2014-2015 Assessment Brief

Recommended rating:	**Threshold**
Current rating on the Infrastructure Priority List:	**New submission**
Initiative Name:	CityLink-Tullamarine Widening Project
Geography:	Melbourne, Victoria
Proponent:	Department of Transport, Planning and Local Infrastructure
Project description:	

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 (see Attachment 1). The proposed solution includes:

- 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.

The project comprises three segments (see Attachment 2), of which two would be undertaken by Transurban as part of an unsolicited proposal to the Victorian Government, and one which the Victorian Government is proposing to undertake.

Section 1 covers the northern section of the Tullamarine Freeway from Melbourne Airport to Melrose Drive.

Sections 2 and 3 cover the Southern portion of the road from Melrose Drive to the M1, with an anticipated cost of $876 million (nominal). These sections would be funded by Transurban through changes to existing tolling arrangements. Contractual close has been reached on these two segments.

The objectives of the proposal are 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.

The problem that the proposal addresses are longer and less reliable travel times to Melbourne Airport and the Port of Melbourne and high accident rates because of congestion.

Proponent's capital cost estimate ($M, real) & base year:	$1,075 million (2014)
Proponent's capital cost estimate ($M, nominal):	$1,127 million (P90)
Contribution sought by Proponent including requests for project development funding ($M):	$250 million
Project timing Start/Completion by Proponent (month/year):	2015/16 to 2018/19 for first year of operation in 2019/20
BCR stated by proponent:	4.5:1 (for all three segments), possibly as high as 10:1 for section One

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".

Alignment with State Strategic Priorities:

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

Plan Melbourne considers that two of its three critical areas are improving the efficiency and connectivity of the freeway network and the capacity of ports and airports to accommodate anticipated growth. The submission is aligned with both of these goals.

The project emerged as a priority in the 2014/15 Victorian Budget. A widening of CityLink is assumed to have been delivered under East West Link Stage 1, which is a stated priority for the Victorian Government.

There are a number of important overlaps between this project and other transport infrastructure projects being pursued by the Victorian Government.

- The project is important in accommodating increased traffic generated by East West Link Stage 1. (Part of the project scope in this submission is assumed to have been delivered under East West Link Stage 1.)
- The project benefits will be negatively influenced by an introduction of a rail link to Melbourne Airport, although this rail link would not be operating until at least 2023 and this is likely to have only a moderate impact on the benefits of the project identified in the submission.

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 and 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 segment from the Calder Freeway to Mickleham Road. The submission indicates that travel speeds will deteriorate to 20 kilometres per hour in peak periods for this segment by 2031 in the absence of the project.

For the segment 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.

The changes above occur before considering any impacts from traffic induced from East West Link Stage 1. It is likely that the East West Link Stage 1 will further increase traffic demand for CityLink-Tullamarine Freeway, leading to further deterioration of travel speeds.

The submission also shows how undertaking only the works that are part of the unsolicited 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 (10-16 minutes) along the entire corridor as a result of the project, both at finalisation of construction and in 2031.

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
    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 MMS 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 MMS and adding one lane in each direction
    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 MMS on only the part of the project subject to the unsolicited 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 is not clear. This is not surprising given that the project has at least in part arisen from an unsolicited proposal from Transurban.

The unsolicited 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 truck tolls will increase to become consistent with national pricing for trucks on other motorway networks. Post construction, tolls will be adjusted to their normal levels over a two year period.

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.

While the strategic options assessment is relatively limited in its detail, 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 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.

The submission does not fully explore a number of areas for which we have sought further information.

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, including consideration of tolling caps. The Victorian Department of Transport Planning and Local Infrastructure has advised that Victorian Government policy is not to introduce tolls on existing roads and that tolling was not considered in the business case for the northern section of the project.
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 Transport Planning and Local Infrastructure has advised that the use of high occupancy vehicle lanes/bus lanes in the corridor, was not included as part of the CityLink -Tullamarine Widening Project business case.

Infrastructure Australia's Urban Transport Strategy (December 2013) asks proponents to:

"provide a detailed economic analysis, which:

- Incorporates demand models to determine whether the project would still be economically viable in the presence of efficient road pricing, and, to include user charging at a rate that reflects efficient pricing as part of any road based solution"

BCR appraisal conclusion

The claimed Benefit Cost Ratio for the project is 4.5:1. TheBCR 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 claimed BCR.

The Net Present Value of the net benefits of the project are estimated to be higher than the net benefits of East West Link Stage 1, at less than one quarter of the cost. While an expansion of a brownfields road within an existing corridor would generally be expected to have higher net benefits than a greenfields road, the higher net benefits for the project may in part reflect that East West Link Stage 1 creates additional demand for travel on CityLink-Tullamarine Freeway and in doing so, contributes to its net benefits. This is why Infrastructure Australia advocates the importance of undertaking a Cost Benefit Analysis on an entire corridor rather than individual projects within a corridor.

