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# Traffix Group

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# Traffic Engineering Assessment

Proposed Residential Development  
437 St Kilda Road, Melbourne

Prepared for  
Cbus Property St Kilda Road Pty Ltd

January 2024

G33364R-01E

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## Document Control

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## 1. Introduction

Traffix Group has been engaged by Cbus Property St Kilda Road Pty Ltd to prepare a Traffic Engineering Assessment for the a proposed residential development at 437 St Kilda Road, Melbourne.

This report provides a detailed traffic engineering assessment of the parking and traffic issues associated with the proposed development.

In the course of preparing this assessment, we inspected the subject site, reviewed development plans and background material, and assessed the car parking and traffic impacts of the proposal.

On October 18<sup>th</sup>, 2023, the City of Melbourne Traffic Engineering department issued advice following a review of the town planning application. This report provides response to the specific commentary received from Council.

Our assessment is as follows.

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## 2. Existing Conditions

### 2.1. Subject Site & Use

The subject land, addressed as 437 St Kilda Road, Melbourne, is located on the south east corner of the St Kilda Road/Slater Street/Arthur Street intersection in Melbourne.

The development site is rectangular in shape, with a western abuttal of approximately 30 metres to St Kilda Road and a northern abuttal of approximately 100 metres to Slater Street.

The subject site is currently occupied by a six-level commercial development with a floor area of approximately 6,700 square metres, containing office uses and a ground floor café.

A locality plan is presented at Figure 1.



Figure 1: Locality Map

Source: Reproduced with Permission of Melway Publishing Pty Ltd

### 2.2. Access and Parking

There is on-site parking for 100 cars with access from both St Kilda Road and Slater Street.

The subject site has two crossovers to Slater Street and one crossover to St Kilda Road including:

- A single width crossover at the southern boundary to St Kilda Road that primarily provides access to the basement parking and waste/loading dock. We understand that this crossover allows for exit movement associated with the waste/loading dock.
- A single width crossover at the western end of Slater Street that provides exit movements from the basement parking.
- A double width crossover at the eastern end of Slater Street that provides access to the undercroft parking.

An aerial photo of the site, and nomination of the existing access/crossover locations is provided at Figure 2.

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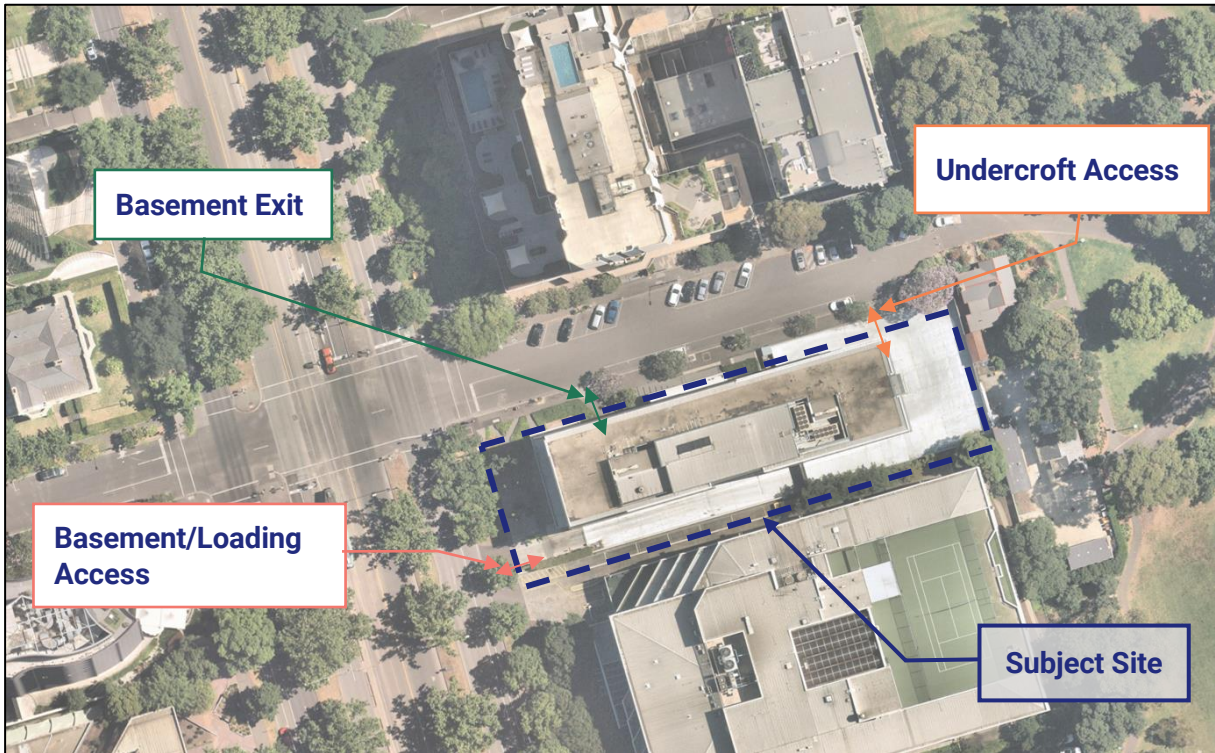


Figure 2: Aerial Image with Context of Subject Site

Source: Near Map

### 2.3. Planning Scheme Zones & Surrounding Uses

The subject site is within a Commercial Zone – Schedule 1 (C1Z) under the Melbourne Planning Scheme. A planning zone map is provided at Figure 3.

Land uses in the immediate vicinity of the subject are generally commercial or high rise residential.

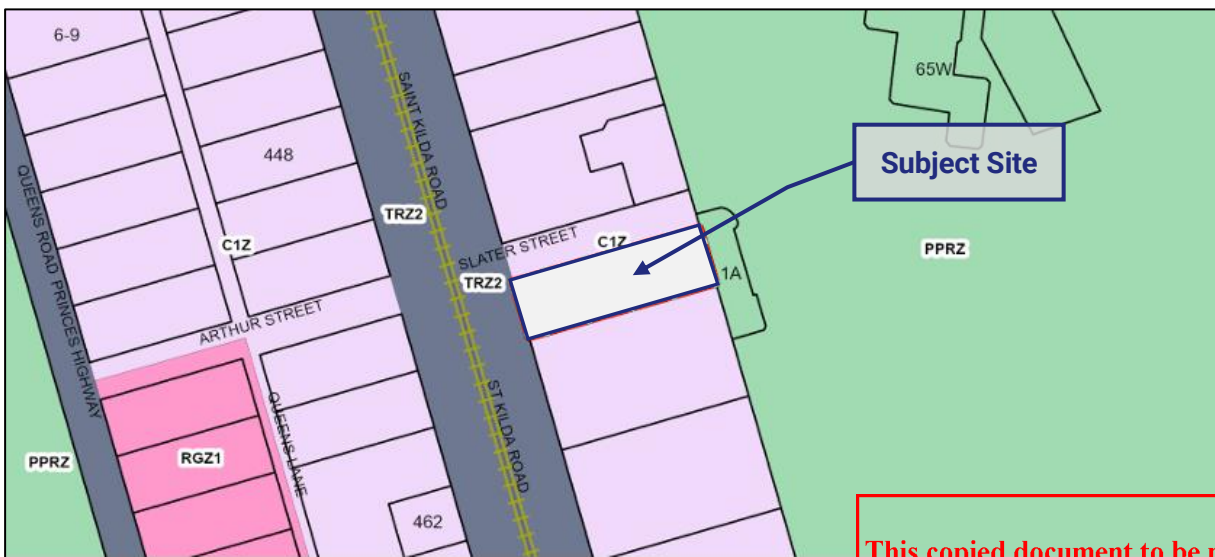


Figure 3: Planning Zone Map – Melbourne

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Notable nearby uses include:

- Fawkner Park along the site's eastern boundary.
- Albert Park Lake, located approximately 550 metres to the west.
- Mac Robertson Girls High School, located approximately 700 metres to the north.
- Melbourne Grammar School, located approximately 700 metres to the north-west.
- Anzac Railway Station, located approximately 850 metres to the north of the site.
- Shrine of Remembrance & Royal Botanic Gardens, located approximately 800 metres to the north.

## 2.4. Road Network

**St Kilda Road** is a Department of Transport declared Arterial Road, located within a 'Transport Zone 2 – Principal Road Network (TRZ2)' under the Planning Scheme. It is generally aligned in a north-south direction, between Melbourne City in the north (continuing as Swanston Street) and St Kilda in the south (continuing as Nepean Highway & Brighton Road).

In the vicinity of the site, St Kilda Road has provision for a central carriageway with a one-way service road on both sides.

The central carriageway provides for a dedicated central tram reservation with a single traffic lane and parking lane in each direction. Within the central carriageway, 'No Stopping' restrictions apply on the west side, 7am-10am Monday to Friday, and 4.30pm-6.30pm Monday to Friday on the east side.

The service roads provide for a single traffic lane, parking lane and a separated bicycle lane. It is noted the separated bicycle lanes were a recent addition and were provided at the expense of a traffic lane.

In the vicinity of the site, parking along the central carriageway, outside of the 'No Stopping' restriction is generally subject to '2P' ticket parking, and the service roads are generally restricted to '1P' ticket parking.

A speed limit of 60 km/h applies to St Kilda Road near the site.

**Slater Street** is a local council road, extending east from St Kilda Road and terminating at Fawkner Park. Slater Street operates two-way and typically provides a wide traffic lane in each direction with a mixture of angled and parallel parking on both sides of the road.

