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Travel Behaviour Plan and Parking Management Plan

Waterford PBSA

CW1123600

Prepared for

Waterford PBSA Pty Ltd

19 October 2021

Cardno

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TRAVEL BEHAVIOUR PLAN

1 Travel Behaviour Plan

1.1 Background

Cardno was commissioned by Waterford PBSA Pty Ltd to prepare a Travel Behaviour Plan (TBP) and Parking Management Plan (PMP) for the proposed student accommodation development (the Site) within Waterford Triangle. This development will provide accommodation for students of both Curtin University and Canning College.

Once developed, the Site will include student residential and recreation facilities, and will consist of:

- Study lounge
- Dining room
- Courtyard
- Restaurant
- Student accommodation for 918 beds
- Storage areas and waste disposal areas
- Parking bays for normal vehicles, electric cars and bike storage areas.

1.2 Travel Plans

Travel Plans are intended to manage the trip-making behaviour of staff and visitors; particularly during peak travel times. By providing for and communicating the benefits of using alternative forms of transport (walking, cycling, and public transport) rather than single-occupancy vehicles (SOVs), plans are calibrated to suit the development to which they relate.

Travel Plans are becoming more common in Perth and are very common in locations where there is significant congestion on the road network. They are implemented to both reduce the impact of a particular land use on the surrounding movement network and avoid/defer the need for costly capital investment in transport infrastructure upgrades.

In this case, a Travel Plan supports the intended function of the Curtin Bentley Precinct Parking Cap, which limits the parking supply within the adjacent education/business precinct to limit the impact on the local road network.

Travel Plans can also be important complements to other transport planning strategies by making sure residents understand the transport alternatives available, and can make a reasonable choice to use those alternatives. This is in line with the purpose of the Department of Transport's 'Your Move' program, which aims to incentivize and inform sustainable mode choice. Furthermore, Travel Plans can serve objectives relating to population health and climate change, as part of a broader social and environmental agenda for both cities and members of the community.

In practice, many components of Travel Plans are tools for tenants and managers of a development rather than the developer. This Travel Plan describes the proposed interventions applied at construction, as well as recommending ongoing incentives and activities for the property managers to support sustainable travel behaviour for the lifetime of the development.

While the City of South Perth does not have a template for travel plans for developments such as the Waterford PBSA, the Department of Transport provides some guidance through the 'Your Move' program. This information was reviewed as part of preparation of this document, along with Travel Plan guidelines for other development types.

1.3 Geographical Context

The proposal is located at the south-eastern edge of the City of South Perth and is bounded by McKay Street, Keaney Place, and Garvey Street (**Figure 1-1**). Curtin University and Canning College is immediately adjacent to the west/north west. To the east are residential land uses and the Clontarf Aboriginal Education & Training Centre is across Manning Road to the south. The Canning River is approximately 500m to the south.

Figure 1-1 Site Location

Source: Nearmap

The location is within Waterford Triangle, which is a residential area prioritised for student accommodation, catering for domestic and international students. It is surrounded by several residential developments and is also located within a short walking distance of local shopping destinations, including Bentley IGA (600m) and Waterford Plaza (500m). Waterford Plaza features a number of dining options, as well as supermarkets, a post office, and a chemist.

1.4 Local Government Boundaries

Whilst the Site will be influenced directly by policy in the City of South Perth, it is noted that some policies from the neighbouring LGAs may affect access to the Site. The policies from the Town of Victoria Park and the City of Canning are detailed in the next section.

Figure 1-2 Local Government Boundaries

Source: Nearmap

Figure 1-2 above shows the location of the Site within the City of South Perth local government area.

2 Policy Context

2.1 State Policy

2.1.1 Strategic Plan 2019-2022

The Department of Transport's Strategic Plan highlights the future policy directions which includes:

- Develop strategic transport policy for 'movement and place'
- Undertake travel demand analysis to increase on-demand transport and public transport usage
- Develop strategy for mobility as a service
- Develop State-level strategies, policy and regulations for connected and autonomous vehicles, and electric vehicles.

Such policy directions will benefit the Site's occupants by providing a much wider range of transport options in lieu of private vehicles.

2.1.2 Perth and Peel Transport Plan (Transport @ 3.5 Million - 2016)

This Plan recognises that influencing travel choices is an important tool in managing congestion. Obtaining travel plans is one of a number of strategies that will be employed to ensure transport infrastructure is being used efficiently. Some strategies for influencing travel choices listed within the plan are listed below:

- Travel plans – major commercial and residential developments in and around activity centres will have plans to encourage sustainable travel options and manage traffic;
- Parking strategies – through supply and demand management techniques, strategies will be introduced to dissuade parking and promote public and active travel options; and
- Travel Smart and Your Move programs – will be extended to more workplaces, schools and households to inform people about their travel choices and encourage voluntary changes in travel behaviour.

2.1.3 Travel Demand Management Plan (Transport @ 3.5 Million 2016)

A supplementary document which supports the Transport @ 3.5 million project. The document aims to provide initiatives that improve transport outcomes, without the need to provide significant additional road or public transport infrastructure or services. Some of the strategies provided by the plan are as follows:

- Travel Plans;
- Travel Behaviour Change Programs;
- Walking and Cycling Infrastructures;
- Public Transport time of day pricing; and
- Road use pricing reform.

While the overall *Transport @ 3.5 Million* policy was updated in 2018, a large body of work sits behind it, including Travel Demand Management Plans. Travel Plans are still a popular and well utilised method of mitigating travel demand for new (and existing) developments, and hence this Travel Plan represents one of the above strategies, which in turn will promote and encourage the use of existing transport infrastructure, in particular public and active transport.

2.2 Local Policy

Due to the location of the Site, so close to the LGA boundaries of South Perth, Canning and Victoria Park. The policy and strategy documentation of all three adjoining Local Government areas has been considered in the context of the proposed development.

2.2.1 Waterford Triangle Design Guidelines (2010)

The vision for the Waterford Triangle is to ensure the revitalisation of the area will meet a number of community identified objectives. The 10 guiding principles are:

1. Continue to be a place for a mixture of residents, students and non-students, owner-occupiers and tenants, housing needs to provide sufficient opportunity for this diversity of lifestyle opportunity within the area.
2. Maintain its sense of community with a focus on the design and use of public spaces, easy access to facilities, amenities and surrounding needs.
3. Improve, through re-design, the leafy landscape, park and places for residents to exercise, play and meet in the public domain.
4. Have streets which do not carry large numbers of vehicles or provide for through-traffic but instead cater for slow-moving vehicles, pedestrians and bicycles.
5. Improve the quality of its streets to offer better:
   - pathways and cycle access;
   - lighting and open-sightlines;
   - balance between visitor parking and green space;
   - infrastructure and street-care;
   - incorporate better Water Sensitive Urban Design into public areas;
   - signage and local identity of place;
   - small spaces for people to stop and chat; and
   - allocation of space between private and public activities.
6. Improve the edge of the site adjacent to Manning Road in terms of safe access for abutting properties, and explore better access alternatives to individual driveways onto Manning Road.
7. Encourage redevelopment to adopt best design for energy and water conservation, and to reflect a set of consistent design values for Waterford.
8. Re-think the configuration of spaces and land uses to offer more variety and interaction between residents.
9. Introduce some key facilities/amenities/activities/businesses which might be of use to local people and create a stronger community spirit and sense of belonging.
10. Investigate ways to better link to the Canning River, Curtin University and the nearby Waterford Plaza Shopping Centre.

The parking objective is:

> *To ensure that vehicle access and parking is provided in a manner which is convenient to use, functionally safe and yet does not dominate public and private spaces to the detriment of walking and cycling.*

2.2.2 Town of Victoria Park Integrated Movement Network Strategy (2013)

This Strategy recognises that sustainable accessibility is key to the ongoing prosperity, environmental footprint and well-being of communities; the way transport infrastructure is provided and managed influences people's travel behaviour. In order to maintain high standards in the transport services provided to the public, a safe and a well-structured transport system is crucial.

Below is an excerpt from the Strategy which sets out its transport focus areas and objectives, some of which have particular relevance for this document.

1. Support the Town's Vision of "Victoria Park – Vibrant Lifestyle" and the objectives set out in the Town's Strategic Plan "Plan for the Future 2011- 2026";
2. Manage traffic congestion to facilitate ease for moving of people, goods and services by more efficient use of roadway space & capacity and better transport and land use integration;
3. Support economic growth as a result of a planned and managed network (moving goods, moving people, better access to employment, education, etc.);
4. Enhance the urban environment and amenity with greater emphasis on provision for bicycle and pedestrian paths and connections to and interchange with public transport;
5. Improve access to employment, entertainment, medical, education and community facilities, while considering the needs of people with mobility, visual or hearing impairment;
6. Reduce transport cost for the community by providing better public transport services, improving pedestrian and cycling facilities and enhancing permeability throughout the Town;
7. Improve transport links, connections and movements required to the regional and local transport network, based on existing land use patterns and future growth areas;
8. Create a healthier and more accessible community through encouraging active travel such as cycling and walking;
9. Improve environmental conditions through less reliance on private motor vehicle transport; and
10. Provide a basis for the current and future management of, and provision for, parking on private and public land.

