Questions and answers
May 2016

Project need and benefits

Q: Why are you building a new bridge?

Roads and Maritime Services is building a new pedestrian and cyclist bridge over the Nepean River to connect Penrith and Emu Plains. The new bridge will provide a safe crossing for pedestrians and cyclists over the Nepean River and improve connections to existing and future shared paths, including the Great River Walk.

Q: What are the benefits of the new bridge?

- Provide a safe pedestrian and cyclist connection between Penrith City Centre and Emu Plains
- Be a destination and create opportunities for people to engage with the river
- Optimise views of the Nepean River and Victoria Bridge
- Respect the historic setting and place of the area
- Minimise impacts on rowers and other river users by providing a large main span over the river
- Provide a crossing that is flood free, comfortable and safe to use.

Options

Q: A clip on shared path on Victoria Bridge would have been much cheaper to construct. Why wasn’t this option chosen?

During the strategic stage and concept development, a clip on shared path on Victoria Bridge on the southern side was investigated. A structural feasibility study was completed in 2010 as part of this process. This study determined the Victoria Bridge would not have sufficient structural capacity to accommodate a clip on structure.

Q: The stand alone bridge directly next to Victoria Bridge would be much cheaper to construct. Why wasn’t this option chosen?

During the strategic stage and concept development, a stand-alone pedestrian and cyclist bridge directly next to Victoria Bridge on the southern side was investigated. The final location of the bridge was pushed further south away from Victoria Bridge to avoid hazards and other local constraints including heritage, utility services, and access to and around property.
Q: Why can’t you widen Victoria Bridge?

The ability to widen Victoria Bridge is limited because of its age and structural integrity. The bridge is listed on the NSW State Heritage Register. Duplication of the bridge directly adjacent to the existing bridge is not feasible due to the location of submarine high pressure gas mains on the southern side of the Victoria Bridge which supplies Blue Mountains residents with gas. Bridge piers cannot be built in this location without relocating the gas main which would incur significant costs.

Q: Why was this location chosen for the bridge?

In mid-2012 a number of community information sessions were held to assess the best location for a new crossing of the river. Six crossing locations were initially identified and further assessed. Each location was ranked against four criteria that were identified during the community consultation workshops including safety, function, cost and community. The location considered the most safe and appropriate, was the location to the south of Victoria Bridge. Five bridge design options were then considered once the preferred location was selected. The preferred bridge design and location was chosen following extensive community consultation, as it best addressed environmental, engineering and community constraints.

Q: Why can’t you build another road bridge with a shared path instead?

Building an additional vehicular crossing would have a greater impact on residential and heritage properties in or around the current location.

Q: A member of the public has another option for the shared bridge that is cheaper? Why wasn’t this option chosen?

An alternative bridge option located immediately south of the existing Victoria Bridge was presented to Roads and Maritime by a member of the public. The option presented would have reduced bridge spans of 60 metres compared to the approved design which has a 200 metre span truss structure. The option presented increased flood risk to properties as a result of the additional piers in the river and would incur significant costs to move the high pressure gas at this location. Based on similar structures that have been constructed, the cost of the alternative option would be comparable to the approved design. The approved design also has a 200 metre span truss structure that minimises impacts to rowers and other river users.

Q: Why isn’t the Government building another bridge to accommodate vehicles as well?

The Nepean River Bridge is a commitment by the NSW Government to provide active transport infrastructure in NSW. The bridge will provide pedestrian and cyclists with a safe crossing of the Nepean River and is hoped to encourage more pedestrian and cyclist activity between Emu Plains and Penrith. The bridge will connect with existing and new shared paths within the Penrith LGA. The widening of Victoria Bridge for additional vehicle lanes is constrained by a number of factors including:

- The heritage status of Victoria Bridge
- The location of a submarine high pressure gas main between Penrith and Emu Plains directly to the south of the Victoria Bridge. This high pressure gas main supplies Blue Mountains residents with gas, and bridge piers cannot be built in this location
- Road alignment on the Emu Plains side of Victoria Bridge which includes a tight left hand curve
- Existing properties which would have to be acquired
- Utilities.

The construction of an additional crossing was not in the scope of this project.
Q: What is the background of this project?

Community members campaigned for a safer crossing over the Nepean River for pedestrians and cyclists as the current path on Victoria Bridge has no barrier between the narrow shared path and road traffic.

