



Melbourne Metro EES Report to Panel Traffic & Transport Review Domain Station Precinct

Expert // John Kiriakidis
Client // The Botanica Owners Corporation
Instructed by // Planning and Property Partners Pty Ltd
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Melbourne Metro EES Report to Panel

Traffic and Transport Review - Domain Station Precinct

Expert Evidence

Issue: Final 12/08/16

Client: The Botanica Owners Corporation

Reference: V103890

GTA Consultants Office: VIC



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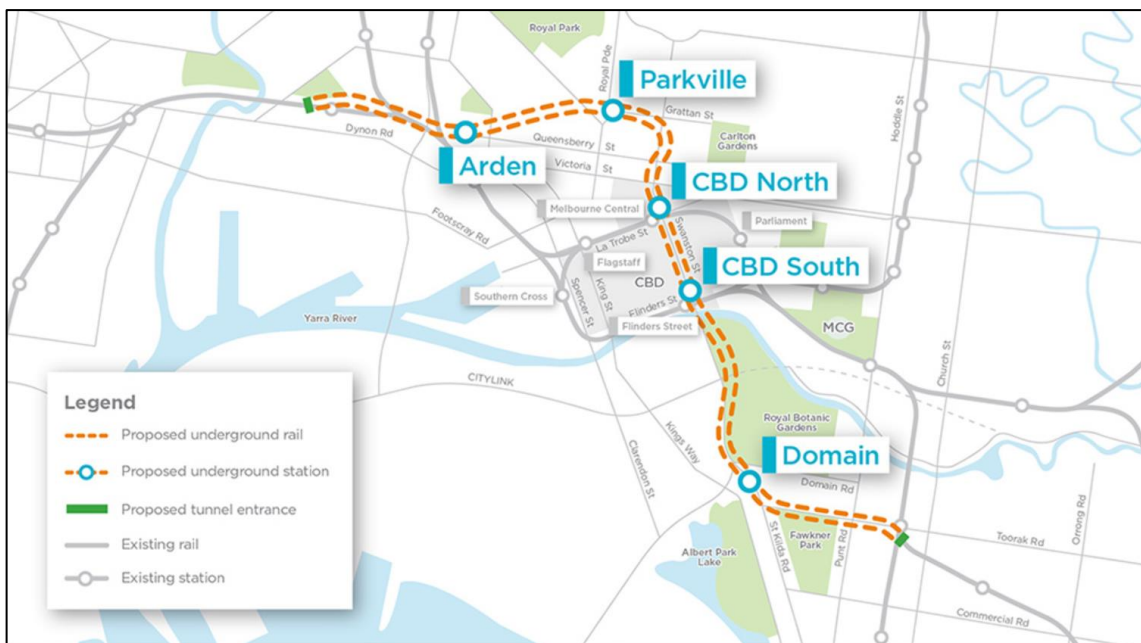
1. Introduction

1.1 Melbourne Metro Project Overview

The Melbourne Metro Rail Project (MMRP) is a fully funded (\$10.9B) project of state significance designed to increase the capacity of the metropolitan railway system. The MMRP includes the following key components:

- Two rail tunnels between South Kensington and South Yarra, through Melbourne's Central Business District (CBD). These lines will create a connection between the existing Sunbury and Cranbourne/ Pakenham railway lines.
- A total five new train stations will be constructed at the following locations as outlined in Figure 1.1.

Figure 1.1: MMRP – Project Station Map



Source: www.metrotunnel.vic.gov.au

Following completion of the project, the MMRP will free up the existing City Loop allowing additional trains to operate on the Upfield, Craigieburn, Sunbury, Frankston, Cranbourne, Pakenham, Werribee and Sandringham lines. Specifically, it is estimated that the project will deliver additional capacity for approximately 40,000 passengers during each peak period, ease overcrowding in the inner core of the existing rail network whilst relieving tram overcrowding and congestions issues within the Melbourne CBD and its immediate vicinity.

Construction of the MMRP is expected to commence in late 2018 and finish in 2026. It is expected to create 3,900 jobs across the state of Victoria with 4700 jobs supported at the peak of its construction.

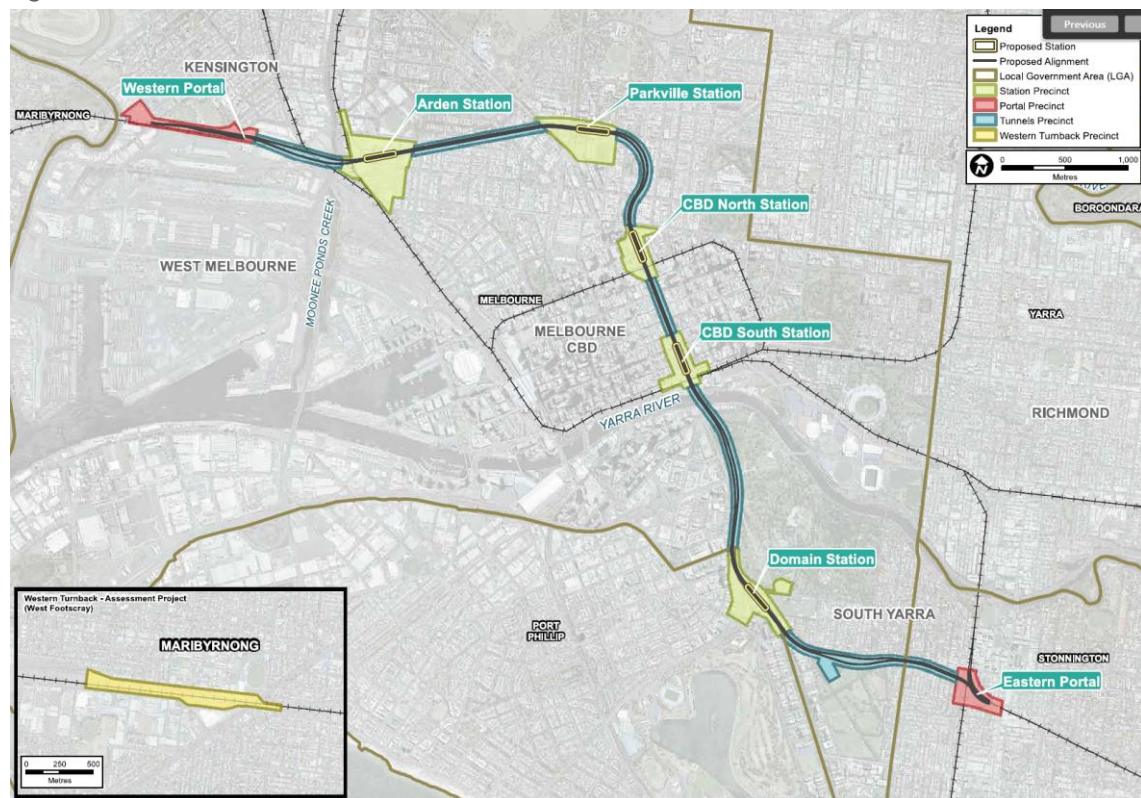
1.2 Environmental Effects Statement Process

The MMRP is currently being assessed via an Environment Effects Statement (EES) process. The EES allows for an overarching and integrated assessment of impacts of the project and draws on the findings of a number of supporting documentation and studies before any approval or conditions are granted. The EES process also allows for a comprehensive public engagement program to seek input from the community and other stakeholders which will help confirm the ultimate delivery of the MMRP including considerations throughout the construction period.

As part of the EES process, a Transport Impact Assessment (TIAR) was prepared by AJM in April 2016. This TIA provides a high level review of transport related aspects associated with the construction and post development operation of the MRRP.

For the purposes of the EES assessment, the MMRP project was broken down into 9. The project map is reproduced below in Figure 1.2.

Figure 1.2: MMRP Precincts



Source: MMRP Transport Impact Assessment, April 2016

Transport modelling was undertaken to assess existing and post development traffic conditions within each precinct of the MMRP. The extent of modelling varies between each of the Station Precincts.

In order to ascertain baseline or a suitable existing conditions scenario, a desktop analysis of available traffic data and associated site inspections was undertaken by the project team charged with preparing the EES TIAR. Modelling and other analysis has been undertaken in an effort to estimate impacts during the construction period (design year 2021) and for the legacy outcome (i.e. post completion design year 2031¹) both with and without the MMRP.

¹ 5 years post planned completion date of MMRP.

1.3 References

In preparing this evidence, reference has been made to the following:

- Melbourne Planning Scheme
- Melbourne Metro Rail Project, Transport Impact Assessment prepared by AJM, April 2016, including appendices
- operational data associated with "The Botanica" provided to GTA Consultants
- traffic and car parking surveys undertaken by GTA Consultants as referenced in the context of this report
- an inspection of the site and its surrounds
- other documents as nominated.

1.4 Tests, Experiments & Assistance

In preparing this evidence, I received assistance from the following people:

- Mr Simon Beardall – Associate – BAppSc(Geomatics)(Hons)
- Mr Joshua Haigh – Consultant – BEng(Civil)(Hons)

1.5 Expert Witness Details

**John Kiriakidis BE (Civil & Computing) (Hons) MAITM, MVEPLA, MIEAust
Director (National) - GTA Consultants**

L25, 55 Collins Street, Melbourne

Areas of Expertise: Traffic Engineering & Transport Planning

I have been awarded a Bachelor of Engineering with Honours (Civil Engineering and Computing) degree from Monash University and am a Member of the Institute of Engineers Australia, Australian Institute of Traffic Planning and Management and the Victorian Planning and Environmental Law Association.

I possess over 18 years' experience in the traffic, transport and urban planning industry and am responsible for managing teams of traffic and transport planning specialists including, traffic engineers, strategic, micro and nano-simulation modellers, active transport planners and designers.

I have a thorough understanding of federal, state and local transport planning policy and am regularly involved in complex projects.

I appear regularly at the Victorian Civil and Administrative Tribunal (VCAT) and Panels Victoria as an independent expert witness in the field of traffic and transport planning.

