





Pacific Highway upgrade

Six month report card (July - December 2014)

Overview





This report provides a progress update on the Pacific Highway upgrade program to 31 December 2014.

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.

Completed sections

The opening of the remaining 15 kilometres of the Sapphire to Woolgoolga upgrade in July 2014 provided a 25 kilometre section of 110km/h, four-lane divided highway.

Port Macquarie to Coffs Harbour

As of 31 December 2014 major work has started on 105 kilometres of the upgrade between Port Macquarie and Coffs Harbour. Major work began on four projects in the final six months of the year – the Oxley Highway to Kundabung and Kundabung to Kempsey sections, including the Sancrox interchange, and the Warrell Creek to Nambucca Heads section.

The continued run of good weather has allowed for excellent progress on the Frederickton to Eungai and Nambucca Heads to Urunga upgrades.

Woolgoolga to Ballina

Preparations for the final section of the upgrade, the 155 kilometre Woolgoolga to Ballina section, are well advanced. The international search for a delivery partner was well advanced. Following extensive consultation with industry, a shortlist of three consortia was announced to begin dialogue with Roads and Maritime Services. The delivery partner 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. Federal approval for the Woolgoolga to Ballina upgrade was announced in August, and planning is well advanced for the first 26 kilometre section of the project, from Woolgoolga to Glenugie. Contracts to build this section were awarded in December.

Further north, the Tintenbar to Ewingsdale upgrade is expected to be open to traffic in late 2015, weather permitting.

Cover photo: Sapphire to Woolgoolga project – an aerial view looking south towards Korora (October)

Current status





Between July and December 2014, major work was under way on seven construction projects and two early works projects, totalling about 138 kilometres. With the opening of the remaining 15 kilometres of the Sapphire to Woolgoolga project in July 2014, there are currently about 123 kilometres being built.

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

- Oxley Highway to Kundabung
- Kundabung to Kempsey
- Sancrox interchange early work
- Warrell Creek to Nambucca Heads.

Key pieces of infrastructure opened during the past six months include:

 The remaining 15 kilometres of the Sapphire to Woolgoolga upgrade (the 10 kilometre Woolgoolga bypass was opened in December 2013).



Tintenbar to Ewingsdale upgrade – A spreader truck applies aggregate to the next bitumen seal run on the northbound carriageway

Of the 123 kilometres of highway being built in December 2014:

- The first girder was installed on the Frederickton to Eungai project
- The first bridge was opened on the Tintenbar to Ewingsdale project
- Pacific Highway traffic was switched onto the future alignment of Macleay Valley Way at the northern end of the Frederickton to Eungai project
- Paving started on the Bruxner Highway on the Pimlico to Teven early works project
- More than 13 million cubic metres of earthwork out of 20.8 million cubic metres had been completed
- 33 bridges had been completed out of the 152 to be built.

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

- Woolgoolga to Ballina and Warrell Creek to Nambucca Heads, each received approval from the Federal Department of the Environment
- Three consortia shortlisted to tender for the Woolgoolga to Ballina upgrade: Pacific Complete, comprising CH2M Hill, Laing O'Rourke and Parsons Brinkerhoff; the joint venture of Jacobs Group and Fulton Hogan, and; PacWay Delivery Partner Joint Venture, comprising Advisian, Aurecon, Mace and Seymour Whyte.

Upgrade outcomes



Where are we now?

At 31 December 2014:

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

123 kilometres are being built.

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

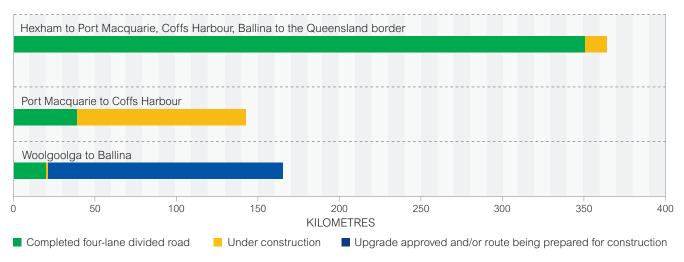
For the second half of 2014, there was an average of **1940** people working on site on the various construction projects.

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. Predicted employment numbers have been revised following the start of work between Port Macquarie and Coffs Harbour and following a review of the Woolgoolga to Ballina project following Federal environmental approval.

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

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.

Four-lane divided road status



Direct jobs created by the Pacific Highway upgrade



The graph above shows actual and predicted workers on site. 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



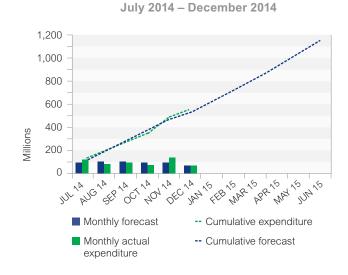


Expenditure update

The total expenditure for the upgrade program for the period July to December 2014 was \$551 million (see graph below). The program is on track for record expenditure during the 2014/15 financial year, exceeding the 2013/14 financial year expenditure of \$1.044 billion.

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



Wet weather

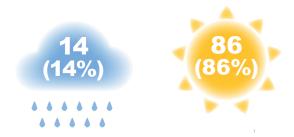
The period July to December 2014 was drier than the preceding six month period and similar to conditions during the same period in 2013.

Most projects did not receive any more wet days than anticipated, and progress on some projects such as Frederickton to Eungai and Nambucca Heads to Urunga was better than anticipated.

Tintenbar to Ewingsdale continues to be affected by wet weather. The project lost 28 per cent of available workdays during the final six months of 2014.

Work days July 2014 – December 2014

From 100 available working days



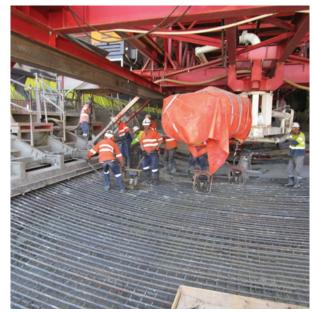
^{*} Based on average number of work days across all projects under construction

Upgrade outcomes





Pimlico to Teven - work on Emigrant Creek bridge



Tintenbar to Ewingsdale - pouring concrete at the southern tunnel portal

Travel times

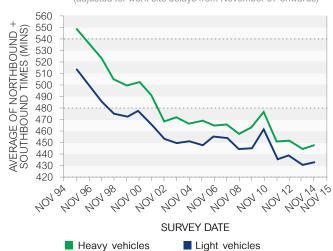
Since the start of the Pacific Highway upgrade program in the mid 1990s travel time between Hexham and the Queensland border has been tracked.