On-street parking along the southern side of Slater Street is generally short term restricted as either '1P 7:30AM-6:30PM Mon-Fri 7:30AM-12:30PM Sat' and 'Loading Zone 30 minutes 7:30AM-6:30PM Mon-Fri'. Parking along the northern side of Slater Street includes a mixture of unrestricted, 1/2P, 1P and permit zone parking.

Figure 4 to Figure 9 provide views of the road network in the vicinity of the site.

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Figure 4: St Kilda Rd Central Carriageway - View North



Figure 5: St Kilda Rd Central Carriageway – View South

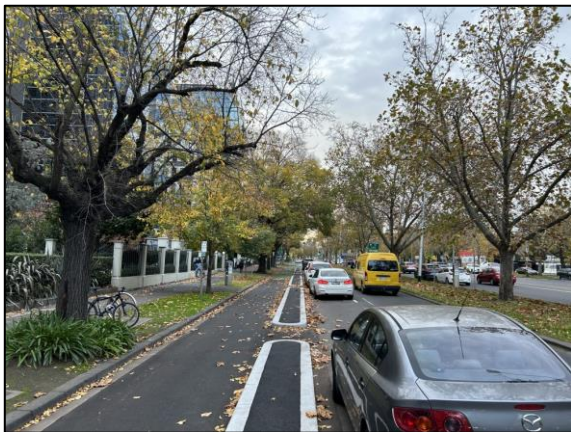


Figure 6: St Kilda Rd Service Road - View North



Figure 7: St Kilda Rd Service Road – View South



Figure 8: Slater St - View East



Figure 9: Slater St – View West

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### 2.5. Sustainable Modes of Transport

#### 2.5.1. Pedestrian Accessibility

Pedestrian access to surrounding areas from the site is excellent, with footpaths provided along St Kilda Road, Slater Street, Arthur Street and majority of the road network in the vicinity of the site.

The pedestrian footpath network provides access to significant land uses in the nearby areas including:

- Shops near St Kilda Road and Kingsway which include restaurants, a pharmacy and Australia Post, located just 250 to the north-east of the site.
- Albert Park Lake approximately 450 metres to the west of the site for recreational activities.
- Anzac Railway Station (under construction), which is located approximately 850 metres to the north of the site.

#### 2.5.2. Bicycle Accessibility

The City of Melbourne is well serviced by the Principal Bicycle Network (PBN), with St Kilda Road nominated as a key route which provides on-street bicycle lanes in both directions, connecting the subject site with the City and other surrounding facilities.

An excerpt of the Principal Bicycle Network Map is provided at Figure 10 illustrating the surrounding bicycle network.

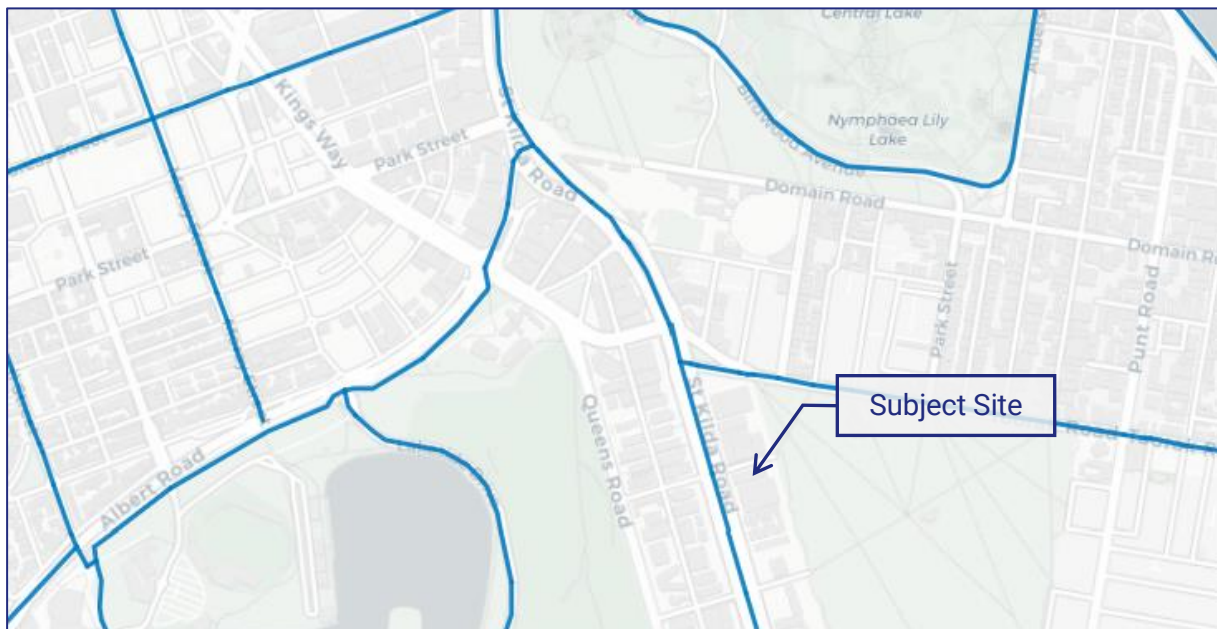


Figure 10: Principal Bicycle Network Map

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### 2.5.3. Public Transport

The site has excellent access to public transport services with seven tram routes operating along St Kilda Road past the site and accessible from stops at Arthur Street, approximately 50 metres from the site.

Anzac Railway Station is currently under construction (completion 2025). The new station will be located approximately 850 metres north of the site.

Table 1 summarises the available services, whilst Figure 11 illustrates the nearby routes.

Table 1: Public Transport Services in the Vicinity of the Subject Site

Service	Between	Nearest Stop
Train	Flinders Street Station	~2km north
	Anzac Station (under construction)	~850m north
Tram	Route 3/3a	Melbourne University - East Malvern
	Route 5	Melbourne University - Malvern
	Route 6	Moreland – Glen Iris
	Route 16	Melbourne University - Kew via St Kilda Beach
	Route 64	Melbourne University – East Brighton
	Route 67	Melbourne University - Carnegie
	Route 72	Melbourne University - Camberwell

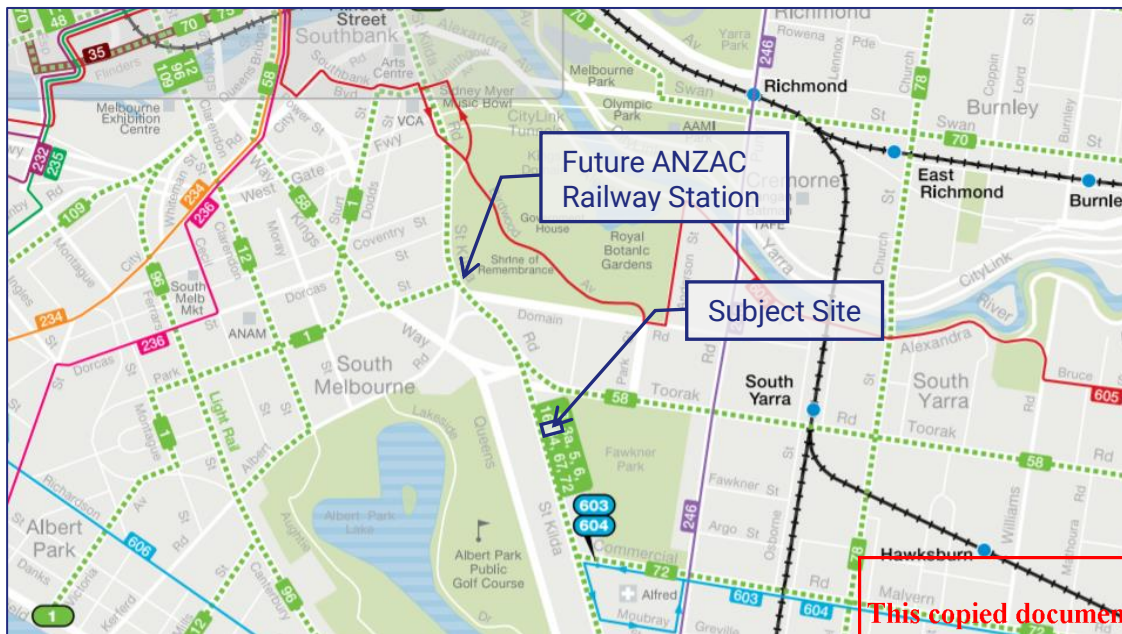


Figure 11: PTV Public Transport Map – City of Melbourne

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### 3. Proposal

#### 3.1. Development Schedule

The proposal is for a residential development with 77 apartments comprising:

- 16 x two-bedroom apartments.
- 61 x three or more bedroom apartments.

#### 3.2. Access

##### 3.2.1. Pedestrian and Cycle Access

The site will take its primary pedestrian and bicycle access via St Kilda Road. There is also a pedestrian access via Slater Street.

##### 3.2.2. Car Park Access

Access to the site will be provided from Slater Street and St Kilda Road.

The primary access will be to Slater Street and provide access to the basement car park and facilitate exit movements from the porte cochere and smaller loading vehicles.

The access to St Kilda Road will be retained with no proposed changes, with the exception of restrictions to the access. The St Kilda Road access will be restricted to left-in only, with the exception of loading and waste collection vehicles which will also exit the site via St Kilda Road. The St Kilda Road access will also provide entry movements for the porte cochere, primarily associated with taxi and ride share services.