In November 2010 Roads and Maritime completed a structural feasibility study of Victoria Bridge to determine if attaching a pathway to the southern side of the bridge was feasible. During the strategic stage and concept development, a clip on shared path or stand-alone pedestrian and cyclist bridge directly next to Victoria Bridge on the southern side were investigated. A structural feasibility study was completed in 2010 as part of this process. This study determined that the Victoria Bridge would not have sufficient structural capacity to accommodate a clip on shared path structure. With regards to a stand-alone bridge, the final location of the bridge was pushed further south away from Victoria Bridge to avoid hazards and other local constraints. These included heritage, utility services and access to and around property.

Planning for a separate pedestrian and cyclist bridge started in May 2012 when Transport for NSW commissioned a study to identify the most suitable location. In mid-2012 a number of community consultation sessions were held to assess the best location for a new crossing of the river. Six crossing locations were initially identified and further assessed. Each location was ranked against four criteria that were identified during the community consultation workshops including safety, function, cost and community. The location considered the most safe and appropriate is south of Victoria Bridge. Five bridge design options were considered once the preferred location was selected.

The preferred bridge design and location was chosen following extensive community consultation, as it best addressed environmental, engineering and community constraints.

Funding

Q: What is the cost of the project?

The estimated cost of the project is $49 million.

Q: Why has the cost increased?

The estimated cost of the bridge design was originally prepared in 2012 at strategic stage and was based on a preliminary concept design. As the design was developed the complexity of the project became better understood. The key factors that contributed significantly to a higher than previous cost estimate were the complex nature of the long span structure and associated construction methodology, as well as the relocation of high voltage electrical lines crossing the river.

Q: Why did government announce a lower funding value of $24M?

The estimated cost of the bridge design was originally prepared in 2012 at strategic stage and was based on a preliminary concept design. At this stage of the project there were a number of factors that were not fully determined or known, including the relocation of the electricity assets. The government announced the lower funding value based on the strategic cost estimate.
**Design**

**Q: What are the key features?**

- The main span of the bridge is a large triangular steel truss providing a slender and unique design
- Three canopies will be incorporated along the bridge to provide shade for people including at the terrace, mid-span balcony and towards the eastern abutment
- There is only one pier within the river to minimise impact on the rowing community and other river users
- The ochre colour for the structure is influenced by the surrounding natural and built environment.

**Q: Why was the bridge changed from a curved to straight truss?**

The straight bridge option is a more efficient structural design and simplifies the fabrication and construction methodology. This change in design reduces risk, provides a reduction in costs and has environment benefits as around 20% less steel is required. The straight bridge will still provide a large span, generous width and a cathedral like walking experience due to the gently curved vertical alignment. The straight bridge is very unique and will provide an attractive landmark for the Penrith area.

**Q: How did the final bridge design come about?**

Extensive work has been carried out to determine the best location and design for a new shared pedestrian and cyclist bridge across the Nepean River. Factors which have been taken into account include flooding, community use of the river, utilities location, future traffic demands and cost efficiencies. A large bridge span minimises impacts on flood levels and the rowing course. Roads and Maritime is finalising the tender process and major work is expected to start later this year.

**Q: Why was this design selected?**

Following public consultation the final design was recommended by the Government Architect’s Office based on meeting the project objectives. The bridge is expected to be a landmark that represents the unique qualities of the local environment and the history of the area.

The colour of the bridge reflects the sandstone piers of Victoria Bridge. The location is representative of previous river crossings.

The bridge design requires a wide clear span across the river to minimise impacts on flood levels and the rowing course on the Nepean River. This requirement is difficult to meet with other design options.
Q: What were the project’s objectives?

| Visual Appeal                                      | • Provide an iconic bridge over the Nepean River which is dedicated to pedestrians and cyclists |
|                                                   | • Create a regionally significant structure that distinguishes Penrith from other places |
|                                                   | • Optimise views of the Nepean Valley and Victoria Bridge. |
| Provide opportunity for engaging with the river   | • Connect the river to the Penrith City Centre and the suburbs of Penrith and Emu Plains |
|                                                   | • Create opportunities for people to engage with the river |
|                                                   | • Be a destination. |
| Fit with the surrounding area                     | • Be sensitive to adjacent residents’ privacy, and consider noise and lighting impacts |
|                                                   | • Include creative lighting as an integral part of the design |
|                                                   | • Respect the historic setting and place |
|                                                   | • Connect to existing and proposed shared path to complete Penrith Council’s Great River Walk. |
| Fit for purpose                                    | • Provide a shared-use crossing that is flood proof, comfortable and safe to use |
|                                                   | • Be cost effective and fit within the NSW Government’s funding commitment. |
| Constructability and maintenance                  | • Be practical to construct without significant risks to safety, timing and cost outcomes |
|                                                   | • Have minimal maintenance requirements and be easy to inspect. |

Q: What is the height clearance under the bridge?

