Traffic Impact Assessment
6 Cross Street, Footscray

Prepared for
Cross Street Footscray Pty Ltd
4 July 2024

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CONTENTS

1 INTRODUCTION

1.1 OVERVIEW

This Traffic and Parking Impact Assessment report has been prepared by *Movendo Pty Ltd* in support of an application to amend an existing planning permit for a proposed mixed-use development at 6 Cross Street, Footscray. A comparison between the approved and proposed development components is tabulated below.

Table 1: Current & Proposed Development Components

Current Development Components as per Approved Scheme	Proposed Development Components
110 apartments	109 apartments
575m^2 'food & drink' premises (5 tenancies)	716m^2 'food & drink' premises / shops (5 tenancies)
Place of Assembly with a total area of 1,300m^2	868m^2 'specialist/organic grocer' premises
152 car spaces	1,138m^2 Gym / Wellness Centre
77 bike parking spaces	1,038m^2 Office Tenancy
	149 car spaces
	77 bike parking spaces

The 109 apartments include the following:

- 54 social and affordable housing units (of which 16 are one-bedroom; 35 two-bedroom; 3 three-bedroom)
- 55 private apartments (of which 14 are one-bedroom; 38 two-bedroom; 3 three-bedroom)

The design of the 149 car spaces that are proposed within the 2-level basement carpark is essentially unchanged from the existing approved scheme – no notable material changes have been made to the approved layout. There are also still 77 bicycle parking spaces provided at ground level and in the basement levels to cater for both residents/employees and visitors. Given that the design is unchanged from the endorsed plans, a review of the geometric adequacy of the car parking is not necessary as part of this amendment application. Under this amendment application, the 149 parking spaces are apportioned as follows:

- 49 for the social and affordable housing units
  (one space for each of the three-bedroom, two-bedroom and one-bedroom apartments – except for 5)
- 55 for the apartments
  (one space for each of the three-bedroom, two-bedroom and one-bedroom apartments)
- 5 spaces for staff of the 'food & drink / shop' premises (one for each tenancy)
- 4 spaces for staff of the 'specialist/organic grocer' premises
- 5 spaces for staff of the Gym / Wellness Centre
- 7 spaces for use by Gym / Wellness Centre members
- 20 spaces for Office staff
- 4 accessible/disabled car spaces to be used by building occupants /residents – as needed

The following report provides an assessment of the traffic and parking implications of the proposed development. More specifically, this report includes an assessment of the following:

- The provisions of the Maribyrnong Planning Scheme in so far as they relate to carparking and the appropriateness of the proposed on-site carparking supply; and
- Likely traffic impacts.

1.2 KEY FINDINGS

This report concludes that there are no traffic engineering reasons why the proposed development should not be allowed. More specifically:

- The development provides **adequate parking**, as there is sufficient evidence to recognise that the proposed **149-space parking supply satisfies the development's parking needs** and justifies a **part waiver (37 spaces)** of the 186-space statutory parking requirement under the Maribyrnong Planning Scheme – once the legitimate Planning Scheme process to reduce the statutory car parking requirement is taken into consideration. In particular, it is concluded that the proposed development is well placed to operate with the proposed levels of carparking by virtue of the:
    - Availability of **excellent public transport access** (multiple existing bus routes within easy walking distance and a major train station immediately adjacent to the site).
    - Existence of **effective pedestrian and bicycle networks** servicing the subject site and the generous supply of on-site bicycle parking.
    - The likely anticipated **low car ownership rates** of future residents, visitors, patrons and workers at the subject site as demonstrated by **2016 and 2021 Census data** for the Footscray area.
    - Empirical data revealing **low car utilisation rates** for patrons of **existing inner city gyms and organic grocer establishments**– resulting in fewer car parking spaces required.
- The **parking layout** is **satisfactory** as it accords with the design guidelines set out in the Maribyrnong Planning Scheme.
- Traffic capacity analysis at the Hocking Street access point into the subject site indicates that it is capable of satisfying the traffic demand generated by the development, as is the nearby intersection of Hocking Street with Cross Street. Thus, there will be **no adverse impacts on road network performance,** as the overall **traffic volume generated** by the development can be **readily accommodated** onto the surrounding road network with **insignificant traffic impacts**.

Furthermore, it has also been established that the proposed parking supply for the development is consistent with the City of Maribyrnong's transport objectives and desires, as expressed through its strategic policy documentation. In particular:

- The **City of Maribyrnong's Municipal Strategic Statement** (MSS) outlines provides **clear support for public and active transport**. Clause 21.09 identifies a number of key objectives and related strategies where there is strong recognition of the role and effectiveness of public transport, walking and cycling for Maribyrnong.
- Moreover, the MSS identifies and encourages complementary initiatives such as **car parking dispensations** and the use of **shared parking for new developments** – all of which provide the appropriate context to envisage a development, at 6 Cross Street, that focusses on both public and active transport modes to satisfy its future travel needs. The parking dispensation sought for the redevelopment proposal is supported by the established **low car ownership rates** by residents of Footscray as revealed by the most recent Census data.

In summary, Council's strategic policy position clearly aims to **moderate car dominance and promote walking, cycling and public transport use** as viable and preferable travel alternatives. This position, combined with the availability of excellent sustainable transport networks (for the use of the future residents, staff and visitors to 6 Cross Street) offers high levels of convenience that enable generous access options to the land without the need to use private vehicles. The fact that the locality is **well served by alternative transport options to private vehicles** will give rise to a **low demand for car parking on site**.

2 EXISTING CONDITIONS

2.1 LOCATION

The subject site is located on the north-east corner of the Cross St / Hocking St intersection in Footscray, as shown in Figure 1. The subject site enjoys excellent links to public transport services, being located immediately opposite West Footscray Station. Whitten Oval and Victoria University Community Sports Stadium are located directly to the north-east of the site.

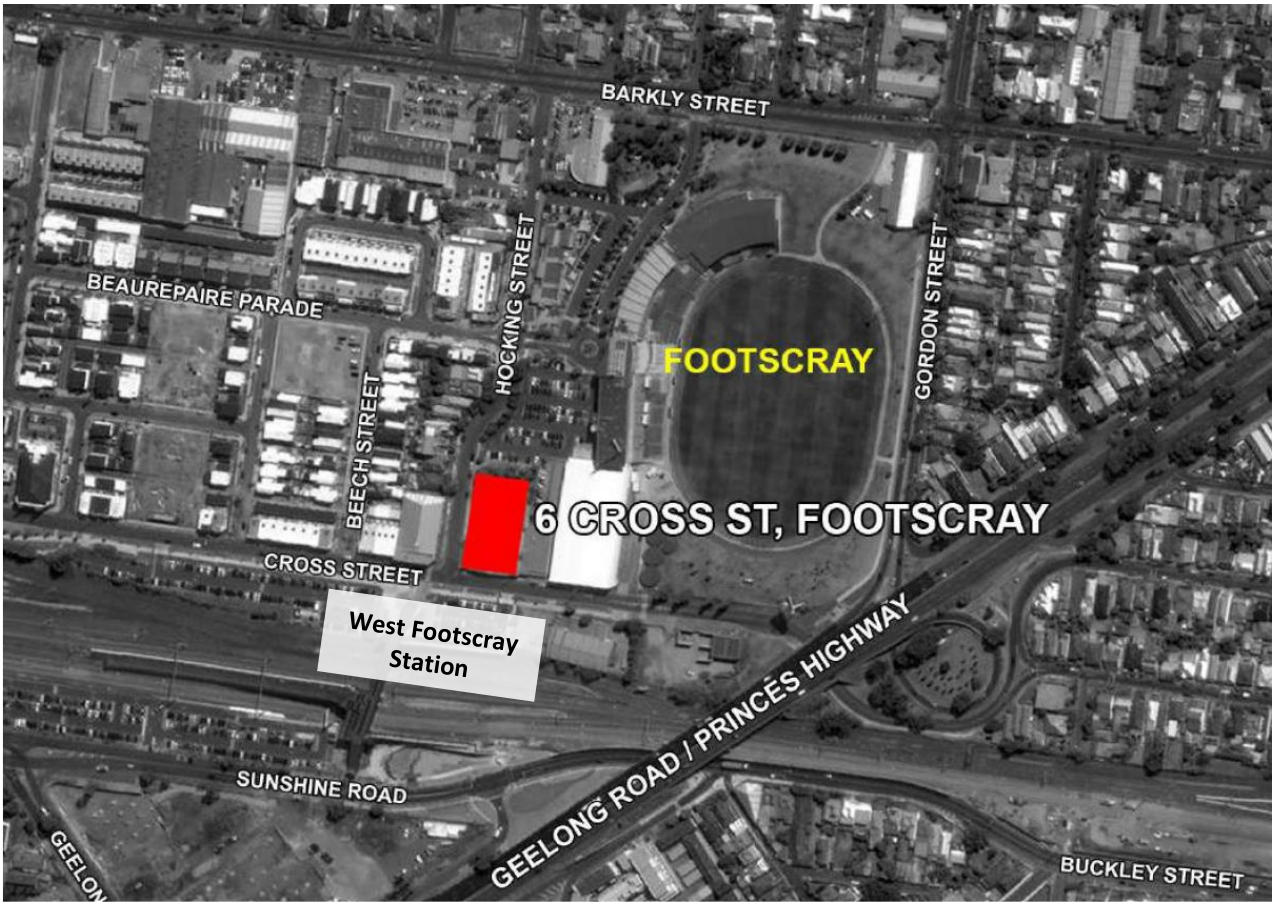


Figure 1: Subject Site – Locality Plan

2.2 PEDESTRIAN & CYCLING CONDITIONS

The subject site is easily accessible by a complete, continuous and well-maintained footpath network linking to West Footscray Station (located directly 'across the road'), surrounding residential and commercial areas, and to a comprehensive network of bus services as described in the section that follows. Cycling conditions around the subject site are equally convenient, with the presence of on-street bicycle lanes on Cross Street, as well as the availability of an off-road shared path running along the southern side of Cross Street.

2.3 FUNCTION OF SURROUNDING ROADS

Cross Street runs in an east-west direction and is classified as an 'Access Street' under Council's Register of Public Roads and extends in an east-west direction between Russell Street in the west and the Geelong Road overpass, where it continues as Errol Street. Across the subject site's frontage Cross Street is an undivided road with a single traffic lane in each direction and features 'No Stopping' restrictions on each side. Cross Street also has a bicycle lane in each direction. The default urban speed limit of 50km/h applies to Cross Street.

Hocking Street is classified as an 'Access Street' under Council's Register of Public Roads and extends in a north-south direction between Cross Street in the south and Barkly Street in the north. Hocking Street has a pavement width of 9.8m which provides for a lane for traffic and kerbside parking on both sides. In the vicinity of the subject site, on-street parking is a mixture of unrestricted, 'Permit Zone', short-term parking (10 minutes) as well as a car share space ('Go Get'). The speed limit on Hocking Street is 40km/h.

2.4 PUBLIC TRANSPORT ACCESSIBILITY

The subject site is easily accessed by public transport, principally via a number of train and bus services, as shown in Figure 2.

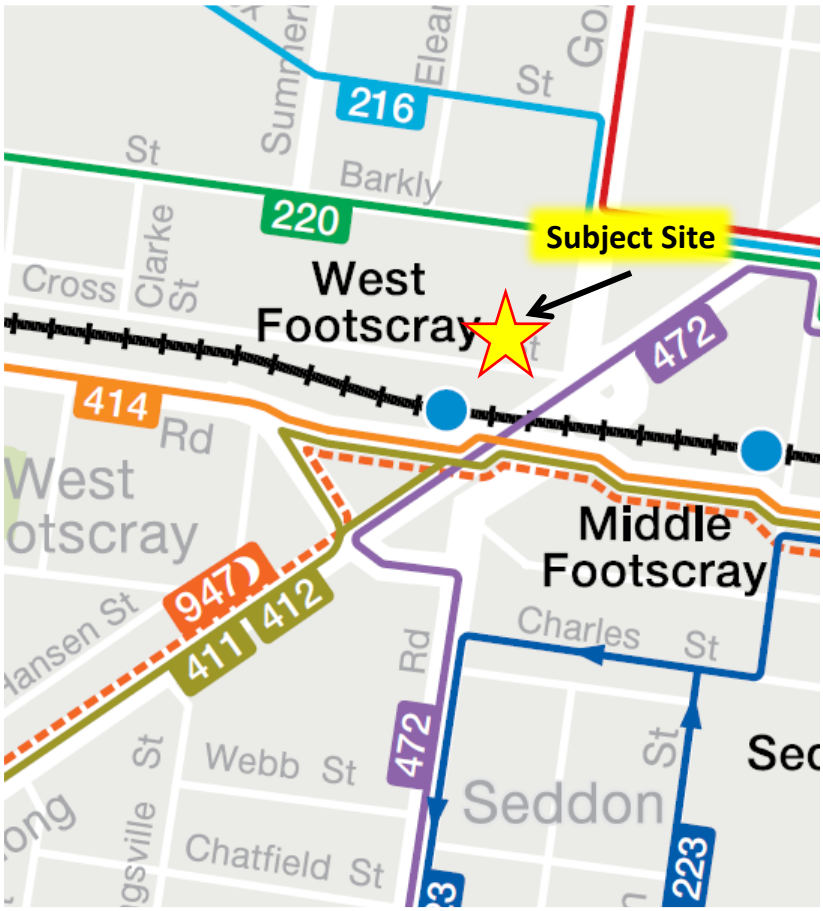


Figure 2: Public Transport Services in vicinity of the Subject Site

The available public transport services, within walking distance of the subject site, are presented in Table 2. Additional bus services (not detailed within the table) include Route 947 (a night bus service operating via West Footscray Station) and Routes 216 and 410, which operate via Gordon Street around 600m north-east of the site.