Further details of my experience are provided in Appendix A.

1.6 Relationship to Submitter

I have no ongoing private or business relationship with the submitter, and have been retained to provide expert witness services at this hearing for a mutually agreed fee.

2. Purpose of Report

2.1 Appointment & Scope

I was instructed by Planning and Property Partners Pty Ltd acting for The Botanica Owners Corporation (The Botanica) to provide traffic engineering and transport planning engineering services in relation to the Melbourne Metro Environmental Effects Statement (EES) and its impacts on The Botanica within the Domain Station Precinct.

The Owners Corporation of the Botanica building located at 400 St Kilda Road in Melbourne are concerned with the potential impact of the Melbourne Metro Rail Project on the day to day operation of its building both during construction and post construction. The Botanica building will be directly affected by the construction of the Domain Station located in the Domain Precinct. Of significant concern to The Botanica are the following key traffic and transport related issues:

- The potential impact on visitor car parking availability and on-street loading availability in the vicinity of the site as a result of the construction of the Domain Station.
- The potential impacts to vehicle access to the Botanica building as a result of the construction of the Domain Station, particularly onto St Kilda Road.
- Concerns regarding pedestrian access and safety during construction works.
- The need to implement appropriate controls and construction traffic management measures in order to reduce inappropriate traffic and transport impacts on the Botanica.

GTA has been requested to undertake a review of the EES material and identify any areas of legitimate concern around short-comings or omissions associated with the Melbourne Metro project. Specifically, GTA has been requested to review the EES documentation (including the transport impact assessment prepared by AJM) and identify any possible recommendations which can / should be made to better inform any EES review and protect the operational interests of The Botanica as they relate to the discipline of traffic and transport planning.

This evidence sets out an assessment of the anticipated parking, traffic and transport implications of the proposed MMRP as it relates to The Botanica's operations within the Domain Station Precinct, including consideration of the:

- Existing traffic and parking conditions surrounding the site.
- Impacts to on-street parking conditions in the vicinity of the Domain Station precinct and The Botanica as a result of the MMRP.
- Appropriateness of the proposed construction traffic vehicle access routes in the vicinity of the Domain Station precinct and The Botanica.
- Traffic generation characteristics of the MMRP, including construction traffic anticipated to be generated by the project.
- Anticipated transport impact of the MMRP on the surrounding road network both during the construction phase and legacy phase (i.e. post completion of the project).

2.2 Review Area

This evidence has been prepared to have specific regard to the potential impact of the MMRP both during construction and post construction on the day-to-day operation of The Botanica facilities and infrastructure within the Domain Station precinct only.

Further discussion outlining the specific to day operation of The Botanica in the vicinity of the proposed Domain Station is provided in Section 3 of this evidence statement.

2.3 Review Limitations

In preparing this evidence statement, it is noted that, due to time constraints no detailed interrogation of any modelling outputs contained within TIA prepared in support of the EES submission have been made. As such, I have relied on the outputs contained within the TIA (and associated modelling inputs) in forming my opinion and recommendations.

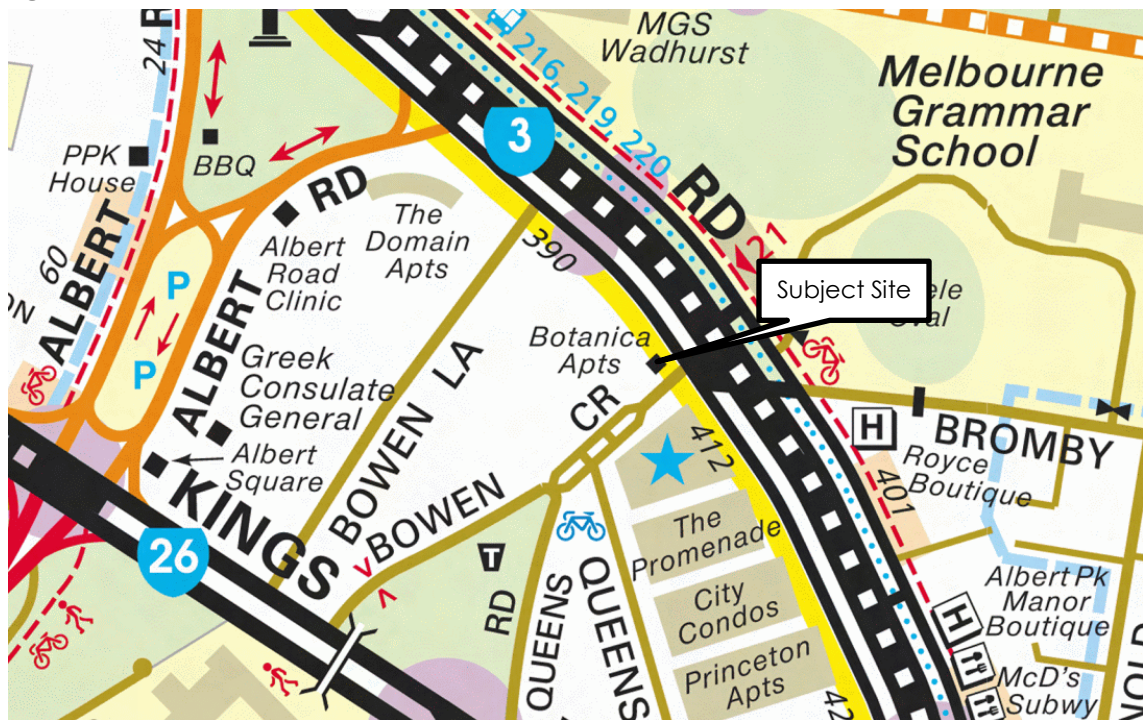
3. The Botanica

3.1 Overview

The Botanica, is a residential building comprising 58 dwellings located at 400 St Kilda Road in Melbourne. The Botanica building also includes two commercial tenancies, a real estate agency located at 402 St Kilda Road and massage and skin care premises located at 398 St Kilda Road.

The location of the site is shown in Figure 3.1.

Figure 3.1: The Botanica and Surrounds



3.2 Car Parking and Vehicle Access

The residential and commercial land uses on site are supported by 71 car parking spaces located in two separate basement car parking areas (there is no interconnectivity between the car parking areas provided on-site).

No car parking for visitors or customers associated with the commercial tenancies of the development is provided on site. A total of 27 car parking spaces are accessed via a single width crossover to Bowen Crescent, a further 44 car parking spaces are accessed via single width crossover to St Kilda Road. The sites vehicle access arrangements (and vehicle entry points) are shown in Figure 3.2 and Figure 3.3.

Figure 3.2: Bowen Crescent Vehicle Access



Source: www.google.com.au/maps

Figure 3.3: St Kilda Road Vehicle Access



Visibility for vehicles exiting the site from the Bowen Crescent car park is good with clear sight lines provided in both directions. Sightlines however for vehicles exiting the site from St Kilda Road are constrained due to existing street trees, on-street parking within the St Kilda Road carriageway and the curvature of St Kilda Road in the vicinity of the site.

3.3 Loading and Waste Collection

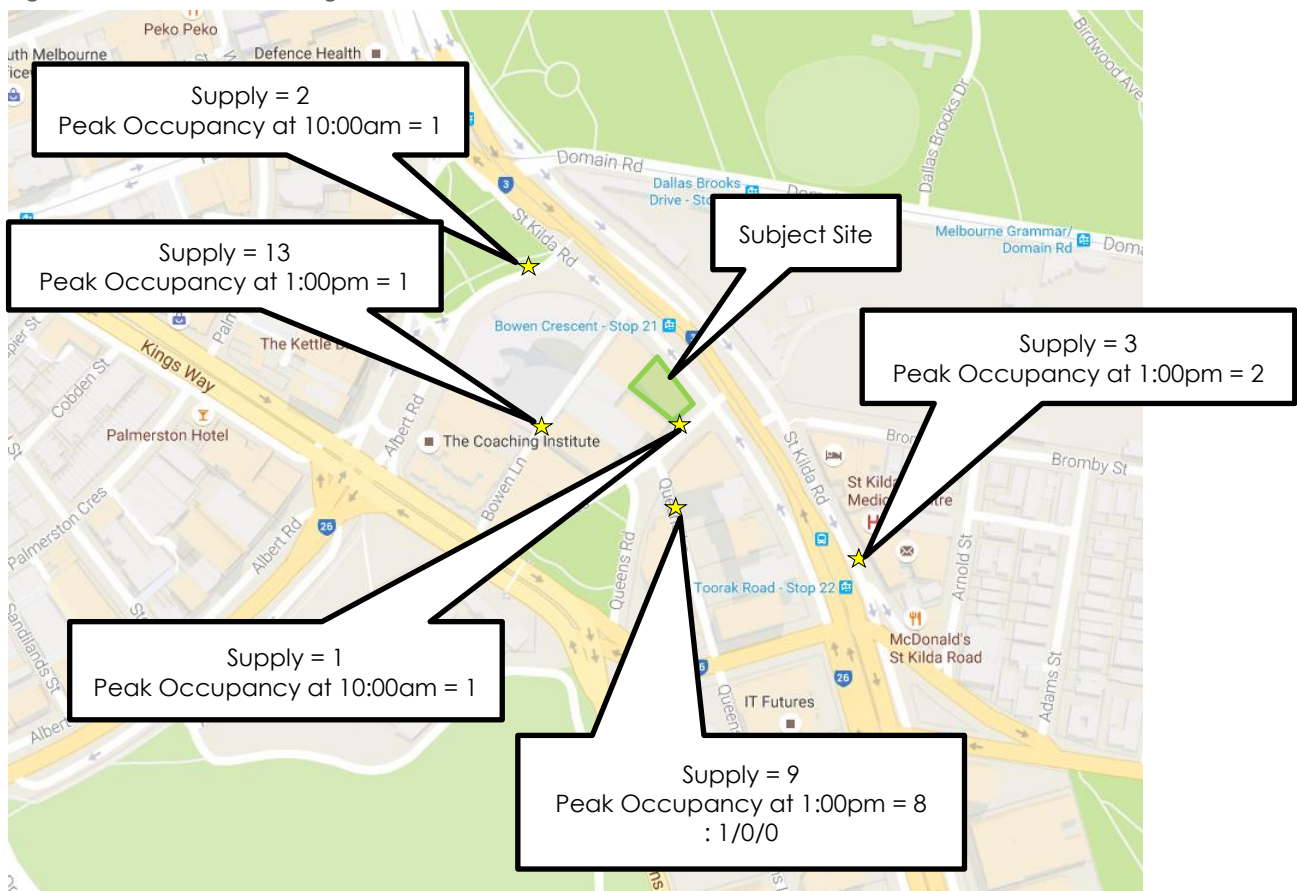
No on-site loading and service vehicle facilities are provided within the Botanica building and as such all loading and service vehicle activities associated with the residential and commercial uses are currently accommodated on-street in the immediate vicinity of the site.

