



Pacific Highway upgrade

Six month report card (January - June 2015)

Overview



This report provides a progress update on the Pacific Highway upgrade program to 30 June 2015.

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 who live along the highway.

Roads and Maritime continued to make excellent progress across the highway upgrade program in the first six months of 2015.

An important milestone was achieved in April when Roads and Maritime Services engaged Pacific Complete – comprising Laing O'Rourke and Parsons Brinckerhoff – as its delivery partner for the final 155 kilometres of the highway upgrade. Pacific Complete will work closely with the Roads and Maritime Pacific Highway Office to manage multiple contracts in delivering the design and construction of the Woolgoolga to Ballina upgrade.

In June major work began on the first two sections of the upgrade between Woolgoolga and Glenugie. OHL and York Joint Venture is building the 14 kilometre Woolgoolga to Halfway Creek section, while the 12 kilometre section from Halfway Creek to Glenugie is being delivered by Civil Mining & Construction. Good progress is being made to prepare the remaining sections of the Woolgoolga to Ballina upgrade for major construction.

Work is also well under way on the 105 kilometres of the upgrade between Port Macquarie and Coffs Harbour, although significant wet weather in May hampered progress on most projects.

In the north, the Tintenbar to Ewingsdale upgrade remains on track to open to traffic in late 2015, weather permitting.

Cover photo: Frederickton to Eungai - Looking south at the main alignment towards Mill Lane bridge with the Macleay River in the background (April 2015)



Current status



Between January and June 2015, major work was under way on eight construction projects and two early work projects, totalling about 149 kilometres.

Major work began on two projects during the past six months:

- Woolgoolga to Halfway Creek
- Halfway Creek to Glenugie.

Of the 149 kilometres of highway being built in June 2015:

- Earthwork started on the Kundabung to Kempsey project
- The first girders were installed on the Sancrox interchange early work project
- Mainline paving started on the Nambucca Heads to Urunga project
- Mainline earthwork completed on the Tintenbar to Ewingsdale project
- Bulk earthwork completed on the Frederickton to Eungai project
- Short Cut Road overbridge, new South Arm Road intersection and Martells bridge open to traffic on the Nambucca Heads to Urunga project
- More than 14 million cubic metres of earthwork out of 23.3 million cubic metres had been completed on all projects
- 39 bridges had been completed out of the 155 to be built.

Key milestones achieved during the past six months for projects being prepared for construction:

- Pacific Complete engaged as the delivery partner for the Woolgoolga to Ballina project
- NSW Minister for Roads, Maritime and Freight announced the NSW Chief Scientist to chair

an expert panel to advise on koalas for the Woolgoolga to Ballina project

 Golding Contractors (Wave 1 – Yamba Road to Chatsworth Road) and SEE Civil (Wave 2 – Whytes Lane to Pimlico) awarded contracts to carry out soft soil treatments on the Woolgoolga to Ballina project.



Warrell Creek to Nambucca Heads - Looking west at underground relocation of electrical cables on Nursery Road in preparation for bridgework



Upgrade outcomes



Four-lane divided road status

Where are we now?

At 30 June 2015:

397 kilometres are four lane divided highway – about 60 per cent.

149 kilometres are being built.

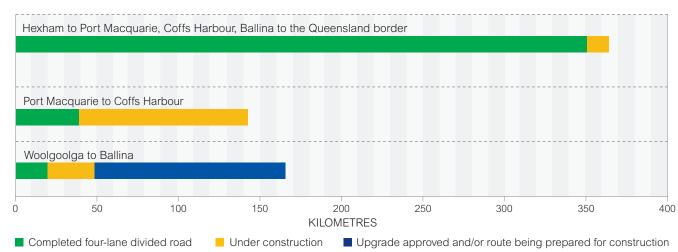
The remaining sections of two lane highway are being prepared for major work.

For the first six months of 2015 there was an average of 2400 people working on site on various construction projects.

There were about 2700 workers on site in June 2015.

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.



Direct jobs created by the Pacific Highway upgrade



The graph above 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.

Upgrade outcomes



Aboriginal employment

The Pacific Highway upgrade has plans in place for all of its construction projects aimed at encouraging Aboriginal employment opportunities, including apprenticeship and traineeship programs.

Roads and Maritime is actively committed to increasing the number of Aboriginal people in our workforce.

For the first six months of 2015 about 11 per cent of people employed on the Pacific Highway upgrade were Aboriginal.

The Kundabung to Kempsey project and Nambucca Heads to Urunga project far exceeded Aboriginal targets during this period.

Roads and Maritime is working closely with NSW Procurement, North Coast TAFE and other key stakeholders to formalise employment and procurement policies and overall strategy for the Woolgoolga to Ballina upgrade.



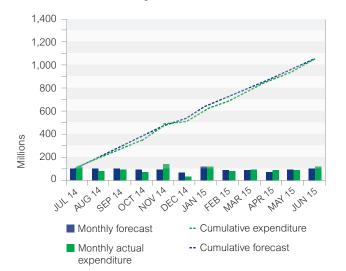
Workers salvaging artefacts on the Woolgoolga to Ballina upgrade

Expenditure update

The total expenditure for the upgrade program for the period January to June 2015 was \$540 million (see graph below). Total expenditure for the 2014-2015 financial year was \$1.052 billion, the most ever spent on the Pacific Highway upgrade program.

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 January 2015 – June 2015



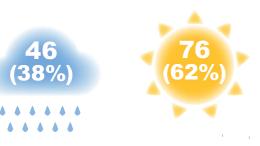
Wet weather

The period January to June 2015 was wetter than the preceding six month period, which has slowed progress.

Most projects received more wet days than anticipated in the first six months of 2015.

The Frederickton to Eungai project was the most adversely affected by rain, with more than half (52 per cent) of available working days lost to wet weather. On the Tintenbar to Ewingsdale project, about 43 per cent of available working days were lost to wet weather.