Whilst it is possible for residents to access the basement from the porte cochere, this connection is seen as an indirect route given the one-way nature of the porte cochere and all vehicles accessing the site having to travel past the Slater Street access through the intersection of Slater Street and St Kilda Road.

In addition to the indirect nature of this route, the connection between the porte cochere and basement ramp has been designed to make the right turn for residents tight further reducing the desire of residents to undertake this movement unless required.

Based on the preceding, the porte cochere for the site will primarily provide for taxi/ride share movements, with very minimal residential traffic.

The access arrangements are presented in Figure 12.

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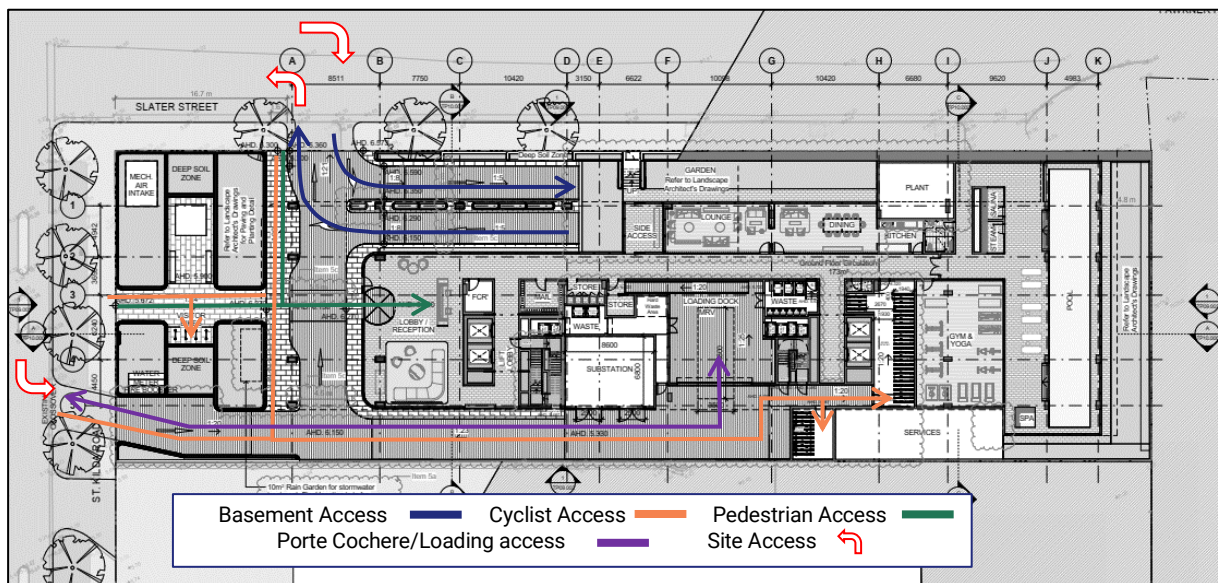


Figure 12: Site Access – Ground Floor

### 3.2.3. Parking Provisions & Allocations

The development proposes a provision of 188 car parking spaces across three basement levels, comprising 184 residential spaces (inclusive of 8 tandem pairs) and four visitor spaces.

There is also provision for 3 motorcycle spaces.

### 3.2.4. Bicycle Parking

The application proposes the provision of 92 bicycle spaces, including 84 resident spaces on ground floor within two-tier stackers and 8 visitor spaces within the setback to St Kilda Road at ground floor (4 double sided horizontal hoops).

Access to the resident/visitor bicycle spaces is available from St Kilda Road and Slater Street.

### 3.2.5. Loading & Waste

An on-site loading bay is proposed, servicing loading vehicles up to an 8.8 metre Medium Rigid Vehicle. The loading dock will also facilitate waste collection by a Council 8.8 metre waste collection vehicle.

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## 4. Car Parking Considerations

### 4.1. Statutory Requirements – Clause 52.06

The car parking requirements for the proposed development are outlined under Clause 52.06 of the Melbourne Planning Scheme. The purpose of Clause 52.06 is:

- To ensure that car parking is provided in accordance with the Municipal Planning Strategy and the Planning Policy Framework.
- To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.
- To support sustainable transport alternatives to the motor car.
- To promote the efficient use of car parking spaces through the consolidation of car parking facilities.
- To ensure that car parking does not adversely affect the amenity of the locality.
- To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.

Clause 52.06-5 states that:

*“Column B rates apply to a site if any part of the land is identified as being within the Principal Public Transport Network Area as shown on the Principal Public Transport Network Area Maps”*

An excerpt of the Principal Public Transport Network (PPTN) Area Map is provided at Figure 13.

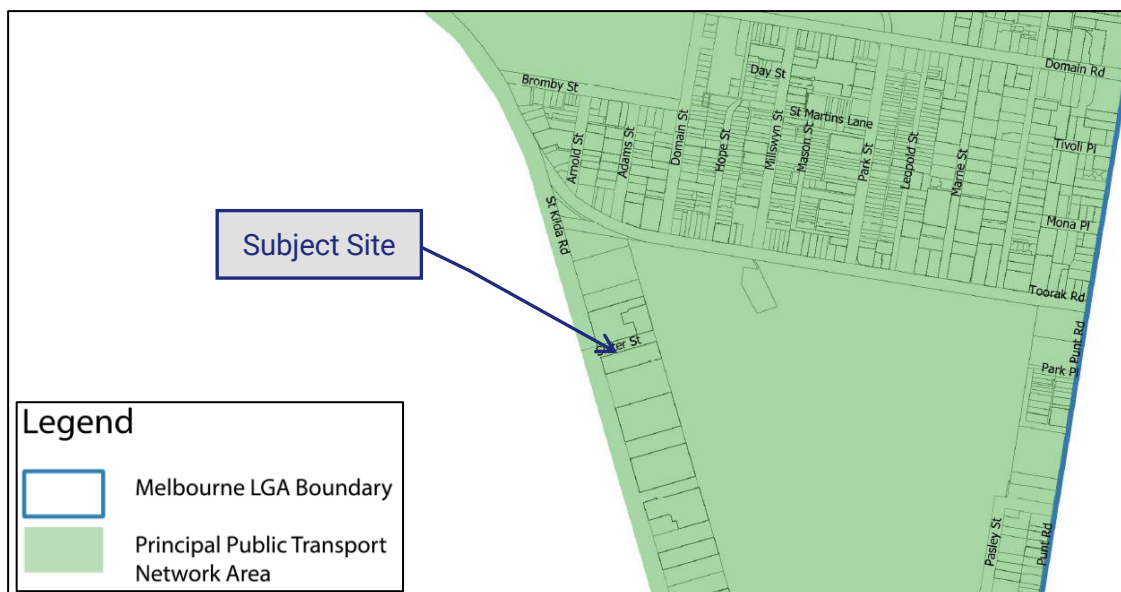


Figure 13: Melbourne PPTN Area Map

The subject site falls within the PPTN area map and therefore Column B rates apply to the proposal.

A statutory assessment of the proposal under Clause 52.06 is provided at Table 2.

Table 2: Statutory Car Parking Requirements (Clause 52.06)

Use	No.	Statutory Requirement (Column B)	Car Spaces Required
Residential Apartments	16	1 car space to each 1 or 2-bed dwellings for residents	16 spaces
	61	2 car spaces to each 3+ bed dwellings for residents	122 spaces
<b>Total</b>			<b>138 spaces</b>

Based on the table above, the development is statutorily required to provide 138 car spaces for residents.

The provision of 184 spaces on site for residents exceeds the minimum requirements of Clause 52.06 and therefore no permit is sought under Clause 52.06.

It is noted that a permit is not required to provide parking above the statutory rates for residents.

There is no requirement to provide visitor parking, however the development proposes four visitor spaces at basement 1.

## 4.2. Car Parking Layout & Access Arrangements

The car park layout and access arrangements have been developed with design advice provided to the project architect (Bates Smart) and is considered to principally meet the relevant requirements of the Melbourne Planning Scheme and where applicable, the Australian Standard for Off-Street Parking (AS2890.1:2004).

A review of the car park layout reveals:

### General Car Parking Layout

- Car spaces have generally been designated with minimum dimensions of 2.6 metres width and 4.9 metres length, accessible from minimum 6.4 metre wide aisles, meeting the Planning Scheme requirements.
- Car spaces adjacent to walls have been provided with appropriate clearances to allow for satisfactory car door opening.
- A minimum headroom clearance of at least 2.2 metres is provided within all trafficable areas of the car parking area in accordance with Clause 52.06-9 of the Planning Scheme (Design Standard 2) and AS2890.1:2004.

### Access Ramps

- The ramp leading from Slater Street into basement levels is provided with separate entry and exit lanes and a total width of 8.5 metres between walls, exceeding AS2890.1:2004. The proposed access provides:
  - A 1.3 metre wide traffic island in the middle section of the ramp to accommodate structure and clearances.
  - The design provides a minimum width between vertical obstructions of 3.6 metre for traffic lanes in each direction in accordance with AS2890.1-2004.

- The plans illustrate a maximum grade of 1 in 5 with transitions not exceeding 1 in 8 for not less than 2.0 metres for the access ramp, satisfying the requirements of the Planning Scheme for residential use.
- Although not shown on the plans, the proposal will provide a pedestrian visibility splay at the boundary, with dimensions of at least 2 metres by 2.5 metres and at least 50% clear of visual obstructions, in accordance with the requirements of Clause 52.06-9 (Design Standard 1).

