



Transport
Roads & Traffic
Authority



Windsor Bridge over the Hawkesbury River

Government options review workshop report

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Roads and Traffic Authority of NSW

Government Options Review Workshop Report

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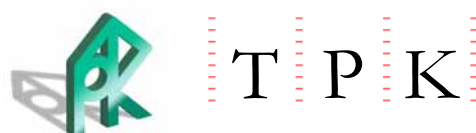
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EXECUTIVE SUMMARY

Background

Windsor Road Bridge is deteriorating due to age and heavy usage. The need for a new bridge over the Hawkesbury River at Windsor has been evident for some time.

At a strategic level the RTA has investigated many options to provide a new bridge. Approximately nine options have been developed to the point where sensible assessment of their relative merits can take place. The purpose of the options review session was to involve a broad spectrum of stakeholders and others with interest in the project, in evaluating these options with a view to reducing the number to a short list of two or three. The shortlisted options would then be developed further for stakeholder and community feedback.

The workshop provided an opportunity to assess the benefits and impacts of the various options that are being considered. This session was seen as being a critical input to the decision making process in arriving at the solution that will ultimately be implemented.

During the workshop, effective communication between stakeholders was critical to ensuring that the short listed options chosen satisfied broad community expectations and met functional requirements. Since the various stakeholders perceive the project in terms of their own situation and prerogatives, it was to be expected that differing views and objectives would be put forward; in fact, facilitating this conversation was one of the main purposes of the session.

To gain maximum benefit from the review workshop, the participants were encouraged to be curious and open-minded and to listen to and consider alternative views in arriving at the preferred options. Open honest communication was crucial to the process of arriving at a short list of options that was supported by all those in attendance.

Options identification and assessment

Nine potential options to upgrade or replace the existing bridge were identified. This included 8 options to replace the bridge and one to upgrade the existing bridge as follows:

- Option 1 – a replacement high level bridge around 35 metres downstream of the existing bridge as an extension of Old Bridge Street (originally Bridge Street). It would provide sufficient clearance for services vehicles and buses along The Terrace.
- Option 2 – a replacement low level bridge around 35 metres downstream of the existing bridge as an extension of Old Bridge Street. It would provide a clearance of around 3.5 metres for light vehicles only along The Terrace.
- Option 3 – a replacement bridge around 10 metres upstream of the existing bridge. It would primarily use the existing Bridge Street road alignment.
- Option 4 – a replacement bridge that is an extension of Baker Street, Windsor. The bridge would connect within Macquarie Park on the northern bank.

- Option 5 – a replacement bridge that is an extension of Kable Street, Windsor. The bridge would connect within Macquarie Park on the northern bank.
- Option 6 – a replacement bridge beginning with a new T-intersection on Windsor Road, creating a new road crossing over South Creek. The road then heads north parallel to Palmer Street, leading to the bridge over the Hawkesbury River.
- Option 7 – a replacement bridge running down the existing Court/North Street in Windsor, before turning north along Palmer Street to the bridge over the Hawkesbury River.
- Option 8 – a replacement bridge through Pitt Town and connecting to Wilberforce, removing a crossing at Windsor.
- Option 9 – retaining and refurbishing the existing bridge. Two potential methods were identified to carry out the refurbishment works.

The wide range of interests covered by bringing together such a disparate group of decision makers ensured that all pertinent issues were considered in deciding the options that should be taken forward for more in depth investigation and assessment.

In addition, ongoing benefits in terms of improved communications and greater stakeholder cooperation can be expected as a result of the workshop. The full list of participants is included in Appendix I.

The Options Review Workshop was held on Friday, 18 September 2009, at Courtyard Marriott, 18-40 Anderson Street, Parramatta. The session was facilitated by Declan Tierney, of Tierney Page Kirkland with technical support and assistance provided by Natasha Munasinghe

The workshop was used to discover and explore the issues pertinent to the selection of the most appropriate short list of options bearing in mind the need to balance project objectives, heritage issues, environmental considerations, functionality of the bridge, traffic / road network needs as well as community / Council aspirations. It enabled assumptions to be tested and it provided an opportunity for participants to float proposals aimed at improving the option ultimately implemented.

The workshop established a robust and transparent decision making framework to enable participants to assess the merits of the available design options. It allowed stakeholders to step back from day to day activities and to objectively assess and determine the directions that will lead to project success.