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

Upgrade outcomes



Oxley Highway to Kundabung - Bridge piling started at the floodplain bridge just north of the Hastings River (May 2015)



Tintenbar to Ewingsdale - St Helena tunnel northern portals (April 2015)

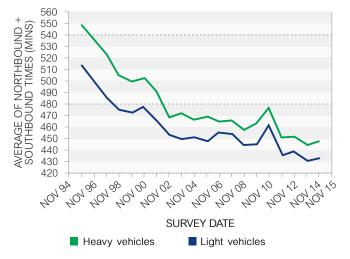
Travel times

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

Travel time trends have been updated as of November 2014. The graph below shows the travel time trends on the Pacific Highway between Hexham and the Queensland border, which has been adjusted for work site delays. The 2014 survey shows similar travel times to those in 2013 with light vehicles saving a minimum of 95 minutes and heavy vehicles saving a minimum of 105 minutes, compared to when the upgrade program started.

Across the whole route, heavy vehicle travel time is just 3.5 per cent greater than the light vehicle travel time, reflecting the improving overall standard of the route as new projects are opened and capacity constraint points are eliminated.

> Travel time trends on the Pacific Highway, Hexham to the Queensland border (adjusted for work site delays from November 97 onwards)



It should be noted that travel time delays will be experienced in the coming years with 105km of the highway upgrade under construction from Port Macquarie to Coffs Harbour, and soon 155km will be under construction from Woolgoolga to Ballina.

Crashes

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

In 2014, 22 people died in 14 fatal crashes. This is comparable with the previous five year average of 20 crashes and 22 fatalities.

Crash data for 2014 shows there were 633 overall recorded crashes on the highway (Hexham to the Queensland border). This is considerably lower than the previous five year average of 840.

Preliminary data for the first half of 2015 shows there have been eight fatal crashes with nine people killed between January and June.



Fatal crashes and fatalities each year





Community

How are we travelling?

Between January to June 2015, we have:

- ✓ Attended 14 community information sessions
- ✓ Carried out about 675 individual meetings with property owners and other stakeholders
- ✓ Maintained 11 static displays
- ✓ Distributed 293 separate letters to householders and community updates (including progress advertisements)
- ✓ Issued about 30 traffic alerts
- ✓ Held 20 community events (including site tours and opening events).

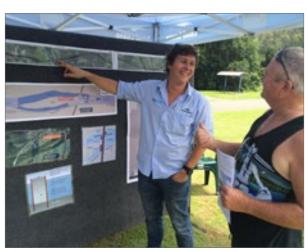
Community information sessions on the Oxley Highway to Kundabung project

The Oxley Highway to Kundabung project team has been out in the local community providing information and gaining feedback about the upgrade.

In January two information sessions were held for users of the Hastings and Wilson rivers.

These sessions, which were held at boat ramps in Port Macquarie and Telegraph Point respectively, were aimed at informing boat users about the new bridges being built and the river restrictions that would be implemented during construction.

People who attended these drop-in sessions were provided with fact sheets explaining how the bridges will be built and maps showing the new navigation paths and speed restrictions around the work sites. Boating safety officers also attended both sessions and provided river safety information and advice to boat users.



A member of the Oxley Highway to Kundabung project team talks to a resident during the drop-in session by the Wilson River

In May the project team organised a "pop-up" display at the Settlement City Shopping Centre in Port Macquarie. More than 130 people stopped to talk to the team during the day, asking questions about the new upgrade, building activities and completion dates, as well as asking about other Pacific Highway upgrade projects. The team used the opportunity to inform people about upcoming travel disruptions, such as the controlled blasting, traffic changes and out of hours work. The feedback was positive about the project and the broader Pacific Highway upgrade program.

Saltwater Freshwater Festival

More than 10,000 people from the Mid North Coast and beyond attended the Saltwater Freshwater Festival in Coffs Harbour on Australia Day. As celebrations went on around the nation, the festival on Gumbaynggirr country shone



Roads and Maritime's display at the annual Saltwater Freshwater Festival in Coffs Harbour

the spotlight on the talent and culture of the region's Aboriginal nations. The day featured a range of musical acts, including an unforgettable performance from acclaimed Aboriginal singer/ songwriter artist Archie Roach.

A member of the Pacific Highway communication and stakeholder engagement team attended the festival at the invitation of Roads and Maritime's Aboriginal Programs team, which organised a display for the festival. The display was a perfect opportunity for Roads and Maritime to reach a wider audience, providing people with the option to talk about the Pacific Highway upgrade, including project updates and employment information. The Aboriginal Program staff spoke about a range of issues, including road safety and driver licensing programs.

This festival is a great opportunity for community members to talk to Roads and Maritime in a relaxed and open environment.

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 a four lane divided highway between Hexham and Port Macquarie, Urunga and Woolgoolga and Ewingsdale to the border.

By the end of 2015 it is expected that:

- 414 kilometres of the Pacific Highway will be open to a four lane divided road standard
- About 138 kilometres of new highway will be in construction, including about six kilometres of soft soil early work
- Substantial progress will be made in preparing the remaining length of the existing highway for major work.

Major work has started 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.

Work is continuing on a number of 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 and Nambucca Heads to Urunga projects remain on track to open to traffic in 2016.

Major work is well under way 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. Work is continuing to ensure a four lane divided highway will be open to traffic between Ballina and the Queensland border by the end of 2015.

Key project milestones – how are we travelling?

Did we do what we said we would between January and June 2015?

Achieve major work progress:

- ✓ Start to build the Woolgoolga to Glenugie project
- ✓ Start concrete paving on the Nambucca Heads to Urunga project
- ✓ Open the Short Cut Road overpass on the Nambucca Heads to Urunga project
- ✓ Bulk earthwork will be completed on the Frederickton to Eungai project
- ✓ The local road overbridge at Kemps Access and the Pacific Highway main alignment bridge at the North Coast Railway will be completed on the Frederickton to Eungai project
- The Pacific Highway main alignment bridges at Collombatti Creek, Seven Hills Road, Johnsons Creek will be completed on the Frederickton to Eungai project (delayed due to wet weather and program changes)
- The new northbound on-ramp at Ewingsdale interchange will be completed on the Tintenbar to Ewingsdale project (delayed due to weather. Expected completion in September 2015)
- ✓ Piling work will start for the bridge over the Hastings River on the Oxley Highway to Kundabung project

- ✓ Piling work will start for the Wilson River bridge on the Oxley Highway to Kundabung project
- Start piling for the Bald Hill Road (South Macksville interchange) overbridge on the Warrell Creek to Nambucca Heads project (delayed due to design delays and wet weather. Expected to start in July 2015).

