

2015-2016 Assessment Brief

Recommended rating:	Ready to proceed
Current rating on the Infrastructure Priority List:	Threshold
Initiative Name:	City-Link Tullamarine Widening Project
Geography:	Melbourne, Victoria
Proponent:	Department of Economic Development, Jobs, Transport and Resources
Project description:	
<p>The Victorian Government is proposing to widen and introduce managed motorways on the M2 road corridor from Melbourne Airport through to the M1. This road corridor comprises the Tullamarine Freeway and a part of CityLink.</p> <p>Project objectives include:</p> <ul style="list-style-type: none"> To improve travel time and reliability to Melbourne Airport and the North and North Western industrial, residential and employment precincts; Maximise throughput of people and goods in the relevant corridors; and Improve the resilience of transport connections to Melbourne Airport and the Port of Melbourne. <p>Problems the project seeks to address are:</p> <ul style="list-style-type: none"> Longer and less reliable travel times to Melbourne Airport and the Port of Melbourne; and High crash rates because of congestion. <p>Project solution</p> <p>The proposed solution includes:</p> <ul style="list-style-type: none"> A widening of the Tullamarine Freeway and CityLink (to the M1), by at least one additional lane in each direction; The implementation of a Motorway Management System; and Various other works such as grade separation and ramp metering including priority queue bypass for buses (Sky Bus) on the ramp from the Airport onto the Tullamarine Freeway. <p>The project comprises three segments, Section 1 and Section 2 being delivered by VicRoads and Section 3 being delivered by Transurban. Section 2 and Section 3 would be predominately funded by Transurban as part of a market led proposal to the Victorian Government</p> <p>Section 1 covers the northern section of the Tullamarine Freeway from Melbourne Airport to Melrose Drive. The Victorian Government is contributing \$50 million and is seeking funding of \$200 million to cover an estimated capital cost of \$250.8 million (nominal).</p> <p>Sections 2 and 3 cover the southern portion of the road from Melrose Drive to the M1, with an anticipated cost of \$1,031 million (nominal, P90). These sections would be predominately funded by Transurban through changes to existing tolling arrangements. Contractual close has been reached on these two segments.</p>	
Proponent's capital cost estimate (\$M, real) & base year:	\$1,229 million (2015)
Proponent's capital cost estimate (\$M, nominal):	\$1,282 million (P90)
Contribution sought by Proponent including requests for project development funding (\$M):	\$200 million
Project timing Start/Completion by Proponent	Late 2015 to be completed in early 2018

(month/year):

BCR stated by proponent:

2.44:1

Strategic alignment summary

Alignment with Infrastructure Australia's Strategic Priorities:

The submission aligns with Infrastructure Australia's strategic priorities of "Increase Australia's productivity" and "Improve social equity and quality of life". In addition the Australian Infrastructure Audit identified the Tullamarine Freeway (airport corridor) as the 8th most congested corridor by delay cost in Victoria (2011), in the absence of any additional infrastructure the Audit identifies this corridor will be the 3rd most congested corridor in Victoria by 2031.

Alignment with State Strategic Priorities:

The submission is partly a result of a market led proposal by Transurban. The project was not a stated priority of the Victorian Government in *Plan Melbourne* or the Victorian Freight and Logistics Plan (*Victoria, The Freight State*), however, it does align with previously stated goals of the Victorian Government.

Plan Melbourne, Melbourne's metropolitan planning strategy, identifies transport congestion and accessibility as two of the key challenges that have the potential to undermine 'city's liveability and competitiveness over the coming decades'. In order to combat these challenges *Plan Melbourne* identified a range of strategic goals including:

- improving efficiency and connectivity of the Freeway network; and
- improving capacity and connectivity to Melbourne's ports and airports.

The submission is aligned with both of these goals.

The widening of CityLink and the Tullamarine Freeway is a stated priority of the current Victorian Government, as set out in *Project 10,000*.

Problem assessment summary

The submission identifies the problems as excessive congestion on the M2 corridor (covering the Tullamarine Freeway and a part of CityLink), longer and less reliable travel times to Melbourne Airport and the Port of Melbourne, vehicle accidents and associated delays because of congestion on the M2 corridor.

There is evidence of a deterioration of travel speeds and delays on specific parts of the Tullamarine Freeway, which covers the northern section of the M2 corridor. Between the Calder Freeway and Melbourne Airport, travel speeds have declined from around 90 kilometres per hour to 70 kilometres per hour from 2003/04 to 2012/13. This implies an increase in travel time of about 2 minutes for this part of the road link.

The congestion on the Calder Freeway to Melbourne Airport segment (which is about 8 kilometres) is currently constrained to a period of about 1.5 hours in the morning peak and 1.5 hours in the afternoon peak, particularly focused on the section from the Calder Freeway to Mickleham Road. The submission indicates that travel speeds will deteriorate in peak periods for this section by 2031 in the absence of the project.

