MONTEFIORE HUNTERS HILL PLANNING PROPOSAL - TRANSPORT IMPACT ASSESSMENT

Prepared for
MONTEFIORE
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URBIS

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1. INTRODUCTION

1.1. OVERVIEW

This Transport Impact Assessment has been prepared by Urbis Pty Ltd (Urbis) on behalf of Montefiore Pty Ltd (the Applicant) to support a Planning Proposal for the rezoning of the Montefiore Residential Care Facility (RACF), Hunters Hill Campus.

1.2. REPORT STRUCTURE

This report outlines the assessment of the potential transport impacts of the proposed development, including consideration of the following

- Existing transport and traffic networks serving the site.
- Existing travel behaviours and land use in the surrounding area.
- The traffic-generating characteristics of the proposed development.
- Trip distribution from the proposed development onto the surrounding road network.
- The transport and traffic implications of the proposed development and mitigation measures required to support the redevelopment.

2. EXISTING CONDITIONS

2.1. THE SITE

The site is located approximately 12 kilometres to the west of the Sydney CBD, in the suburb and Local Government Area of Hunters Hill. The site is approximately 4.1 ha in size and is surrounded by three roads - High Street, Gaza Avenue and Barons Crescent.

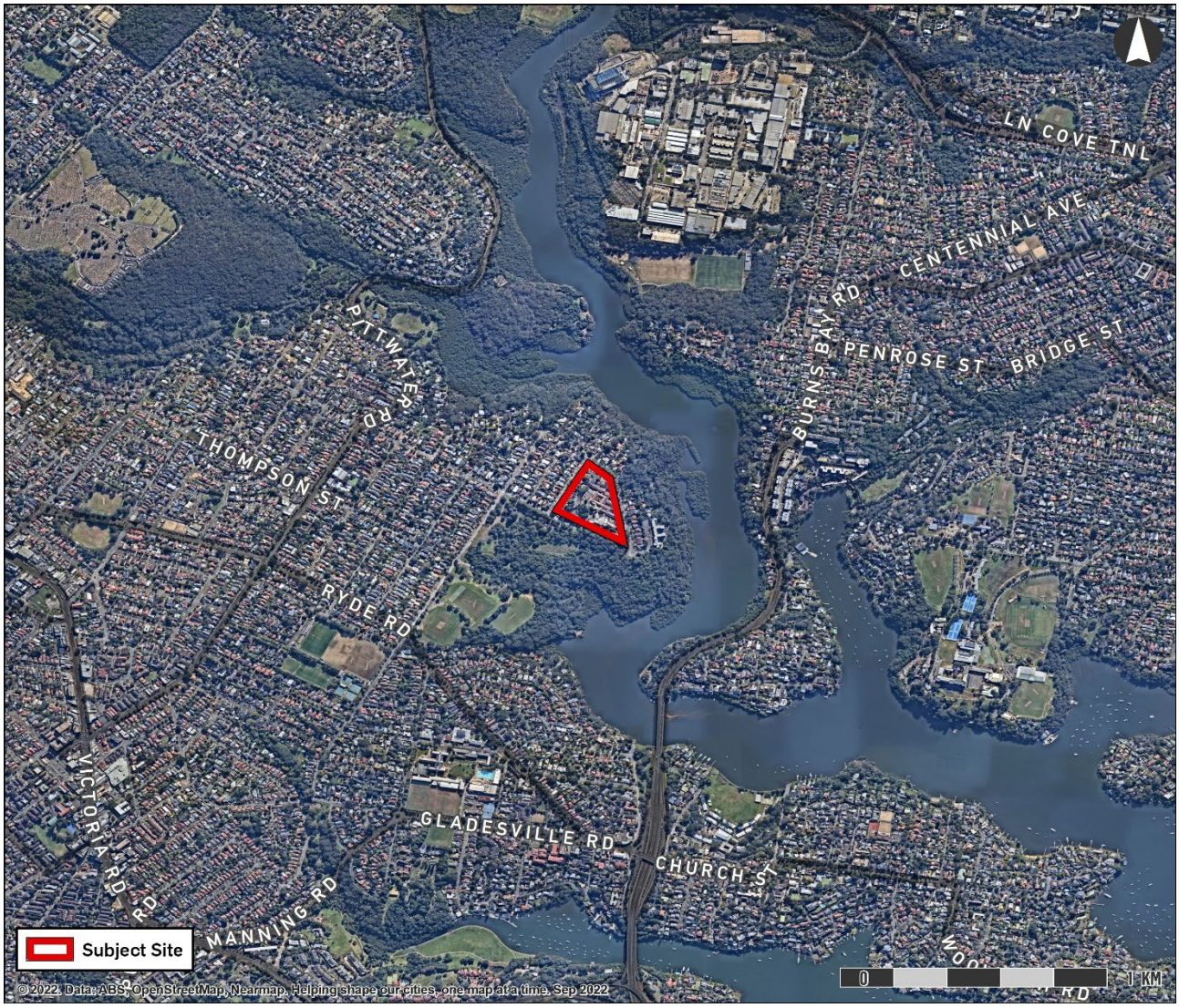
The site currently houses the existing Residential Aged Care Facility (RACF) which has a capacity of 334 beds, as well as 18 on-suite-style units that can be rented out to staff or the public. These 18 units are currently 50 per cent occupied. There are multiple existing car parking locations on site including 85 on-grade car parking spaces and 27 basement-level car parking spaces for staff located under the existing RACF building.

Vehicular access to the site is currently from either High Street which is the primary entrance to the site; or Barons Crescent. The site is filled with various residential buildings and communal facilities. **Figure 1** details the subject site.

Figure 1 Subject site

Source: Urbis

Figure 2 Site context



Source: Urbis

2.2. LAND USE PATTERNS

The site is currently zoned R2 Low-Density Residential, which is typical of the Hunters Hill locale. Seniors Housing is permitted on the site under Schedule 1 of the *Hunters Hill Local Environmental Plan 2012*. The land surrounding the site is also zoned R2 Low-Density Residential. To the south of the site sits Boronia Park, which is a large reserve that consists of bushland, a playground, a BMX track and playing fields. There is also a parcel of land opposite the site in the northeast direction which is designated SP2 Infrastructure and houses a sewerage facility.