Planning for major work:

- ✓ Award contract and start work for Wave 1 (between Harwood and Iluka Road) and Wave 2 (between Pimlico and Whytes Lane, Coolgardie) soft soil treatments on Woolgoolga to Ballina.
- ✓ Award contract for delivery partner on Woolgoolga to Ballina project
- Invite tenders and award contract to design and build bridge over Clarence River at Harwood (expect to invite tenders from the shortlist in September 2015).



Frederickton to Eungai upgrade – Final earthwork on the main alignment nearing completion at Barraganyatti Hut Road overbridge, looking south (April 2015)



Finishing the job

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

Open to traffic:

- ✓ The 17 kilometre Tintenbar to Ewingsdale project
- ✓ The Sancrox interchange early work project.

Achieve major work progress:

- ✓ Building the Pipers Creek twin bridges will be completed on the Kundabung to Kempsey project
- ✓ Building the bridge over the Nambucca River will start on the Warrell Creek to Nambucca Heads project
- ✓ Clearing and grubbing north of the Nambucca River will be completed on the Warrell Creek to Nambucca Heads project
- ✓ Waves 1 and 2 soft soil work will start on the Woolgoolga to Ballina project
- ✓ The Kalang River twin bridges will be completed and the Kalang River will be reopen to marine traffic on the Nambucca Heads to Urunga project
- ✓ Start building bridges at various locations, including Sherwood Creek Road, Kangaroo Trail Road, Corindi Creek, Corindi floodplain and Cassons Creek on the Woolgoolga to Halfway Creek project
- ✓ Start building bridges at Halfway Creek and Wells Crossing on the Halfway Creek to Glenugie project
- ✓ Complete finishing work and switch traffic on to the new Bruxner Highway alignment on the Pimlico to Teven project

✓ Duck Creek bridge will be completed on the Pimlico to Teven project.

Planning for major work:

✓ Construction Environmental Management
Plan for Glenugie to Ballina (sections 3 to 11)

will be approved by Department of Planning and Environment for the Woolgoolga to Ballina upgrade

✓ Detailed design contracts will be awarded for Glenugie to Ballina (section 3 to 11) on the Woolgoolga to Ballina project



Oxley Highway to Kundabung - an aerial view of the Oxley Highway to Kundabung project, looking south, showing where the new alignment will cross the Hastings River (April 2015)





Environment

How are we travelling?

For projects being prepared for major work:

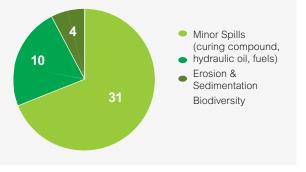
Between January and June 2015 we have:

- ✓ Finalised and submitted 43 assessments, plans or reports to the Federal Department of the Environment (DotE), the NSW Department of Planning and Environment (DP&E), Environment Protection Authority (EPA) and Department of Primary Industries (DPI) to meet pre-construction and construction environmental requirements for the Woolgoolga to Ballina, Oxley Highway to Kempsey and Warrell Creek to Nambucca Heads projects
- ✓ All threatened species management plans approved for the Woolgoolga to Halfway Creek and Halfway Creek to Glenugie projects
- ✓ Construction Environmental Management Plans approved for the Woolgoolga to Halfway Creek and Halfway Creek to Glenugie projects
- ✓ Installed more than 350 nest boxes ahead of major work for the Woolgoolga to Halfway Creek and Halfway Creek to Glenugie projects
- ✓ First round baseline threatened species (excluding koala) surveys for Woolgoolga to Ballina were completed
- ✓ Threatened Flora Translocation Strategy approved for the Woolgoolga to Ballina soft soil early work
- ✓ Translocation of threatened flora species started on the Woolgoolga to Halfway Creek project
- ✓ Koala population viability assessment (PVA) workshop held in Ballina with good progress on the development of base population viability model for the Ballina koala population,

including completing almost seven months of koala field surveys for input into the PVA process

- ✓ Engaged independent expert Professor Jonathan Rhodes to review koala surveys and associated connectivity measures
- ✓ Confirmed with DP&E and DotE that additional baseline koala surveys are not required for Iluka/Woombah koala population
- ✓ Draft revegetation strategy developed for section 10 (Broadwater to Coolgardie) on the Woolgoolga to Ballina project
- ✓ Expression of interest advertised for landholders wanting to participate in the Woolgoolga to Ballina biodiversity offsets program
- ✓ Completed six months of monitoring on the trial emu fence installed on section three of the Woolgoolga to Ballina project
- ✓ DP&E approval received for increased blasting limits at Oxley Highway to Kundabung, allowing for a more efficient work program.

Environmental incidents recorded during the past six months:



There were no spills that left the project site or entered waterways. Those spills that occurred were cleaned up immediately with site spill kits.

About 66 environmental inspections were carried out on projects between Port Macquarie and Ewingsdale between January and June 2015. The majority of these inspections recorded green status, which indicated sites were demonstrating good environmental practice with only minor corrective measures required.

Koala update

Field surveys were completed at the end of May 2015 as part of the population viability analysis (PVA) for the koalas west of Wardell. A total of 51 koalas were captured and later released as part of the survey, covering an area of 8500 hectares.

Each koala was examined in terms of its age and gender, reproductive status and evidence of disease. Tissue samples were also taken for genetic analysis. The information collected will provide important information into the PVA, which is required under the Federal Environment Minister's strict conditions of approval for the Woolgoolga to Ballina upgrade. A series of workshops for experts will be carried out to discuss elements of the PVA and potential measures to protect koalas adjacent to the project.

Roads and Maritime is also developing a revegetation strategy which will convert currently cleared land into koala habitat. More than 130 hectares of revegetated areas will be created expanding and linking known areas of koala habitat. This will be one of the largest revegetation projects in the North Coast area.



