To:

Mordialloc Bypass EES Inquiry and Advisory Committee

Hearing Presentation: 8th March 2019

James Saunders
Tradefaire International Pty. Ltd.
62 Tarnard Drive, Braeside
Tarnard Drive – Proposed Diversion From Woodlands Drive

TFI (62 Tarnard Drive) Background:
- We only became aware of this proposal on the 16th Nov as we were new tenants.
- Searching for a site for over a year to meet our needs:
  - Large Swivel area for semi trailers and B doubles
  - Good Parking and a quiet office area
- We would not have chosen this site if we knew of the Proposed Diversion from Woodlands.

Congestion: Reference to tables 5.2.4.2 Vehicle Composition Table 5.4 and Table 8.4 in section 8.6.3 in the Environment Effects Statement/Traffic and Transport...
Relates that Woodlands Drive is a designed to facilitate large vehicles with a large carriage way width which will funnel traffic into a standard street, Tarnard Drive that already carries a high daily proportion of Heavy Vehicles...16.5% during peak hour and continually throughout the day.
Tarnard Drive then funnels Woodlands Drive traffic in a right hand turn to Bell Grove.

- Tarnard Drive and Bell Grove do not have the width of Woodlands Drive. Although, Tarnard Drive has a “specially” built court at the end that facilitates trucks throughout the day as a turning circle. We see limited ability to widen Tarnard Drive as it approaches Bell grove. We see issues with traffic heading “up”, East from Downard Road to turn into Bell Grove with the increased traffic flowing West from Woodlands Drive toward Bell Grove.

- At any time of the day, the full court area is used for trucks backing into premises around it. This would be unsafe with the proposed diversion flowing through the middle of the court. In the “artist impression” there is also a traffic island placed on one side of the court making truck movements in and out of premises nigh impossible and a hazard.

- Bell Grove: Heavy haulage often use the “mouth” of Bell Grove to back into a premise diagonally across Tarnard Drive called “Bullock Vic”

- As you can view from google maps, the court is used by cars to park which is convenient and a safer option to the car park arrangements offered in the Proposed Diversion map...based at the blocked off end of Woodland Drive.

Safety: Pedestrian and vehicle safety will be compromised with the increased heavy traffic flowing through two almost right angles as local usage of both is continual all day for parking and backing of heavy vehicles.

Noise: If the Proposed Diversion is enacted it will be two car spaces from the front of our office where we have the densest concentration of staff. The steady flow of B – Doubles and heavy vehicles will affect our employees and they may seek other work opportunities rather than endure a deteriorated work environment which also may affect their health.

Alternative Lower Dandenong Road Freeway Interchange arrangement
This refers to current configuration of Woodlands Drive with modifications at Lower Dandenong Road. Peter Kelly in 4.3.6 page 10 advises that “this would significantly improve the level of access and reduce operational impact to the existing road network surrounding in the proposed interchange compared to the reference design layout.” He then goes on to detail several points such as less congestion within the road network. We see this as the most pragmatic and least impact alternative to the current Tarnard/Bell Grove proposal.
Request to be heard?: yes

