

Basin Reserve preferred approach developed from July 2018 workshops

Concept developed for evaluation as part of the 2018 Recommended Programme of Investment (RPI)

The Basin Reserve is an area of conflict between State Highway 1 east-west movements and local northsouth movements. The LGWM preferred approach for the Basin would respond to a number of design principles including:

- Achieves transport outcomes and addresses conflicting transport movements for all modes
- Is sympathetic to the local geography, character and existing street network
- Enhances amenity values and the use of the Basin.

LGWM has ruled out the previous Basin Bridge proposal which was rejected by the Board of Inquiry in 2014. Initial analysis suggests that there are other less intrusive options to separate conflicting transport movements and improve flows at the Basin. Some of these alternatives were considered at a high level from an urban design, transport and engineering perspective to understand key risks and feasibility. The alternatives investigated are set out below.

At-grade improvements

This alternative would involve a series of at-grade changes including localised widening, the removal or relocation of a limited number of on-street parking bays, the creation of additional traffic lanes, restricting the Ellice Street exit, and giving priority for public transport at traffic signals. The changes would be designed to have minimal land take or other impacts.

Undergrounding of State Highway 1 north of the Basin Reserve

This alternative would involve undergrounding of State Highway 1 (two-way) in a cut-and-cover tunnel between Paterson St and Arras Tunnel, north of the Basin Reserve. North-south local movements would continue to operate at-grade.

A cut-and-cover tunnel along the north side of the Basin Reserve would create risks around the re-routing and pumping of the underground Waitangi Stream which runs below the Basin area, from Adelaide Road to the Canal Reserve (the green strip between Cambridge and Kent terraces). A continuous tunnel from Patterson St to Arras Tunnel would effectively act as a 'dam' against the stream flow path. This option was therefore not considered feasible.

Undergrounding of State Highway 1 south and west of Basin Reserve

This alternative would involve undergrounding of State Highway 1 (two-way) in a cut-and-cover tunnel between Paterson St and Arras Tunnel, under Dufferin, Rugby and Sussex streets to the south and west of the Basin Reserve. It makes use of the elevated grounds on the western side of the Basin, which are around seven metres higher than either Cambridge Tce or Adelaide Rd and can therefore accommodate a tunnel above the level of a relocated Waitangi Stream. This option does however require the regrading of Paterson Street from the entrance of the Mt Victoria Tunnel to bring the State Highway below Dufferin St. North-south local movements would continue to operate at-grade, over the State Highway.

This alternative was not considered feasible due to the excessive steepening of Paterson Street that would be required to connect the undergrounded State Highway to Mt Victoria Tunnel.

Extension of Sussex Street over State Highway 1

Grade-separation of State Highway 1 traffic below local traffic near the Arras Tunnel. This involves:

- Extension of Sussex Street for two-way local traffic (including any public transport) to cross over a lowered State Highway by the north-west corner of the Basin Reserve
- The relocation of westbound State Highway 1 traffic to the north of the Basin Reserve
- The relocation of eastbound State Highway 1 traffic from Vivian Street and Kent Terrace to the Buckle Street alignment and the north of the Basin Reserve (assumes State Highway 1 is undergrounded in both directions through Te Aro).

Pedestrian and cycle movements could either follow the local traffic, over State Highway 1 and along the western side of the Basin Reserve, or cross under State Highway 1, directly connecting the Basin Reserve with Kent and Cambridge Terraces.

The relocation of local southbound movements and westbound state highway movements creates opportunities to traffic-calm the area around the entrances of St Mark's Church School, Wellington College and Government House. Access to the schools would continue to be provided on Dufferin St with an access lane and bus turning loop.

This alternative (see indicative layout overleaf) was adopted by LGWM for evaluation as part of the RPI. Necessarily there is a level of uncertainty of the final layout at this PBC stage. Alternative options will be investigated in detail at the next stage of the business case. This further work will also consider integration with the wider LGWM programme, the ability to accelerate some improvements for early delivery, and a formal decision-making process.

Engagement with the community will be needed to explore and develop a design that achieves transport outcomes, is sympathetic to the local geography, enhances the use of the Basin, and improves amenity around the reserve.