Environment



An ecologist holding a koala captured and later released for the population viability analysis

Encouraging results from emu monitoring

The Woolgoolga to Ballina project team has carried out a comprehensive pre-construction monitoring program of the endangered coastal emu population. The information collected will help the project team devise and implement measures to protect the emu population, including the location of safe crossing areas and the design of proposed exclusion fencing.

Roads and Maritime tapped the knowledge of experienced ecologists, local landholders and the National Parks and Wildlife Service to identify 25 potential crossing points on the 40 kilometre stretch of the upgrade between Glenugie and Maclean. A number of these locations were selected for baseline monitoring, including riparian corridors and floodplain openings.

Roads and Maritime also installed almost five kilometres of temporary fencing, with gaps provided at key crossing zones. These gaps correspond to planned connectivity structures. The project team is also trialling the use of hybrid gates, which have been designed to allow emus to pass, but exclude cattle. Motion sensor cameras were installed along sections of the trial fence to observe the effectiveness of fencing in guiding emus to crossing points, as well as observing emu behaviour.

After more than six months of surveying, the project team was able to confirm the presence of the coastal emu at all nominated crossing zones, with about 60 per cent making confirmed crossings.

The monitoring confirmed the use of the proposed bridge site in both floodplain grazing

land and riparian habitat. The monitoring also showed evidence of emus moving along the fence toward nominated openings, which also provided some encouraging results.

In summary monitoring to date has:

- ✓ Shown crossing zones and habitats targeted in the Environmental Impact Statement are accurate
- ✓ Confirmed the use of both waterway and floodplain bridge sites
- ✓ Confirmed emu movement along exclusion fence, which will aid in educating emus to find crossing zones
- \checkmark Shown evidence of repeated use.



Emus moving along the trial fencing (January 2015)

Workplace health and safety



Safety is a core value for Roads and Maritime. We are focused on the safety of all road and waterway 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.

Our Work Health and Safety Strategy 2015–19 acknowledges the extent of our duty of care, reflects our commitment to safety and sets out how we will create a workplace where everyone goes home safe and healthy every day.

Across the Pacific Highway upgrade, we consult, cooperate and coordinate with our industry partners to eliminate risks first and put safety first in planning, design and procurement.

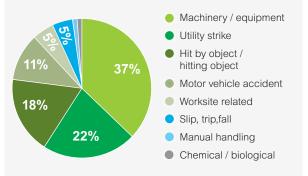
We also recognise health and safety enables improved efficiency and productivity, and that better results are achieved when we collaborate with our workers, delivery partners and stakeholders by sharing knowledge, experience and lessons learned.

How are we travelling?

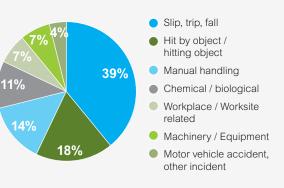
Between January and June 2015, the project teams have:

- worked more than 2.97 million hours
- employed on average about 2700 workers per month
- carried out more than 4600 health and safety inspections

Reported incidents by category January to June 2015



Reported injuries January to June 2015





Pacific Highway General Manager Bob Higgins presents at the bi-annual Pacific Highway WHS workshop

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 37 per cent of the incidents reported between January and June involved large machinery and equipment, slips, trips and falls were the most prevalent source of reported injury on the project sites, accounting for 39 per cent of all reported injuries.

Roads and Maritime will continue to work with our industry partners to implement strategies to reduce workplace health and safety risks on all our projects.

To this end we held our seventh biannual Pacific Highway upgrade work health and safety workshop in May 2015. The workshop focused on the positive actions and results in relation to work health and safety on the Pacific Highway upgrade.

Representatives from our industry partners presented lessons learned or initiatives they had

Workplace health and safety



delivered on their respective projects in recent months (examples below).

Additionally, Roads and Maritime provided updates focusing on high risk programs such as prevention of machinery roll over, working near live traffic and the girder delivery working party.

Industry partnership safety initiatives

Project: Pimlico to Teven Contractor: Leighton

During bridge piling, a hazard was identified for those workers welding the pile casings. The restricted site boundaries meant the pile casing was within half-a-metre of a live waterway on a steep wall that was about two metres high. Taking the initiative for their own health and safety, the workers built a working platform utilising one of the excess steel road plates. A hole was cut in the steel plate that fitted over the casing, which was then lifted over the casing to provide a working platform for the welding activity. To further increase safety, handrails and welding screens were attached.

Project: Frederickton to Eungai Contractor: Thiess

This initiative was developed across several projects out of the need to safely connect and disconnect the lifts for culvert cells. Thiess engineered a handrail system designed to provide fall protection for workers accessing culverts. Through consultation with engineers and supervisors, the workshop team and the crane supplier manufactured the handrail system and it was certified for use on the project. The design provides fall protection while a worker is on the culvert, provides a safe means for workers to access and leave the culvert and allows for safer use of the lifts. Thiess has developed the handrail system so it can adjust to different culvert sizes. A self-closing gate has also been added to the design. With more than 250 culvert cells to be installed, the handrail system has allowed for a quicker and safer process across the project.



The working platform built to improve safety for workers welding piling casings on the Pimlico to Teven project



The handrail being used to increase safety for culvert work on the Frederickton to Eungai project



The working platform built to improve safety for workers welding piling casings on the Pimlico to Teven project



The handrail being used to increase safety for culvert work on the Frederickton to Eungai project

Port Macquarie to Coffs Harbour

section

COFFS

HARBOUR

MACKSVILLE

KEMPSEY

PORT MACQUARIE

Port Macquarie to Coffs Harbour overview





Between January and June 2015 the remaining 105 kilometres of the Pacific Highway still to be upgraded to four lane divided road between Port Macquarie and Coffs Harbour was being built. By the end of the year it is expected the Sancrox interchange early work project will be complete.