Table 2: Summary of Public Transport Services

Service	Between	Via	Operating Times/Frequency		
			Monday-Friday	Saturday	Sunday
West Footscray Train Station – Sunbury Line – opposite the Subject Site					
West Footscray Train Station	Sunbury & City	Footscray, Sunshine & Watergardens	High frequencies for extended periods of the day		
Bus Route – Sunshine Road – 200m south of the site					
Route 414	Laverton & Footscray	Altona North & West Footscray	6:35am-7:35pm 40-45 minutes	7:40am-5:20pm 80 minutes	Does Not Operate
Bus Routes – Geelong Road – 250m south of the site					
Route 411	Laverton & Footscray	Altona Meadows, Altona & Millers Road	5:50am-7:45pm 25-50 minutes	7:40am-7:50pm 79-90 minutes	9:00am-7:50pm 79-90 minutes
Route 412	Laverton & Footscray	Altona Meadows, Altona & Millers Street	6:05am-9:15pm 20-85 minutes	8:40am-9:05pm 55-85 minutes	8:40am-9:05pm 55-130 minutes
Route 472	Moonee Ponds & Williamstown	Footscray	6:15am-10:15pm 15-60 minutes	6:55am-9:55pm 20-60 minutes	9:25am-10:45pm 50 minutes
Bus Route – Barkly Street – 300m north of the site					
Route 220	Gardenvale & Sunshine	Prahran, Footscray & CBD	5:50am-12:00am 15-25 minutes	5:40am-12:05am 10-25 minutes	8:05am-11:20pm 25-35 minutes

2.5 TRAFFIC VOLUME

Peak hour traffic volumes near the subject site were measured at the intersection of Hocking Street and Cross Street on Thursday 2 May 2024 (a mild, partly cloudy, dry day with a top temperature of 17 degrees). Monitoring was undertaken between 7-9am and 4-6pm.

The busiest hourly period was found to be the morning peak hour between 8 and 9am. During this hour a total of 240 vehicles used the intersection as detailed in Table 3. During the PM peak hour, between 5 and 6pm, the traffic volumes were around 15% lower.

Table 3: Weekday 8-9am peak period – hourly traffic flows at Cross St / Hocking St (vehicles/hour)

Time	Cross St (westbound)	Cross St (eastbound)	Cross St (right turn into Hocking St)	Cross St (left turn into Hocking St)	Hocking St (left turn into Cross St)	Hocking St (right turn into Cross St)
8-9am	31	88	29	14	57	21

2.6 PARKING SURVEYS

Parking surveys were conducted on Thursday 2 May and Friday 3 May 2024 with occupancy recorded at hourly intervals, between 7.00am to 9.00pm, in the area surrounding the subject site (shown in Figure 3). A total of 169 spaces parking spaces was surveyed, within a short walking distance of the subject site, including:

- 67 on-street parking spaces located in Hocking St, Cross St Beech St, Beame St and Beaurepaire St
- 102 off-street parking spaces located in the carpark to the Victoria University Community Sports Stadium (these spaces are reserved for the exclusive use of permit holders between 7am and 5pm Monday-Friday; but they are freely available and publicly accessible after 5pm on any weeknight and anytime on Saturday & Sunday)

It is also relevant to note that, as basement excavation has commenced on the subject site, there are 4 unrestricted parking spaces on the east side of Hocking St (just north of the subject site) that are temporarily signed 'No Stopping' to facilitate construction vehicle access. Furthermore, it is important to note that, upon completion of the development, there will be a net gain of on-street parking spaces on the east side of Hocking St, as a number of wide redundant driveways servicing the subject site will be removed. This action will yield an additional 8 on-street parking spaces. In summary, the parking availability on the east side of Hocking St will increase by 12 spaces (compared to the availability at the time of the May 2024 surveys).

The distribution and time restrictions applicable to the on-street spaces that were available during the May 2024 parking surveys are as follows:

Hocking Street (between Beaurepaire St and Cross St) – 2 spaces

- 10-minute limit (between 6am to 10am Monday to Friday – unrestricted outside of those hours) = 2 spaces

Cross Street (north side only – east of Hocking St) – 6 spaces

- Unrestricted parking

Beaurepaire Street (between Hocking St and Beame St) – 19 spaces

- 2 hour limit parking (between 8am to 6pm Monday to Friday)

Beech Street (between Beaurepaire St and Cross St) – 21 spaces

- 2 hour limit parking (between 8am to 6pm Monday to Friday)

Beame Street (between Beaurepaire St and Cross St) – 19 spaces

- 2 hour limit parking (between 8am to 6pm Monday to Friday)

Parking occupancy results for the 67 on-street spaces are shown in Figure 4. The image illustrates the fluctuating parking occupancy (spaces occupied as a proportion of the total spaces available to the public) at the various hourly survey intervals.

Figure 4 highlight that the number of occupied on-street parking spaces in the vicinity of the subject site is modest, never exceeding 60%. In fact, at most times the parking occupancy is under 50%.

In contrast, the utilisation of parking spaces in the 102-space Victoria University Community Sports Stadium carpark (at the times that those spaces are available to the public – after 5pm) was rather high with occupancy ranging between 70% to 100% in the 4-hour period between 6pm and 9pm.

A sample of representative images of the on-street parking occupancy on weekdays is provided from Figure 5 to Figure 13.

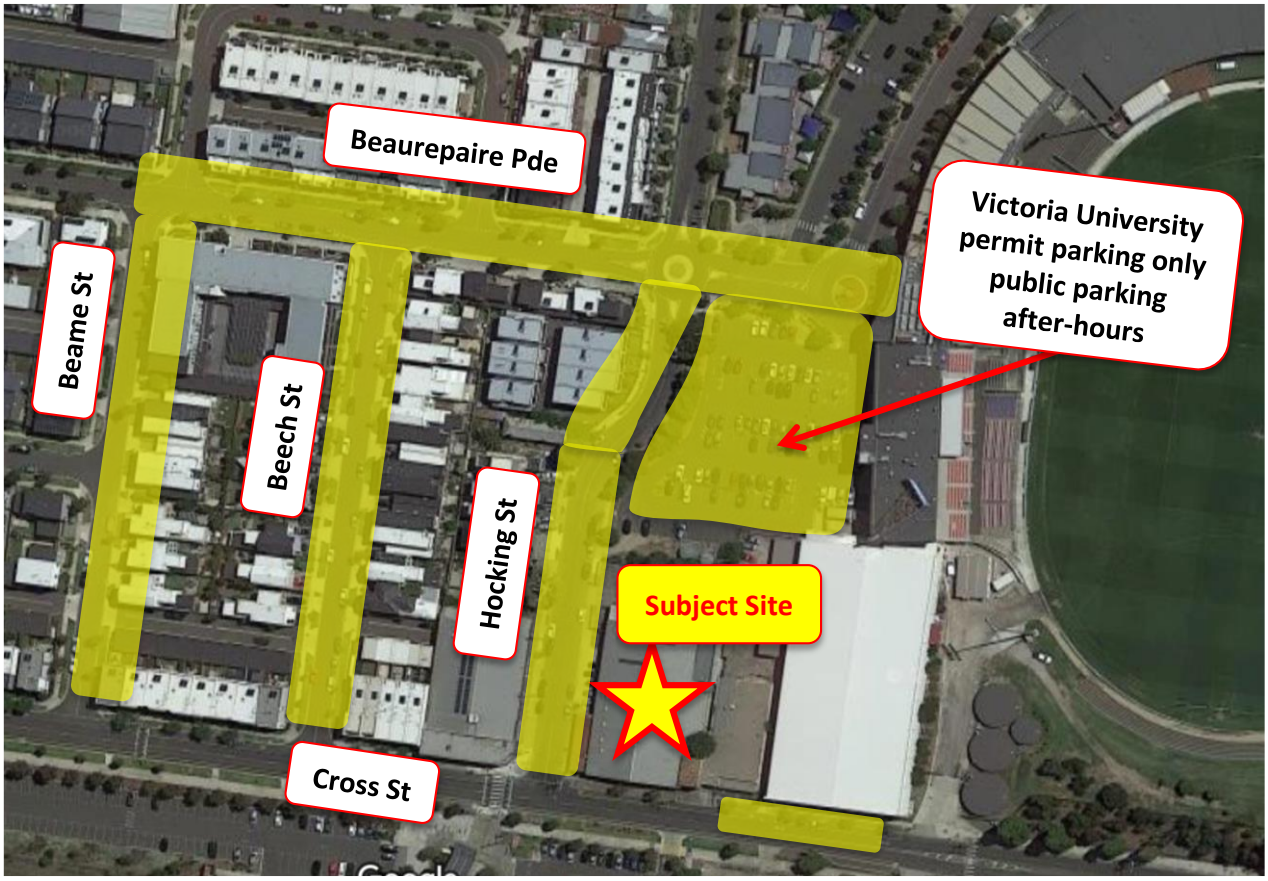


Figure 3: Area Covered by Parking Surveys

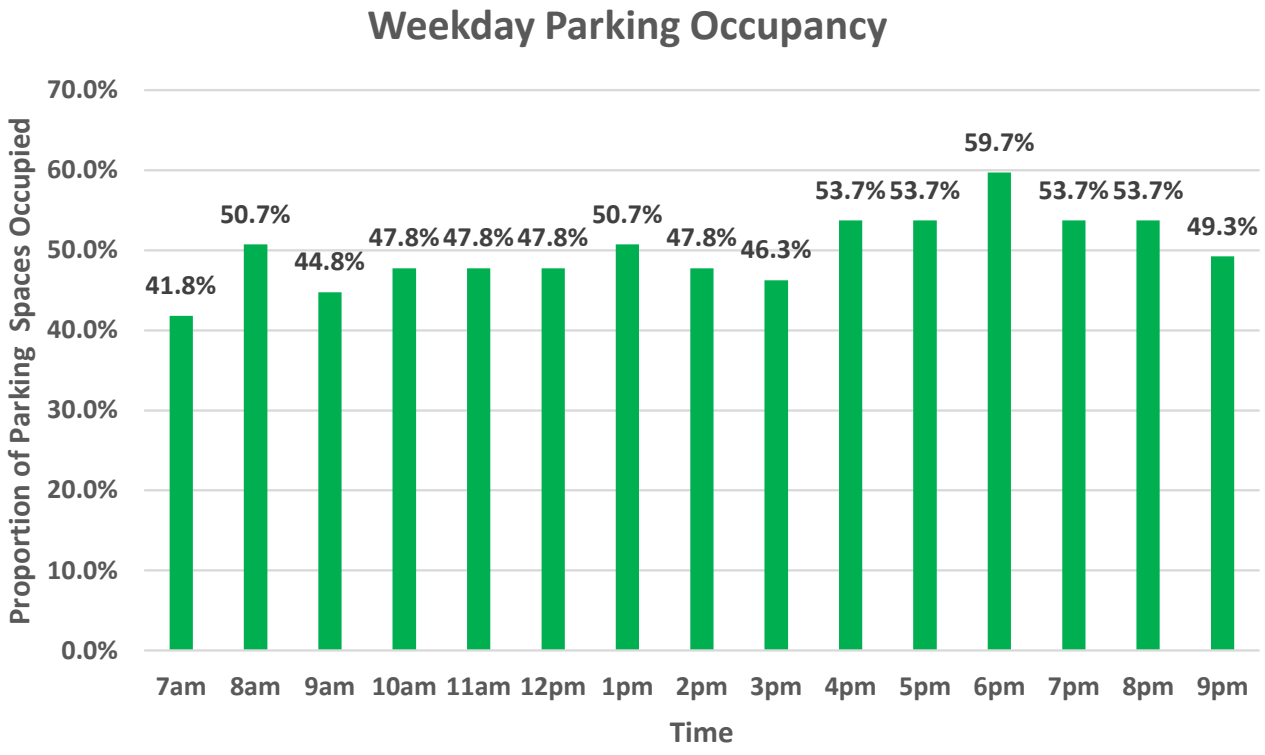


Figure 4: Parking Surveys – Fluctuation in Weekday Parking Demand (on-street spaces only)

Figure 5: Parking Occupancy 7.00am on a Weekday:
Beaurepaire Pde view west from Hocking (left image) & Hocking St view south from Beaurepaire (right image)

Figure 6: Beech St Parking Occupancy on a Weekday:
View north from Cross St at 7.00am (left image) & at 9.30pm (right image)

Figure 7: Beame St Parking Occupancy on a Weekday:
View north from Cross St at 7.00am (left image) & at 9.30pm (right image)

