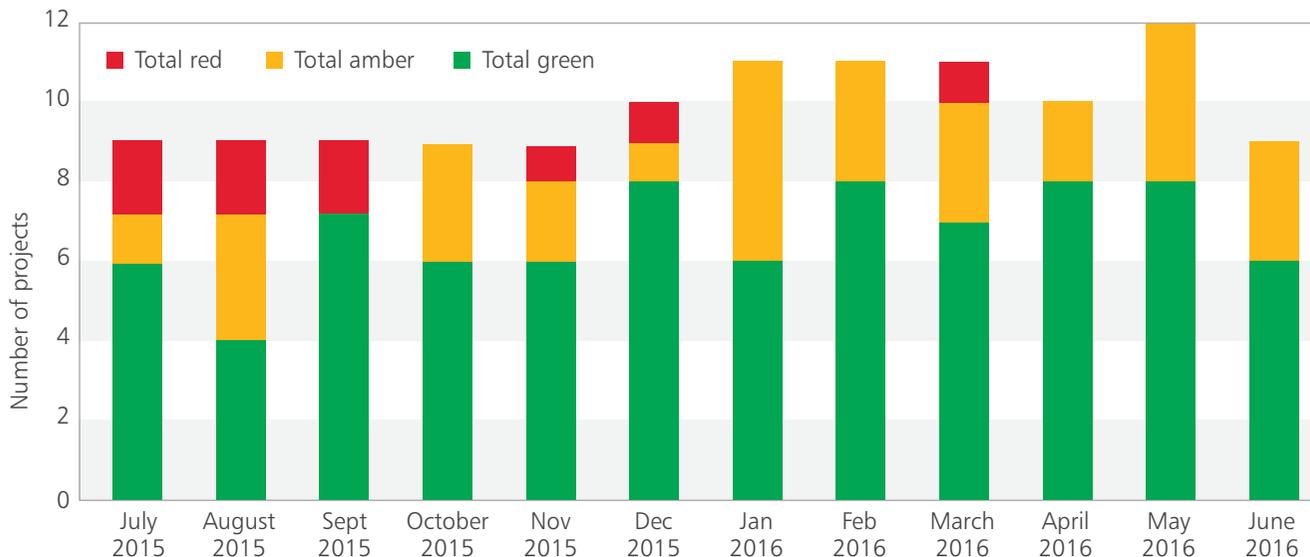


Figure 1: Reported incidents by category January to June 2016

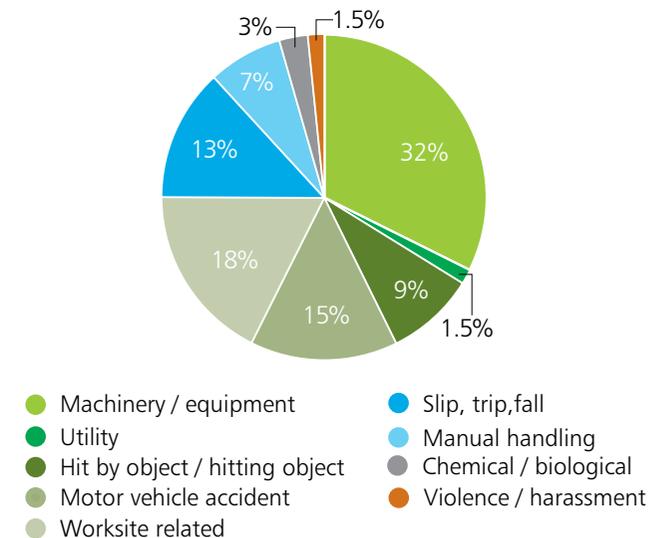
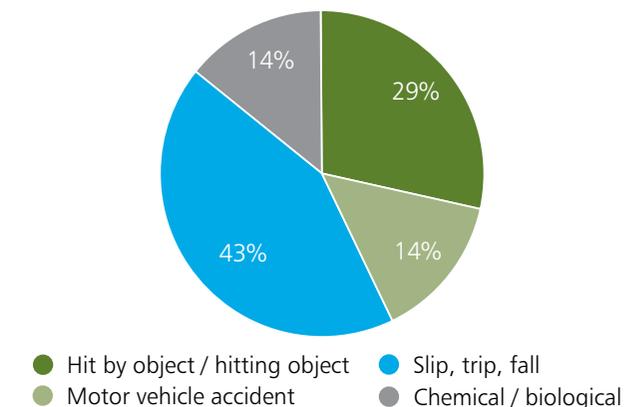


Figure 2: Reported injuries January to June 2016



Safety initiatives on the Pacific Highway upgrade

Our Work Health and Safety Strategy 2015-2019:

- ✓ acknowledges the extent of our duty of care
- ✓ reflects our commitment to safety
- ✓ sets out how we will create a workplace where everyone goes home safe and healthy every day.

Project: Oxley Highway to Kundabung Contractor: Lend Lease

Lend Lease have developed an innovative smart phone app which tracks the movement of trucks on site for the Oxley Highway to Kundabung project. The app uses built in geo-fences to only track truck movements within set parameters around the work site. Lend Lease will evaluate the effectiveness of the app, with the potential to roll the app out across other trucks on the project.

Safety outcomes from this engineering solution:

- ✓ Identifies and tracks the location, movement and speed of trucks on site
- ✓ Identifies trucks which are stationary on site
- ✓ Assists in monitoring fatigue related issues
- ✓ Improves the efficiency of trucks moving in, out and around site
- ✓ Enhances the safety of the driver and workers on site.



Screen shot of the GPS system tracking location of trucks on site (May 2016)



Screen shot of the GPS system tracking location of trucks around the batch plant (May 2016)

Between January and June 2016, the project teams have:

- ✓ worked more than 7.6 million hours
- ✓ employed on average about 3400 workers per month
- ✓ identified and fixed over 3800 hazards
- ✓ Carried out more than 1400 toolbox talks.

Project: Woolgoolga to Ballina – Wave 1 soft soil work Contractor: Golding Contractors

Golding Contractors have developed a device to lift and place large, heavy rolls of geo-fabric for soft soil work. The rolls of geo-fabric usually take a few workers to lift, move and place them as they are large and heavy, posing manual handling issues to the workers. This new device removes the need for manual handling, and as such minimises any work health and safety risks to the workforce.

Safety outcomes from this engineering solution:

- ✓ Workers don't have to manually lift and move the rolls of geo-fabric
- ✓ Minimises the risk of workers having manual handling related injuries such as back injuries
- ✓ Minimises the risk of workers getting injuries from tripping, slipping or falling on site
- ✓ Increases productivity, as the device quickly and effortlessly lifts and places the rolls of geo-fabric.