2.2.3 City of Canning Integrated Transport Strategy (2015)

The Strategy has a 'maximise priority' approach for walking and cycling with a public transport focus. It has been developed with the following four key outcomes in mind:

1. Define the regional movement framework as it relates to the City including defining what are the known constraints and what can and/or should be changed;
2. Develop a local framework that responds to the regional framework and provides for local needs and aspirations;
3. Focus the City and the community towards the key issues and strategies to be addressed over the next 20 years; and
4. Provide a basis for the City and the community to prioritise and guide the investment of City resources and lobby/ partner with other agencies for delivery of other components identified in the Strategy.

2.2.4 City of South Perth Integrated Transport Plan

The City of South Perth is developing a city-wide Integrated Transport Plan in order to replace the previous 2006-2016 plan. The purpose of this plan is to conduct an in-depth analysis of the existing and the future transport system requirement within an area which experiences transport and access issues. The Integrated Transport Plan will address the six key principles shown below:

- Safety - the transport system should be safe for all users;
- Efficiency - the transport system should be provided, operated and used efficiently;
- Effectiveness – the transport system overall should provide effective access and movement for all persons and business;
- Environmental responsibility - the transport system should be provided and used in an environmentally responsible manner;

- Social responsibility - the transport system should provide equitable travel and transport opportunities for residents and businesses; and
- Robustness - the transport system must provide service in the face on ongoing and predictable change and must be able to respond to and take advantage of unpredictable economic, social, technological and other changes.

2.2.5 Joint Bike Plan (Town of Victoria Park and City of South Perth - 2018)

The Town of Victoria Park and the City of South Perth collaborated to form a joint bike plan to improve the cycle network, to promote cycling, and also to reduce the environmental impacts from vehicle usage.

The plan provides direction for the future construction of footpaths, shared paths, separate cycle paths, principle shared paths, on road cycle lanes, and Safe Active Streets.

Figure 2-1 below shows the aspirational cycle network that connects both the City of South Perth and the Town of Victoria Park.

Figure 2-1 Joint Bike Plan

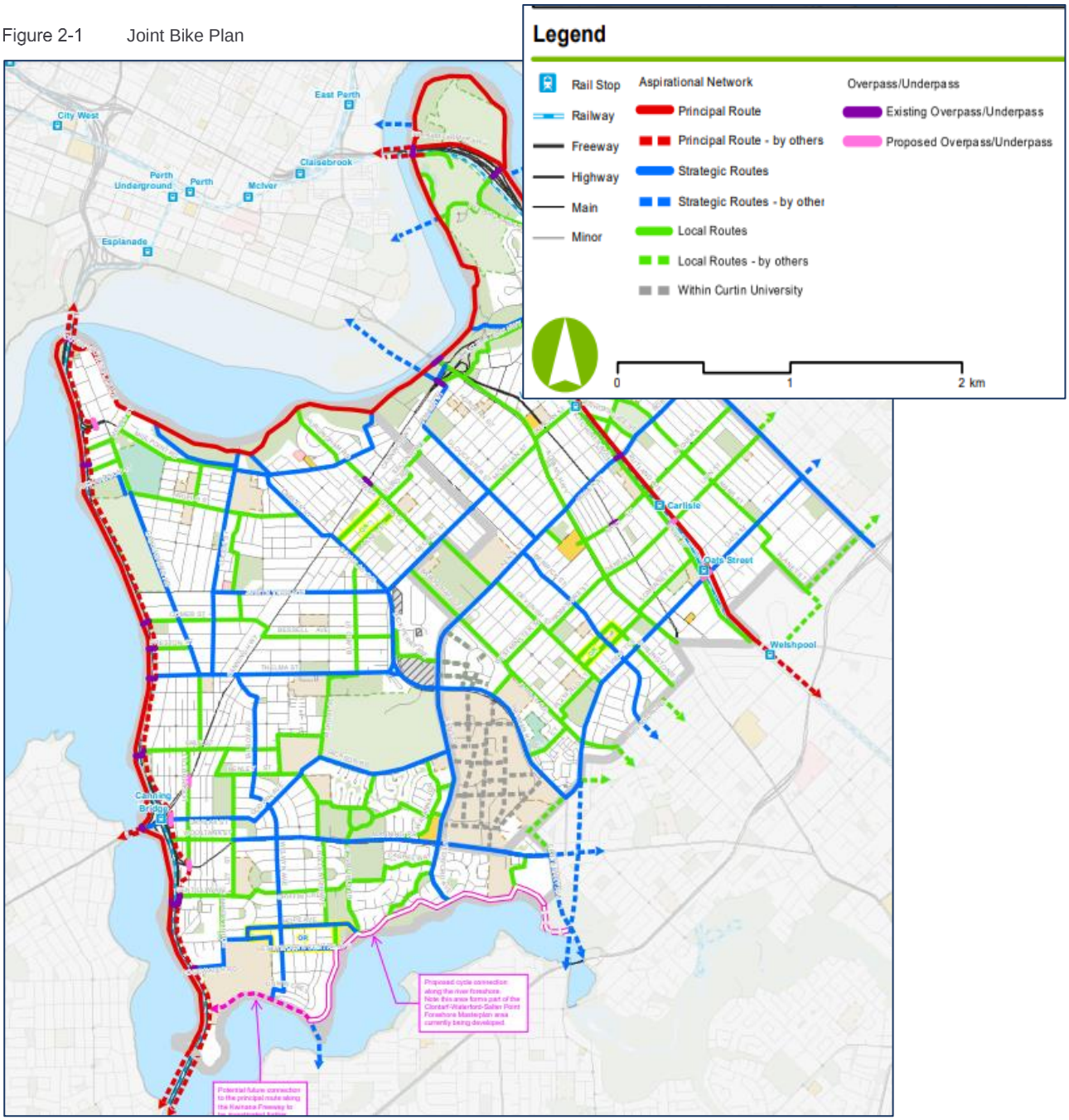
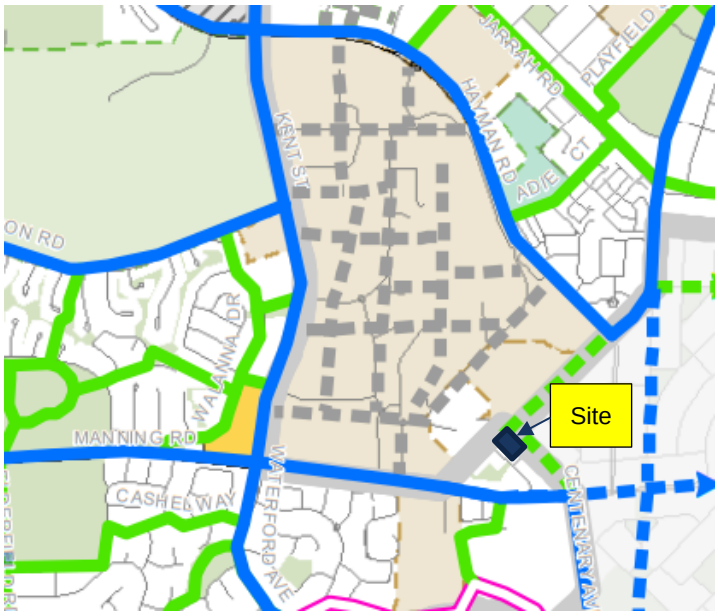


Figure 2-2 Site Specific Joint Bike Plan



The map shown in **Figure 2-2** pinpoints the location of the Site within the Joint Bike Plan. The Site is located amongst many local bike routes that connect to the wider cycle network and is well connected to nearby facilities such as the Waterford Plaza Shopping Centre.

2.2.6 Curtin University Policies

As the Site is located within close proximity to Curtin University, it may be impacted by future upgrades and developments within the university regarding transportation and accessibility. The main policy that relates to movement is the *Integrated Transport & Movement Plan*. This Plan sets out to guide the University in delivering its strategic vision for transport and movement within the University as set out in the Greater Curtin Master Plan.

Key objectives highlighted within Integrated Transport & Movement Plan are:

- Reduce dependence on single occupant car use;
- Reduce our environmental impact;
- Provide a mechanism to engage and communicate with the wider Curtin community;
- Promote active lifestyles;
- Inform the delivery of strategic projects;
- Provide a mechanism to engage and communicate with the wider Curtin community;
- Inform transport and movement investment decisions to
  - ensure they create value and meet the needs of the University
  - community;
- Inform the delivery of strategic projects; and
- Provide a framework for continuous improvement.