Key outcomes from the workshop

With the benefit of the insights that emerged from the in depth discussions which occurred during the workshop process, the participants summarised the outcomes that resulted as follows.

- The group unanimously recommended that Options 3, 4, 5, 7, 8 and 9 not be considered further.
- It was agreed that Options 1 and 2 will be further investigated to develop an option that provides a solution to best address the issues in relation to Thompson Square.
- It was recommended that for Options 1 and 2, the improvement of pedestrian access at the intersection of George and Bridge Sts would be investigated to facilitate safe access across Bridge Street in both directions
- It was recommended that Option 6 be further developed due to its superior heritage outcomes and the potential it offers for future road network upgrading without bringing increased traffic volumes through the town centre. It was also agreed that the Option 6 design would be further developed to reduce costs and to optimise the intersection design.
- It was recommended that this project be progressed as speedily as possible.
- It was recommended that a detailed / 3D depiction of the favoured options be prepared for public presentation.
- It was confirmed that consultation with the Aboriginal community would be ongoing.
- It was recognised that sufficient work must be undertaken to close out heritage issues associated with Option 9, recognising that it was initially the Heritage Council's preferred option.

Following assessment and debate among team members, a number of assumptions were deemed to be "facts" - these may be found in Section 2.2.1.

The report

The information contained in this report has been distilled from the pre-study briefings and the data generated during the workshop session. The report seeks to provide an overview of the project and to outline the workshop methodology. It summarises the information shared at the workshop and describes the process undertaken to develop the outcomes and recommendations that emerged and it provides a record of these recommendations.

It is hoped that this document will provide assistance in determining the final project direction, specification and scope and will be a useful management and control tool as the design / project evolves.

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1 Information phase

1.1 Welcome and set the scene

RTA Sydney Asset Manager welcomed participants to the workshop and thanked everyone for making the necessary time available. He explained that having a group such as this together created a real opportunity to finally get the project moving. He encouraged the group to engage with the workshop process and to express views openly and honestly.

1.2 Project overview

RTA Senior Project Manager for the project discussed some of the major issues that have made the implementation of this project such a challenging project.

Following his presentation, the participants were asked to outline the key points raised by the Senior Project Manager. These are shown below:

- Six objectives have been established which the project must meet;
- The key objective of the project is to achieve a crossing of the river;
- The objective of today is to develop an agreed shortlist of options to take forward;
- The existing bridge is in poor condition;
- Some of the options are aimed at minimising the heritage impact;
- The community has identified other options which have not been considered thus far;
- The original plan was to complete the crossing by 2010, however it is recognised that this is not achievable;
- Temporary works may need to be undertaken in the interim depending on the outcome of the asset assessment process; and
- It is possible that further studies could be required to assist with reducing the list of options

1.3 Design options overview

RTA Senior Road Designer for the project continued proceedings by giving a brief outline of the design options that have been developed.

The team summarised the key points raised, as follows:

- The presentation was focused on the engineering issues;
- Every option has impacts;
- Options through to 1-5 and 9 are low level;
- Options 6, 7 and 8 – were developed to achieve a better outcome for the river;

- Out of town options have the least impact on Windsor but a greater impact with regard to land acquisition;
- With Options 1 and 2, the existing structure would be likely to be demolished;
- There were 2 options to retain the existing bridge – the deck upgrade option would give a 25 year life extension; the more comprehensive refurbishment would result in the bridge being functional for a period greater than 25 years;
- Options 3 to 8 could retain the existing structure;
- Option 9 – makes no provision for changes to existing road network;
- Options 6 offers flood evacuation opportunities whereas Option 7 does not, even though both are in similar locations; and
- Options 1 to 8 accommodate a single lane in each direction, a pedestrian / bicycle way and a 1.9 m wide shoulder.

1.4 Community feedback

RTA Infrastructure Communications manager for Sydney Region outlined the community involvement process that has been used to keep members of the public informed about the project and the directions that are being considered.

The group was asked to summarise the essence of what has been shared. The results are shown below:

- The clear message coming from the community is to minimise impact with the heritage parts of the town’;
- Improvements in traffic conditions was a desired outcome from the 136 submissions;
- It would appear that the community has a preference for Option 1;
- The community was not asked to vote on the options;
- The information from community responses would not be statistically valid, however, it provides a reasonable indication of what the people feel;
- Options 4-5 – were not well received or supported because they dissect the town;
- The community expressed support for a bypass but want local connections to be maintained;
- The potential negative impact on the business / shopping centre was a concern expressed by some respondents;
- Only 1% of people invited to respond actually did, and of those approximately 50% were local residents; and
- Summarising, local people are primarily concerned with heritage, transport / traffic and local connections.