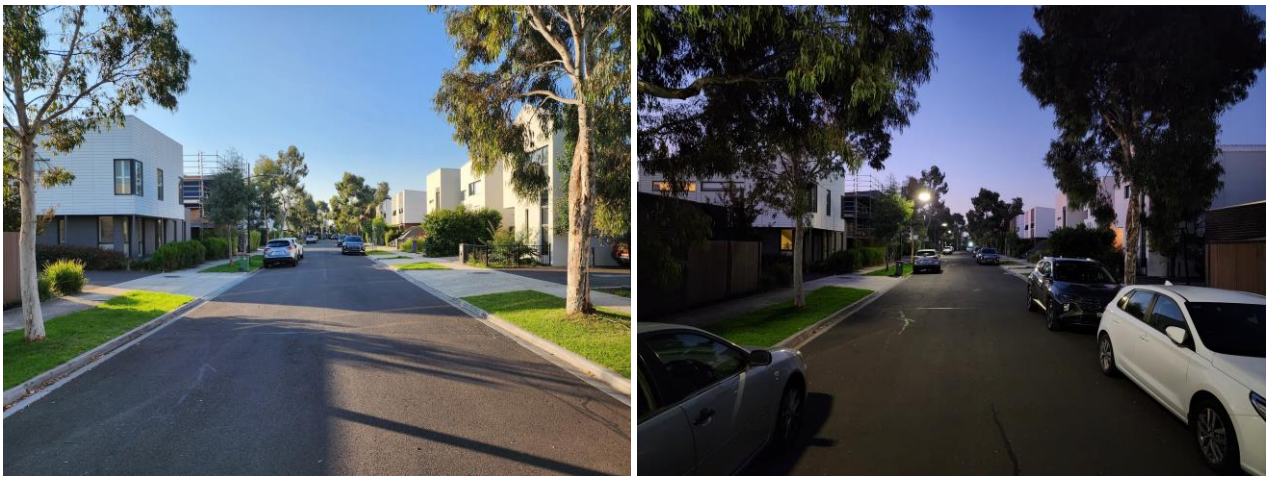


Figure 8: Beame St Parking Occupancy on a Weekday:
View north from Cross St at 4.00pm (left image) & at 6.00pm (right image)

Figure 9: Beech St Parking Occupancy on a Weekday:
View north from Cross St at 4.00pm (left image) & at 6.00pm (right image)

Figure 10: Beaurepaire Pde Parking Occupancy on a Weekday:
View west from Hocking St at 4.00pm (left image) & at 6.00pm (right image)

Figure 11: Hocking St Parking Occupancy on a Weekday:
View south from Beaurepaire Pde at 4.00pm (left image) & at 6.00pm (right image)

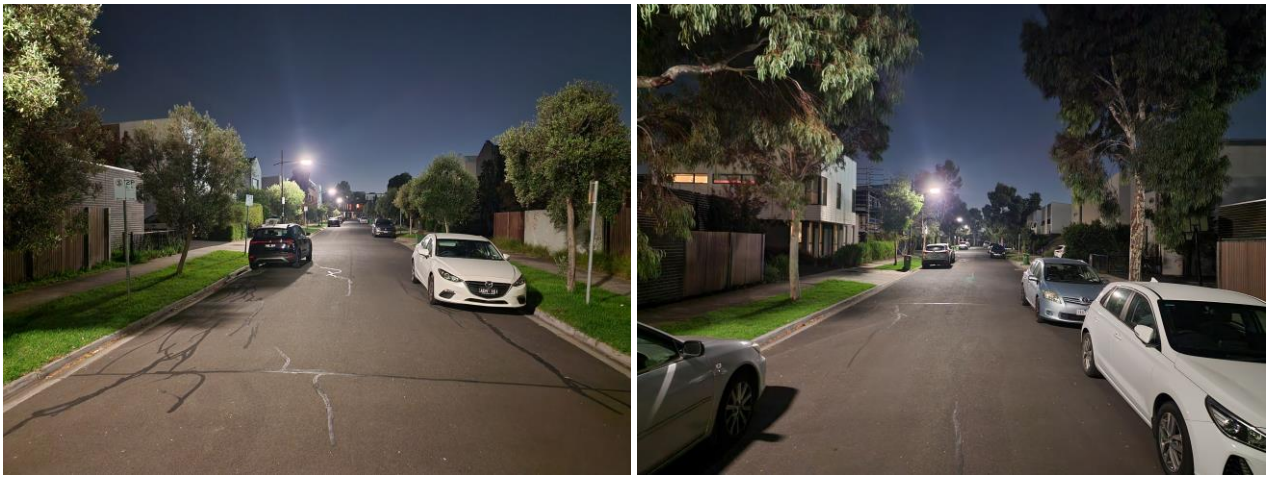


Figure 12: Parking Occupancy 7.30pm on a Weekday:
Beech St view north from Cross St (left image) & Beame St view north from Cross St (right image)

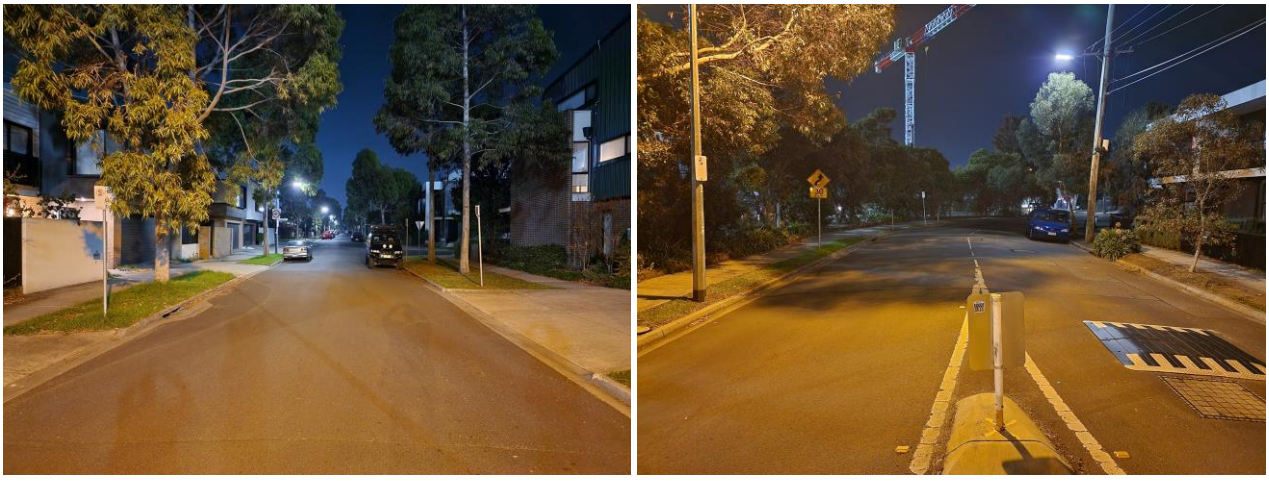


Figure 13: Parking Occupancy 8.00pm on a Weekday:
Beaurepaire Pde view west from Hocking (left image) & Hocking St view south from Beaurepaire (right image)

3 PARKING CONSIDERATIONS

3.1 STATUTORY BICYCLE PARKING REQUIREMENT

Bicycle parking requirements are found in Table 1 to Clause 52.34-5 of the Maribyrnong Planning Scheme. Bicycle parking rates are listed for the 'Office' and 'Dwelling' uses but not for the 'Gym', 'Food & Drink Premises' and 'Specialist/Organic Grocer' uses. Accordingly, in the interests of a conservative analysis, alternate listed parking rates (for similar uses) have been adopted for those three uses that are not explicitly listed. More specifically, the following Planning Scheme rates have been adopted for the unlisted uses:

- For the 'Food & Drink Premises', the 'Take-away Food Premises' rate has been used.
- For the 'Gym', the 'Minor Sports and Recreation Facility' rate has been used.
- For the 'Specialist/Organic Grocer', the 'Retail premises' rate has been used.

The relevant rates for each land use are reproduced below.

- **Dwellings – 109 total**:
  In developments of four or more storeys:
  1 to each 5 dwellings for residents; and 1 to each 10 dwellings for visitors
- **Gym / Wellness Centre – 1,138m²**
  (using the bike parking rate for "Minor Sports and Recreation Facility" listed in Clause 52.34-5)
  1 to each 4 employees; and 1 to each 200 sq m of net floor area for visitors
- **Office – 1,038m²**
  1 to each 300 sq m of net floor area for employees if the net floor area exceeds 1000 sq m; and
  1 to each 1,000 sq m of net floor area for visitors if the net floor area exceeds 1,000 sq m
- **Specialist/Organic Grocer – 868m²**
  (using the bike parking rate for "Retail premises" listed in Clause 52.34-5)
  1 to each 300 m^2 of leasable floor area for employees; and
  1 to each 500 m^2 of leasable floor area for shoppers/visitors
- **Food & Drink Premises / Shops – 716m²**
  (using the bike parking rate for "Take-away food premises" listed in Clause 52.34-5)
  1 to each 100 m^2 of net floor area for employees; and 1 to each 50 m^2 of net floor area for shoppers/visitors

Application of the above rates yields a **total requirement for 70 bicycle parking spaces** (16 of which are for employees) comprising:

- **Dwellings** = 33 (22 for residents and 11 for visitors)
- **Gym / Wellness Centre** = 7 (1 for employees and 6 for patrons)
- **Office =** 4 (3 for employees and 1 for visitors)
- **Specialist/Organic Grocer** = 5 (3 for employees and 2 for shoppers)
- **Food & Drink Premises / Shops** = 21 (7 for employees and 14 for shoppers)

The proposed bicycle parking supply of 77 bicycle parking spaces exceeds the 70-space statutory requirement and is therefore deemed satisfactory. Table 2 and Table 3 to Clause 52.34-5 define the 'shower' and 'change-room' requirements for the development. These only arise if 5 or more employee bicycle spaces are required (1 for the first 5 employee bicycle spaces, plus 1 to each 10 employee bicycle spaces thereafter). Given that 14 employee bicycle spaces are required, there is a need for two shower facilities and two change-rooms (which may be a combined shower / change room – in each case). In excess of these facilities have been provided on the mezzanine level (separately for the Gym and Office uses) and on the north side of ground floor level, adjacent the largest retail tenancy.

3.1 STATUTORY CAR PARKING REQUIREMENT

3.1.1 DEVELOPMENT COMPONENTS

As previously indicated, the development comprises the following uses:

- 109 Apartments, including:
  - 54 social and affordable housing units (of which 16 are one-bedroom; 35 two-bedroom; 3 three-bedroom)
  - 55 private apartments (of which 14 are one-bedroom; 38 two-bedroom; 3 three-bedroom)
- 1,138m^2 Gym / Wellness Centre
- 1,038m^2 Office Tenancy
- 868m^2 'Specialist/Organic Grocer' premises
- 716m^2 'Food & Drink / Shop' premises (total of five small tenancies ranging in size from 23m^2 to 266m^2)

The operator of the social and affordable housing units has been identified as "BlueCHP" – a not-for-profit tier-one Community Housing Provider.

3.1.2 PROPOSED PARKING SPACE ALLOCATION

A total of 149 car spaces and are also proposed within a 2-level basement carpark, apportioned as follows:

- 49 for the social and affordable housing units
  (one space for each of the three-bedroom, two-bedroom and one-bedroom apartments – except for 5)
- 55 for the apartments
  (one space for each of the three-bedroom, two-bedroom and one-bedroom apartments)
- 5 spaces for staff of the 'food & drink / shop' premises (one for each tenancy)
- 4 spaces for staff of the 'specialist/organic grocer' premises
- 12 spaces for staff of the Gym / Wellness Centre (5 for staff & 7 spaces for Gym / Wellness Centre members)
- 20 spaces for Office staff
- 4 accessible/disabled car spaces to be used by building occupants /residents – as needed

This parking allocation recognises that all of the ground floor commercial tenancies and the Gym / Wellness will be designed to capture trade from passing commuters using the nearby railway station and connecting bus services. Another significant future customer component for these land uses will be catchment of townhouse and apartment dwellers in the immediate surrounds (including the proposed apartments on the subject site). In summary, the majority of future visitors/customers are not expected to generate purpose-specific car trips when visiting the subject site.

3.1.3 PARKING REQUIREMENT

The starting point in assessing the carparking requirements servicing the development is to consider the statutory parking rates stipulated under the Maribyrnong Planning Scheme, which are obtained from Table 1 in Clause 52.06-5 of the Scheme. There are two sets of parking rates provided in Table 1 (Columns A and B). Column A is a 'standard' rate and it applies unless Column B applies. Column B applies if:

- any part of the land is identified as being within the Principal Public Transport Network (PPTN) Area as shown on the Principal Public Transport Network Area Maps (State Government of Victoria, August 2018); or
- a schedule to the Parking Overlay or another provision of the planning scheme specifies that Column B applies.

The subject site lies fully within the Principal Public Transport Network Area, as shown in Figure 14 over the page. Accordingly, Column B applies.