2.3. EXISTING TRANSPORT NETWORK

2.3.1. Road Hierarchy

Roads within NSW are categorised in the following two ways

- By Classification (ownership).
- By the function that they perform.

Road Classification

Roads are classified (as defined by the Roads Act 1993) based on their importance to the movement of people and goods within NSW (as a primary means of communication).

The classification of a road allows Transport for NSW (TfNSW) to exercise authority on all or part of the road. Classified roads include Main Roads, State Highways, Tourist Roads, Secondary Roads, Tollways, Freeways and Transitways.

For management purposes, TfNSW has three administrative classes of roads. These are

- **State Roads** – Major arterial links through NSW and within major urban areas. They are the principal traffic-carrying roads and are fully controlled by TfNSW with maintenance fully funded by TfNSW. State Roads include all Tollways, Freeways and Transitways; and all or part of a Main Road, Tourist Road or State Highway.
- **Regional Roads** – Roads of secondary importance between State Roads and Local Roads which, with State Roads provide the main connections to and between smaller towns and perform a sub-arterial function in major urban areas. Regional roads are the responsibility of councils for maintenance funding, though TfNSW funds some maintenance based on traffic and infrastructure. Traffic management on Regional Roads is controlled under the delegations to local government from TfNSW. Regional Roads may be all or part of a Main Road, Secondary Road, Tourist Road or State Highway; or other roads as determined by TfNSW.
- **Local Roads** – The remainder of the council-controlled roads. Local Roads are the responsibility of councils for maintenance funding. TfNSW may fund some maintenance and improvements based on specific programs (e.g. urban bus routes and road safety programs). Traffic management on Local Roads is controlled under the delegations to local government from TfNSW.

Functional Hierarchy

Functional road classification involves the relative balance of mobility and access functions. TfNSW defines four levels in a typical functional road hierarchy, ranking from high mobility and low accessibility to high accessibility and low mobility. These road classes are

- Arterial Roads – generally controlled by TfNSW, typically no flow limit and are designed to carry vehicles long distances between regional centres.
- Sub-Arterial Roads – can be managed by either TfNSW or the local council. Typically, their operating capacity ranges between 10,000 and 20,000 vehicles per day. The aim is to carry through traffic between specific areas in a sub-region or provide connectivity from arterial road routes (regional links).
- Collector Roads – provide connectivity between local roads and the-arterial road network and typically carry between 2,000 and 10,000 vehicles per day.
- Local Roads – provide direct access to properties and the collector road system and typically carry between 500 and 4,000 vehicles per day.

2.3.2. Surrounding Roads

The characteristics of the surrounding road network are detailed in **Table 1**. The surrounding road network is shown in **Figure 3.**

Table 1 Characteristics of surrounding roads

Road	High Street	Gaza Avenue	Barons Crescent	Ramleh Street	Park Road
Classification	Local	Local	Local	Local	Local
Functional hierarchy	Local	Local	Local	Local	Local

Road	High Street	Gaza Avenue	Barons Crescent	Ramleh Street	Park Road
Sealed (yes / no)	Yes	Yes	Yes	Yes	Yes
Movement lanes	One lane in each direction.	One lane in each direction.	One lane in each direction.	One lane in each direction.	One lane in each direction.
Parking lanes	Yes	Yes	Yes	Yes	Yes
Carriageway width (approx.)	7.4 m	4.5 m	8.7 m	6.68 m	10.8 m
Signposted speed	50	50	50	50	50
Line marking / divided lanes	No	No	No	No	No
Pedestrian pathways	Yes	Yes	Yes	Yes	Yes
Bus stops	No	No	Yes	No	Yes
Other features	N/A	Raised parking lane.	N/A	N/A	Roundabout at the intersection of Park Road and High Street

Source: Urbis

2.3.3. Surrounding Intersections

The intersections controlling traffic access in the vicinity of the site include

- Park Road / High Street.
  - Roundabout.
- High Street / Ramleh Street.
  - Priority Controlled Intersection.
- Gaza Avenue / High Street.
  - Priority Controlled Intersection.
- Gaza Avenue / Barons Crescent.
  - Priority Controlled Intersection.
- Park Road / Barons Crescent.
  - Priority Controlled Intersection.

These intersections are shown in **Figure 3**.

Figure 3 Surrounding intersections and roads

Source: Urbis

2.3.4. Traffic Volume

Midblock traffic volumes were collected for the *Boronia Park Precinct Draft Local Area Traffic Management Plan*, which was completed in June 2021.

The PM peaks for the key midblock locations are shown below

- Park Road between Princes Street and High Street.
  - Northbound – 99.
  - Southbound – 121.
- Park Road between High Street and Barons Crescent.
  - Northbound – 36.
  - Southbound – 23.
- High Street between Farnell Street and Park Road.
  - Eastbound – 105.
  - Westbound – 79.
- Barons Crescent between High Street and Park Road.
  - Eastbound – 23.
  - Westbound – 21.

The Environmental Capacity for these segments of local roads is 300 veh / h (vehicles per hour) as derived from the *TfNSW Guide to Traffic Generating Developments (2002)*. None of these roads currently exceed the Environmental Capacity Limits.

2.3.5. Crash History

Crash and casualty statistics from TfNSW's Centre for Road Safety were analysed in the area immediately surrounding the site for the five years between 2016 and 2020. There were two crashes recorded in the five years. The detail of these crashes is described below

- A serious crash at the intersection of Park Road and High Street as a result of a manoeuvring error in dark lighting conditions. This occurred in 2017.
- A non-serious crash to the west of the intersection of Park Road and Barons Crescent as a result of leaving the carriageway and into an object in dark lighting conditions. This occurred in 2016.

The nature of both crashes suggests driver error and is not indicative of any underlying road safety issues. The infrequent nature and the differences in crash typology suggest there is no underlying safety issue with the road typology.

