
**BASIN RESERVE - ASSESSMENT OF ALTERNATIVE OPTIONS
FOR TRANSPORT IMPROVEMENTS**

1. Purpose of report

The purpose of this report is to seek your response to the report “Basin Reserve – Assessment of Alternative Options for Transport Improvements” (the “Basin Alternatives” report).

2. Executive summary

The New Zealand Transport Agency (NZTA) is proposing to fund a road bridge to separate north-south and east-west traffic at the Basin Reserve. The Agency is preparing to lodge a resource consent application for this project with the Environmental Protection Agency in late April. The Wellington City Council has yet to determine whether it will support or oppose the resource consent application.

In December 2012, the Council resolved to take another look at possible alternatives to the ‘Basin Bridge’ proposal. Councillors received a briefing on the subsequent “Basin Alternatives” report on 28 February 2013. Hardcopies of this report were distributed to all Councillors on 1 March 2013. The report was placed on the Council website on the same day and can be found at

<http://wellington.govt.nz/~media/your-council/news/files/BasinReserveAlternatives.pdf>

Mayor Wade-Brown and Transport Portfolio Leader Councillor Foster presented a summary of the findings of the “Basin Alternatives” report to the Board of NZTA on 31 March 2013.

The “Basin Alternatives” report considered options against a wide range of criteria, including:

- *Urban form*
- *Transport*
- *Economic impacts*
- *Strategic fit*
- *Potential to mitigate harmful impacts*

Four options were identified for comparison. They were: “do minimum”; Option A; Option X (Architecture Centre); and Option RR (Richard Reid).

These options were chosen as they represent the range of alternatives on the table.

The options that keep all streets at ground level (Option RR and the “do minimum” option) will not improve transport outcomes. Nor do they meet the city’s future public transport or urban development objectives.

The two ‘grade separated’ options (Option A and Option X) deliver improved transport outcomes. Option X potentially has more urban development impacts than Option A. These may not be possible to mitigate.

Option A is the best overall response to the Basin Reserve’s congestion problems and best meets the city’s future urban development objectives.

If Option A is to be supported, the negative impacts that have been identified may be reduced or offset by mitigation measures. NZTA has identified a range of potential mitigation measures. These have the support of Council officers. Examples include:

- A new plaza entrance to the Basin Reserve;
- A new pedestrian and cycle bridge, separate from the vehicle bridge;
- Landscaping around Memorial Park;
- Improvements to shared walkways/cycle-ways;
- A new grandstand at the Basin Reserve (so that moving vehicles will not be visible from the batsman’s point of view).

Council officers have identified other mitigation measures that could further reduce or offset impacts. Discussions with NZTA and other stakeholders about the inclusion of these additional mitigation options are continuing.

3. Recommendations

Officers recommend that the Strategy and Policy Committee:

1. *Receive the information.*
2. *Note the “Basin Alternatives” report finds that Option A is the best of the four alternatives evaluated.*
3. *Note that previous Council resolutions support separation of north-south/east-west traffic (NB these are outlined in the objectives of the “Ngauranga to Airport Corridor Plan” for this location).*
4. *Agree to support the findings in the “Basin Alternatives” report and instruct officers to work with NZTA to achieve optimum mitigation outcomes for the city for Option A.*
5. *Agree that the findings of the “Basin Alternatives” report and the results of on-going negotiations with NZTA about additional mitigation*

measures form the basis of the Council's submission to the Environmental Protection Agency on this project.

6. *Request officers to commence reviewing the Council's Transport Strategy and associated policy documents with the expectation that public engagement in the review process can begin in the new financial year.*

4. Background

There have been many years of investigations and reports on options to address transport problems around the Basin Reserve. The issues identified and options for resolution of them are outlined, in brief, below.

Reducing congestion

The Basin Reserve plays a critical role in Wellington's city and regional transport network. Not only does it link the city with southern and eastern suburbs, it also links the state highway network with regional facilities such as the airport and hospital.

Currently, about 25,000 vehicles enter the Basin Reserve from Kent Terrace every day. About 20,000 vehicles enter the Basin from the Mount Victoria Tunnel and more than 11,000 vehicles enter from Adelaide Road. Congestion is forecast to worsen as the city's population increases and as economic growth contributes to the greater movement of people and goods.