Full Name: James Saunders
Organisation: Tradefaire International Pty Ltd
Affected property: 62 Tarnard Drive
Attachment 1:
Attachment 2:
Attachment 3:
Comments: 1. As new tenants on 12th Nov., we only found out about this proposal on the 16th Nov. We had been searching for well over a year for a site to meet our needs. In terms of this inquiry, our key needs were - a large "swivel" area for semi trailers and B-Doubles to back into our warehouse - a quiet office area and good parking for our office. If we had prior knowledge of this proposal, we certainly wouldn't be tenanted at 62 Tarnard Dve. The Area Tarnard Drive is a local road which extends east from Boundary Road. Tarnard Drive provides a single traffic lane in each direction, and provides direct and indirect access to industrial properties. "Woodlands Drive is a local road aligned north-south between Lower Dandenong Road in the north to Malcolm Road in the south. Woodlands Drive provides a single traffic lane in each direction, and operates on a posted speed limit of 60km/hr. ................................................................. Woodlands Drive bisects, and is designed*** to facilitate to movement of large vehicles with a large carriageway width***. Tarnard Drive ..."5.2.4.2 VEH. COMPOSITION Table 5.4, :** Higher proportion of heavy vehicles** https://roadprojects.vic.gov.au/_data/assets/pdf_file/0003/335181/Appendix-A_Transport.pdf The current proposal: - will impact the ability for big trucks to use our warehouse. At any time of the day, the full court area is used by trucks backing into the the various premises surrounding it. This will be very compromised with all the traffic funneled through the court. - Noise will be a major factor for our office staff with the front of the building only 2 car spaces from the major exit road from the Woodlands again largely populated by B Doubles and Semi Trailers funneled so close to the office. - The court is full to capacity with car parking at 90 degrees to the curb. In the proposal, there is parking placed some distance from the office which is highly inconvenient for vehicles parking and departing multiple times per day. The reserve side of Woodlands Drive is used as a parking area for all manner of trucks during the day and we can see these using the "proposed" parking area as a new site or even a convenient turning circle compromising the relocated parking from the court area. The our staff need to access this proposed parking area across a busy road. - We envisage safety issues if this proposal is enacted. As previously mentioned the traffic is funneled past our office down Tarnard Drive and then a 90 degree angle into Bell Grove to an intersection at Lower Dandenong Road. The volume of traffic negotiating this corner (big trucks) and the natural inclination to speed as seen on Woodlands Dve. every day will be a safety issue for pedestrians and local vehicles. Woodlands Drive is a spacious road with wide nature strips that will be funneled back into a tight spaced environment past the Tarnard Dve. Factories. So we do not want this proposed road here. -
4.3.6 Woodlands Drive Arrangement

A number of submissions raised concerns over the access impact brought by the truncation of Woodlands Drive and associated intersections/roads including Tarnard Drive, Redwood Drive and Bell Grove to facilitate the proposed construction of the Lower Dandenong Road and Mordialloc Freeway interchange.

The truncation of Woodlands Drive and the associated access impact attributed to the proposed freeway interchange layout at Lower Dandenong Road has been identified in the published EES TIA report with details discussed in Section 8.1.2.2.

Figure 3  EES published document, Appendix A – Transport Impact Assessment (TIA), Figure 8.5 - Proposed Woodlands Drive access arrangement

Following the impact identification and EES submissions review process, an alternative freeway interchange configuration has been considered by the project to minimise the potential access impacts to the surrounding project area adjacent to the proposed Lower Dandenong Road / Mordialloc Freeway interchange. Further investigations have been undertaken to inform the feasibility of the alternative interchange arrangement.

The memorandum attached in Appendix D outlines the details associated with the alternative freeway interchange arrangement including its anticipated operational performance and design considerations that will need to be further assessed in the detailed design stage.

The alternative interchange arrangement is considered to be feasible from a performance-based perspective and would significantly improve the level of access and reduce operational impact to the existing local road network surrounding in the proposed interchange compared to the reference design layout. Further assessment and review has been undertaken with key findings listed below:

- The alternative freeway interchange arrangement satisfies the target service level in accordance with Austroads Guide to Traffic Management and is anticipated to operate efficiently under 2031 peak hour traffic demand. Turn lanes proposed under the alternative interchange arrangement sufficiently caters for the 95th percentile queue length.
MEMO

FROM: Peter Kelly, WSP

SUBJECT: EES – Alternative Lower Dandenong Road / Mordialloc Bypass Freeway Interchange Arrangement

DATE: 31 January 2019

1. INTRODUCTION

The Mordialloc Freeway project is currently being assessed via the Environment Effects Statement (EES) process. As part of the EES, a Transport Impact Assessment (TIA) was undertaken by WSP in 2018 in line with the EES Scoping Requirements to identify potential transport-related impacts associated with the project. One of the key access impacts identified in the TIA is located at Woodlands Drive. Woodlands Drive is a Council-managed collector road providing access to the Woodlands industrial precinct. Under the proposed reference design arrangement, Woodlands Drive will be truncated south of Lower Dandenong Road to facilitate the construction of the proposed Lower Dandenong Road / Mordialloc Freeway interchange, see Figure 1.1 and Figure 1.2. The proposed interchange arrangement at Lower Dandenong Road will also change access arrangements at Redwood Drive, Tarnard Drive and Bell Grove. The impacts of these changes are outlined in the Section 8.1.2 of the Mordialloc Bypass TIA report. A diamond interchange arrangement similar to the reference design network layout has been assessed through microsimulation modelling with performance results attached in Appendix D. The proposed reference design layout reflects the same number of approach lanes as per the tested layout with enhanced internal storage between the exit ramp terminals compared to the modelled diamond interchange layout. Consequently, the reference design would operate similarly to the modelled design with enhanced storage capacity.