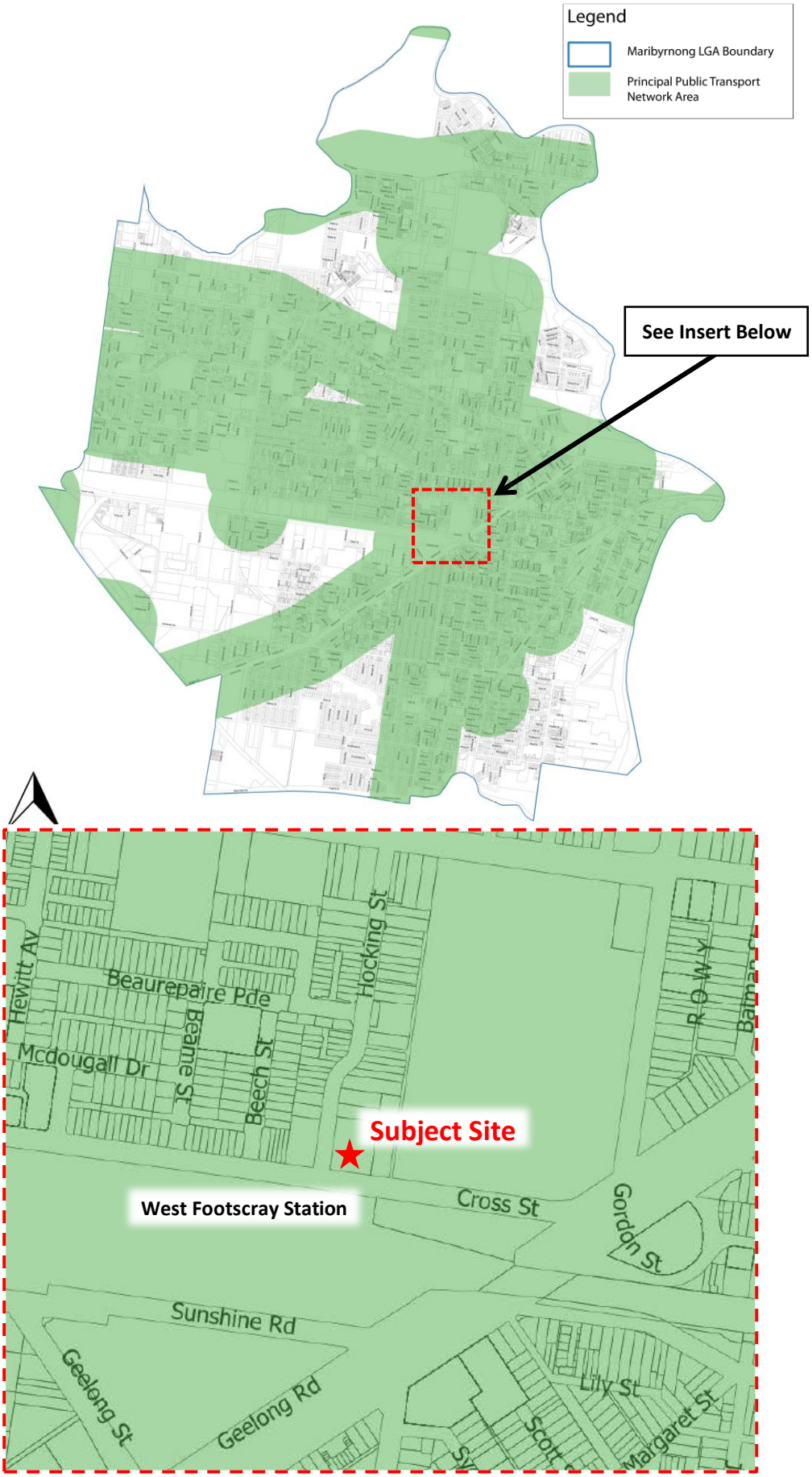


Figure 14: Principal Public Transport Network Area around Subject Site

Car parking rates are listed for the 'Dwelling', 'Office' and 'Food & Drink / Shop' premises uses – but not for the 'Gym / Wellness Centre', and 'Specialist/Organic Grocer'. Accordingly, the Gym and the Specialist/Organic Grocer are innominate uses. This matter is discussed in more detail below – for each of these two proposed uses.

With respect to the Gym / Wellness Centre, it is noted that in addition to the Gymnasium being an innominate use (under Table 1 to Clause 52.06-5) the larger nesting land-use term 'Restricted Recreation Facility' is also innominate under Clause 52.06-5. Thus, the car parking rate is discretionary and should be provided to the satisfaction of the Responsible Authority. Specifically, under these circumstances, Clause 52.06-6 of the Planning Scheme advises that: "*Where a use of land is not specified in Table 1 or where a car parking requirement is not specified for the use in another provision of the planning scheme or in a schedule to the Parking Overlay, before a new use commences or the floor area or site area of an existing use is increased, car parking spaces must be provided to the satisfaction of the responsible authority*". To this end, empirical evidence (on customer/staff travel mode choices) has been collected at similar gyms at three inner-Melbourne locations and has been presented and discussed later in this chapter. That empirical evidence indicates that 21% of customers and staff attending an inner-city gym will arrive by car; with an average vehicle occupancy of 1.85 persons per car.

In terms of the Specialist/Organic Grocer, while the proposed use could possibly be regarded as a Shop, it is relevant to note that the parking generation associated with such establishments is unlike those of traditional shops and/or food retail outlets. A specialist/organic grocer attracts a completely different customer profile – people who are indisputably more 'health-conscious' than the average and more 'naturally-inclined' to engage in active transport, such as walking and bike-riding. Within this context, it is considered appropriate to treat the Specialist/Organic Grocer as innominate and (as per the Gym / Wellness Centre) the car parking rate is discretionary and should be provided to the satisfaction of the Responsible Authority. To this end, empirical evidence (on customer/staff travel mode choices) has been collected at similar organic food outlets at two inner-Melbourne locations and has been presented and discussed later in this chapter. That empirical evidence indicates that 35% of customers attending an inner-city specialist/organic grocer will arrive by car; with an average vehicle occupancy of 1.69 persons per car. More importantly, the commuter passing trade to/from West Footscray Station will be a major element that will be targeted by the specialist/organic grocer (and will not generate purpose-specific car trips). This commuter passing trade will also be a major target of all the other commercial uses on the ground floor and the Gym Centre.

Those travel mode statistics for the Gym and the Specialist/Organic Grocer can therefore be applied to the expected maximum number of customers for each land use to obtain a parking requirement. In summary, a combination of the relevant 'Column B' parking rates and empirical rates (for the innominate uses from surveys of similar establishments) have been adopted for each land use component in the development. These are shown below.

- Dwelling = 1 parking space to each one or two bedroom dwelling (*of which there are 103*) plus 2 parking spaces to each three or more bedroom dwelling (*of which there are 6*)
- Gym / Wellness Centre (1,138m^2) = 21% of customers & staff drive a car at 1.85 patrons per car (maximum 100 patrons in attendance, plus 5 staff members)
- Office (1,038m^2) = 3 parking spaces to each 100 m^2 of net floor area
- Specialist/Organic Grocer (868m^2) = 35% of customers & staff drive a car at 1.69 customers per car (maximum 20 customers in attendance, plus 4 staff members)
- Food & Drink / Shop premises (716m^2) = 3.5 parking spaces to each 100 m^2 of leasable floor area

Application of net above rates yields a **total requirement for 186 car parking spaces** comprising:

- Dwellings = 115
- Gym / Wellness Centre = 11
- Office = 31
- Specialist/Organic Grocer = 4
- Food & Drink Premises / Shops = 25

The proposal incorporates **149 parking spaces** – 37 short of the combined statutory requirement / empirical assessment: which generates a need for 186 spaces. Accordingly, a **part-waiver of 37 parking spaces is sought**. The necessary justification for the reduction to the statutory car parking requirement follows the process outlined under Clause 52.06-6 of the Maribyrnong Planning Scheme. The justification also addresses the requirements for the innominate uses (Gym / Wellness Centre and Specialist/Organic Grocer).

It is important to note that, the waiver is principally targeted at 'customer/visitor' parking needs. The longer term requirements for residents and staff of the other proposed land uses have been catered for – as described in the following sections.

3.2 REDUCING THE REQUIREMENT FOR CAR PARKING

Planning Practice Note 22 (August 2023) issued by the State Government's Department of Transport and Planning provides guidance about the use of the car parking provisions in Clause 52.06. Clause 52.06-7 draws a distinction between the assessment of likely demand for parking spaces, and whether it is appropriate to allow the supply of fewer spaces.

These are two separate considerations, one technical while the other is more strategic. Different factors are taken into account in each consideration. Accordingly, the determination of whether the provision of car parking for the development is appropriate will be made on the basis of a two-step assessment process, which has regard to:

- The car parking demand likely to be generated by the proposed uses
- Whether it is appropriate to allow fewer spaces to be provided

This two-step assessment process is set out in the sections that follow, as is the Gym / Wellness Centre and Specialist/Organic Grocer justification.

3.3 CAR PARKING DEMAND ASSESSMENT

Clause 52.06-7 allows for the statutory car parking requirement to be reduced (including to zero) subject to an application being accompanied by a Car Parking Demand Assessment. Furthermore, Clause 52.06-7 sets out that a Car Parking Demand Assessment must address the following key factors:

- The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use. *(not applicable)*
- The variation of car parking demand likely to be generated by the proposed use over time. *(not applicable)*
- The short-stay and long-stay car parking demand likely to be generated by the proposed use.
- The availability of public transport in the locality of the land.
- The convenience of pedestrian and cyclist access to the land.
- The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.
- The anticipated car ownership rates of likely or proposed visitors to or proposed occupants (residents or employees) of the land.
- Any empirical assessment or case study.

The 'response' to each of the applicable factors has been provided in Table 4.

Table 4: Summary of Car Parking Demand Assessment Criteria

Criteria	Response
The short-stay and long-stay car parking demand likely to be generated by the proposed use.	The car parking demand generated by the proposed development is likely to consist of a mix that comprises longer-term car parking demand associated with residents and employees, as well as the short-term parking demand associated with customers of the Specialist/Organic Grocer, Shops / Food & Drink premises, as well as Gym / Wellness Centre patrons. The proposed parking allocation responds to these dynamics, as all private apartments have been provided one parking space. Furthermore, there are only five of the smallest 1-bedroom social and affordable housing units that have not been provided parking. That still represents a proportion of 91% of the social and affordable housing units (49 out of 54) being provided with one parking space – against the 60% identified target under Clause 52.20 of the Maribyrnong Planning Scheme (which only requires 0.6 spaces per dwelling for social and affordable housing). With regards to staff parking needs, it is noted that reserved staff parking spaces are provided for each of the 5 Food & Drink premises, the Specialist/Organic Grocer, the Office and the Gym / Wellness Centre. Overall, sufficient spaces are provided on site to cater for long-stay requirements of each development component. The short-stay requirements will be significantly less than the long-stay, given the subject site's advantageous location opposite West Footscray Station – which significantly reduces the need to drive. In this respect, the proposed parking allocation recognises that all of the ground floor commercial tenancies and the Gym / Wellness will be designed to capture trade from passing commuters using the nearby railway station and connecting bus services. Customers will also be drawn from the catchment of townhouse / apartment dwellers in the immediate surrounds (including the subject site's proposed apartments). In summary, the majority of future visitors/customers are not expected to generate purpose-specific car trips when visiting.
The availability of public transport in the locality of the land.	Existing train and bus services will provide excellent access for all the proposed land uses on the subject site. The train services at West Footscray Station offer convenient access to multiple regional attractions and destinations across the entire metropolitan area and operate with high frequencies for extended periods of the day – throughout both weekdays and weekends. The adjacent bus services offer connectivity into the surrounding residential catchment, nearby suburbs, central Footscray and other institutional, educational and commercial precincts in the general vicinity. Between Monday and Friday, most of the bus routes operate with frequencies that are typically between every 15 minutes to one-hour. On Saturdays and Sundays, bus services run a little less frequently. In summary, the availability of such convenient public transport reduces the need to provide car parking on site. Whilst proximity to public transport is not, in itself, a sufficient reason for reducing a car parking requirement, the fact that the availability of the train and bus services overwhelmingly coincides with the operating hours of the proposed non-residential uses – justifies a parking reduction. Public transport will provide both employees and customers/visitors of this development a viable and attractive travel-to-work and visitation option. It will also provide residential visitors a viable travel option – especially the presence of West Footscray Station directly across the road. In conclusion, the overall parking demand associated with all of the development's land uses is likely to be lower due to the ready availability of public transport. A waiver of 37 parking spaces is thus considered appropriate.
The convenience of pedestrian and cyclist access to the land.	The well-maintained existing local footpath network and bicycle lane facilities on Cross Street provide convenient pedestrian and cyclist access to the subject site. More particularly, the subject site and general locality are conducive to walking as an alternative to car use with the presence of high-quality pedestrian areas with appropriate footpath widths and safe crossing locations, particularly between the subject site and West Footscray Station. Cycling, is also extremely attractive, given the flat terrain that exists in all directions and the presence of formal on-road and off-road bicycle lane facilities on Cross Street. The ability for people to conveniently access the subject site from all directions (on foot or by bicycle) reduces the need for car parking as there is a realistic likelihood of people walking and riding bikes instead of driving.