For the part of the project not funded by Transurban and for which Commonwealth funding is being sought (section one), a BCR exceeding 10:1 was based on analysis of the contribution of the project section to the total project benefits. A separate CBA was not undertaken for section one. The business case summarises the results of this analysis as follows: "While the results of the CBA cannot be reported on a section-by-section basis, analysis has shown that the BCR for Section 1 exceeds 10:1 with Sections 2 and 3 reporting a BCR of around 2:1". 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 program, including the CityLink-Tullamarine widening project:

- VicRoads will play a significant role in the delivery of the project; and
- a project control group will be established comprising Transurban, The Victorian Department of Treasury and Finance, VicRoads and the Victorian Department of Transport Planning and Local Infrastructure.

The risks associated with this project are relatively low compared to developing a new road (such as East West Link).

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

Social and political risks arise from questions over the completion of the East West Link Stage 1 project. If the East West Link Stage 1 did not proceed, the upgrade of the CityLink-Tullamarine Freeway would likely have lower benefits. However, given the forecast declines in traffic speeds, it is likely that the project would still have a BCR greater than 1:1, even in the absence of East West Link Stage 1.

A project specific risk management plan is currently being prepared.

Infrastructure Australia Priority List Recommendation

CityLink is currently tolled as far north as Bell St Coburg. The expansion of that section will be funded by Transurban through toll revenue.

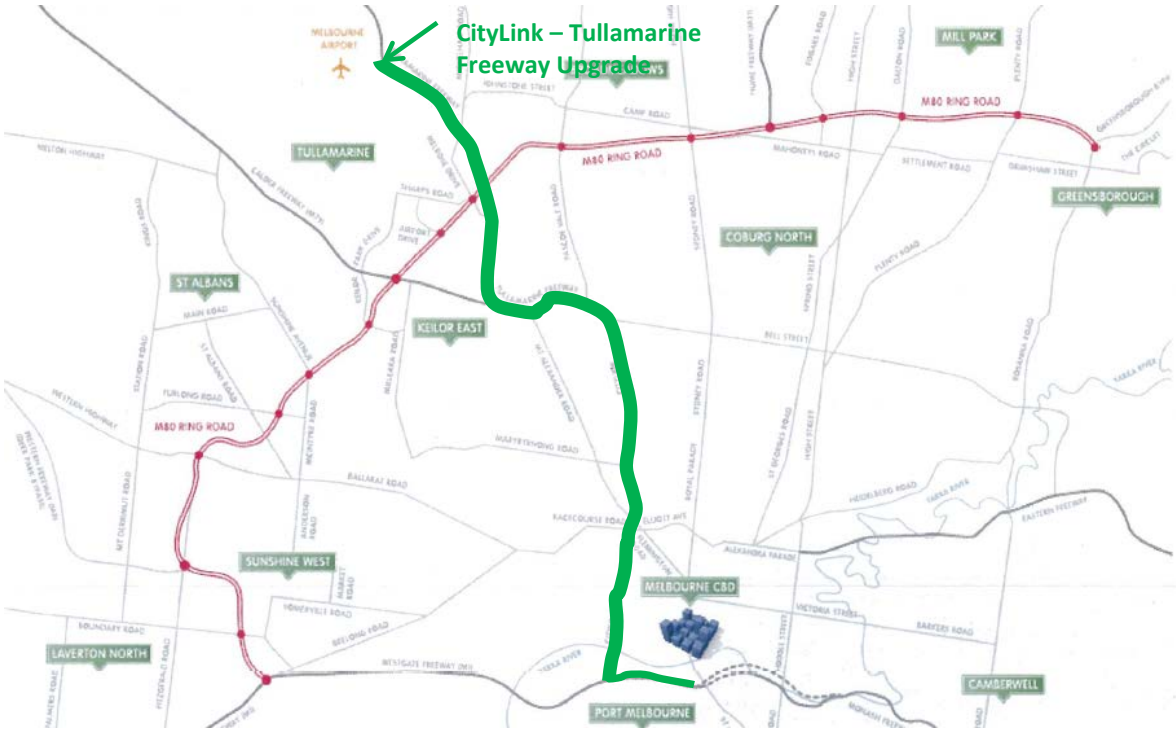
The Tullamarine Freeway north of Bell St (including Section 1) is currently not tolled. Australian Government funding is being sought for Section 1 of the project. The high level of net benefits for the untolled northern section of the Tullamarine Freeway suggests that section of the project could also be fully funded by toll revenue.

Given that the principles set out in Infrastructure Australia's Urban Transport Strategy allows assessment to be agnostic as to whether road pricing is applied or not, there is a high degree of confidence that once the proponent undertakes the requested analysis on tolling the project will be reassessed as "Ready to Proceed".

