

# George Massey Crossing Project Web Update

## Phase 2: Options Assessment Draft Long-List of Options

20 June 2019

The following draft long-list of options have been developed as a result of Independent Technical Review released in December 2018 and engagement to date on principles, goals and objectives for the George Massey Crossing:

### ***With Existing Tunnel:***

1. New 4-lane bridge; keep existing 4-lane tunnel (all GP lanes)
2. New 4-lane deep bored tunnel; keep existing 4-lane tunnel (all GP lanes)
3. New 4-lane immersed tube tunnel; keep existing 4-lane tunnel (all GP lanes)
  
4. New 6-lane bridge (all GP lanes); keep existing tunnel for transit or local traffic
5. New 6-lane deep bored tunnel (all GP lanes); keep existing tunnel for transit or local traffic
6. New 6-lane immersed tube tunnel (all GP lanes); keep existing tunnel for transit or local traffic

### ***Without Existing Tunnel:***

7. New 6-lane bridge (all GP lanes); with counterflow
8. New 6-lane deep bored tunnel (all GP lanes); with counterflow
9. New 6-lane immersed tube tunnel (all GP lanes); with counterflow
  
10. New 6-lane bridge (all GP lanes); without counterflow
11. New 6-lane deep bored tunnel (all GP lanes); without counterflow
12. New 6-lane immersed tube tunnel (all GP lanes); without counterflow
  
13. New 7-lane crossing; with counterflow (assume all GP but consider a peak direction-only transit lane)
14. New 7-lane deep bored tunnel; with counterflow (assume all GP but consider a peak direction-only transit lane)
15. New 7-lane immersed tube tunnel; with counterflow (assume all GP but consider a peak direction-only transit lane)
  
16. New 8-lane bridge; consider potential dedicated lanes
17. New 8-lane deep bored tunnel; consider potential dedicated lanes
18. New 8-lane immersed tube tunnel; consider potential dedicated lanes

*All options assume cycling and walking access provided and utilities remain in existing tunnel*

## APPENDIX A

### Considerations for Options Development

The following considerations will be applied when assessing the long-list of options to develop a short-list of options for more detailed review:

1. Laning requirements (*as determined by traffic modelling*)
  - Number and purpose of lanes
  - Six to eight lanes; with or without counterflow
2. Assessment of existing tunnel conditions
  - Seismic stability
  - Mechanical, electrical and structural longevity
3. Multi-modal requirements
  - Transit
  - Cycling
  - Pedestrian
4. Structures options analysis (*based on confirmed number of lanes*)
  - Bridge
  - Deep-bored tunnel
  - Immersed tube tunnel
5. Other requirements
  - Implications of future rapid transit
  - Other transit service/infrastructure enhancements or improvements
  - Geographic project limits
  - Weigh scale/CVSE pull-outs
6. Sensitivity analysis
  - Potential future regional road pricing