The location of the existing on-street loading zones in close proximity of the site is illustrated in Figure 3.4.

In addition to the nominated on-street loading zones, there are a number of 15min parking spaces located on St Kilda Road in close proximity of the Botanica building. We have been instructed by representatives of The Botanica that these spaces are relied upon for loading and unloading activities associated with the residential component of the Botanica building, particularly by removalist vehicles. This area is used in comparison to the dedicated loading zone in Bowen Crescent given:

1. The main pedestrian entrance to the building does not provide ramp access but rather a sequence of stairs not suitable for removalist activity
2. The ramp access to the St Kilda Road car park contains a shallower grade than the ramped access to the Bowen Crescent car park floorplate and is therefore preferable for removalist trolley activity.

Figure 3.4: On-street Loading Zones



Waste associated with the Botanica is also collected from St Kilda Road. Approximately 20 bins are placed on the St Kilda Road footpath for collection early on Thursday mornings by Council's weekly collection service.

4. Domain Precinct Transport Network and Surrounding Land Uses

4.1 Existing Conditions

4.1.1 Road Network

Table 4.1 outlines the characteristics of key roads within the Domain Station Precinct area.

Table 4.1: Existing Network Configuration in vicinity of Proposed Domain Station

Road Name	Road Classification	Road Zone	Authority	Alignment	Configuration	Road Reserve Width (approx.)
St Kilda Road	Primary Arterial	Road Zone 1	VicRoads	North-south	<ul style="list-style-type: none"> ○ Three through lanes in each direction ○ Kerbside parking ○ Bicycle lane in each direction ○ Pedestrian paths on both sides of the road 	60.0m
Bowen Crescent	Local Road	Business Zone 5	Council	East-west	<ul style="list-style-type: none"> ○ One through lane in each direction ○ Kerbside parking ○ No bicycle provision ○ Pedestrian paths on both sides of the road 	22.0m
Bowen Lane	Local Road	Business Zone 5	Council	North-south	<ul style="list-style-type: none"> ○ One through lane in each direction ○ Kerbside parking ○ No bicycle provision ○ Pedestrian paths on both sides of the road 	9.5m
Queens Lane	Local Road	Business Zone 5	Council	North-south	<ul style="list-style-type: none"> ○ One through lane in each direction ○ Kerbside parking ○ No bicycle provision ○ Pedestrian paths on both sides of the road 	10.0m
Queens Road	Local Road	Business Zone 5	Council	North-south	<ul style="list-style-type: none"> ○ Two through lanes in each direction ○ Kerbside parking ○ No bicycle provision ○ Pedestrian paths on both sides of the road 	22.0m
Albert Road (between St Kilda Road and Kings Way)	Major Road	Business Zone 5	Council	North-south	<ul style="list-style-type: none"> ○ One through lane in each direction ○ Kerbside parking ○ Bicycle lane in each direction ○ Pedestrian paths on both sides of the road 	25.0m
Kings Way	Primary Arterial	Road Zone 1	VicRoads	East-west	<ul style="list-style-type: none"> ○ Four through lanes in each direction ○ No parking ○ No bicycle provision ○ Pedestrian paths on both sides of the road 	45.0m

4.1.2 Heavy Vehicle Precinct Routes

A number of B-double vehicle routes operate within the vicinity of the proposed Domain Station as illustrated in Figure 4.1. This figure also nominates nearby restricted access routes e.g. Albert Road.

Figure 4.1: B-Double Access Map



4.1.3 SmartRoads

SmartRoads is a VicRoads policy which sets 'modal' priorities on the road network and underpins many of the strategies significant to the operational directions that support broader strategies around land use and transport. The policy recognises that:

*"There is no single solution to managing congestion on our roads. Sustainable management of congestion will require an integrated approach involving better management of the existing network, building new infrastructure, visionary land use planning, encouraging sustainable transport modes, and changes in behaviour by individuals, businesses and a level of government."*²

All road users will continue to have access to all roads. However, certain routes will be managed to work better for cars while others for public transport, cyclists and pedestrians during the various peak and off-peak periods. In this regard, the following is noted by VicRoads for the various modes assigned to roads across the network that form part of the Network Operating Plans:

- "Facilitate good pedestrian access into and within activity centres in periods of high demand
- Prioritise trams and buses on key public transport routes that link activity centres during morning and afternoon peak periods
- Encourage cars to use alternative routes around activity centres to reduce the level of 'through' traffic
- Encourage bicycles through further developing the bicycle network
- Prioritise trucks on important transport routes that link freight hubs and at times that reduce conflict with other transport modes"

The SmartRoads network within the general Domain Precinct Area is shown in Figure 4.2.

² Sourced from VicRoads

Figure 4.2: VicRoads SmartRoads Network Operating Plan around Domain Station

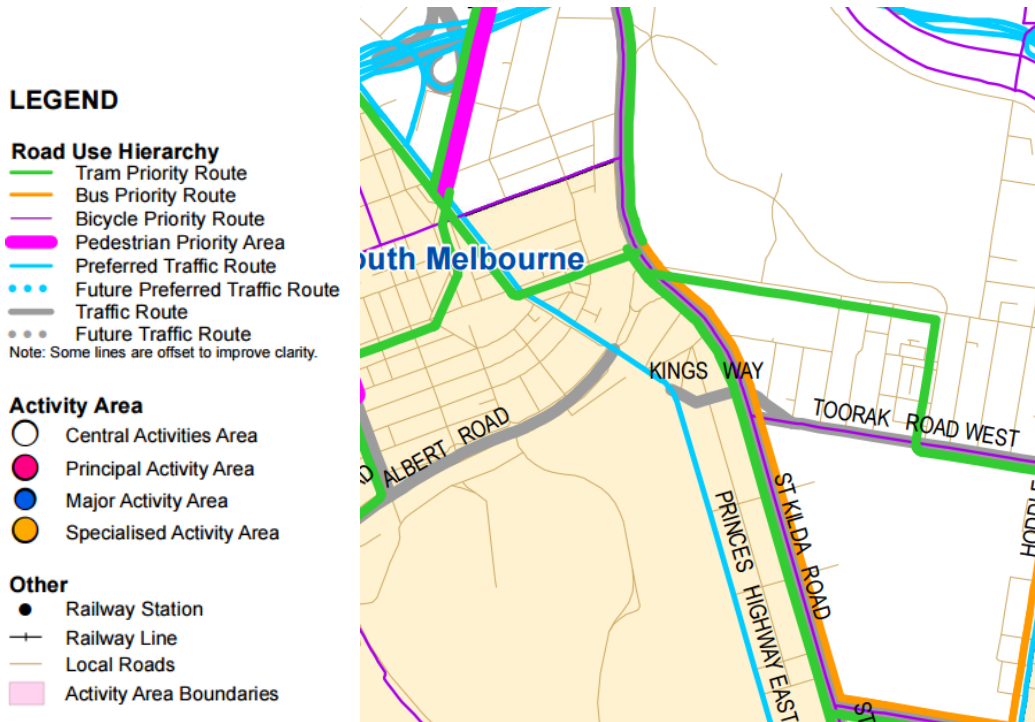


Figure 4.2 indicates that Toorak Road and Kingsway form the principal traffic routes through the area with St Kilda Road the key road required to support bicycle and public transport activity.

4.1.4 On-street Public Car Parking

To determine the existing availability of car parking within the vicinity of the site GTA has completed car parking demand surveys on Tuesday 8 August at 10.00am, 1.00pm and 8.00pm. Surveys were informed by a comprehensive car parking inventory prepared for the area surrounding the Botanica building. The area surveyed is depicted in Figure 4.3.

Figure 4.3: Extent of Surveyed Parking Area



The inventoried area indicates that on-street car parking is subject to time restrictions and fee parking. The existing arrangements respond to needs associated with the residential and commercial land uses currently operating in the area and in particular visitor parking requirements. The restrictions and fee based parking encourage churn rather than all day long term car parking habits.

The results of surveys are summarised in Table 4.2, and indicate that there are no long-term parking opportunities within the area surveyed during the day-time period.

From a demand viewpoint, surveys indicate moderate demands across the day ranging from 43% occupancy at 8:00pm to 65% occupancy at 1:00pm.

Lastly, it is noted that during the evening period much of the car parking supply in the vicinity of the Botanica becomes unrestricted from around 6.00pm onwards. These re-activate the following day at around 8.00am.

Table 4.2: On-Street Public Car Parking Survey Results

Date	Tuesday 10 August 2016								
Restriction	Short-term [1]			Long-term [2]			Total		
Time	10:00am	1:00pm	8:00pm	10:00am	1:00pm	8:00pm	10:00am	1:00pm	8:00pm
Supply	146	146	0	0	0	170	146	146	170
Demand	82	95	0	0	0	73	82	95	73
Vacancies	64	51	0	0	0	97	64	51	97
Occupancy	56%	65%	0%	0%	0%	43%	56%	65%	43%

[1] Short-term = greater than 1P (e.g. parking suitable for visitors)

[2] Long-term = greater than 8P (e.g. parking suitable for staff)

An illustration of parking demand in the area is provided in Figure 4.4 to Figure 4.6.

