





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 31 December 2015, 408 kilometres are four lane divided road and about 145 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.







Pacific Highway upgrade

Achievement report **December 2015**

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: 650

Pieces of large machinery: 160

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 December 2015

Four days were lost to wet weather during this time.



- Construction of the bridge over the Wilson River continued, including installation of precast concrete girders
- Work continued to build the new bridge over the Hastings River, including installation of pile caps using precast concrete tubs
- Completed piling work for Fernbank Creek bridges, and substructure work continued
- Earthwork continued across the project and was about 60 per cent complete (by volume)
- A total of 19 of the 23 bridges are under construction with substructure work continuing and girders placed on:
 - Barrys Creek bridge
 - Yarrabee Road overbridge

- Controlled blasting in the Cooperabung Range cuttings continued. Each blast yielded about 10,000-13,000 cubic metres of rock
- Installation of boundary and fauna fencing continued
- Installation of drainage and fauna culverts continued
- Work continued to build a temporary traffic crossover just north of the Oxley Highway and Pacific Highway intersection.



pieces of large machinery on site



Oxley Highway to Kundabung



Girder installation on the Wilson River bridge



Placing precast bridge planks on one of the Wilson River floodplain bridges



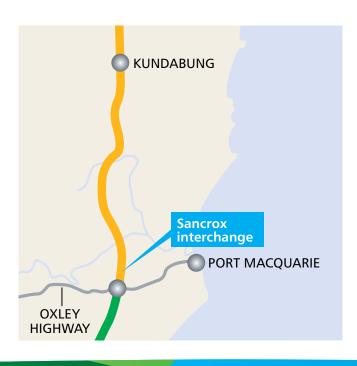
Precast pilecap tub prepared for the Hastings River bridge



Work continues to build the Wilson River floodplain bridges

Port Macquarie to Coffs Harbour - project open to traffic

Project snapshot Contractors: Ferrovial Agroman Form of contract: Build only Workers on site: 20 Pieces of large machinery: 2 Start date of major construction: August 2014 Completion date: Opened to traffic November 2015 Project value: Forms part of the Oxley Highway to Kempsey upgrade



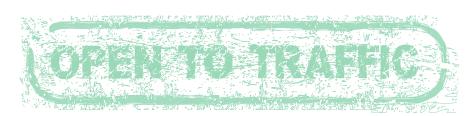
Sancrox interchange

Background

The Sancrox interchange was completed as part of early work for the Oxley Highway to Kempsey upgrade. It included building local service roads and a bridge over the Pacific Highway about 600 metres south of the existing Sancrox Road intersection.

Project status at December 2015

- Sancrox overbridge completed and open to traffic
- Sancrox interchange open to traffic
- Finishing work, including final surfacing is expected to be complete in April 2016, weather permitting
- Completion of the four lane highway upgrade at the interchange is part of the Oxley Highway to Kundabung upgrade.







Sancrox interchange



Looking west on Sancrox Road towards the roundabout



Sancrox overbridge looking east



Looking west towards the overbridge

Port Macquarie to Coffs Harbour - projects being built

Project snapshot Contractors: McConnell Dowell-OHL joint venture Form of contract: Build only Workers on site: 282 Pieces of large machinery: 103 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 December 2015



Seven days were lost to wet weather during this time.



- Work continued to install box and pipe culverts for drainage
- Work continued to construct the Kundabung interchange bridge approach
- Construction of Stumpy Creek bridge, Smiths Creek bridge southbound and Pipers Creek bridge continued
- Excavation work continued, with material used as fill across the project
- Placement of select material completed between Mobbs Drive and Wharf Road and north of Kemps Road
- Concrete paving continued from Barrys Creek to north of Mingaletta Road
- Completed work to place primerseal, a protective layer on road pavement, at Mobbs Drive, Mingaletta Road and Pipers Creek access Road
- Installation of longitudinal drainage continued
- Installation of boundary and fauna fencing continued.

282 workers



Kundabung to Kempsey



Excavation work near Middlegate Road



Work in progress to construct the bridge at Stumpy Creek



Concrete paving work near Barrys Creek



Topsoiling batters work near Bloodwood rest area

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: 297

Pieces of large machinery: 129

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 December 2015 ★

Three days were lost to wet weather during this time.



