



Australian Government



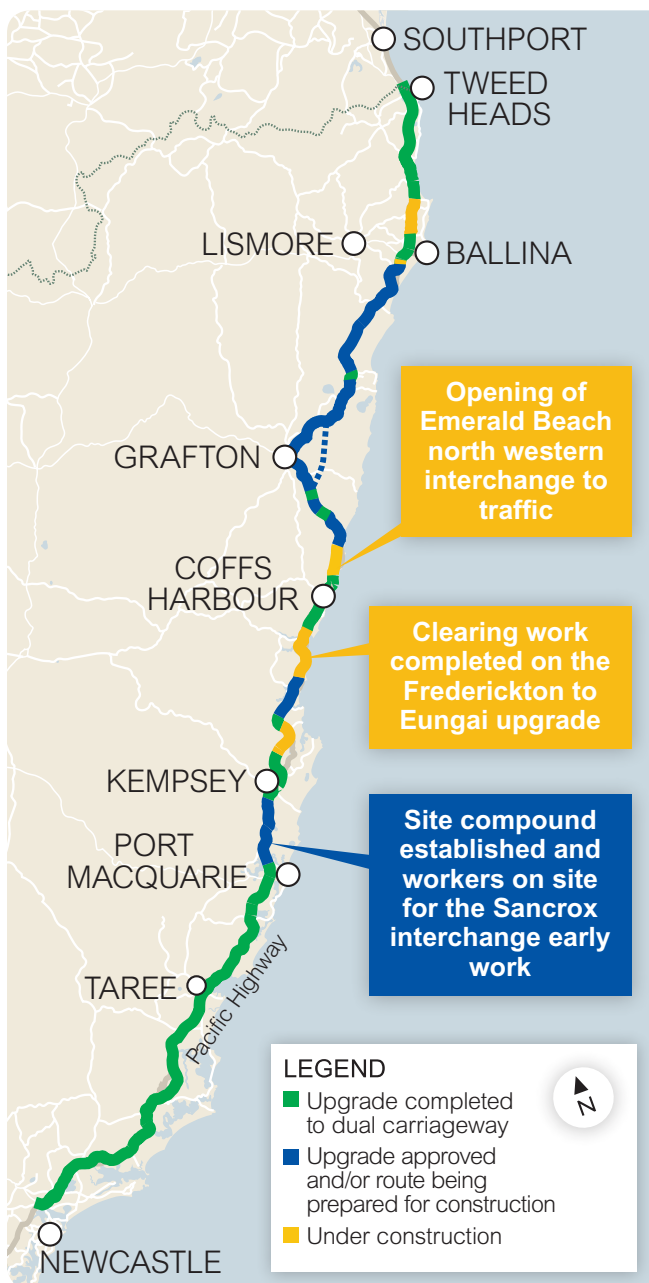
The new state  
of business



# Pacific Highway upgrade

Achievement report **May 2014**

Road widening of the future Bruxner Highway intersection



## Pacific Highway upgrade

**This report will provide you with information about Pacific Highway upgrade projects, including the current status and key activities.**

As of 31 May 2014, 381 kilometres are four lane divided road and about 80 kilometres are being built. The remaining sections of two lane highway are being prepared for major work.

About 58 per cent of the final highway length is now four lane divided road.



**80 km of highway under construction during May 2014.**



**An average of 1491 construction workers on site.**



**For overall upgrading strategy refer to the second last page.**





**Contractors:**

Thiess Pty Ltd

**Form of contract:**

Design and build

**Workers on site:** 550

**Pieces of large machinery:** 150

**Start date 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.



Drain stabilisation along the future Macleay Valley Way near Stuarts Point turnoff

## Frederickton to Eungai

### Background

The Frederickton to Eungai upgrade is the second stage of the Kempsey to Eungai upgrade, which was approved in 2008.

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.

### Key construction activities during May 2014

Four days were lost to wet weather during this time. 