Environment

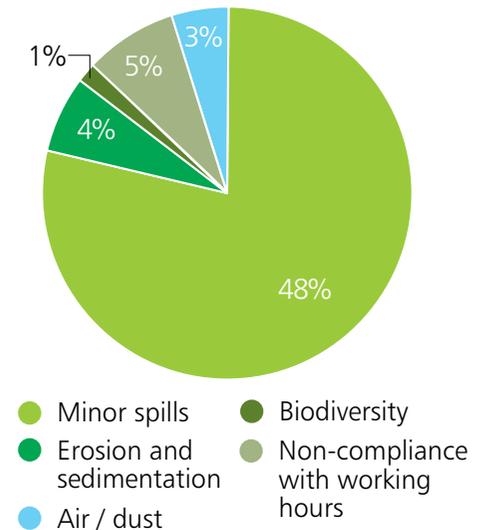
Environmental work completed, January to June 2016:

- ✓ Achieved approval of the Biodiversity Offset Status Report which will allow Roads and Maritime to progress with the conservation of native vegetation, and meet biodiversity offset requirements for Singleton Mint Bush and the Woombah/Illuka Koala population
- ✓ Developed a robust management plan for the threatened Three Toed Snake Tooth Skink which will greatly improve the ecological knowledge for this species. The detailed plan will be implemented as part of construction work and was developed in consultation with the Environmental Protection Authority (EPA) and Clarence Valley Council
- ✓ Successfully translocated the threatened *Maundia tiglochinosoides* (a herb) on the Warrell Creek to Nambucca Heads project
- ✓ The threatened Giant Barred Frog species has been recorded using the purpose built pipe culvert underpass on the Sapphire to Woolgoolga project, a great result for the project team who installed the underpass for this purpose
- ✓ Successfully participated in a wild dog control program in the Gulmarrad area, in partnership with Local Land Services and Clarence Valley Council, using an experienced wild dog trapper. The initiative is being used to raise awareness in the community on the importance of controlling wild dogs, which not only impact on domestic stock and native fauna, but can also be a risk to families and their pets

- ✓ Salvaged mangrove timber from the Pimlico to Teven Project was provided to JALI Local Aboriginal Land Council for use in creating traditional wood carvings
- ✓ Successful community mulch give away on the Woolgoolga to Halfway Creek Project
- ✓ Developed native bee and grass tree salvage and management protocol to be implemented on the next phase of the Woolgoolga to Ballina Project (from Glengue to Ballina). This protocol was developed in conjunction with local landcare groups and EPA ecologists to help minimise clearing impacts.
- ✓ The Wells Crossing bridge being built as part of the Halfway Creek to Glengue upgrade has been designed to provide roosting habitat for threatened microbats within the structure itself, with minimal maintenance implications. Microbats prefer to roost close to waterbodies and bridge structures can provide an excellent habitat for these species. With careful planning and design the Microbats can coexist with traffic usage and future bridge maintenance activities.
- ✓ Started to implement usage of 'Cyplax' nest boxes which have a much longer design life (30 plus years). The first of these types of nest boxes have been installed on the Bulahdelah Bypass Project with more to be installed as part of the Woolgoolga to Ballina Project

- ✓ Most of the 80 environmental inspections carried out in the past six months were recorded as green status. This means that work sites across the Pacific Highway upgrade were demonstrating good environmental practice during the past six months, with only minor changes needed.

Environmental incidents recorded January to June 2016



Biodiversity and Offset Restoration

Banora Point upgrade

The Banora Point upgrade was opened to traffic in September 2012; it involved upgrading 2.5 kilometres of road on the Pacific Highway between the northern end of Barneys Point bridge and the southern end of the Tweed Heads bypass. The area was included as part of the Biodiversity Offset Management Strategy (BOMS) which required the area disturbed by the construction footprint to be restored to a landscape of lowland rainforest and to enhance the intact Swamp Sclerophyll forest land owned by Roads and Maritime.

Revegetation and restoration of the Central Valley has now commenced and is in the early stages of re-establishing the characteristic of a successful and self-sustaining vegetation community that exhibits components of a Lowland Rainforest, as well as enhancing a remnant stand of Swamp Sclerophyll forest.

Prior to commencing construction, the area ranged from both degraded native plant communities which were heavily infested by weeds, through to areas of high quality swamp forest with minor to moderate levels of weed infestation. Areas of native and exotic grasses, herbs, sedges and ferns were also present.

Restoration work carried out:

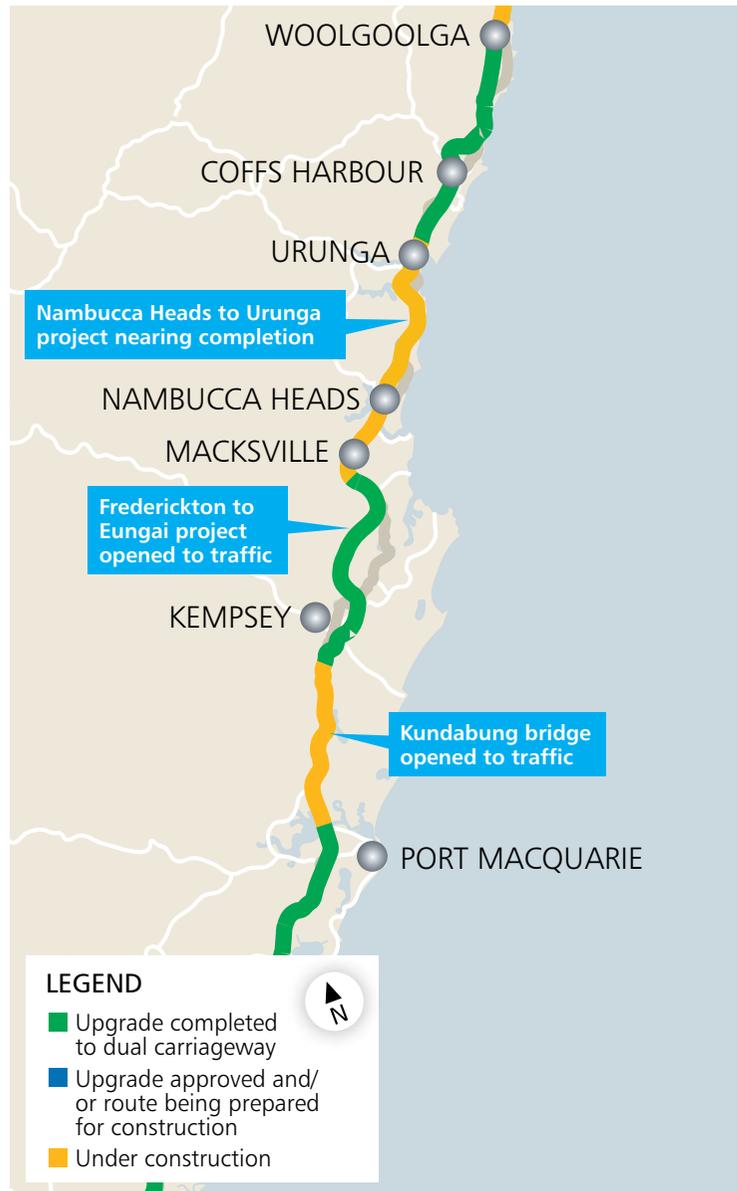
- ✓ topdressing of soil and mulch in preparation for revegetation
 - ✓ planting of species consistent with each area of land
 - ✓ planting of native grasses, shrubs and trees
 - ✓ revegetated about 6.5 hectares of land
 - ✓ planted about 5,500 native species, comprising 30 varieties
- ✓ Reinstated heritage stone terraces to their original position and revegetated surrounding areas with specific bush foods identified by the local Aboriginal community.
- Results to date are positive, with over 90 per cent of planted species surviving and weeds reduced by about 95 per cent. Coverage of native plant species has also increased significantly across the various sites.