Congestion causes delays and makes travel times unpredictable, especially at peak times and weekends. This affects people travelling by private car and by bus. It slows movement of freight and it contributes to congestion and delays in other parts of the city. The current road layout also discourages walking and cycling.

There are economic, environmental and social costs as a consequence of having a poorly functioning transport network. These costs have local, national and regional implications.

Supporting Wellington's future development

Any decision about the Basin Reserve will not only affect the transport network; it will also have significant impacts on the Wellington's future development as a 'smart, green' capital city.

Wellington's urban development strategy seeks to concentrate future growth and development in key nodes along a 'growth spine', extending from Johnsonville in the north through the CBD to Adelaide Road/Newtown, Kilbirnie town centre and the airport in the south. This 'growth spine' will be served by a high-quality public transport network.

Any solution to Basin Reserve transport congestion needs to consider potential impacts on the city's ability to deliver on this vision. As long as congestion

problems remain at the Basin Reserve, the development of a high quality public transport spine will be compromised.

The longer a decision on resolving the congestion problem at the Basin Reserve is delayed, the more time will pass before the foundations for the vision outlined in the *Towards 2040: Smart Capital* can be established.

5. The Options

The “Do Minimum” option

Under this option, the current Basin Reserve road layout would be retained. However, other transport network improvements would occur over the next three decades, including: completion of the Memorial Underpass; further development of the bus lane network; introduction of new speed restrictions; increased lanes between the Ngauranga Gorge and the Aotea off-ramp, and; construction of duplicate Mount Victoria and Terrace tunnels.

Under this option, traffic congestion around the Basin Reserve would be likely to worsen over time. As traffic volumes increase, the economic, social and environmental impacts of congestion could also be expected to increase. There would also be no improvement in traffic safety.

This option would not support improvements to public transport links between the city and southern/eastern suburbs. Nor would it support development along the ‘growth spine’ from the city to Adelaide Road/Newtown, Kilbirnie town centre and the airport.

Option RR: additional lanes

This option, developed by Richard Reid and Associates, keeps all roads at ground level but proposes additional lanes around the Basin Reserve, along with changes to traffic signals to improve traffic flow.

This option is generally neutral or slightly negative in its impact on the urban environment. It would not improve traffic congestion around the Basin Reserve. Its impact on traffic volumes and safety, on the public transport network, and on the ‘growth spine’ strategy would be similar to the “do minimum” option.

Option X: a tunnel and bridge

This option, developed by the Wellington Architectural Centre, proposes a tunnel to the north western edge of the Basin Reserve, for east-west traffic. It also proposes to redirect all southbound traffic along the western side of the Basin Reserve and the development of a landscaped park on the eastern side.

This option has potential to reduce congestion and improve journey times. It would also improve north-south and east-west connections within the city, provide opportunities for improved public transport and contribute to potential future development along the ‘growth spine’.

However, similar or greater transport improvements could be achieved at lower cost. This option may have some negative impacts on the local roading network. It also has potentially significant negative impacts on the urban environment, including (among other things) the creation of a complex network of roads, at different levels, north of the Basin Reserve. In addition it will compromise access to the schools east of the Basin and have a negative impact on Memorial Park.

Option A: Basin Bridge

The NZ Transport Agency's option proposes an elevated roadway or bridge along the northern edge of the Basin Reserve for traffic leaving the Mount Victoria tunnel and heading towards Memorial Park/the Northern Motorway. At ground level, the existing street network would largely be retained, with some improvements.

This option has potential to reduce congestion, improve journey times and improve safety for all modes of transport. It would also improve north-south and east-west connections within the city, provide opportunities for improved public transport and contribute to potential future development along the 'growth spine'.

Option A has some negative impacts on the urban environment. These include visual impacts and impacts on neighbouring land – for example, from shading. However, these can mostly be mitigated.

Overall, Option A provides greater benefits and better value for money than Option X.

