

Traffix Group

Traffic Engineering Evidence

Shenstone Park Precinct Structure Plan

Amendment C241 to the Whittlesea Planning Scheme

Prepared for
1100 Donnybrook Road Pty Ltd

Instructed by
Hall & Wilcox Lawyers

October 2020

G28199A-01A

STATEMENT TO PLANNING PANELS VICTORIA BY HENRY TURNBULL, TRAFFIC ENGINEER

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1. Executive Summary

1.1. Introduction

I have been retained by Hall & Wilcox Lawyers on behalf of 1100 Donnybrook Road Pty Ltd to undertake traffic engineering assessments and prepare traffic evidence in relation to Amendment C241 to the Whittlesea Planning Scheme, which seeks to introduce the Shenstone Park Precinct Structure Plan (PSP) which affects land on the south side of Donnybrook Road, to the east of the northeast railway line.

In preparing this report, I have relied upon the facts, matters and assumptions detailed in Appendix A.

1.2. Qualifications and Experience

Appendix A contains a statement setting out my qualifications and experience, and the other matters raised by "Planning Panels Victoria – Planning Panels – Expert Evidence".

Appendix B contains my CV.

1.3. Summary of Opinions

Having undertaken traffic engineering assessments of the proposed Amendment C241 to the Whittlesea Planning Scheme, I am of the opinion that:

- a) the PSP should be modified to provide for a left-IN/left-OUT access point to the subject site immediately east of the utilities easement,
- b) the left-IN/left-OUT is in accordance with the Department of Transport (DOT) access management policies and is appropriately spaced from adjacent intersections,
- c) the provision of a left-IN/left-OUT to the subject site on the PSP plan is appropriate for the following reasons:
 - it gives the site certainty as to the location of the connection,
 - it provides consistency with adjacent lots fronting Donnybrook Road in terms of access provision,
 - it provides the opportunity for the site to develop without the need to rely on adjacent development and reduces the approval time for access, and
 - it removes the Citygate Gas Easement facility's potential to exclusively use the access opportunity for the site and allows the access to be utilised by the community, with the Citygate facility's access able to be relocated internally from within the subdivision,
- d) the east-west local access street connection through the site which runs parallel to Donnybrook Road (approximately 450m south of Donnybrook Road) should be modified so that it provides a more direct connection to the left-IN/left-OUT intersection at Koukoura Drive, and

- e) it is appropriate to relocate the BCS frontage road so that it follows the boundary of residential development, noting the proposal to relocate the credited public open space more centrally within the residential catchment.

2. Subject Site

The subject site is located at 1100 Donnybrook Road in Donnybrook, within the future Shenstone Park PSP area. The extent of the subject land is identified at Figure 1 below.



Figure 1: Subject Site

The subject site has a total area of approximately 67 hectares and a frontage to Donnybrook Road of approximately 395m.

There is an existing dwelling and associated outbuildings located in the northwest corner of the site, and an existing City Gate gas facility located to the east of the dwelling. The remainder of the site is currently rural farmland.

There are three existing crossovers to Donnybrook Road, including two for the dwelling and one for the gas facility.

3. Amendment C241 – Shenstone Park PSP

Amendment C241 to the Whittlesea Planning Scheme has been prepared by the Victorian Planning Authority (VPA) and applies the Shenstone Park Precinct Structure Plan (PSP) to land on the south side of Donnybrook Road and to the east of the northeast railway line.

The PSP boundary and proposed future urban structure is shown in Figure 2 below.