### **Porte Cochere Layout and Access**

- A one-way porte cochere is proposed with entry from the existing St Kilda Road access and exit to Slater Street. The porte cochere has been designed to be a minimum of 4.5 metres wide. Access has been checked using a B99 design vehicle.
- The porte cochere includes 'indented' parallel parking for drop-off/pick-up opportunities which has been designed to provide 5.5 metres clear width, allowing a vehicle to pass a parked vehicle within the porte cochere.

In this regard, the above access arrangements, grades, transitions and clearances have been assessed and, in our view, meet the intent of the relevant standards.

Based on the foregoing, the car park layout and access are considered satisfactory.

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## 5. Traffic Considerations

### 5.1. Existing Traffic Generation

The existing land use of the site provides for approximately 6,700 square metres of commercial floor area including office use and a ground floor café. The site provides for 100 on-site parking spaces for staff inclusive of:

- 5 parallel spaces on the site's southern boundary at ground level accessed via St Kilda Road.
- 55 spaces within basement with entry provided via St Kilda Road and exit movements to Slater Street.
- 40 spaces within an under-croft car park at ground floor accessed via Slater Street.

For staff parking, it is expected around 40% of the supply will fill during the morning peak hour and 40% will vacate during the afternoon peak hour.

Application of this rate to the car parking provided on the site, equates to an expected generation of 40 vehicle movements during the peak hour, split between Slater Street and St Kilda Road.

It is also expected that there would be an additional 10% of the traffic volumes generated by the site in the opposite direction during the peak. That is, 4 outbound movements during the morning peak and 4 inbound movements during the afternoon peak.

A summary of the estimated existing vehicle movements is provided at Figure 14.

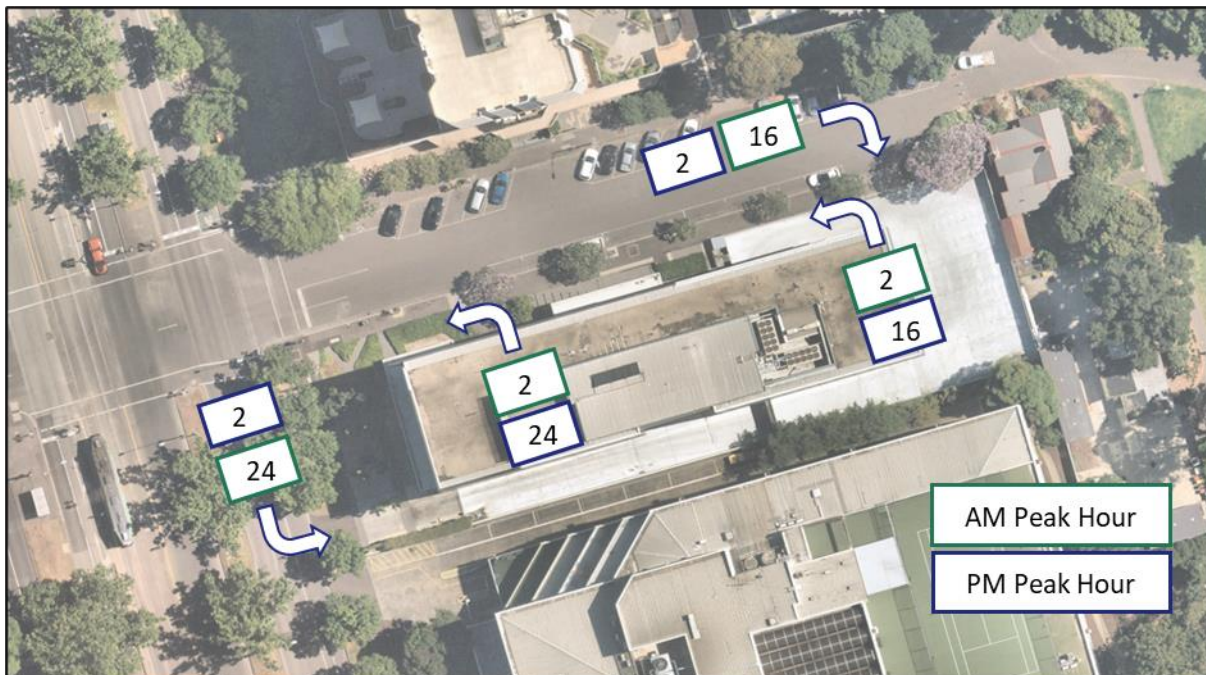


Figure 14: Existing Traffic Generation

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### 5.2. Traffic Generation

#### 5.2.1. Residential Traffic Generation

Traffic generation rates of residential dwellings vary dependent on the size of the dwelling and proximity to everyday services and the location of nearby public and alternative transport modes.

To determine the level of traffic generated by the proposal, reference is made to case study data for residential developments within inner metro regions comparable to the subject site.

The key characteristics of the buildings and the results of the traffic generation analysis are presented in Table 3.

Table 3: Case Study Data - Residential Traffic Generation, South Melbourne

	50 Albert Rd, Sth Melbourne	50 Park St, Sth Melbourne	34-38 Albert Rd Sth Melbourne
No. Dwellings	294 no.	182 no.	156 no.
No. Car Spaces	256 no.	105 no.	158 no.
AM Peak Rate	0.14 trip ends / dwelling	0.12 trip ends / dwelling	0.12 trip ends / dwelling
PM Peak Rate	0.11 trip ends / dwelling	0.12 trip ends / dwelling	0.09 trip ends / dwelling

The surveys recorded a peak hour traffic generation of 0.09 to 0.14 movements per dwelling in the AM and PM peak hours, respectively. Based on the preceding a conservative traffic generation rate of 0.2 movements per dwelling, including those with 1 or more car parking spaces, is estimated.

Whilst we acknowledge that a dwelling allocated with a second or third car space is likely to generate some additional peak hour traffic, it will not be a linear relationship to the number of spaces. Rather the second and third spaces generate a lesser proportion of traffic as these cars would be used less than other dwelling types with only one car space.

For the purposes of this assessment, we will adopt a rate of 0.25 movements per dwelling to account for the higher parking provisions proposed as part of the development.

Application of this rate to the proposed 77 dwellings equates to a projected peak hour traffic generation of 19 vehicle movements.

Assuming a typical AM peak traffic split of 20% arrivals and 80% departures and PM peak traffic split of 60% arrivals and 40% departures, it is projected the development will generate:

AM PEAK:                      4 arrivals and 15 departures  
PM PEAK:                      11 arrivals and 8 departures

Due to the layout of the site and fully directional access from the broader network provided from the signalised intersection of St Kilda Road and Slater Street it is expected that a vast majority of traffic generated by the residential dwellings will be to/from the Slater Street access with no material detriment to the road network.

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Whilst the most direct access for residents into the basement will be via Slater Street, there may be a desire for some residents to use the porte cochere in some circumstances e.g. Dropping off a passenger at ground before preceding to basement, however these movements will be relatively infrequent, particularly during peak hours.

### 5.2.2. Taxi/Ride Share Traffic Generation

Based on the intended design and operation of the porte cochere, it is expected that during the network peak hours, the only traffic generated to the porte cochere (St Kilda Road) will be associated with residents of the development travelling to work via taxi/ride share.

To determine the expected level of traffic generated by taxi/ride share, reference is made to the 2016 Journey to work ABS data for residents within the State Suburb of Melbourne, which includes the subject site. It is noted, that although 2021 ABS data is available, these were undertaken during COVID restrictions and therefore do not reflect 'normal' conditions for 'journey to work' data.

The data is summarised at Table 4.

Table 4: ABS 'Journey to Work' Data 2016 - Melbourne SSC

% Mode of Travel for 'journey to work' trips	Live within Melbourne SSC
Car as driver	14%
Car as Passenger	1.3%
Public Transport	37.1%
Motorcycle	0.4%
Cycling	1.7%
Walking	30.6%
Taxi	0.4%
Other Mode of Travel	1.6%
Additional data (WFH, did not go to work, method not stated)	12.9%

The data illustrates that the percentage of residents that live within the state suburb of Melbourne who take a taxi to work is very low (0.4%). Even conservatively assuming that the 'other mode of travel' includes an allowance for ride share trips, this results in an expectation that up to 2% of residents would use taxi/ride share to travel to work.

If it was conservatively assumed that each apartment had two residents working full time, this would result in a total of 154 residents per day travelling to work. Whilst it is noted that there may be some dwellings with more than 2 workers, there is also expected to be a proportion of dwellings which have one or no full-time workers (stay at home parent or retirees etc.).

Applying the conservative rate of 2% of residents utilising the porte cochere, this equates to 3 trips during the peak hour, comprising of 3 inbound movements from St Kilda Road and 3 outbound movements to Slater Street.

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This level of traffic is very low in traffic engineering terms equating to 1 vehicle movement every 20 minutes during the peak hour.

### 5.2.3. Total Traffic Generation

Based on the preceding, the proposal is expected to generate up to 25 vehicle movements during the peak hours, with a majority generated to/from Slater Street.

The proposed traffic generation is illustrated at Figure 15.