6. Summary of Assessment

Based upon the summary of assessment table below, it is possible to conclude that:

1. If a pure benefit/cost approach were to be applied in assessing options, the result could be an outcome that satisfies the state highway needs but compromises the local transport network across all modes. Therefore, the multi-criteria approach to assessment used for this report delivers more balanced outcomes to a wider range of stakeholders.
2. The at-grade solutions assessed (including “do minimum”) will not deliver improved transport outcomes. While they have no adverse impact on urban form, they are poorly aligned with strategic priorities. Specifically, they will not support the provision of a high quality public transport spine and will not cater for future urban development along that spine.
3. Grade-separated options provide the most optimal transport outcomes. They reduce traffic congestion, provide for a high quality public transport spine and increase support for active modes.

4. However grade-separated options involve the provision of large scale infrastructure and this does negatively impact on urban form.
5. Option X has a significant negative impact on urban form (Memorial Park in particular) and it may not be possible to deliver adequate mitigation. It provides state highway transport benefits to the detriment of the local roading network when compared with Option A.
6. Option A also has an impact on urban form for which a range of mitigation options may exist. It is also the best in delivering on the multi-modal and strategic outcomes sought by the Council.

Assessments Summary Table

	Do Minimum	Option RR	Option X	Option A
Transport	Maintains Status Quo	Maintains Status Quo	Improvement to part of network	Improvement to network as whole
Strategic Fit	Doesn't deliver long term outcomes	Doesn't deliver long term outcomes	Delivers on most outcomes but gaps exist	Delivers on all outcomes
Urban	No impact	Slightly negative impact	Severe negative impact	Slightly Positive
Mitigation	Not Required	Not Required	Difficult	Possible
Average Ranking	Neutral in short term	Slightly negative	Moderately negative	Positive

7. Mitigation of Effects

Mitigation

In assessing each alternative option, the extent to which the identified adverse (negative) effect could be reduced or offset by mitigation measures, was evaluated.

Ultimately the cost of any mitigation measure becomes a project cost and forms part of any benefit/cost analysis.

On the basis that the nature and extent of adverse effect can be pre agreed, it is common practice for the project proposer and the affected party to negotiate an outcome prior to a more formal statute driven outcome being determined. This approach has benefit in that it allows finely detailed rather than granular solutions to be developed.

NZTA has identified many potential mitigation measures for Option A. These have Council officer support in principle. In addition, the Council has identified other opportunities that could reduce or offset impacts. Both of these sets of mitigations are identified in the tables below.

NZTA and Council are now at the point where mitigation negotiation can begin to focus on necessary detail.

Option A – Effects and Proposed NZTA Mitigation

Location	Potential effect	Mitigation proposed	Any residual effects?
Home of Compassion Crèche	Relocation of crèche is required in order to build the bridge and the tunnel.	The crèche is to be relocated to retain its original orientation and in close proximity to its original site. Landscaping around the crèche and integration with Memorial Park is proposed.	An appropriate use for this building must be secured which may be difficult given its proximity to the State Highway.
Basin Reserve	Potential distraction effects on the batsmen caused by traffic on the bridge.	Proposed to construct a new stand structure within the Basin Reserve that screens the bridge and moving vehicles from batsmen. Structure to provide a positive contribution to the Basin Reserve as a cricket ground in order to preserve the integrity of the ground. As part of this the relocation of the Dempster Gate is required. Effects of this require clarification.	No residual effects on the view of the batsmen. Potential remaining effect on the Dempster Gate.
Basin Reserve	Potential visual / amenity effects of the bridge on north eastern boundary of the bridge detracting from the overall enjoyment of the ground.	Plant additional, large-scale, Pohutukawa trees on the embankments to provide additional screening, in a manner that compliments the ground.	No residual effects.
Basin Reserve Northern Entry	The bridge impacts the entry to the Basin Reserve grounds.	New Plaza entry to Basin Reserve that connects to the median of Kent and Cambridge terraces. New built structure to integrate and complement the bridge design. WCC input into detailed design.	No residual effects.
General	Potential effect of stormwater discharges from road run-off on underground streams and	Rain gardens are proposed to be provided to treat stormwater runoff from the bridge.	No residual effects.