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

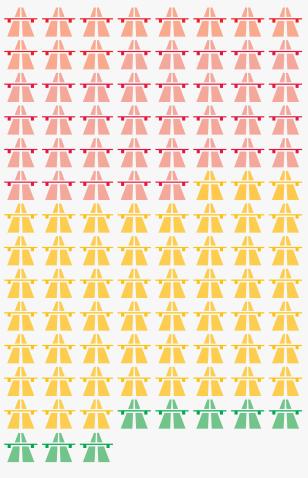


An aerial view showing the Short Cut Road overpass on the Nambucca Heads to Urunga project (June 2015)

Port Macquarie to Coffs Harbour overview

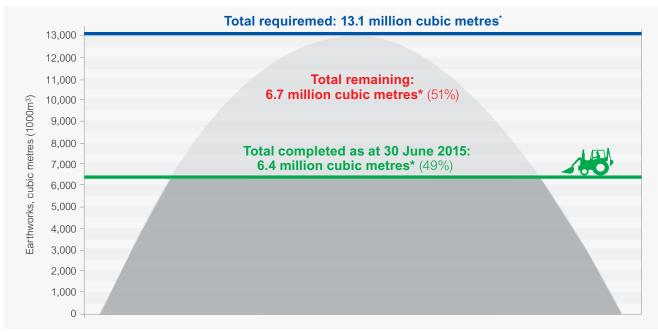
This page aims to illustrate the scale of the total earthwork, number of bridges and amount of highway carriageway to be built for the projects between Port Macquarie and Coffs Harbour.





107 Total bridges54 Under construction (50.5%)8 Completed (7.5%)45 Not commenced (42%)

Earthworks



Road surface (road highway kilometres)



*Note the earthworks figures include estimates for the Warrell Creek to Nambucca Heads project and may change once detailed design is complete



An aerial view of the Oxley Highway to Kundabung project, looking south, showing where twin bridges will cross the Hastings River (April 2015)



Contractor: Lend Lease

Form of contract: Design and build

Average workers on site during the past six months: 439

Average pieces of large machinery on site during the past six months: 104

Start of major construction:

October 2014

Expected completion date: 2017 (weather permitting)

Project value: \$820 million

Australian Government contribution: \$542.4 million *

NSW State Government contribution: \$277.6 million *

* Contribution amounts may vary from year to year.



Oxley Highway to Kundabung upgrade

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.

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

January to June 2015, work progress:

- ✓ Design for the project was completed
- ✓ Clearing was 90 per cent complete
- ✓ Soft soil treatments in floodplain areas completed
- ✓ Earthwork continued and 25 per cent complete
- ✓ Wilson River bridge coffer dam and piling work started
- ✓ Hastings River bridge piling work started
- ✓ Started consultation with residents regarding at-house noise mitigation
- ✓ Started controlled blasting in the Cooperabung Range.

July to December 2015, expected work progress: % Weather permitting

- \checkmark Stage one clearing will be complete
- ✓ Work will have started on 21 of the 23 bridges on the project
- ✓ Delivery and erection of precast concrete bridge girders will start

- ✓ Stage one of the controlled blasting program in Cooperabung Range will be complete
- ✓ Almost two million cubic metres of earthwork on the project will be complete
- ✓ A concrete batch plant will be established onsite
- ✓ The first concrete road pavement pours will be complete
- ✓ Stage one of the pre-cast concrete box culverts will be complete
- ✓ Urban design and landscape plan will be completed
- ✓ Assessing residences for noise mitigation will continue.

Community issues

• Project team is engaging with residents regarding concerns about the proposed road surface.

Environmental issues

• Nil

Aerial view of the Sancrox overbridge, looking north (April 2015)

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Contractor: Ferrovial Agroman Australia

Form of contract: Build only

Average workers on site during the past six months: 95

Average pieces of large machinery on site during the past six months: 23

Start of major construction: July 2014

Expected completion date: Late 2015 (weather permitting)

Project value: Forms part of the Oxley Highway to Kempsey upgrade

Sancrox interchange

The Sancrox interchange is early work for the Oxley Highway to Kempsey upgrade. It includes building local service roads and a bridge over the Pacific Highway at Sancrox about 600 metres south of the existing Sancrox Road intersection.

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

January to June 2015, work progress: 🕺

- ✓ Significant progress was made on the overbridge, including placing bridge girders, concrete deck pours, placing precast concrete parapets and onsite concrete barrier pours
- ✓ Started placing subbase concrete to the south eastern roundabout
- ✓ Earthwork continued, although significantly affected by wet weather
- ✓ Stormwater and subsurface drainage work continued.

July to December 2015, expected work progress: M Weather permitting :

- ✓ Building the various layers of the road surface will continue
- ✓ Sancrox Road will be opened to traffic after an extended closure
- ✓ Landscaping, including planting of trees and shrubs, will start
- ✓ Finalising kerb and guttering, footpaths, road furniture including road signs, linemarking and guardrails
- ✓ The Sancrox interchange will be opened to traffic.

Community issues

• The project team made changes to linemarking at the Oxley Highway/Pacific Highway intersection in response to community concerns about increased traffic queues during morning peak hour partly caused by the temporary closure of Sancrox Road.

Environmental issues

• Nil.





Aerial view, looking south, from the Kundabung Road area (April 2015)



Contractor:

McConnell Dowell/OHL joint venture

Form of contract: Build only

Average workers on site during the past six months: 194

Average pieces of large machinery on site during the past six months: 104

Start of major construction: November 2014

Expected completion date: 2017 (weather permitting)

Project value: \$230 million

Australian Government contribution: \$115 million *

NSW State Government contribution: \$115 million *

* Contribution amounts may vary from year to year.



Kundabung to Kempsey upgrade

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.

It involves building 14 kilometres of four lane divided road, including a new interchange at Kundabung and new rest areas.

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

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

January to June 2015, work progress: 🐔

- ✓ Clearing across the project was 95 per cent complete
- ✓ Earthwork across the project five per cent complete
- ✓ Drainage across the project was 15 per cent complete
- ✓ Building a concrete batching plant at main site compound started
- ✓ Southbound traffic moved to northbound lane to allow building to start on new southbound carriageway
- ✓ Ground prepared for placement of pavement materials and embankment fill
- ✓ Three compound and six temporary basins completed
- ✓ Four box culverts (for drainage) completed and a further nine being built
- ✓ Utility relocation work continued
- ✓ Piling for the Pipers Creek and Kundabung bridges started
- ✓ Three controlled blasts were carried out near Bloodwood Rest area.