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 as in 2013 with light vehicles saving a minimum of 90 minutes and heavy vehicles saving a minimum of 100 minutes, compared to when the upgrade program started.

Over the whole route, heavy vehicle travel time is just 3.5% 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 also be noted that not only are increases in general traffic levels affecting travel times, but some sections of the road are now signposted with lower speed limits than when the surveys began in 1995.

Crashes

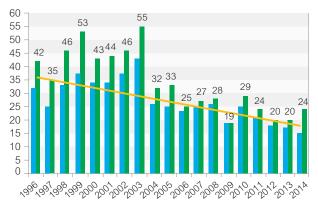
Since the start of the Pacific Highway upgrade, fatal crashes continue to trend downwards.

Preliminary information shows there were 15 fatal crashes with 24 fatalities during 2014. Although the number of fatal crashes reduced from 2013, the number of people killed has increased (from 20 in 2013).

Of the 15 crashes, 80% were on single carriageway sections of the highway.

Further information on injury and non-injury crashes for 2014 will be available in the January - June 2015 six monthly report card, once crash data is finalised.

Fatal crashes and fatalities each year



Fatal crashes — Linear fatalities crashes

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 and Urunga and Woolgoolga, on the mid north coast.

By the middle of 2015 it is expected that:

- 397 kilometres of the Pacific Highway will be open to a four lane divided road standard
- About 150 kilometres of new highway will be in construction
- Substantial progress will be made in preparing the remaining length of the existing highway for major work.

Work will continue to ensure that a four lane divided highway will be open to traffic between Ballina and the Queensland border by the end of 2015.

The remaining 15 kilometres of the Sapphire to Woolgoolga section opened in July 2014.

Good progress is being made on the upgrade from Port Macquarie to Coffs Harbour.

The Frederickton to Eungai and Nambucca Heads to Urunga projects are scheduled to be open to traffic in 2016.

Additionally, major work has started on the 20 kilometre Warrell Creek to Nambucca Heads upgrade and all projects within the the 37 kilometre Oxley Highway to Kempsey upgrade. These sections will be completed during 2017, weather permitting.

Major work is expected to start on the Woolgoolga to Glenugie project in April 2015.

Work will continue to be carried out to complete or advance a number of key activities on the highway between Woolgoolga and Ballina including planning work, land acquisitions, preliminary investigations, early soil settlement and preconstruction work on critical sections. Some sections of four lane divided highway are already in place at Halfway Creek, Glenugie and Devils Pulpit.

Key project milestones – how are we travelling?

Did we do what we said we would between July and December 2014?

Open to traffic:

√ The remaining 15 kilometres of the 25 kilometre Sapphire to Woolgoolga upgrade.

Achieve major work progress:

- ✓ Complete paving work on the future Macleay Valley Way on the Frederickton to Eungai upgrade and switch highway traffic onto it
- ✓ Start to build the Warrell Creek to Nambucca Heads upgrade
- ✓ Opening of a new bridge to traffic on the Tintenbar to Ewingsdale upgrade
- ✓ Start bridge work on the Nambucca Heads to Urunga project
- ✓ Start to build the Sancrox interchange
- ✓ Place first bridge girder on the Frederickton to Eungai upgrade.



Saphire to Woolgoolga upgrade – Looking south along the new highway from the northbound on-ramp of the Sapphire Beach interchange

Finishing the job



Plan for remaining sections:

- √ Receive Federal approval for the Woolgoolga to Ballina upgrade
- ✓ Invite tenders for delivery partner and invite and award contract for building the first section of the Woolgoolga to Ballina project
- Invite and award contract for early work on soft soil sites for the Woolgoolga to Ballina upgrade. (Tenders closed, with contract to be awarded early in 2015)

In the next six months (January to June 2015) we will:

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 earthworks will be completed on the Frederickton to Eungai project
- ✓ The local road overbridge at Kemps Access, and the Pacific Highway main alignment bridges at Collombatti Creek, Seven Hills Road, Johnsons Creek and the North Coast Railway will be completed on the Frederickton to Eungai project
- ✓ The new northbound on-ramp at Ewingsdale interchange will be completed on the Tintenbar to Ewingsdale project

- ✓ Piling work will start for the Hastings and Wilson river bridges 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

✓ Plan 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.

Plan for remaining sections:

- ✓ 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.



Pimlico to Teven - Testing the road surface on the Bruxner Highway diversion

Environment



How are we travelling?

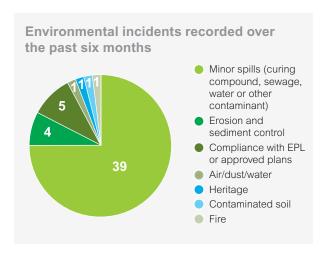
For projects being prepared for major work:

Between July and December 2014 we have:

- ✓ Finalised and submitted 29 assessments, plans or reports to the Department of the Environment (DotE), Department of Planning and Environment (DP&E), Environment Protection Authority (EPA) and Department of Primary Industries (DPI) to meet pre-construction environmental requirements for the Oxley Highway to Kempsey and Warrell Creek to Nambucca Heads projects to allow building to start
- ✓ Started work on 38 assessments, plans and reports to be submitted to DotE, DP&E, EPA and DPI for the Woolgoolga to Ballina project to allow building to start as per scheduled program
- ✓ Submitted and obtained approval for 18 assessments, plans and reports from environmental regulatory agencies for the Warrell Creek to Nambucca Heads project to allow building to start as per scheduled program
- ✓ Investigated 2992 hectares of land as potential biodiversity offsets for the Woolgoolga to Ballina project, including the successful acquisition of 426 ha of high conservation value habitat in the Pillar Valley area. In other areas across the Pacific Highway upgrade program an additional 1582 ha of proposed offset sites have been nominated for consideration by the DotE and DP&E
- ✓ Achieved good progress with salvage works on potential and actual Aboriginal sites for the Woolgoolga to Ballina projects. More than 20,000 artefacts salvaged with direct involvement from local Aboriginal communities.