The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.	77 on-site bicycle parking spaces are proposed – which is 7 spaces in excess of the statutory requirement. There are also adequate end of trip facilities for cyclists. These factors help to justify the parking waiver sought.
The anticipated car ownership rates of likely or proposed visitors to or proposed occupants (residents or employees) of the land.	The feasibility of 'reducing' the statutory car parking requirement, at 6 Cross Street, has to take into consideration the current travel behaviour of existing Footscray residents. This will inform the potential to sustain a population with low car ownership and use characteristics – which applies equally to future residents of the development as well as the visitors/customers of the other proposed land uses – the majority of which are expected to be from the surrounding residential catchments. The exhibited travel behaviour traits of the local community will provide strong guidance on whether the potential part waiver of parking spaces is realistic – namely whether it is matched by the travel habits of the surrounding communities and whether reductions in car usage are likely. The first step in considering travel behaviour is to examine relevant suburb-wide traits from the Footscray areas (as captured in the 2016 and 2021 Censuses). Car ownership is an important parameter that broadly reflects the propensity for people to drive. The 2021 Census revealed that the average number of motor vehicles per dwelling in Footscray is much lower than the municipal average in Maribyrnong. In 2021, only 23.2% of households in Footscray had access to two or more motor vehicles, compared to 38.2% in City of Maribyrnong. The proportion of households with 2 or more vehicles is also significantly higher in Metropolitan Melbourne (53.5%) and Victoria (55.3%) compared with Footscray. The full breakdown of the vehicle ownership structure in Footscray is shown in Table 5, which also provides a comparison with the overall municipality, Metropolitan Melbourne and Victoria. The key aspect is the proportion of households with "No Vehicles": 21% in Footscray compared with 12.4% across the entire Maribyrnong municipality and only 8.5% in Metropolitan Melbourne and 7.5% in Victoria. These vehicle ownership characteristics reflect the high likelihood of much lower car dependency in Footscray compared to the rest of Victoria. These lower car ownership rates foreshadow a greater propensity for customers/visitors of the various land uses on the subject site, as well as employees (especially those from the local surrounding neighbourhoods) to be less reliant on the use of cars compared with residents of the broader municipality and greater Melbourne area. The second step of this Census-data analysis will consider the travel behaviour traits of existing Footscray residents. The Census reports 'journey-to-work' data. In this instance, rather than using the unrepresentative travel behaviour from the 2021 Census, the pre-Covid 2016 Census data has been examined. For Footscray residents, public transport is almost as popular for the journey to work as driving. A full comparison of travel mode choices by Footscray residents with those that live in the full Maribyrnong municipality and in the Greater Metropolitan Melbourne region is shown in Table 6. The table highlights the exceptional low car dependency of Footscray residents, compared to the other areas. Table 6 specifically shows that, when compared to people travelling to work across Metropolitan Melbourne, residents who live in Footscray: • Catch public transport at twice the rate of (35.9% against 18%) • Drive at almost half of the rate (41.1% against 76%) • Walk at 1.6 times the rate (4.8% against 3%) • Ride bikes at nearly twice the rate (3.6% against 2%) The lower car ownership rates and travel-to-work behaviour, revealed by the 2016 and 2021 Censuses (which are associated with the existing residential population in Footscray) justify the 37-space parking waiver proposed in this report. Additionally, it is also relevant to note that Clause 52.20 of the Maribyrnong Planning Scheme (which deals with housing projects funded by Victoria's Big Housing Build program) only requires 0.6 spaces per dwelling for social and affordable housing (regardless of proximity to public transport) which is reflective of the lower car ownership rates of this cohort of occupants. Whilst Clause 52.20 doesn't apply to the subject site – its parking requirement for social and affordable housing is still a valid and appropriate reference of the likely car ownership characteristics of the future occupants of the social and affordable housing units at 6 Cross Street.

Any empirical assessment or case study.	The empirical assessment presented in this section considers the two innominate land use components proposed on the subject site: • The specialist/organic grocer tenancy; and • The Gym / Wellness Centre. **1) Parking Demand for Specialist/Organic Grocer** The parking generation associated with the proposed specialist/organic grocer tenancy is unlike those of traditional food retail outlets. A specialist/organic grocer store attracts completely different customer profiles. The specialist/organic grocer premises, located in this inner city setting, will likely attract a customer profile that is 'naturally-inclined' to engage in active transport, such as walking and bike-riding. Much of the catchment for the specialist/organic grocer premises will be the townhouse and apartment dwellers in the immediate surrounds (including on the subject site) as well as the rail-commuter passing trade to/from nearby West Footscray Station. The commuter passing trade will be a major element that will be targeted (and will not generate purpose-specific car trips) by the specialist/organic grocer. Thus, very little car use is anticipated by customers of the specialist/organic grocer premises. To this end, customer/staff travel choices at two similarly sized existing established specialist/organic grocer stores in comparable inner Melbourne settings have been surveyed, namely: • Passionfoods Eco-Living Store at 219 Ferrars St, South Melbourne; and • Terra Madre at 103 High St, Northcote. It is noted that neither of these two existing stores are located right next to a railway station (as is the case for the subject site) and thus would likely not attract the same extent of commuter trade that proposed store at No. 6 Cross Street will. Within that context, Table 7 shows the travel-mode choices averaged from the two stores. This data can be used to estimate the likely maximum parking demand that will be generated by the specialist/organic grocer. It should be noted that the average car occupancy of customers visiting those two stores was found to be 1.69 occupants / car. Thus, for the average of 35% of person-trips that used cars across the two specialist/organic grocer stores that were surveyed, the actual number of vehicles is obtained by dividing the forecast maximum number of customers, using cars, by a factor of 1.69. Using the above approach, the parking demand associated with the future 868m^2 specialist/organic grocer tenancy can be calculated by adopting the anticipated maximum attendance of 20 customers in the premises at any given point in time. In summary, and in the likely event that those future customers exhibit the same travel behaviour choices as the customers of the two other similar stores in South Melbourne and Northcote, then it is reasonable to expect that 35% (7 customers) will arrive by driving a car and requiring carparking. Using the empirical vehicle occupancy of 1.69 persons per car produces a vehicle parking requirement of 4 cars for customers. These can be accommodated in the spare on-street parking spaces available in the development's catchment. **2) Parking Demand for Gym / Wellness Centre** **Peak Activity Period** In estimating the likely maximum future parking demand, it is first necessary to establish the period/s of likely maximum future parking demand associated with the gymnasium. To this end, typical mid-week patronage profiles for a range of gyms in the broader Footscray area have been sourced. These are shown in Figure 15 to Figure 17. Each of the attendance profiles highlights that the peak activity periods are the early morning (around 6-8am) and the early evening (around 5-7pm). In contrast patronage during the middle of the day tends to be much more modest. In view of the above attendance profiles, it is reasonable to model, for the purposes of maximum parking demand, both an early morning (7-8am) and an early evening (5-6pm) period. It will be assumed that, at the busiest time, the following will be in attendance: • Five staff members • 100 gym patrons – representative of maximum full capacity The next aspect to consider are the likely travel mode choices when travelling to/from the Gym / Wellness Centre.

	Historic Travel Mode Surveys (Gym Staff & Patrons) in Inner Melbourne It is reasonable to assume that the primary catchment for this gymnasium will be the surrounding local residential catchment, bearing in mind that there are multiple other existing gyms and similar 'mind/body-exercise' establishments (pilates/yoga) found in all directions within a radius of around 800-1,000 metres from the subject site. Within this context – any visitation to the proposed gym by patrons originating from greater distances is highly unlikely. The natural and logical catchment for the proposed gym is the local population including the residents of the subject site's 109 apartments and those of the many other nearby medium to high density residential developments. Accordingly, it is highly probable that many future gym patrons will be travelling comparatively short distances and have a realistic opportunity to walk or ride bikes – particularly bearing in mind the inherent healthy & active lifestyle predisposition of gym members. Movendo Pty Ltd has previously surveyed travel mode share at other suburban gym with 'village characteristics' providing realistic and high potential for walking. In past years, travel behaviour surveys undertaken at gyms in Kensington (2018 – Macaulay Village) South Melbourne (2022 – Clarendon Street precinct) and Port Melbourne (2023 – Bay Street precinct) have revealed modest car dependency levels. Most recently (June 2023) comprehensive travel behaviour interview surveys were conducted at five gyms in Thornbury/Preston (High Street area). The average findings from these surveys are shown in Table 8. Accordingly, the travel-choice findings from Table 8 will be used to derive the likely maximum parking demand to be generated by the Gym / Wellness Centre. It should be noted that the average car occupancy was found to be 1.85 occupants per car. Thus, the average of 21% of person-trips that used cars across the four gyms must be divided by a factor of 1.85 to establish the number of vehicles. On this basis, the forecast maximum parking demand for the Gym / Wellness Centre at 6 Cross Street will be 11 parking spaces. A total of 5 basement parking spaces have been allocated for staff of the Gym / Wellness Centre. The remaining demand for 6 spaces will be accommodated through the 7 allocated member visitor spaces in the basement.

Table 5: Number of Vehicles per Dwelling (Comparison between Footscray and other areas) 2021 Census

Location	Proportion of Dwellings & Corresponding Vehicles per dwelling				
	No Vehicles	One Vehicle	Two Vehicles	Three Vehicles	Not Stated
Footscray	21%	54.1%	18.5%	4.7%	1.7%
City of Maribyrnong	12.4%	48%	29.1%	9.1%	1.4%
Metropolitan Melbourne	8.5%	36.7%	36.5%	17%	1.3%
Victoria	7.5%	35.8%	36.9%	18.4%	1.4%

Table 6: Comparison of Journey-to-Work Travel Mode Choices (Footscray and other areas 2016 Census)

Travel Mode for Journey-to-Work	Footscray	Maribyrnong	Greater Metropolitan Melbourne
Public Transport	35.9%	26.2%	18%
Walking	4.8%	2.9%	3%
Car (driver/passenger)	41.1%	53.4%	76%
Bicycle	3.6%	2.8%	2%
Other	14.6%	14.7%	1%

Note: 'Other' includes 'Working-from-Home' and 'Did-not-go-to-work' and other minor categories

Table 7: Specialist/Organic Grocer Attendee Travel Mode Choices: Mid-week Day (Inner Melbourne)

Travel Mode	Customer Travel Mode Choices to Specialist/Organic Grocer Stores
Walk	27%
Ride Bike/Scooter	18%
Drive car	35%
Dropped off by car (parking not required)	5%
Public Transport	15%
Total	100%

Figure 15: Weekday Attendance Profile: "BFT Fitness Centre" 228/232 Barkly St, Footscray – open 5.15am-7.30pm

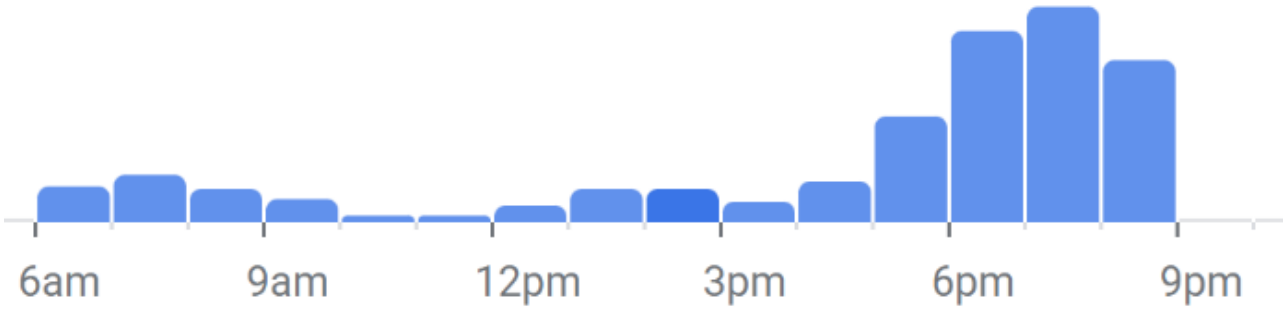


Figure 16: Weekday Attendance Profile: "Resilience Training Centre", 86 Buckley St, Footscray – open 6am-9pm

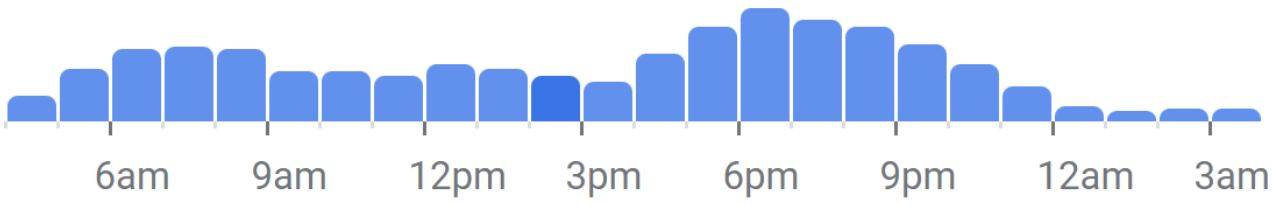


Figure 17: Weekday Attendance Profile: "Snap Fitness 24/7", 80 Nicholson St, Footscray – open 24 hours

Table 8: Gym Attendee Travel Mode Choices – Past Surveys in Various Neighbourhood Locations

Travel Mode	Gym Attendee Travel Mode Choices on a mid-week day
Walk	71%
Drive	21%
Ride Bike/Scooter	4%
Dropped off by car	2%
Public Transport	2%
Total	100%

3.4 APPROPRIATENESS OF PROVIDING FEWER SPACES THAN THE NUMBER LIKELY TO BE GENERATED

The second step (when reflecting on the merit of waiving carparking requirements) is to consider whether it is 'strategically' appropriate to allow fewer parking spaces to be provided on site – as determined by the Car Parking Demand Assessment previously presented. In this respect, Clause 52.06-7 of the Maribyrnong Planning Scheme sets out a series of car parking provision factors that should be considered when assessing the appropriateness of providing fewer car spaces on the site. The car parking provision factors are as follows (with the most relevant four factors highlighted by underlining):

- The **Car Parking Demand Assessment**.
- Any relevant **local planning policy** or incorporated plan.
- The availability of alternative car parking in the locality of the land, including:
  - Efficiencies gained from the consolidation of shared car parking spaces.
  - Public car parks intended to serve the land.
  - On street parking in non-residential zones.
  - Streets in residential zones specifically managed for non-residential parking.
- On street parking in residential zones in the locality of the land that is intended to be for residential use.
- The practicality of providing car parking on the site, particularly for lots of less than 300 square metres.
- Any adverse economic impact a shortfall of parking may have on the economic viability of any nearby activity centre.
- The future growth and development of any nearby activity centre.
- Any car parking deficiency associated with the existing use of the land.
- Any credit that should be allowed for car parking spaces provided on common land or by a Special Charge Scheme or cash-in-lieu payment.
- Local traffic management in the locality of the land.
- The impact of fewer car parking spaces on local amenity, including pedestrian amenity and the amenity of nearby residential areas.
- The need to create safe, functional and attractive parking areas.
- Access to or provision of **alternative transport modes** to and from the land.
- The equity of reducing the car parking requirement having regard to any historic contributions by existing businesses.
- The character of the surrounding area and whether reducing the car parking provision would result in a quality/positive urban design outcome.
- Any other matter specified in a schedule to the Parking Overlay.
- Any other relevant consideration.