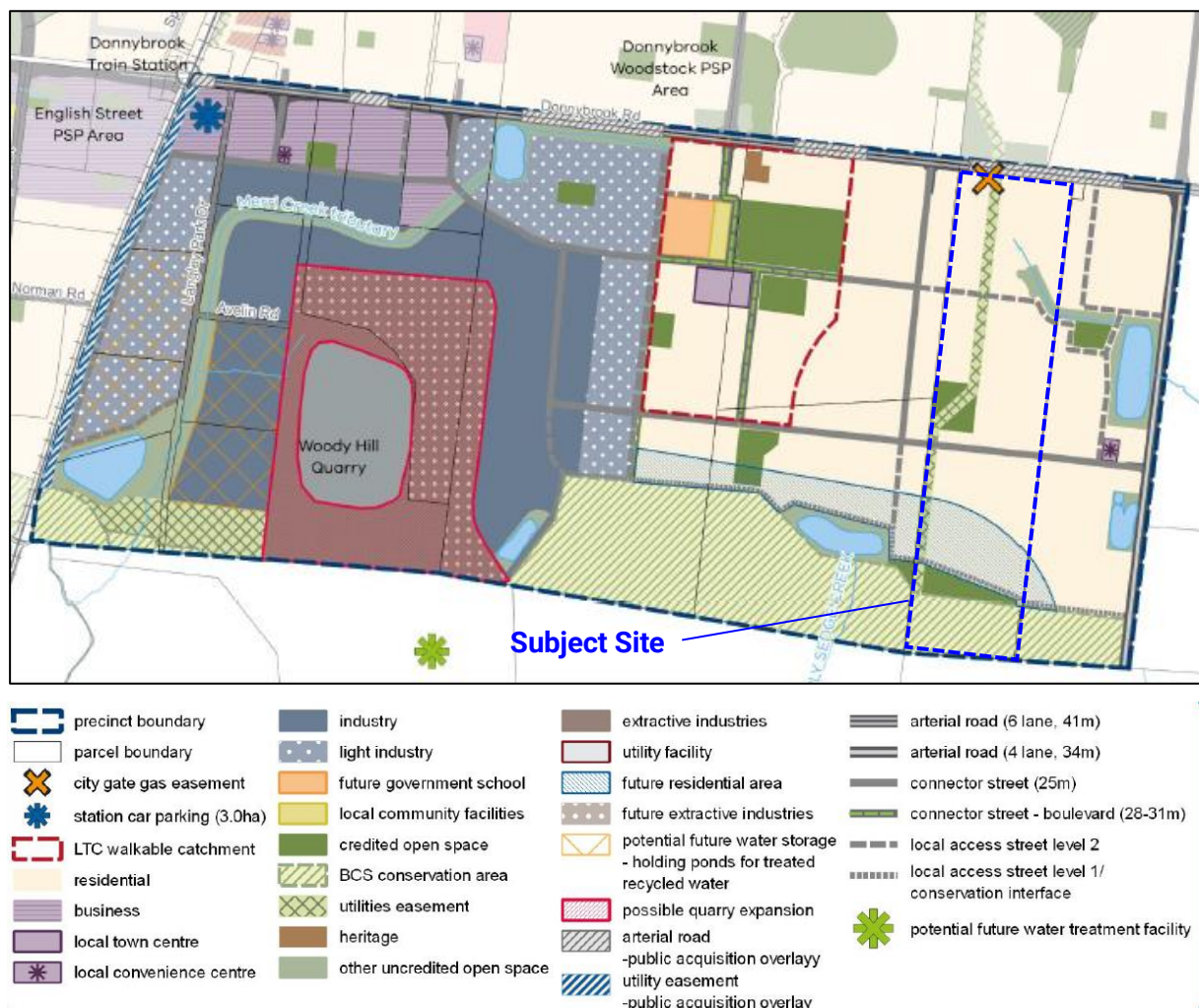


Figure 2: Shenstone Park PSP – Plan 3 Future Urban Structure (Tracked Changes Panel Version 12-10-20)

Figure 2 indicates that the majority of the site will be developable for residential purposes. The southern-most part of the site is nominated as BCS conservation area.

There is also a utilities easement running north-south through the site and an existing City Gate Gas Easement facility adjacent to Donnybrook Road on the west side of the utilities easement.

Figure 3 below shows the PSP street network.