Figure 4.4: Car Parking Demand Map –10:00am

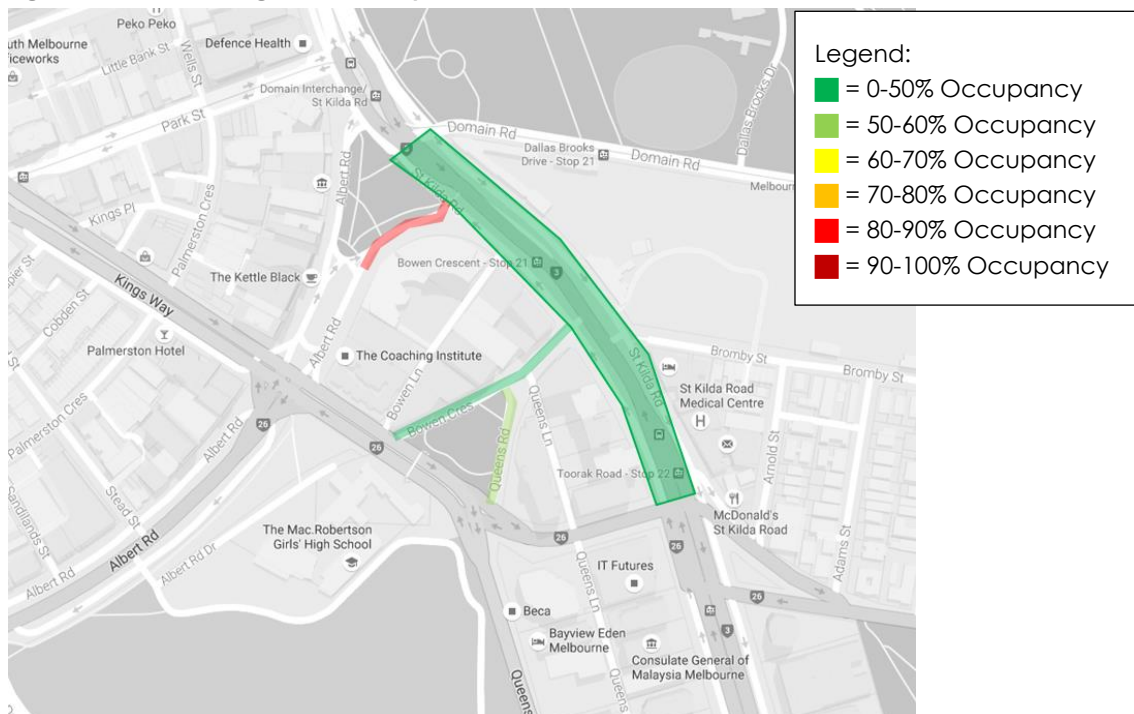


Figure 4.5: Car Parking Demand Map – 11:00am

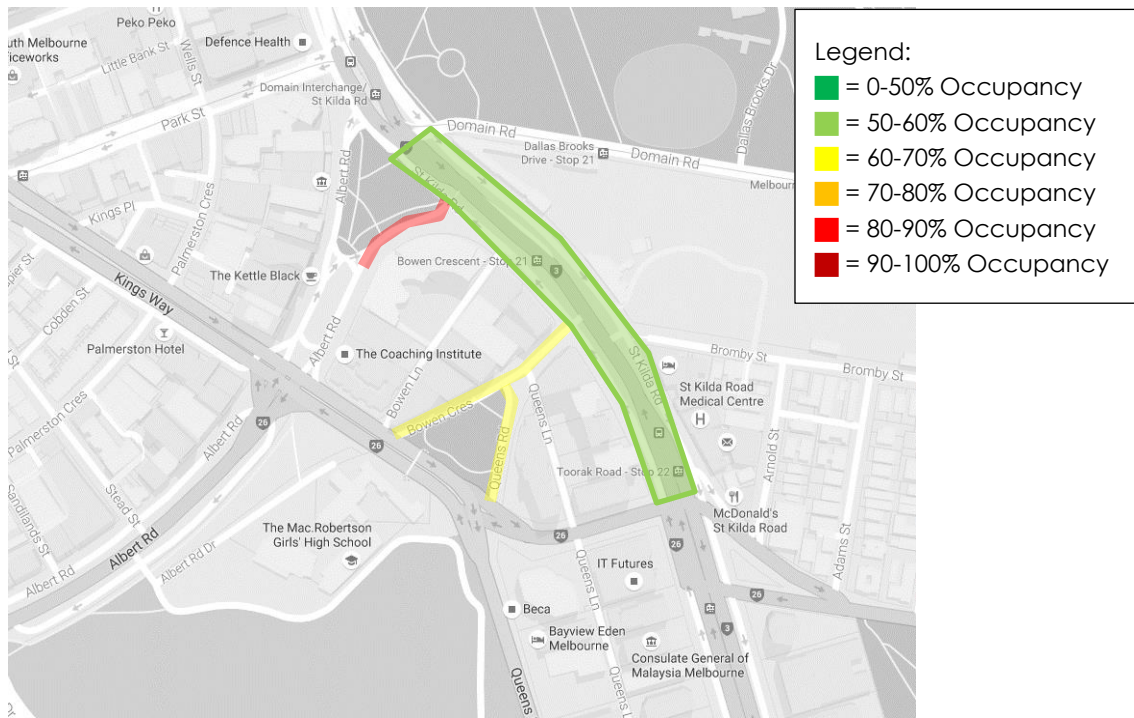
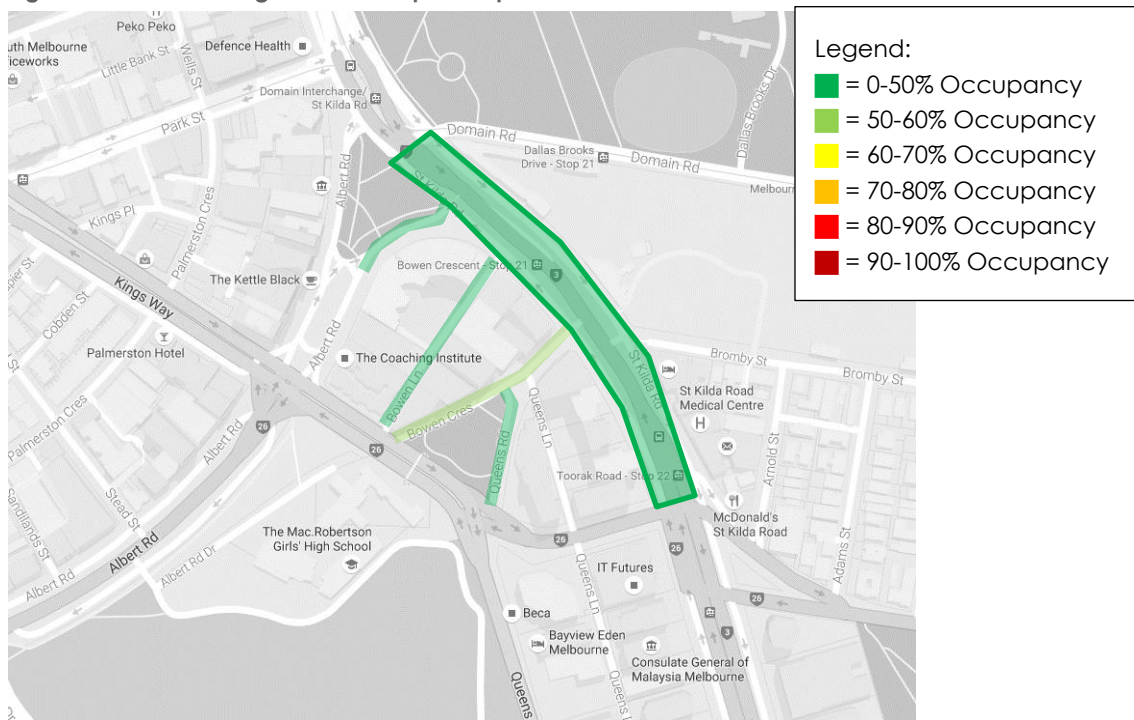