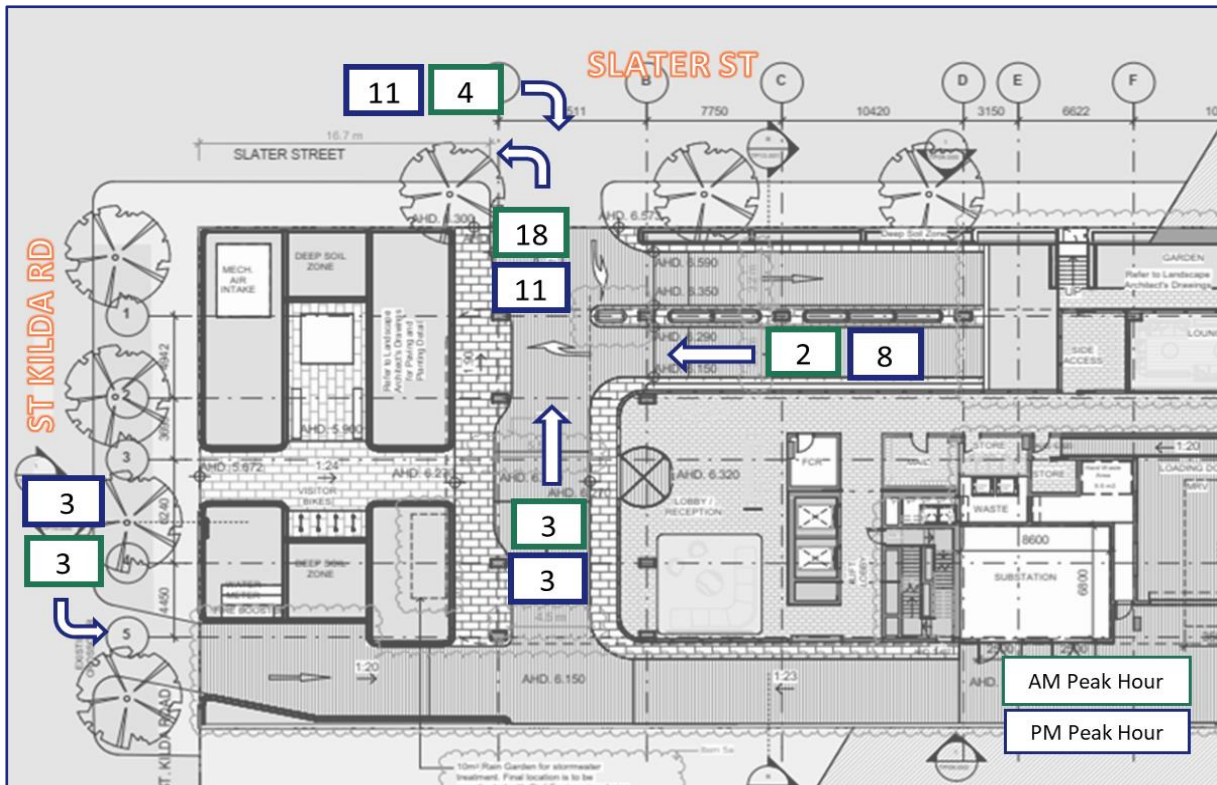


Figure 15: Proposed Traffic Generation

### 5.3. Traffic Impact

Based on the preceding, we expect the proposal could generate 25 movements during the network peak hours, inclusive of 19 residential movements and 6 taxi/ride share movements.

This level of traffic generation is less than the estimated traffic generation of the existing land use and is low in traffic engineering terms, equivalent to an average of approximately one vehicle movement being generated every 2.4 minutes during the peak periods.

As such the traffic generated by the proposal is expected to be accommodated by the surrounding road network with no material impact.

It is also noted the number of movements to the St Kilda Road access is significantly less than existing in the AM peak hour, and of a similar scale to existing in the PM peak hour.

To this end, the retention of the St Kilda Road access is acceptable and will not present any safety issues.

## **6. Bicycle Considerations**

Clause 52.34 of the Melbourne Planning Scheme specifies the bicycle parking requirement for new developments.

The Planning Scheme specifies a requirement to provide 1 bicycle space per 5 dwellings for residents and 1 space per 10 dwellings for visitors.

Application of this rate to the proposed 77 apartments, results in a requirement to provide 15 residential spaces and eight visitor bikes.

The application plans illustrate the provision of 92 spaces inclusive of 84 resident spaces at ground floor accessible via Slater Street and St Kilda Road and 8 visitor spaces provided within the building setback to St Kilda Road.

These provisions exceed the minimum requirements under Clause 52.34 of the Planning Scheme.

Bicycle parking has been provided in accordance with AS2890.3-2015 with a mix of vertical and horizontal rails as follows:

- Two-tier horizontal rails are provided with dimensions of 1.86 metre length and spaced at 0.4 metre centres, accessible from a 2.0 metre aisle.
- Horizontal rails are provided with dimensions of 1.8 metre length and spaced at 1.0 metre centres, accessible from a 1.5 metre aisle.

Accordingly, the proposed bicycle parking arrangements are considered appropriate.

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## 7. Loading Considerations

Clause 65.01 of the Planning Scheme states the responsible authority must consider a number of matters as appropriate including:

- *The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.*

An on-site loading bay is provided at ground floor accessed via the St Kilda Road access. The loading area will be utilised for waste collection and residential move-in/move-outs.

The loading bay has been designed to cater for vehicles up to an 8.8 metre Medium Rigid Vehicle (MRV) and Council 8.8 metre waste collection vehicle.

A communal waste room is provided on ground floor. The waste truck will enter the loading dock from St Kilda Road, undertake a three-point turn and then exit the site in a forward direction to St Kilda Road.

Vehicle accessibility for the waste collection vehicle has been demonstrated via swept paths attached at Appendix A.

Further details on waste collection arrangements are provided in the Waste Management Plan prepared by Traffix Group.

Accordingly, we are satisfied that appropriate loading and waste provisions are accommodated in accordance with the objectives of the Planning Scheme.

## 8. Council Commentary

A response to the traffic and transport commentary received from the City of Melbourne is provided at Table 5.

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## Traffic Engineering Assessment

437 St Kilda Road, Melbourne

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Table 5: Response to Council Commentary

Council Comment	Response
<b>City Design &amp; Planning Advice</b>	
We do not support the proposed vehicle drop off zone along St Kilda Road. The prioritisation of vehicle access along the buildings frontage promotes the cross over on St Kilda Road which is not a desirable public outcome.	A detailed assessment of the site access to St Kilda Road is provided at Section 5.2 and 5.3 of this report demonstrating that the level of traffic generated will be less than the existing volumes and the proposal does not result in the prioritisation of vehicle access to St Kilda Road.
<b>Traffic Advice</b>	
<b>Car Parking</b>	
The statutory car parking requirement is satisfied. However, given the location of the site with its proximity to the central city and various transport modes including trams, bike lanes, the impending Domain Station it is strongly recommended that the development reduce its provision.	Under the Planning Scheme there is no permit requirement to provide car parking above the statutory rates. The traffic analysis of the proposal provided at Section 5.2 of this report demonstrates the proposed car parking provisions results in a reduction in traffic when compared to the existing conditions and will be accommodated by the surrounding network with no material impact. The provision of car parking is therefore acceptable, and no reduction in car parking is necessary.
It is noted that there are no Disabled spaces proposed and this should be provided in accordance with any requirements of the Building Code of Australia.	Under the Building Code of Australia there is no requirement to provide Disabled parking spaces for residential building (Class 2) and therefore there is no trigger for a Disabled parking bay.
While not a requirement of the Planning Scheme it is recommended that the development provide one or two car share vehicles on-site to provide flexible travel options to residents.	The application seeks to provide a high-end residential development with car parking provisions in excess of the statutory rates in a private basement car park. No public access will be provided to the on-site car park and therefore a car share vehicle on the site is not expected to generate sufficient demand from residents of the development.

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## Traffic Engineering Assessment

437 St Kilda Road, Melbourne

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Council Comment	Response
	Based on this it is not considered commercially viable for the development to provide for car share spaces within the site. It is further noted that the site is provided with a car share space along its frontage to St Kilda Road meeting any demand that may be generated.
<p>It is recommended to include a condition that all car spaces, ramps, grades, transitions, accessways &amp; height clearances must be designed in accordance with the Melbourne Planning Scheme and/or AS/NZS 2890.1:2004.</p> <ul style="list-style-type: none"> <li>- Ramp grade of less than 1:10 should be provided for the first 5m from site boundary at the access.</li> <li>- Pedestrian sight triangles of 2 x 2.5m must be provided at the exit from the carpark, as required by MPS.</li> <li>- Columns to be located between 0.25 - 1.25m from the open end, and no more than 1.75m from the closed end of the relevant standard car spaces, as per Clause 52.06</li> </ul>	An assessment of the proposed design is provided at Section 4.2 of this report. The proposed design is in accordance with Clause 52.06 of the Melbourne Planning Scheme and where appropriate AS2890.1-2004.
Further it is recommended that a Signs and Line markings plan be required for the internal traffic management of the development including the car park, port cochere, loading bay and bicycle parking areas.	The requirement to prepare a signage and linemarking plan for the site should be included as a Condition of Permit, should one be issued.
<b>Motorcycle Parking</b>	
There is no motorcycle parking proposed. Transport engineering is requesting the provision of motorcycle parking in excess of the Melbourne Planning Scheme requirements. Our motorcycle parking requirements are for 1 motorcycle space per 50 car parking spaces, with the car parking spaces calculated as the greater of the number of:	Although not required under the Planning Scheme, the proposal has been amended to include the provision of three motorcycle spaces meeting the request of Council.