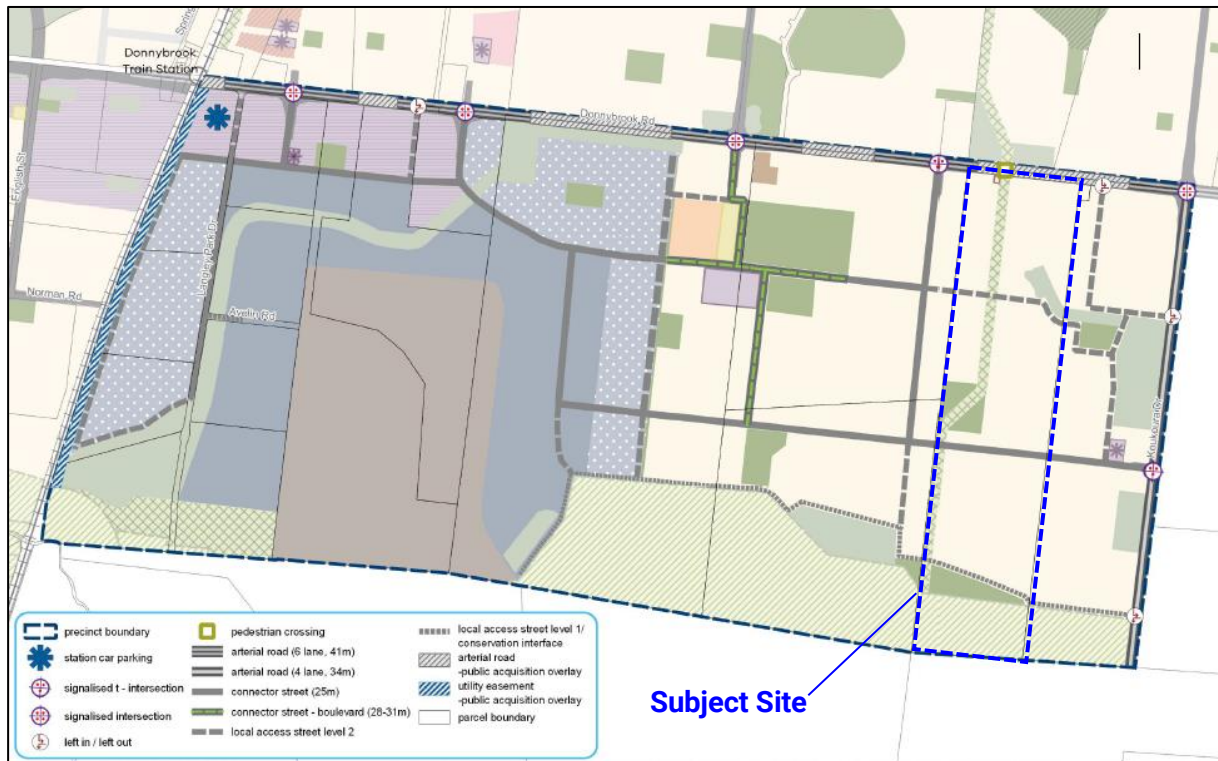


Figure 3: Shenstone Park PSP – Plan 10 Street Network (Tracked Changes Panel Version 12-10-20)

Figure 3 shows the following within the site:

- a pedestrian crossing on Donnybrook Road in the vicinity of the utilities easement,
- no access to Donnybrook Road from the site,
- an east-west local access street passing through the site parallel to and 450m (approx.) south of Donnybrook Road,
- an east-west connector street passing through the site parallel to and 1km (approx.) south of Donnybrook Road, and
- a local access street level 1 conservation interface separating the residential development area from the BCS conservation land.

4. Traffic Modelling

GTA Consultants undertook traffic modelling to support the road network in the PSP. Figure 4 below shows the road network adopted by GTA within the Shenstone PSP area for the purpose of the modelling.



Figure 4: GTA Modelled PSP Road Network (Refined VITM Model)

Figure 5 below overlays the modelled road network onto the PSP street network.

Notably, the modelled network shows the same number of signalised cross-intersections and signalised T-intersections for the PSP as the street network plan, although not quite in the same locations. The GTA model shows a signalised T-intersection modelled within the subject site instead of within the adjacent property to the west, as is shown in the PSP.

The GTA model also excluded one left-IN/left-OUT access point to Koukoura Drive.