- Concrete paving continued at various locations across the project. About 86 per cent of the total amount of 213,000 cubic metres of concrete had been placed
- Bridge work continued, with 11 of 20 bridges completed on the project and all deck sections poured
- Completed all cross drainage structures
- Installation of longitudinal drainage was nearing completion with 99 per cent completed
- Work to build the rest areas, including the erection of steel structures and roadwork was about 65 per cent complete
- Installation of boundary and animal fencing continued, including frog and phascogale fencing
- Landscaping and topsoiling work continued across the project
- Continued verge production and placement work, with about 50 per cent complete.

297 workers on site

129 pieces of large machinery on site



Frederickton to Eungai



Kerb hand pours near Seven Hills Road



Looking north along main alignment from Barraganyatti Hut Road



Verge material being placed south of Seven Hills Road



Stuarts Point interchange



Southbound rest area being built near Cooks Lane

Port Macquarie to Coffs Harbour - projects being built

Project snapshot

Contractors: Acciona Ferrovial joint venture

Form of contract: Design and build

Workers on site: 492

Pieces of large machinery: 335

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 December 2015

Seven days were lost to wet weather during this time.



- Detailed design refinements continued
- Earthwork continued across the project
- Upgrade of the Warrell Creek crossing at Cockburns Lane continued
- Controlled blasting and rock crushing continued
- Drainage installation, including box culverts, continued across the project
- Completed the first stage of work to build the new Albert Drive/Pacific Highway intersection
- Continued work to build the diversions at Old Coast Road and Williamson Creek, Donnellyville
- Preparation work and piling continued for the bridge over the Nambucca River

- Piling activities continued at Mattick Road
- Continued building bridge columns on northern floodplains
- Process to install at-resident noise treatments continued
- Installation of fauna fencing continued across the project.



Warrell Creek to Nambucca Heads



Bridge piling at the Nambucca River



Excavation work in progress, looking south towards Mattick Road



Girder installation at the Nambucca River pier



Concrete precast facility established

Port Macquarie to Coffs Harbour - projects being built

Project snapshot Contractors: Lend Lease

Form of contract: Design and build

Workers on site: 757

Pieces of large machinery: 171

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

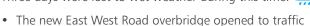
The Nambucca Heads to Urunga project is the first stage of the Warrell Creek to Urunga upgrade, which was approved by the NSW Minister for Planning and Infrastructure in 2011. The Federal Minister for the Environment approved this upgrade in November 2013.

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 December 2015 %

Three days were lost to wet weather during this time.



- The Kalang River reopened to river users, with the new Kalang River bridge nearing completion
- Concrete paving continued at various locations across the project, with mainline paving 55 per cent complete
- Upper earthwork layers were nearing completion, with 85 per cent completed
- Upgrading roundabout and connections on the eastern side of the Waterfall Way interchange continued
- Work continued on the Pacific Highway temporary traffic diversion at the new Nambucca interchange
- Installation of animal fencing and top soiling of slopes continued across the project
- Bridge work continued, with 15 of 37 bridges completed on the project.





Nambucca Heads to Urunga



Night asphalt work at Pacific Highway intersection with East West Road



Pacific Highway at East West Road intersection



Night asphalt work on the Pacific Highway at East West Road



View from the east at East West Road prior to opening overbridge to traffic

Pacific Highway upgrade

Achievement report **December 2015**

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 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 under way during December 2015 🔏

Contracts

- Started evaluating Wave 4 Soft Soils Treatment package tenders
- Started evaluating the Site Wide Geotechnical package tenders
- Closed the tender and started assessing documents for the Harwood Bridge package
- Continued evaluating Wave 3 soft soil treatment package tenders
- Started compiling tender invitation documents for the Wave 5 Foundation treatment package.

Design

- Awarded the four detailed design contracts for sections 3 (Glenugie to Tyndale) to 11 (Pimlico to Teven)
- Progressed the detailed design of 2 critical bridges
- Awarded early works/intersection design tender.