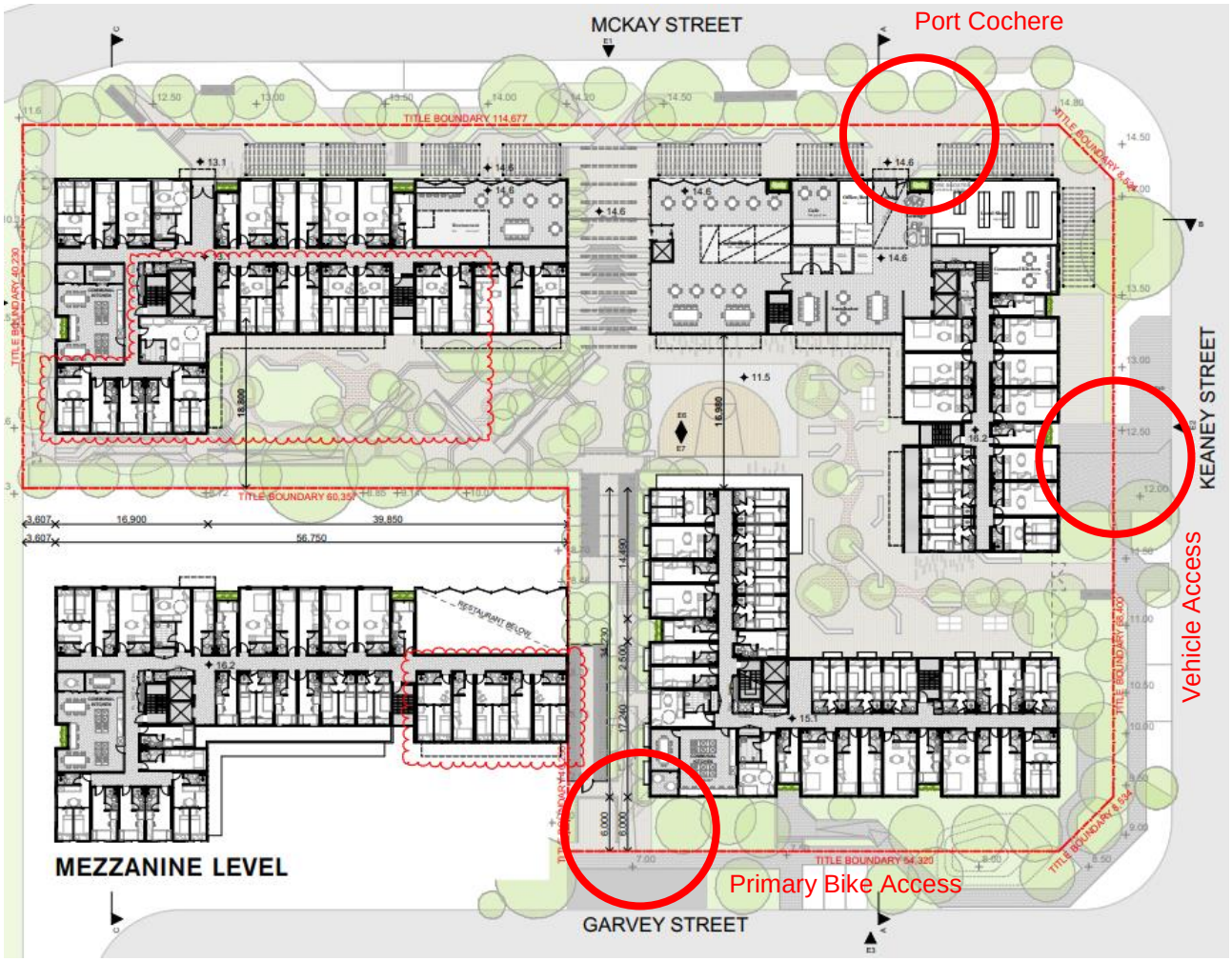
3 Infrastructure Provision

3.1 Site Access

Vehicular access to the development is via Keaney Street. There will also be access from McKay Street to a port cochere for drop off/pick up services. Pedestrian access is available from all frontages, with activated uses (community spaces) predominantly located at the McKay Street/ Keaney Street corner.

Access to bike parking is provided via a permeable development structure, but the main entry to consolidated and secure residential and visitor parking is via Garvey Street.

Figure 3-1 Site Access



3.2 Active Transport

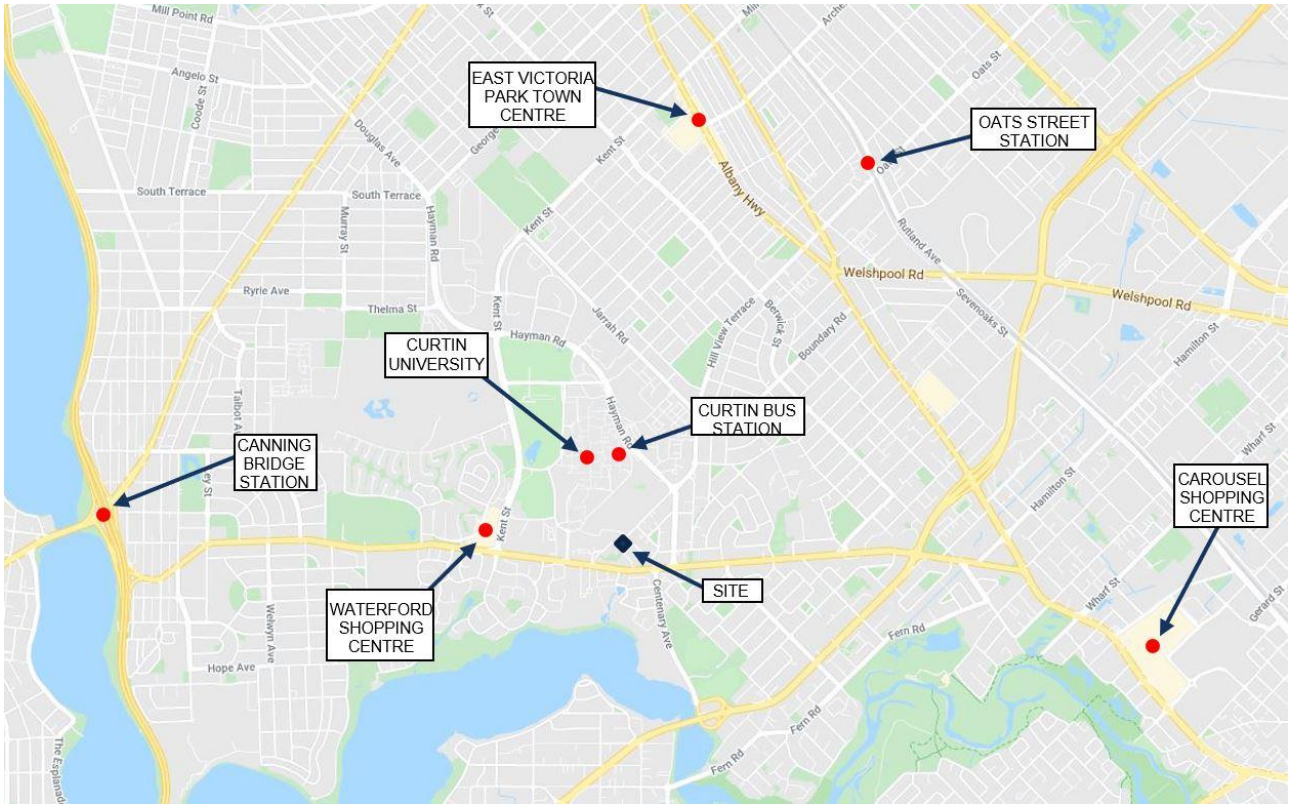
The Site is surrounded by pedestrian and cycling facilities and benefits from its close proximity to Curtin University. These include:

- Pedestrian access to Curtin University and Canning College
- A network of bicycle friendly streets adjacent to the campus
- Multiple bike stores on Bentley Campus
- Shared paths circumventing the campus
- 30km/hr speed limit on campus
- Signalised intersection at Manning Road campus entrance with pedestrian crossing facilities.

As the proposed development has limited on-site parking and the local street network is unsuitable for on-street parking, the majority of residents within the development will be using public and active forms of transportation as their primary mode of travel.

Figure 3-2 shows the Site in relation to surrounding points of interest and **Table 3-1** gives an estimated time for travelling to local destinations by public transport or cycling.