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## Traffic Engineering Assessment

437 St Kilda Road, Melbourne

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Council Comment	Response
<ul style="list-style-type: none"> <li>- Car parking spaces required (or permitted in the case of a maximum rate) by the MPS; or</li> <li>- Car parking spaces proposed.</li> </ul> <p>Considering that 188 car parking spaces are proposed, at least three motorcycle spaces should be provided.</p>	
Traffic Impacts	
<p>The TIA provides empirical data of 0.2 trips/space during peaks for a residential use in South Melbourne and then adopts a higher value of 0.25 trips/space during peaks for the proposed development. This sample size and rationale is questionable, and it is requested that a broader sample of comparative residential uses be provided as empirical evidence and basis for the assessment before Transport Engineering further review and comment on the traffic impacts.</p>	<p>Additional details of the case study data relied upon as part of the application has been provided at Section 5.2 of this report.</p>
Access Arrangements	
<p>It is noted that St Kilda Rd is an arterial road managed by Department of Transport and accordingly the application should be referred to DTP for comment.</p> <p>It is also noted that the access on St Kilda Road is proposed to be left-in only. Any modifications to the crossover should ensure that sightlines to cyclists are maintained as per the existing conditions.</p>	<p>The proposal has been referred to DTP. In correspondence dated 30/10/2023 DTP issued a notice of No Objection to the project.</p> <p>As part of the access to St Kilda Road, no changes are proposed to the crossover and therefore sight lines to cyclist will maintain.</p>
<p>The TIA provides swept paths for a B99 vehicle accessing the port cochere. There is concern that a larger delivery vehicle or moving truck may access the site and that this will be problematic, particularly with a column located at the intersection of the access road and port cochere. This should be addressed.</p>	<p>Access to the site for loading vehicles is proposed via St Kilda Road with larger vehicles both entering and exiting via this route.</p> <p>Nevertheless, swept paths have been prepared demonstrating circulation through the porte cochere for a 6.4 metre SRV.</p>

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## Traffic Engineering Assessment

437 St Kilda Road, Melbourne

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Council Comment	Response
<p>The alignment and design of the port cochere is somewhat unorthodox and may lead to vehicles propping centrally within the access way and vehicle crossover when exiting to Slater Street. This should be reviewed.</p>	<p>The alignment of the porte cochere is considered acceptable and will operate in an acceptable fashion. This area will be provided with appropriate signage and pavement delineation to correctly align vehicles exiting the site via Slater Street. This can be addressed as part of a signage and linemarking plan addressed by a Condition of Permit, should one be issued.</p>
<p>It is noted that the swept paths for access to Slater Street show vehicles turning from within on-street car parking spaces. This will need to be reviewed.</p>	<p>Updated swept paths have been provided at Appendix A demonstrate appropriate access.</p>
<p>The layout of the internal carpark ramps includes dog leg alignments that are not intuitive drivers. This should be reviewed and considered as part of any Signs and Linemarking plan.</p>	<p>The basement layout will be provided with signage and linemarking to provide drivers with clear direction within the basement. It is further noted that the basement car park will provide access for residents of the development who will become accustomed to the operation. The layout is therefore considered acceptable.</p>
<p><b>Loading</b></p>	
<p>The design of the loading bay, including all space dimensions, grades &amp; height clearances, should comply with relevant standards for Commercial Vehicles (AS2890.2-2002).</p>	<p>The loading bay has been designed in accordance with the relevant standards for commercial vehicles.</p>
<p>Site triangles of 2x2.5m should be provided at the exit from the loading bay. Alternatively, an electronic signalling system should be provided to alert pedestrians/cyclists of exiting vehicles &amp; vice-versa, as well as other safety measures to further enhance the safety of pedestrians.</p>	<p>Due to the location of the loading bay to the substation a sight triangle cannot be provided on the exit side of the access. The loading bay is expected to generate very low levels of traffic across the day with no more than one vehicle on site at any one time. The arrivals/departures of loading and waste collection vehicles will be coordinated to ensure that only one vehicle is on site at any one time.</p>

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## Traffic Engineering Assessment

437 St Kilda Road, Melbourne

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Council Comment	Response
	<p>Due to the low traffic volumes, the requirement for a signalling system is not warranted for the proposal.</p> <p>A convex mirror will be provided to ensure that loading/waste vehicles are provided with appropriate sight lines to bicycles and other traffic entering the site.</p>
<p>It is noted that the bicycle storage areas are accessed via the same internal accessway as the loading bay. There is concern that there is potential for conflict with cyclists, particularly where trucks have to perform turning manoeuvres.</p>	<p>The number of loading/waste vehicle movements is expected to be low and will be coordinated to occur outside of the peak periods for bicycles and vehicles entering/exiting the site.</p> <p>A convex mirror has been included to provide for improved sight lines between bicycles and loading/waste vehicles.</p> <p>During reverse manoeuvres the trucks beeper will warn cyclists / pedestrians will be aware of the vehicles.</p>
<p>A Loading Management Plan (LMP) must be prepared, specifying how the access/egress of loading vehicles is to be managed. A designated Loading Dock Manager responsible for the Loading Dock must be nominated, responsible for controlling the operation of the loading bay &amp; unloading of goods.</p> <p>The Loading Dock Manager would have responsibilities including:</p> <ul style="list-style-type: none"> <li>- Present on site during all periods when deliveries are to be undertaken.</li> <li>- Act as spotter for any reversing movements into the loading bay.</li> <li>- Act as informal traffic controller to discourage pedestrian/cyclist movements when vehicles reverse.</li> <li>- Ensure conflicts do not occur between loading and other vehicles/ pedestrians and cyclists.</li> <li>- Ensure that space used for vehicle manoeuvring is kept clear of other vehicles/obstructions at all times.</li> </ul>	<p>The requirement to provide a Loading Management Plan can be a Condition of Permit, should one be issued.</p>

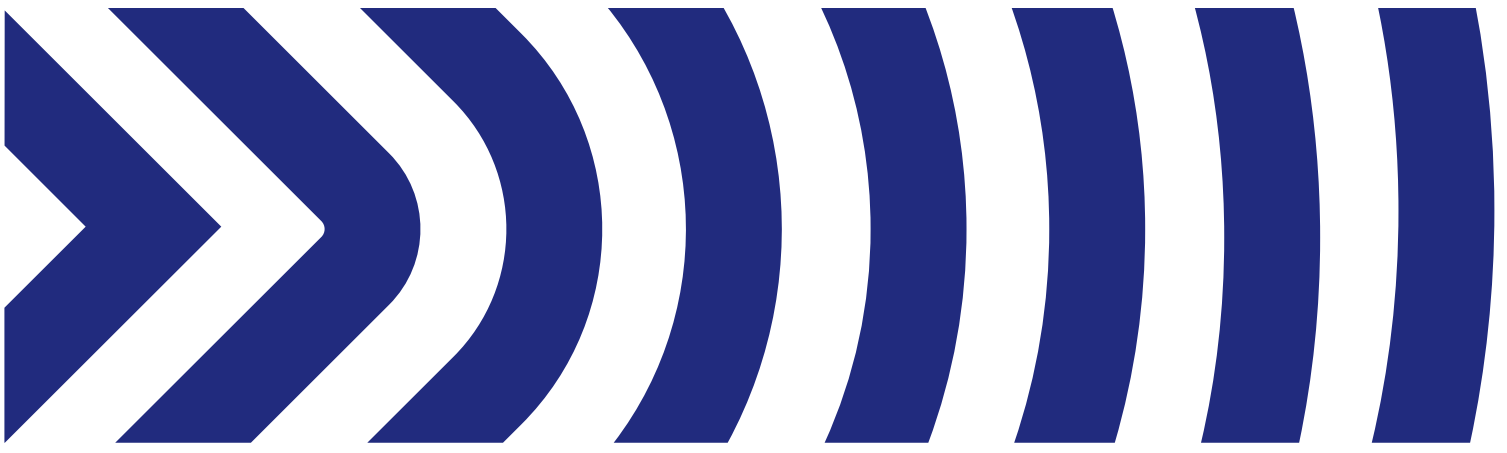
## 9. Conclusions

Having undertaken a detailed traffic engineering assessment of the proposed residential development at 437 St Kilda Road, Melbourne, we are of the opinion that:

- a) The proposal has a statutory car parking requirement to provide 138 car spaces under Clause 52.06-5 of the Planning Scheme.
- b) The development provides 188 car spaces and therefore exceeds the statutory car parking requirement.
- c) The proposed parking layout and access arrangements accord with the requirements of Clause 52.06-9 of the Planning Scheme and AS2890.1:2004 (where relevant).
- d) The level of traffic generated by the proposed development will be relatively low and will not have a material impact to Slater Street, St Kilda Road or the surrounding road network.
- e) Bicycle parking is provided in excess of the statutory requirement.
- f) Suitable waste collection and loading arrangements are proposed.
- g) There are no traffic engineering reasons why a planning permit for the proposed residential development at 437 St Kilda Road, Melbourne should be refused.