The factors highlighted above are discussed in the sections that follow.

3.4.1 CAR PARKING DEMAND ASSESSMENT

The previous 'Car Parking Demand Assessment' section, identified that the proposed mixed-use development is well placed to operate with the proposed levels of carparking – particularly by virtue of the:

- Availability of **excellent public transport access** (multiple existing bus routes within easy walking distance and a major train station immediately adjacent to the site).
- Existence of **effective pedestrian and bicycle networks** servicing the subject site and the generous supply of on-site bicycle parking.
- The likely anticipated **low car ownership rates of future residents, visitors, patrons and workers at the subject site** as demonstrated by **2016 and 2021 Census data** for the Footscray area.
- Empirical data revealing **low car utilisation rates for patrons of existing inner city gyms and organic grocer establishments**– resulting in fewer car parking spaces required.

Within this context, it is reasonable to conclude that the proposed 149-space parking supply is adequate to cater for realistic demand under the 'Car Parking Demand Assessment'. The 37-space parking waiver against the requirement to provide 186 spaces is considered realistic and reasonable.

3.4.2 LOCAL PLANNING POLICY

It is appropriate to consider the local planning policy context and future growth objectives when examining the adequacy of carparking supply for the proposed development. The relevant City of Maribyrnong's transport objectives and desires, as expressed through its strategic policy documentation, are the following:

- The **City of Maribyrnong's Municipal Strategic Statement** (MSS) outlines provides **clear support for public and active transport**. Clause 21.09 identifies a number of key objectives and related strategies where there is strong recognition of the role and effectiveness of public transport, walking and cycling for Maribyrnong.
- Moreover, the MSS identifies and encourages complementary initiatives such as **car parking dispensations** and the use of **shared parking for new developments** – all of which provide the appropriate context to envisage a development, at 6 Cross Street, that focusses on both public and active transport modes to satisfy its future travel needs. The parking dispensation sought for the redevelopment proposal is supported by the established **low car ownership rates** by residents of Footscray as revealed by the most recent Census data.

In essence, Council's suite of strategic guidance documents aims to moderate car dominance and promote walking, cycling and public transport use as viable and preferable alternatives – supporting the creation of a vibrant, safe and sustainable municipality. Within this comprehensive sustainable transport policy context, the proposed development's imperative is to contribute an outcome that supports low car dependency and optimises use of active transport and public transport. The proposed development's parking supply is in line with the objectives contained in Council's strategic policy guidance. Furthermore, the site is ideally located with regard to sustainable transport alternatives and the reduced provision of on-site car parking would potentially discourage private motor vehicle ownership and use.

3.4.3 AVAILABILITY OF ALTERNATIVE CAR PARKING IN THE LOCALITY OF THE LAND

Comprehensive parking surveys have been undertaken in the vicinity of the subject site. A total of 169 spaces parking spaces was surveyed, within a short walking distance of the subject site (including 67 on-street parking spaces located in Hocking St, Cross St Beech St, Beame St and Beaurepaire St, as well as 102 off-street parking spaces located in the carpark to the Victoria University Community Sports Stadium – which are only available to the public outside of normal business hours 7am-5pm).

Ignoring the off-street spaces in the Victoria University Community Sports Stadium off-street carpark, the surveys have nonetheless highlighted that there is generous on-street parking availability in the study area at all times. The abundant on-street spare parking capacity can easily cater for any rare short-stay visitor demand that may occasionally be generated.

3.4.4 ALTERNATIVE TRANSPORT MODES TO AND FROM THE LAND

The subject site is readily accessible by alternative transport modes including public transport, cycling and walking, as described in previous sections of this report. In addition to excellent public transport services, there is an established comprehensive footpath network, linking surrounding residential catchments and commercial / institutional precincts to the subject site, offering high levels of convenience for pedestrians to access to the land. It is therefore concluded that the locality is well served by public transport pedestrian and cyclist networks that, collectively, will give rise to a reduced demand for car parking on site. It is thus appropriate to take these factors into account when assessing the appropriateness of the car parking supply for the subject site.

3.5 ACCESS ARRANGEMENTS & PARKING LAYOUT

The 149 carparking spaces are located in a two-level basement carpark that is accessed off Hocking Street, north of Cross Street. This entry/exit point is unchanged from the current endorsed scheme. The internal carpark layout is also effectively the same as the endorsed scheme, as only minor design alterations have been to accommodate some services. Thus, as per the current endorsed design, the carpark layout satisfies the Maribyrnong Planning Scheme requirements. The carpark design is shown in Figure 18 to Figure 20.

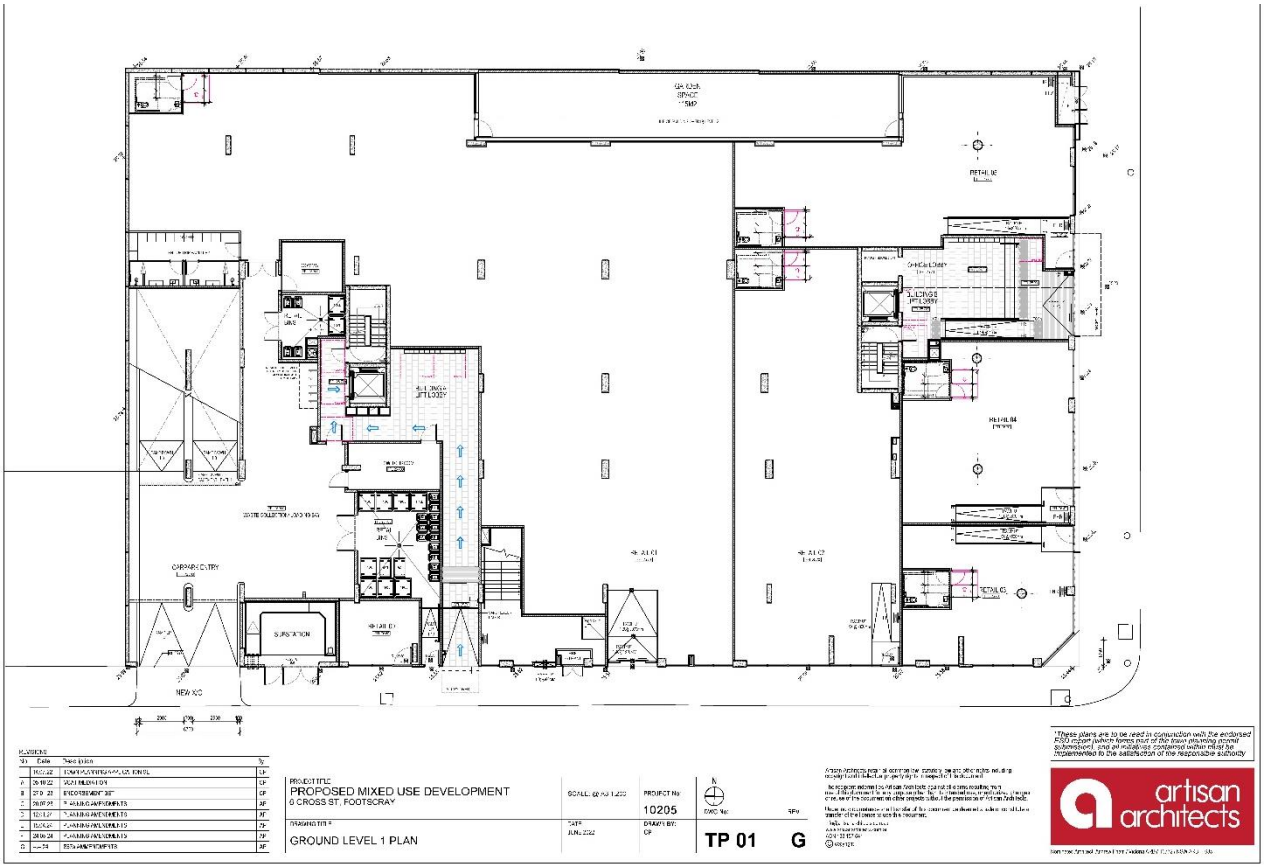


Figure 18: Parking Layout: Ground Level (plan No. TP 01 G by artisan architects)

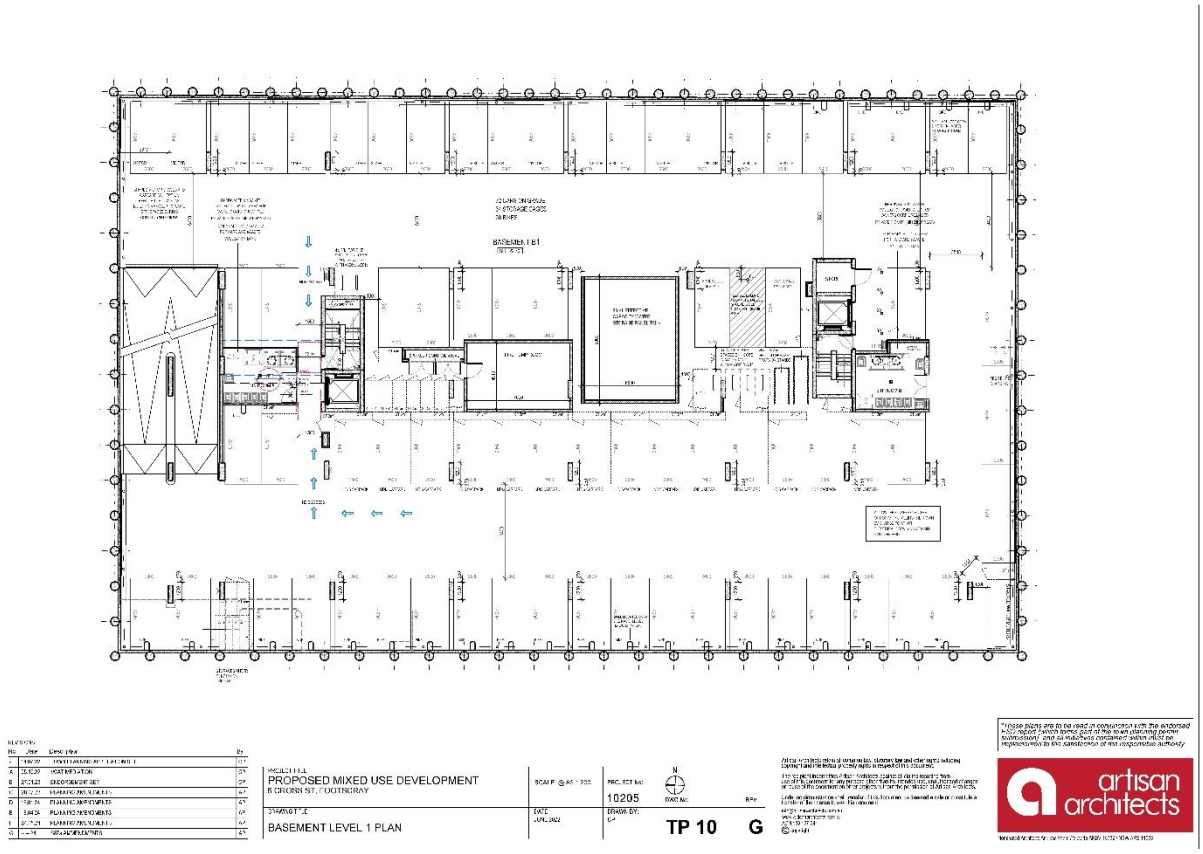


Figure 19: Parking Layout: Basement Level 1 (plan No. TP 10 G by artisan architects)

