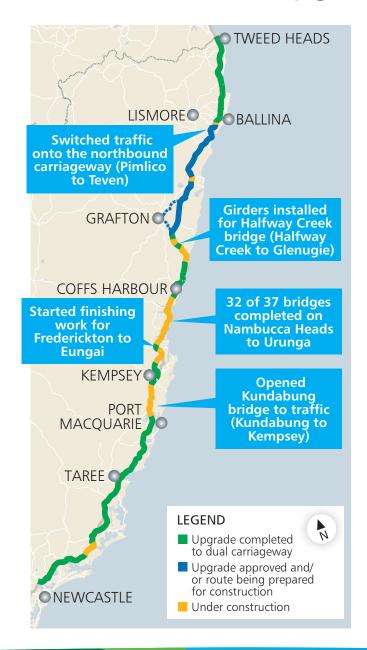






### Overview of the upgrade



### **Pacific Highway upgrade**

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

As of 30 April 2016, 411 kilometres are four lane divided road and about 142 kilometres are being built. The remaining sections of two lane highway are being prepared for major work.

About 62 per cent of the final highway length is now four lane divided road.







The total number of workers includes workers on site for the Pacific Highway upgrade projects contained in this report, and workers on site preparing for work not yet reported on.

### **Pacific Highway upgrade**

Achievement report April 2016

### Port Macquarie to Coffs Harbour

The remaining 105 kilometres of the Pacific Highway still to be upgraded to four lane divided road between Port Macquarie and Coffs Harbour is being built.

Five projects worth more than \$3.3 billion, are at various stages of construction and will begin opening to traffic throughout 2016 and 2017. The Sancrox interchange early work project opened to traffic on the 30 November 2015.

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

### Port Macquarie to Coffs Harbour - projects being built

### **Project snapshot**

**Contractors:** Lend Lease

Form of contract: Design and build

Workers on site: 633

Pieces of large machinery: 165

Start date 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**

### **Background**

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.

### Key activities during April 2016

Four days were lost to wet weather during this time.



- Earthwork continued across the project with about 82 per cent complete. About 95,000 cubic metres of earthwork was completed in April
- Earthwork is progressively being bitumen sealed in preparation for concrete paving
- Mainline concrete road paving continued between Hastings River bridge and the new Blackmans Point Road interchange, and started near Barrys Creek at the northern end of the project
- Work to relocate utilities near Sancrox Road continued.
- Construction of the bridge over the Wilson River continued, with about 85 per cent of precast concrete girders installed
- Construction of the bridge over the Hastings River continued, including construction of headstocks and columns
- Work continued to install major drainage box culverts on the Wilson and Hastings River flood plains

- Work continued to build the following bridges:
  - Fernbank Creek bridges
  - Blackmans Point Road interchange bridges precast parapets completed
  - Bill Hill Road bridge precast parapets completed
  - Haydens Wharf Road overbridge
  - Wilson River floodplain bridges.
- Scoping work continued for acoustic treatments at properties affected by noise from the new road.





### **Oxley Highway to Kundabung**



Paving the road shoulder incorporating a drain, just north of the Hastings River



Concrete being poured for the Wilson River bridge



A view of the side lifting truss at the Wilson River bridge, to lift precast concrete girders onto the headstocks



Construction work in progress to build the Wilson River floodplain bridges

### Port Macquarie to Coffs Harbour - projects being built

## Project snapshot Contractors: McConnell Dowell-OHL joint venture Form of contract: Build only Workers on site: 238 Pieces of large machinery: 113 Start date 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**

### **Background**

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

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

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

### Key activities during April 2016

Three days were lost to wet weather during this time.



- Completed work to build Kundabung bridge and opened to traffic
- Rodeo Drive South and Kundabung Road opened to traffic
- Construction of Stumpy Creek bridge, Smiths Creek bridge southbound and Pipers Creek bridge continued
- Installation of drainage continued with about 85 per cent complete
- Earthwork continued with about 85 per cent complete
- Installation of boundary and fauna fencing continued
- Completed work to place primer seal, a protective layer on road pavement, at Kemps Road and Stumpy Creek
- Completed work to place concrete paving from south of Wharf Road to Smiths Creek.