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# Appendix A

## Swept Paths

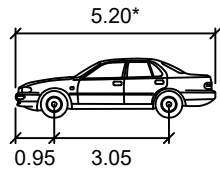
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VEHICLE PROFILE

GROUND FLOOR ACCESS TO BASEMENT

VEHICLE USED IN SIMULATION



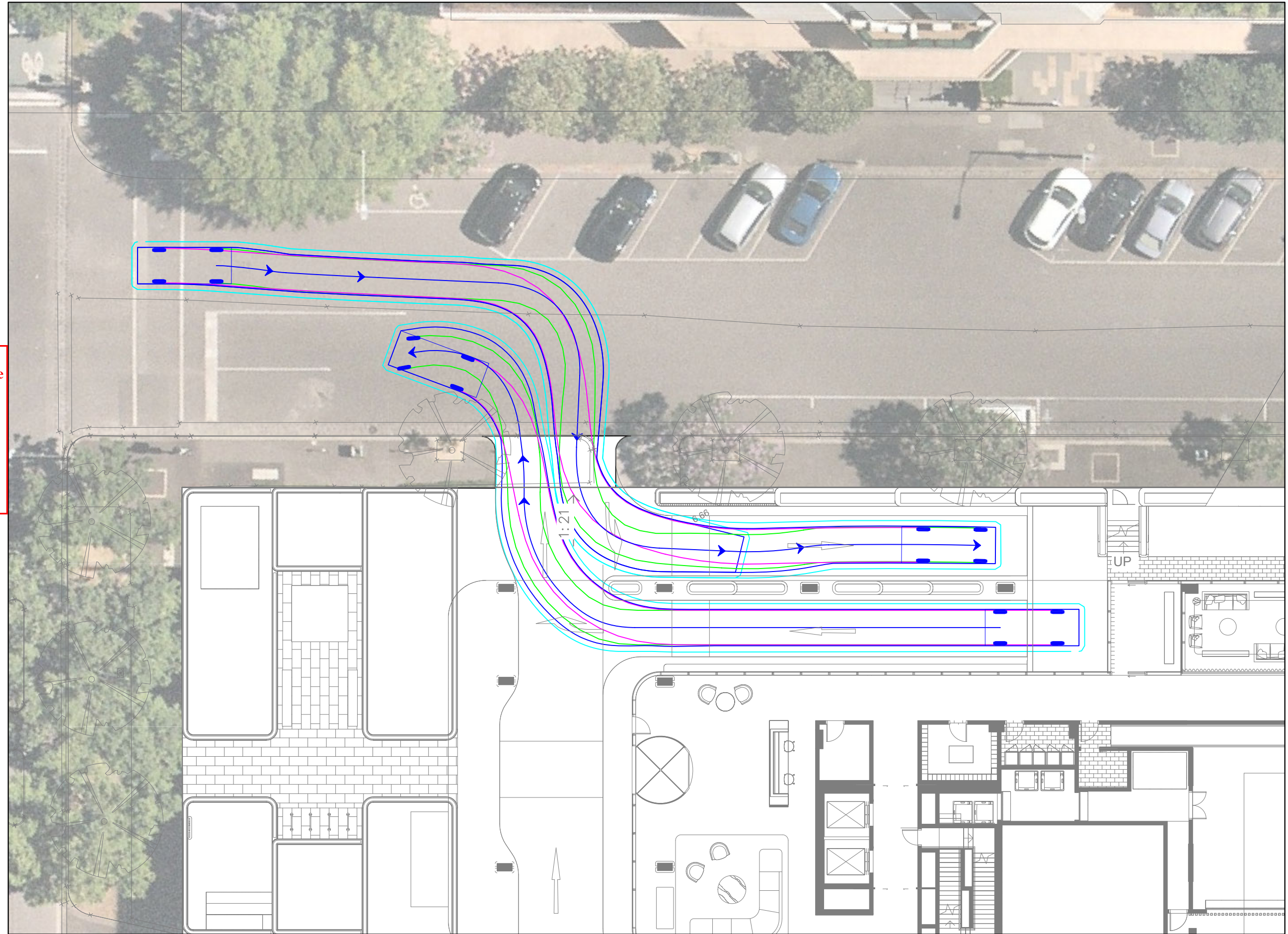
99th percentile  
(AS/NZS 2890.1:2004)

- Width : 1.94
- Track : 1.84
- Kerb to Kerb Radius : 12.5m

\* actual template based on relevant longitudinal dimensions that affect swept path\* as set out in Section B2.1 of AS/NZS 2890.1:2004

LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE



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A	16/08/2023	TOWN PLANNING	D. NEGI	J. COSSINS
B	02/02/2024	RFI	J. COSSINS	J. WALSH

437 ST. KILDA ROAD, MELBOURNE  
PROPOSED RESIDENTIAL USE DEVELOPMENT

**GENERAL NOTES:**  
BASE PLANS PREPARED BY BATESSMART  
DATED 16/01/2024

**FILE NAME:** G33364-01  
**SHEET NO.:** 01



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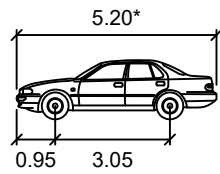
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VEHICLE PROFILE

PORTE COCHERE MOVEMENT PASSING PROPPED CAR

VEHICLE USED IN SIMULATION



99th percentile  
(AS/NZS 2890.1:2004)

Width : 1.94  
Track : 1.84  
Kerb to Kerb Radius : 12.5m

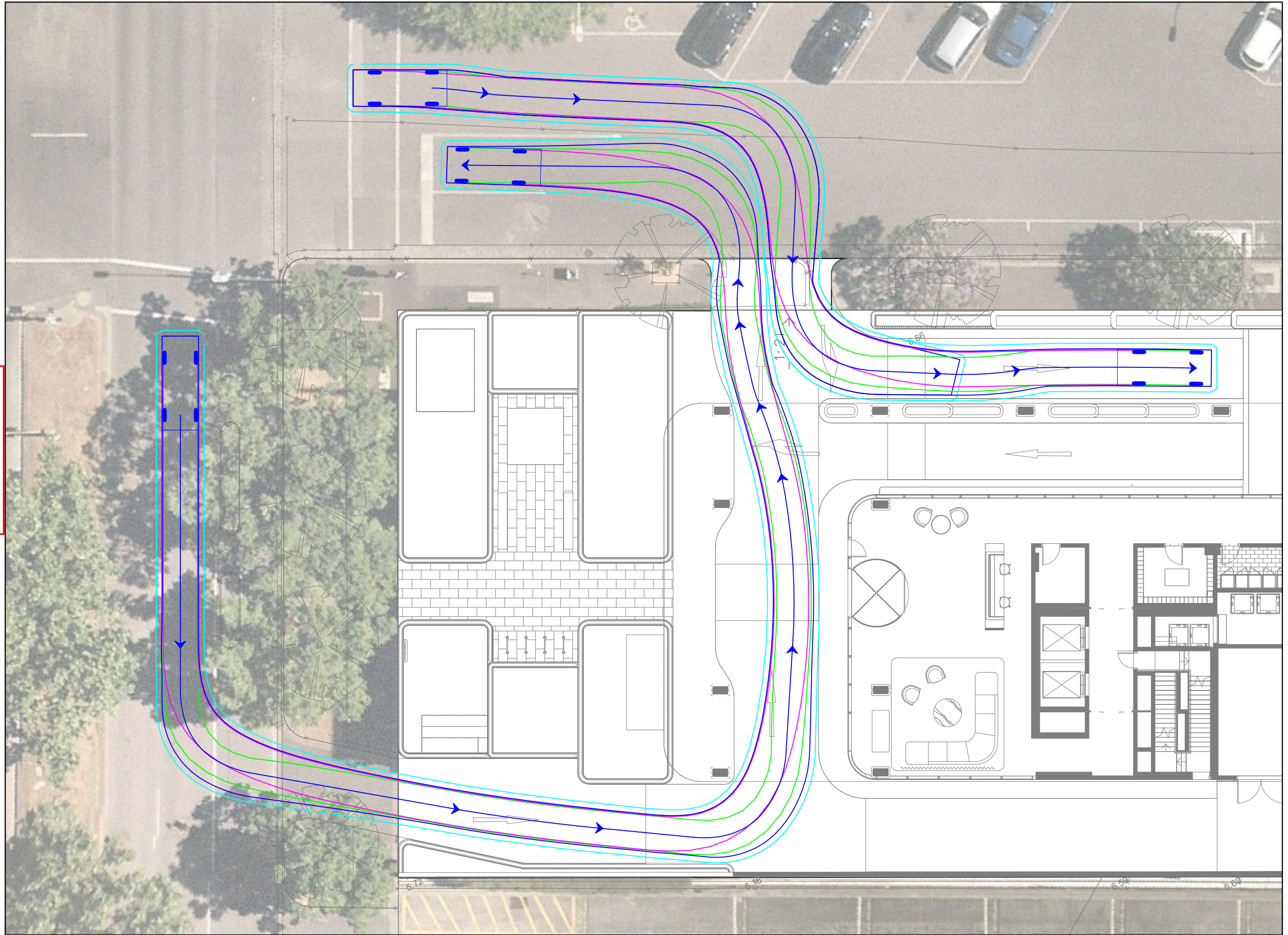
\* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004

LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

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PROPOSED RESIDENTIAL USE DEVELOPMENT