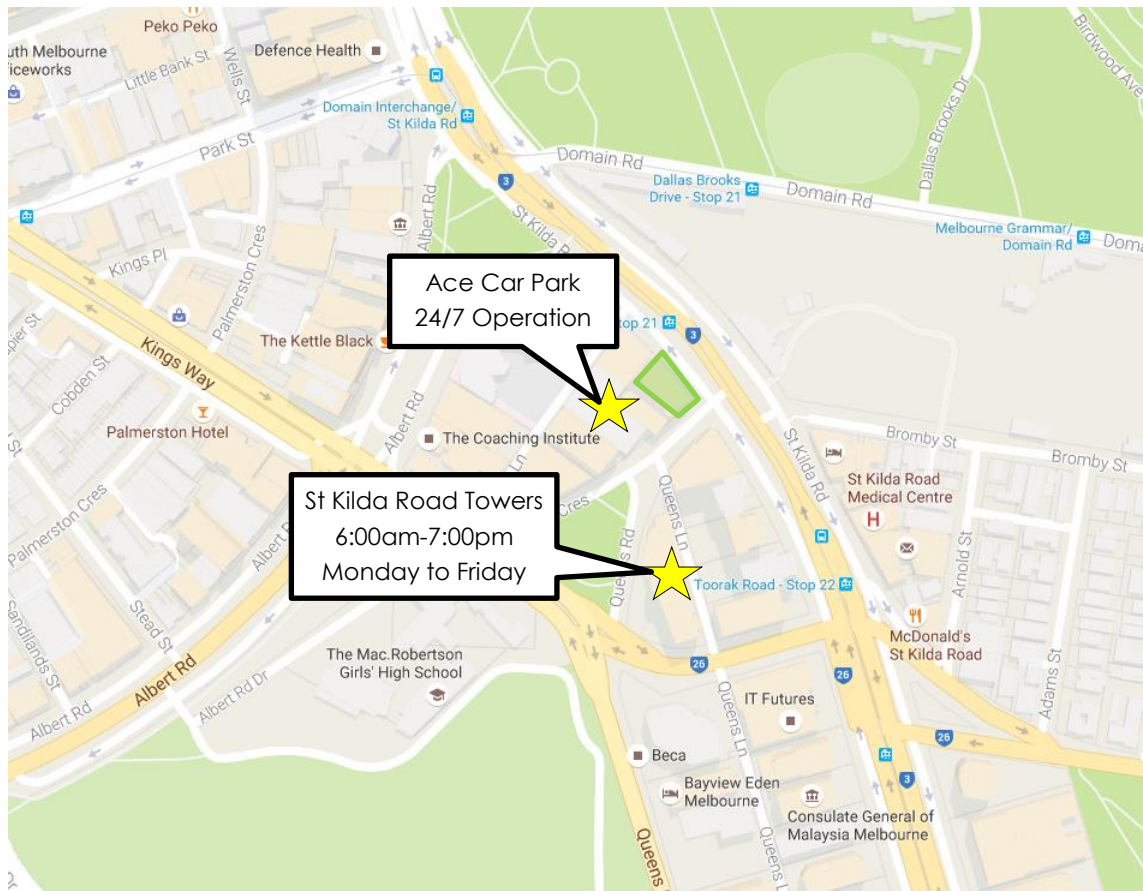
Figure 4.6: Car Parking Demand Map – 8:00pm



4.1.5 Off-street Public Car Parking

In addition to the publicly available on-street car parking supply, a number of off-street a range of commercial car parks are located within the vicinity of the site. These are identified in Figure 4.7.

Figure 4.7: Off-Street Commercial Car Parking Facilities



4.1.6 Potential Further Redevelopment of Neighbouring Land Uses

I have been instructed that there are a number of other nearby approved and proposed developments within the vicinity of the Botanica building and the proposed Domain Station. Three such developments are identified below and shown in Figure 4.8 on the following page.

All these developments will be competing for on-street car parking and in some cases on-street loading facilities that currently exist in the vicinity of the site. One of these sites involves the removal of the Bowen Street commercial car park which has the potential to materially alter existing parking habits.

412 St Kilda Road, Melbourne – planning permit issued

- 182 residential dwellings
- 105 seat cafe
- Waiver of on-site loading bay
- Reduction of on-site car parking.

2 Bowen Crescent, Melbourne – proposal currently before Council

- Demolition of the existing multi-storey public car park known as ‘Ace Parking’
- 214 residential dwellings
- 2 retail tenancies
- Waiver of on-site loading bay
- Reduction of on-site car parking.

7 Bowen Crescent, Melbourne – proposal currently awaiting VCAT determination

- 121 residential apartments,
- 2 retail/food and drink premises
- Waiver of on-site loading bay
- Reduction of on-site car parking

Figure 4.8: Nearby Developments



5. Domain Station Design & Construction Attributes

5.1 Preamble

Chapter 8 of the EES sets out an assessment of the transport connectivity impacts associated with the construction and operation of the Melbourne Metro and relies on Technical Appendices A through G to substantiate a range of findings.

Chapter 8.1.1 of the EES provides some generalised observations around the main construction generated impacts including:

1. Truck activity associated with spoil removal and equipment transfer
2. The temporary closure of a number of major roads to facilitate the build
3. The presence of a large construction workforce which would need to drive or be transported to and from the workplace, which could potentially have an impact on the local and wider road network at times.

As it relates to the Domain Station precinct, all three of the above items are of significance.

The following sections set out a review of the material provided in the EES as it relates to specifically to Domain Station and sets my appreciation of the construction approach and considerations relevant to any post implementation outcomes.

Under Chapter 8 of the EES, Domain Station is identified as Precinct 7. The documentation identifies the Domain Station Precinct as:

"The Domain precinct would be one of the major construction activity sites as one of the TBM launch sites as well as construction activities related to the construction of Domain Station. Changes to the road network would include the relocation and removal of traffic islands, tram stops and car parking spaces along St Kilda Road, the use of temporary construction work sites on each side of St Kilda Road, the reduction of St Kilda Road to a single lane in each direction, the closure of Domain Road between St Kilda Road and Birdwood Avenue."³

The EES goes on to note that the forecast level of construction workers for the Melbourne Metro project for the Domain Station precinct is 289 workers representing the second largest workforce (after Arden Station) at any of the precinct locations⁴. The EES goes on to note that traffic and transport activity associated with precinct site workers are not included in the forecast truck activity.

On managing impacts, the EES notes under its performance requirements at Section 8.6.6 of the Transport Impact Assessment, the requirement for the project to consider and prepare **transport management plans** (TMP's) for a range of impacts on road transport, public transport, active transport and travel demand management during the construction phase.

The EES nominates a range of considerations and in some cases references a need to consult with key transport agencies on TMP content. The need to consider input from others, other than agencies, whom are likely to be effected in the precinct is considered later in this review.

³ Section 8.10.7, page 145.

⁴ Table 8-1, EES Transport Impact Assessment.

5.2 Station Characteristics – Legacy Layout

A review of the EES indicates that significant works will be performed to deliver the Domain Station as part of Melbourne Metro. An outline of the proposed layout and configuration of the station is provided below in Figure 5.1.

Figure 5.1: Domain Station Legacy Layout & Configuration

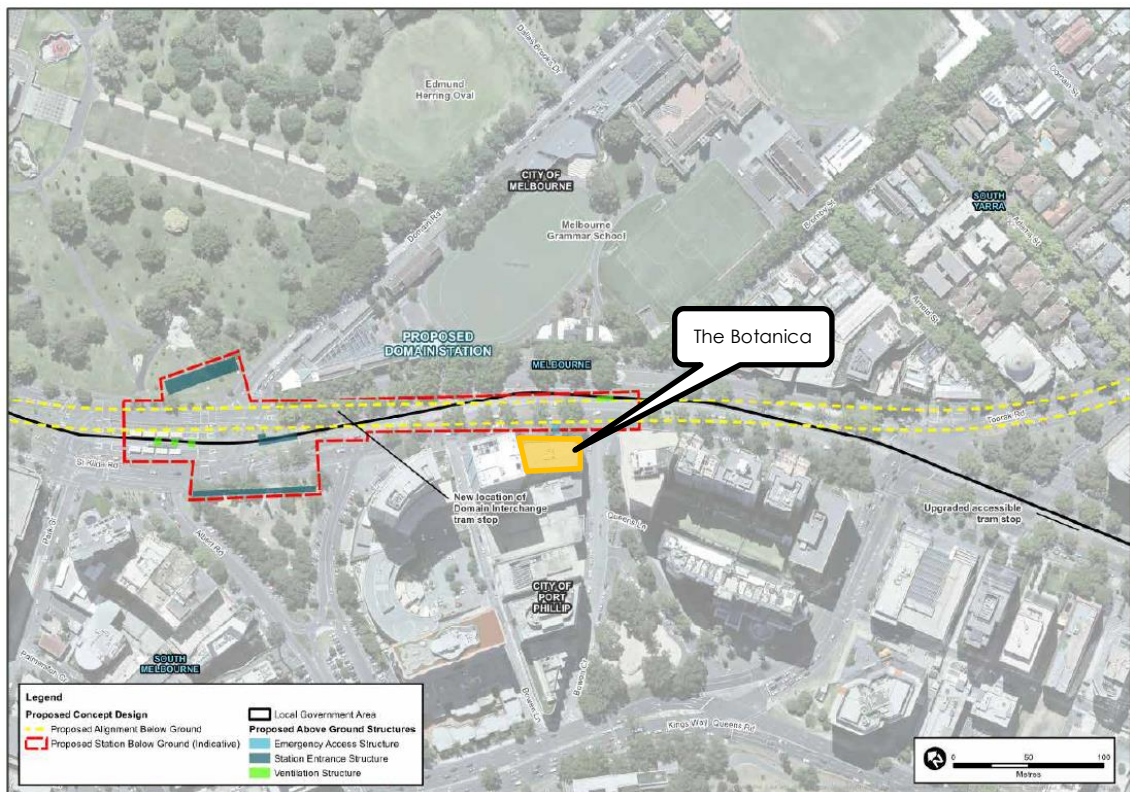
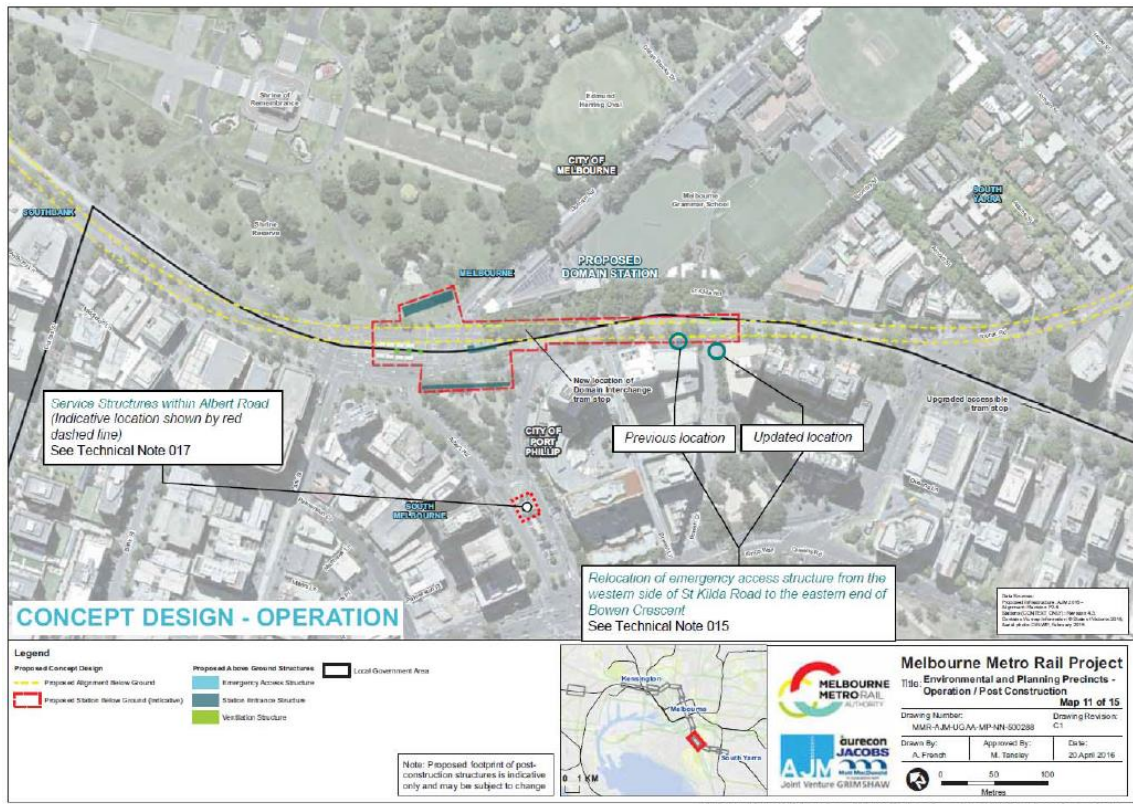