238 workers on site



### **Kundabung to Kempsey**



A view of the first cars to drive on the new Kundabung bridge



Excavation work underway near the Bloodwood rest area





Placing select material under the Kundabung bridge looking north



A view of earthwork in progress near Rodeo Drive

### Port Macquarie to Coffs Harbour - projects being built

### **Project snapshot Contractors:** CPB Contractors (formerly Leighton Contractors)

Form of contract: Design and build

Workers on site: 206

Pieces of large machinery: 63

**Start date of major construction:** August 2013

**Expected completion date:** Mid 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

### **Background**

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.

### Key activities during April 2016



Two days were lost to wet weather during this time.



- Work to build the rest area was nearing completion, including the erection of steel structures, roadwork and landscaping
- Landscaping and topsoiling work continued across the project, with topsoiling about 95 per cent complete
- Work to construct sign footings was about 75 per cent complete and installation of signage about 40 per cent complete
- Finishing work started including line marking, with about 80 per cent of wire rope footings and guard railings installed
- Continued verge production and placement work, with about 97 per cent complete and 204,000 tonnes of material placed to date.





### **Frederickton to Eungai**



Cooks Lane rest areas



Looking north over Boririgalla Creek bridges



Bridges over Seven Hills Road looking north



Main alignment looking north over Johnsons Creek



Bridges over the Collombatti floodplain looking south



Stuarts Point Road interchange looking north

### Port Macquarie to Coffs Harbour - projects being built

### **Project snapshot**

**Contractors:** Acciona Ferrovial joint venture

Form of contract: Design and build

Workers on site: 659

Pieces of large machinery: 133

Start date of major construction: December 2014

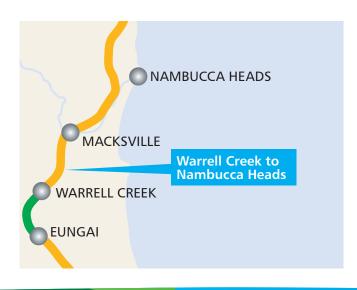
**Expected completion date:** Late 2017 (weather permitting)

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**

### **Background**

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

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

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 line where it will join the Nambucca Heads to Urunga upgrade.

### Key activities during April 2016





- Detailed design continued
- Earthwork continued across the project with about 68 per cent completed
- Controlled blasting and rock crushing continued opposite Scotts Head Road with about 93 per cent completed
- Drainage installation continued across the project, including box culverts, with about 90 per cent of drainage installed
- Installation of fauna underpasses at the northern section of the project were about 50 per cent complete
- Continued placing girders for the Nambucca bridge, with about 35 per cent complete
- Completed work to place girders for Bald Hill Road bridge

- Local road bridgeworks continued with abutments and centre piers being completed ready for the placement of girders at:
  - Cockburns Lane
  - Rosewood Drive
  - Albert Drive
  - and Mattick Road bridges.



3 pieces of large machinery on site



### **Warrell Creek to Nambucca Heads**



Aerial view of work in progress to build the Nambucca River bridge, looking north



Pre-cast concrete floor panels being placed on the Bald Head Road bridges

### Port Macquarie to Coffs Harbour - projects being built

### **Project snapshot**

**Contractors:** Lend Lease

Form of contract: Design and build

Workers on site: 449

Pieces of large machinery: 149

Start date 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**

### **Background**

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

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

It will provide about 22 kilometres of four lane divided road from Nambucca Heads to the existing Waterfall Way interchange at Raleigh.

### Key activities during April 2016

2.5 days was lost to wet weather during this time.



- Concrete paving continued at various locations across the project, with mainline paving 95 per cent complete
- Upper earthwork layers were nearing completion, with 99 per cent complete
- Concrete shoulder paving continued, with about 85 per cent of work complete
- Bridge work continued, with 32 of 37 bridges completed on the project
- Work continued to build the new roundabouts and connections of the Waterfall Way interchange and Nambucca Heads interchange
- Installation of animal fencing and top soiling of slopes continued across the project
- Work continued to install verges across the project.





### **Nambucca Heads to Urunga**



View south along the alignment, north of Burkes Lane



Ramp asphalt work at the Waterfall Way interchange



View south along the alignment towards East West Road overbridge



New variable message sign installed north of Burkes Lane

### **Pacific Highway upgrade**

Achievement report April 2016

### Woolgoolga to Ballina

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

Roads and Maritime has selected Pacific Complete from the private sector as the delivery partner for the Woolgoolga to Ballina Pacific Highway upgrade. The delivery partner model is based on the approach used to oversee construction of infrastructure for the London Olympics and supports collaboration and innovation by bringing businesses, workers, consumers and suppliers together. It encourages the best ideas and solutions from the private sector while also drawing on Roads and Maritime's knowledge to ensure better engineering and design, customer outcomes and public value.