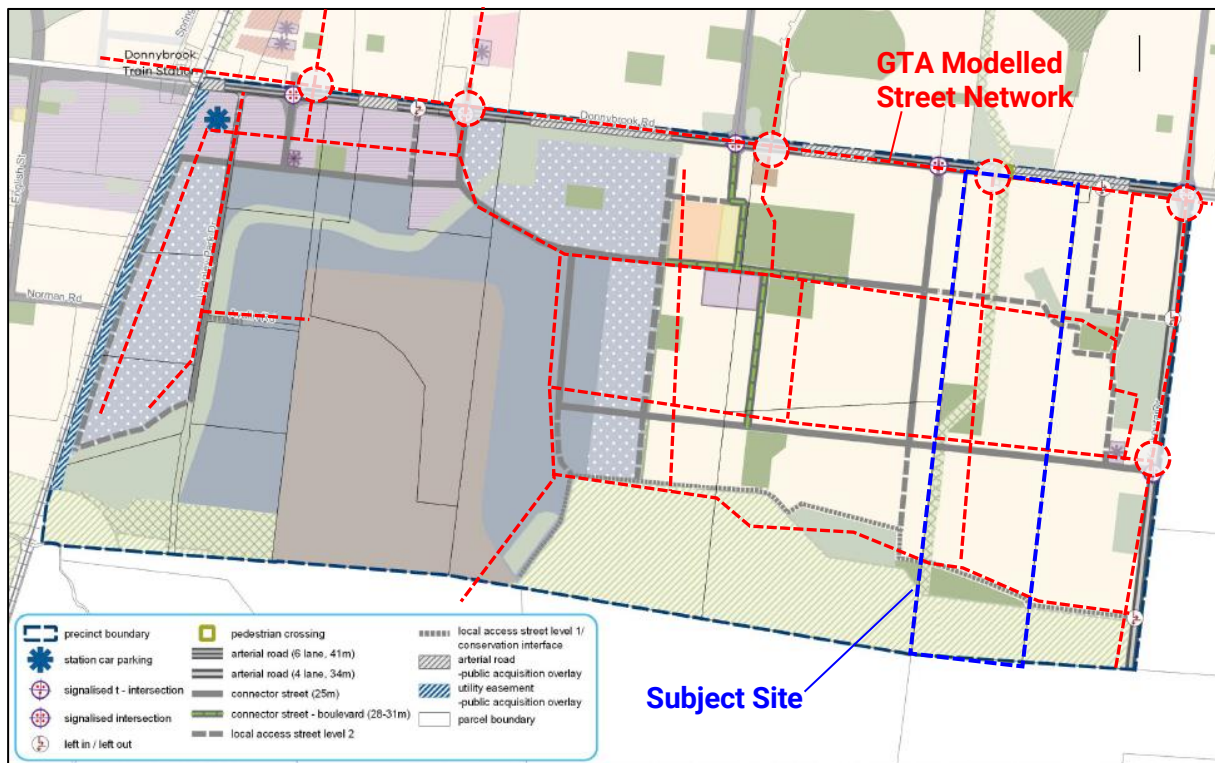


Figure 5: GTA Modelled PSP Road Network Overlaid onto the PSP Street Network (Plan 10)

The GTA modelling outputs are summarised as follows:

- The volume to capacity (VCR) plots showed that the highest level of congestion occurred around the intersection of the realigned Langley Park Drive with Donnybrook Road (VCR approaching 0.7), with a VCR ratio between 0.5 and 0.6 on Koukoura Drive south of the boundary of the Shenstone Park PSP in the AM and PM peak periods respectively. All other roads within the PSP will have a VCR less than 0.4. These values are within acceptable limits.
- Ultimate two-way daily traffic volumes on Donnybrook Road in the vicinity of the site frontage are 15,570vpd.
- Ultimate two-way daily traffic volumes on the northern east-west local street passing through the site are 1,520vpd.
- Ultimate two-way daily traffic volumes on the central east-west connector passing through the site are 4,360vpd.
- The southern BCR frontage road appears to be only carrying traffic in the westbound direction (930vpd, increasing to 1,440 vpd at the Koukoura Drive intersection westbound, but 0vpd eastbound). Notably, where the central east-west connector intersects Koukoura Drive, it is expected to carry 5,230 eastbound and 3,060 westbound, which suggests that there is a significant demand for right turns out and little to no demand for left-turns out from the southern BCR frontage road.

An extract of the GTA daily traffic volume plot in the vicinity of the subject site is shown in Figure 6 below.