July to December 2015, expected work progress: M Weather permitting

- ✓ Building a concrete batching plant at the main site compound will be completed
- $\checkmark\,$ Property adjustment and stock fencing will continue
- $\checkmark\,$ Building permanent and temporary basins will continue
- ✓ Building culverts will continue
- ✓ Bulk earthwork will continue
- ✓ Northern crossover will be completed
- ✓ Start placing the bottom layers of the concrete road surface
- ✓ Bridgework including piling at the Kundabung Road overbridge, northbound Stumpy Creek bridge and the twin Smiths Creek bridges – will continue.

Community issues 👗

- Access to the new highway from local roads is being reviewed
- Issues related to temporary and permanent arrangements for buses are being addressed.

Environmental issues

• Management and disposal of excess mulch continued.

Looking north from Mill Lane along completed concrete paving at Collombatti. The new local service road is visible on the right hand side of the photo (April 2015)



Contractor: Thiess

Form of contract: Design and build

Average workers on site during the past six months: 378

Average pieces of large machinery on site during the past six months: 145

Start of major construction: August 2013

Expected completion date: 2016 (weather permitting)

Project value: \$675 million

Australian Government contribution: \$337.5 million *

NSW State Government contribution: \$337.5 million *

* Contribution amounts may vary from year to year.



Frederickton to Eungai upgrade

The Frederickton to Eungai 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.

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

January to June 2015, work progress: 🐔

- ✓ Bulk earthwork completed
- ✓ Surcharge fill removal completed
- ✓ Mainline drainage 90 per cent complete
- ✓ Bridge over North Coast Railway completed and opened to Pacific Highway traffic
- ✓ Kemps Road (local road) overbridge completed
- ✓ Concrete base paving 30 per cent complete
- ✓ Offsite manufacture of precast concrete components, such as bridge girders, completed
- ✓ Vegetation and landscaping work continued.

July to December 2015, expected work progress: % Weather permitting ():

- ✓ Concrete paving will continue
- ✓ Mainline drainage will be completed
- ✓ All concrete bridge girders delivered to site and most bridges expected to be completed
- ✓ Vegetation and landscaping work will continue
- ✓ Fencing will be mostly complete.

Community issues 👗

- Adjacent landowner concerns regarding flooding issues
- Project team is working through issues related to potential property impacts.

Environmental issues

• Nil.

Aerial view, looking north, showing the main alignment near the village of Donnellyville and the main site compound in the foreground (April 2015)



Contractors: Pacifico joint venture

Form of contract: Design and build

Average workers on site during the past six months: 222

Average pieces of large machinery on site during the past six months: 51

Start of major construction: December 2014

Expected completion date: Late 2017 (weather permitting)

Project value: \$830 million

Australian Government contribution: \$415 million *

NSW State Government contribution: \$415 million *

* Contribution amounts may vary from year to year.



Warrell Creek to Nambucca Heads upgrade

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 Minister for the Environment approved this project in December 2014.

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

The 20 kilometre project involves upgrading the existing highway to a four lane divided road between the Allgomera deviation, south of Warrell Creek and Nambucca Heads, just south of the North Coast Railway where it will join the Nambucca Heads to Urunga upgrade.

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

January to June 2015, work progress: 🐔

- ✓ Geotechnical investigations completed
- ✓ Detailed design work continued
- ✓ Removal of houses throughout the alignment completed
- ✓ Clearing and grubbing completed south of Nambucca River, including adjacent to the flying fox area south of Macksville
- ✓ Clearing and grubbing continuing north of the Nambucca River
- ✓ Controlled blasting of hard rock started south of Bald Hill Road
- ✓ Utility potholing completed
- ✓ About 75 per cent of sediment basins throughout the project completed
- ✓ Installation of fencing continued, including frog fencing on the southern bank of Upper Warrell Creek
- ✓ Drainage work started
- ✓ Earthwork south of Nambucca River started
- ✓ Establishment of northern site compound, including precasting yard started.

July to December 2015, expected work progress: M Weather permitting

- ✓ Relocation of utilities will be completed
- ✓ Clearing and grubbing north of the Nambucca River will be completed
- ✓ Work will start to build the bridge over the Nambucca River
- ✓ Piling for other structures south of the Nambucca River will start
- ✓ Drainage work will continue
- ✓ Drilling and controlled blasting south of the Nambucca River will continue
- \checkmark Production of precast girders will start
- ✓ Earthwork south of the Nambucca River will continue
- ✓ Earthwork north of the Nambucca River will start.

Community issues

- Development of proposed ramps at north Macksville
- Maintenance of Old Coast Road.

Environmental issues

- Water quality, especially for major river crossings
- The project team team is working through issues related to noise, dust and vibration on adjacent properties.

Aerial view, looking north, of the main alignment north of Cow Creek (April 2015)

25



Contractor: Lend Lease

Form of contract: Design and build

Average workers on site during the past six months: 806

Average pieces of large machinery on site during the past six months: 232

Start of major construction: November 2013

Expected completion date: Second half 2016 (weather permitting)

Project value: \$780 million

Australian Government contribution: \$390 million *

NSW State Government contribution: \$390 million *

* Contribution amounts may vary from year to year.



Nambucca Heads to Urunga upgrade

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 project 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.

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

January to June 2015, work progress: 🕺

- ✓ Bridge piling work across the project completed
- ✓ Four bridges –Ballards Road, Short Cut Road, Martells Road and the Pacific Highway at Waterfall Way – completed and opened to traffic
- ✓ 23 of the 37 bridges across the project have bridge beams installed
- ✓ Work on the new intersection with the existing Pacific Highway at Ballards Road continued, with the first switch of northbound traffic completed
- ✓ Concrete paving started with two kilometres completed (between Short Cut Road and the Kalang River)
- ✓ Upper earthwork layers completed between: Deep Creek and Burkes Lane; Boggy Creek and the North Coast Railway and north of Deep Creek Road
- ✓ Design work was 98 per cent complete
- ✓ Verge work started on the local roads and landscaping continued.