![Figure 1.1 Reference design network arrangement at the proposed Lower Dandenong Road / Mordialloc Freeway Interchange](image-url)
Following the impact identification process and consideration of submissions, an alternative freeway interchange configuration has been considered by the project to further reduce the potential access impacts to the surrounding project area adjacent to the proposed Lower Dandenong Road / Mordialloc Freeway interchange.

This memorandum outlines the details associated with the alternative freeway interchange arrangement including its anticipated operational performance, design considerations and traffic impacts.

The alternative network and intersection arrangement would:

- avoid the need to truncate Woodlands Drive;
- minimise impacts to properties within the vicinity of Tarnard Drive;
- avoid the need to modify the existing configuration of the Redwood Drive / Lower Dandenong Road intersection; and
- avoid the need to modify the existing configuration of the Bell Grove / Lower Dandenong Road intersection.

2. ALTERNATIVE FREEWAY INTERCHANGE ARRANGEMENT

The alternative freeway interchange arrangement is configured to retain the existing connection between Woodlands Drive and Lower Dandenong Road. Under this arrangement, the proposed northbound freeway exit ramp would terminate on the east side of Woodlands Drive, south of Lower Dandenong Road, as shown in Figure 2.1. As a result, the existing access arrangement at Bell Grove, Tarnard Drive and Redwood Drive would remain in its current form. The assumed phasing arrangement is illustrated in Appendix C and runs at a 130 second cycle time.

The alternative freeway interchange arrangement at Lower Dandenong Road is similar to a conventional signalised full diamond freeway interchange with the exception of Woodlands Drive that replaces the south-west leg where it would typically be one of the freeway exit ramp terminals. The alternative freeway interchange layout includes:

- left turn slip lane at all approaches
- double right turn lanes and three through lanes at the east and west approaches
— dedicated right turn lane and a shared right-through traffic lane at the southbound exit ramp terminal
— in addition to the left turn slip lane, three traffic lanes will be provided at Woodlands Drive approach in the form of (dedicated through, shared through-right and dedicated right) to enable direct access onto Lower Dandenong Road whilst providing direct freeway access in the northbound direction

2.1 NORTHBOUND EXIT RAMP TERMINAL / WOODLANDS DRIVE

The proposed northbound exit ramp will be signalised and terminates at Woodlands Drive forming a signalised t-intersection. The ramp terminal is configured with a left turn slip lane and a double right turn lane. Two approach through lanes are provided on the north and south approaches of this intersection.

Figure 2.1  Alternative Lower Dandenong Road freeway interchange arrangement

3. TRAFFIC PERFORMANCE ASSESSMENT

Microsimulation modelling has been undertaken to assess the anticipated 2031 traffic performance of the alternative freeway interchange layout to inform the operational feasibility of this design. The assessment was tested using a calibrated/validated 2017 base model (refer to the appendix for base model information).

The scope of the modelling focuses on the operation at Woodlands Drive, Lower Dandenong Road and Mordialloc Freeway with the extent of the model covering Howard Road, Bell Grove and Redwood Drive. The extent of the microsimulation model is shown in Figure 3.1.
4. INTERCHANGE OPTION COMPARISON

This section provides a qualitative comparison of the reference and alternative interchange design option. Table 4.1 summarises the comparisons between the two configurations in the context of the access and performance impact. It should be noted that due to the differences in network and interchange arrangement, the interchange/intersection performance would not be directly comparable.