- Project clearing completed and processing of the cleared timber continues
- Rock import for the bridging layer in the low lying floodplain areas completed
- Earthworks using scrapers and dump trucks continued over the whole project. Volumes reached 1.1 million cubic metres out of a total of 2.6 million cubic metres to be completed
- Boundary and fauna fencing continued
- Building of drainage culverts continued on the main alignment
- Building of culverts and earthworks for the future Macleay Valley Way near Stuarts Point turnoff continued
- Bridge work continued
- Concrete piling for the bridges on the Collombatti floodplain started
- Off-site manufacture of precast concrete bridge piles and girders continued
- Community information session on operational noise was held.



# Frederickton to Eungai under construction



Piling work on the Collombatti floodplain



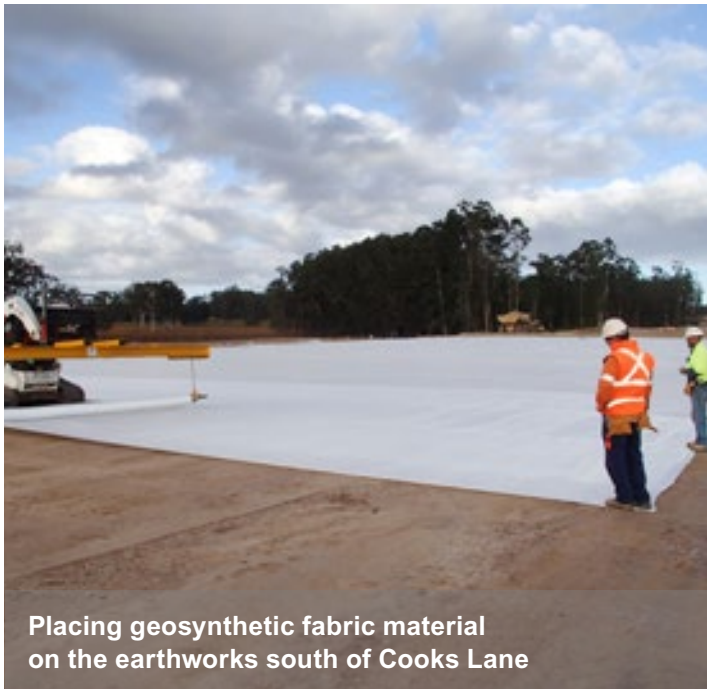
Looking north at Johnsons Creek and the future rest areas south of Cooks Lane



Construction work north of Stuarts Point Road



Scour protection work on a culvert near Stuarts Point turnoff



Placing geosynthetic fabric material on the earthworks south of Cooks Lane



Looking south at Stuarts Point turnoff



Looking south at Nirvana Way where the new highway moves away from the existing Pacific Highway



**Contractors:**

Lend Lease

**Form of contract:**

Design and build

**Workers on site:** 620**Pieces of large machinery:** 150**Start date of 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.



Soft soil treatment work at Kalang River

## Nambucca Heads to Urunga upgrade

### Background

The Nambucca Heads to Urunga upgrade 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 the Nambucca Heads to Urunga stage 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.

### Key construction activities during May 2014

Two days were lost to wet weather during this time. 

- Detailed design continued
- Field investigations continued
- Project boundary fencing work continued
- Drainage installation and bulk earthwork activities continued
- Soft soil treatment work continued on both sides of Deep Creek
- Partially completed relocation of utility assets within rail corridor south of Boggy Creek
- Realignment of Boggy Creek started
- Intersection upgrade work continued at Boggy Creek Road, Deep Creek Road and Valla Road
- Building of the permanent Ballards Road intersection with the existing Pacific Highway
- Started piling for the Ballards Road overpass
- Drilling and blasting continued at Tower Road in Newry State Forest
- Started work on the realignment of the Martells Road temporary diversion
- Soft soil treatment work completed on the north side of the Kalang River
- Started work on the temporary bridge at Kalang River
- Started work on the Short Cut Road overpass bridge abutment fill
- Clearing work continued, including for the Waterfall Way interchange east of the existing Pacific Highway
- Transgrid electrical upgrade work completed between Waterfall Way and Short Cut Road, Urunga.