Revegetated Lowland Rainforest, looking north on the eastern side of the viaduct, Banora Point upgrade (June 2016)

- ✓ tailored management practices for each vegetation community
- ✓ weed suppression, backfill and levelling of the site

Port Macquarie to Coffs Harbour overview



The remaining 79 kilometres of the Pacific Highway still to be upgraded to four lane divided road between Port Macquarie and Coffs Harbour is being built.

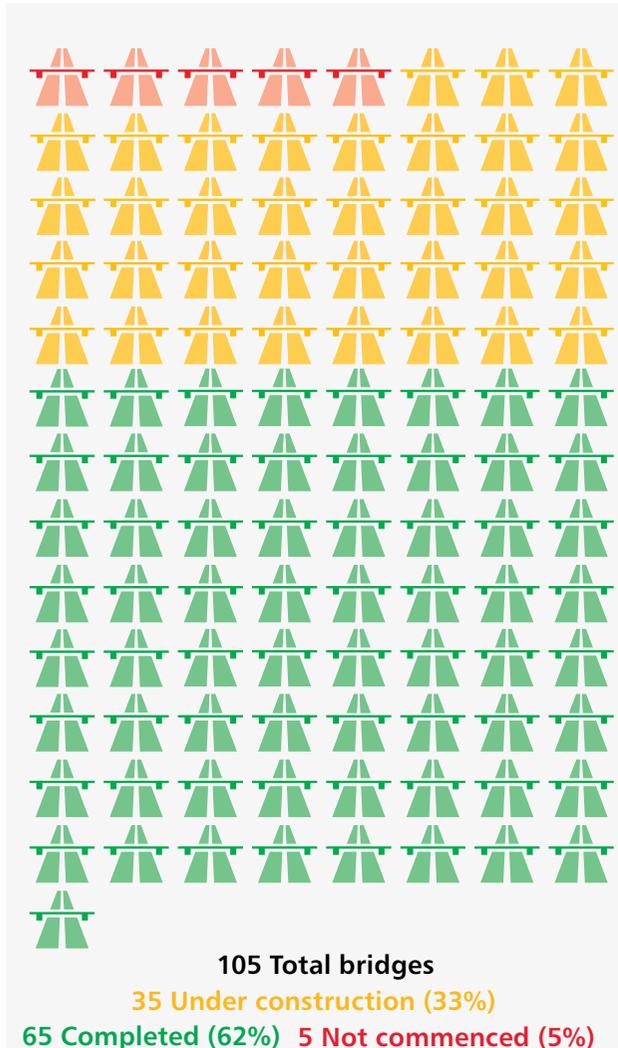
Five projects worth more than \$3.3 billion are at various stages of construction. The Sancrox interchange early work project opened to traffic in November 2015 and the 26 kilometre Frederickton to Eungai project opened to traffic in May 2016. The remaining four projects will open to traffic throughout 2016 and 2017.

The summaries on the following pages outline progress in completing this section of the Pacific Highway upgrade, including key building activities.

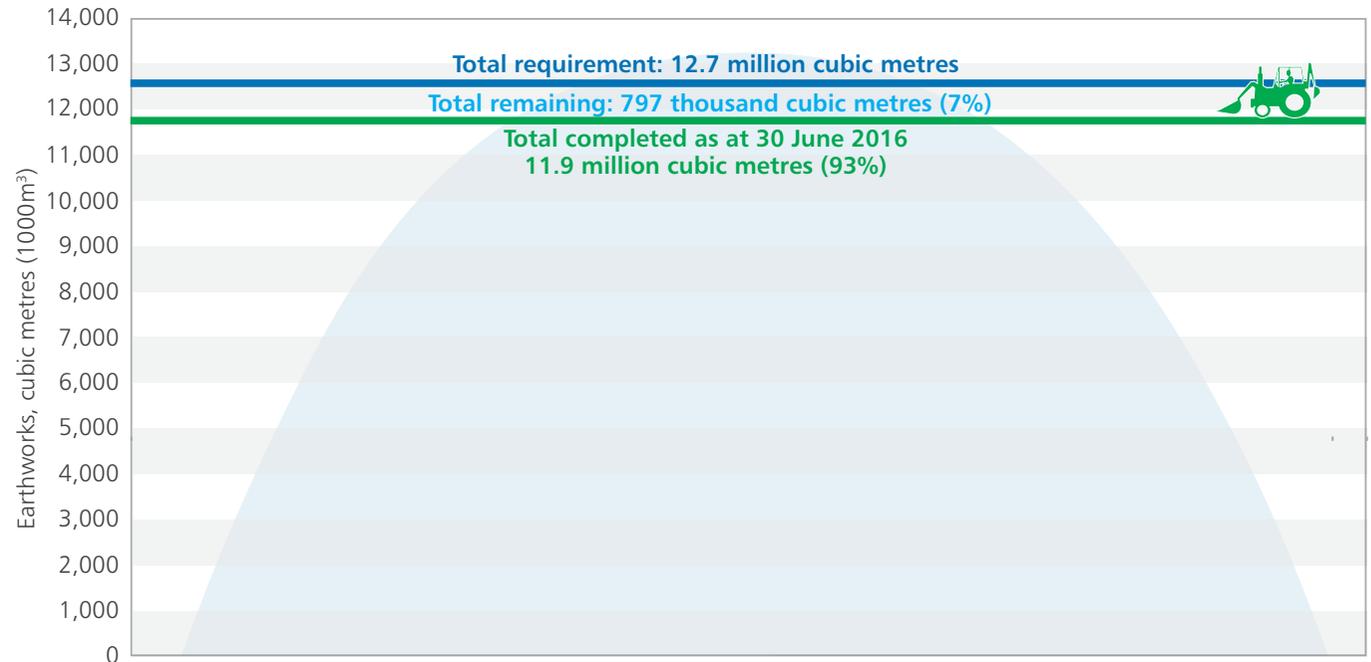


Work in progress to place mainline concrete paving, just north of the Hastings River, Oxley Highway to Kundabung project (March 2016)