Figure 6: GTA Modelled Shenstone Park PSP Daily Traffic Volumes

5. Submission

Ouson (1100 Donnybrook Road Pty Ltd) made a submission (#20) in response to the exhibited PSP. The issues raised within the submission related to open space, access, native vegetation/BCS impact and buffers from the Phillips Quarry.

The transport related submission items and initial VPA's responses are provided in Table 1 below.

Table 1: 1100 Donnybrook Road Submission and the Initial VPA Responses

Submission	Initial VPA Response to Submission
<p>Point of Access</p> <ul style="list-style-type: none"> - Plan 10 'Street Network' on page 30 of the PSP as shown in Figure 7 of the submission. - We note that all other significant PSP landholdings are each provided with a formal point of access to their land from Donnybrook Road, however no formal access is provided to our client's land except through the adjoining landholdings. - Suggest that either of the nearby access locations on the adjoining properties could be relocated to the common boundary to provide access to both properties. 	<p>Change not supported.</p> <p>The Donnybrook Woodstock PSP and ICP has set the locations of intersections along Donnybrook Road.</p> <p>Transport consultant advised –</p> <p>The V/C ratios in the modelling do not identify the need for an additional connection to Donnybrook Road. It would be possible to provide a local connection to Donnybrook Road as part of the Subdivision stage in the form of Service Road access and/or left-in/left-out arrangement, subject to relevant approvals.</p>

6. Traffic Engineering Opinions

Figure 4 below shows the proposed road changes to the PSP.

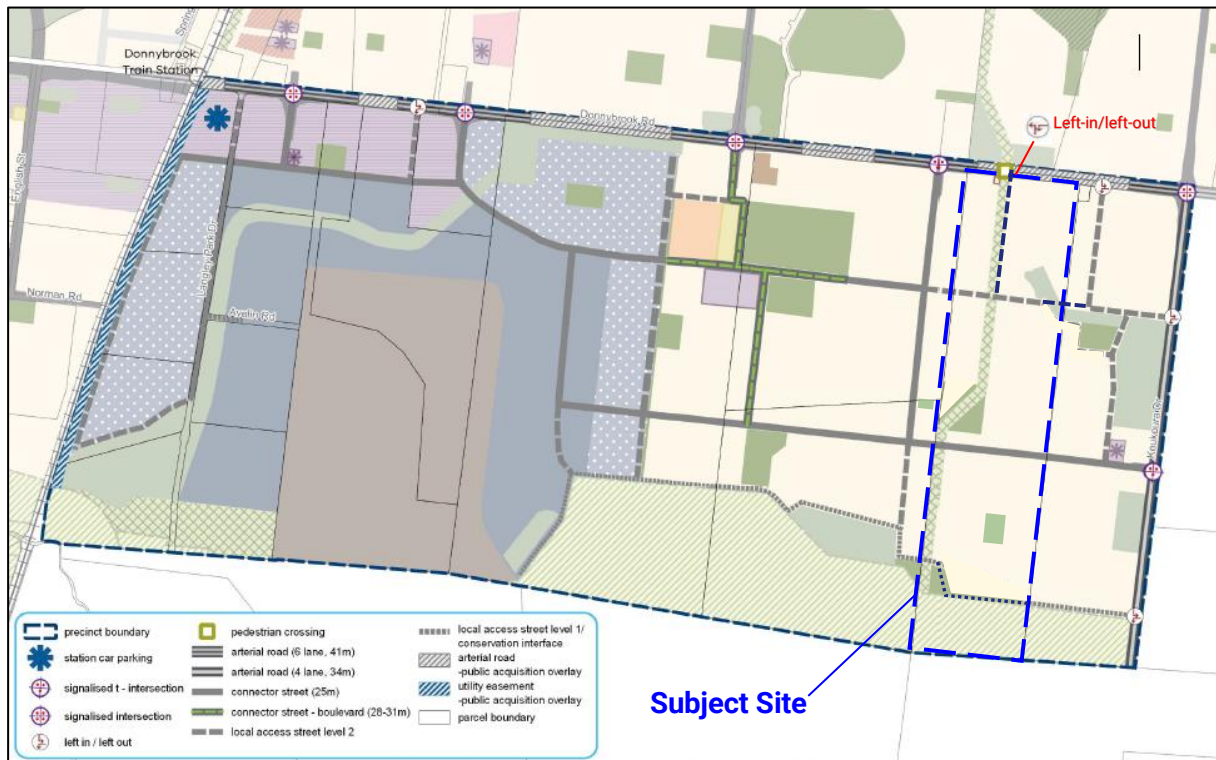


Figure 7: Shenstone Park PSP – Proposed Changes

The changes shown in Figure 4 are discussed below.