**Table 4.1  Interchange Option Comparison**

<table>
<thead>
<tr>
<th><strong>Network Performance</strong></th>
<th><strong>REFERENCE INTERCHANGE DESIGN (WOODLANDS DRIVE TRUNCATION)</strong></th>
<th><strong>ALTERNATIVE INTERCHANGE DESIGN (INCORPORATING WOODLANDS DRIVE)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average Speed</strong></td>
<td>The westbound carriageway between Bell Grove and Howard Road operates generally below 40km/hr reflecting a higher level of congestion compared to the Alternative Interchange arrangement. This is largely attributed to the signal delays associated with the new signalised intersection at Bell Grove intersection. The average speed condition along Bell Grove at the approach of Lower Dandenong Road is likely to be impacted as a result of additional traffic diverted from Woodlands Drive. On rare occasions during the egress peak period in the PM, traffic may require two signal cycles to clear.</td>
<td>The average speed condition in both AM and PM peak periods reflects minimal congestion within the network. Queuing Condition Maximum queue lengths are contained within the proposed turn lane storage at the freeway interchange. Due to the proximity of the Howard Road intersection, westbound traffic queue at the east external approach of the interchange is likely to extend beyond Howard Road / Lower Dandenong Road intersection during both peaks.</td>
</tr>
<tr>
<td><strong>Queuing Condition</strong></td>
<td>The proposed Bell Grove / Lower Dandenong Road traffic signals are likely to introduce traffic queue in the eastbound direction along Lower Dandenong Road beyond Redwood Drive. The extent of maximum queue along Bell Grove at the approach of Lower Dandenong Road is prominent in the PM peak period. Maximum queue lengths are contained within the proposed turn lane storage at the freeway interchange.</td>
<td></td>
</tr>
<tr>
<td><strong>Interchange Service Level (Delays)</strong></td>
<td>The interchange performance meets target service level and is anticipated to operate efficiently at LOS B and C during AM and PM peaks</td>
<td>Woodlands Drive traffic will benefit from:</td>
</tr>
</tbody>
</table>

**Accessibility**

Existing access including Woodlands Drive and Redwood Drive, off Lower
REFERENCE INTERCHANGE DESIGN (WOODLANDS DRIVE TRUNCATION)

Dandenong Road will be impacted by the proposed reference design.

Woodlands Drive will be truncated south of Lower Dandenong Road with traffic diverted via a new road connection onto Tarnard Drive. Access to Lower Dandenong Road will be provided at the existing T-intersection at Bell Grove / Lower Dandenong Road.

Under the proposed arrangement, right turning traffic into Redwood Drive will be diverted to a new U-turn facility east of Boundary Road. Right turn out traffic from Redwood Drive will be facilitated via the proposed signalised U-turn lane at Bell Grove intersection.

As a result of the proposed network arrangement, movement priority at Tarnard Drive and Bell Grove intersection will also be revised.

The proposed new road connection between Tarnard Drive and Woodlands Drive will enhance the permeability of traffic within the Woodlands industrial precinct.

ALTERNATIVE INTERCHANGE DESIGN (INCORPORATING WOODLANDS DRIVE)

- Direct northbound freeway access via the alternative interchange arrangement
- The northbound exit ramp terminal that provides direct access into Woodlands Industrial Estate

Northbound exit ramp traffic at the freeway interchange accessing Lower Dandenong Road will interact with Woodlands Drive local traffic, however the impact on performance is minimal.

Driveway north of 21 Woodlands Drive is impacted by the northbound exit ramp terminal, although there is scope to locate the exit terminal further north, closer to lower Dandenong Road.

On balance, from a traffic perspective this option is considered to be more aligned with the EES transport objectives than the reference design arrangement.

5. FURTHER DESIGN CONSIDERATIONS

The outcome of the traffic modelling assessment indicates that the alternative interchange layout would be sufficient to cater for 2031 peak hour demand meeting target performance service level. The alternative interchange concept design will however require further design investigations and refinements in accordance with Austroads road design and traffic management guidelines and consider the following aspects of the design:

- Driveways and access impact (resilience to disruption)
- Way finding and directional signing consideration
- Compliance to geometric design standards

Based on the traffic engineering assessment undertaken and high level design feasibility review to date, no significant issues have been identified that would impact on the development of this alternative arrangement.
6. CONCLUSION

The anticipated traffic impact of the alternative freeway interchange arrangement at Lower Dandenong Road / Mordialloc Freeway has been assessed. The alternative interchange arrangement is configured to minimise the potential local road access impacts surrounding the proposed freeway interchange, and in particular, to retain the existing road connection between Woodlands Drive and Lower Dandenong Road.