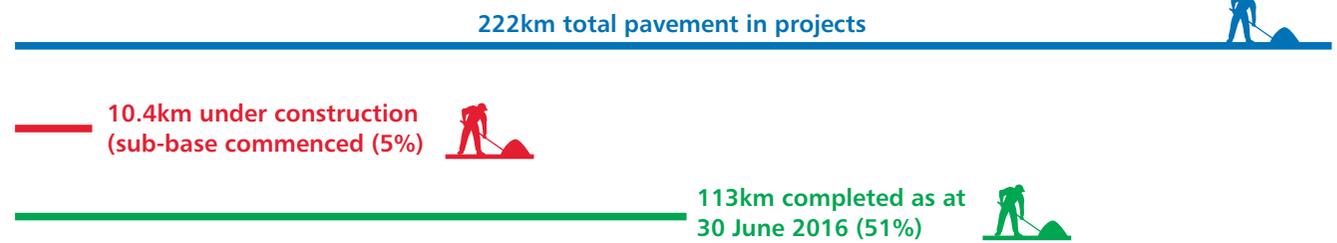
Bridges



Earthworks



Road surface (road carriageway kilometres)



Projects being built

Oxley Highway to Kundabung

Contractors: Lend Lease

Form of contract: Design and build

Average workers on site during the past six months: 636 workers per month

Average pieces of large machinery on site during the past six months: 163 pieces of machinery per month

Start date of major construction: October 2014

Completion date: 2017 (weather permitting)

Project value: \$820 million



The Oxley Highway to Kundabung project is the southern section of the Oxley Highway to Kempsey upgrade, which was approved by the NSW Minister for Planning and Infrastructure in 2012 and the Federal Department of the Environment in January 2014.

The project is jointly funded by the Australian and NSW governments. It involves building 23 kilometres of four lane divided road, including bridges over the Hastings and Wilson rivers.

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

January to June 2016, work progress: 

- ✓ Completed bridge piling, substructure work and installation of girders on the bridge over the Wilson River
- ✓ Bridge piling and substructure work is 95 per cent complete and girders have commenced being installed on the bridge over the Hastings River
- ✓ Installation of drainage and fauna culverts was about 95 per cent complete
- ✓ Work progressed on other creek, floodplain and overbridges
- ✓ Building of precast concrete bridge girders continued off-site at Macksville, with over 400 precast bridge girders delivered to site for construction
- ✓ Completed Blackmans Point interchange bridges
- ✓ Completed stage one of the controlled blasting program in Cooperabung Range
- ✓ Continued to place earthworks and bitumen seal in preparation for concrete paving. Currently 86 per cent of the earthworks is complete
- ✓ Started mainline concrete paving.

July to December 2016, expected work progress: Weather permitting

- Mainline concrete paving will continue and mainline asphalt placement will commence
- The bridge over the Wilson River will be complete
- Girder placement on the Hastings River bridge and other floodplain bridges will be complete, and bridge decks nearing completion
- Traffic will be switched onto the new northbound carriageway between the Oxley Highway and Fernbank Creek to allow completion of the adjacent southbound carriageway
- Traffic will be switched onto the new southbound carriageway at Barrys Creek to allow the new northbound Barrys Creek bridge to be built
- Pacific Highway traffic to be temporarily diverted over one of the new Blackmans Point interchange bridges.

Community issues

Scoping for at-house noise treatments continued and building works on some residences commenced.

Environmental issues

The project handled the June 2016 east coast low storm well.

 on average **636 workers** on site per month

 on average **163 pieces of large machinery** on site per month



Aerial view of work in progress to build the new bridge over the Hastings River (June 2016)

Projects being built

Kundabung to Kempsey

Contractors: McConnell Dowell-OHL joint venture

Form of contract: Build only

Average workers on site during the past six months: 250 workers per month

Average pieces of large machinery on site during the past six months: 91 pieces of machinery per month

Start date of major construction: November 2014

Completion date: 2017 (weather permitting)

Project value: \$230 million



The Kundabung to Kempsey project is the northern section of the Oxley Highway to Kempsey upgrade, which was approved by the NSW Minister for Planning and Infrastructure in 2012 and the Federal Department of the Environment in January 2014.

The project is jointly funded by the Australian and NSW governments. It involves building 14 kilometres of four lane divided road, including a new interchange at Kundabung and two new rest areas.

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

January to June 2016, work progress:

- ✓ Excavation work and placement of fill material continued, with about 85 per cent of work completed
- ✓ Property adjustment works and installation of fencing continued
- ✓ About 77 per cent of box and pipe drainage culverts were installed
- ✓ Completed work to construct the Kundabung overbridge and opened to traffic in April
- ✓ Completed works to construct Stumpy Creek Bridge northbound, Smiths Creek bridge southbound and twin bridges at Pipers Creek
- ✓ Concrete paving work continued with about 24 per cent complete
- ✓ Work continued to construct two new rest areas near Barrys Creek.

July to December 2016, expected work progress: Weather permitting

- Traffic will be switched from the existing highway on to the new southbound carriageway in stages over the next 12 months
- Stage one of the traffic switch between Barrys Creek and Smiths Creek Kundabung, is scheduled for July 2016. This first stage traffic switch will allow building work to start on the new northbound carriageway of the Kundabung to Kempsey upgrade
- Complete stage one earthworks
- Complete stage one longitudinal drainage installation
- Complete work to install buildings at the southbound rest area
- Start installation of extensions to box and pipe drainage culverts under the existing highway.

Community issues

Ongoing consultation regarding property adjustments.

Environmental issues

Permanent sediment basins were found to be under design capacity when resurveyed in June 2016. The erosion and sediment control requirements were reviewed to confirm the capacity required.

on average **250 workers** on site per month

on average **91 pieces of large machinery** on site per month



Aerial view looking south from the Kundabung Road area (June 2016)

Projects being built

Frederickton to Eungai

Contractors: CPB Contractors (formerly Leighton Contractors)

Form of contract: Design and build

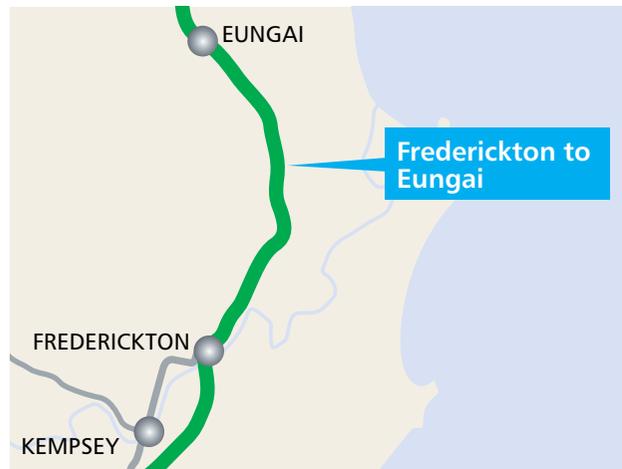
Average workers on site during the past six months: 214 workers per month

Average pieces of large machinery on site during the past six months: 79 pieces of machinery per month

Start date of major construction: August 2013

Expected completion date: Opened to traffic May 2016

Project value: \$675 million



The Frederickton to Eungai project opened to traffic in May 2016. The project is the second stage of the Kempsey to Eungai upgrade, which was approved in 2008. The Kempsey bypass was the first stage and opened to traffic in March 2013.