Figure 5.1 shows the proposed station box in red with the entrance structure in green interfacing with Domain Road, St Kilda Road and Albert Road. Provisions for an emergency access structure is provided on St Kilda Road in front of the Botanica building (shown in orange).

On emergency access, further information issued by the MMRA in the form of Technical Note 015 (TN15) indicates an intention to relocate this access to the south side of Bowen Crescent, immediately west of St Kilda Road. An extract from TN15 is provided in Figure 5.2 demonstrating this change.

Figure 5.2: Technical Note 015 – Proposed Emergency Access Relocation



The design interface with St Kilda Road, Bowen Crescent and Albert Road is provided in Figures 5.3 and Figure 5.4.

Figure 5.3: St Kilda Road/Albert Road Design Treatment

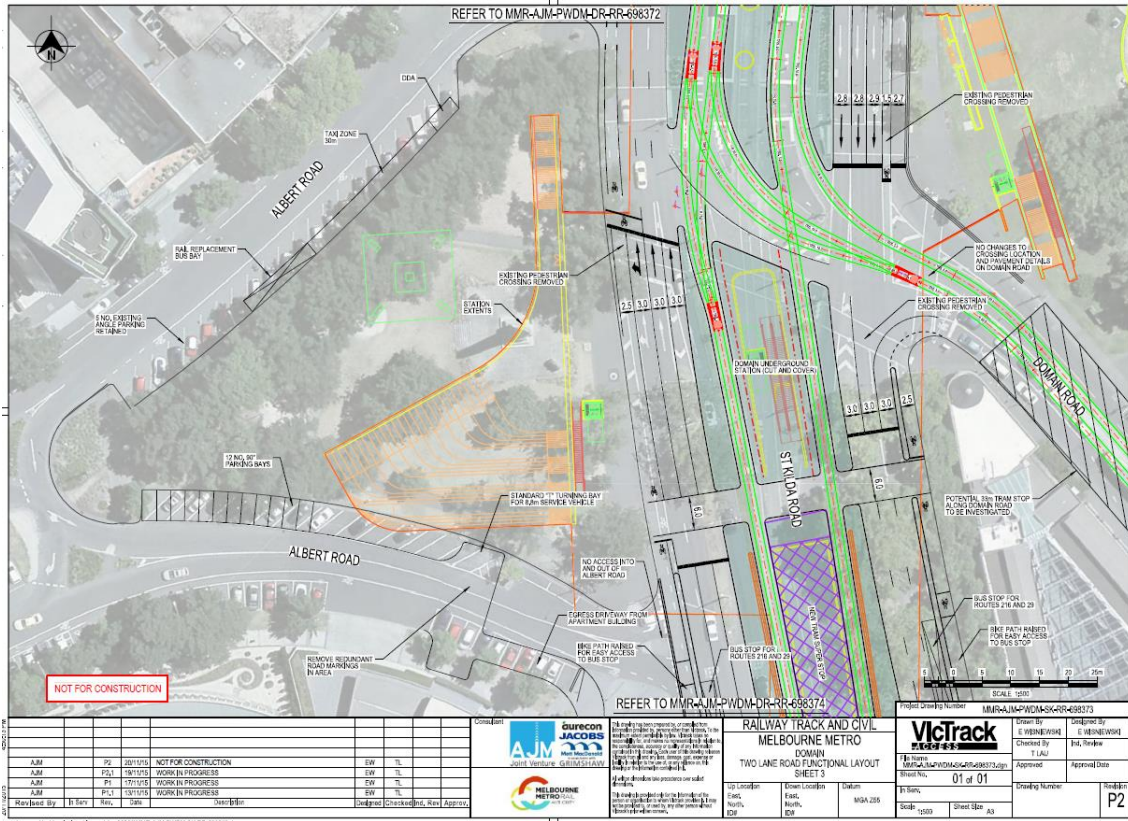


Figure 5.4: St Kilda Road/Bowen Crescent Design Treatment

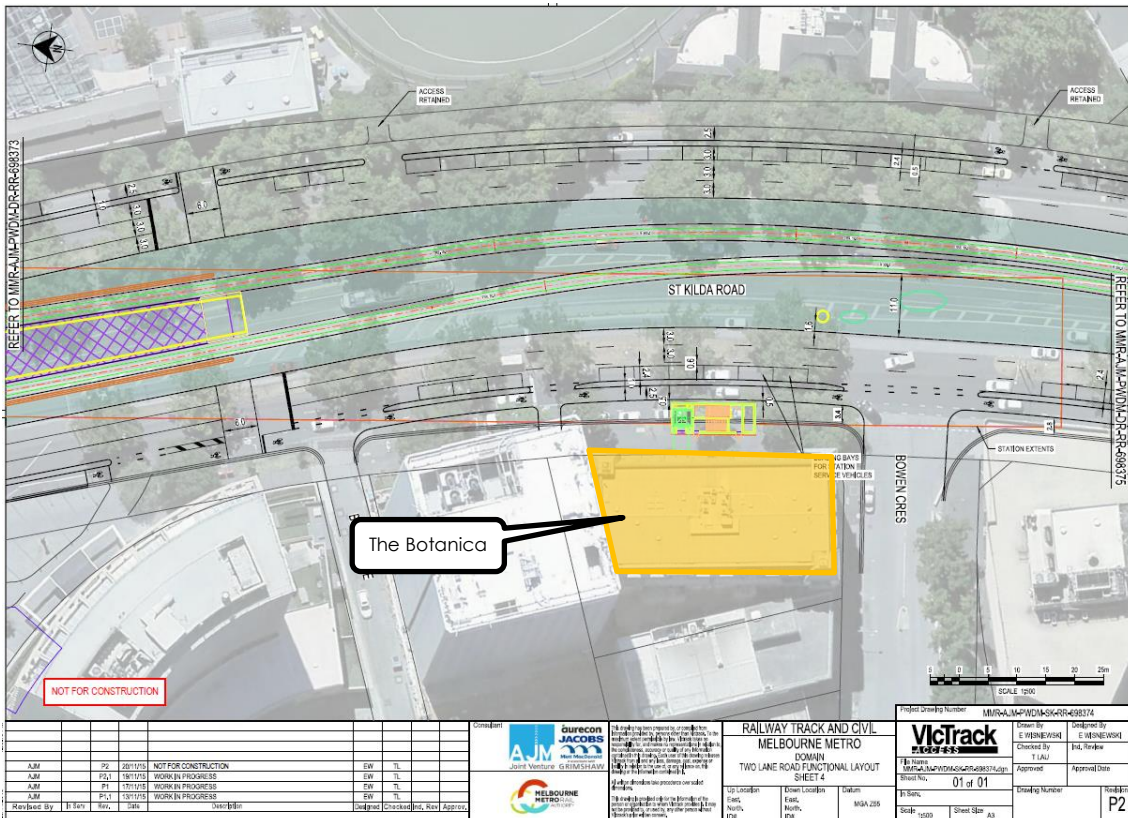


Figure 5.3 indicates the following streetscape modifications:

- provision of a new tram super stop on St Kilda Road adjacent to the station entrance
- the closure of the Albert Road extension (east) to restrict vehicles from entering and exiting onto St Kilda Road
- provision of three trafficable lanes in each direction St Kilda Road
- approximately 15 existing angled parking spaces on the northern section of Albert Road will be converted to paralleled parking to accommodate bus and taxi pick up and drop off
- the existing signalised pedestrian crossings at St Kilda Road/Domain Road will be removed.

Figure 5.4 indicates the changes to the streetscape in the immediate vicinity of the Botanica Building. A summary of the proposed modifications is provided below:

- The St Kilda Road carriageway between Bowen Crescent and Bowen Lane is proposed to be realigned to accommodate the construction of the station.
- The realignment will result in the loss of the existing outer traffic lanes in front of the Botanica building and replaced with Copenhagen style bicycle lanes adjacent to the St Kilda Road footpath and 3 trafficable lanes⁵ adjacent to the tram services in the centre of the carriageway.
- The existing street trees located within the central median on St Kilda Road will be removed.
- The existing street trees with the St Kilda Road footpath will be maintained.
- Vehicle access to the Botanica's St Kilda Road vehicle access point will be maintained post construction.
- Whilst not annotated on the drawings, it also appears that the existing Pedestrian Operated Signals located to the immediate north-east of The Botanica building will be removed but replaced by a new set of pedestrian operated traffic signals immediately north of Bowen Crescent.
- The modifications to the St Kilda Road carriageway will accommodate two on-street loading bays for Station Service vehicles to be located in front The Botanica building. It is understood that these loading areas will not be available for use by the general public but rather services vehicles associated with Station activities.
- A total of 7 on-street parking spaces (excluding the two proposed on-street Station service vehicle loading bays) will be provided on the western side of St Kilda Road between Bowen Crescent and Bowen Lane. Currently 8 on-street car parking spaces exist in this location.