## Nambucca Heads to Urunga under construction



**Contractors:**

Leighton Fulton Hogan Joint Venture

**Form of contract:**

Design and build

**Workers on site:** 86**Pieces of large machinery:** 95**Start date of major construction:**

August 2010

**Expected completion date:**

July 2014 (weather permitting)

**Project value:** \$850 million**Australian Government contribution:**

\$705 million \*

**NSW State Government contribution:**

\$145 million \*

\* Contribution amounts may vary from year to year



Traffic using the Emerald Beach  
north interchange western roundabout

## Sapphire to Woolgoolga upgrade

### Background

The Sapphire to Woolgoolga upgrade was approved on 13 January 2009.

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

It will provide a four lane divided highway extending about 25 kilometres from Campbell Close at Sapphire to Arrawarra Beach Road at Arrawarra.

### Key construction activities during May 2014

No days were lost to wet weather during this time. 

- Partial opening of the Sapphire Beach interchange
- Opened the Emerald Beach north interchange western roundabout to traffic
- Started building of the noise mound north of Sapphire
- Continued remove of temporary work between the southern tie-in at Korora to south of Woolgoolga
- Continued local road work
- Continued laying the low noise road surface on the upgrade section
- Meetings with residents to discuss property adjustments, including fencing and access arrangements.



# Sapphire to Woolgoolga upgrade under construction







**Contractors:** Lend Lease

**Form of contract:** Design and build

**Workers on site:** 141

**Pieces of large machinery:** 129

**Start date of major construction:**  
September 2012

**Expected completion date:**  
First half of 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.



Northern tunnel portals invert block

## Tintenbar to Ewingsdale upgrade

### Background

The Tintenbar to Ewingsdale upgrade 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.

### Key construction activities during May 2014

16 days were lost to wet weather during this time. 

- Tunnel waterproofing and permanent lining activities continued
- Earthwork completed from Knockrow to Newrybar and sealing of the select material zone started
- Bulk earthwork continued across the project
- Drainage continued across the project
- Construction traffic started to use Byron Creek bridge to reduce traffic on local roads
- Community information session held on the upcoming work at Bangalow

## Tintenbar to Ewingsdale upgrade under construction



Cut and cover work at the northern tunnel portal



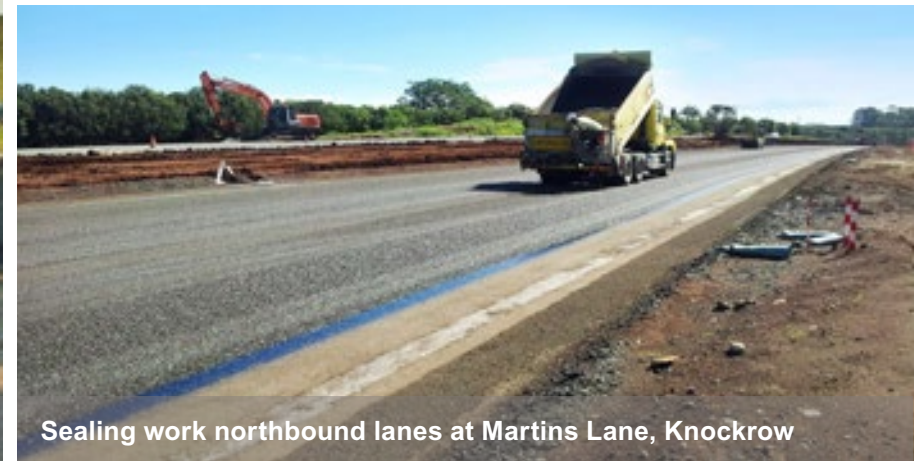
Excavation of sub grade material, Knockrow



Installation of cross drainage, Bangalow



Work on new highway adjacent to the existing Pacific Highway, Bangalow



Sealing work northbound lanes at Martins Lane, Knockrow





Existing highway at Barries Creek

## Oxley Highway to Kempsey upgrade

The Oxley Highway to Kempsey upgrade was approved by the NSW Minister for Planning and Infrastructure on 8 February 2012 and the Federal Department of the Environment on 24 January 2014.