The project is jointly funded by the Australian and NSW governments. It will provide about 26.5 kilometres of four lane divided road from the completed Kempsey bypass to Eungai Rail.

16 days were lost to wet weather in the past six months. ☁️🌧️

January to June 2016, work progress: 🏗️

- ✓ The main Frederickton to Eungai alignment opened to traffic in May and work is nearing completion on the northern tie-in and Frederickton interchange northbound on-ramp, with about 90 per cent complete
- ✓ Completed all 20 new bridges on the project
- ✓ Completed concrete paving
- ✓ Completed landscaping, fencing and finishing works on the new main highway alignment

- ✓ Completed work to build the two new rest areas at Clybucca
- ✓ Installation of boundary and animal fencing was nearing completion with about 95 per cent complete
- ✓ Installed road signage, safety barriers and guard railing across the project
- ✓ Started work to remove the site compound at Cooks Lane with about 50 per cent complete.

July to December 2016, expected work progress: Weather permitting

- Complete the Frederickton northern tie-in and interchange northbound on-ramp, and open to traffic
- Complete minor finishing work
- Complete the removal of site compound at Cooks Lane.

Community issues 👤

Nil.

Environmental issues 🌿

Nil.

👷👷 on average **214 workers** on site per month

🚧 on average **79 pieces of large machinery** on site per month



Aerial view of the main Frederickton to Eungai alignment open to traffic (June 2016)

Projects being built

Warrell Creek to Nambucca Heads

Contractors: Acciona Ferrovial joint venture

Form of contract: Design and build

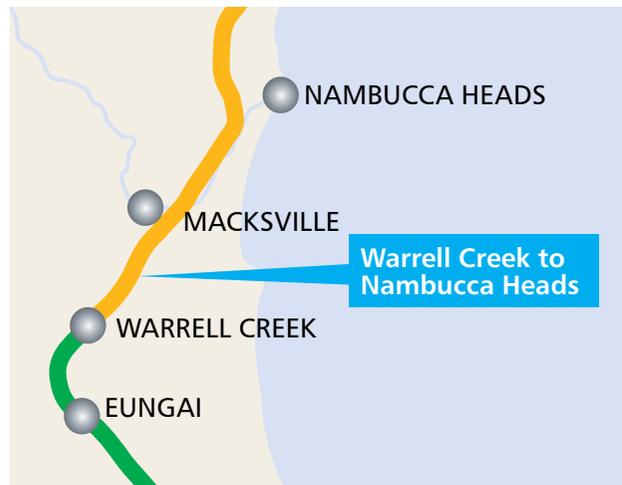
Average workers on site during the past six months: 607

Average pieces of large machinery on site during the past six months: 192

Start date of major construction: December 2014

Expected completion date: Open to traffic late 2017 (weather permitting)

Project value: \$830 million



The Warrell Creek to Nambucca Heads project is the second stage of the Warrell Creek to Urunga upgrade, which was approved by the NSW Minister for Planning and Infrastructure in 2011. The Federal Department of the Environment approved this upgrade in December 2014.

The project is jointly funded by the Australian and NSW governments.

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

January to June 2016, work progress: 🚧

- ✓ Installed 54 concrete bridge girders, about 33 per cent of the total number of girders to be installed
- ✓ Work continued to build 12 out of the 15 bridges on the project, including the new bridge over the Nambucca River
- ✓ Completed about 62 per cent of concrete piling activities on the project
- ✓ Produced about 60 per cent of concrete bridge girders to be used on the project
- ✓ Cross drainage and fauna culvert installation continued with about 90 per cent complete
- ✓ Earthwork continued across the project with about 90 per cent of earthwork complete
- ✓ Controlled blasting and rock crushing was nearing completion opposite Scotts Head Road with 98 per cent completed.

July to December 2016, expected work progress: Weather permitting

- Complete and open to traffic local road overbridges at Cockburns Lane, Rosewood Road, Albert Drive, Bald Hill Road and Mattick Road
- Start work to build the remaining three bridges on the project
- Start constructing the underpass of North Coast Railway Line
- Mainline concrete road paving will be underway
- All cross drainage and fauna culverts will be installed
- Earthwork will be completed across the project
- Old Coast Road Central will be open to traffic.

Community issues 👤

Nil.

Environmental issues 🌿

Nil.

 on average **607** workers on site during the past six months

 on average **192** pieces of large machinery on site during the past six months



Aerial view of work progress on the Warrell Creek to Nambucca Heads project (June 2016)

Projects being built

Nambucca Heads to Urunga

Contractors: Lend Lease

Form of contract: Design and build

Average workers on site during the past six months: 545 workers per month

Average pieces of large machinery on site during the past six months: 162 pieces of machinery per month

Start date of major construction: November 2013

Expected completion date: July 2016 (weather permitting)

Project value: \$780 million



The Nambucca Heads to Urunga project is the first stage of the Warrell Creek to Urunga upgrade, which was approved by the NSW Minister for Planning and Infrastructure in 2011. The Federal Minister for the Environment approved this upgrade in November 2013.

The project is jointly funded by the Australian and NSW governments. It will provide about 22 kilometres of four lane divided road from Nambucca Heads to the existing Waterfall Way interchange at Raleigh.

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

January to June 2016, work progress: 

- ✓ Completed all earthwork
- ✓ Completed all 37 bridges on the project
- ✓ Completed concrete paving work across the project
- ✓ Landscaping work was nearing completion at 90 per cent complete
- ✓ Installation of animal fencing and top soiling of slopes continued across the project
- ✓ Work started to install road signs and complete line marking.

July to December 2016, expected work progress: Weather permitting

- Finish bitumen asphaltting work
- Finish landscape planting, animal fencing and top soiling of slopes
- Finish work to install road signs and complete line marking
- Open the main alignment to traffic.

Community issues 

Nil.

Environmental issues 

The project responded well during significant wet weather with environmental controls in place.