1.5 Potential environmental impact overview

RTA Environmental Officer presented the group and overview of the project from an environmental and heritage perspective. The group identified the following as the key points mentioned:

- Regardless of options chosen aboriginal artefacts are likely to be discovered;
- Existing roadway alignment which was created in 1934 impacts the heritage value of the area;
- In addition to the listed items there are others with archaeological potential;
- Thompson Square and surroundings buildings are very significant heritage items;
- Début's Observatory is a very significant heritage item; as is the Windsor Courthouse, and the North Street precinct;
- There is a lot of open space and recreational areas in the central part of Windsor and this is a key feature which makes the town unique;
- The river is used extensively for recreational activity;
- Thompson Square – is well used outdoor space by local community;
- Thompson Square is last remaining intact town square from Macquarie's five towns;
- The original access to Windsor Bridge was along Old Bridge St;
- From a heritage perspective, the bridge is only listed on the RTA's S170 register and has State significance;
- All options except 8 and 9, have impact on parklands to varying degrees; and
- There are identified aboriginal heritage sites that will affect Options 1, 2 and 8.

1.6 Urban design & contextual analysis overview

Representative from the Architects Office spoke to the group about the urban design and context issues that need to be considered in developing the ultimate option.

The following is the group's interpretation of the information presented:

- The river aspect is particularly important because Windsor was planned and built to address the river, which is unusual;
- Option 1 is elevated above the existing terrain and will require noise treatment for residents in Old Bridge Street;
- Option 1 would have a very significant intrusive impact;
- Options 1 and 2 allow for the enhancement of Thompson Square by filling in the cutting;
- Options 1 and 2 would allow traffic along the river foreshore but only Option 1 would provide sufficient clearance to accommodate coaches;

- Options 1 to 5 and 7, would have a significant urban design impact;
- Option 3 would be intrusive to Thompson Square and a have high impact with regard to heritage;
- Options 4 and 5 would dissect the town and destroy the village character;
- Options 4 and 5 would have a significant impact on properties adjoining the street;
- Option 6 has merits and is an option that deserves consideration from an urban design perspective;
- Option 6, the impacts on Tebutt's House could be addressed;
- Option 6 would have some impact on vegetation along South Creek
- Option 7 introduces a new impact into Court and North Sts; and
- Option 9 was not addressed as part of the architectural analysis.

1.7 Traffic modelling & economic analysis

RTA Transport Analysis Manager presented the outcomes of the economic modelling of traffic impacts associated with the various options. The group identified the following as the key points mentioned:

- The net present values presented consider only travel costs;
- There is no 'do nothing' option – something will have to be done to address the issues associated with Windsor Bridge;
- 50% – 60% of traffic in peak periods is through-traffic;
- 6%-7% of the overall traffic is made up of heavy vehicles;
- The existing travel patterns are heavily shaped by the location of existing bridge;
- Options 9a and 9b would require the bridge to be closed for 3 and 12 months respectively;
- The net present value of Option 6 could be improved by a better layout;
- The roundabout produces benefits with regard to travels costs; but these may only be short term; and
- Traffic modelling is based on existing traffic conditions.

2 Analysis phase

The analysis phase of the process was used to gain an understanding of the underlying issues and constraints affecting possible solutions. It enabled participants to clarify objectives and to express concerns regarding options and design solutions under consideration.

2.1 Workshop objectives

At the outset of any workshop it is important that all participants reach consensus regarding the purpose of the session and the desired outcomes. Preliminary objectives were circulated prior to the workshop and were presented to the group for endorsement.

The objectives adopted for the options review workshop were as follows:

- To confirm the overall objectives underpinning the project;
- To update participants on current status of the project;
- To introduce the available options;
- To test stakeholders' assumptions;
- To identify issues and concerns;
- To assess the relative merits of the options presented;
- To identify the benefits that would flow from implementing any of the available feasible options
- To generate ideas as to how the most promising options could be improved;
- To develop a set of recommendations / agreements; and
- To generate an action plan to ensure that project milestones are achieved and that workshop outcomes are implemented.