Figure 4 Location of crashes

Source: TfNSW Centre for Road Safety Website

2.3.6. Walking and Cycling Network

There are footpaths connecting to the site from both the primary entrance on High Street and the secondary entrance of Barons Crescent to the surrounding neighbourhood. The footpath network connects to the Boronia Park town centre which is approximately a one-kilometre walk away from the site. the Boronia Park town centre includes local shops and cafes, supermarkets, specialty retail and two supermarkets. Closer to the site, there is Boronia Park reserve which is across the road from the site.

There is limited cycling infrastructure surrounding the site. While cycling on the street is permitted and the nature of the surrounding road network is that of local streets, residents from the site are seniors and may feel more comfortable being separated from other traffic on the road.

2.3.7. Public transport network

There are two bus stops on Barons Crescent that service the site directly. Both stops are serviced by the 538, which runs between Woolwich and Gladesville. Route 538 operates at a one-hour frequency seven days a week, with some increases in frequency during peak hour on weekdays. **Figure 5** shows the public transport stops and routes close to the site.

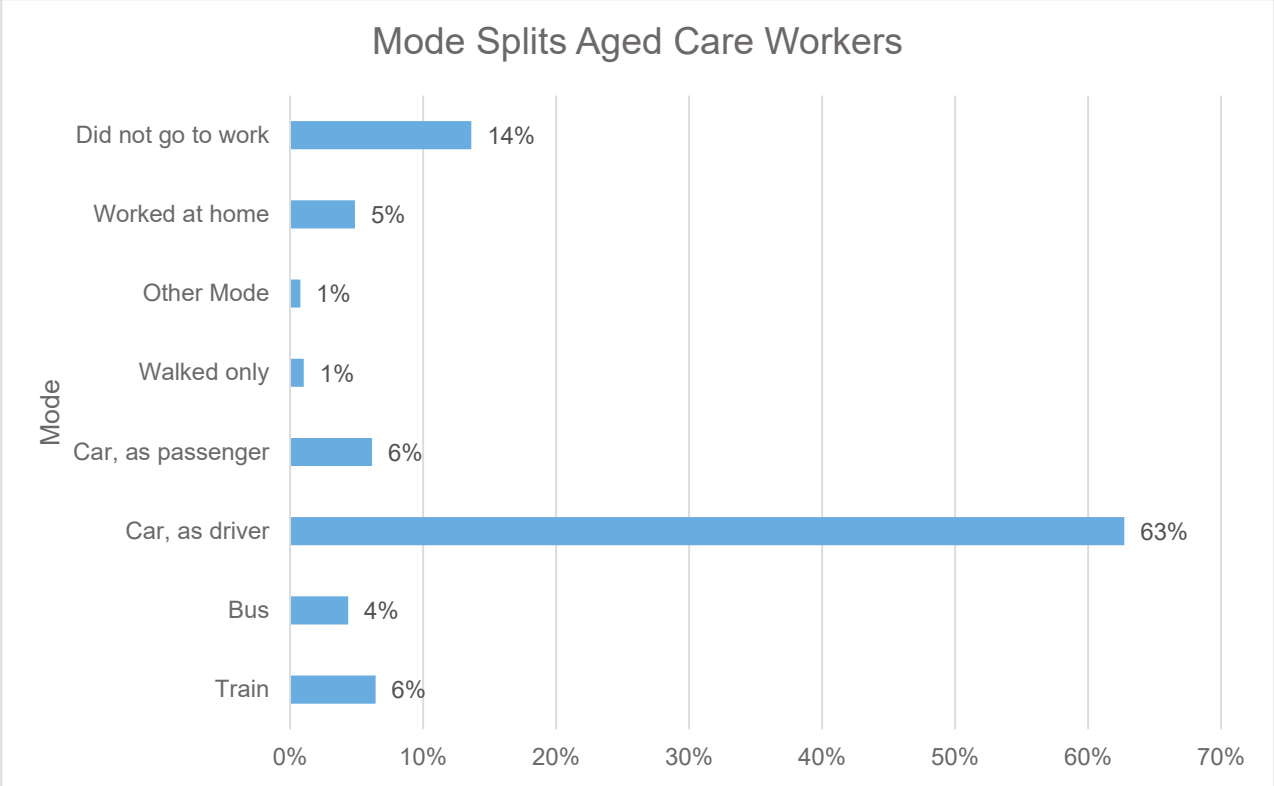
Figure 5 Public transport

Source: Urbis

2.3.8. Mode Splits

Mode splits for workers to the site were determined by the Australian Bureau of Statistics (ABS) for the site Destination Zone (DZN), 114993611. The mode split only considers occupations that may have been undertaken by workers of the site such as care workers and cleaners. It is assumed that all residents living on site are retired, given the site is a RACF. **Figure 6** highlights the mode splits for the site while **Figure 7** highlights the location of the DZN.