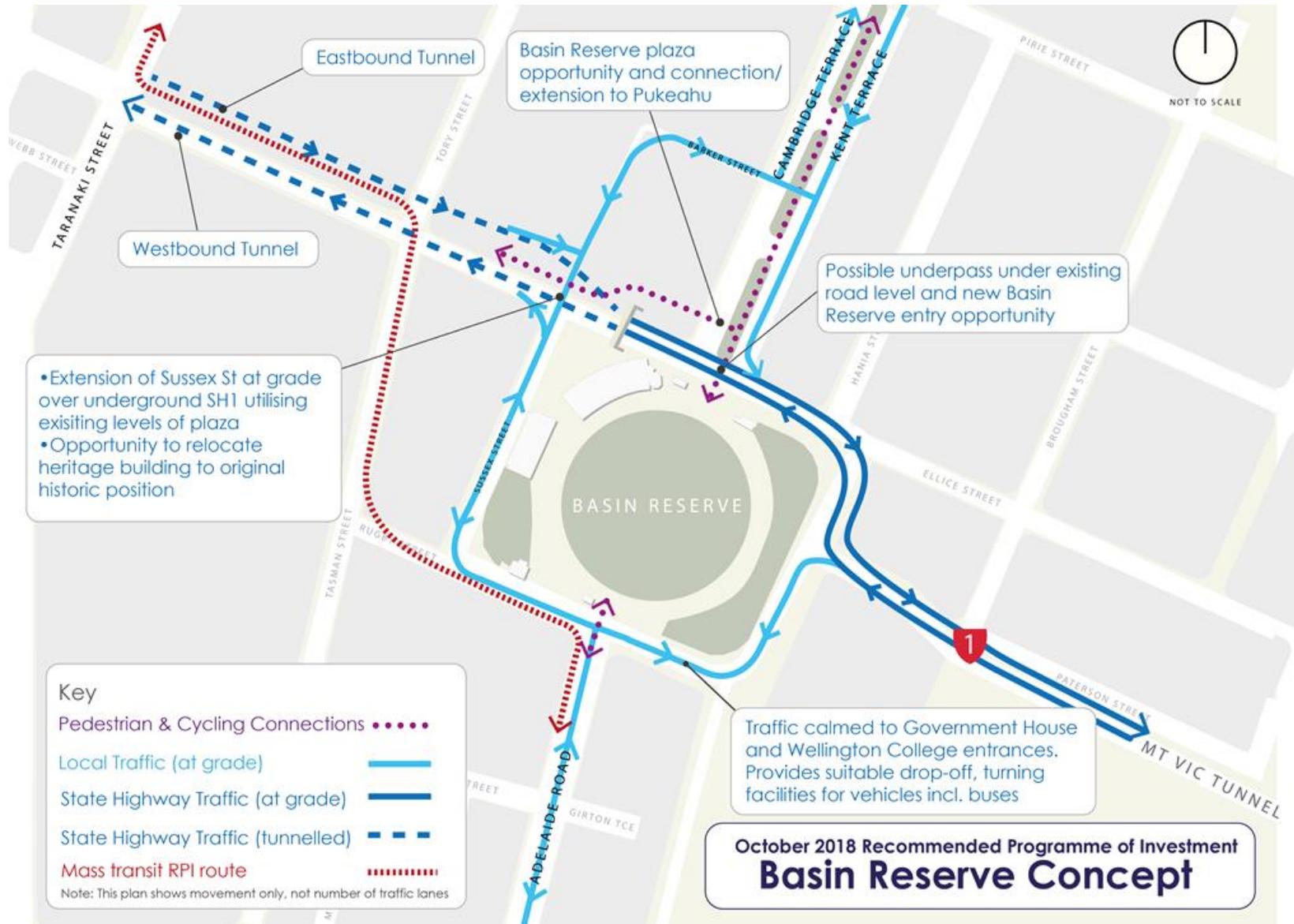
UPDATE: Note on the LGWM Indicative Package – May 2019

On 16 May 2019, the government announced the [LGWM Indicative Package](#). This included the below proposal for the Basin Reserve:

***Unblocking the Basin Reserve** - package of minor at-grade changes to improve reliable access for all modes; Basin Reserve grade separation between north-south movements, east-west movements and any mass transit corridors*

The grade separation proposal required for the Indicative Package will likely differ from the preferred approach included in the RPI because the Indicative Package does not include investments through Te Aro on State Highway 1 (I.E. the Indicative Package assumes eastbound State Highway 1 remains on the Vivian Street alignment and is not relocated into a new eastbound tunnel on the Buckle Street alignment).

In the next stage of the LGWM programme, further work will be needed to ensure proposals for grade separation at the Basin are consistent with other programme elements.



Preferred approach for evaluation included in the 2018 Recommended Programme of Investment