5.3 Domain Station Patronage Forecasts

The EES indicates that the station on activation will cater for around 8,330 passenger entries and exits during the AM 2-hour peak and 8,780 entry / exits during the PM 2-hour peak, respectively⁶. Approximately 50% of these station entries and exits are expected to be directly associated with the proposed tram super stop proposed to be constructed on St Kilda Road.

⁵ 2 full time traffic lanes, with the outer traffic lane to accommodate parking outside of peak periods.

⁶ Table 9-57, Domain Station – 2031 Melbourne Metro weekday passenger entries and exits.

5.4 Construction Strategy

High level construction plans set out an outline of the site area extents being relied upon during construction to deliver Domain Station. These extents are provided at Figure 5.5

Figure 5.5: Construction Area Extents – Domain Station

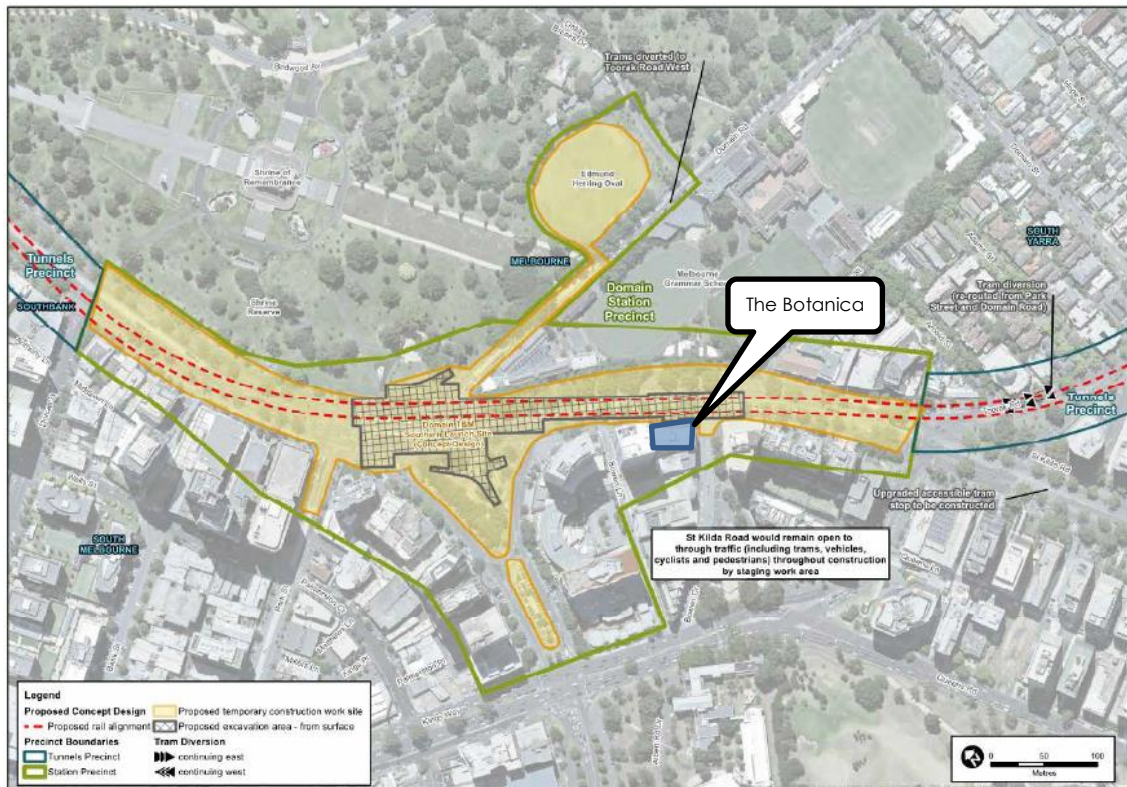


Figure 5.5 sets out the proposed temporary construction work site in yellow, the excavation area in grey and the Domain Station Precinct in light green.

A range of access routes are currently proposed to/from the Domain Precinct as outlined below and shown in Figure 5.6:

- Yellow Line: Route 1 – Kings Way
- Pink Line: Route 2 – Power St, City Rd, Southbank Blvd, St Kilda Rd
- Blue Line: Route 3- Domain Rd, Dallas Brooks Drive, Birdwood Ave, City Rd, Power St
- Purple Line: Route 4 – Domain Rd, Park St, Toorak Rd West, St Kilda Rd, Kingsway
- Orange Line: Route 5 - Domain Rd, Dallas Brooks Drive, Birdwood Ave, Linlithgow Ave, Alexandra Ave, Swan St, Batman Ave
- Green Line: Final Domain Station Access Leg
- Light Blue: To/From Arden Site

Figure 5.6: Proposed Construction Traffic Routes

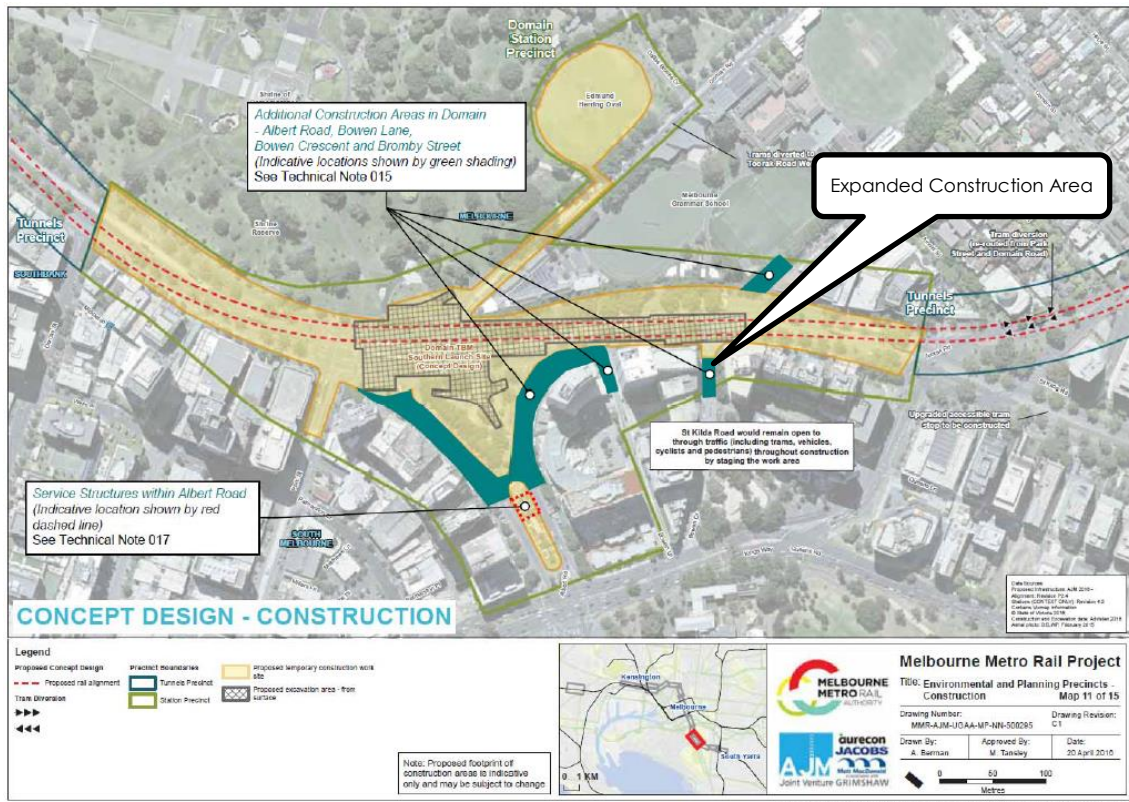


Upon review of the EES material, it is considered that the traffic impact assessment undertaken to determine a suitable base case (VISSIM assessment) and impacts during construction (VITM assessment) are considered on face value acceptable. It is noted that time constraints have limited the ability to test the robustness and veracity of the model inputs and coding. The EES states that the traffic conditions within the vicinity of the Domain Station can be characterised as “a network approaching capacity for a number of traffic movements, with some queuing and delay but overall is performing in a busy but reasonable manner typical of an inner city location⁷”. This evaluation is consistent with GTA’s observations.

Finally, and in addition to commentary provided earlier in relation to Technical Note 015, additional construction management plans prepared for Domain Station identify an intention to extend the ‘construction area’ into Bowen Crescent. This can be seen below in Figure 5.7 on the following page.

⁷ Page 128, Appendix C

Figure 5.7: Technical Note 015 – Plan Extract Showing Extended Construction Area



5.5 Construction Activity – Traffic & Parking Estimate

The EES estimates the construction of the Domain Station will generate in the order of 170 truck movements per day⁸ associated with the spoil removal and equipment delivery during the construction period. Separate to this activity is the absence of any specific detail around the management of Melbourne Metro workforce stationed at the Domain Precinct, both with regards to traffic impacts associated and parking requirements associated with the construction staff.

An estimated 289 workers are predicted on-site each day throughout the construction of Domain Station. A review of available ABS Journey to work data for Greater Melbourne for those employed within the Machinery Operation, Labouring and Technician/ Trade industries indicates 89% of these workers rely on private motor vehicle usage to get to and from work (this includes 82% as driver and 7% as car passenger).

In addition to the above, GTA have in association with a separate Melbourne Metro EES assessment surveyed staff at Citywide (an infrastructure/services and construction company) located in North Melbourne to determine existing travel behaviour. The surveys indicate 64% of Citywide Staff rely on private motor vehicle to get to and from work as car driver.