This assessment has been undertaken based on the conceptual design layout and microsimulation modelling results with the following key findings:

— The alternative freeway interchange arrangement satisfies the target service level in accordance with Austroads Guide to Traffic Management and is anticipated to operate efficiently under 2031 peak hour traffic demand. Turn lanes proposed under the alternative interchanging arrangement sufficiently caters for the 95th percentile queue length.

— Compared to the reference interchange design, there is generally less congestion within the road network with modelling results indicating a higher network operating speed during both AM and PM peak. Northbound exit ramp traffic accessing Lower Dandenong Road will be required to travel through two sets of traffic signals and interact with Woodlands Drive local road traffic.

— As intended, the alternative interchange arrangement enhances the equity of access for local roads surrounding the project area by providing direct freeway access into Woodlands Drive Industrial Estate at the northbound exit ramp terminal whilst retaining the existing connection between Woodlands Drive and Lower Dandenong Road.

— Further investigations will be required during detailed design to confirm the feasibility of the alternative interchange arrangement considering directional signing strategy, driveway impact and compliance to geometric standards.
proposed elevation of the freeway as it approaches Springvale Road or increased traffic levels on the off ramp, or both.

119. I note that as these dwellings are located adjacent to an existing freeway, the Noise assessment of the EES concludes that the predicted noise levels are below the maximum permitted (68 dBA \(^{10}\)) under the proposed Environmental Performance Requirement NV1. The EES Noise Assessment suggests that this outcome can be achieved through the construction of a noise barrier of 2.8 metres height on the eastern boundary of the site adjacent to the freeway and returning down the side boundaries (see Map 6 – Predicted 2031 noise levels with mitigation measures).

120. I am concerned with the proposed introduction of a 2.8 metre solid barrier wall on the eastern boundary may impact on the amenity of residents as it will be visually imposing and limit access to natural light to the dwellings and their private outdoor spaces (assuming that the barrier is non-transparent). These areas currently benefit from access to northern sunlight throughout most of the year.

121. It is recommended that the potential means of providing noise attenuation to achieve the requirements of the EPR should be further investigated to maintain current levels of visual amenity and access to natural light, while mitigating acoustic impacts.

### 6.7. WOODLANDS INDUSTRIAL ESTATE

122. Woodlands Industrial Estate is located in Braeside, primarily between Lower Dandenong Road, Boundary Road, Governor Road and the freeway alignment.

123. A number of submitters raised a specific concern regarding the proposed extension of Tarnard Drive, which runs parallel to Lower Dandenong Road, between Boundary Road and currently terminates in a cul-de-sac at the Woodlands Industrial Estate Linear Reserve.
124. The construction of the freeway will sever Woodlands Drive at the northern end, where it currently connects to Lower Dandenong Road.

125. In order to provide a northern ingress to and egress from Woodlands Drive, the current freeway plans propose an extension of Tarnard Drive over the linear reserve to connect with Woodlands Drive, thereby allowing vehicles from Woodlands drive to access Lower Dandenong Road via Bell Grove or Boundary Road.

126. Currently, it is understood that tenants of Tarnard Drive use the cul-de-sac as a truck turning circle, and it appears to have been constructed for this purpose due to its generous proportions. Aerial imagery also suggests it is used for car parking around the circumference of the cul-de-sac.

127. Tenants of Tarnard Road raise concerns over potential conflict between through traffic and the truck turning movements.

128. I am aware of a proposed alternative to the reference design that proposes to link the north bound off ramp from the freeway (at Lower Dandenong Road) to Woodland Drive enabling Tanard Road to remain a cul-de-sac. The design alternative also enables Woodland Drive to maintain direct access to Lower Dandenong Road.

129. It is considered that the proposed alternative is an improvement on the exhibited reference design as it provides for a more direct access to and from the freeway for those businesses utilising Woodland Drive and better leverages the improved accessibility offered by the freeway.

6.8. BRAESIDE PARK

130. Braeside Park, managed by Parks Victoria, is located immediately east of the project area between Lower Dandenong Road and Governor Road. Extensive revegetation and improvement works of the former farmland and water treatment area have resulted in a large parkland of rehabilitated woodland and some areas of rehabilitated, constructed wetlands.