2.2 General assumptions

Inherent in every situation are assumptions that are made in the course of developing proposals or selecting options. The workshop participants were asked to consider the documents and other information that had been distributed prior to and during the workshop and to brainstorm the assumptions they held about the goals, objectives and possible options with regard to Windsor Bridge.

Each item was then assessed in light of current knowledge and functional requirements and was categorised as being a Fact, Working Assumption, Questionable or Incorrect, as shown below.

2.2.1 Facts

- Some utility adjustments will be required;
- New bridge options will be designed for a 100 year life;
- There will be one road crossing of the Hawkesbury at Windsor;
- Heritage Council will favour the option with the least heritage impact;
- Through and bridge traffic volumes will gradually increase over time;
- The option chosen will improve safety for traffic and pedestrians;
- There is a limited budget;
- Option 8 is not favoured by this group;
- The socio-economic effects regarding the various options have not been assessed;
- The tourism flow to Windsor needs to be maintained;
- The community will want to have a say;
- Which ever option is chosen, there will be members of the community that will be unhappy
- Options 3, 4 and 5 – are not be acceptable as viable options as far as this group is concerned
- This group will be remembered for what it recommends in relation to this project;
- Option 8 could not be delivered within the existing allocated budget;
- The existing total budget is \$25m as per Minister's 2008 announcement;
- Option 6 could be improved to reduce costs and to make it a better fit with the landscape;
- A single span bridge provides a superior hydraulic outcome;
- The community wishes to maintain a connection across the river in the vicinity of the existing bridge;
- There would be costs associated with retaining the existing bridge as a pedestrian way;
- Council would not be willing to take ownership of the existing bridge as a pedestrian facility;
- Options suggested by the community need to be assessed; and
- This project has nothing to do with flood relief – it is not a flood evacuation project.

2.2.2 Working Assumptions

- Scope change is possible if it can be justified with regard to benefits;
- The out of Windsor options could have a positive impact on the township due to reduced through traffic but there could be negative socio-economic effects;
- The existing bridge can be demolished if required;

- A single span structure would result in a deck thickness of approximately 4 metres;
- Pier spacing of the new bridges will be 16m as opposed to 13m of the existing bridge;
- If we chose an option outside central Windsor, pedestrian connectivity would need to be maintained;
- Existing land use patterns will be retained; and
- Community may change its mind when more developed plans are available.

2.2.3 Questionable

- It is possible to design a bridge that in 50 years could be listed as a heritage item;
- An option which has an irrevocable impact on heritage and amenity, will not enjoy broad community / political support;

2.2.4 Incorrect

- No assumptions listed that were deemed to be incorrect.

2.3 Project objectives

In this segment of the process, the group discussed the broad and specific objectives that a new river crossing at Windsor must address.

First, the group was asked to define the overall objective that must be achieved through the expenditure of a sum in the vicinity of \$25 million:

2.3.1 Broad objective

- To provide a safe and reliable crossing of the river at Windsor.

2.3.2 Specific objectives

Next, the participants defined the specific objectives that would have to be achieved in order to meet this broad objective in an acceptable manner:

- To improve safety for motorists, pedestrians and cyclists.
- To minimise impacts on heritage and character of the local area.
- To improve traffic and transport efficiency.
- To improve flood immunity.
- To meet community needs for the long term.
- To deliver a cost effective and affordable outcome.

2.4 Issues and concerns

The group was asked to consider any issues or concerns that they held regarding the project. The purpose of this was to unearth any items had not been articulated earlier in the workshop. The points mentioned were:

- The ability of meet the timeline;
- Encountering as yet unknown utilities;
- The duration of the process to get a solution implemented;
- The existing funding being re-allocated to another project resulting in project cancellation or delay;
- The delays in project commencement may require the RTA to undertake repairs to the existing bridge;
- The potential requirement to enforce a load limit;
- The discovery of unknown or unidentified heritage items;
- The time taken to achieve approvals may impact the program;
- The ability to achieve a good heritage outcome;
- The project could be “hijacked” by the influence of some small but vocal interest group.

3 Option evaluation

During this stage of the workshop, the participants were asked to consider the various project options in the light of the information that had emerged to date and to identify the positive and negative aspects associated with those that had not already been eliminated.