Having regard for the above, it is expected that the mode shift for workers associated with construction of the Domain Station will fall between 64%-82% as car driver.

⁸ Table 8.3, Appendix C - assuming the TBM is located at Domain only.

For the purposes of this evidence, I have adopted the lower model split ratio which indicates the workforce associated with the Domain precinct could be expected to generate approximately 185 additional vehicle trips to the precinct and a similar level of parking demand. In the event that the workforce is segregated into shifts (most likely three), the peak level of demand (for parking) is estimated to be less than the total estimate but noting that periodic overlaps will occur at shift change. Based on the nature of the work, I expect a shift will have a duration equal to a typical business day (i.e. 8hrs). Parking requirements would need to match this requirement.

Based on these parameters, it is evident from this assessment that the proposed construction works at the Domain Precinct are significant and will need to be carefully managed given:

1. There is no commitment in the EES that any worker car parking will be provided in the construction area.
2. On-street car parking in the nearby area is managed during the day time through time restrictions and fee parking however these same mechanisms do not extend to cover periods generally outside 6.00pm and 8.00am which could attract construction workforce parking activity during late night or early morning shift periods.
3. Any traffic activity (spoil / delivery trucks and / or worker traffic) generated during either of the respective AM and PM road network peak hours will add activity to a transport network which is currently approaching capacity for a number of movements.

Recommendations in response to these issues for the Panel's consideration are set out in Section 6 of this Evidence Report.

6. Findings & Recommendations

6.1 Preamble

Based on the research and investigations performed under this study, I provide a range of findings and recommendations for the Panel's consideration as they relate to matters of a traffic engineering and transport planning nature. These findings and recommendations consider the construction and post implementation phase of the project separately and are set out in Sections 6.2 and 6.3 for consideration.

6.2 Construction Phase

6.2.1 Managing Parking during the Construction Phase

Estimates set out in Section 5.5 of this report indicate that an unmanaged general construction workforce is likely to generate a demand for up to 185 car parking spaces during the course of a typical construction day.

As evidenced in surveys completed by my office, there is a distinct lack of available long term car parking in the area, with all on-street parking subject to time restrictions and fee parking. Outside of daytime mechanisms, the evening and early morning periods provide no protection from construction activity parking.

On this issue, the EES lacks any detail around how parking will be managed in association with construction activity. In the event that no specific arrangements are made off-street or through a shuttle service, then alternate changes which (say) comprise of permit only parking for construction staff will have the potential for significant impacts on existing residents and business (including the Botanica) in the area which I estimate have reliance on the resource for their day-to-day operation including visitor parking demands.

Given these observations, I would recommend the EES make a stronger commitment to managing parking demands, preferably nominating a commitment to a shuttle service with parking provided for construction staff outside the Domain Precinct to minimise increased traffic loads at junctions which are experiencing traffic capacity difficulties.

6.2.2 Vehicle Access to St Kilda Road & Bowen Crescent

The proposed works associated with the construction of the Domain station have the potential to significantly impact resident access associated with The Botanica building and associated car parking. Specifically, the streetscape configuration in the vicinity of The Botanica's vehicle access points to St Kilda Road and Bowen Crescent, the latter effected by Technical Note 015, are expected to be modified / effected throughout the construction period.

Given the above, I would recommend the EES specifically recognise the need to maintain on a continual basis suitable vehicle access to 400 St Kilda Road via St Kilda Road and Bowen Crescent. Access arrangements during the construction period should be referred to the building body corporate to ensure all matters are satisfactorily addressed before they are settled and implemented.

6.2.3 Need for Consultation

It is evident from research compiled in preparing this report (Section 3) that the Botanica will be significantly impacted upon by the construction of the Domain Station, with the building located immediately adjacent to the proposed station structure (to the east) and within the extent of works of which significant streetscape modifications are proposed on St Kilda Road.

The Botanica relies solely on the St Kilda Road vehicle crossover to provide access to 44 car parking spaces. A further 27 car parking spaces are accessed from Bowen Crescent. Access to both of the vehicle crossovers is imperative to allow residents access to the building both during the construction process and following completion of the Domain Station.

On this, the construction of Domain Station, if managed poorly has significant potential to adversely affect residents and staff of 400 St Kilda Road.

Accordingly, I recommend that the occupants of Botanica:

1. Along with various agencies, be afforded the opportunity to comment on developing TMPs for the project including the various construction phases. This is especially important for both the St Kilda Road and Bowen Crescent vehicle access points and the St Kilda Road pedestrian access point.
2. Be specifically advised of transitioning between one construction phase and next to help residents of Botanica manage their day to day activities.
3. Be provided with, amongst others in the precinct, an ability to communicate with an appropriate representative of the construction management team to discuss any unforeseen issues (traffic safety and traffic capacity) which need to be addressed throughout construction.

6.3 Post Implementation

6.3.1 Vehicle Access and Safety Considerations

As a result of the construction of Doman Station, the streetscape configuration in the vicinity of the Botanica's vehicle access point to St Kilda Road will be modified. Specifically, in order to the leave the Botanica site, residents will be required to cross a new Copenhagen bicycle lane and pass by new on-street car parking spaces. This has the potential to restrict available vehicle sight lines to through traffic on St Kilda Road for exiting vehicles.

Accordingly, before Melbourne Metro activates, it is recommended that a functional design and detailed design road safety audits are completed of plans detailing changes to their St Kilda Road access to ensure existing design shortcomings are not replicated or exacerbated. Indeed, any changes proposed in association with the MMRP should satisfy applicable Austroads design standards.

7. Summary of Opinion & Other Statements

7.1 Summary of Opinion

Based on the evaluation and discussions set out in this review, I am satisfied that the Transport Impact Assessment Report prepared in support of the Melbourne Metro Rail project is deficient in a range of areas and will require further substantive analysis and additions along with appropriate recognition that consultation will be required with key parties effected by the proposed works. This basis of this determination is set out in the body of this report however the areas of key concern relate to:

1. a lack of sufficient detail around how travel habits with the MMRP labour workforce will be managed in an environment containing day time parking management mechanisms which discourage long term car parking
2. a lack of sufficient detail around how travel habits with the MMRP labour workforce will be managed in an environment containing no evening and early morning parking restrictions
3. a lack of sufficient detail around the retention of 24/7 vehicle access to The Botanica development during construction
4. a lack of sufficient detail around the retention of 24/7 pedestrian access to The Botanica from St Kilda Road
5. the retention of service vehicle and loading requirements associated with The Botanica along St Kilda Road through construction and afterward under the legacy layout and configuration
6. a commitment for representatives of The Botanica to provide input and comment on any Traffic Management Plans relied upon during construction to deliver Domain Station
7. existing safety concerns associated with traffic exiting the St Kilda Road vehicle access from The Botanica and a need to, however practical, avoid replicating present arrangements under the legacy layout and configuration.

7.2 Other Statements

- i No opinion provided in this evidence is provisional.
- i No questions or statements outside of my expertise have been addressed in this evidence.
- ii This evidence is not incomplete or inaccurate.

Declaration

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



John Kiriakidis
Director

12 August 2016

Appendix A

John Kiriakidis – Curriculum Vitae



John Kiriakidis

Director

GTA consultants

transportation planning, design and delivery

John has served as a consultant in the field of traffic and transport planning since 1994 for a broad cross-section of clients across the Australasian private and public business sector. John has particular expertise in the field of land use planning and design with an emphasis on the preparation of traffic and transport impact evaluations, integrated transport plans, parking assessments, intersection and car park design, sub-division layout and road safety reviews.

John manages a large team of traffic and transport planners in GTA's Melbourne office and services a significant client base which delivers land use projects covering the full cross-section of the commercial development sector, including:

- Transport planning
- Road & intersection layout design
- Car park design & assessment
- Transport impacts
- Strategic and micro modelling

Office

Melbourne

Qualifications

BE(Hons)(Civ&Comp), Monash University

Memberships and Affiliations

Institute of Engineers Australia (Civil College)

Victorian Planning & Environmental Law Association (VPELA)

Australian Institute of Traffic Planning & Management (AITPM)

Industry Roles

Moorabbin Airport Planning Committees

Project Experience

Transport Planning

- Meridian Business Park
- Moorabbin Airport
- Edgewater Maribyrnong
- Merrifield at Kalkallo
- Tooronga Village Re-development, Glen Iris
- Epping North East Structure Plan (450ha)
- Various Planning Panels

Transport Impact

- Logis Business Park, Dandenong
- Alliance Business Park, Epping
- Westfield Southland
- Eureka Tower
- Freshwater Place
- Westfield Doncaster

Road & Intersection Design

- Merrifield Industrial Sub-Division
- Craigieburn Train Maintenance Facility
- Goodyear Redevelopment, Thomastown

Car Park Design & Assessment

- Bunnings Store Locations across Australia
- Masters Store locations across Australia
- RACV Torquay Golf Club Redevelopment

Professional Background

1997 – Present: GTA Consultants

John is proficient in the application of sustainable transport planning principles and initiatives to land use planning projects. These principles encompass all motorised and non-motorised transport modes and extend to include advice on infrastructure requirements necessary to support the full spectrum of travel modes. John is experienced in the delivery of all key design facets of traffic and transport planning elements including road networks, intersections, individual roadways, cross-sections and road safety. He is also experienced in the delivery of projects using prominent micro-simulation network analytical software including Q-Paramics, Vissim and SIDRA. John is regularly involved in the delivery of parking policy guidelines on the management and delivery of car parking for both the public and private sector. This experience includes the use of parking guidance and paid parking infrastructure systems. John's project expertise is extensive and includes major regional shopping centre developments, large scale residential developments including high rise, high density development and low density residential subdivisions.

1995 – 1997: Grogan Richards, Traffic Engineer

As a Traffic Engineer for Grogan Richards, John assisted in the preparation of impact assessments for a range of land use developments throughout Melbourne and Victoria and was also involved in access and parking assessments and design and the preparation and implementation of traffic and parking surveys.

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