

**INQUIRY AND ADVISORY COMMITTEE APPOINTED BY THE MINISTER FOR  
PLANNING**

**IN THE MATTER OF THE WEST GATE TUNNEL PROJECT ENVIRONMENT  
EFFECTS STATEMENT**

**IN THE MATTER OF AMENDMENT GC65 TO THE BRIMBANK, HOBSONS BAY,  
MARIBYRNONG, MELBOURNE, PORT OF MELBOURNE AND WYNDHAM  
PLANNING SCHEMES**

WESTERN DISTRIBUTOR AUTHORITY

Proponent

and

MELBOURNE, MARIBYRNONG AND HOBSONS BAY CITY COUNCILS and others

Submitters

**VICROADS RESPONSE TO QUESTIONS ASKED BY THE INQUIRY AND  
ADVISORY COMMITTEE DURING VICROADS ORAL SUBMISSIONS**

1. On Friday, 25 August, the Roads Corporation (**VicRoads**) made submissions to the Inquiry and Advisory Committee (**IAC**) in relation to the West Gate Tunnel Project (**Project**).
2. At the conclusion of its submissions, the IAC asked VicRoads a series of questions, some of which were taken on notice.
3. Those questions and VicRoads' responses are as follows:
  - (a) **Question: Table 156, extracted at Part 7.5.8 of the EES, states that following completion of the Project there will be double the current number of accidents on the West Gate Freeway but only a 17% increase in overall traffic. Is VicRoads aware of whether co-ordinated ramp metering was modelled as part of the Project and included in arriving at the numbers in**

**Table 156? Is VicRoads comfortable with the doubling in the number of accidents?**

*VicRoads' response: VicRoads is committed to improving road safety as part of any infrastructure project in accordance with the Government's "Towards Zero" policy. In particular, improving road safety outcomes on the West Gate Freeway is a priority, not only to reduce the number of crashes and severity, but also the subsequent impact on the operation and reliability of this important transport corridor. In relation to the reporting of predicted crashes on the West Gate Freeway as part of the project, VicRoads is concerned with the alleged doubling in the number of accidents, as it does not include important factors such as travel exposure nor the benefits of a Managed Motorway or the infrastructure response to separating conflicting movements. The methodology adopted by the WDA in Project Note 65, however, includes an exposure calculation confirming a lower crash rate (per 100 million VKT) for the Project Scenario and notes that the rates used in the EES do not take into consideration the reduction in crash rates due to a fully Managed Motorway or the separation of carriageways. This is consistent with a before and after study of the Monash Freeway (as a Managed Motorway), which showed a 31% decline in the 5-year average crash rate as well as a lower crash rate when compared to other metropolitan freeways and a trending down at a greater rate (Reference "Vicroads Managed Motorways Framework March 2017").*

**(b) Question: Has VicRoads considered downgrading the status of Francis Street between the Princes Freeway and Hyde Street?**

*VicRoads' response: VicRoads has not considered downgrading the status of Francis Street. The road system in Victoria separates roads into only two categories: arterial roads and local roads. Francis Street is an arterial road, which properly reflects its current role and function in the road network. Any downgrade of Francis Street to a local road would be inconsistent with its current role and function, and connectivity with other key arterials in the area. Furthermore, should the project proceed, in 2031, Francis Street between Williamstown Road and Hyde Street will have daily volumes in the order of 19,000 to 23,000 vehicles (2 way daily averages as outlined in the EES Technical*

*Report A page 258). The maintenance of Francis Street as an arterial road would be appropriate given this volume of anticipated traffic and network connectivity.*

- (c) **Question: Does VicRoads have a view about whether there should be consideration of toll waiving if the West Gate Bridge is closed (i.e. if network resilience is activated)?**

*VicRoads' response: This is ultimately a matter for the WDA as it would affect the contractual arrangements between the various parties implementing the Project. VicRoads would however support consideration being given to undertaking further analysis of the potential benefits of this approach in limited and defined scenarios involving the closure of the West Gate Bridge, in the operational phase of the Project to align network traffic and transport management objectives with economic and tolling revenue outcomes.*

- (d) **Question: Are there standards for grade road separation for shared use paths on Federation Trail and Hyde Street?**

*VicRoads' response: The relevant guides and/or standard which relate to this topic are as follows:*

- *The Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings provides guidance on pedestrian and cyclist crossings and in particular their grade separation (Section 8 page 166). Section 8.2 discusses treatments commonly considered to assist pedestrians and cyclists who need to cross roads at midblocks and intersections. Table 8.3 provides information on the benefits and considerations for decision making regarding selection of grade separation options.*
- *VicRoads Supplement to Austroads Guide to Traffic Management Part 6. This provides supplementary information relating to Section 8.2.1 (Table 8.3) of the Austroads Guide to Traffic Management. Section 8.2.1(k) includes warrants applicable for consideration of path grade separation for pedestrians. VicRoads can confirm that the reference to 'pedestrians' can be read as 'pedestrians and cyclists'. Assuming the proportion of*