The clearance under the bridge is a minimum of 13.5 metres above normal water levels of the Nepean River.

Q: What is the total height of the bridge?

The total height of the bridge is a minimum 27 metres above normal water levels of the Nepean River.

Q: Will the bridge be lit at night?

The bridge lighting will be designed during the detailed design phase which is currently underway. The lighting has been designed to reduce impact on the local residents but provide for safe crossing at night.

Q: What is the width of the shared path?

The shared path is 4.6 metres wide on the bridge and varies in width from 2.5 metres to 4.6 metres along the approaches.

Fast facts

- Main span length – 200 metres
- Overall bridge deck length – 257 metres
- Overall length of shared path – 455 metres
- Truss width – 8 metres
- Truss height – 13.5 metres
- Number of support structures – two abutments and two piers
- Steel tonnage of truss – 485 tonnes
- Steel tonnage of deck – 155 tonnes.
CONSTRUCTION

Q: When will construction occur?

Bridge construction work is expected to start in mid-late 2016 and take about two years, weather permitting.

Q: What are the upcoming project milestones?

- Finalise detailed design and award construction tender (mid 2016)
- Start construction (mid-late 2016)
- Open to pedestrians and cyclists (mid-2018)

Q: How will construction noise be handled?

Roads and Maritime Services will require construction contractors to use noise management measures as required by Roads and Maritime *Environmental Noise Management Manual* and Office of Environment and Heritage Noise standards and guidelines. Noisy construction activities near sensitive locations such as residential properties will be planned to minimise impact. In addition, local residents will be given notice in advance of any night work.

Q: Will there be night work?

The majority of the work is planned to be carried out during day time working hours. The construction contractor will be required to comply with a Noise and Vibration Management Plan which will contain detailed noise mitigation measures. Where night work is required there will be restrictions on delivery times and staging construction activities to complete the noisiest work earlier in the evening. Local residents will be given notice in advance of any night work.

Q: Will the community still be able to use the river during construction?

We have chosen a construction methodology that is cost effective, safe and minimises disruption to river users and the local community. The bridge will be assembled on site on the eastern side of the river and will be progressively moved across to the western side. Temporary piers will be installed while the bridge is being moved to its final position.

Community involvement

Q: When did community consultation take place?

Roads and Maritime sought feedback on three possible bridge designs in September 2012. In response to community feedback the NSW Government revisited the designs and decided on a truss bridge. Feedback was first invited from the community in 2012 when bridge design options were displayed for comment, and again in May 2013 when the preferred bridge design option was displayed for comment. The final consultation period was carried out in September 2014 with the display of the concept design and Review of Environmental Factors. The preferred bridge design and location was chosen following extensive community consultation, as it best addressed community issues.
Q: How has the community been kept informed?

Roads and Maritime has kept the community informed about the project via a number of different methods including project update newsletters, newspaper advertisements, letterbox drops, emails to registered stakeholders, website updates, community information sessions, focus group meetings, shopping centre displays and door knocking.

Q: What were the main issues raised during consultation?

The Review of Environmental Factors (REF) was displayed between 22 September and 17 October 2014. 49 submissions were received including 45 from the community and four from local and state government agencies. 20 supported the proposal, 11 objected and 18 did not offer a position on the proposal.

The key issues included:

- Visual impact of the bridge, specifically colour and design
- The location of the approaches and viewing platforms
- The safety design aspects of the bridge
- Property and privacy impacts
- Cost of the project
- Project justification

The main issues raised by Penrith City Council included:

- Visual impact of utility relocations
- Environmental mitigation measures
- Bridge design to reflect the history of the locality, incorporate public art and objectives from the ‘Our River’ Nepean River Masterplan
- Vegetation management
- Retention of local access during construction
- Incorporating sustainability principles and elements in the design.

Q: How can I find out more information?

Phone: 1800 733 084
Email: nepeanbridge@rms.nsw.gov.au
PLANNING

Q: How does this fit in with the Long Term Transport Master Plan for NSW?

The Nepean River Bridge has been identified by Transport for NSW as an opportunity to connect Emu Plains with the Penrith CBD for cyclists and pedestrians. The Nepean River Bridge is part of the cycling program managed by Transport for NSW and is a commitment towards meeting NSW 2021 targets for healthier, safer connected communities.

Q: Does Council have any plans to incorporate this bridge with any future plans for the area?

Penrith City Council has prepared the ‘Our River’ Nepean River Masterplan. This includes the proposed Nepean River Bridge.