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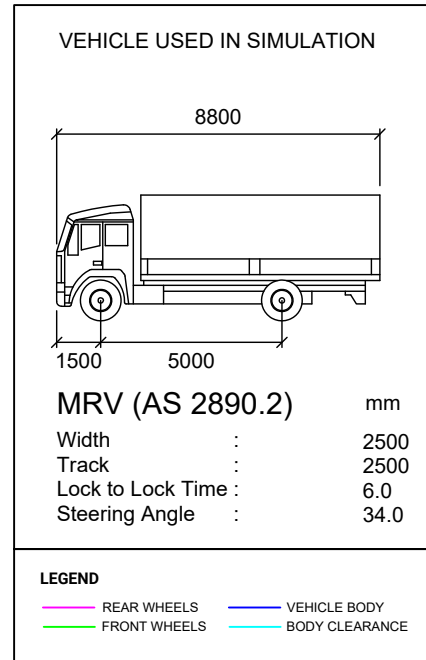


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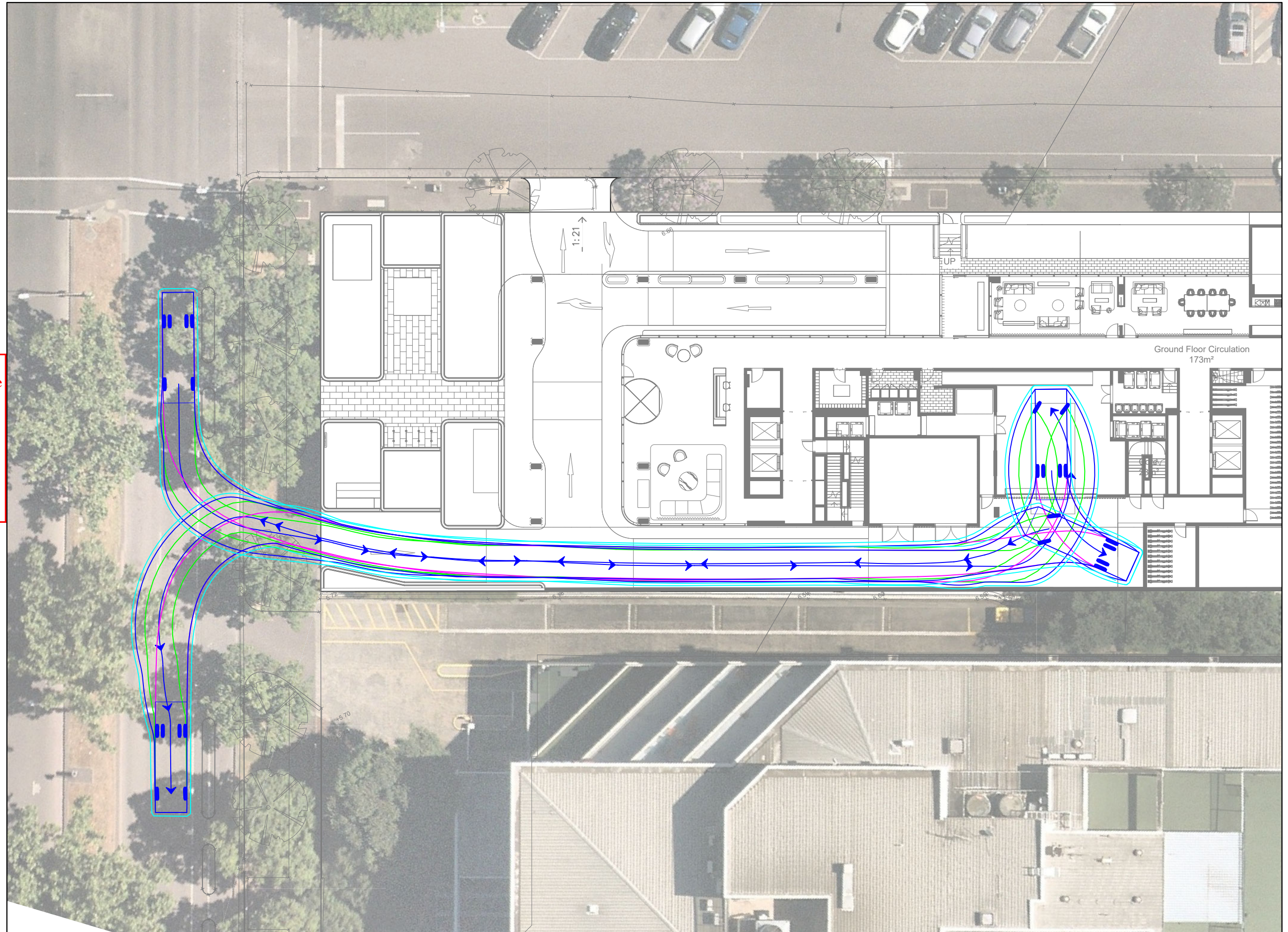
VEHICLE PROFILE

WASTE COLLECTION ACCESS - 8.8m MRV



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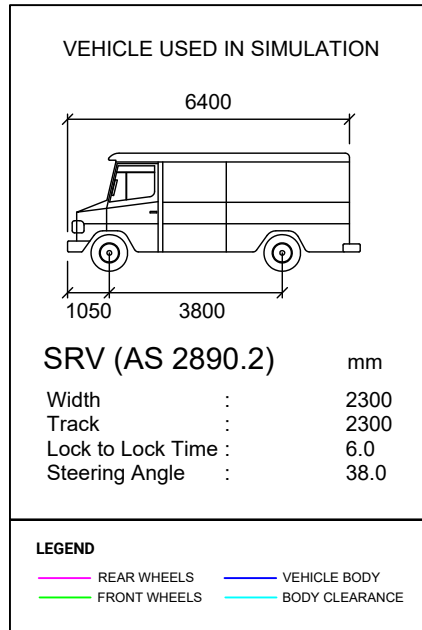
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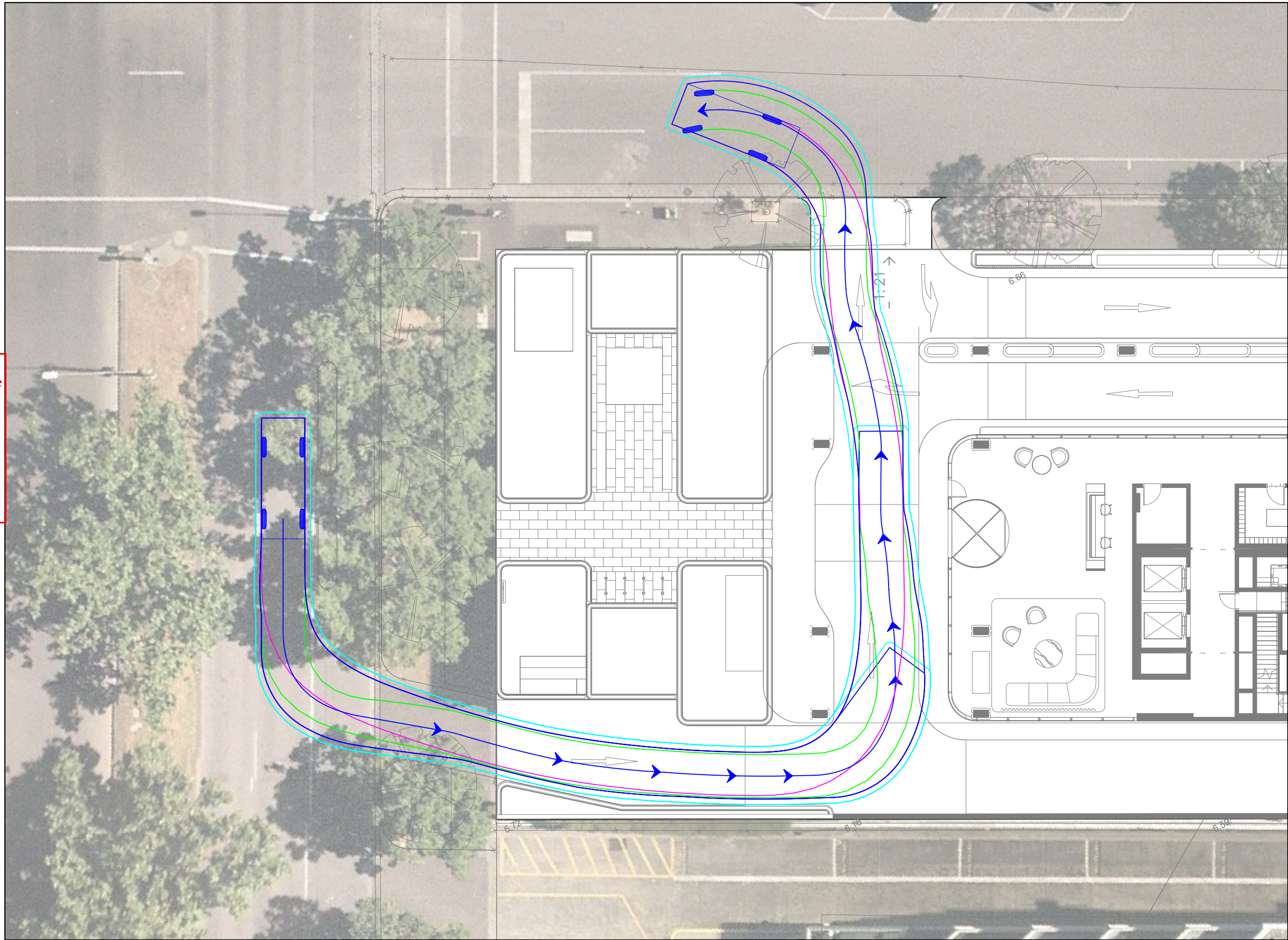
VEHICLE PROFILE

PORTE COCHERE CIRCULATION - 6.4m SRV



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