Figure 6 Mode splits aged care workers



Source: ABS Tablebuilder

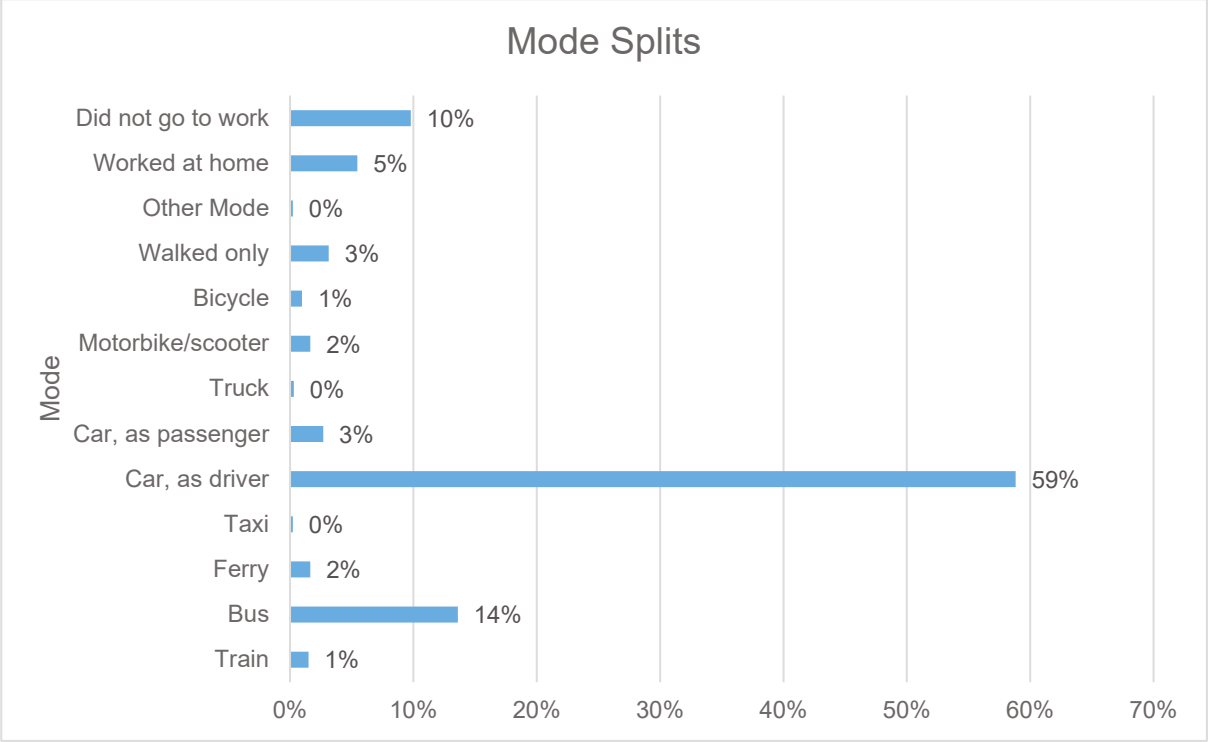
Figure 7 SA2 locations used to determine mode splits

Source: Urbis

As shown by the mode split, the majority of workers (63 per cent) will drive private vehicles to the site. Another six per cent of those workers were driven to work. This reflects the limited public transport connectivity and cycling connectivity to the site.

A second analysis was undertaken considering the residents living within the ABS DZN to determine how local residents travel to work. This is shown in **Figure 8**.

Figure 8 Mode split for local residents



Source: ABS Tablebuilder

Similarly to workers accessing the site, The majority of residents chose to drive to work, reflective of the poor active and public transport connections in the local area relative to key employment areas. 14 per cent did catch the bus to work, however it is likely that these residents live close to the bus routes running along Ryde and Pittwater Road.

2.3.9. Existing staffing levels

The existing RACF currently operates on a shift basis for the majority of staff. There are also some administration and office workers who work regular office hours (9:00 AM to 5:00). **Table 2** shows the existing shift staffing levels

Table 2 Existing staffing levels

Shift time	**6:30 AM – 9:00 AM**	**9:00 AM – 2:30 PM**	**2:30 PM – 5:00 PM**	**5:00 PM – 10:30 PM**	**10:30 PM – 6:30 AM**
Number of shift staff	60	60	30	30	10
Office staff (9:00 AM – 5:00 PM)	0	10	10	0	0
Total staff	60	70	40	30	10

Source: Montefiore

3. DEVELOPMENT PROPOSAL

3.1. OVERVIEW

The current Planning Proposal is for the rezoning of the site to allow for the accommodation of four multistorey Independent Living Unit (ILU) residential buildings and three two-storey ILU residential buildings. The anticipated yield of these buildings is 144 ILUs, accommodating 336 beds. In addition to the buildings, the Planning Proposal also includes a two-level basement car park, bringing the total on-site car parking to 261 spaces. The Planning Proposal looks to retain the existing part Residential Aged Care Facility (RACF) located in the southeast corner of the site, reducing the number of beds from 333 to 194 and the basement car park underneath it. **Figure** highlights the proposed structure plan of the site.

