

Windsor Bridge replacement project

Community Update

May 2018



Artist's impression of the new Windsor Bridge

Award of contract

After a competitive tender process, Roads and Maritime Services has awarded a contract to Georgiou Group Pty Ltd to construct the replacement bridge over the Hawkesbury River in Windsor. The new bridge will provide a safe and reliable crossing, and improve safety and traffic flow for all road users.

Through the tender process, Roads and Maritime has ensured the successful contractor has demonstrated expertise and experience in environmental planning and management, with particular focus on significant heritage management.

Construction on the bridge is scheduled to begin in September 2018 and is expected to take about two years to complete.

In the coming weeks, you may see some activity on the site. This is due to the site establishment work that will be undertaken by Georgiou, as well as maritime investigations by Cosmos Archaeology.

During this time we will continue to keep the community updated about any potential impact to traffic or access.



Artist's impression of Thompson Square looking north onto The Terrace

Project benefits

Roads and Maritime is delivering this project to:

- Improve safety for motorists, pedestrians and cyclists from a new and reliable bridge
- Improve traffic flow and efficiency by installing an extra lane on the bridge, traffic lights at the intersection of Bridge Street and George Street and a new dual-lane roundabout at Freemans Reach Road and Wilberforce Road
- Reduce the road footprint within the Thompson Square heritage precinct
- Unify the open space in Thompson Square and increase the usable area in the square by about 500 square metres with direct access to the river
- Increase flood immunity from a new bridge that can cope with higher levels of flooding and will have the same flood immunity as surrounding approach roads on the northern riverbank
- Give better access for pedestrians and cyclists from a three metre wide shared pedestrian and cycle path that provides safe, efficient connections to Thompson Square and surrounds.

Reunifying Thompson Square

Thompson Square is currently divided by the existing approach road into two distinct parts.

The project will remove the Bridge Street alignment that divides Thompson Square, presenting an opportunity to unify the green space in Thompson Square and re-establish the visual and physical connection between the town and the river. Sympathetic material choices and finishes will also reinforce the heritage value of the site while creating a number of benefits, including:

- increasing open space by about 500 square metres
- continuous green space from the top of Thompson Square to the river, suitable for recreation activities
- improved pedestrian access to and from The Terrace by two sets of stairs on either edge of Thompson Square
- mature and significant trees in the upper area of Thompson Square will be retained and protected during construction.

Heritage interpretation Update

Roads and Maritime would like to thank the community for their feedback and suggestions regarding heritage interpretation of the brick barrel drain. We are continuing to develop the interpretation plan over the coming months in consultation with archaeologists and conservators.

Once the report is finalised, we will publish it on our project webpage and advise the community.

Frequently Asked Questions

Q: Why does Windsor Bridge need to be replaced?

Parts of the existing Windsor Bridge are over 140 years old and are deteriorating due to age and heavy use. The bridge would need extensive and costly repairs if it was to be used and maintained into the future. In addition, the existing bridge does not meet current engineering and road safety standards such as minimum lane widths. The roads and intersections also have safety issues including a lack of safe pedestrian crossing locations and poor vehicle sight distances. The structure has reached the end of its useful life and needs to be replaced.

Q: What is the current condition of the bridge?

The existing bridge has cast iron piers which are almost 140 years old. These piers have been assessed by expert bridge engineers in 2011 and 2012 and found to be suffering from graphitisation. Graphitisation is a process where the cast iron reduces in thickness and becomes more brittle. Some examples of the deterioration are horizontal and vertical cracks in the piers, reduced thickness of non-graphitised cast iron to as thin as 2mm in places.

The deck of the bridge has wide cracks, corroded steel reinforcement at the ends of the deck slab, carbonation of concrete, and spalling. Spalling is a result of steel reinforcement within the concrete corroding and causing pieces concrete close to the surface breaking off or "spalling".

The concrete spalling is regularly monitored and removed by maintenance crews.

Q: Why not rehabilitate and maintain the old bridge?

Due to structural deterioration, the existing bridge would require significant repairs and strengthening to continue to be used for vehicle traffic.

It would require spending many millions of dollars on an asset that is past its design life and cannot meet current design requirements. Such repairs would only be temporary and would need to be repeated. Upgrading the bridge would not provide additional capacity or ease traffic congestion.

Q: What maintenance has been done on the existing bridge?

Roads and Maritime maintains bridges to meet the needs of the structure and the function it serves in the road network.

Roads and Maritime inspects all bridges periodically, with bridges in poor condition inspected more regularly than those in good condition. Inspection results are recorded and a rating given to the overall bridge condition.

When the cost of required rehabilitation work reaches a significant portion of the replacement cost, the future of the bridge is evaluated and a decision is made regarding its replacement.

Inspections and routine maintenance for Windsor Bridge has been carried out in line with established protocols.

Q: Is there further archaeological investigation to be carried out?

Maritime archaeological investigations are due to be carried out in line with the Maritime Archaeological Testing Report and Detailed Salvage Strategy for Maritime Archaeological Excavation for the project.

Roads and Maritime have engaged Cosmos Archaeology to carry out this work. This investigation work is due to begin in the riverbed and on the riverbank in June 2018 and is expected to take about eight weeks to complete. We will provide further information to the community before this work begins.

Q: Why not build a bypass of Windsor?

A number of alternative options were considered, including a bypass, during the development stage of the project. Different bypass options were examined closely, but none met all of the objectives for the project, and a bypass is not supported for a number of reasons:

- A western bypass would add an extra 3km of travel for vehicles traveling to Parramatta and the Sydney CBD
- It would not provide an efficient connection for local traffic into Windsor, which would reduce access to businesses in the town centre and negatively affect the economy of the area
- It would still require the refurbishment of the old bridge once the bypass is built. The refurbished bridge would have a limited lifespan at a high cost and would eventually need to be replaced.
- The bypass would require an embankment across the flood plain. This would act as a dam to flood water and increase the impact to upstream properties
- It would provide poor pedestrian and cyclist connectivity for Windsor town centre
- Large amounts of additional property acquisition would be required
- It would have a much higher cost than the preferred option – up to three times the cost of the preferred option

For these reasons a bypass is not preferred at this time. More information is available in the Windsor Bridge options report (2011) on the project website.

Q: Can the brick barrel drain be left open for viewing?

Roads and Maritime is committed to protecting the heritage item, and we have revised the bridge design to protect and preserve the brick drain in place. We are currently working closely with heritage experts to determine the best way to interpret and document the brick barrel drain for future generations.

The barrel drain is too deep to be able to be left visible in situ and because the bricks have been buried for over 150 years, they have now become more brittle and would suffer rapid deterioration if left exposed.

Contact us

If you have any questions, please contact



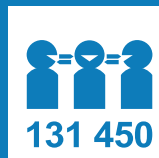
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