6.1. Donnybrook Road Left-IN/Left-OUT Access

The subject site is the only major landholding fronting Donnybrook Road which has not been provided with any formally acknowledged access point within the PSP area.

The site frontage is close to 400m in length, and meets the requirement for a left-in/left-out on an arterial road, with a minimum 200m spacing to adjacent intersection(s) able to be achieved in accordance with the Department of Transport (DOT) access management policies.

The VPA response to the site's submission acknowledged that it would be possible to provide a local connection to Donnybrook Road in the form of a left-in/left-out arrangement, subject to relevant approvals.

Under the current PSP street network plan, a left-IN/left-OUT connection to Donnybrook Road from the site would likely be required for access to the Citygate Gas Easement facility, which may restrict the location of any future left-IN/left-OUT access to the site for community use under DOT's access management policies.

By formalising the location of a local road connection to Donnybrook Road from the site through the PSP:

- it gives the site certainty as to the location of the connection,
- it provides consistency with adjacent lots fronting Donnybrook Road in terms of access provision,
- it provides the opportunity for the site to develop without needing to rely on adjacent development and reduces the approval time for access, and
- it removes the Citygate Gas Easement facility's potential to exclusively use the access opportunity for the site and allows the access to be utilised by the community, with the Citygate facility's access able to be relocated internally from within the subdivision.

The proposed left-IN/left-OUT access connection as shown in Figure 4 is on the east side of the utilities easement, as a frontage road separating the easement from the residential area.

This location is approximately midway between the two proposed access points to Donnybrook Road to the east and west, separated at least 200m from these adjacent access points, and can be sufficiently off-set from the proposed signalised pedestrian crossing on Donnybrook Road.

Notably, the pedestrian crossing can be located on the west side of the easement, providing sufficient separation for storage of a couple of vehicles between the stop line of the pedestrian crossing and the proposed left-IN/left-OUT intersection.

6.2. East-West Local Access Street Alignment

The current PSP street network plan shows an east-west local access street passing through the site parallel to and 450m (approx.) south of Donnybrook Road. To the west, the street is upgraded to a connector and follows a straight alignment, providing access to non-residential areas including employment, retail and railway station car parking, etc.

The classification as a local access street within the subject site is appropriate, having regard to the GTA modelled traffic volumes, which indicate an ultimate two-way daily volume of 1,520vpd within the site. This is consistent with a local access street (Level 1) classification, as defined in Clause 56.06-8 of the Planning Scheme.

At the eastern boundary of the site, the alignment is convoluted, diverting south, east and north around open space, before continuing along the same east-west alignment and connecting (left-IN/left-OUT) to Koukoura Drive, which is a future four-lane arterial.

It is proposed to modify the east-west local access street alignment so that it continues through the site and connects to the property to the east in a generally straight alignment. A small culvert may be needed where the proposed alignment crosses the existing waterway. This is not expected to be a significant cost.

I note that raised hump(s) or other traffic management treatments could be provided on this street where it crosses the utilities easement and waterway, to reinforce its local road status without providing a deviated alignment. The left-IN/left-OUT intersection at Koukoura Drive will also indicate to road users that it is a local street and not a major thoroughfare.

I am of the opinion that this arrangement provides a superior outcome for the local community compared with the currently proposed alignment.

6.3. Local Access Street Conservation Interface

The latest version of the PSP (track changes Panel version dated 12th October 2020) shows credited open space adjacent to the southern BCS Conservation Area, with an interface road separating the residential area from the credited open space.

It is proposed to relocate the credited open space so that it is located centrally to the residential catchment it serves, and as a consequence, the location of the interface road is proposed to be modified so that it separates the BCS Conservation Area and the residential area.

This continues to meet the intent of the PSP and is appropriate.