Location	Potential effect	Mitigation proposed	Any residual effects?
	thence the Harbour.		
General	Impact of large scale infrastructure on connectivity for pedestrians and cyclists.	Pedestrian and cycle bridge to be provided to the North of main bridge. Numerous improvements to shared walking and cycle ways.	The proposed pedestrian and cycle bridge contributes to the negative effects at Ellice Street.
General	Visual Impact of flyover.	Architectural features of bridge to ensure simple streamlined design including lighting. There are opportunities to influence the “non structural” elements of the bridge design including surface textures and lighting.	The negative effects of the bridge are reduced by high quality design, but not completely.
Kent Terrace/ Ellice Street corner	Potential urban design, visual, noise and wind effects of the bridge at the Kent Terrace/ Ellice Street corner.	Building proposed to be constructed as part of the project and then to be put to commercial use. Incorporation of buildings into some of the under croft spaces beneath Bridge.	No residual effects.

Option A – Effects and Potential Additional Mitigation

Location	Potential effect	Mitigation proposed	Any residual effects?
Ellice Street	Visual and urban design effects of the bridge and pedestrian / cycle bridge on the streetscape and on amenity of residential properties.	Additional trees have been added to the car parking area of St Josephs Church. Proposals already includes abutments that have been greened (vegetation will grow on them).	Residual visual and urban design effects remain. No additional mitigation proposals are considered to be realistic by NZTA. Options considered including realignment of the pedestrian / cycle bridge, introduction of replacement / retention of residential structure on St Josephs Church. <i>Further investigation is required for this area.</i>

Location	Potential effect	Mitigation proposed	Any residual effects?
Kent / Cambridge Terrace	Provide off-set mitigation of urban design and visual effects of the Bridge on Buckle /Ellice / Patterson Street. Compensate for loss of portion of the Reserve Canal (NB pier footing and part of overhead bridge structure is in Canal Reserve).	Plans for landscape treatment of Canal Reserve, including potential allocation of space to active modes, are to be prepared in partnership with Council for the whole of the Kent/Cambridge Corridor between Buckle and Vivian / Pirie Street that fit with the outcomes of the PTSS and WCC Bus Priority projects. Plans implemented in partnership. WCC responsible for works in Cambridge and NZTA for works in Kent Terrace and the median. Landscape component to be delivered as part of Basin Bridge Project. WCC input will be provided into detailed design.	No residual effects.
Karo Drive	Address long standing visual amenity issue.	Improvements to streetscape are to be implemented by NZTA, WCC to input into detailed design.	No residual effects.
Bus priority on Adelaide Road and Cambridge Terrace	No effect to mitigate. Objective is to lock in the public transport benefits of the Project, in accordance with the N2ACP.	NZTA has accepted funding application by WCC and has agreed a programme for those works. NZTA to confirm whether they can match the funding proposed.	N/A
Vivian Street	No effect to mitigate. Consideration of the long term traffic demand on Vivian Street and hence clarity on whether Buckle Street should become two way and Vivian Street made into a local street.	Commitment to consolidating state highway traffic away from Vivian Street and into single east-west corridor. Consideration as to how consolidating state highway traffic away from Vivian Street can be accommodated. NZTA can confirm that the scope of the Terrace Tunnel Duplication Project will entail consideration of long term future traffic flow demands and how these should be best accommodated. WCC will be involved in this project. This work will provide robust basis for strategic and long term land use and transport planning for the City.	N/A