### Woolgoolga to Ballina - projects being prepared for major work



### **Woolgoolga to Ballina**

### **Background**

The \$4.36 billion 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 project 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.

### Activities underway during April 2016 🕺

### Contracts

- Awarded the Wave 3 soft soil work packages
- Awarded the Harwood bridge design and construct package
- Started evaluating the Wave 5A, 5B and 5C foundation treatment packages
- Issued invitations for the next round of industry briefings.

### Design

- Completed 285 design deliverables out of 1200 for the project
- Awarded all five early work intersection contracts consisting of 20 design packages
- Improved Portion C (Devils Pulpit to Richmond River) detailed design by reducing the alignment height

 Assessed site investigation deliverables on various design packages.

### **Environment**

- Submitted the staging report to the NSW Department of Planning and Environment (DP&E) and to the Commonwealth Department of Environment (DoE)
- Facilitated site inspections for detailed design contractors
- Obtained approval for contractor Construction Environmental Management Plans (CEMPs) for geotechnical investigations
- Prepared a native bee management plan in consultation with relevant agencies.

### Stakeholder and community engagement

- Hosted seven community information sessions
- Continued consultation with property owners about access for geotechnical and soft soil work
- Facilitated the contract award announcement of Wave 4 soft soil work and the preferred tender to build the bridge over the Clarence River at Harwood
- Conducted start-up community and stakeholder engagement workshops with contractors that joined the project to ensure clear understanding of community expectations around work being carried out.

### Woolgoolga to Ballina - soft soil work

### **Project snapshot**

**Contractors:** Golding Contractors

Form of contract: Build only

Workers on site: 65

Pieces of large machinery: 19

**Start date of major construction:** October 2015

**Expected completion date:** August 2016 (weather permitting)

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



### **Soft soil (Wave 1) Farlows Lane to Chatsworth Road**

### **Background**

Soft soil work started between north of Farlows Lane and Chatswood Road (around 6.2 kilometres) in August 2015. It is expected the settlement of soft soils in this section will be finished in late 2016, weather permitting. Following the settlement period, this early work will enable building to start on the main highway road. This work forms part of the Woolgoolga to Ballina upgrade which is jointly funded by the Australian and NSW governments.

### Key activities during April 2016

Three days were lost to wet weather during this time.



- Continued installing drainage rock across the project, with over 221,000 tonnes of drainage rock placed to date and about 88 per cent of work completed
- Continued installing wick drains across the project, with about 84 per cent of work completed and over 105,000 metres of wick drains installed during April
- Earthwork continued across the project, with over 47,000 cubic metres of earthwork completed to date
- Continued installing instruments for early geotechnical monitoring, with about 85 per cent of geotechnical instrumentation installed to date.







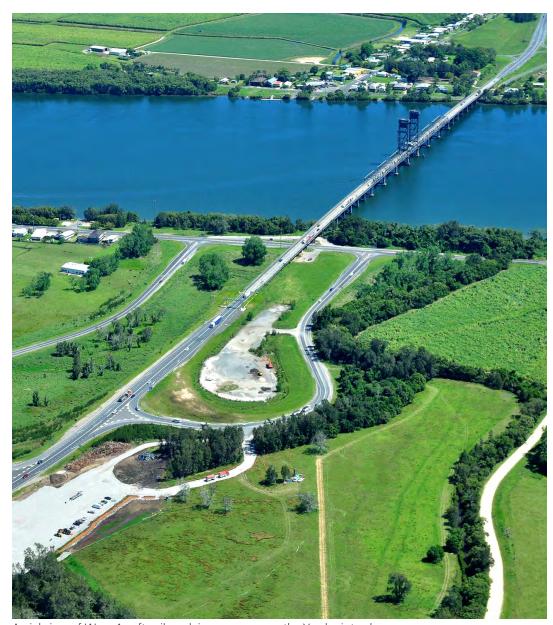
### **Soft soil (Wave 1) Farlows Lane to Chatsworth Road**



Aerial view of soft soil work in progress near Harwood



Aerial view of earthwork in progress near the Yamba interchange



Aerial view of Wave 1 soft soil work in progress near the Yamba interchange

### Woolgoolga to Ballina - soft soil work

### Project snapshot Contractors: SEE Civil Pty Ltd

Form of contract: Build only

Workers on site: 55

Pieces of large machinery: 10

**Start date of major construction:** Late 2015

**Expected completion date:** July 2016 (weather permitting)

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



### **Soft soil (Wave 2) Whytes Lane to Pimlico Road**

### **Background**

Soft soil work started between Whytes Lane and Pimlico Road (around 3.8 kilometres) in August 2015. It is expected the main embankment will be finished in the second half of 2016, weather permitting. Following the settlement period, this early work will enable building to start on the main highway road. This work forms part of the Woolgoolga to Ballina upgrade which is jointly funded by the Australian and NSW governments.