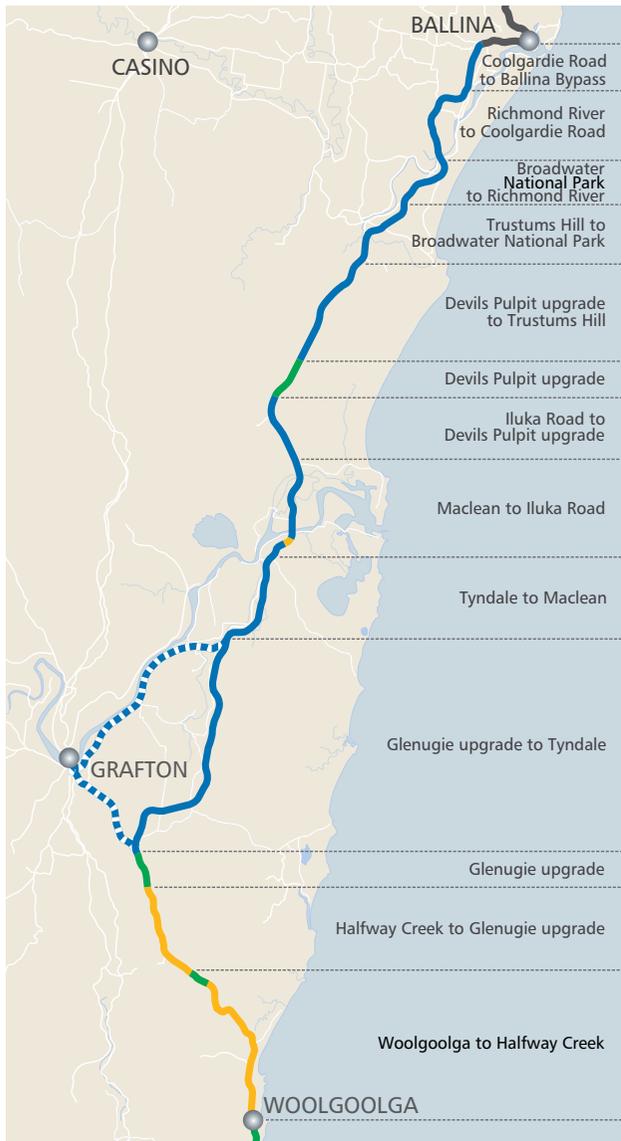
 on average **545 workers** on site per month

 on average **162 pieces of large machinery** on site per month



Aerial view of the Nambucca Heads to Urunga project (June 2016)

Woolgoolga to Ballina overview



The 155 kilometre upgrade between Woolgoolga and Ballina is Australia's largest regional infrastructure project and the last highway link between Hexham and the Queensland border to be upgraded to four lanes.

Roads and Maritime has selected Pacific Complete from the private sector as the delivery partner for the Woolgoolga to Ballina Pacific Highway upgrade.

The project was approved by the NSW Minister for Planning in June 2014 and the Federal Minister for the Environment in August 2014; and is jointly funded by the Australian and NSW governments.

Key features of the Woolgoolga to Ballina upgrade:

- 155 kilometres of dual carriageway
- \$4.356 billion announced cost
- 127 bridges to be built
- 14.2 million cubic metres of earthworks
- Nine interchanges
- Five towns/villages bypassed
- Seven soft soil sites.

January to June 2016, work progress:

Contracts

- ✓ Awarded contracts for soft soil work, early work and earthwork
- ✓ Awarded the contract to design and build the bridge over the Clarence River at Harwood
- ✓ Shortlisted contractors for the eight major mainline bridge building contracts
- ✓ Request for tender for the supply of the precast bridge elements which will be released to shortlisted suppliers
- ✓ Issued and closed the registration of interest for the Richmond River Bridge
- ✓ Issued 30 tenders to the market and awarded 28 contracts.

Design

- ✓ Completed about 60 per cent of the design between Glenugie and Ballina
- ✓ Completed about 45 per cent of early work designs which facilitated the procurement of contracts for building the upgrade
- ✓ Completed about 80 per cent of the intersection and access road designs.

Environment

- ✓ Obtained NSW Department of Planning and Environment approval for Pacific Complete compliance tracking program (Glenugie to Ballina)
- ✓ Obtained from NSW Environment Protection Authority the environment protection licence (Glenugie to Ballina)

- ✓ Updated and submitted for approval to relevant agencies the staging report to align the proposed delivery and environmental management methodologies
- ✓ Submitted the Tyndale borrow site management plan to NSW Department of Planning and Environment for approval
- ✓ Developed the native bee management protocol in collaboration with Roads and Maritime Services, NSW Environmental Protection Authority, and Clarence Valley Landcare
- ✓ Completed the bi-annual compliance reports for the Woolgoolga to Halfway Creek and Halfway Creek to Glenugie projects
- ✓ Obtained approvals for the first group of ancillary facility management plans (McIntyre's Lane, Tyndale and Avenue Road).

Stakeholder Engagement

- ✓ Held a series of community information sessions for communities along the alignment
- ✓ Held small meetings with stakeholders, community members and directly impacted landowners
- ✓ Facilitated property access for various surveys
- ✓ Provided input to contractor project inductions.

July to December 2016, expected work

progress: Weather permitting

- Issue tenders, shortlist contractors and award building of mainline bridges (including Richmond River Bridge subject to the approval of the Ballina Koala Plan) and major civil work packages

- Award the preferred supplier arrangements for the supply of fuel, concrete and quarry materials
- Award a revegetation package to establish about 130 hectares of new koala vegetation in the area between Broadwater and Coolgardie
- Finalise the award of all enabling environmental and survey contracts
- Issue 66 tenders to the market.

Design

- Complete most of the detailed design
- Complete detailed design of all elements required for procurement
- Manage additional temporary work design carried out by contractors.

Environment

- Obtain NSW Department of Planning and Environment approval for the borrow site management plans (Tyndale, Lang Hill, Lumleys Hill and Broadwater)
- Continue to prepare and obtain approvals for ancillary facility management plans (Glenugie to Ballina)
- Prepare and submit the first bi-annual construction compliance report (Glenugie to Ballina)
- Obtain Department of Environment and Heritage Protection approval for the Ballina Koala Plan and associated NSW Department of Planning and Environment approval for the Koala Management Plan.

Stakeholder Engagement

- Start the conversation with communities and stakeholders about detailed design, urban design and landscaping, directional signage and flooding
- Continue to hold small meetings with stakeholders, community members and directly impacted landowners
- Continue to facilitate property access for various surveys
- Liaise with communities and stakeholders affected by work
- Continue providing input to contractor project inductions.