*path users under 12 years of age or over 60 years of age is 40%, or less, grade separation may be justified if each of the following conditions are met for at least one hour of a normal weekday (divided road assumed):*

- *$V > 1,500$   $P > 250$ ; and  $PV > 400,000$  (where  $V$  is the volume of vehicular traffic (2 way) in vehicles per hour;  $P$  is the volume of pedestrian/cyclist traffic per hour).*
- *Austrroads Guide to Road Design Part 4C: Interchanges. Section 4.4.1 provides general guidance on when Pedestrian/Cyclist Grade Separations might be considered.*

*VicRoads is unsure of future demand for the use of Federation Trail and has requested further information from WDA. As indicated by the warrants in the second dot point above, consideration for grade separation of a path crossing at Millers Road (for example) would be met if crossing demand was in excess of 250 pedestrians/cyclists per hour. At that figure the PV product would be in excess of 400,000 given that vehicle volumes are significantly in excess of 1,500 vehicles per hour in peak periods.*

*Understanding the impacts of an at grade controlled path crossing of Millers Road on interchange/intersection operation is also an important aspect of determining whether grade separation might be justified. If at grade crossing volumes are high, delays to vehicular traffic may impact on the ability of the interchange to operate in an efficient manner, which has the potential to adversely impact on motorway and arterial road operation.*

*As a general statement, as recognised in the references above, planning for grade separation requires consideration of future crossing demand and the ability of a location to facilitate a suitable crossing solution with appropriate ramps and ability to minimise visual intrusion into adjoining properties. Use of the warrant to guide decision making is appropriate, however a decision whether to grade separately is generally made considering assessment of broader operational context and an appropriate benefit/cost assessment.*

- (e) **Question: Is VicRoads aware of the proposed upgrades at the interchange of Williamstown Road and Millers Road adverted to by Mr Kiriakidis and could it explain the proposed upgrades?**

*VicRoads' response: VicRoads is not involved in any upgrade works at the interchange of Williamstown Road and Millers Road and is unaware of any proposed upgrades beyond those presented in the WDA Plan Sets (Landscape Plan Sheet 8 of 28 (WDA-WGTP-LAN008) and Landscape Plan Sheet 12 of 28 (WDA-WGTP-LAN0012)).*

- (f) **Question: The proposed future planning for EGate appears to have stalled in favour of the Project. Would it be preferable for both the EGate development and this Project to be considered together?**

*VicRoads' response: VicRoads is not aware that this Project has had any effect on the future planning for EGate. The progress of that planning reflects the priority that has been accorded by the Victorian Government. In VicRoads' view, it is not necessary for the EGate development to be considered at the same time as the Project as the Project's current design does not preclude access to EGate for public, private and active transport.*

- (g) **Question: Do Figures 161C and 161D in Project Note 60 suggest that there is a capacity limit on Footscray Road?**

*VicRoads' response: The WDA is best placed to respond to this question given their knowledge of the basis of the modelling scenarios.*

- (h) **Question: Has VicRoads given any consideration to upgrading the Wurundjeri Way/Dudley Street intersection as it appears any capacity to upgrade that intersection is absorbed by this Project? Has VicRoads considered the potential need to further upgrade the intersection in the future?**

*VicRoads' response: VicRoads has no current plans or proposals to upgrade the Wurundjeri Way/Dudley Street intersection, and it has not considered any future*

*needs of the intersection beyond the project proposal. However, should the project proceed VicRoads will continue to manage the intersection and will continue to review intersection operations. Should any modifications be required to manage the operation of the intersection, VicRoads will explore options including signal phasing.*

- (i) **Question: How will over-dimensional trucks access Swanson Dock in the event of a redundancy affecting the Tunnel? Has VicRoads considered whether over-dimensional vehicles are able to fit under the veloway?**

*VicRoads' response: Over-dimensional trucks (particularly over height) cannot use the Tunnel in its current proposed design and, therefore, are required to access Swanson Dock via established network OD routes from the east or west (OD Route 5A). Vehicles that are both Over Size and Over Mass, will be able to utilise this route. A redundancy scenario involving the Tunnel is, therefore, likely to affect only Over Mass vehicles. Should the project be implemented, the proposed Hyde Street Ramps will also enable particular OD vehicles to access Swanson Dock during redundancy scenarios affecting the Tunnel. VicRoads has not received the relevant data to check whether there is sufficient clearance for over-dimensional trucks (over height) to pass under the veloway, however it is understood that meeting the requirements of OD routes is a project requirement and, as such, VicRoads expects that there will be sufficient clearance to enable OD vehicles to travel along or across Footscray Road to access Swanson Dock. The WDA would be best placed to advise on the Project's ability to meet over height clearance requirements to access Swanson Dock.*