It will provide about 37 kilometres of four lane divided highway between the Oxley Highway at Port Macquarie and the Kempsey bypass.

The project is jointly funded by the Australian and NSW Governments and will be built in two sections.

### Oxley Highway to Kundabung

#### Activities under way during May 2014

- Detailed design work by Lend Lease continued
- Supplementary ground survey carried out to support the detailed design
- Preparation of plans, such as the Construction Environmental Management Plan continued
- Pre construction ecological monitoring continued
- Land acquisitions continued
- Preparation of a Construction Environment Management Plan and the state approval process continues for the Sancrox Road interchange
- Flora and Fauna Management Plan for the Sancrox interchange early work submitted to the Federal Department of the Environment for review
- Site compound established for the Sancrox early work package
- Work started on modifications to the Pacific Highway for stockpile access north of the Hastings River.

### Kundabung to Kempsey

#### Activities under way during May 2014

- McConnell Dowell OHL Joint Venture started preparation of the Construction Environmental Management Plan.
- Pre construction ecological monitoring continued
- Land acquisitions continued.



The existing Macksville Bridge

## Warrell Creek to Nambucca Heads

### Background

The Warrell Creek to Nambucca Heads upgrade was approved by the NSW Minister for Planning and Infrastructure in 2011 as part of the larger Warrell Creek to Urunga project. 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.

### Activities carried out during May 2014

- Finalising design and build contract documentation prior to award of contract to Acciona Ferrovial
- Detailed design work started
- Environmental studies progressed, including Construction Environmental Management Plan and Environmental Protection License
- Process to install at-resident noise treatments continued
- Work continued to identify and assess biodiversity offset properties
- Coordination with utility providers ongoing
- Response being prepared to the request for additional information from the Federal Department of the Environment for assessment and approval under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).



## Preconstruction projects



### Woolgoolga to Ballina

#### Background

The project starts approximately six kilometres north of Woolgoolga and ends approximately six kilometres south of Ballina. The Woolgoolga to Ballina project will upgrade about 155 kilometres of highway to four lane divided road. The project is waiting planning approval from the NSW Department of Planning and Environment and the Federal Department of the Environment. Once approval is received construction can start, subject to funding.

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

This project does not include the completed Glenugie and Devils Pulpit upgrades.

#### Activities carried out during May 2014

- Held Aboriginal focus groups to discuss salvage work and future employment opportunities
- Continued detailed ground surveys
- Continued design of soft soil early work sites
- Continued threatened species baseline and environmental pre-clearing surveys
- Land acquisition continued.



Existing highway at Shark Creek

**Contractors:** Leighton Contractors

**Form of contract:** Construct only

**Workers on site:** 82

**Pieces of large machinery:** 12

**Start date of construction:**  
November 2013

**Expected completion date:**  
Mid 2016

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



Duck Creek bridge piling platform

## Pimlico to Teven – Enabling Works

### Background

The Pimlico to Teven project will upgrade about 2.3kms of the Pacific Highway between Pimlico Road and Teven Road. This work will facilitate the next phase of the highway upgrade, which is part of the overall Woolgoolga to Ballina Pacific Highway upgrade.

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

The Pimlico to Teven project will involve building bridges 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.

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

### Key construction activities during May 2014

Eight days were lost to wet weather during this time. 

- Completed all bridge piling for Emigrant Creek Bridge
- Continued the installation of concrete injected columns ground treatment on the eastern side of Duck Creek
- Completed embankment and stability berm construction on the future Bruxner Highway, west of Emigrant Creek. This embankment is now undergoing a 13 month settlement period
- Completed building the Pacific Highway diversion south of Duck Creek. Started building the asphalt tie-ins under traffic control at night
- Surcharge removal completed on the eastern side of Emigrant Creek. The first layer of road surface is being placed in this location
- Completed the first abutment and pier concrete pours for the Emigrant Creek Bridge
- Started construction of the road widening on the Bruxner Highway, west of Emigrant Creek
- Completed the platform construction for piling and ground treatment at Duck Creek.