Table 3.1 is a summary of the options that were assessed and evaluated by the group.

Table 3.1: Workshop considerations – initial review

Option 1	High level – 35 metre downstream of existing bridge <i>Assessed further by the group</i>
Option 2	Low level - 35 metre downstream of existing bridge <i>Assessed further by the group</i>
Option 3	High level - 10 metre upstream of existing bridge <i>Not favoured by group due to severance of town and a loss of its unique character</i>
Option 4	From Windsor Road, along Macquarie Street and then along Baker Street <i>Not favoured by group due to severance of town and a loss of its unique character</i>
Option 5	From Windsor Road, along Macquarie Street and then along Kable Street <i>Not favoured by group due to severance of town and a loss of its unique character</i>
Option 6	From Windsor Road via new T-intersection north of Pitt Town Road and via new alignment east of Palmer Street <i>Assessed further by the group</i>
Option 7	From Windsor Road along Court and North Streets and then along Palmer Street <i>Assessed further by the group</i>
Option 8	From Windsor Road along Pitt Town Road, Bathurst Street, Punt Road and then on a new greenfield route to cross the Hawkesbury River to meet King Road and then to Wilberforce Road <i>Removed from further consideration due to massive capital cost</i>
Option 9A	Refurbish existing bridge – deck only <i>Assessed further by the group</i>
Option 9B	Refurbish existing bridge – more comprehensively <i>Assessed further by the group</i>

As a result of the initial review by the stakeholder group, options 3, 4, 5 and 8 were not considered further during the workshop.

3.1.1 Detailed review

Options 1, 2, 6, 7, 9A and 9B were considered further by the stakeholder group. The following tables provide a summary of the more detailed review by the stakeholder group.

Table 3.2: Option 1 – downstream high level bridge

<i>Positives</i>	<i>Negatives</i>
<ul style="list-style-type: none"> Follows the historic road corridor. 	<ul style="list-style-type: none"> Heritage impacts at Thompson Square precinct – State significance.
<ul style="list-style-type: none"> Improves flood immunity – 1-in-5 years. 	<ul style="list-style-type: none"> Noise and visual impacts on Old Bridge Street.
<ul style="list-style-type: none"> Allows safer access for tourist buses along the river and to pass under the bridge. 	<ul style="list-style-type: none"> Noise impact and amenity on Thompson Square precinct.
<ul style="list-style-type: none"> Thompson Square Park can be re-shaped. 	<ul style="list-style-type: none"> Likely to disturb archaeological deposits.
<ul style="list-style-type: none"> Improved pedestrian access along the river front. 	<ul style="list-style-type: none"> Impact on existing trees on Thompson Square precinct.
<ul style="list-style-type: none"> Positive transport/economic benefit. 	<ul style="list-style-type: none"> Visual and physical impact on Thompson Square Precinct.
<ul style="list-style-type: none"> Improved access to Macquarie Park. 	<ul style="list-style-type: none"> Requires demolition of existing bridge.
<ul style="list-style-type: none"> Better organisation of usable public space. 	
<ul style="list-style-type: none"> Reduces asset maintenance requirements of existing bridge. 	
<ul style="list-style-type: none"> Improved safety due to roundabout on the north side. 	

The group recommended that option 1 be considered further.

Table 3.3: Option 2 – downstream low level bridge

<i>Positives</i>	<i>Negatives</i>
<ul style="list-style-type: none"> Follows the historic road corridor. 	<ul style="list-style-type: none"> Heritage impacts at Thompson Square precinct – State significance.
<ul style="list-style-type: none"> Improves flood immunity. 	<ul style="list-style-type: none"> Noise and visual impacts on Old Bridge Street.
<ul style="list-style-type: none"> Thompson square park can be re-shaped 	<ul style="list-style-type: none"> Noise impact and amenity on Thompson Square precinct.
<ul style="list-style-type: none"> Improved pedestrian access along the river front. 	<ul style="list-style-type: none"> Likely to disturb archaeological deposits.
<ul style="list-style-type: none"> Positive transport/economic benefit. 	<ul style="list-style-type: none"> Impact on existing trees on Thompson Square precinct.
<ul style="list-style-type: none"> Improved access to Macquarie Park. 	<ul style="list-style-type: none"> Visual and physical impact on Thompson Square Precinct.
<ul style="list-style-type: none"> Better organisation of usable public space. 	<ul style="list-style-type: none"> Requires demolition of existing bridge.
<ul style="list-style-type: none"> Improved safety due to roundabout on the north side. 	<ul style="list-style-type: none"> Buses and service vehicles cannot pass under the bridge.