Figure 3-2 Site Location Map



Base Map: Snazzymap 2021 (google.com api)

Table 3-1 Public & Bicycle Transportation Travel Times

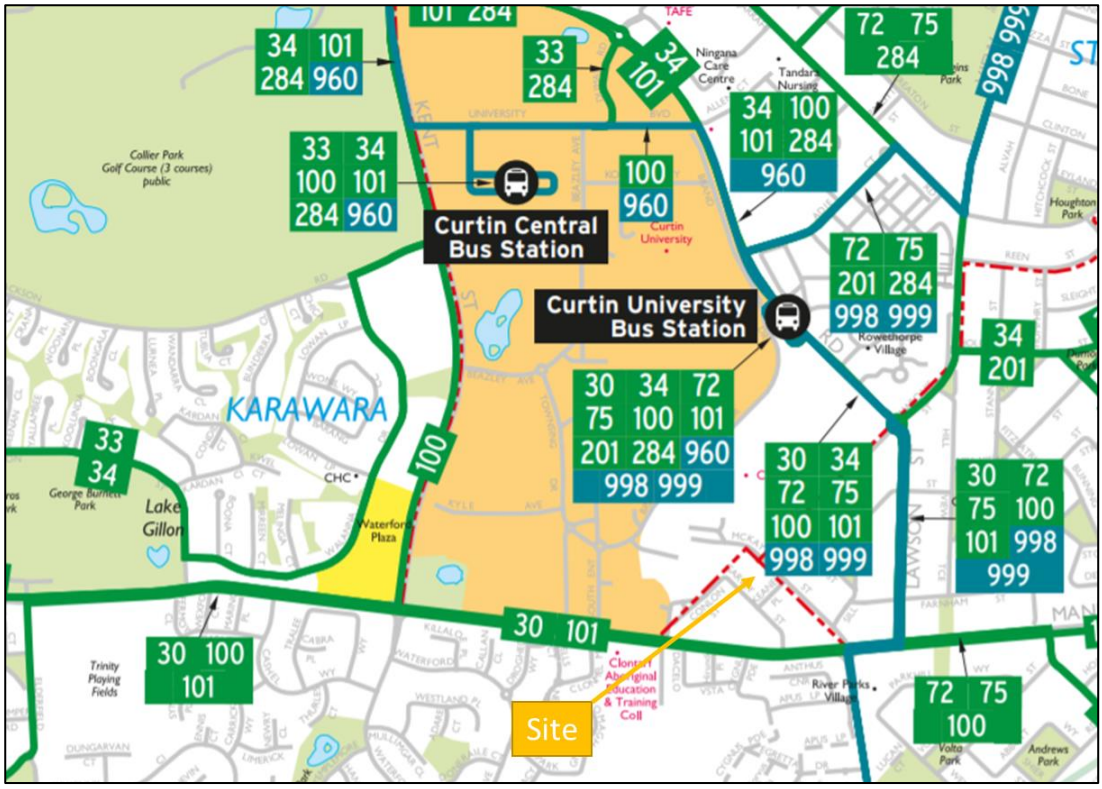
Destination	Public Transport Travel Time	Bicycle Travel Time	Walking Time
Curtin University	8 minutes (Bus frequency every 10 minutes)	5 minutes	15 minutes
Curtin Bus Station	7 minutes (Bus frequency every 10 minutes)	3 minutes	12 minutes
Canning Bridge Station	19 minutes (Bus frequency every 10 minutes)	15 minutes	53 minutes
Carousel Shopping Centre	22 minutes (Bus frequency every 10 minutes)	14 minutes	53 minutes
East Victoria Park Town Centre	24 minutes (Bus frequency every 10 minutes)	15 minutes	51 minutes
Waterford Shopping Centre	4 minutes (Bus frequency every 10 minutes)	5 minutes	15 minutes
Oats Street Station	18 minutes (Bus frequency every 15 minutes)	14 minutes	48 minutes

3.3 Public Transport Links

There are many bus routes serviced from the Curtin University campus, with connections to major transport nodes such as Cannington Station and Canning Bridge Station, and direct services to the Perth CBD. Curtin University also provides free shuttle buses (see Section 3.3.3) through nearby suburbs, operating Monday-Friday during normal semester weeks.

Figure 3-3 shows the location of the Site in relation to the Curtin Bus Interchange and the Curtin University Bus Station. Given the student residents primary destination is the University Campus, these key transport hubs are likely to represent be used for the majority of public transport trips. The frequency and extent of network connection afforded to students by these services provides many opportunities to greatly reduce the dependence on private car ownership and usage.

Figure 3-3 Bus Routes



Source: Nearmaps

The schedules are shown in **Table 3-2** and **Table 3-3** respectively.

Table 3-2 Bus routes from Curtin Bus Interchange

Route	Destination	Frequencies
33	Elizabeth Quay Bus Station - Karawara	Every 60 minutes
30	Perth Busport – Curtin Central Bus Station	Every 30 minutes
34	Perth Busport – Cannington Station	Every 15 minutes
101	Canning Bridge Station – Curtin Central Bus Station	Every 15 minutes
284	Belmont Forum or Morrison St – Curtin University Bus Station	Every 60 minutes
960	Mirrabooka Bus Station to Curtin University Bus Station	Every 10 minutes

Table 3-3 Bus routes from Curtin University Bus Station

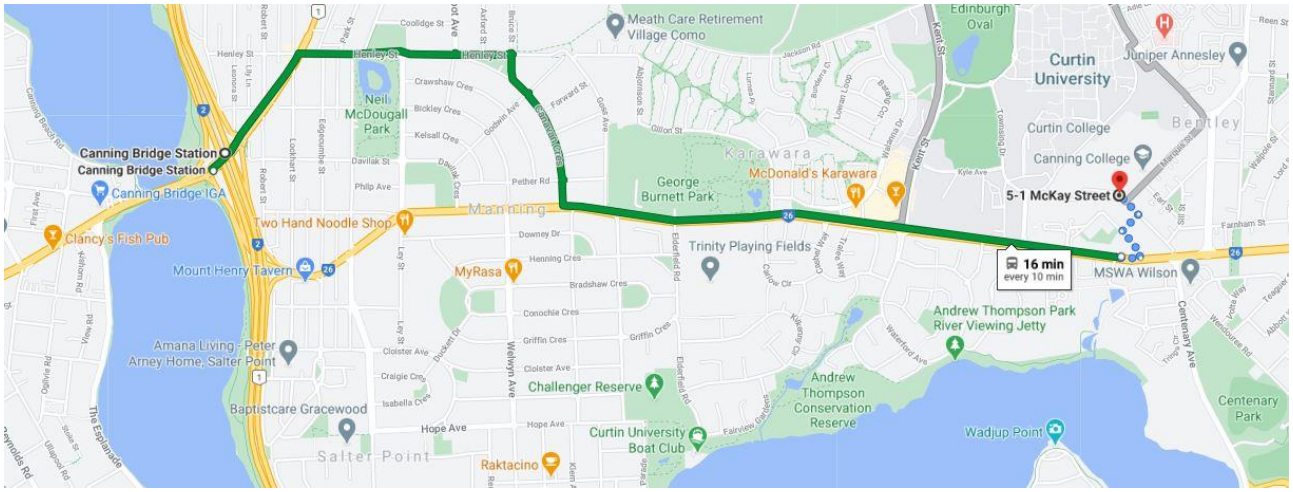
Route	Destination	Frequencies
998	Fremantle Station - Fremantle Station	Every 15 minutes
999	Fremantle Station - Fremantle Station	Every 10 minutes
30	Perth Busport – Curtin University Bus Station	Every 30 minutes
34	Perth Busport – Cannington Station	Every 15 minutes
70	Elizabeth Quay Bus station – Curtin University Bus Station	Every 60 minutes
72	Elizabeth Quay Bus Station – Cannington Station	Every 30 minutes
75	Elizabeth Quay Bus Station – Canning vale depot	Every 30 minutes
100	Canning Bridge Station – Cannington Station	Every 15 minutes
101	Canning Bridge Station – Curtin University Bus Station	Every 15 minutes
284	Belmont Forum or Morrison St – Curtin University Bus Station	Every 60 minutes
960	Mirrabooka Bus Station to Curtin University Bus Station	Every 10 minutes

3.3.2 Train

Canning Bridge Station is approximately 4km from the Site. In addition to the services connecting to the rail network from Curtin Bus Station and Bus Interchange, Transperth bus Route 100 and 101 can be used to access the train station directly from Manning Rd in close proximity to the Site.

From here, residents can access destinations along the Mandurah or Joondalup Train Line, as well as the rest of the network. **Figure 3-4** describes bus Route 101, which operates at 10-minute intervals and terminates at Canning Bridge Station. The proximity of the Site to efficient feeder bus services ensures that there are public transport options available for the majority of trip purposes and destinations.