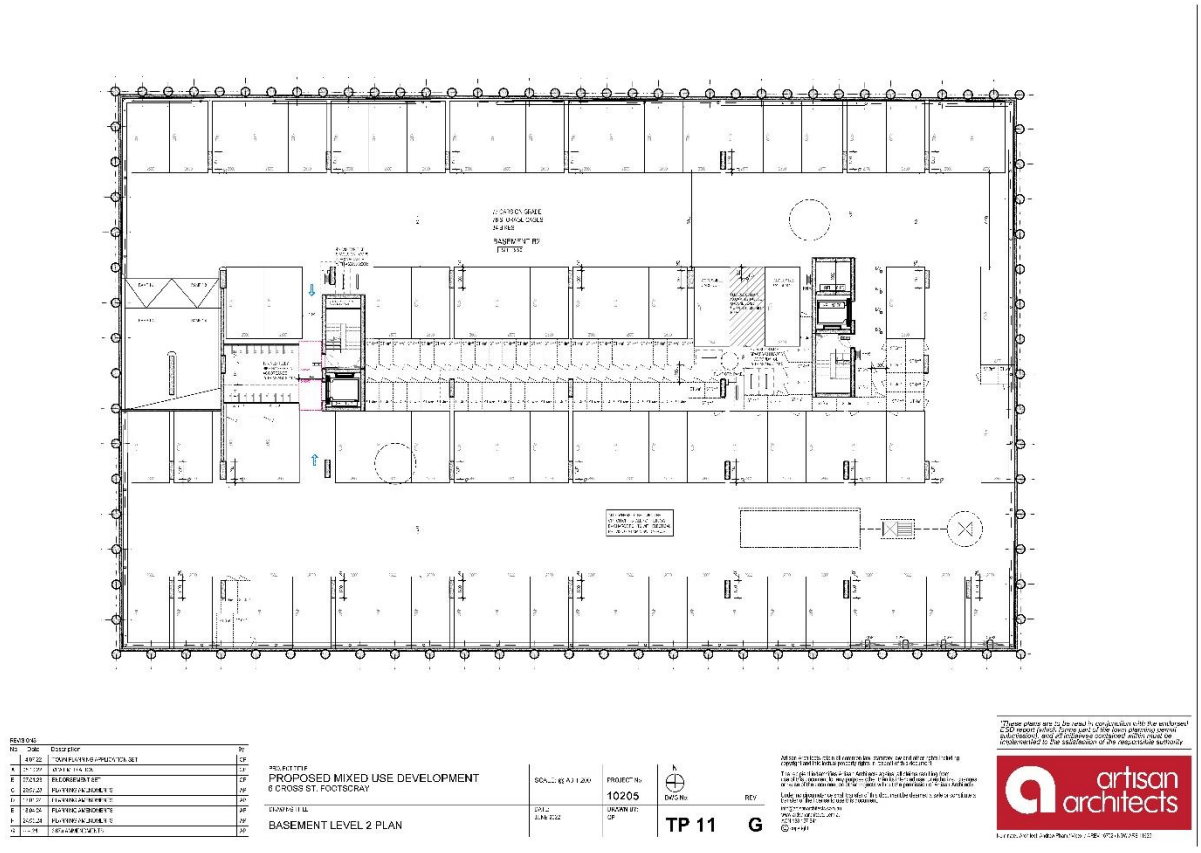


Figure 20: Parking Layout: Basement Level 2 (plan No. TP 11 G by artisan architects)

4 TRAFFIC IMPLICATIONS

4.1 TRAFFIC ANALYSIS PROCESS

The traffic impact analysis for this development has been structured as follows:

a) Prediction of whether (and the extent to which) any weekday AM peak hour traffic will be generated by each of the development components, namely:
   - Dwellings
   - Gym / Wellness Centre
   - Office
   - Specialist/Organic Grocer
   - Food & Drink premises

b) Distribution of this traffic volume on the road network

c) Assessment of the ability of the subject site's access point and of the Hocking St / Cross St intersection to accommodate the predicted traffic flows

The traffic survey program undertaken in May 2024 revealed that the weekday AM peak hour (8-9am) is by far the busiest period in terms of traffic volume. Accordingly, this traffic impact analysis will focus on the AM peak hour. The following considerations are relevant, with respect to the development's traffic generation characteristics during the AM peak hour of 8-9am:

- Given the near equal split of **private apartments and social and affordable housing units** (which are designed for disadvantaged, aged and disabled persons) it is forecast that only a portion of the residents will leave by car and head, primarily, to work/education destinations in the **AM peak**.
  Accordingly, **some traffic movements** are forecast to occur in the **AM peak**.
- Five parking spaces are allocated for staff of the **Gym / Wellness Centre**. No spaces will be allocated to gym patrons. In common with other gyms in the broader area, opening hours will be at least 6-7am and closing times 7-8pm. Thus, staff will arrive well before the 8-9am morning peak hour and leave well after the 5-6pm evening peak hour.
  Accordingly, **no traffic movements** are forecast to occur in the **AM peak**.
- For the **Office use**, it will be assumed that all of the AM peak hour trips associated with the are employee-related and thus will be treated as entirely new trips on the surrounding road network (namely they are trips by employees that are not working in the general area at present). It will also be assumed that 90% of trips in the AM peak hour are incoming and 10% outgoing (consistent with office employee travel-to-work patterns).
  Accordingly, **most traffic movements** associated with the office are forecast to occur in the **AM peak**.
- The **Specialist/Organic Grocer** will most likely open at around 8.00-8.30am. In this regard, the survey work undertaken to establish customer travel mode preferences (as described in section 3.3.7 of this report) revealed an insignificant level of activity at both Terra Madre (103 High St, Northcote) and Passionfoods Eco-Living Store (219 Ferrars St, South Melbourne) between 8-9am on a weekday. Therefore, for the purposes of this analysis, no trips are forecast to occur in the AM peak, as a result of the presence of the Specialist/Organic Grocer.
  Accordingly, **no traffic movements** are forecast to occur in the **AM peak**.
- Staff of the **Food & Drink premises** have already arrived (such establishments typically open at 7am on weekdays, particularly in locations adjacent to major public transport hubs such as this one – where early morning trade associated with commuters is significant). Therefore, for the purposes of this analysis, no trips are forecast to occur as a result of staff working at the Food & Drink premises. However, some customers may arrive by car in that 8-9am hour.
  Accordingly, **some traffic movements** are forecast to occur in the **AM peak**.

4.2 TRIP GENERATION

In order to reliably estimate the traffic generation potential of this development, a well-established industry practice across Australia is to utilise the NSW RTA's "Guide to Traffic Generating Developments" (the RTA Guide). Accordingly, for the purposes of this assessment, trip generation rates for the development are broadly based on the rates / guidance outlined in the RTA Guide.

Dwellings

The RTA Guide advises that in Metropolitan Sub-Regional Centres, the peak hour vehicle trips are 0.29 trips per unit. This is considered appropriate for the private dwellings. The RTA Guide also advises that in housing for aged and disabled persons (a more appropriate indicator for the proposed social and affordable housing units on the subject site), the peak hour vehicle trips are 0.1 to 0.2 trips per unit. Given, as indicated in the previous section, that the social and affordable housing units account for around half of the 109 apartments – it is considered reasonable to adopt an overall average between the two traffic generation RTA rates. To this end, adoption of an overall AM peak hour rate of 0.2 trips per unit is considered reasonable. Application of this rate to the 109 dwellings on the subject site yields an hourly total of 22 vehicle trips. It will be assumed that 90% are outgoing (20 trips) and 10% incoming (2 trips) during the 8-9am period.

Office

The RTA Guide advises that the office trip rate in the morning peak hour is 1.6 vehicle trips per 100 m^2 gross floor area. Application of this rate to the 1,038m^2 office component of the development yields an hourly total of 17 vehicle trips. It will be assumed that, consistent with office employee travel-to-work patterns, 90% are incoming (15 trips) and 10% are outgoing (2 trips) during the 8-9am period.

Food & Drinks Premises

The traffic generation characteristics of Food & Drink premises can vary substantially, depending on the nature and type of establishment, the location, proximity of public transport services, nature of surrounding catchment, etc. The proposed five small café-style tenancies will range in size from 23m^2 to 266$m^2$and are likely to target the significant customer market walking to/from West Footscray Station from the surrounding residential, sports and commercial/institutional uses. As previously indicated, café staff will be already present on site by 7am. Each of the 5 tenancies will be allocated a parking space for staff.

During the AM peak hour of 8-9am, it is expected that the majority of café customers will walk to these Food & Drinks premises. In fact, many will be tenants of the 109 apartments on the subject site. Nonetheless, in the interests of undertaking an exceptionally conservative analysis, it will be assumed that the traffic generation associated for the 5 parking spaces for the Food & Drink premises will occur entirely as incoming trips in the period between 8-9am in the morning peak hour.

The combined total forecast vehicle movements generated by the development's components as described above (those that are expected to generate trips in the AM peak hour) is therefore **44 vehicle trips** in the **AM peak hour**.

These 44 vehicle movements comprise 22 incoming trips and 22 outgoing trips.

4.3 TRAFFIC DISTRIBUTION

Traffic movements generated by the proposed development will simply be distributed to the north and south – as they are the only realistic access routes. Accordingly, at the Hocking St / Cross St intersection and at the site access point on Hocking Street movements will be evenly split between the north and the south. Thus, the additional trips at both locations and their distribution are shown in Table 9 and Figure 21. The table and figure show the direction from which traffic has come from (the 'arrivals') and where traffic is going to (the 'departures').

Table 9: AM Peak Hour Forecast Traffic Movements (vehicles per hour): at Site Access Point & at the intersection of Hocking / Cross Sts

Location	Trip Direction	AM Peak Hour – Trip Distribution (vehicles/hour)			
		North	South	East	West
Access Point	Coming From	11 (left turn into site)	11 (right turn into site)	NA	NA
	Going To	11 (right turn from site)	11 (left turn from site)	NA	NA
Hocking / Cross Sts intersection	Coming From	NA	NA	6 (right turn from Cross)	5 (left turn from Cross)
	Going To	NA	NA	5 (left turn into Cross)	6 (right turn into Cross)

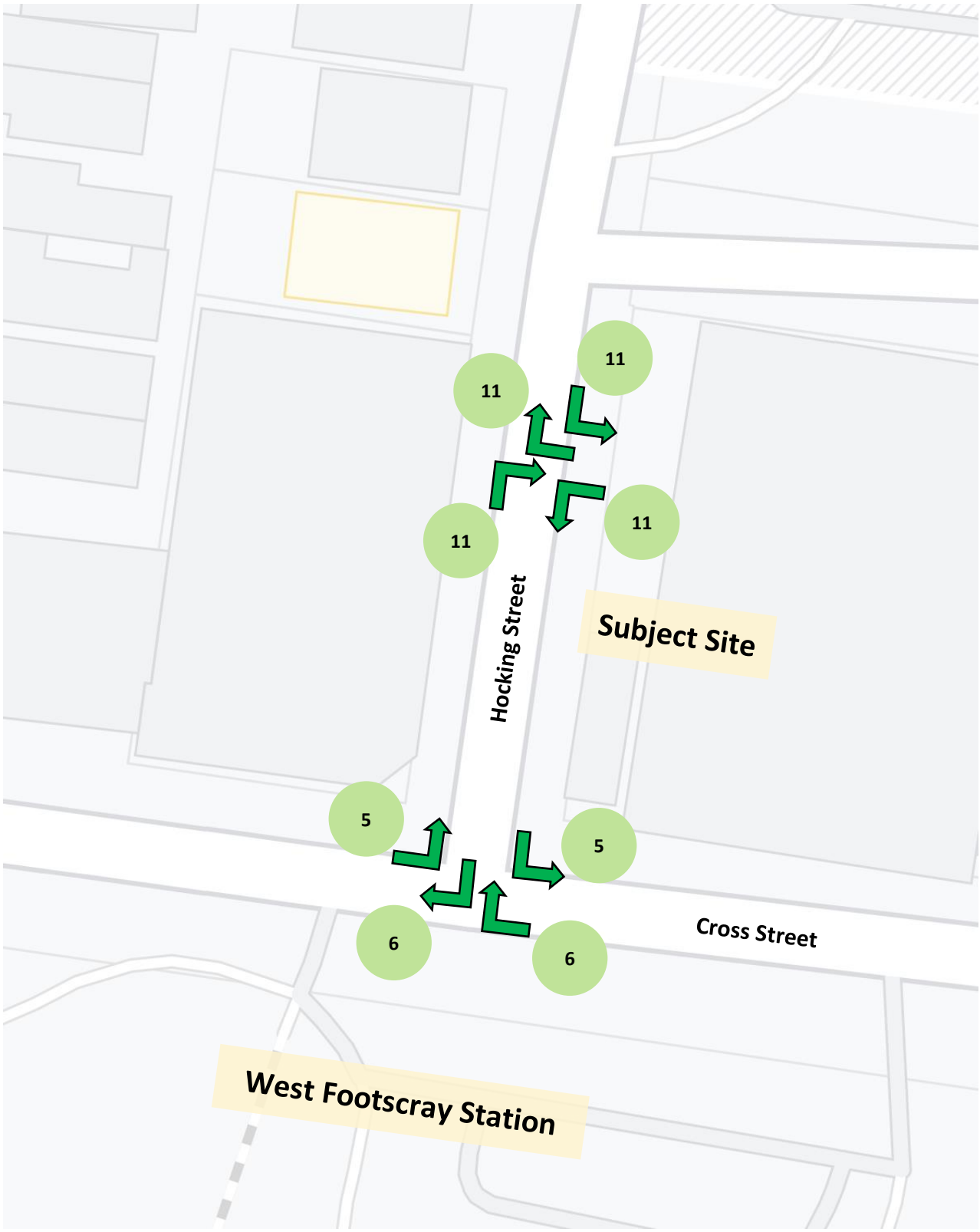


Figure 21: AM Peak Hour Forecast Traffic Movements (vehicles per hour): at Site Access Point & at the intersection of Hocking / Cross Sts

4.4 TRAFFIC CAPACITY ANALYSIS

The likely traffic impact associated with the development has been assessed on two levels:

1. **Local Impacts** – entry/exit movements at the site access location off Hocking Street.
2. **Surrounding Area Impacts** – at the nearby intersection of Hocking and Cross Streets.