<i>Positives</i>	<i>Negatives</i>
<ul style="list-style-type: none"> Reduces maintenance costs due to demolition of the existing bridge. 	

The group recommended that option 2 be considered further.

Table 3.4: Option 6 – bridge located at Palmer Street

<i>Positives</i>	<i>Negatives</i>
<ul style="list-style-type: none"> Least heritage impact. 	<ul style="list-style-type: none"> Asset maintenance / upgrade liability for the old bridge.
<ul style="list-style-type: none"> Removes the through traffic from Thompson Square; allows for safe future upgrades. 	<ul style="list-style-type: none"> Creek crossing required for South Creek crossing.
<ul style="list-style-type: none"> No obstruction of the waterway. 	<ul style="list-style-type: none"> Increased impact for residents on Palmer St - noise and amenity.
<ul style="list-style-type: none"> Provides emergency flood egress. 	<ul style="list-style-type: none"> Would impact on known boating club activities.
<ul style="list-style-type: none"> Allows for the retention of the old Windsor bridge 	<ul style="list-style-type: none"> Impact on parts of the Governor Philip Park.
<ul style="list-style-type: none"> Removes heavy vehicles from Windsor town centre. 	<ul style="list-style-type: none"> Significant compulsory acquisition required.
<ul style="list-style-type: none"> Create easier access to boat ramp. 	<ul style="list-style-type: none"> Potential requirement to provide new pedestrian crossing near town centre.
<ul style="list-style-type: none"> Least constrained in terms of future growth. 	

The group recommended that option 6 be considered further.

Table 3.5: Option 7 – bridge located at Court Street/North Street onto Palmer Street

<i>Positives</i>	<i>Negatives</i>
<ul style="list-style-type: none"> Does not require a new bridge over South Creek (compared to Option 6). 	<ul style="list-style-type: none"> Major heritage impacts on Court and North Sts.
<ul style="list-style-type: none"> Removes the through traffic from Thompson Square. 	<ul style="list-style-type: none"> Loss of car parking on Court St.
<ul style="list-style-type: none"> Allows for safe future upgrades. 	<ul style="list-style-type: none"> Introduces an additional set of traffic lights close to Macquarie Street lights.
	<ul style="list-style-type: none"> Greatest residential impact compared to the other options.
	<ul style="list-style-type: none"> Doesn't achieve 1 in 5 yr flood immunity on existing road approaches.
	<ul style="list-style-type: none"> Requires resumption of part of Governor Philip Park.
	<ul style="list-style-type: none"> Would impact on known boating club activities.

The group considered that option 7 would have major heritage impacts and create potential traffic safety issues and recommended that it not be considered further.

Table 3.6: Option 9A – rehabilitation of existing bridge

<i>Positives</i>	<i>Negatives</i>
<ul style="list-style-type: none"> Adaptively re-uses a heritage item for its original and intended purpose 	<ul style="list-style-type: none"> Closure for 3 months will affect social cohesion of the area.
	<ul style="list-style-type: none"> Major economic impact on community.
	<ul style="list-style-type: none"> Would not meet the safety objectives of the project.
	<ul style="list-style-type: none"> The same problem will be faced in 25 years time.
	<ul style="list-style-type: none"> Closure for three months will destroy social cohesion of the area.
	<ul style="list-style-type: none"> Would not achieve 1 in 5 year flood immunity.

The group considered that option 9A would not meet project objectives and recommended that it not be considered further.

Table 3.7: Option 9B – rehabilitation of existing bridge

<i>Positives</i>	<i>Negatives</i>
<ul style="list-style-type: none"> Adaptively re-uses a heritage item for its original and intended purpose 	<ul style="list-style-type: none"> Closure for 12 months would seriously affect social cohesion of the area
	<ul style="list-style-type: none"> Major economic impact on community
	<ul style="list-style-type: none"> The same problem will be faced in 25+ years time
	<ul style="list-style-type: none"> Road cutting leading to the bridge will need to be widened (Thompson Square Park)
	<ul style="list-style-type: none"> Loss of original fabric and design
	<ul style="list-style-type: none"> Would not achieve 1 in 5 year flood immunity.