Figure 3-4 Bus 101 Route



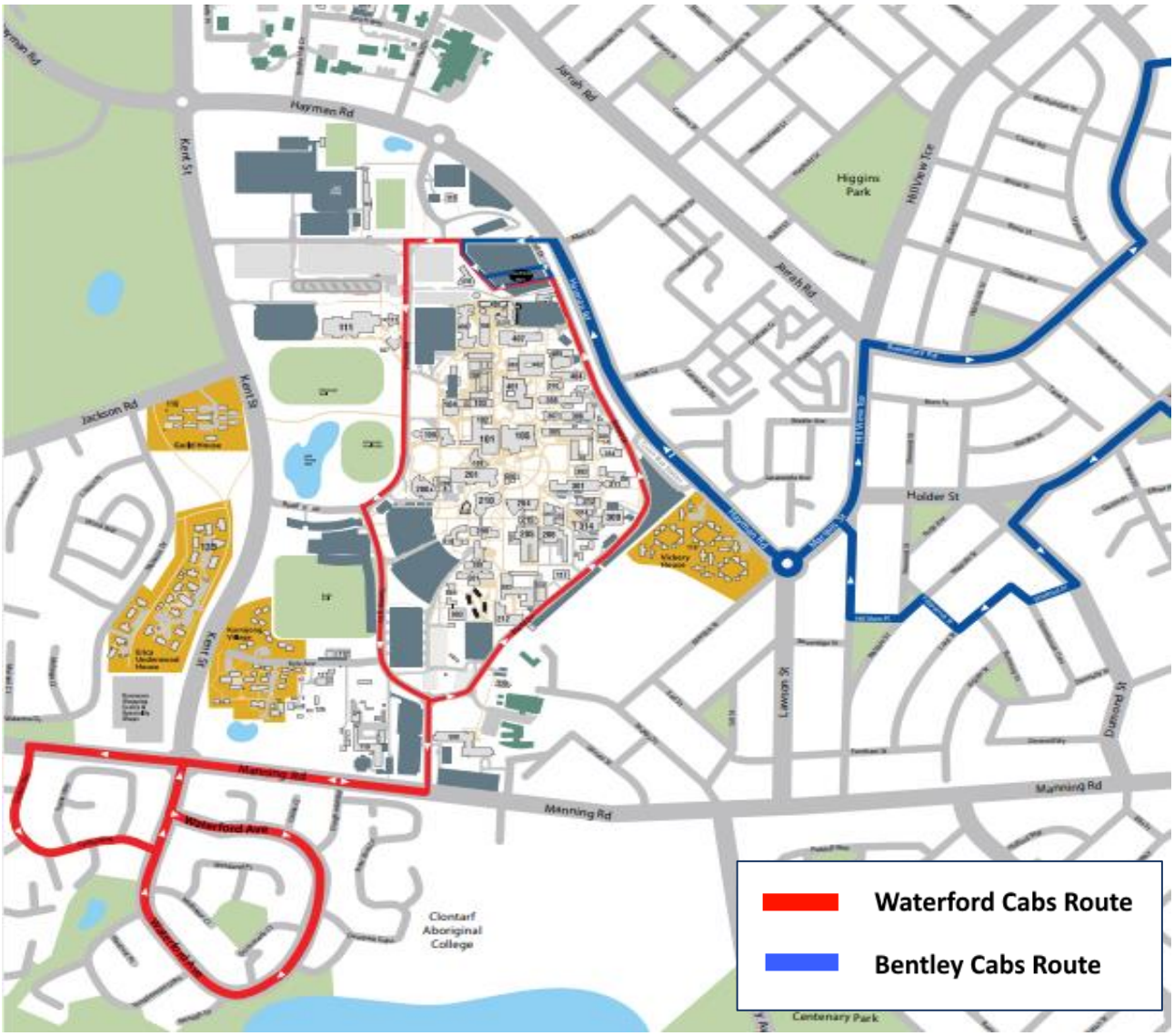
Source: Google Maps

3.3.3 Curtin Access Bus Service (CABS)

Curtin University provides free bus services for students, staff, and the community to and from the campus. These bus services operate on weekdays during semester between nearby suburbs (including Bentley, Waterford, South Perth and Victoria Park) and the university campus.

The CABS can be hailed at any point on the designated route and they generally operate on a 15-minute schedule, with additional services are provided during the morning and evening peak periods. **Figure 3-5** shows the existing shuttle bus routes servicing the Bentley & Waterford area.

Figure 3-5 Bentley & Waterford CABS Routes



Source: Curtin University

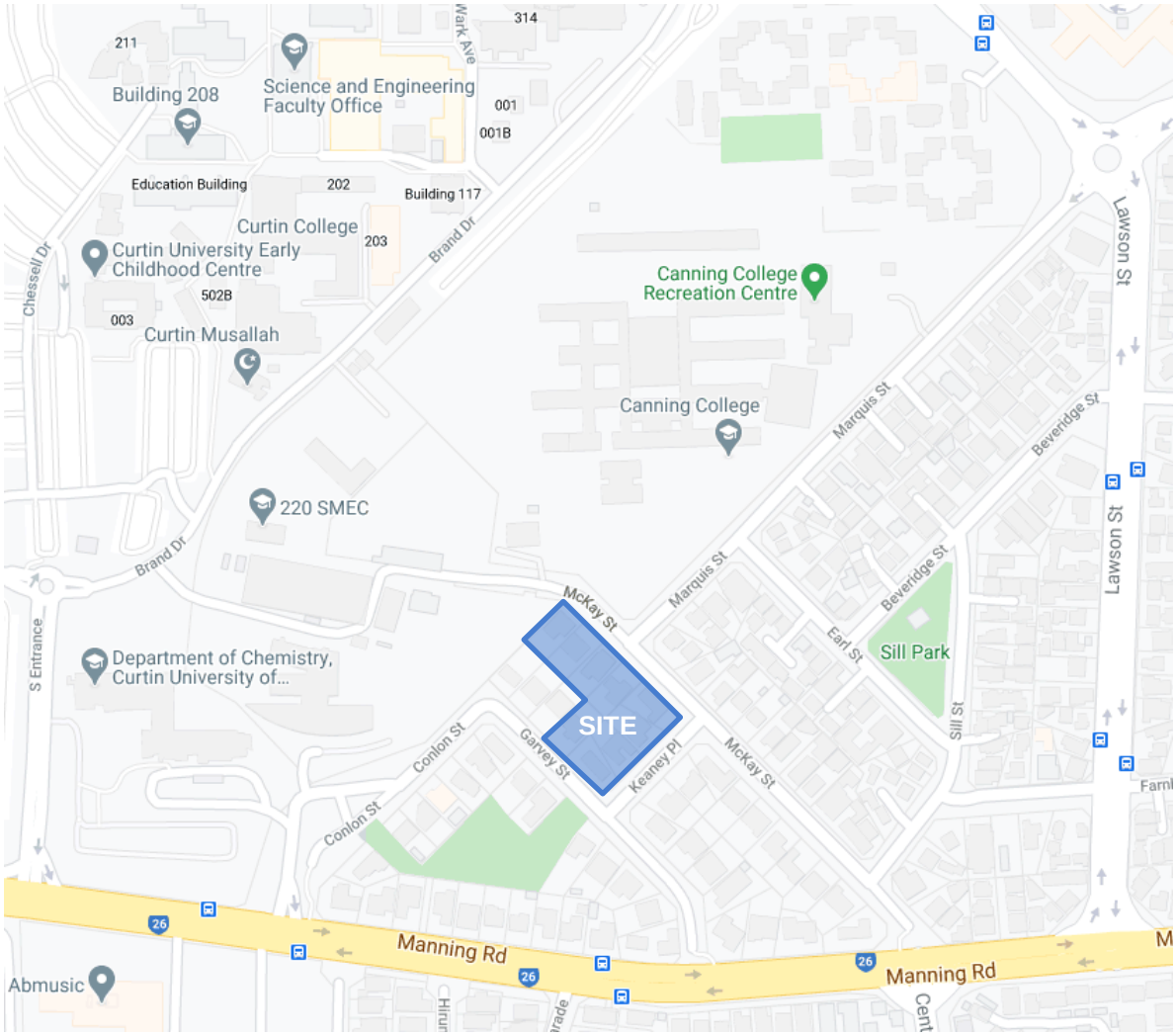
While these services do not currently connect through the Waterford Triangle, this reflects the current low-level development intensity of the area. The construction of student accommodation will create a dedicated catchment of students that can support the redirection of services, in line with the intent of CABS.

3.3.4 Road Network

The Site is bounded by Garvey Street to the south west, Keaney Place to the south east, McKay Street to the north east and Marquis Street to the east as shown in **Figure 3-6.** Marquis Street connects users to Lawson Street and Hayman Road. Below are the descriptions of roads in the vicinity of the Site:

- **Garvey Street:** Located towards the south west of the site, Garvey Street is classified as an access road with one lane in each direction. The road transitions into Conlon Street, which serves as a direct connection to Manning Road, creating a link to both Curtin University's south entrance and to Waterford Plaza Shopping Centre. This road is used by local vehicles, service vehicles and bicycle users.
- **Keaney Place**: Located towards the south east of the site, Keaney Place is classified as an access road with one lane in each direction. It is bounded by Garvey Street and McKay Street at each end. This road is used by local vehicles, service vehicles and bicycle users.
- **McKay Street:** Located towards the north east of the site, McKay Street is classified as an access road with one lane in each direction. The road intersects to both Keaney Place and Marquis Street and serves as a direct connection to Curtin University. This road is used by local vehicles, service vehicles and bicycle users.
- **Marquis Street:** Located east of the site, Marquis Street is classified as an access road with one lane in each direction. The road connects to both Lawson Street and to Hayman Road, serving as a link to both Canning College, Curtin University, Curtin Bus Station and Manning Road. This road is used by local vehicles, service vehicles and bicycle users.

Figure 3-6 Road Network Around Site



Source: Nearmaps

3.4 Car Parking and Bicycle Parking

There is limited on-street parking available within adjacent streets (Conlon Street, Garvey Street, Keaney Place, McKay Street and Marquis Street). These streets are subject to a number of different parking restrictions, generally supporting parking by residential visitors rather than university students.

However, parking restrictions are located only in certain sections of the surrounding streets, with unmarked / unsigned sections of road allowing parking without restrictions. These unregulated sections are heavily used by students for free parking, which is understood to create some congestion and conflict issues. In order to deter this behaviour, and to support the intention of the Curtin-Bentley Precinct Parking Cap, the City may choose to extend parking restrictions throughout this zone. The developer fully endorses this measure and would be happy to work with the City to identify appropriate management restrictions to maintain local residential amenity while limiting the impact of external demand.