Figure 9 Indicative structure plan of the site

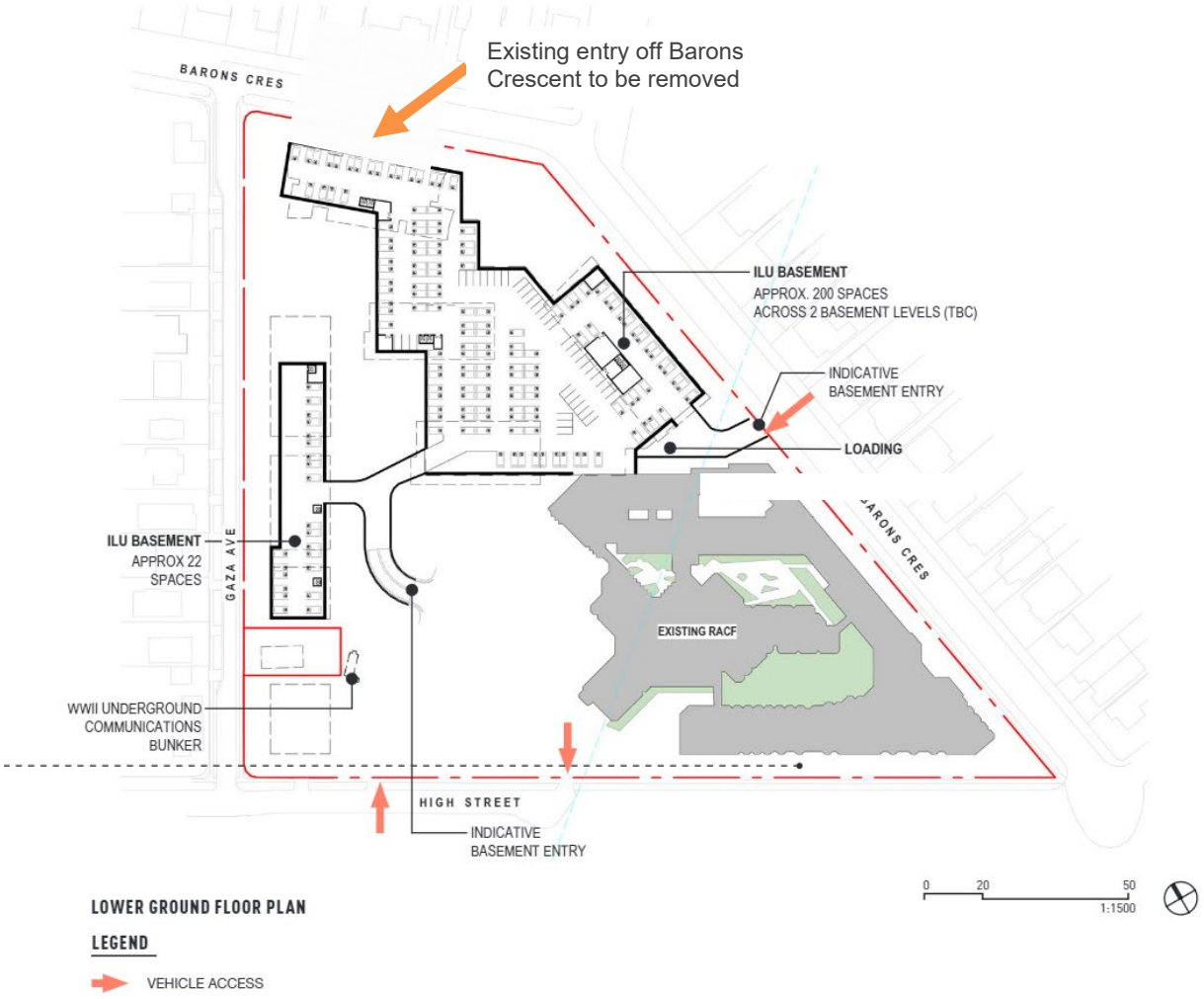
3.2. VEHICLE ACCESS

The Planning Proposal indicates two vehicle access points to the site, one of which is from the existing vehicle access point on High Street and the other is from a new access point on Barons Crescent. Both access points will provide ingress and egress to the proposed basement-level car park. Access to the existing basement off High Street will be retained as per the current configuration. The existing northern access near the bus stop on Barons Crescent will be removed and reinstated as kerbside parking. Further, all driveways for the existing standalone residences (except for number 2 Gaza Avenue) off Gaza Avenue will be removed, minimising conflict points along Gaza Avenue.

Vehicles servicing the site (except waste collection vehicles) will access the basement loading area via the Barons Crescent driveway which is appropriately located away from any intersections. Further, Barons Crescent at the frontage of the proposed driveway to the basement car park is in straight alignment which provides safe levels of sight distance for the drivers exiting the site. The loading dock will incorporate a turning bay to ensure that all vehicles will be entering and exiting the site in a forward direction. A loading dock management plan can be prepared in conjunction with the operational management plan to ensure that servicing occurs outside of the network and site peak periods to ensure minimal impact on the surrounding road network. Waste servicing is anticipated to continue from within the site (at the existing on-grade car park) as per the current operations.

Figure highlights the vehicle access points of the site.

Figure 10 Vehicle access points



Source: Jackson Teece

3.3. CAR PARKING

A total of 261 car parking spaces are proposed to be provided, 40 of which are existing within the basement car park servicing the RACF and the on-grade car park. Additional 221 car parking spaces will be delivered as part of this proposal, in a new basement. A breakdown by user type for the proposed car park is shown in **Table 3**.

Table 3 Proposed breakdown of car parking

Car parking type	Number of Spaces
RACF staff	30
RACF Visitors	13
ILU Residents	168
ILU Visitors	50
Total car parking provided	261