It is intended that frontage roads (local access streets) will also be provided adjacent to the relocated public open space, however it is not necessary to show this level of detail on Plan 10 (Street Network Plan) within the PSP, noting that frontage streets are not shown for any other public open space (local parks) throughout the PSP area.

6.4. Traffic Modelling Considerations

The above recommended changes to the PSP street network within the subject site will not adversely impact on the GTA traffic modelling results.

The introduction of one additional left-in/left-out at the subject site will slightly improve the operation of adjacent intersections compared to the GTA modelled results.

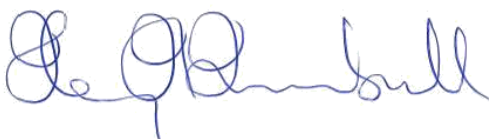
The straightening of the east-west local access street alignment is consistent with the modelled street network.

7. Conclusions

Having undertaken traffic engineering assessments of the proposed Amendment C241 to the Whittlesea Planning Scheme, I am of the opinion that:

- a) the PSP should be modified to provide for a left-IN/left-OUT access point to the subject site immediately east of the utilities easement,
- b) the left-IN/left-OUT is in accordance with the Department of Transport (DOT) access management policies and is appropriately spaced from adjacent intersections,
- c) the provision of a left-IN/left-OUT to the subject site on the PSP plan is appropriate for the following reasons:
 - it gives the site certainty as to the location of the connection,
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 - it removes the Citygate Gas Easement facility's potential to exclusively use the access opportunity for the site and allows the access to be utilised by the community, with the Citygate facility's access able to be relocated internally from within the subdivision,
- d) the east-west local access street connection through the site which runs parallel to Donnybrook Road (approximately 450m south of Donnybrook Road) should be modified so that it provides a more direct connection to the left-IN/left-OUT intersection at Koukoura Drive, and
- e) it is appropriate to relocate the BCS frontage road so that it follows the boundary of residential development, noting the proposal to relocate the credited public open space more centrally within the residential catchment.

I have made all the inquiries that I believe are desirable and appropriate and there are no matters of significance which I regard as relevant which, to the best of my knowledge, have been withheld from the Panel.



HENRY H TURNBULL, RFD
B.E.(Civil), M.I.E.Aust., M.I.T.E., F.V.P.E.L.A.

27th October, 2020



Appendix A

Planning Panels Victoria – Expert Evidence

Statement of Witness

Name

Henry Hume Turnbull

Position

Principal Consultant, Traffix Group

Address

Level 28, 459 Collins Street
MELBOURNE
VICTORIA 3000

Qualifications

My qualifications and membership of professional associations are as follows:-

- Bachelor of Civil Engineering, University of Melbourne
- Life Member, Institute of Transportation Engineers
- Member, Institution of Engineers, Australia
- Life Fellow, Victorian Planning & Environmental Law Association

Experience

I have approximately 44 years' experience in Engineering including:

- ten years Country Roads Board of Victoria,
- two years with TTM Consulting, and
- thirty two years with Turnbull Fenner Pty Ltd/Traffix Group Pty Ltd.

Additional activities and appointments include:-

- Sessional member, Planning Panels Victoria (1982-2017)
- Member, Priority Development Panel (2004 - 2010)
- Councillor, Shire of Euroa (1980-1983)
Shire President (1982-1983)
- President, Victorian Planning and Environmental Law Association (1999-2002)
Life Fellow, Victorian Planning and Environmental Law Association (2003)
- Bail Justice (Victoria)

Area of Expertise

I have substantial experience and expertise in major road design and construction, contract administration, road construction material and construction methods, development impact assessment, including traffic generation and parking generation characteristics, traffic management and general traffic engineering, road safety and transportation planning.

I was a member of the former Ministers for Planning Advisory Committees making a review of Clause 52.06 (Car Parking) that led to changes being incorporated into the scheme on 5th June, 2012.

Disclosure of Interests

Neither Henry Turnbull nor Traffix Group have any private relationship with any parties involved in this Amendment. Both have worked with the various consultants and the City of Whittlesea on a number of other projects in the past.

These involvements have not impacted on my ability to provide impartial Expert Evidence to the Panel.