The proposed student accommodation development is designed to operate as a low-car Site, and does not require the use of on-street parking to support function. A detailed Parking Needs Assessment has been completed in accordance with the requirements of the *Waterford Triangle Design Guidelines* which illustrates the proposed approach, and the outcomes of research which justifies the quantum and management function.

One key benefit of this model for vehicle storage is the significant cost savings in construction. Given that basement car parking costs approximately $30,000-$50,000 per space, and this cost is passed onto residents through rental fees, the reduction in parking provision allows a substantial improvement in services for the same rent. While some parking has been retained on-site to accommodate those students that *need* a private vehicle, the cost of that parking can be applied directly in a ‘user pays’ arrangement

Table 3-4 provides a breakdown of the proposed on-site parking, across the development. The management and function of these parking spaces is discussed in more detail in the **Parking Management Plan** section of this Report.

Table 3-4 Proposed car parking supply

Yield	Private Residential Parking	Share Cars	Staff Parking	Total Car Parking	Ratio of Private Bays to Beds
918 beds	33	28	8	69	28:1

The provision of bicycle parking spaces has also been carefully considered, and is summarised in **Table 3-5**. Further discussion is in the **Parking Management Plan** section of this Report.

Table 3-5 Proposed bicycle parking provision

Yield	Secure Residential Bicycle Parking	Share Bike Parking	Visitor Bike Parking	Total Bike Parking
918 beds	236	36 (sufficient for 288 students)	20	292

As a primarily residential development, end-of-trip facilities are located within each accommodation unit, however there are additional showers, lockers and bike racks for staff of the ancillary food and support services.

The provision of bicycle parking supports the intention for public and active forms of transportation to be the primary mode of travel for residents. The Site is located within 5-15 minutes bike ride of the majority of key destinations in the area, making cycling a very attractive option.

3.5 Changes to the Surrounding Transport Networks

3.5.1 Pedestrian/Cycle Facilities

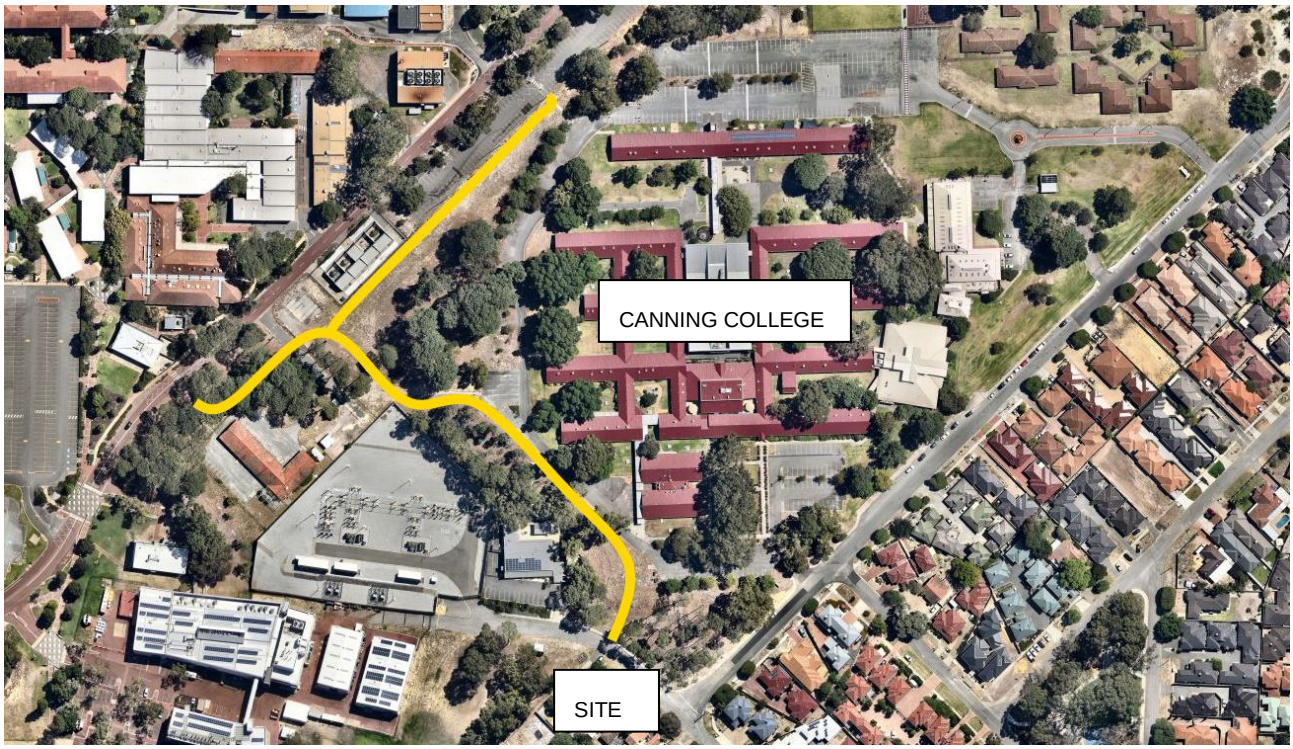
Currently, the City of South Perth pedestrian and cycling network does not provide direct access to Curtin University along the key desireline. However, there is an opportunity to support improved access between the Waterford Triangle Student Accommodation Area and Canning College / Curtin University via a path connection along the western boundary of the College.

This infrastructure would be located on private land, and so would require approval by the property owner and coordination with the City of South Perth, but would greatly improve access in the vicinity. Preliminary

discussions are already underway with Canning College, and the project has received a letter of support from the College confirming the intention for construction of this path.

A potential alignment for the route is shown below, **Figure 3-7**, connecting the pedestrian path along McKay Street with the internal network within Canning College, and the pedestrian crossings within Curtin University on Brand Drive.

Figure 3-7 Proposed pedestrian and cycling link via Canning College



Source: Nearmaps 2021

3.5.2 Proposed Future Development

The further development of Curtin University and the Waterford Triangle will create opportunities for residents through delivery of their aspirational objectives.

3.5.2.1 Curtin University

Curtin University has identified a series of cycling and pedestrian network upgrades as part of its Master Plan. **Figure 3-8** shows the existing and proposed cycling infrastructure and pedestrian movement network within Curtin University. The map also shows the intention for a light rail route running through the campus to Canning Bridge Station and Perth CBD / UWA. However, light rail within Perth is still in the early planning stages and is unlikely to be put into action within the next 10 years.

Figure 3-8 Curtin University Cycling Infrastructure and Pedestrian Movement Network

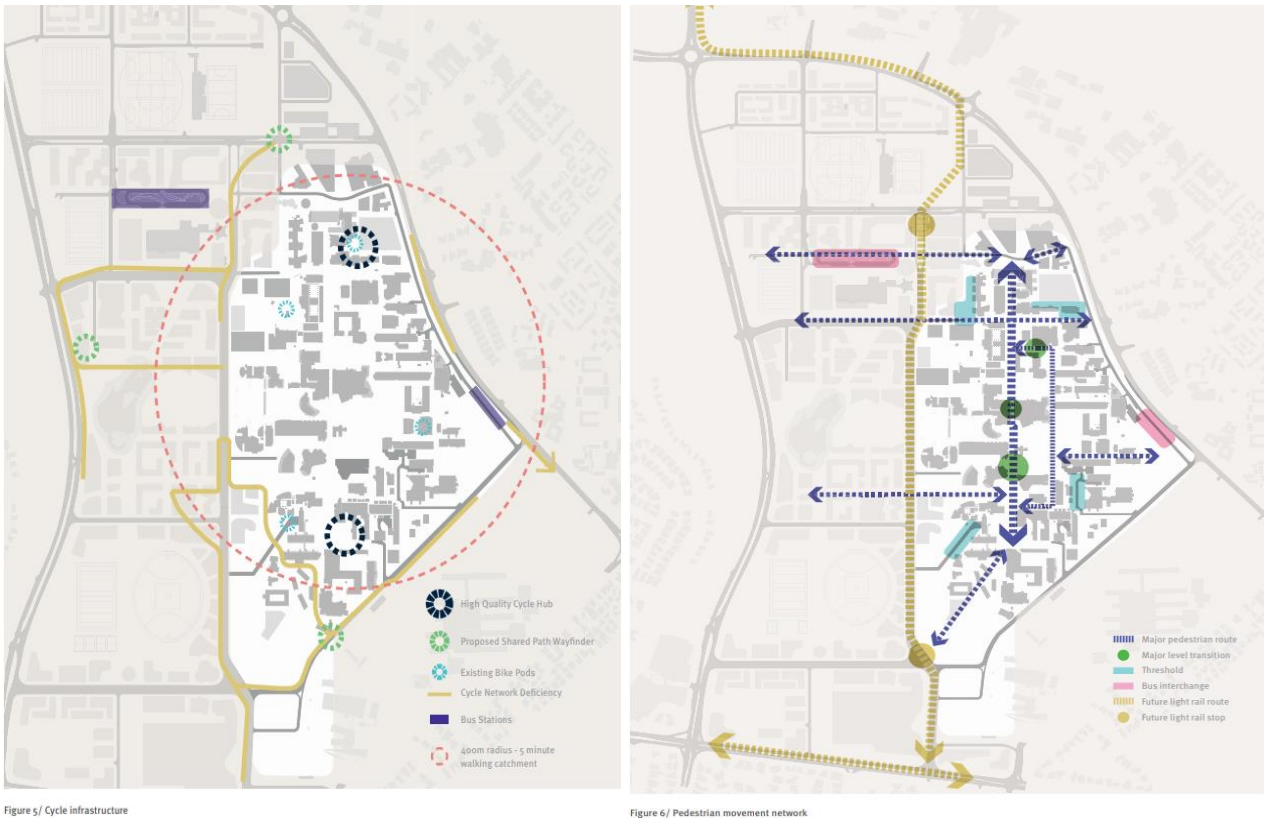


Figure 5/ Cycle infrastructure

Figure 6/ Pedestrian movement network

Source: Curtin University

3.5.2.2 Waterford Triangle

As stated in **Section 2.2.1**, the vision for Waterford Triangle is to ensure the revitalisation of an urban residential village while meeting the community-identified objectives. These objectives include to