Source: Jackson Teece

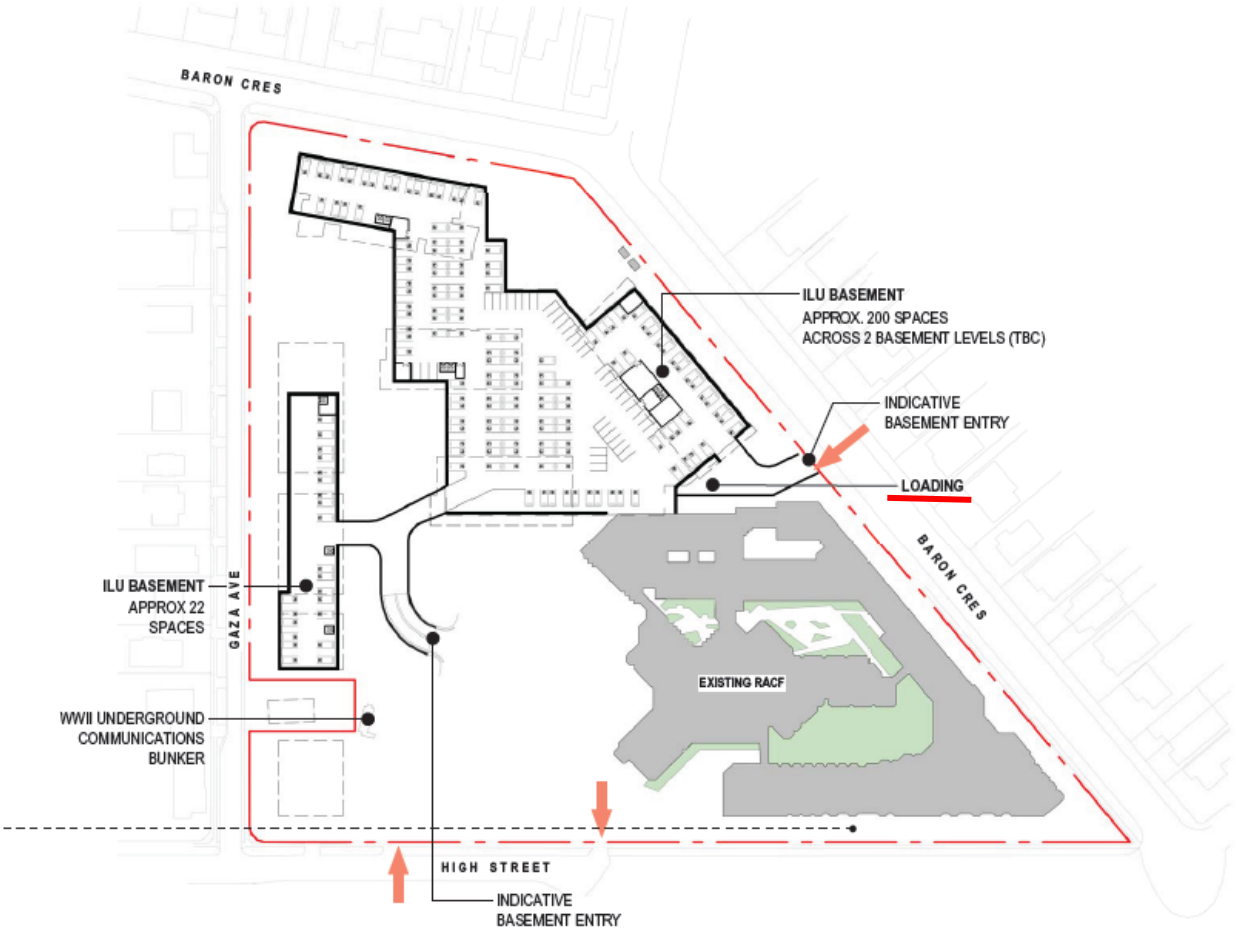
3.4. LOADING AND SERVICING AREAS

The proposed loading area for vehicles will be at an on-grade location accessed off Barons Crescent using the same driveway that is used to access the basement. All vehicle loading and servicing (except general waste) will occur at this location.

Waste vehicles will access the site from High Street and service the site from the at-grade car park that is to be retained as per current arrangements. It is unlikely the proposal will increase the number of service vehicles accessing the site. Service and delivery vehicles (except waste removal) will access the site from Barons Crescent. The current servicing arrangement off Barons Crescent is unsafe as vehicles have to reverse into the site. The proposed servicing area accessed from Barons Crescent will have a turning bay to allow for forward-in and forward-out movements for all service and delivery vehicles accessing the site. Further, the new Barons Crescent driveway is located away from intersections and is in straight alignment which provides safe levels of sight distance for the drivers.

Figure 11 outlines the loading and servicing areas of the proposal.

Figure 11 Loading and servicing areas



Source: Urbis

3.5. INTERNAL ROADS

The only surface-level road that is expected to be retained is the existing circulation road located at the high street entrance.

Table 4 shows the characteristics of the existing internal circulation road

Table 4 Characteristics of the at-grade circulation road

Road width	Number of lanes	Pedestrian facility	Other features
4.7 m	One (one way clockwise)	Footpaths on both sides of the road.	13 x 90-degree car parking spaces and a pick-up / drop-off point for the Montefiore community buses.

Source: Urbis

3.6. ANTICIPATED STAFFING LEVELS

The staffing levels of the proposed development are shown in **Table 5**

Table 5 Anticipated staffing levels

Shift time	**6:30 AM – 9:00 AM**	**9:00 AM – 2:30 PM**	**2:30 PM – 5:00 PM**	**5:00 PM – 10:30 PM**	**10:30 PM – 6:30 AM**
Number of shift staff	63	63	32	32	10
Office staff (9:00 AM – 5:00 PM)	0	10	10	0	0
Total staff	63	73	42	32	10

Source: Montefiore

The Planning Proposal will result in a likely increase of five staff members, all of which will be a part of the shift worker cohort. The anticipated traffic and transport impact as a result of the increase in staff is quantified in **Section 4** of this report.

4. TRANSPORT IMPACT ASSESSMENT

4.1. PUBLIC AND ACTIVE TRANSPORT

4.1.1. Public Transport

There is one bus route that currently services the site. This service connects the site to both Gladesville and Woolwich and operates at a frequency of approximately one service per hour in each direction with increases in services during peak periods. Further details of this service are shown in **Section 2.3.7**.

4.1.2. Montefiore Shuttle Service

Montefiore runs multiple shuttle bus services a week for the benefit of the residents of the RACF. These services operate Tuesday to Friday, once in the morning and once in the evening, and are used to pick up / drop off visitors to the RACF. There are a maximum of three of these services per day. There are also ad hoc trips bus trips completed to take residents of the RACF on day trips. The proposed ILU component of the development is not expected to utilise these shuttle bus services.

4.1.3. Active Transport

There are no direct cycling connections to the site, however, due to the quiet residential nature of the local road network, some residents and staff may feel comfortable riding on the road. It is likely that most cycling use from the site will be of leisurely nature, likely occurring outside of the peak period of the local road network.

There are good walking connections to the site with footpaths on both High Street and Barons Crescent that connect to Boronia Park Reserve and Boronia Park town centre. However, the hilly nature of the local terrain will likely be a deterrent for seniors.

4.2. PARKING PROVISION ASSESSMENT

4.2.1. State Environmental Planning Policy Housing

The *State Environmental Planning Policy* (SEPP) *Housing* outlines *Division 7 Clause (k)* outlines a non-discretionary car parking rate to be applied to the ILUs and RCAFs. This rate is as follows

ILUs

- 0.5 parking spaces for each bedroom.

RACF

- At least one parking space per 15 beds in the facility.
- At least one parking space per two employees who are on duty at the same time.

Table 6 outlines the number of parking spaces required by the facility.

Table 6 Car parking requirements per SEPP Housing

Type	Anticipated Number of Beds	Anticipated Staff Level	Rate	Parking required for ILUs	Parking provided by proposal	Parking currently provided	SEPP Housing Compliance.
ILU	336	73	0.5 spaces per bed	168	261	0	Yes
RACF	194		1 space per 15 beds 1 space per 2 staff on shift	50		112	

Source: SEPP Housing (2021)

Based on the rate provided by SEPP Housing the 261 spaces provided by the development can accommodate the 168 spaces required for the ILUs. The proposed car park can accommodate the parking requirements for the proposed ILUs and the existing RACF (50) spaces, complying with SEPP Housing. As a result of the increased internal car parking, all staff and visitor that are currently parking on street will park their cars in the internal basement, reducing the impact of the site on the surrounding on-street car parking.