July to December 2015, expected work progress:

Weather permitting

✓ Bulk earthwork and drainage, including controlled blasting, south of Martells Road will be completed

- ✓ Installing girder and deck pours for the remaining bridges will be completed
- ✓ Traffic will be switched onto the new East West Road overbridge
- ✓ Pacific Highway traffic will be temporarily diverted onto the new bridge over Cow Creek
- ✓ The Kalang River twin bridges will be completed and the Kalang River will be re-opened to marine traffic
- ✓ The Pacific Highway will return to 80km/h through the Ballards Road intersection
- ✓ Local traffic will be switched onto the Nambucca interchange overbridge and the Deep Creek Road crossing will be removed
- ✓ Concrete paving work south of the Kalang River and north of Short Cut Road will continue.

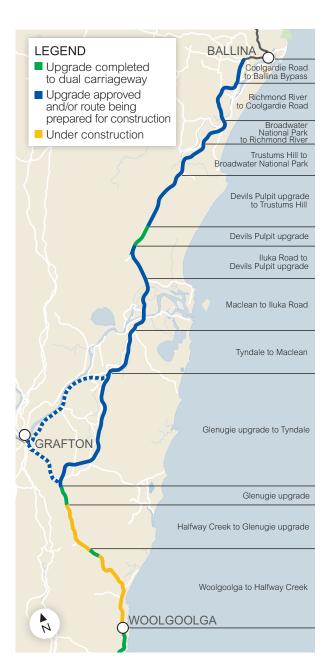
Community issues

- $\checkmark\,$ The condition of some local roads
- $\checkmark\,$ Impacts to some local businesses from the roadwork
- \checkmark Bus routes requiring adjustment due to local road changes.

Environmental issues

 $\checkmark\,$ Dealing with large quantities of mulch and topsoil.

Woolgoolga to Ballina overview



Overview

As of 30 June 2015 major work had started on 26 kilometres of the Pacific Highway upgrade between Woolgoolga and Ballina.

Roads and Maritime has selected Pacific Complete from the private sector as the delivery partner for the Woolgoolga to Ballina Pacific Highway upgrade. Pacific Complete will work closely with Roads and Maritime's Pacific Highway Office to manage multiple contracts in delivering the design and construction of the Woolgoolga to Ballina upgrade.

The summaries on the following pages outline progress in completing this section of the Pacific Highway upgrade.

Key features of the Woolgoolga to Ballina upgrade include:

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

When complete the project will:

- Reduce overall length from 175 kilometres to 166 kilometres, saving about nine kilometres in travel distance
- Allow for a higher posted speed limit of up to 110km/h
- Reduce travel time from 130 minutes to about 105 minutes, saving 25 minutes
- Reduce crash rates by an expected 27 per cent due to divided lanes.



An aerial view of the Arrawarra interchange, looking north (April 2015)



Projects in planning

Woolgoolga to Ballina upgrade

Background

The Woolgoolga to Ballina upgrade was approved by the NSW Minister for Planning in June 2014 and the Federal Minister for the Environment in August 2014. The 155 kilometre upgrade will provide a four lane divided road from the northern end of the Woolgoolga bypass to the southern end of the Ballina bypass.

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



Building the Woolgoolga to Halfway Creek site compound

January to June 2015, work progress:

- ✓ Awarded delivery partner contract to Pacific Complete (comprised of Laing O'Rourke and Parsons Brinkerhoff)
- ✓ Awarded contract for soft soil work in Wave 1 (between Harwood and Iluka Road) and Wave 2 (between Pimlico and Whytes Lane, Coolgardie)
- ✓ Awarded hydrological expert contract
- ✓ Assessed registrations of interest to design and build bridge over the Clarence River at Harwood
- ✓ Utility relocations continued
- ✓ Salvaging Aboriginal artefacts continued
- ✓ Ecological monitoring and collection of data continued
- ✓ Development of biodiversity offset strategy continued
- ✓ Finalised threatened species management plans (excluding the koala)
- ✓ Land acquisitions continued with 90 per cent complete
- ✓ Awarded a contract for non-Aboriginal heritage.

July to December 2015, expected work progress: % Weather permitting 🔅

- ✓ Implement biodiversity offset strategy
- ✓ Finalising the threatened species management plans (including the koala)
- ✓ Engage contract to carry out revegetation work for koala habitat in the Wardell area
- ✓ Non-Aboriginal and Aboriginal salvage work will continue
- ✓ Construction Environmental Management Plan (CEMP) for Glenugie to Ballina (sections 3 to 11) will be approved by Department of Planning and Environment
- ✓ Detailed design contracts will be awarded for Glenugie to Ballina (section 3 to 11)
- ✓ Staging report for Glenugie to Ballina (sections 3 to 11) will be submitted to the NSW Department of Planning and Environment.

Community issues

• The project team is addressing issues raised by the community about the impact from the route between Wardell and Coolgardie, south of Ballina, to the local koala population.

Environmental issues

• Project team continuing to address state and federal conditions of approval relating to koalas between Wardell and Coolgardie, south of Ballina.





Contractor: OHL and York joint venture

Form of contract: Build only

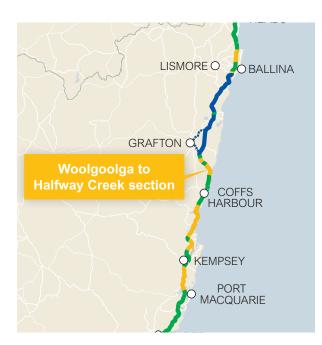
Average workers on site during the past six months: 68

Average pieces of large machinery on site during the past six months: 22

Start of major construction: June 2015

Expected completion date: 2017 (weather permitting)

Project value: Forms part of the Woolgoolga to Ballina upgrade.



Woolgoolga to Halfway Creek section

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 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.

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

January to June 2015, work progress: K

- ✓ Major building work started
- ✓ Installation of boundary fencing for properties started
- ✓ Installation of temporary fencing around heritage sites and sensitive vegetation areas started
- ✓ Vegetation clearing started
- ✓ Establishment of site compounds started
- ✓ Work to develop operational noise report continued
- ✓ Utility relocation started.