As previously indicated in this report, the busiest traffic period is the AM peak hour, between 8-9am. At that time, traffic the 2-way traffic volume on Hocking Street is 121 vehicles/hour and the 2-way traffic volume on Cross Street is 162 vehicles/hour. These existing traffic volumes are comparatively low. It is intuitively evident, with such low volumes, that the forecast movements at both the development's access point and intersection of Hocking and Cross Streets can be easily accommodated and will have an insignificant impact on traffic conditions in the immediate local area. Nonetheless, the formal analysis for each location is presented below.

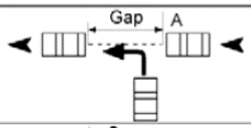
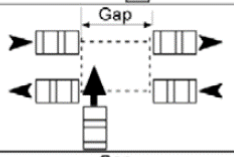
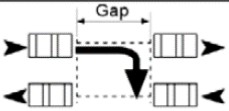
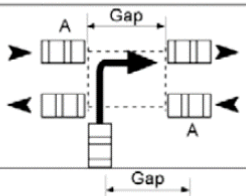
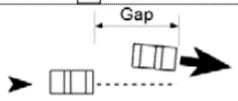
4.4.1 LOCAL IMPACT

The proposed 149 carparking spaces are located in a two-level basement that is accessed off Hocking Street. When considering the 'local impact', the ability of the development's 'access point' (the intersection of the property's driveway with Hocking Street) to accommodate the forecast traffic movements, can be assessed by treating the access point as an unsignalised intersection. Such intersections work well when the minor road traffic volume (in this instance the property's driveway) is low compared to the major road volume (provided delays on the minor leg are not excessive). "Austroads 2015: Guide to Traffic Management Part 2: Traffic Theory" (the "AustRoads Guide") is typically used to determine the capacity for uncontrolled intersections. The AustRoads Guide is the definitive guidance document available in Australia and used by all road agencies. It provides the most 'rigorous' level of capacity modelling available for uncontrolled intersections such as driveways – based on 'gap acceptance theory. The AustRoads Guide provides practical absorption capacities for turning movements at such intersections – relevant for analysing conditions at the site entrance / Hocking Street interface. The Practical Absorption Capacity is the theoretical number of movements that can be accommodated before unacceptable delays occur. In deriving a 'practical absorption capacity' for the site entrance, the Austroads Guide first provides 'Critical Acceptance Gap' and 'Follow-up Headway' values (reproduced as Table 10). The most critical movement is the right turn movement out of the subject site into Hocking Street – as those motorists need to give way and find a gap in both directions of traffic flow on Hocking Street (121 vehicles/hour). The left turn from Hocking Street into the subject site has no opposing traffic and is thus inconsequential from a traffic capacity perspective (bearing in mind that there is modest pedestrian activity on that side of Hocking Street). The left turn out of the subject site and the right turn into the subject site need to give way to around 78 vehicles/hour – much less than the 121 vehicles/hour that right turn movements out of the subject site need to 'give-way-to'. Thus, the right turn movement out of the subject site will be adopted for this analysis. The key parameters for this critical right-turn movement out of the site entrance are the following:

- Critical Acceptance Gap (seconds) = 5
- Follow-up headway (seconds) = 3

These 'Critical Acceptance Gap' and 'Follow-up Headway' values are used to derive a 'Practical Absorption Capacity' (provided in Figure 22) which is the volume of turning traffic that can be accommodated at the subject site's driveway. Application of Figure 22 provides the relevant peak hour absorption capacity for this right-turn movement – namely 890 vehicles/hour (against a two-way traffic flow on Hocking Street of 121 vehicles/hour). The maximum forecast number of right turn movements at this location is only 11 vehicles/hour, which is much lower than the 890 vehicles/hour that could be theoretically accommodated. Thus, the right turn volume forecast to exit the subject site, in the AM peak hour, only represents less than 1.2% of the right turn volume that could be accommodated. Accordingly, the site access point on Hocking Street is expected to operate safely and efficiently.

Table 10: Gap Acceptance Time – General Guidance

Movement	Diagram	Description	t_a	t_f
Left hand turn		Not interfering with A Requiring A to slow	14-40 sec 5 sec	2-3 sec 2-3 sec
Crossing		Two lane/one way Three lane/one way Four lane/one way Two lane/two way Four lane/two way Six lane/two way	4 sec 6 sec 8 sec 5 sec 8 sec 8 sec	2 sec 3 sec 4 sec 3 sec 5 sec 5 sec
Right hand turn from major road		Across 1 lane Across 2 lanes Across 3 lanes	4 sec 5 sec 6 sec	2 sec 3 sec 4 sec
Right hand turn from minor road		Not interfering with A One way Two lane/two way Four lane/two way Six lane/two way	14-40 sec 3 sec 5 sec 8 sec 8 sec	3 sec 3 sec 3 sec 5 sec 5 sec
Merge		Acceleration lane	3 sec	2 sec

Note: t_a = critical acceptance gap
t_f = follow up headway

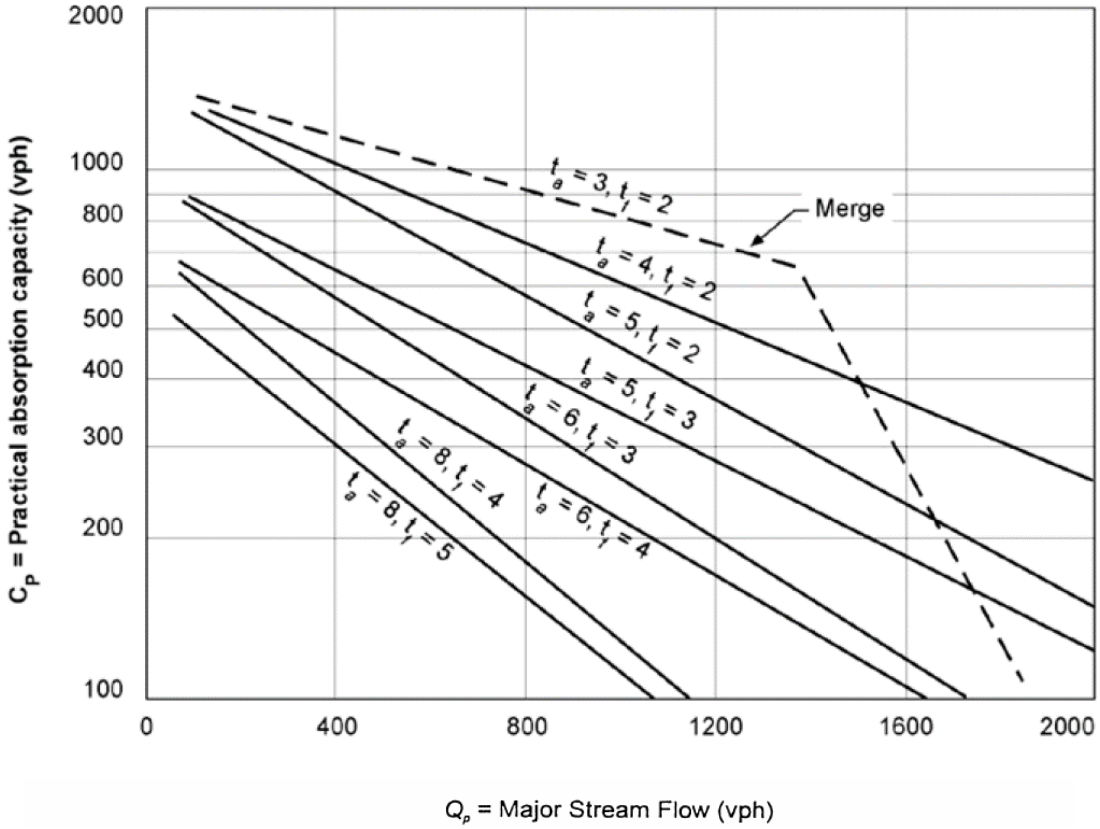


Figure 22: Practical Absorption Capacity at Unsignalised Intersections

4.4.2 IMPACT AT CROSS STREET / HOCKING STREET INTERSECTION

Those same 'Critical Acceptance Gap' and 'Follow-up Headway' values also apply to the right turn movements out of the subject site's driveway onto Hocking Street equally apply at the intersection of Cross Street and Hocking Street. In other words, the critical movement to assess at the intersection is the right-turn movement out of Hocking Street onto Cross Street as it has to give way to both traffic flow directions on Cross Street. The key parameters are the following:

- Critical Acceptance Gap (seconds) = 5
- Follow-up headway (seconds) = 3

At this location Cross Street carries 162 vehicles/hour. Application of Figure 22 provides the relevant peak hour absorption capacity for the right-turn movement out of Hocking Street into Cross Street – namely 850 vehicles/hour. The maximum forecast number of right turn movements at this location (arising from development at the subject site) is only 6 vehicles/hour. This volume needs to be added to the existing 21 vehicles/hour that already turn right at this location. The combined total of 27 vehicles/hour is much lower than the 850 vehicles/hour that could be theoretically accommodated. Thus, the total right turn volume (existing + forecast) expected to enter Hocking Street in the AM peak hour only represents less than 3.2% of the right turn volume that could be accommodated. Accordingly, the Cross Street / Hocking Street intersection is expected to operate safely and efficiently.

4.4.3 TRAFFIC IMPLICATIONS

In summary, the traffic impacts associated with the development are expected to be insignificant. The analysis of both the subject site's access point and the performance at the Cross Street / Hocking Street intersection demonstrate that all traffic movements can be readily and safely accommodated. There is substantial spare capacity at both locations – after taking into account the measured existing traffic volumes on the road network and the addition of the forecast traffic movements generated by the development. More specifically, the Practical Absorption Capacity (the theoretical number of movements that can be accommodated before unacceptable delays occur) that exists on Cross Street and Hocking Street is well in excess of the forecast volume of traffic movements generated by the development.

5 CONCLUSIONS

This report concludes that there are no traffic engineering reasons why the proposed mixed-use development at 6 Cross Street, Footscray should not be allowed. In particular:

- The development provides **adequate parking**, as there is sufficient evidence to recognise that the proposed **149-space parking supply satisfies the development's parking needs** and justifies a **part waiver (37 spaces)** of the 186-space statutory parking requirement under the Maribyrnong Planning Scheme – once the legitimate Planning Scheme process to reduce the statutory car parking requirement is taken into consideration. In particular, it is concluded that the proposed development is well placed to operate with the proposed levels of carparking by virtue of the:
    - Availability of **excellent public transport access** (multiple existing bus routes within easy walking distance and a major train station immediately adjacent to the site).
    - Existence of **effective pedestrian and bicycle networks** servicing the subject site and the generous supply of on-site bicycle parking.
    - The likely anticipated **low car ownership rates** of future residents, visitors, patrons and workers at the subject site as demonstrated by **2016 and 2021 Census data** for the Footscray area.
    - Empirical data revealing **low car utilisation rates** for patrons of **existing inner city gyms and organic grocer establishments**– resulting in fewer car parking spaces required.
- The **parking layout** is **satisfactory** as it accords with the design guidelines set out in the Maribyrnong Planning Scheme.
- Traffic capacity analysis at the Hocking Street access point into the subject site indicates that it is capable of satisfying the traffic demand generated by the development, as is the nearby intersection of Hocking Street with Cross Street. Thus, there will be **no adverse impacts on road network performance,** as the overall **traffic volume generated** by the development can be **readily accommodated** onto the surrounding road network with **insignificant traffic impacts**.

Furthermore, it has also been established that the proposed parking supply for the development is consistent with the City of Maribyrnong's transport objectives and desires, as expressed through its strategic policy documentation. In particular:

- The **City of Maribyrnong's Municipal Strategic Statement** (MSS) outlines provides **clear support for public and active transport**. Clause 21.09 identifies a number of key objectives and related strategies where there is strong recognition of the role and effectiveness of public transport, walking and cycling for Maribyrnong.
- Moreover, the MSS identifies and encourages complementary initiatives such as **car parking dispensations** and the use of **shared parking for new developments** – all of which provide the appropriate context to envisage a development, at 6 Cross Street, that focusses on both public and active transport modes to satisfy its future travel needs. The parking dispensation sought for the redevelopment proposal is supported by the established **low car ownership rates** by residents of Footscray as revealed by the most recent Census data.

In summary, Council's strategic policy position clearly aims to **moderate car dominance and promote walking, cycling and public transport use** as viable and preferable travel alternatives. This position, combined with the availability of excellent sustainable transport networks (for the use of the future residents and visitors to 6 Cross Street) offers high levels of convenience that enable generous access options to the land without the need to use private vehicles. The fact that the locality is **well served by alternative transport options to private vehicles** will give rise to a **low demand for car parking on site**.