### Key activities during April 2016 🔏

Four days were lost to wet weather during this time



- Construction work for Wave 2 soft soil work in April was mainly earthwork continuing, with about 50 per cent of earthwork complete and over 59,000 cubic metres placed at the end of April
- Continued installation of high strength fabric as part of soft soil work.





### **Soft soil (Wave 2) Whytes Lane to Pimlico Road**



Installing high strength fabric as part of soft soil work



View of earthwork in progress, human form cut-outs in place to protect instrumentation.

### Woolgoolga to Ballina - projects being built

### **Project snapshot Contractors:** OHL and York joint venture Form of contract: Build only

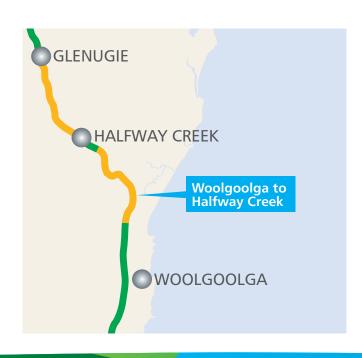
Workers on site: 251

Pieces of large machinery: 120

**Start date 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**

### **Background**

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

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

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

### Key activities during April 2016 🔏

Eight days were lost to wet weather during this time.



- Earthwork continued with 1.6 million cubic metres completed to date
- Finishing work for Sherwood Creek and Kangaroo Trail Road overbridges was nearing completion, with asphalt placed and barrier railings installed
- Completed two concrete deck pours for the Corindi River floodplain bridges
- Continued installing box culverts with about 70 per cent completed
- Eggins Drive (stage 1) and Sherwood Creek Road were nearing completion, with a final seal remaining to open to
- Twin cranes installed concrete bridge girders for Cassons Creek twin bridges

- Started controlled blasting opposite the Pacific Highway near Falconers Lane
- Started placing primer seal, a protective layer on road pavement across the project
- Completed the Pacific Highway traffic switch north of McPhillips Road to allow construction of the future northbound carriageway.

120 pieces of large machinery on site





### **Woolgoolga to Halfway Creek**



Concrete being placed for a large culvert at the northern end of the project



Placing concrete for the northbound deck of Corindi floodplain bridge



Concrete bridge girder being lifted into place at Cassons Creek



Sherwood Creek overbridge ready for asphalt deck placement

### Woolgoolga to Ballina - projects being built

### **Project snapshot**

**Contractors:** Civil Mining & Construction

Form of contract: Build only

Workers on site: 146

Pieces of large machinery: 60

**Start date 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**

### **Background**

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

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

Key features of the Halfway Creek to Glenugie section include twin bridges over Halfway Creek and Wells Crossing Creek, as well as a wide median to assist animals crossing at Newfoundland State Forest.

### Key activities during April 2016



9.5 days were lost to wet weather during this time.



- Earthwork continued and was about 70 per cent complete. Over 518,000 cubic metres of earthwork was completed on the project at the end of April
- Installation of drainage continued across the project, with about 40 per cent completed
- Work continued on the new Wells Crossing and Halfway Creek bridges with all substructure concrete placed on the Halfway Creek bridge, and 90 per cent of substructure concrete placed on the Wells Crossing bridge
- Completed installation of concrete bridge girders for the Halfway Creek bridge
- Continued verge production and placement work using material output from controlled blasting.

146 workers on site



### **Halfway Creek to Glenugie**



Placing select material for the northbound carriageway, near Lemon Tree Road



Work in progress to build the Halfway Creek bridge



Earthwork and pavement drainage in progress south of Bald Knob Road



Concrete bridge girders being installed for the Halfway Creek bridge

### Woolgoolga to Ballina - projects being built

### **Project snapshot**

**Contractors:** CPB Contractors (formerly Leightons)

Form of contract: Build only

Workers on site: 42

Pieces of large machinery: 4

Start date of major construction: November 2013

**Expected completion date:** Mid 2016

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



### **Pimlico to Teven**

### **Background**

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 overall Woolgoolga to Ballina upgrade.