The group considered that option 9B would not meet project objectives and recommended that it not be considered further.

4 Creative phase

4.1 Idea generation

The next stage of the workshop allowed the participants to apply creativity to the situation as it exists and to float ideas that could possibly resolve any problems with the shortlisted options.

The participants used the understandings that were developed and the information shared and discussed, to generate ideas to add value and to reduce the overall project cost and / or to improve the available design options. These ideas were floated on the basis that they could be considered as part of the evolving design development process.

The participants were encouraged to come up with ideas as to how problematic issues could be resolved or how value could be added to the shortlisted options. They were asked to be as wide-ranging as possible in their thought processes to ensure coverage of broad issues.

The attendees were encouraged to record any idea, regardless of its apparent likelihood of being implementable. In other words, during this phase the objective was to collect as many ideas as possible without subjecting them to any form of screening or judgement. This would occur in the next phase of the workshop, the Judgement Phase.

The ideas generated together with the group's assessment of each follow.

5 Judgement phase

5.1 Judgement of ideas

The ideas for option improvement generated in the Creative Phase were assessed by the group in terms of practicality, viability and cost effectiveness. Each idea was discussed and rated using the following criteria.

- Implement;
- Good Idea - needs further investigation; or
- Not practical;

The ideas generated are grouped under these headings below:

5.1.1 Ideas to implement

“CAN WE...?”

Design a bridge which is aesthetically pleasing.

5.1.2 Ideas to investigate

“CAN WE...?”

Strengthen the bridge structure in Option 6 to enable it to accommodate four lanes in the future.

If the old bridge is to be demolished, can we retain a portion of it as a heritage relic.

Retain a portion of the existing bridge as a viewing platform.

Design the bridge in Option 6, to have the same specification as Options 1 and 2 i.e. a multi-span structure.

5.1.3 Ideas considered impractical

“CAN WE...?”

Build a temporary bridge to facilitate refurbishment of existing bridge.

Build a temporary bridge to facilitate replacement of existing bridge on the same alignment.

Provide two lanes in each direction as part of the proposed bridge replacement.

Relocate the wharf to the other side of the existing bridge – but it remains on the Windsor side.

6 Workshop outcomes

Having completed the VM process, the participants endorsed the following as workshop outcomes.

- The group unanimously recommended that Options 3, 4, 5, 7, 8 and 9 not be considered further.
- It was agreed that Options 1 and 2 will be further investigated to develop an option that provides a solution to best address the issues in relation to Thompson Square.
- It was recommended that for Options 1 and 2, the improvement of pedestrian access at the intersection of George and Bridge Sts would be investigated to facilitate safe access across Bridge Street in both directions
- It was recommended that Option 6 be further developed due to its superior heritage outcomes and the potential it offers for future road network upgrading without bringing increased traffic volumes through the town centre. It was also agreed that the Option 6 design would be further developed to reduce costs and to optimise the intersection design.
- It was recommended that this project be progressed as speedily as possible.
- It was recommended that a detailed / 3D depiction of the favoured options be prepared for public presentation.
- It was confirmed that consultation with the Aboriginal community would be ongoing.
- It was recognised that sufficient work must be undertaken to close out heritage issues associated with Option 9, recognising that it was initially the Heritage Council's preferred option.

Following assessment and debate among team members, a number of assumptions were deemed to be "facts" - these may be found in section 2.2.1.

7 Appendix 1 – List of participants

Table 7.1: List of participants

Organisation	Stakeholder Representative
RTA	Senior Project Manager
	Project Services Manager
	Sydney Asset Manager
	Manager Bridge Assets
	Bridge Designer
	Bridge Maintenance Planner
	Transport Analysis Manager
	Senior Road Designer
	Senior Environmental Officer
	Infrastructure Communication Manager
	Urban Designer
	Manager Environmental Planning & Assessment
	Environmental Officer
Environmental Officer - Heritage	
Hawkesbury City Council	Mayor
	General Manager
Department of Planning, Heritage Branch	Senior Heritage Officer
NSW Maritime	Boating Officer
	Boating Officer
Government Architects Office	Assistant Government Architect

Organisation	Stakeholder Representative
Government Architects Office	Urban Designer
Ngh Environmental	Environmental Consultant
Tierney Page Kirkland	Workshop Facilitator
	Assistant Facilitator