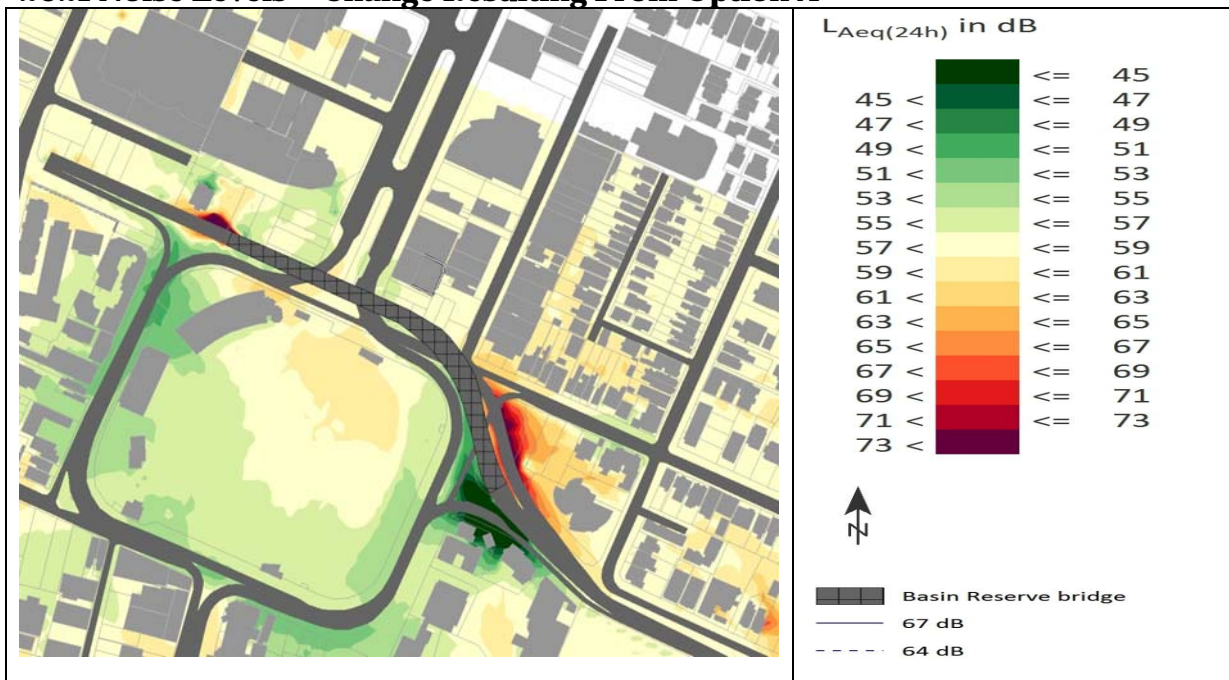
Location	Potential effect	Mitigation proposed	Any residual effects?
Extension of walking and cycling routes	Increased infrastructure for vehicles at the Basin Reserve may affect the wider pedestrian and cycle routes.	Clarification of the strategic routes particularly for cyclists from south coast to city.	N/A

Noise:

Please note that specific measures to mitigate noise during construction will be the subject of consent conditions.

Noise from the ongoing operation of the state highway proposed under Option A has been modelled. This was not included in the “Basin Alternatives” assessment process because commensurate modelling for alternatives was not available. Nevertheless the outcomes of the noise modelling for Option A are illustrated below. This shows that the noise impact for the most part is lessened and therefore no specific mitigation is required.

2021 Noise Levels – Change Resulting From Option A



8. Conclusion

Option A provides the best overall response to the Basin Reserve’s congestion problems and best meets the city’s future urban development objectives.

8.1 Consultation and Engagement

Officers within the policy, urban design, and best practice and transport teams have contributed to the development of this report.

8.2 Financial considerations

No additional funding is sought.

8.3 Climate change impacts and considerations

The report identifies Option A as the best of the options considered for delivering economic benefits from the reduction in volatile organic compounds (VOC) and carbon dioxide (CO₂).

8.4 Long-term plan considerations

The report identifies that Option A best meets the Regional Land Transport Strategy (statutory) outcomes, those of the Wellington City Council “Towards 2040: Smart Capital” and those outlined in the “Urban Development Strategy” (NB these documents are both non-statutory but are given effect to through the Long Term Plan).

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SUPPORTING INFORMATION

1) Strategic fit / Strategic outcome

The paper supports Council's overall vision of Wellington Towards 2040: Smart Capital.

2) LTP/Annual Plan reference and long term financial impact

The financial impact of any joint initiatives between the Wellington City Council and the New Zealand Transport Agency are unlikely to occur in the current financial year.

3) Treaty of Waitangi considerations

The paper does not raise Treaty of Waitangi considerations.

4) Decision-making

This is not a significant decision in terms of the requirements of the LGA.

5) Consultation

a) General consultation

Council is not required under legislation to consult on this matter. However the Greater Wellington Regional Council and the New Zealand Transport Agency have already consulted widely on the strategic intent and options which are the subject of this report.

b) Consultation with Maori

No consultation with Maori has been undertaken.

6) Legal implications

This paper raises no legal issues but does set the platform for a response to a statutory process for consenting.

7) Consistency with existing policy

The paper is consistent with existing policies.