Environment

- Started reviewing the draft Environmental Protection License received from NSW EPA
- Issued Appendix A (Aboriginal and Non-Aboriginal Heritage Education and Training Package) of the Construction Heritage Management Plan to agencies for consultation
- Obtained federal approval for the Biodiversity Offset Strategy (BOS) and Biodiversity Offset Strategy Report (BOSR)
- Obtained conditional NSW approval for BOS and BOSR
- Obtained approval for the Emu Management Plan
- Submitted the Ballina Koala Management Plan to the Independent Reviewer
- Submitted the Translocation Strategy to NSW Department of Planning and Environment
- Continued trial of emu fencing
- Continued with threatened species baseline

- surveys including frogs, koalas, emus, longnosed potoroos and gliders
- Continued to submit threatened species management plans to the NSW Department Planning and Environment and Federal Department of the Environment for approval
- Started to develop a strategy for planting koala feed trees
- Continued Aboriginal salvage work in sections 1 (Woolgoolga to Halfway Creek) and 9 (Broadwater National Park to Richmond River)
- Continued to carry out non-Aboriginal archival recording and historical research.

Stakeholder engagement

- Consulted with the community about the revised New Italy concept design
- Held Industry Briefing sessions for contractors and suppliers in Ballina and Grafton
- Held a meeting with Richmond Valley Council staff about haulage routes and road upgrades.

Woolgoolga to Ballina - soft soil work



Wick drain construction for wave 1 soft soil work



Overview of soft soil work

Background

An important design consideration for the Woolgoolga to Ballina upgrade is how to deal with deep soft soils found in floodplain areas along the upgrade.

The soft soils work is jointly funded by the Australian and New South Wales governments.

Key features of soft soils include high water content, low capacity for allowing water to pass through and low strength. Without soft soil treatment there is the potential for highway foundations and main alignment to sink and be damaged. This is because the bearing capacity of the soil is not strong enough to support the highway.

The soft soil work, which includes building road embankments and installing vertical wick drains, will prepare the foundation and allow the road base to settle before paving is carried out. This will reduce the overall time and cost of the project.

Wave 1-4 soft soil work

It may take some sections up to two and a half years for the soil to consolidate, which is why soft soil work is starting early. Soft soil work will occur in four waves:

Wave 1: Farlows Lane to Chatsworth Road

Major work activity has started for Wave 1 soft soil work.

Wave 2: Whytes Lane to Pimlico

Preparation has started for the first phase of early work activities on Wave 2 soft soil work.

Wave 3: Shark Creek to Maclean

Tenders were invited in October 2015 for Wave 3 soft soil work, and closed November 2015. The evaluation of tenders received continued.

Wave 4: Tuckombil Canal

Tenders were invited in September 2015 for Wave 4 soft soil work, and closed in October 2015. The evaluation of tenders received continued.

Woolgoolga to Ballina - soft soil work

Project snapshot

Contractors: Golding Contractors

Form of contract: Build only

Workers on site: 60

Pieces of large machinery: 15

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 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 December 2015



Five days were lost to wet weather during this time



- Continued work to install drainage rock across the project, with about 100,000 tonnes of drainage rock placed to date
- Work started to construct gate access for construction vehicles
- Continued installing wick drains across the project
- Excavation work continued across the project
- Work started to place fill material on the western stability embankment
- Continued developing environmental management plans
- Work continued to install instruments for early geotechnical work.







Soft soil (Wave 1) Farlows Lane to Chatsworth Road



Aerial view looking south towards Ryans Lane



Excavation work in progress at Tyndale cut

Woolgoolga to Ballina - soft soil work

Project snapshot Contractors: SEE Civil Pty Ltd Form of contract: Build only Workers on site: 54 Pieces of large machinery: 13 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 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 December 2015 %

Five days were lost to wet weather during this time



- · Clearing and grubbing work continued
- Continued with mulching of material
- Continued earthwork across the project in preparation for early geotechnical work
- Continued work to install drainage rock and sediment controls
- Started installing wick drains.



13 pieces of large machinery on site

Soft soil (Wave 2) Whytes Lane to Pimlico Road



Clearing and grubbing work in progress



Wick rig arrives to site to start installing wick drains



Installing geofabric, following completion of tree clearing and grubbing work



Geofabric installed in preparation for laying of drainage rock

Woolgoolga to Ballina - projects being built

Project snapshot Contractors: OHL and York joint venture Form of contract: Build only Workers on site: 202 Pieces of large machinery: 130 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 December 2015

Seven days were lost to wet weather during this time.