For projects under construction:

- ✓ Submitted 15 assessments, plans or reports to the DotE, DP&E, EPA and DPI to meet environmental requirements
- ✓ Re-used an estimated 26,000m3 tonnes of excess timber and mulch from clearing work associated with projects under construction
- ✓ Carried out ecological monitoring events for a range of animal and plant species on the Nambucca Heads to Urunga project.



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 43 environmental inspections were carried out on projects between Port Macquarie and Ewingsdale between July and December 2014. The majority of these inspections recorded green status which indicated sites were demonstrating good environmental practice with only minor corrective measures required.

Award for Pacific Highway project teams

Roads and Maritime played a key role at the inaugural Australasian Network for Ecology and Transportation conference held in July 2014.

The three day international conference, held in Coffs Harbour, examined the environmental impact of linear infrastructure such as roads, rail and gas lines from all over world. The conference provided Roads and Maritime staff with an opportunity to showcase work on the Pacific Highway, while also learning from other experts.

Conference organisers awarded the Pacific Highway team the best practice award in ecology and transportation, recognising the flora and fauna-sensitive road designs implemented on completed projects and our ongoing history of best practice and innovation.

Roads and Maritime's involvement in the conference included presentations from senior staff and hosting a day long field trip to inspect various animal control measures used at Glenugie, Sapphire to Woolgoolga and Bonville.



Conference delegates inspect environmental measures implemented on the Sapphire to Woolgoolga highway upgade

Environment



Taking action

Key features of the strategy to be implemented to manage the koala population in section 10 on the Woolgoolga to Ballina upgrade include:

- ✓ Engaging experts to collect more data on the Ballina koala population, undertake the population viability analysis (see below) and peer review the analysis
- ✓ Establishing an expert panel the makeup of which was to be revealed in January 2015 — to provide advice to the Minister for Roads and Freight on modelling work and mitigation measures for the Ballina koala population
- ✓ Installing exclusion fencing and building connectivity structures early, before major work starts, to minimise the risk of direct construction-related deaths
- ✓ Increasing the number of animal crossings suitable for koalas by more than 400 per cent to that proposed in the December 2013 Submissions and Preferred Infrastructure Report
- ✓ Planting about 130 hectares of koala food trees on Roads and Maritimeowned land
- ✓ Developing an overarching koala management plan, to educate and guide workers on the importance of appropriately managing koala incidents during the pre-construction, major work and post-opening phases
- ✓ Sharing information with key stakeholders including Ballina Shire Council and its reference group as well as the broader community.

Ballina Koala Plan

Roads and Maritime takes its obligations to protect the environment very seriously and wants to work with the community to get the best outcome for the koala and the Pacific Highway upgrade.

The final section of completing the Pacific Highway to a four lane divided highway, the 155 kilometre Woolgoolga to Ballina upgrade, has been approved by both the NSW and Federal governments. The approvals come with strict

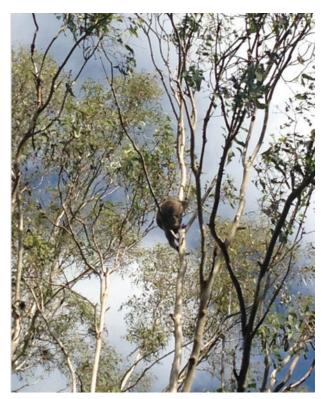


Photo of a koala taken during pre-construction surveys on the Woolgoolga to Ballina project near Wardell

conditions about managing the project's impact on the environment, including the koala and other threatened species.

One federal condition requires Roads and Maritime demonstrate the impact to the Ballina koala population will be 'acceptable' before it starts building section 10, near Wardell. This will form part of a Ballina koala plan to ensure the best outcome for koalas in that section.

While this work is taking place, work can start on the other 142 kilometres of the upgrade.



A koala caught and later released during pre-construction surveys for the Woolgoolga to Ballina upgrade

Environment



Population Viability Analysis

As part of this process, a study called a Population Viability Analysis (PVA) will be carried out to establish the long term viability of the Ballina koala population.

Roads and Maritime has engaged scientific consultants EcoSure and Biolink, including Dr Steve Phillips, to collect data on the local koala population.

Experienced ecologist Dr Rod Kavanagh, of Niche Environment and Heritage, will then use the data collected to complete and analyse the PVA. Dr Kavanagh will report the findings to the expert advisory panel with the outcomes expected to be announced mid this year.

In addition to the PVA and expert panel outcomes, Roads and Maritime, in line with expert advice, has developed a strategy to address conditions of approval relating to management of the koala in section 10.

To collect demographic and genetic data for Roads and Maritime, Dr Phillips and his team are catching and releasing koalas in section 10. The koalas are being caught using both flag and pole, or a special trap designed by Dr Phillips. Within an hour of collecting the required information, the koalas are released back to their natural habitat. The project team is targeting to collect data from 70 individual koalas to inform the PVA.

Koalas caught and released in December: 6



Koala management on the highway

Across the length of the Pacific Highway a number of measures have been implemented to reduce the impact on koalas, including those neighbouring existing project sites. These measures include:

- ✓ We have developed new designs for roadside concrete barriers, which have been implemented at work sites near known koala populations to minimise injuries or chance of strike
- ✓ Messaging on permanent electronic signs between Port Macquarie and the Queensland border is being used to help to raise driver awareness of koala movements on the region's roads during breeding season.
- WATCH OUT FOR KOALAS

A message on the Pacific Highway at Yelgun warning motorists to watch out for koalas

- These messages were put in place in early December 2014 and will continue during the peak breeding season
- ✓ Installing additional koala fencing on construction projects
- ✓ On the upgraded section of highway from Tyagarah to Kingscliff, investigations into additional koala fencing and potential koala 'roller grids' have been completed. Work continues on evaluating the funding requirements to implement the measures in addition to resolving the safety noise issues associated with the koala 'roller grids'.