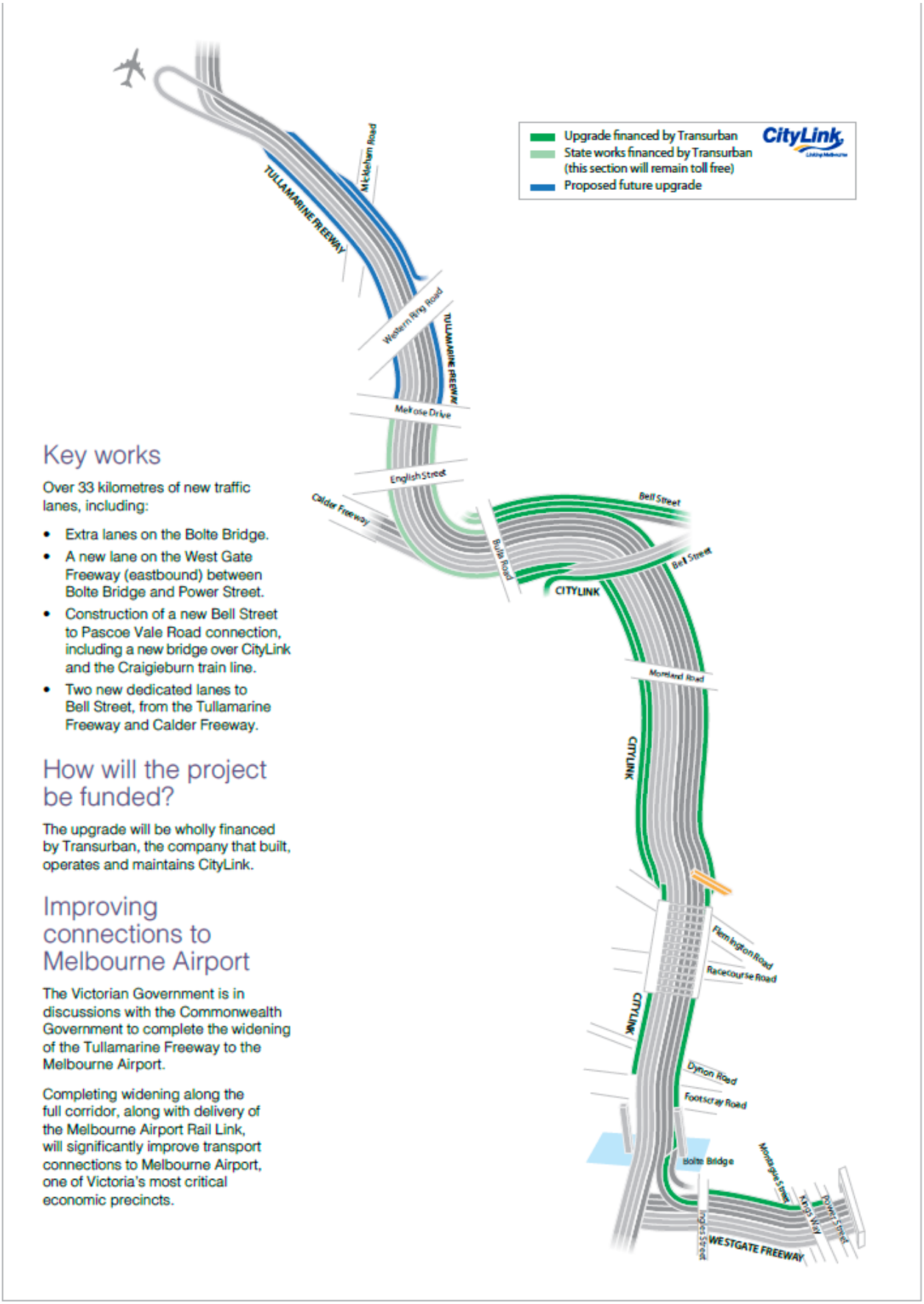
Based on the quality of the information provided, the high BCR for the entire project and the significantly higher BCR for the section subject to the funding application, the Acting CEO recommends:

- that the CityLink-Tullamarine Widening Project be included on the Infrastructure Priority List at **Threshold**.
- that for the project to advance to Ready to Proceed, Infrastructure Australia should be satisfied that:
    - the Victorian Government has given adequate consideration to tolling options for the currently untolled sections of the road – which are to be upgraded under the project (the Tullamarine Freeway north of Bell St); and
    - the Victorian Government has given adequate consideration to providing high occupancy vehicle lanes on the full length of the project.

Attachment 1: M2 Corridor in Melbourne



Attachment 2: Key sections of the CityLink-Tullamarine Widening project



Key works

Over 33 kilometres of new traffic lanes, including:

- Extra lanes on the Bolte Bridge.
- A new lane on the West Gate Freeway (eastbound) between Bolte Bridge and Power Street.
- Construction of a new Bell Street to Pascoe Vale Road connection, including a new bridge over CityLink and the Craigieburn train line.
- Two new dedicated lanes to Bell Street, from the Tullamarine Freeway and Calder Freeway.

How will the project be funded?

The upgrade will be wholly financed by Transurban, the company that built, operates and maintains CityLink.

Improving connections to Melbourne Airport

The Victorian Government is in discussions with the Commonwealth Government to complete the widening of the Tullamarine Freeway to the Melbourne Airport.

Completing widening along the full corridor, along with delivery of the Melbourne Airport Rail Link, will significantly improve transport connections to Melbourne Airport, one of Victoria's most critical economic precincts.