Aerial view of earthwork in progress for Wave 1 soft soil work (May 2016)

Projects being built

Woolgoolga to Halfway Creek

Contractors: OHL and York joint venture

Form of contract: Build only

Average workers on site during the past six months: 224 workers per month

Average pieces of large machinery on site during the past six months: 132 pieces of machinery per month

Start date of major construction: June 2015

Expected completion date: 2017 (weather permitting)

Project value: Forms part of the Woolgoolga to Ballina upgrade



The Woolgoolga to Halfway Creek project – the first section of the overall Woolgoolga to Ballina upgrade – will link the Sapphire to Woolgoolga project in the south and the existing Halfway Creek upgrade in the north, providing about 14 kilometres of divided road.

The project is jointly funded by the Australian and NSW governments. The key features of the Woolgoolga to Halfway Creek upgrade include a 300 metre long twin bridge over the Corindi River floodplain to allow flood waters to pass under the highway and bridges over the highway at Sherwood Creek Road and Kangaroo Trail Road for local road access.

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

January to June 2016, work progress: 🚧

- ✓ Bulk earthwork continued with about 75 per cent complete and over 1.5 million cubic metres of fill material placed on the project to date
- ✓ Completed Eggins Drive stage one work and opened Sherwood Creek Road and overpass to traffic
- ✓ Completed Kangaroo Trail Road bridge and opened to traffic
- ✓ Completed all bridge piles, columns and headstocks
- ✓ Completed work to install a total of 90 bridge girders on the project

- ✓ Opened McPhillips local access road to local traffic
- ✓ Established the concrete batch plant, which is now ready to operate.

July to December 2016, expected work progress: Weather permitting

- Complete the remaining nine bridges on the project
- Concrete paving work to commence
- Completion of a traffic switch at Dirty Creek Range, which will move existing highway traffic onto new roads and allow completion of paving, drainage and bridge works.

Community issues 👤

Nil.

Environmental issues 🌿

Nil.

 on average **224 workers** on site per month

 on average **132 pieces of large machinery** on site per month



Aerial view of the Woolgoolga to Halfway Creek project (March 2016)

Projects being built

Halfway Creek to Glenugie

Contractors: Civil Mining & Construction

Form of contract: Build only

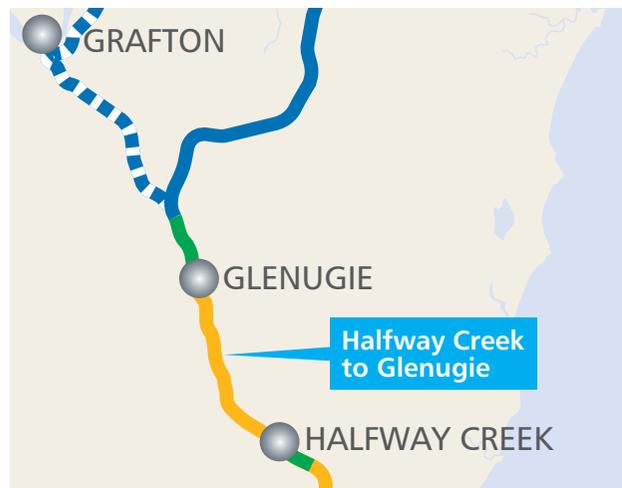
Average workers on site during the past six months: 146 workers per month

Average pieces of large machinery on site during the past six months: 57 pieces of machinery per month

Start date of major construction: June 2015

Expected completion date: 2017 (weather permitting)

Project value: Forms part of the Woolgoolga to Ballina upgrade



The Halfway Creek to Glenugie project – the second section of the overall Woolgoolga to Ballina upgrade – will link the completed Halfway Creek upgrade in the south and the existing Glenugie upgrade in the north, providing about 12 kilometres of new road.

The project is jointly funded by the Australian and NSW governments. Key features of the Halfway Creek to Glenugie section include twin bridges over Halfway Creek and Wells Crossing Creek, as well as a wide median to assist animals crossing at Newfoundland State Forest.

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

January to June 2016, work progress: 🚧

- ✓ Installed girders for all bridges on the project
- ✓ Bridge deck pours are complete at Halfway Creek
- ✓ Earthwork is about 85 per cent complete
- ✓ Drainage work is about 55 per cent complete
- ✓ Controlled blasting at the northern end of the project near Franklins Road is almost complete, with 13 of 14 required blasts undertaken
- ✓ Concrete paving has commenced and is about 13 per cent complete
- ✓ Highway traffic switched onto the temporary alignment at Halfway Creek and Wells Crossing.

July to December 2016, expected work progress: Weather permitting

- Complete northbound carriageway concrete paving from Lemon Tree Road to Wells Crossing
- Temporarily switch highway traffic onto the completed northbound carriageway from Lemon Tree Road to Kungala Road
- Temporarily switch highway traffic onto the completed northbound carriageway from Kungala Road to Wells Crossing
- Continue drainage and earthwork across the project
- Continue placing concrete paving across the project
- Complete bridges at Halfway Creek and Wells Crossing.

Community issues

Nil.



Environmental issues

Nil.



👷👷 on average **146** workers on site per month

🚧🚧 on average **57** pieces of large machinery on site per month



Aerial view of the Halfway Creek to Glenugie project (March 2016)

Projects being built

Pimlico to Teven (Stage 2)

Contractors: CPB Contractors (formerly Leightons)

Form of contract: Build only

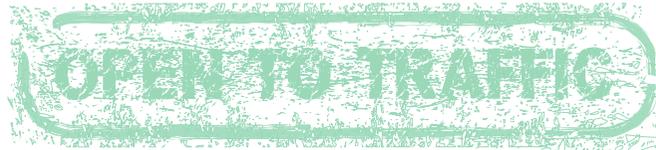
Average workers on site during the past six months: 61 workers per month

Average pieces of large machinery on site during the past six months: Six pieces of machinery per month

Start date of major construction: November 2013

Expected completion date: Opened to traffic May 2016

Project value: Forms part of the Woolgoolga to Ballina upgrade



The Pimlico to Teven project will upgrade about two kilometres of the Pacific Highway between Pimlico Road and Teven Road. This enabling work will facilitate the next phase of the highway upgrade, which is part of the overall Woolgoolga to Ballina project.

This project is jointly funded by the Australian and NSW governments.

The Pimlico to Teven project involves building bridges over Duck and Emigrant creeks and more than one kilometre of new road on the Bruxner Highway.

The project is being carried out in three stages. Stage one was completed by the Ballina Bypass Alliance. Stage two is now open to traffic. Stage three, which provides a four lane divided road, will be completed as part of the overall Woolgoolga to Ballina upgrade.

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

January to June 2016, work progress: 🚧

- ✓ Completed the final area of soft soil treatment on the project
- ✓ Constructed the embankment and surcharge for the future southbound carriageway. This embankment will remain in place for the next stage of works.