Engagement and Scope of Report

I was retained by Hall & Wilcox Lawyers on behalf of 1100 Donnybrook Road Pty Ltd in August 2020 to undertake traffic engineering assessments and prepare traffic evidence in relation to Amendment C241 to the Whittlesea Planning Scheme, which seeks to introduce the Shenstone Park Precinct Structure Plan.

Facts and Assumptions

As detailed in evidence.

Reference Documents

I have reviewed the following documents as part of my assessment:

- Exhibited documentation for Amendment C241,
- Ouson Submission for 1100 Donnybrook Road Pty Ltd,
- VPA response to submissions,
- Shenstone Park PSP Strategic Transport Modelling Assessment report, GTA, 15 October 2020
- VPA Part A Submission 1069.1 Shenstone Park PSP,
- Relevant sections of the Whittlesea Planning Scheme, and
- Relevant experience.

Summary of Opinions

See Conclusions section of the evidence statement.

Provisional Opinions

Not applicable.

Identity of Persons Undertaking Work

Henry H Turnbull as per the evidence statement.

Jodie Place (Associate, Traffix Group) assisted with preparation of the evidence report.

Report Completeness

Final report.



Appendix B

CV

Henry Turnbull

Principal Consultant



Henry Turnbull is the founding principal of Traffix Group.

Henry is highly regarded in the transport planning and traffic management industry for his specialist expertise and substantial experience. This includes metropolitan and regional traffic engineering, as well as transport planning at the strategic and development levels.

His experience and expertise in planning projects puts him in demand as an expert witness at the Victorian Civil Appeals Tribunal and Planning Panels.

Professional History

Traffix Group	Since 1988
TTM Consulting Pty Ltd	1986 to 1988
Miller Huthwaite Ltd/ Peat Marwick Hungerfords	1982 to 1986
Country Roads Board	1972 to 1982

Qualifications

Bachelor of Civil Engineering,
Melbourne University

Affiliations

Life Member, Institute of Transportation
Engineers Australia

Member, institution of Engineers Australia

Life Fellow, Victorian Planning and
Environmental Law Association (VPELA)

Significant Appointments

Sessional Member Planning Panels Victoria
(1982 – 2017)

Member Priority Development Panel
(2004 – 2010)

Member Growth Areas Authority Expert Panels
for Urban Planning and Urban Design
(Appointed 2010)

Key Activities

Councillor, Shire of Euroa (1980 – 1983) (Shire
President, 1982 – 1983)

President, VPELA (1999 – 2002)

Bail Justice (Victoria)

Areas of Expertise

Transport Planning (Traffic Impact Assessments):

- Preparation of Traffic Impact Assessment Reports (TIAR) and Evidence for presentation at VCAT and Planning Panels for a range of land-use developments.
- Other significant commissions include co-ordination of a development contribution plan for the City of Maribyrnong including extensive traffic investigations and assessments, preparation of Parking Precinct Plans, and TAC funding strategies and priority assessment for VicRoads – Northern Region.
- Preparation of transport planning studies and Integrated Travel Plans including consideration of sustainable transport modes and green travel plans, pedestrian access, bicycle paths, parking and access to public transport.
- Provision of advice on traffic engineering and transport planning issues for major infrastructure projects for government and private clients.
- Extensive stakeholder interaction and consultation with community bodies on technical transport issues and project planning issues.
- Management of numerous other projects including local and district management studies, heavy vehicle route assessments, pedestrians safety research, public transport passenger surveys and route studies, property rezoning and health care projects.

Strategic Planning & Statutory Planning

- Regularly appointed as a Planning Panel member by the Minister for Planning with over thirty years' experience as a sessional Planning Panel member. Relevant major Panels and Advisory Committees include Armstrong Creek Urban Framework Plan, Armstrong Creek North East Industrial Precinct Structure Plan, Traralgon Bypass, Webb Dock EES and Melbourne Airport Rail Link.
- Served successive Governments on Advisory Committees to assist with policy development, including the Priority Development Panel Steering Committee on the development of Practice Notes for Parking Precinct Plans, and the Advisory Committee reviewing Clause 52.06 Carparking in the VPPs.
- Significant experience and expertise in the provision of traffic engineering and transport planning advice to support the development of structure plans, site/precinct plans and development contributions plans.