July to December 2015, expected work progress: M Weather permitting :

- ✓ The Aboriginal salvage work will be completed
- ✓ The operational noise report will be completed and released
- ✓ Bulk earthwork will start
- ✓ Bridge piling will start at various locations, including Sherwood Creek Road, Kangaroo Trail Road, Corindi Creek, Corindi floodplain and Cassons Creek
- ✓ Work will start with identified landowners for noise treatment of houses
- ✓ Blasting near Dirty Creek Range will start
- ✓ The intersection upgrade at Kangaroo Trail Road will be finalised.

Community issues

• Finalise report Blackadder safety work options assessment.

Environmental issues 🗨

• Nil.



Contractor:

Civil Mining and Construction

Form of contract: Build only

Average workers on site during the past six months: 40

Average pieces of large machinery on site during the past six months: 25

Start of major construction: June 2015

Expected completion date: 2017 (weather permitting)

Project value: Forms part of the Woolgoolga to Ballina upgrade.



Halfway Creek to Glenugie section

The Halfway Creek to Glenugie project – section two of the overall Woolgoolga to Ballina upgrade – will link the existing 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.

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

January to June 2015, work progress: 🐔

- ✓ Major building work started
- ✓ Installation of boundary fencing for properties continued
- ✓ Installation of temporary fencing around heritage sites and sensitive vegetation areas started
- ✓ Vegetation clearing started
- ✓ Establishment of site compounds
- ✓ Utility relocation
- ✓ Work on operational noise report continued
- ✓ Construction Environmental Management Plan approved.

July to December 2015, expected work progress: M Weather permitting ():

- ✓ Installation of boundary fencing for properties will continue
- ✓ Utility relocations will continue
- ✓ The operational noise report will be completed and released
- ✓ Bulk earthwork will start
- ✓ Bridge piling at Halfway Creek and Wells Crossing will start
- ✓ Work will start with identified landowners for noise treatment of houses.

Community issues

• Nil.

Environmental issues

• Nil.

Aerial view, looking north, showing progress on the new Emigrant Creek bridge in preparation for the Bruxner Highway traffic switch (March 2015)

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Pimlico to Teven early work

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 under construction.

Stage three, which provides a four lane divided road, will be completed as part of the larger Woolgoolga to Ballina upgrade.

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

January to June 2015, work progress: 🐔

- ✓ Installed girders on Duck Creek Bridge
- ✓ Major drainage culvert south of Duck Creek was completed
- ✓ Embankment south of Duck Creek continued the 13 month settlement period
- ✓ Settlement period for the wick drain treatment area on the Bruxner Highway was completed
- ✓ Removed surcharge fill material and started pavement construction on the Bruxner Highway
- ✓ Built the retaining walls south of Duck Creek and on the Bruxner Highway.

July to December 2015, expected work progress: M Weather permitting

✓ Emigrant Creek Bridge will be completed

- ✓ Complete finishing work and switch traffic on to the new Bruxner Highway alignment
- ✓ Concrete injected column ground treatment on the Pacific Highway will be completed
- ✓ Duck Creek Bridge will be completed
- ✓ Settlement period for the wick drain treatment area south of Duck Creek will be completed
- ✓ All property adjustment work and access tracks will be completed
- ✓ Remove surcharge fill material and start pavement construction on the Pacific Highway south of Duck Creek
- ✓ Building the new Pimlico Road will start.

Community issues

• Nil.

Environmental issues

• Nil.

Form of contract: Build only

Average workers on site during the past six months: 61

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

Start of major construction: November 2013

Expected completion date: Mid 2016 (weather permitting)

Project value: Forms part of the Woolgoolga to Ballina upgrade.



Looking north over the Emigrant Creek and Minor Creek bridges (June 2015)



Contractor: Lend Lease

Form of contract: Design and build

Average workers on site during the past six months: 206

Average pieces of large machinery on site during the past six months: 164

Start of major construction: September 2012

Expected completion date: Late 2015 (weather permitting)

Project value: \$862 million

Australian Government contribution: \$566.1 million *

NSW State Government contribution: \$295.9 million *

* Contribution amounts may vary from year to year.



Tintenbar to Ewingsdale upgrade

The Tintenbar to Ewingsdale project was approved on 29 January 2010.

The project 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.

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

January to June 2015, work progress:

- ✓ Tunnel work, including waterproofing, installing permanent lining and building the tunnel control centre continued.
- ✓ Work at Woodford Lane and Myocum Road as part of the Ewingsdale interchange, continued
- ✓ Off-structure work and parapet construction on bridges at Skinners, Minor and Tinderbox creeks
- ✓ Completed mainline earthwork
- ✓ Paving continued across the project and was 80 per cent complete
- ✓ Held three community information sessions.

July to December 2015, expected work progress: % Weather permitting :

- ✓ Work to remove the existing Bangalow Road overpass will start, including the closure of Bangalow Road
- ✓ Building the Bangalow noise mound will continue

- ✓ All Pacific Highway traffic will be diverted through the new Bangalow roundabout
- ✓ The new northbound on-ramp at Ewingsdale interchange will be opened to traffic
- ✓ Work at Woodford Lane and Myocum Road will continue as part of the Ewingsdale interchange
- ✓ All bridges will be completed
- ✓ Tunnel work, including backfilling the cut and cover sections at the northern and southern entrances and the mechanical and electrical fit out, will continue
- ✓ Concrete paving operations, including out-of-hours saw cutting, at various locations across the project will continue
- ✓ Landscaping at various locations across the project will continue
- \checkmark The upgrade will open to traffic.

Community issues 👗

• The project team is working through issues relating to potential property impacts.

Environmental issues <

• Nil.



This paper is carbon neutral, Australian-made, recycled fibre, elemental chlorine free, pulp derived from sustainably managed sources.

For detailed information

about any of the projects, visit the project website at www.rms.nsw.gov.au/pacific or call the Pacific Highway office on 1800 653 092 or 02 6640 1000.