Roads and Maritime will continue to work with all stakeholders to reduce the impact on koala populations along the highway.



Temporary floppy top fencing and a koala drop down installed on the Nambucca Heads to Urunga project

Workplace health and safety

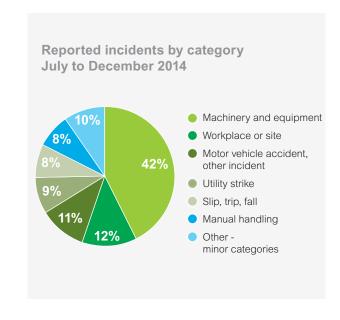


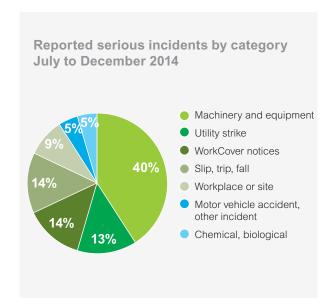
Roads and Maritime Services' vision is to be an industry leader in workplace health and safety. It is for this reason we are committed to the health and safety of everyone involved with the Pacific Highway upgrade. During the reporting period we actively encouraged our industry partners to report all workplace occurrences that could affect workplace health and safety across the upgrade. A rigorous reporting culture enhances the ability of our partners to promote a safe and healthy workplace for site workers, road users and the general public.

How are we travelling?

Between July and December 2014, the project teams have:

- worked more than 2.85 million person-hours
- employed about 2400 workers per month
- carried out more than 4500 site safety inspections and audits
- lost 55 days due to workplace injuries
- reported 22 serious events (near-misses and incidents), which is a reduction on the previous reporting period.





Managing machinery and equipment risks

The management of large machinery and equipment continues to present Roads and Maritime and our project partners with an opportunity to improve workplace health and safety. As the graphs show, machinery and equipment use still accounts for the majority of reported incidents across all projects.

We will continue to work with our industry partners identifying and implementing industry best practice through links to Roads and Maritime's risk registration and top risk programs.

Pacific Highway projects WHS workshop, Coffs Harbour

The sixth bi-annual Pacific Highway work health and safety workshop was held in November with representatives from most of the major Pacific Highway upgrade projects, senior management from Roads and Maritime Northern and Sydney offices, WorkCover NSW, heavy haulage and traffic control contractors attending.

Given the level of interest in Chain of Responsibility legislation arising from the previous workshop in June, Roads and Maritime's Safety and Compliance Director provided a presentation on how best to ensure organisations meet their responsibilities under the legislation. The presentation was well received and gave attendees valuable information about a significant issue for the industry.

The workshop concluded with presentations on safety initiatives undertaken by projects along the Pacific Highway upgrade.

Workplace health and safety

Industry Partnership Safety Initiatives

Automated radio communications system

Roads and Maritime and our industry partners have adopted an innovative approach to communicating with road users, particularly heavy vehicles. A third party broadcasting system transmits radio announcements on channel 29 – the default CB UHF radio channel for heavy vehicles along the Pacific Highway.

The system, which Roads and Maritime has utilised before, has been deployed at high-risk traffic switches and where speed reductions are in place due to building work. The system can be programmed to identify that a heavy vehicle is travelling above a pre-determined speed and transmits a message over the CB radio to remind the driver about the correct speed. The system does not record the vehicle in any way, but simply identifies it is over the speed limit and informs the driver.

On the Tintenbar to Ewingsdale project, Lend Lease has worked with the manufacturer to adapt the

units so they can be mounted on variable message system boards. The boards have proven useful in informing heavy vehicle operators about upcoming changes to the highway. Roads and Maritime has positioned temporary units at strategic locations along the highway, resulting in a substantial reduction in incidents.

Project: Oxley Highway to Kundabung Contractor: Lend Lease

Roads and Maritime and Lend Lease held a pre-project workshop to establish a shared safety vision for the project. An independent third party facilitated the workshop, which was attended by members of the senior project and WHS teams. Representatives discussed the behaviours expected from each of the teams and how a strong safety culture will underpin the successful delivery of the project. The workshop resulted in a firm understanding of the project's objectives and challenges and established a working relationship to be built on as the project progresses.

Bob Higgins, General Manager Pacific Highway, addresses the sixth bi-annual Pacific Highway WHS workshop, Coffs Harbour November 2014

Project: Pimlico to Teven Contractor: Leighton

Leighton Contractors has a new employee at the Pimlico to Teven site. He works for a little bit of sunlight and doesn't mind just standing around. Tommy the Lollipop Man (pictured) is a mechanised stop-slow controller positioned at various locations along the work site. Tommy is solar powered and waves his arm to remind road users they are entering a construction zone, and to comply with speed restrictions.



Tommy the Lollipop Man is being used to enhance safety on the Pimlico to Teven project

Community



How are we travelling?

Between June and December 2014, we have:

- √ Attended 25 community information sessions
- ✓ Carried out about 850 individual meetings with property owners and other stakeholders
- ✓ Maintained 13 static displays
- ✓ Distributed 168 separate letters to householders and community updates (including progress advertisements)
- √ Issued about 40 traffic alerts
- ✓ Held 22 community events (including site tours and opening events).

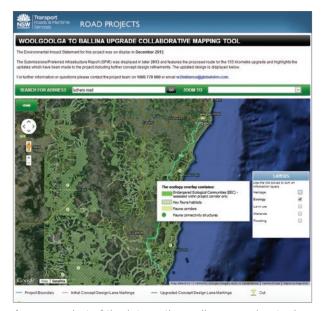
Keeping the community informed by providing live data on threatened species

The Woolgoolga to Ballina project team is working closely with the community to provide a transparent and open process by developing a threatened species online mapping tool. The tool enables the community to better understand the level of environmental investigations being carried out as part of the project.