- (j) **Question: Does VicRoads have any view as to the veloway width or grade discussed in the evidence of John Kiriakidis. If not, would they like to have input?**

*VicRoads' response: VicRoads has no objections to the proposal by Mr John Kiriakidis to adopt 5 m as the width of the veloway..*

*Austrroads Guide to Road Design Part 6A, Section 5.4.2 – Ease of Uphill Travel provides guidance on suitable uphill grades for cyclists. Figure 5.6 is a graph showing Acceptable and Desirable grades for ease of cycling in the context of*

*length of grade. The 'Acceptable' warrant implies a satisfactory solution for paths with a high proportion of regular or physically fit cyclists (i.e. commuter and sporting cyclists).*

*VicRoads does not have access to the current veloway design solution however, it considers that an approach adopting the 'Acceptable' warrants included in the above reference to be reasonable. VicRoads would appreciate the opportunity to provide further input into the further design development and final solution of the veloway.*

**(k) Question: Mr Kiriakidis mentioned that weaving issues on the West Gate Freeway may cause turbulence within the Tunnel due to the proximity of the Tunnel exit to Millers Road. The micro-simulation response was to open up a third lane in the Tunnel. Mr Kiriakidis suggested that an alternative would be to widen the freeway or to provide a braided ramp. Given that the third lane in the Tunnel is intended to be used only in the event of network resilience, does VicRoads have an opinion on which option may be more suitable? In other words, how important is the third lane in the Tunnel for network resilience?**

*VicRoads' response: VicRoads does not disagree with the view of Mr Kiriakidis that weaving on the West Gate freeway between the tunnel portal and the exit to Millers Road may result in operational issues, particularly if merges and diverges are not effectively managed,*

*There are two fundamental issues on the motorway that may need intervention at an operational level to ensure that optimum productivity can be maintained:*

- *Length of tunnel grades in combination with high heavy vehicle volume: the length of grade coming out of the tunnel will result in potentially lower truck speeds than the posted speed limit. Depending on vehicle mix, this may impact on the efficiency of tunnel operation. To mitigate this impact, it might be desirable to open the third tunnel lane on the up grade to manage lane occupancy to levels that will avoid flow break down.*

- *The distance between the entry ramp from the West Gate freeway/Williamstown Road/Hyde Street and the exit ramp to Millers Roads is relatively short. As a result, relatively high coinciding entry and exit volumes are likely to occur along this section of motorway. There is a possibility of the resulting turbulence triggering flow break down under certain operating conditions.*

*In terms of managing the issues above, provision of a braided ramp to address the weave described in the second dot point above would be effective. However, provision of such a treatment is not considered practical considering that significant additional land acquisition (including probable impacts on the Brooklyn Terminal Electricity Station operated by SP Ausnet) would be required to provide for the braid. The braid would not necessarily assist with managing any operational issues that might emerge with high truck volumes and uphill grades in the tunnel.*

*The more practical way to manage the issues described above is likely to involve a combination of opening the third lane in the tunnel commencing at a location between the tunnel sag and approximately 400m prior to exiting the tunnel portal (depending on whether a grade or weave issue needs to be managed) and managing demand using motorway ramp metering. Opening the third lane during periods of high demand (i.e. when close to 2 lane capacity being serviced and/or high entering and exiting volumes) will assist in decreasing lane occupancy and provide opportunity for the required lane changing between the entry and exit ramps to occur in a manner that will ensure the reasonable mitigation of flow break down due to weaving and/or reduction of heavy vehicle speed on grades.*

*VicRoads understands that the availability of the third lane in the tunnel for network resilience has been provided to assist with management of more random unforeseen incidents rather than day-to-day operation.. If a decision is made to open the entire length of the tunnel to 3 lane operation on a regular basis to manage weave or grade issues, it will become critical to manage demand to control volumes entering the tunnel so as to ensure lane occupancy is managed to a level that will not result in flow break down at the weave between ramps and/or*



*due to impacts of the up hill grade on heavy vehicle speed (i.e. manage demand to significantly less than full three lane capacity).*

4. VicRoads hopes that its responses assist the IAC. VicRoads will provide any further responses to the questions asked by the IAC on receipt of information that it has requested from the WDA. VicRoads would also be happy to provide further assistance to the IAC if requested.

Dated: 11 September 2017