For the section of the road operated by Transurban (CityLink), average AM peak travel times are double those in off-peak periods and can be as high as triple off-peak times on some days.

The root causes of the problems identified in the submission are the strong growth in passenger and freight movements to and from Melbourne Airport and the rapid development of areas that are

catchments for the Tullamarine Freeway and CityLink. Over the past decade Melbourne Airport passenger throughput has grown by 5.4% per year. From 2002-2012, population in relevant local government areas grew by 28%. The high demand growth is anticipated to continue.

The impacts of demand growth on travel times are modelled by the proponent to be relatively severe. On average, travel times deteriorate by 20 to 25% along the CityLink-Tullamarine Freeway from 2011 to 2031. For the Tullamarine Freeway component, travel times deteriorate in the order of 45% over this period. These changes are before considering any impacts from traffic induced as a result of projects addressing East-West traffic movements, which would likely further increase demand for CityLink and the Tullamarine Freeway.

The submission also shows how undertaking only the works that are part of the market led proposal from Transurban (i.e. excluding Section 1), would lead to a bottleneck on the Tullamarine Freeway closer to Melbourne Airport, which would substantially reduce the benefits of the overall project.

The problems are considered significant because of the importance of the corridor both in terms of the amount of traffic that uses it and the links to Melbourne Airport, Port of Melbourne and Melbourne CBD.

It is clear that this is an important corridor for road transport in Melbourne. The submission provides evidence that there would be substantial time savings (12 to 20 minutes southbound in the AM peak and 13 to 21 minutes northbound in the PM peak in 2031) along the entire corridor as a result of the project.

Solution assessment summary

The proponent has undertaken an options assessment in two stages:

- Five strategic interventions were identified, as follows:
 1. Increase capacity by adding extra lane capacity in each direction along the length of the M2 corridor;
 2. Enhance the operating performance of the M2 through encouraging greater use of high-occupancy vehicles and installing a Motorway Management System (MMS);
 3. Manage demand for travel on the M2 through tolling arrangements;
 4. Increase or develop alternative transport options in the north and north-west of Melbourne; or
 5. Increase the safety of the M2 and connections, such as addressing weaving and merging issues.
- These were packaged into four options that were compared to a base case of do nothing, as follows:
 1. Do nothing;
 2. Increase efficiency and safety through a Motorway Management System and undertaking improvements to network interfaces to reduce weaving and merging;
 3. Increase capacity through adding extra lane capacity;
 4. Increase both efficiency and capacity through implementing a Motorway Management System and adding one lane in each direction; or
 5. Manage demand through using tolls and increasing use of alternative modes of transport.

A high level assessment was undertaken as to the share of full benefits that could be achieved by each option, the timing and the capital investment. From this, option 4 was chosen as the preferred option.

Following this, the proponent has considered the benefits and costs of adding lane capacity and implementing a Motorway Management System on only the part of the project subject to the

market led proposal, versus also including implementing this on full length of the M2 to Melbourne Airport.

The consideration of strategic options in the submission is high level and the basis for arriving at scores and weights for the multi-criteria analysis has not been provided.

The market led proposal covers from the M1 at the southern end of the M2 corridor to Melrose Drive (Sections 2 and 3). To fund the project, the CityLink Concession will be extended by one year, toll price increases will remain at a minimum of 4.5% (annually) for an additional year and commercial vehicle tolls will increase to become consistent with national pricing for commercial vehicles on other motorway networks.

The submission is seeking Commonwealth funding for the component of the project not covered by the Transurban concession changes. This covers the segment from Melrose Drive to Melbourne Airport (Section 1). The submission has shown that a bottleneck would be created without this upgrade, substantially reducing the net benefits of the project.

The submission has undertaken considerable testing of the robustness of the net benefits of the project solution in the event of other changes in the transport system. This has included consideration of the proposed East West Stage 1 and 2 and Melbourne Airport Rail Link (and other increases in public transport use). This, and the high level of expected net benefits from the project, gives confidence in the merits of the option chosen.

IA has sought and received additional information on two areas:

1. The extent to which tolling arrangements could be introduced on the currently untolled sections of the Tullamarine Freeway – which are to be upgraded under the project – to better manage induced demand and to contribute to the costs of the project.

The Victorian Department of Economic Development, Jobs, Transport and Resources has advised that Victorian Government policy is not to introduce tolls on existing roads. The proponent has also provided further analysis of the implications of tolling. This work indicates that approximately half of users of the Tullamarine Freeway would not pay a toll if the cap arrangements that currently apply to CityLink also applied to the Tullamarine Freeway. It also suggests that a relatively low diversion rate would be expected from applying a toll to the Tullamarine Freeway. While largely qualitative, this analysis strengthens the case that the project would remain viable in the presence of tolling of the Tullamarine Freeway.