The project team developed the interactive mapping tool to show the vegetation, habitat and species data it has collected during development of the project. Detailed information includes data on threatened species such as koalas and potoroos.

The habitat and species mapping is indicative only. The data is live and is updated as more habitat and species surveys are completed.

In order to protect sensitive ecological communities, data is shown as indicative locations only.



A screen shot of the interactive online mapping tool

The mapping tool can be found at www.collaborativemap.org/woolgoolgatoballina.

Tour of the tunnels with Bangalow Chamber of Commerce

The St Helena twin tunnels are one of the biggest features of the Tintenbar to Ewingsdale upgrade, so the high level of interest from the community is not surprising.

Following a request from the Bangalow Chamber of Commerce, representatives from Roads and Maritime and contractor Lend Lease escorted members of the chamber on a bus tour of the tunnels in late November.

After meeting at the main site compound the



An aerial view of the St Helena twin tunnels on the Tintenbar to Ewingsdale upgrade

group boarded a bus and was first taken through the southbound tunnel and shown the cut and cover work and the different levels of permanent lining inside the tunnels. Chamber members were allowed to go up and over one of the large pieces of formwork and take photos from high up within the tunnel.

From there the group went through one of the crossovers and into the northbound tunnel. Because this area was further progressed at the time, they had the opportunity to see how the tunnel looked with the permanent lining covered with the last layer, waiting for the electrical and mechanical fit out.

Many photos later, the group emerged with smiles on their faces and stories to tell.

Projects open to traffic



Contractor:

Leighton Fulton Hogan Joint Venture

Form of contract:

Design and build

Average workers on site during the past six months: 15

Average pieces of large machinery on site during the past six months: 6

Start of major construction:

August 2010

Completion date:

Opened to traffic July 2014

Project value: \$860 million

Australian Government contribution:

\$705 million*

NSW State Government contribution:

\$155 million*

^{*} Contribution amounts may vary from year to year.



Sapphire to Woolgoolga upgrade

The Sapphire to Woolgoolga upgrade was jointly funded by the Australian and NSW governments. The project involved building 25 kilometres of four lane divided highway from Campbell Close, Sapphire, to Arrawarra Beach Road, Arrawarra.

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

July –December 2014, work progress:



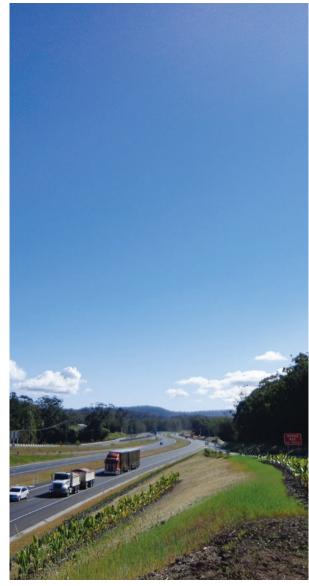
- ✓ Four lane divided highway opened to traffic on 30 July 2014 (upgrade section)
- √ Whole project speed increase to operational speed limit (generally 110km/h)
- ✓ Cycleway construction continued
- ✓ Post operational noise monitoring carried out.

Community issues

- Ongoing concerns about noise from the upgraded highway
- Cycleway and issues relating to property access
- Issues relating to street lighting.

Environmental issues

· Landscape and weed management.



Looking north from the Sapphire Beach interchange at traffic travelling on the new highway signposted at 110km/h

Port Macquarie to Coffs Harbour overview







The time travel variable message board at Macksville

Overview

At of the end of December 2014 major work had started on the remaining 105 kilometres of the Pacific Highway still to be upgraded to four lane divided road between Port Macquarie and Coffs Harbour. Work began on the final project on this stretch of highway, Warrell Creek to Nambucca Heads, in mid-December.

The summaries on the following pages outline progress in completing this section of the Pacific Highway upgrade, in terms of key construction activities and how we are working to minimise the disruption to the road users.

Live travel time information systems

Live travel time information systems delivering up to the minute travel information to road users continued to be used at sites in Macksville and Nambucca Heads during the past six months.

With all projects now in major work, there are plans to expand the number of systems between Port Macquarie and Coffs Harbour early in 2015.

The systems use a suite of portable variable message signs (VMS) and traffic sensors located along the highway. The sensors use Bluetooth technology in travelling cars to read the travel time from one point to another. This provides travellers with realistic timeframes from one place to another and the VMS changes automatically depending on the data it receives.

The information allows Roads and Maritime to monitor the impact highway construction is having on travel times. The data is used to inform construction methods and traffic staging in a bid to minimise delays for all road users.



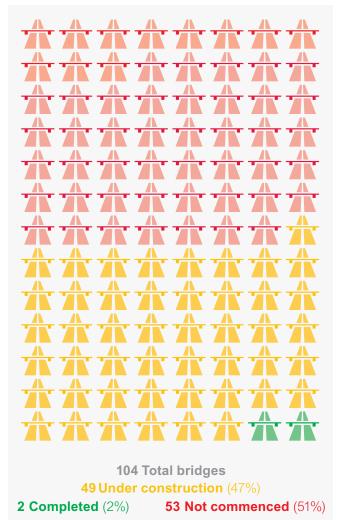
Nambucca Heads to Urunga project – A girder being placed for the Ballards Road overbridge (August)

Port Macquarie to Coffs Harbour overview

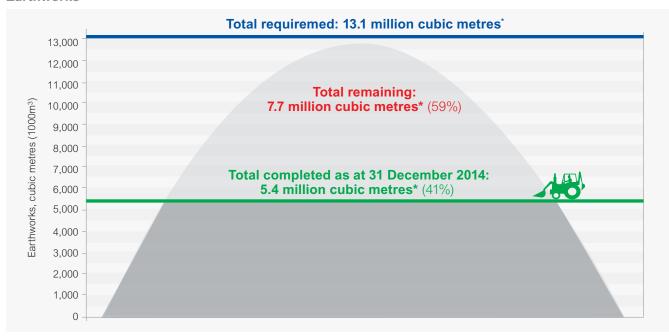


This page aims to illustrate the scale of the total earthworks, number of bridges and amount of highway carriageway to be built for the projects between Port Macquarie and Coffs Harbour.