4.2.2. Hunters Hill Council Development Control Plan

The *Hunters Hill Development Control Plan 2013* (DCP) does not specify car parking rates for Seniors Living. Seniors Living is defined by the *Hunters Hill Local Environmental Plan 2012* (LEP) as

(a) a residential care facility; or

(b) a hostel within the meaning of State Environmental Planning Policy (Housing) 2021, Chapter 3, Part 5, or

(c) a group of independent living units, or

(d) a combination of any of the buildings or places referred to in paragraphs (a) – (c),

and that is permanently used for

(e) seniors or people who have a disability, or

(f) people who live in the same household with seniors or people who have a disability, or

(g) staff employed to assist in the administration of the building or place or in the provision of services to persons living in the building or place,

but does not include a hospital.

The DCP indicates that for land uses that are not listed in the parking provisions provided by the DCP, to refer to the rates provided by the *TfNSW Guide to Traffic Generating Developments (2002)*.

4.2.3. TfNSW Guide to Traffic Generating Developments

The *TfNSW Guide to Traffic Generating Developments (2002)* provides car parking rates for self-contained dwelling. A self-contained dwelling is defined by the *TfNSW Guide to Traffic Generating Developments* as *"is a dwelling or part of a building (whether attached to another building or not), which houses aged or disabled persons. Private facilities for cooking, sleeping and washing are included in the dwelling, or part of the building. Laundry and other facilities for use by the residents of that dwelling may also be provided on a shared basis."*

A Hostel is defined by the *TfNSW Guide to Traffic Generating Developments (2002)* as *"a residence which houses aged or disabled persons, and provides cooking, dining, laundering and other care facilities on a shared basis. Hostels are maintained on a full-time basis by persons who have nursing, social work or other similar experience".*

The *TfNSW Guide to Traffic Generating Developments* predates the SEPP Housing and the definitions for self contained dwellings and hostels best fit the current definition of an ILU and RACF respectively. The rates for self contained dwellings (ILUs) and hostels (RACF) provided by the *TfNSW Guide to Traffic Generating Developments* are as follows

ILUs

- Two spaces per three units (residents) plus.
- One space per five units (visitors).

RACF

- One space per 10 beds (visitors).
- One space per 2 employees on shift at the same time.
- One space per ambulance.

Table 7 outlines the parking provision required by the *TfNSW Guide to Traffic Generating Developments.*

Table 7 Car parking requirements per the TfNSW Guide to Traffic Generating Developments

Type	Quantum	Staff	Rate	Parking required for ILUs	Parking provided by proposal	Parking currently provided	Proposal complies
ILU	144 units	73	2 spaces per 3 ILUs (resident) 1 space per 5 ILUs (visitor)	144	261		Yes
RACF	194 beds		1 space per 10 beds (visitors) 1 space per 2 employees on shift at the same time One space per ambulance	57		112	

Source: TfNSW Guide to Traffic Generating Developments (2002)

The required car parking provision for the ILUs is 194 spaces. 57 spaces also need to be provided to support the reduced operation of the RACF. The Planning Proposal provides a provision of 261 car parking spaces, complying with the requirements set out by the *TfNSW Guide to Traffic Generating Developments.*

4.3. TRAFFIC IMPACT ASSESSMENT

4.3.1. Traffic Generation

Traffic generation estimates for the proposal have been calculated based on the TfNSW *Guide to Traffic Generating Developments Technical Direction TDT 2013 / 04 Guide to Traffic Generating Developments Updated traffic surveys* (TDT 2013 / 04).

Both the reduced RACF component and the proposed ILUs have been considered. Traffic generation calculations were undertaken for both the PM network peak period and the site peak period. The network peak hour trip generation was derived from the data for sample site three (SH3) for seniors housing in TDT 2013 / 04. The site peak period traffic generation was derived from the summary table for seniors housing in TDT 2013 / 04.

Estimates of traffic generation were undertaken and are shown in **Table 8.**

Table 8 Trip generation

Time period	Number of dwellings	Traffic Generation Rate	Peak Hour Traffic Generation Estimate
PM network peak	RACF: 194 ILUs: 144	0.05 trips per dwelling	17
Site peak	RACF: 194 ILUs: 144	0.4 per dwelling	136

Source: TDT 2013 / 05

Note that the above estimates are considered to be conservative (on the high side) since they have not discounted the traffic generation level due to the existing RACF. The traffic impact of the anticipated peak hour traffic generation is shown in **Section 4.3.4**.

4.3.2. Service Vehicle Generation

There are three types of service vehicles that will typically enter the site on a regular basis. These are

- Medical Waste disposal vehicles.
- General Waste disposal vehicles.
- Delivery vehicles.

These vehicle types are consistent with what is currently servicing the site and would not change as a result of the proposal.

These vehicles will typically service the proposed development outside of the peak periods and will have a negligible impact on surrounding local traffic conditions.

4.3.3. Trip Distribution

The expected distribution of the traffic volumes likely to be generated by the proposed development are shown in **Figure** and **Figure** for the network peak hour and the site peak hour periods. The network PM peak hour is generally between 5:00 PM and 6:00 PM, while the site peak hour is likely to be during the afternoon shift changeover between 2:00 PM and 3:00 PM, which accounts for staff arriving for the afternoon shift and morning shift staff leaving.

The directional distributions of traffic generated during the network peak was calculated using the following assumptions

- The traffic generated within each peak hour period includes a 50 per cent / 50 per cent split across inbound / outbound trips.
- 50 per cent of all trips were assumed to use High Street while the other 50 per cent of the trips were assumed to use Barons Crescent for site access
- Of all trips exiting the site via Park Road / High Street roundabout, 50 per cent were assumed to use High Street West while the other 50 per cent were assumed to use Park Road south, and vice versa for the trips entering the site.
- Of all trips exiting the site via Park Road / Barons Crescent intersection, 50 per cent were assumed to use Barons Crescent West while the other 50 per cent were assumed to use Park Road, and vice versa for the trips entering the site.

The directional distributions of traffic generated during the site peak was calculated using the following assumptions

- The traffic generated within each peak hour period includes a 50 per cent / 50 per cent split across inbound / outbound trips.
- All trips were assumed to follow the Park Road south route from the High Street intersection. This is because they are staff trips accessing Ryde Road or Victoria Road.