2. Consideration of high occupancy vehicle lanes/bus lanes as part of the CityLink-Tullamarine Widening to maximise the efficient use of the road capacity expansion and improve the operation of the corridor more generally, including connectivity to the airport.

The Victorian Department of Economic Development, Jobs, Transport and Resources has indicated that there is insufficient bus traffic to make a dedicated bus lane an efficient use of infrastructure. It has considered the potential for introducing a managed lanes system, whereby different vehicles can experience different levels of congestion and reliability. (This could be through allowing different types of vehicles to use some lanes or through differential pricing of lanes.) Qualitative analysis undertaken by the proponent suggests that there would be two substantive issues in progressing this for the CityLink-Tullamarine Freeway. Firstly, for entry and exit along the route, there would either be significant merge and weave issues for allowing traffic to access different lanes, or infrastructure costs to allow for traffic to easily enter and exit managed lanes. Secondly, to avoid congestion and ensure reliability at end points would require additional dedicated infrastructure. Based on these considerations, the proponent considers it highly unlikely that there would be an economically or commercially viable managed lanes system that could be developed for the CityLink-Tullamarine Freeway. The proponent has noted that the works undertaken will not preclude this being undertaken in the future, if warranted.

BCR appraisal conclusion

The stated Benefit Cost Ratio (BCR) for the project is 2.44:1 (P90 capital costs). The BCR is considered to be robust and there is a high level of confidence that the ultimate outturn BCR will be within a range close to this stated BCR. Note that the BCR has fallen substantially as a result of the decision not to proceed with East West Link Stage 1, with the BCR for the project at 4.0:1 in the original submission for this project, where East West Link Stage 1 was part of the baseline. This was a risk previously noted by IA.

For the part of the project not funded by Transurban and for which Commonwealth funding is being sought (Section 1), a BCR of 5:1 was estimated, assuming the Transurban component was completed. The high benefits for Section 1 arise from removal of bottlenecks that would be created by widening the road only on the segments funded by Transurban (Sections 2 and 3), as well as the more rapid deterioration of travel speeds on this segment in any case.

Deliverability

The Victorian Government has established a governance framework to support the delivery of its major transport infrastructure programme, including the CityLink-Tullamarine widening project:

- VicRoads will play a significant role in the delivery of the project;
- a project control group will be established comprising Transurban and VicRoads; and
- a project executive group will be established comprising VicRoads, The Victorian Department of Treasury and Finance, the Victorian Department of Premier and Cabinet and the Victorian Department of Economic Development, Jobs, Transport and Resources.

The risks associated with this project are relatively low compared to developing a new road. IA has previously noted risks associated with interactions with other projects seeking to improve East West travel in Melbourne. In relation to the updated submission in 2015, these risks are mainly upside risks.

The environmental risks for the project are low, because only minor works will be undertaken outside the existing road reservation.

For high demand projects such as this project, IA would prefer that tolls were applied across the entire project scope, to maximise the funding from users. Under the model envisaged, there would not be tolls on the Tullamarine Freeway. The additional information provided by the proponent (and discussed above) provides sufficient evidence that the project would remain viable in the presence of efficient road pricing.

Overall assessment

The proponent has provided sufficient information to indicate that the problem being addressed is both significant and aligned to IA and the Victorian Government's strategic priorities.

The project has a strong BCR, of 2.44:1. There is a potential upside to the benefits if there is future development of East West connections that increase demand for CityLink-Tullamarine Freeway. The work specifically related to the request for Commonwealth funding has a higher BCR, estimated at 5.0:1.

IA is also satisfied that the Victorian Government has given adequate consideration to tolling options and high occupancy vehicle lanes, which were identified as conditions for moving the project to Ready to Proceed. While we would prefer tolling to cover the entire route of the upgrade, we are satisfied that the project remains viable in the presence of efficient road pricing. In respect of high occupancy (or value) vehicle lanes, IA supports the ongoing monitoring of the level of service for public transport and high value vehicles on this corridor by Transurban and the Victorian Government. This will allow the prioritisation of road space to higher value uses to be reconsidered if and when the level of service deteriorates.

Infrastructure Australia Priority List Recommendation

Infrastructure Australia assesses the project as Ready to Proceed on the Infrastructure Priority List.

This brief was approved by the IA Board in July 2015.

Following IA's regular process of discussing the detailed project brief with the relevant jurisdiction prior to publication, the brief was amended in the following areas:

- to reflect changes to the proposed funding arrangements for the project;
- clarifying that Section 2 will be delivered by VicRoads and predominantly funded by Transurban; and
- clarifying the Victorian Government's governance arrangements for delivery of the project.