Bridges



Earthworks



Road surface (road highway kilometres)



^{*} Note the earthworks figures include estimates for the Oxley Highway to Kundabung, Warrell Creek to Nambucca Heads and Nambucca Heads to Urunga projects and may change once detailed design is complete



Contractor:

Lend Lease

Form of contract:

Design and build

Average workers on site during the past six months: 150

Average pieces of large machinery on site during the past six months: 50

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:

\$277.6million *

* Contribution amounts may vary from year to year.



Oxley Highway to Kundabung upgrade

The Oxlev Highway to Kundabung project is the southern section of the 37 kilometre Oxlev 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 Oxley Highway to Kundabung project, which is jointly funded by the Australian and NSW governments, involves building 23 kilometres of four lane divided road, including bridges over the Hastings and Wilson rivers.

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

July to December 2014, work progress:



- ✓ Received final environmental approvals
- ✓ Major work started
- ✓ Design for the project continued. A significant number of design packages were completed and several were at "issued for construction" status at the end of 2014
- ✓ Geotechnical investigation work continued, including drilling additional boreholes for bridges on the Hastings River and Wilson River floodplains
- ✓ Improvement of local road surface at Glen Ewan Road for deliveries of materials to the site
- ✓ Project staff moved into the main site compound, about 800m north of the Hastings River
- ✓ Consultation with affected property owners continued
- ✓ Clearing started near Blackmans Point turnoff and Cooperabung Hill. Mulching and processing of timber from the site started
- ✓ Concrete traffic barriers were installed adjacent. to the existing Pacific Highway, to separate construction areas from through traffic, and 80km/h speed zones were erected in preparation for clearing and earthworks
- ✓ Sediment control basins were built in some areas to allow for earthworks to start

- ✓ Removal of houses from within the footprint of the new road was completed
- ✓ Started soft soil treatments by placing crushed rock drainage layer and long wick drains into the floodplain, south of Glen Ewan Road.

January to June 2015, expected work progress: 🔊



Weather permitting (a)

- ✓ Design packages will be completed
- ✓ Clearing and grubbing work will be completed
- ✓ Piling work will start for the Hastings River and Wilson River bridges
- ✓ Blasting and crushing of rock at the main Cooperabung cutting will start
- ✓ Bulk earthworks will continue
- ✓ Soft soil treatments will be completed.

Community issues



- Project team is engaging with residents regarding concerns about the proposed road
- · Access for water skiers in Wilson River during and after construction.

Environmental issues



Nil



Contractor:

Ferrovial Agroman Australia

Form of contract:

Build only

Average workers on site during the past six months: 50

Average pieces of large machinery on site during the past six months: 27

Start of major construction:

July 2014

Expected completion date:

Mid 2015 (weather permitting)

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

Sancrox interchange PORT MACQUARIE

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.

July to December 2014, work progress:



- ✓ Construction Environmental Management Plan approved by the State Department of Planning and Environment
- ✓ Building work started
- ✓ Clearing and grubbing completed with the exception of fencelines
- ✓ Earthworks started
- ✓ Drainage work started
- √ Bridge piling completed
- ✓ Bridge substructure started.

January to June 2015, expected work progress:

Weather permitting 🏟

✓ Project is expected to be opened to traffic by June 2015, with only finishing work, including final surfacing, remaining.

Community issues 👗

 Temporary closure of of Fernbank Creek Road and Sancrox Road to help with faster construction.

Environmental issues

Contaminated land associated with former land use.



A standing piling cage on the western side of the Pacific Highway (November)



Contractor:

McConnell Dowell/OHL joint venture

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: 44

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 37 kilometre 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.

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

July to December 2014, work progress:



- ✓ Received final environmental approvals
- ✓ Start of major work
- ✓ Land acquisitions finalised
- ✓ Management plans prepared and approved
- ✓ Initial traffic adjustments required for major work completed
- ✓ Clearing work started
- ✓ Utility adjustments started
- ✓ Installation of erosion and sedimentation controls started.

January to June 2015. expected work progress: 🔊



Weather permitting (a)

- ✓ Complete clearing work
- ✓ Ongoing installation of erosion and sedimentation controls
- ✓ Ongoing utility adjustment work
- ✓ Start drainage work
- √ Start earthworks
- ✓ Start piling for bridgework.

Community issues



 Access to properties relating to u-turn facilities in the new upgrade design.

Environmental issues



· Heritage investigations being carried out at Cobb and Co station.



Installing barriers on the Pacific Highway



Contractor:

Thiess Pty Ltd

Form of contract:

Design and build

Average workers on site during the past six months: 468

Average pieces of large machinery on site during the past six months: 160

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

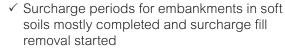
The Frederickton to Eungai project is the second stage of the Kempsey to Eungai upgrade, which was approved in 2008. Stage one, the Kempsey bypass, opened to traffic in 2013.

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.

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

July to December 2014, work progress:





- ✓ Mainline transverse and longitudinal drainage continued
- ✓ Local road overbridges completed at Mill and Cooks lanes
- ✓ Pacific Highway traffic diversions completed between Barraganyatti Road and Stuarts Point Road, and north of the North Coast Railway overbridge
- ✓ Concrete paving commenced near the future Frederickton and Stuarts Point Road interchanges and near the future Cooks Lane rest areas.

January to June 2015. expected work progress: 🔊



Weather permitting (a)

- ✓ Bulk earthworks will be completed
- ✓ Surcharge fill removal will be completed
- ✓ Mainline transverse and longitudinal drainage will be completed
- ✓ Bridgework will continue with the local road overbridge at Kemps Access, and the Pacific Highway main alignment bridges at Collombatti Creek. Seven Hills Road. Johnsons Creek and the North Coast Railway expected to be completed
- ✓ Concrete paving work will continue.

Community issues



 The project team is working through issues related to dust and noise.

Environmental issues



• Nil.