Figure 12 Trip distribution network peak

Source: Urbis

Figure 13 Trip distribution site peak

Source: Urbis

Trips generated to / from the site will also be distributed evenly between the two entry points to the site based on the location of the car parking spaces relative to the location of elevators in the basement. It is unlikely that during both the site and network peak periods, vehicles generated by the site will use Gaza Avenue to access or egress the site. vehicle access to the site from Barons Crescent will likely use Park Road and then Barons Crescent to access the site as the recently changed traffic conditions on Gaza Avenue promote low-speed movement and make bidirectional travel challenging. Vehicles accessing and egressing the site via Barons Crescent will also have priority when accessing Park Road. On Gaza Road, these vehicles would not have priority as they need to give way to other vehicles on High Street and Barons Crescent.

4.3.4. Environmental Capacity Assessment

The *TfNSW Guide to Traffic Generating Developments* outlines the Environmental Capacity Limits for local roads. Environmental Capacity is a metric that is used by TfNSW to determine the vehicle capacity of local streets based on factors characteristics such as traffic composition, road condition, property setbacks, vehicle noise, traffic speed and the type of building fronting the street.

The Environmental Capacity on local roads as defined by TfNSW is 300 vehicles per hour.

The 300 veh / h limit is a requirement stated in the *TfNSW Guide to Traffic Generating Development* as the point where it is no longer considered safe for aged pedestrians to cross the average street.

The impact of the development on the Environmental Capacity of local roads was assessed using the midblock traffic volumes found in **Section 2.3.4** of this report. The midblock volumes for the site peak were derived using a reduction factor applied to the PM network peak volumes. This reduction factor was the percentage of average yearly light vehicle traffic at 1:00 PM on a weekday and the network peak traffic (5:00 PM) from the TfNSW vehicle classifier found on Victoria Road 70 m East of Cressy Road in Ryde (Station ID: 9836-PR) in 2019.

Table 9 shows the Environmental Capacity assessment undertaken for the network peak period and **Table 10** shows the site the site peak period (the figures presented within the table indicate the number of vehicles).

Table 9 Environmental Capacity assessment network peak

Network Peak Period		
Midblock Site	Park Road between Princes Street and High Street	Park Road between High Street and Barons Crescent
Existing traffic (two-way veh / h)	220	59
Development generated traffic (two-way veh / h)	16	8
Traffic with development (two-way veh / h)	237	68
Environmental Capacity (veh / h)	300	300
Under / Over Capacity	Under	Under

Source: TfNSW Guide to Traffic Generating Developments (2002)

Table 10 Environmental Capacity assessment site peak

Site Peak Period				
Midblock Site	Park Road between Princes Street and High Street	Park Road between High Street and Barons Crescent	High Street between Farnell Street and Park Road	Barons Crescent between High Street and Park Road
Existing traffic (two-way)	154	42	129	31
Development generated traffic (two-way)	68	34	34	34
Traffic with development (two-way)	222	75	263	65

Site Peak Period				
Midblock Site	Park Road between Princes Street and High Street	Park Road between High Street and Barons Crescent	High Street between Farnell Street and Park Road	Barons Crescent between High Street and Park Road
Environmental Capacity	300	300	300	300
Under / Over Capacity	Under	Under	Under	Under

Source: TfNSW Guide to Traffic Generating Developments (2002)

Based on the results in the above table, the development will not result in exceeding the environmental capacity limits on the local roads immediately surrounding the site and the traffic generated by the proposal can effectively be absorbed into the local road network. No volume on any of the local roads directly surrounding the site during the site and network peak will exceed 300 veh / h, suggesting that the traffic conditions will remain ideal for elderly people to cross the road. This is extremely relevant for the proposal as the site will maintain a RACF and will include ILUs.

Based on the above, the traffic impact of the proposal is minimal and will not have a material effect on the surrounding community.

5. CONCLUSION

This report provides a transport and traffic assessment of the Planning Proposal for the rezoning at the Montefiore Hunters Hill Campus. The masterplan is anticipated to have the following transport and traffic-related impacts.

The proposal will provide two vehicle access points to the site, one of which is the existing vehicle access point on High Street and the other is from a new access point on Barons Crescent. Vehicles servicing the site (except for general waste) will use the Barons Crescent access point. A turning bay will be provided in the service area to ensure that vehicles access and egress the site in a forward direction. This will be an improvement of the existing situation as service vehicles currently using the existing Barons Crescent access need to reverse into the site. It is unlikely that there would be an increase in service vehicles accessing the site. The existing northern access off Barons Crescent near the bus stop will be removed.

The peak periods for the trip generation to and from the site will likely be outside of the general network commuter peak periods given that staff work on a shift-based roster, residents of the ILUs are likely retired and would typically travel outside of network commuter peak periods and the residents of the existing RACF to be retained do not own private vehicles. Trips generated to/from the site will also be distributed evenly between the two entry points to the site based on the location of the car parking spaces relative to the location of elevators in the basement. Based on the above, the traffic impact of this planning proposal is negligible.

The majority of trips away from the site will be towards Ryde Road, based on staff returning home from their shifts and residents departing the site to undertake activities. Some trips during the site peak period have been distributed towards the Boronia Park town centre, acknowledging that residents may choose to shop in this local centre as there are two supermarkets.

The car parking provision provided by the development complies with the relevant controls in the *TfNSW Guide to Traffic Generating Developments* and the *SEPP Housing*. Car parking sufficiently caters for staff, residents, and visitors within the site, removing the need for staff and visitors to park on Barons Crescent, Gaza Avenue and High Street. This will reduce the existing traffic impact the site has on the local road network and will free up on-street parking for other local residents.

Based on the above, the proposed development will have a negligible traffic impact on the surrounding road network because

- The proposed development will not exceed the environmental capacity limits for local roads set out by *TfNSW*.
- The impact of parking will be reduced as all parking will be contained on-site.
- The impact of service vehicles will be negligible as it is unlikely that there will be an increase in the number of service vehicles accessing the site. Safety is improved for service vehicles using Barons Crescent due to the addition of a turning bay in the proposed service area, allowing forward-in and forward-out movements.

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