> *"Investigate ways to better link to the Canning River, Curtin University and the nearby Waterford Plaza Shopping Centre"*

Figure 3-9 shows the Access Plan for Waterford Triangle. The accessibility will enable the residents to move more easily from the Site to surrounding activity areas.

Figure 3-9 Waterford Triangle Access Plan

Source: Urban Design Guidelines: Waterford Triangle Urban Design Study

4 Existing Mode Shares

The following section sets out a number of indicators, which are used to justify mode share targets for residents and staff of the site.

As determined in the Parking Needs Assessment, the unconstrained vehicle ownership demand in the vicinity of Curtin University is approximately 1 vehicle for every 2.5 students. Further research shows that vehicle ownership can be restrained to any extent through on-site parking restrictions accompanied by alternative transportation opportunities. The proposed parking constraints therefore require consideration of the availability of transport services in the area, and the suitability of these for students' common trip purposes.

4.1 Employment Trips

ABS Census data from 2016 was used to determine current journey-to-work behaviour for students in accommodation living in close proximity to Curtin University. This review indicated that while 65% of employed students use a private car for journeys to work, only 36% of such residents are employed. Employment trips are therefore considered to be one of the least consequential of the various trip purposes, given the vast majority of residents expected to be living within the student accommodation building will be not be working.

Instead, their primary travel destination will be the educational facilities at Curtin University and Canning College, with less common (but still important), trips to entertainment, retail and food & beverage destinations.

4.2 Education Trips

Table 4-1 describes the results of student travel surveys conducted in 2016. This is for all students, and is provided as a baseline only for comparison.

Table 4-1 Method of travel to University

MODE	MODE SHARE
Walk	5.2%
Bike	12.7%
Campus Bus	5.0%
Public Transport	19.8%
Motorbike/Scooter	1.7%
Dropped Off	1.1%
Car (driver alone)	45.5%
Car (with another Curtin student or staff member)	5.2%
Other	3.9%
Total	100%

Source: Curtin University

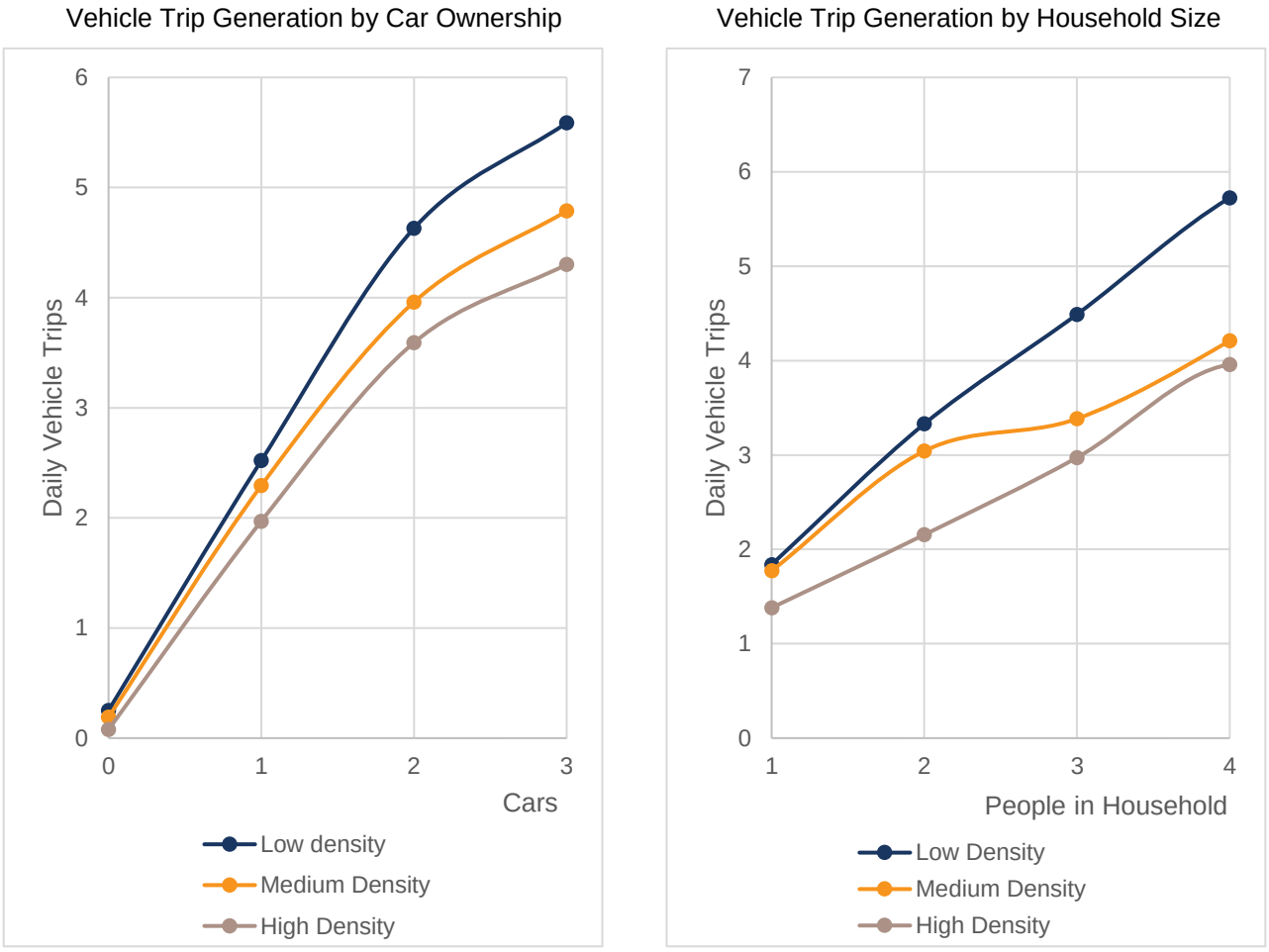
Given the close proximity to both Curtin University and Canning College and the cost of on-site parking, Site residents would be likely to either cycle or walk to nearby buildings to attend classes. This is in contrast to the background behaviour of students which still relies on private vehicle transport for approximately 50% of trips.

The attractiveness of the active transport option would be significantly enhanced through construction of the direct connection described in **Section 3.5.1**. However, even in the absence of this infrastructure, classes at Curtin University are still only a 10-15min walk from the Site. The parking provisions within the proposed accommodation development reflects both the expectations for active travel to education, and reinforces it. The result is a more environmentally and financially sustainable outcome for the residents and the Precinct as a whole.

4.3 Non-Work, Non-Education Trips

The type of transport used for various trip purposes varies greatly by availability, proximity to destination and transport opportunities etc. However, there is an obvious relationship between mode share and vehicle ownership that can be observed through interrogation of household travel survey data (see **Figure 4-1**).

Figure 4-1 Average Household Vehicle Trip Generation Rates (VISTA)



This result cannot be directly applied to individual students, but is indicative of the scale of change across the resident population. That is, each privately owned car can be expected to create approximately 1.4 driving trips per day (out of an average of 2.8 trips per person in 1-person high-density households).

If we assume that student behaviour mirrors the Victorian baseline, then the ~40% ownership rate of vehicles would result in an average car-as-driver mode share (for all trip purposes), of approximately 16%. The remaining trips are made up predominantly of walking trips to local attractions, public transport trips to distinct destinations and cycling trips for all purposes.

The imposition of parking restrictions within the proposed development can be expected to reduce this still further. Ownership rates of 1 car per 9 students would equate to approximately 5% car-as-driver mode share, while 1 car per 20 students would equate to 2.2% car-as-driver mode share.

5 Target Mode Shares

As highlighted in the section above, the Site's location and land use (Student Accommodation) place it in a unique position, with reduced parking needs compared to a traditional residential development of similar size. Key educational facilities are within walking distance and amenities such as Waterford Shopping Centre, Canning Bridge Station, Oats Street Station, Carousel Shopping Centre and East Victoria Park Town Centre are all within a short and frequent bus trip.