- ✓ Completed all flexible road pavement on the project
- ✓ Switched traffic onto the new northbound carriageway. The northbound carriageway will temporarily carry one lane of traffic in each direction. This will facilitate the construction of Pimlico to Teven stage 3, which will be built as part of the Woolgoolga to Ballina upgrade
- ✓ Contract completion achieved 31 May 2016.

July to December 2016, expected work progress: Weather permitting

Nil works, contract completion achieved 31 May 2016.

Community issues 👤

Nil.

Environmental issues 🌿

Nil.

 on average **61 workers** on site per month

 on average **6 pieces of large machinery** on site per month



Stage 2 Pimlico to Teven project (April 2016)

Pacific Highway upgrade

January to June 2016

Ballina to the Queensland border

Tintenbar to Ewingsdale, the final project to complete the Pacific Highway upgrade between Ballina and the Queensland border opened to traffic in March 2016.

Minor finishing work continued on the project to fully complete the upgrade between Ballina and the Queensland border.



Aerial view of the Tintenbar to Ewingsdale project

Ballina to the Queensland border - projects being built

Tintenbar to Ewingsdale

Contractors: Lend Lease

Form of contract: Design and build

Average workers on site during the past six months: 25

Average pieces of large machinery on site during the past six months: 10

Start date of major construction: September 2012

Expected completion date: Opened to traffic March 2016

Project value: \$922.7 million.



The Tintenbar to Ewingsdale project was approved on 29 January 2010, and is jointly funded by the Australian and NSW governments. It will provide 17 kilometres of four lane divided road from the northern end of the Ballina bypass at Ross Lane to the existing Ewingsdale interchange. The project opened to traffic in March 2016 with a revised budget of \$922.7 million.

The \$60.7 million increase includes:

- Changes requested by the community to access at Bangalow and Ewingsdale interchanges, replacement of the damaged noise wall on the old route at Ewingsdale and other minor changes
- Settlement of major contractor claims associated with design issues, wet weather and environmental requirements.

The increased costs will be funded from savings on other Pacific Highway projects.

No days were lost to wet weather in the past six months. ☁️

January to June 2016, work progress: 🚧

- ✓ Opened the project to 110km/h speed limit
- ✓ Completed the noise mound at Clover Hill

- ✓ Completed tie-in work at Ewingsdale and Ross Lane interchanges
- ✓ Rehabilitated local roads used as part of the project
- ✓ Completed jet fan repair work
- ✓ Completed finishing work including signage installation, fencing, safety barriers, and headlight screen painting.

July to December 2016, expected work progress: Weather permitting

- Complete landscaping on the project
- Undertake noise monitoring and produce the post construction operational noise report.

Community issues 👤

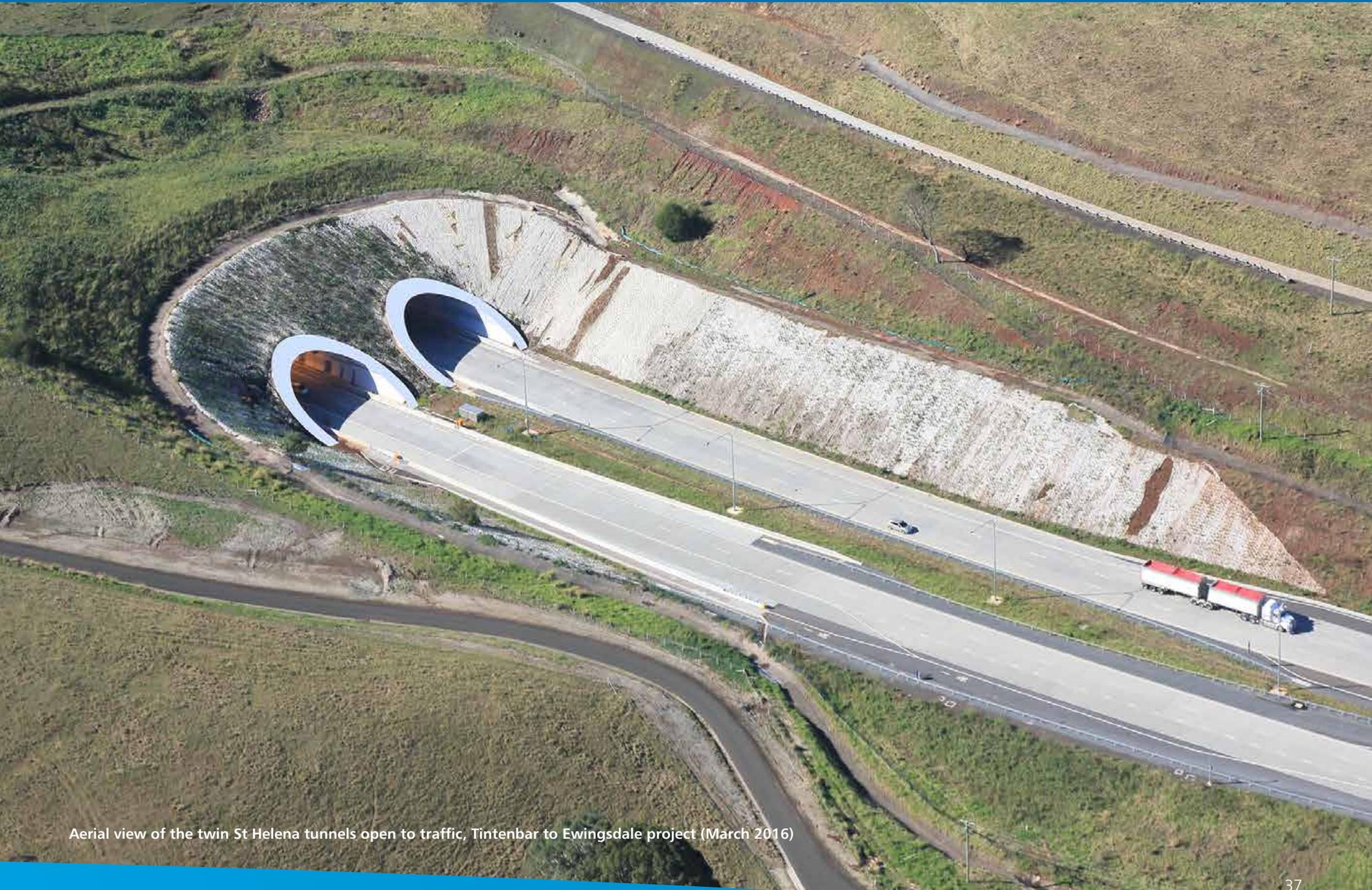
Nil.

Environmental issues 🌿

Nil.

 on average **25 workers** on site per month

 on average **10 pieces of large machinery** on site per month



Aerial view of the twin St Helena tunnels open to traffic, Tintenbar to Ewingsdale project (March 2016)