# Pimlico to Teven under preconstruction



Bridge piling at Emigrant Creek



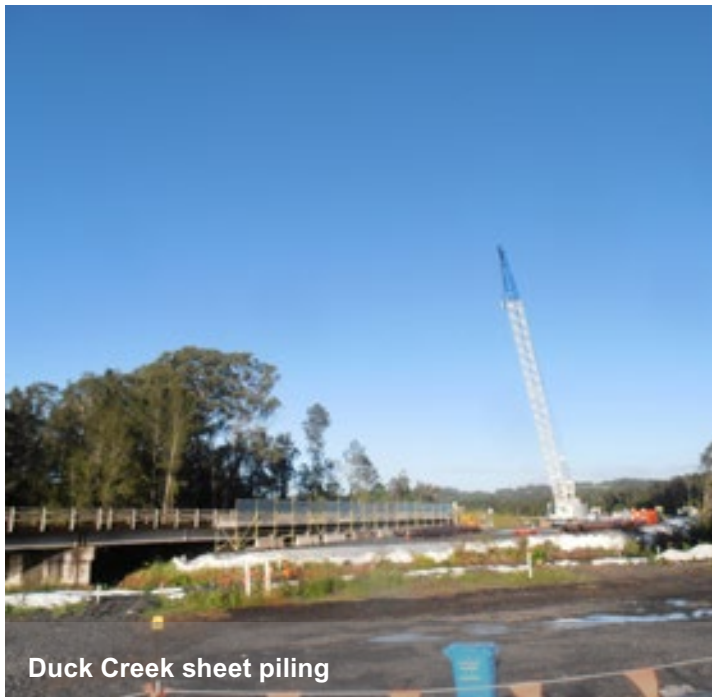
Pacific Highway diversion south of Duck Creek nearing completion



Embankment and stability berm on future Bruxner Highway west of Emigrant Creek



Emigrant Creek pier construction



Duck Creek sheet piling



Pacific Highway diversion south of Duck Creek



Soft soil treatment platform south of Duck Creek





Widened and retained vegetation median at the Bonville upgrade



Koala using wildlife furniture

## Wildlife monitoring across the Pacific Highway upgrade

As part of the Pacific Highway upgrade, wildlife monitoring surveys are commissioned to gain an understanding of what species are using the structures. This informs connectivity measures that we use in future highway upgrade projects.

### Sizes of wildlife underpasses

The monitoring data has demonstrated that the length of an underpass can influence animal usage and the number of successful complete crossings. The typical length of underpasses monitored ranged from 40 to 55 metres and the data confirmed that koala usage were in underpasses 1.2 metres high and generally less than 40 metres in length. However, data collected as part of the Australian Museum Business Services koala research on the Bonville upgrade did record koalas using culverts which lengths exceeded 80 metres.

The design of wildlife underpasses have improved and advanced since the start of the Pacific Highway upgrade program. The first generation underpasses used cross-support wildlife structures which resulted in blocking the passage. The more recent underpass structures recognise the importance of a clear passage either side of the underpass and avoids the use of cross supports within the structure. Combined underpasses are now used and provide connectivity for fish and terrestrial fauna.

### Vegetated highway medians

Vegetated medians in highway upgrade designs are an effective way to ensure safe crossings of threatened glider species. The Karuah Bypass was the first time that trees were used to create a retained highway median. However the width of median was too small to sustain the trees and they were later removed and replaced with rope bridges. Vegetated highway medians were later designed at about 20 metres wide to allow for adequate soil moisture depth and have been successfully implemented in other upgrade projects.



Koala using the wildlife furniture in an underpass



## Four-lane divided road status