Contractors:

Acciona Ferrovial joint venture

Form of contract:

Design and build

Average workers on site during the past six months: 78

Average pieces of large machinery on site during the past six months: 6

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 42 kilometre 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. 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 railway line.

Warrell Creek to Nambucca Heads upgrade

July to December 2014 work progress: 🔊

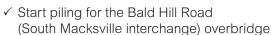


- ✓ Pre-construction activities, including geotechnical investigations and surveys, continued
- ✓ Detailed design work continued
- ✓ Site establishment activities, including establishment of the main project site office, started
- ✓ Process to install at-residence noise treatments continued
- ✓ Received Federal environmental approval
- ✓ Construction Environmental Management Plan approved in December
- ✓ Environmental Protection Licence issued
- √ Sod-turning ceremony held to mark the start of major work
- ✓ Nest-box installation commenced prior to vegetation clearing.

January to June 2015 expected work progress: A



Weather permitting :



- ✓ Install boundary fencing
- ✓ Complete the establishment of site compounds
- ✓ Installation of at-house noise mitigation measures will start
- ✓ Start clearing, earthworks and cross drainage
- ✓ Continue detailed design
- ✓ Start utility adjustments
- ✓ Continue baseline surface and groundwater monitoring and ecological monitoring.

Community issues



- · Concerns with flooding
- Development of proposed ramps at north Macksville.

Environmental issues



• Grey-headed flying fox colony near Macksville.



Contractor:

Lend Lease

Form of contract:

Design and build

Average workers on site during the past six months: 847

Average pieces of large machinery on site during the past six months: 236

Start of major construction:

November 2013

Expected completion date:

End 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 42 kilometre 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.

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



July to December 2014, work progress: 🛝

- ✓ Bulk earthworks and drainage work continued
- ✓ Temporary bridge over the Kalang River completed
- ✓ Opening of numerous local roads
- ✓ Detailed design work continued
- ✓ Soft soil work completed
- ✓ Drilling and blasting continued
- ✓ Delivery of girders to site started
- ✓ Landscaping started.

Progress on the twin bridges being built over the Kalang River (November)

January to June 2015 expected work progress:



Weather permitting :

- ✓ Bulk earthworks and drainage, including blasting, will be completed
- ✓ Batch plant for concrete paving will be commissioned
- ✓ Concrete paving will start
- ✓ A number of local roads will be opened
- ✓ Traffic switches at the northern connection and Cow Creek service road will take place
- ✓ Short Cut Road overpass will open.

Community issues 👗



- Haulage of construction materials from a quarry in Dorrigo to project site
- Traffic impacts from girder deliveries.

Environmental issues



• The project team is working through issues related to dust and other property impacts.

Projects in planning



Woolgoolga to Ballina upgrade

The Woolgoolga to Ballina upgrade is Australia's largest regional infrastructure project and will duplicate about 155 kilometres of four lane divided road. The project starts about six kilometres north of Woolgoolga and ends about six kilometres south of Ballina. It was approved, with strict conditions, by the NSW Minister for Planning in June 2014 and the Federal Minister for the Environment in August 2014. The federal approval came with an additional 26 conditions.

The project is jointly funded by the Australian and NSW governments. Roads and Maritime is engaging a delivery partner from the private sector to work closely with the Pacific Highway Office to manage multiple contracts in delivering the design and construction of the Woolgoolga to Ballina upgrade.

This delivery partner model will not only offer better value for money and drive project efficiencies, but will help to ensure we meet our goal of completing the duplication of the Pacific Highway by 2020.



July to December 2014, work progress: 🐔

- ✓ Industry briefing held to explain contracting model for designing and building the Glenugie to Ballina section. Attended by more than 100 companies
- √ Three consortia shortlisted to tender for the Woolgoolga to Ballina upgrade delivery partner: Pacific Complete, comprising CH2M Hill, Laing O'Rourke and Parsons Brinkerhoff; the joint venture of Jacobs Group and Fulton Hogan, and; PacWay Delivery Partner Joint Venture, comprising Advisian, Aurecon, Mace and Seymour Whyte
- ✓ Land acquisitions continued with 77% complete
- ✓ Started work salvaging Aboriginal artefacts
- ✓ Invited Registrations of Interest to design and build the bridge over the Clarence River at Harwood
- ✓ Installed trial emu fence in Section 3 (Glenugie to Tyndale)
- ✓ Community information display for Maclean and Harwood / Yamba Road interchange options
- ✓ Received Federal project approval with an additional 26 conditions mostly relating to Section 10
- ✓ Continued with ecological surveys
- ✓ Utility relocation
- ✓ Launched threatened species interactive mapping tool online which includes detailed information on threatened species such as koalas and potoroo
- ✓ Invited tenders for hydrological expert.

January to June 2015, expected work progress: 🔊



Weather permitting :

- ✓ Award contract for delivery partner
- ✓ 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
- ✓ Award hydrological expert contract
- ✓ Award contract to design and build bridge over the Clarence River at Harwood
- ✓ Utility relocations will continue
- √ Salvaging Aboriginal artefacts will continue
- ✓ Ecological monitoring and collection of data will continue
- ✓ Implement biodiversity offset strategy
- ✓ Finalise threatened species management plans (excluding the koala)
- ✓ Property acquisitions will continue
- ✓ Appoint a contract for non-Aboriginal heritage.

Community issues



- The project team is continuing to work through flooding concerns at Corindi and Blackadder
- · 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 in Section 10, between Wardell and Coolgardie, south of Ballina.

Projects in planning

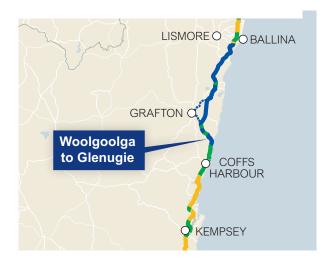


Woolgoolga to Glenugie

The Woolgoolga to Glenugie project, which is part of the Woolgoolga to Ballina upgrade, starts about six kilometres north of Woolgoolga and ends about 15 kilometres south of Grafton. The Woolgoolga to Glenugie upgrade is being built in two sections – Woolgoolga to Halfway Creek (section 1) and Halfway Creek to Glenugie (section 2).