### Key activities during April 2016 🔏

Ten days were lost to wet weather during this time.



- Completed work to place fill on embankments for the new carriageway south of Duck Creek
- Completed drainage work south of Duck Creek
- Switched north bound Pacific Highway traffic on to the new northbound carriageway of the Pacific Highway.

42 workers on site





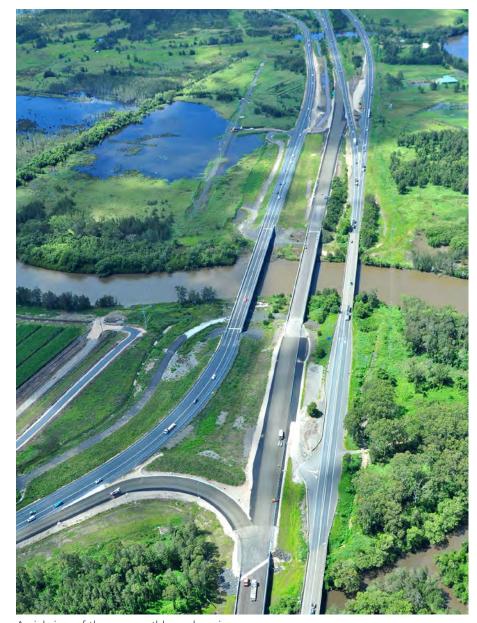
### **Pimlico to Teven**



Aerial view of the new northbound Duck Creek bridge



Work in progress to remove old road pavement south of Duck Creek



Aerial view of the new northbound carriageway

### **Pacific Highway upgrade**

Achievement report April 2016

### Ballina to the Queensland border

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

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

### Ballina to the Queensland border - projects being built

# Project snapshot Contractors: Lend Lease Form of contract: Design and build Workers on site: 75 Pieces of large machinery: 52 Start date of major construction: September 2012 Expected completion date: Opened to traffic March 2016 Project value: \$922.7 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**

### **Background**

The Tintenbar to Ewingsdale project was approved on 29 January 2010, and is jointly funded by the Australian and NSW governments. It will provide 17 kilometres of four lane divided road from the northern end of the Ballina bypass at Ross Lane to the existing Ewingsdale interchange. The project opened to traffic in March 2016 with a revised budget of \$922.7 million. The \$60.7 million increase includes:

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

Since major work began in late 2012, the project was affected by frequent and prolonged wet weather. This meant that more than 40 per cent of available working days were lost compared with the more usual 25-30 per cent in that area, which in turn pushed out the completion date from the original target of end 2014. As a result, the contractor is also entitled to a cost rise adjustment which increased with the longer building timeframe. Roads and Maritime used external and independent experts to help resolve the claims. The increased costs will be funded from savings on other Pacific Highway projects.

### **Key activities during April 2016**

No days were lost to wet weather during this time.



- Completed Clover Hill noise mound work
- Completed asphalt work at Ewingsdale, Bangalow and Hinterland Way
- Completed jet fan repair work
- Continued finishing work including signage and landscaping.



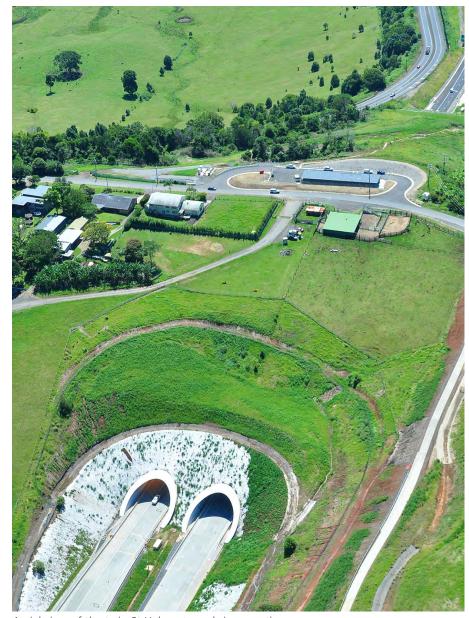
### **Tintenbar to Ewingsdale**



Jet fan repair work inside the tunnel



Placing asphalt near the southbound tunnel



Aerial view of the twin St Helena tunnels in operation

### Four-lane divided road status