- Continued rock blasting work at Dirty Creek Range
- Completed U-turn bays on the Grays Road and Rediger Close intersection
- Completed clearing and grubbing work
- Earthwork continued with 38 per cent complete. On average, about 17,000 cubic metres (by volume) of earthworks is completed each day
- Installed bridge beams on Kangaroo Trail Road overpass bridge
- Bridge beams delivered to site for the Corindi Creek bridges
- Completed piling on all bridges
- Completed work to relocate all utilities
- Work continued to install cross drainage structures across the project.

202 workers on site





Woolgoolga to Halfway Creek



Work underway for the Corindi Creek bridges



Screening earthworks to make culvert backfill material



Placing fill at the base of Dirty Creek Range



Sherwood Creek Road overpass deck preparation

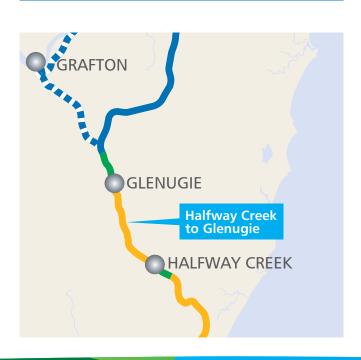
Woolgoolga to Ballina - projects being built

Project snapshot Contractors: Civil Mining & Construction Form of contract: Build only Workers on site: 140 Pieces of large machinery: 50

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 December 2015 %

2.5 days were lost to wet weather during this time



- Completed piling at Wells Crossing bridge; all piling is now complete on the project
- Work continued to build the highway realignment at Halfway Creek and Wells Crossing for upcoming traffic switches
- Continued controlled blasting at Franklins Road
- Earthwork and installation of drainage continued across the project
- Continued work to build the concrete batch plant facility.





Halfway Creek to Glenugie



Continued work to build the concrete batch plant facility, Bald Knob Road



Piles in place at Halfway Creek bridge



Piling work at Wells Crossing bridge

Woolgoolga to Ballina - projects being built

Project snapshot

Contractors: CPB Contractors (formerly Leightons)

Form of contract: Build only

Workers on site: 46

Pieces of large machinery: 5

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 construction activities during December 2015

No days were lost to wet weather during this time.



- Started placing road pavement between Duck Creek and **Emigrant Creek**
- Continued placing road pavement north of Emigrant Creek
- Started work to install cables for street lights south of Duck Creek
- Completed work to spray the bitumen prime on the pavement south of Duck Creek.





Pimlico to Teven



Spraying bitumen prime on the pavement south of Duck Creek



Placing road pavement north of Emigrant Creek



Road pavement nearing completion between Duck Creek and Emigrant Creek

Pacific Highway upgrade

Achievement report **December 2015**

Ballina to the Queensland border

Tintenbar to Ewingsdale, the final project to complete the Pacific Highway upgrade between Ballina and the Queensland border, is nearing completion, with the twin St Helena tunnels open to traffic.

Ballina to the Queensland border - projects being built

Project snapshot Contractors: Lend Lease Form of contract: Design and build Workers on site: 157 Pieces of large machinery: 120 Start date of major construction: September 2012 **Expected completion date:** Early 2016 (weather permitting) Project value: \$862 million **Australian Government contribution:** \$566.1 million* **NSW State Government contribution:**

\$295.9 million*



*Contribution amounts may vary from year to year

Tintenbar to Ewingsdale

Background

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

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

It will provide 17 kilometres of four lane divided road from the northern end of the Ballina bypass at Ross Lane to the existing Ewingsdale interchange.

Key activities during December 2015

No days were lost to wet weather during this time.



- The majority of the upgrade including the twin St Helena tunnels, were opened to traffic
- Continued installing the noise wall at St Helena
- Progressed finishing work landscaping, safety barriers, headlight screen painting and signage installation
- Continued building of Bangalow noise mound
- Ewingsdale Road interchange progressed and work will continue until early 2016
- Continued permanent line marking of roads
- Completed work to install tunnel portal collars
- Work started to remove and relocate parts of the site compound, laydown and stockpile locations in preparation for finishing the upgrade.



pieces of large machinery on site



Tintenbar to Ewingsdale



Work completed inside the tunnels



View inside one of the twin St Helena tunnels



Opening event for the twin St Helena tunnels

Four-lane divided road status