July to December 2014 work progress

- ✓ Awarded contracts to build the first section of the upgrade, from Woolgoolga to Glenugie. OHL and York Joint Venture will partner to deliver the 14 kilometre section of upgrade between Woolgoolga and Halfway Creek. Civil Mining & Construction will deliver the 12 kilometre section between Halfway Creek and Glenugie
- ✓ Awarded contract for the connectivity strategy



- ✓ Started water and sewer relocations
- ✓ Started installing nest boxes
- ✓ Property acquisitions continued
- ✓ Design progressed from concept design, presented in the Submissions / Preferred Infrastructure Report, to detailed design
- √ This updated design includes the Arrawarra rest area originally proposed as part of the Sapphire to Woolgoolga project in section 1 and reusing part of the existing highway in section 2.

Arrawarra rest area

The Arrawarra rest area will be built on the eastern side of the new highway as part of the Woolgoolga to Halfway Creek project.

Allowance has been made for a possible future highway service centre at the rest area. It is important to provide conveniently located highway service centres as they encourage drivers to "stop, revive, survive" and take breaks when they recognise the warning signs of fatigue, which contributes significantly to travel safety and efficiency.

January to June 2015, expected work progress:

Weather permitting :

- ✓ Building work is expected to start about April 2015
- ✓ Installation of boundary fencing for properties will start
- ✓ Installation of temporary fencing around heritage sites and sensitive vegetation areas will start

- √ Vegetation clearing will start
- ✓ Establishment of site compounds
- ✓ Utility relocation
- ✓ Release draft operational noise report
- √ Finalise Construction Environmental Management Plan
- ✓ Establishment of secondary sites.

Community issues



- · Received community comment on the draft Urban Design and Landscape Plan, proposed changes to levels of the new highway and detail design
- Finalise report Blackadder safety works options assessment.

Environmental issues



Nil



Existing highway at Halfway Creek



Contractor:

Leighton Contractors

Form of contract:

Build only

Average workers on site during the past six months: 93

Average pieces of large machinery on site during the past six months: 13

Start of major construction:

November 2013

Expected completion date:

Mid 2016 (weather permitting)

Project value: Forms part

of the Woolgoolga to Ballina upgrade.



Pimlico to Teven 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 Pacific Highway upgrade.

The project is jointly funded by the Australian and NSW governments. It will involve building a bridge over Duck and Emigrant creeks, providing about two kilometres of new road on the Pacific Highway 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 and stage three, which provides a four lane divided road, will be completed as part of the larger Woolgoolga to Ballina upgrade.

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



July to December 2014, work progress: A



- ✓ Completed all bridge piling for the project
- ✓ Completed construction of the piers for the Duck and Emigrant creek bridges
- √ 13 month settlement period started for wick drain embankments south of Duck Creek and south of Emigrant Creek
- ✓ Switched traffic onto the Bruxner Highway diversion
- ✓ Built the southern half of the bridge segments for Emigrant Creek bridge
- ✓ Completed 90% of the ground treatment work. This ground treatment included concrete injected columns, deep soil mixing and wick drains
- ✓ Completed bulk earthworks south of Duck Creek.

January to June 2015. expected work progress: A



Weather permitting :

- ✓ The settlement period for the wick drain treatment area on Bruxner Highway will be completed
- ✓ Construction of the Emigrant Creek bridge will be substantially completed
- ✓ Remove surcharge and complete pavement construction on the Bruxner Highway
- ✓ Embankment south of Duck Creek will be undergoing 13 month settlement period
- ✓ Build retaining walls south of Duck Creek and on the Bruxner Highway
- ✓ Complete piers and abutments at Duck Creek bridge and place girders
- ✓ Complete all property adjustment work
- ✓ Complete manufacture of girders for Duck Creek bridge.

Community issues



• Nil.

Environmental issues



• Nil.



Contractor:

Lend Lease

Form of contract:

Design and build

Average workers on site during the past six months: 263

Average pieces of large machinery on site during the past six months: 159

Start of major construction:

September 2012

Expected completion date:

Second half 2015 (weather permitting)

Project value: \$862 million

Australian Government contribution:

\$566.1 million

NSW State Government contribution:

\$295.9 million



Tintenbar to Ewingsdale upgrade

The Tintenbar to Ewingsdale project was approved on 29 January 2010 and will provide a four lane divided highway for 17 kilometres from the northern end of the Ballina bypass at Ross Lane to the existing Ewingsdale interchange. The project is jointly funded by the Australian and NSW governments.

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



- ✓ Landscaping activities started
- ✓ Progressing with concrete paving and saw cutting across the project
- ✓ Work on Ewingsdale interchange continued
- ✓ Bridge work at Emigrant, Minor, Skinners, Byron and Tinderbox creeks continued
- ✓ Opened new Broken Head Road bridge
- ✓ Bangalow roundabout work continued with paving and saw cutting and traffic diversions, and closed Bangalow Road for beam installation
- ✓ Opened the new on-ramp at the Ewingsdale interchange for Christmas holiday traffic
- ✓ Tunnel work, including waterproofing, permanent lining activities and tunnel control centre, continued.

January to June 2015. expected work progress: 🔊



- ✓ Work on the Bangalow interchange, including closure of Bangalow Road to remove existing bridge, will continue
- ✓ Complete the new northbound on-ramp at Ewingsdale interchange

- ✓ Work at Woodford Lane and Myocum Road will continue as part of the Ewingsdale interchange
- ✓ Off-structure work and parapet construction on bridges at Skinners. Minor and Tinderbox creeks
- ✓ Tunnel work, including formwork and construction of the cut and cover sections at the northern and southern portals and the mechanical and electrical fit out, will continue
- ✓ Concrete paving operations, including out-of-hours saw cutting, at various locations across the project
- ✓ Landscaping at various locations across the project.

Community issues

· The project team is working through issues relating to potential property impacts, dust and signage.

Environmental issues



Potential impact on koalas during construction.







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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.