As such, the need for private transportation for day-to-day transport by residents is minimal.

5.1 Car-as-driver Mode Share

The discussion from **Section 4** regarding existing behaviour focuses on the propensity for students to utilise private car modes for various trip purposes. From this, we can conclude the following:

1. Employment trips are likely to represent only a small proportion of total travel. This is true for the general population as well, with research suggesting that only about 15% of trips are for work purposes (*NSW Household Travel Survey Report, 2013*).

   Employment rates are significantly lower among the anticipated student residents than the general population, and these students are likely to work locally to the Site (at the University itself or in nearby areas).

2. Education trips are very *unlikely* to be taken by car, even for those students with access to a private vehicle, due to the short distance and cost of parking.

3. Other types of trips are heavily constrained by vehicle ownership, with between 2.5% and 8% of all trips eligible for private vehicle use.

5.1.1 Impact of Car Share on Mode Choice

On-site car share is proposed to provide flexibility for student residents, and to support access to destinations that are inconvenient to reach by other modes. As such, the availability of on-site car share increases opportunities for driving.

The extent to which this occurs is related to both demand and supply, and so is difficult to determine. However, on average we expect that each eligible user might use a share car once per week, resulting in an expectation that each car would be used approximately 5 times per day. This is generally in-line with industry benchmarks, which target a 70% utilisation rate through the day.

5.1.2 Target Car-as-Driver Mode Share

The above considerations result in an anticipated car-as-driver mode share for all trips as follows:

Table 5-1 Car-as-driver mode share estimates

Yield	Private Residential Parking	Share Cars	Car-as-driver Mode Share Target
918 beds	33	28	6%

5.2 Active Transport Mode Shares

Active transport is expected to be the main source of travel for prospective residents. Given that the predominant trip purpose from the Site will be journeys to education (primarily Canning College and Curtin University), walking and cycling modes can be expected to account for most of students' daily trips.

Other destinations are also conveniently located with access by bike, including Waterford Plaza, as well as mixed-modal trips to public transport hubs both on-campus and along the strategic train lines.

Interrogation of these options suggests an active transport mode target in excess of 50% of all trips. An initial mix of 35% walking and 15% is assumed for the purpose of evaluation, on the basis of the relative attraction of these two modes for key trip purposes.

The proposed bicycle parking supply is more than sufficient to accommodate this mode share, with 26% of students having access to a private bike parking, plus 36 share bikes for common use.

5.3 Public Transport Mode Share

The remainder of trips are expected to be to destinations further afield, and preferentially accessible by public transport. Due to the extensive network of services afforded to the Curtin Bentley Precinct, this encompasses a wide array of destinations from Carousel Shopping Centre and the East Victoria Park entertainment precinct through the Perth CBD and beyond.

The extent of this network can easily support a mode share of 44%.

5.4 Peer-to-Peer Transport

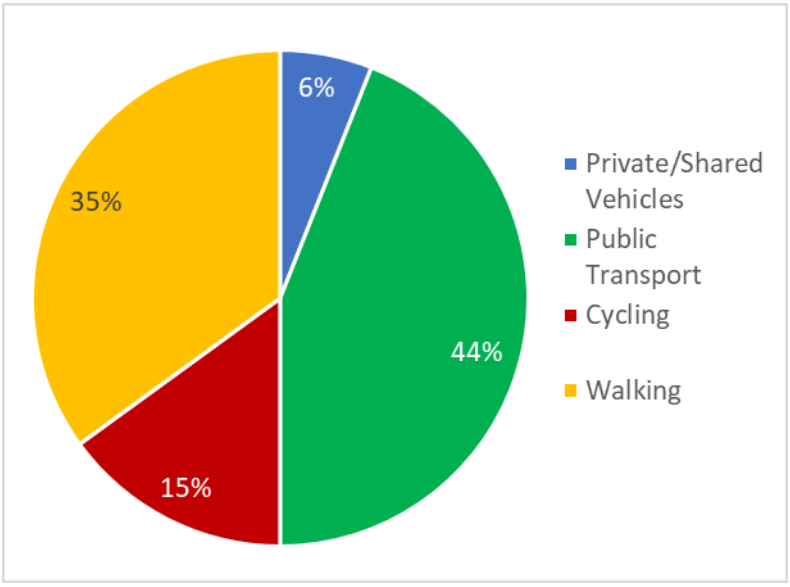
The above analysis includes the primary modes across driving, cycling, walking and public transport. However, the increasing use of peer-to-peer transport gives extra flexibility for students either through taxi-services such as Uber, or delivery services (e.g. food, shopping etc.).

To facilitate this demand, the development includes a distinct pick-up/drop-off zone access via the McKay Street port cochere. This zone permits flexible and efficient delivery to the main foyer area, as well as passenger pick-up/drop-off.

5.5 Summary Mode Share Targets

The above targets are summarised by the following chart (**Figure 5-1**). The actual behaviour of students in accommodation will be compared against this benchmark through the monitoring phase of the travel plan, and new targets will be determined based on revealed behaviours.

Figure 5-1 Target Mode Shares - Residents



6 Travel Plan

6.1 Objectives

This Site has a large emphasis on the provision of sustainable and active modes. In addition, with the advancement of on-demand transport services such as Uber, and developments in vehicle technology such as self-driving and alternately-fuelled vehicles, facilities are proposed to accommodate these modes.

The facilities and management processes provided within this development will result in:

- A wider destination catchment for potential students living on-site due to access to high-quality public transport infrastructure
- High levels of pedestrian activity
- High levels of bicycle use
- Share car facilities for residents
- Share bike facilities for residents
- Efficient drop off and pick up areas
- Potential for electric charging points within car parking areas.

Taking the above into account, and aligning this with the existing transport context and proposed transport infrastructure for the Site, the following travel plan objectives are proposed:

1. Ensure high levels of accessibility to the Site for resident students, visitors, and staff - particularly those without a car.
2. Support efficient, safe and attractive connections to Curtin University / Canning College.
3. Maintain road safety by keeping levels of vehicle activity around the site to a minimum.
4. Discourage motor vehicle use, and particularly sing-occupant car-as-driver trips.
5. Provision car sharing facilities to fill in any transit gaps.
6. Provide high-quality cycling facilities to encourage ownership and use of bicycles.
7. Support the City's implementation of on-street parking restrictions in the adjacent road network to discourage the storage of vehicles by student residents.

The management and coordination of the implementation of the travel plan activities, including share car and share bike facilities, will form part of the Site Manager's role once the building is in operation.

6.2 Soft Measures

In combination with infrastructure, additional initiatives would be implemented by the Site Manager to support the above objectives. Some behaviour change and management initiatives have been identified, as follows:

- Comprehensive on-boarding documentation in a variety of languages, to inform new residents of transport options and key destinations.
- Promotion of the on-site share bike program
- Directed information on public transport and cycling facilities
- Locational information of nearby amenities, retail/shopping, entertainment, food & beverage recreational destinations
- Promotion of car share program
- Coordination of travel survey on a yearly basis, followed by review of the travel plan and any recommendations for changes to management

6.3 Monitoring

In order to ascertain whether the strategies outlined within this document are successful it is necessary to monitor trends in terms of access over time (following occupation), compare mode share with the targets and adjust the actions as necessary. Recommended monitoring activities include the following:

- Car park occupancy
- Bike counts
- Car share membership and usage/frequency
- Bike share uptake/usage
- Snapshot travel surveys (to ascertain travel mode choices).

Table 6-1 shows an indicative monitoring schedule for consideration

Table 6-1 Monitoring Schedule

Activity	Frequency
Snapshot travel surveys	Within 6 months of opening, annually thereafter
Car park occupancy	Annually
Car share uptake	Annually
Car share usage	Annually
Bike rack counts	Annually
Bike share uptake	Annually

The findings from the above monitoring activities will be collated by the Site Manager into an annual report to track progress against the actions contained within this document.

7 Travel Plan Action Plan Summary

This document has been produced prior to construction and as such it is a framework for the Site once operational.

The measures articulated in **Section 6** have been summarised in **Table 7-1.** Collectively, these measures will provide residential students with a diverse range of modal options, and help demonstrate the benefits of avoiding private vehicle ownership. The below measures are classified according to mode choice and type of action.

Table 7-1 Travel Plan Actions Classified by Mode and Type

Action	Mode	Type of action
Committed actions		
Visible and well sign-posted pedestrian and cycle accesses	Active transport	Enablers and facilitators
EOT facilities for restaurant and management staff	Active transport	Enablers and facilitators
Visitor bicycle parking	Active transport	Enablers and facilitators
EV charging bays	Low carbon vehicles	Enablers and facilitators
Free shared bicycles for residential students	Active transport	Enablers and facilitators
Comprehensive Resident Induction Process to inform new residents of transport options, key destinations and nearby amenities	Soft measures	Information
Promotion of car and bike share programs	Soft measures	Information
Measures to be investigated further		
Shared path connection between Site and Curtin/Canning College	Active transport	Enablers and facilitators
Scheduling information for Public Transport and CABS	Public transport	Information

02

PARKING MANAGEMENT PLAN

8 Parking Management Plan

8.1 Access

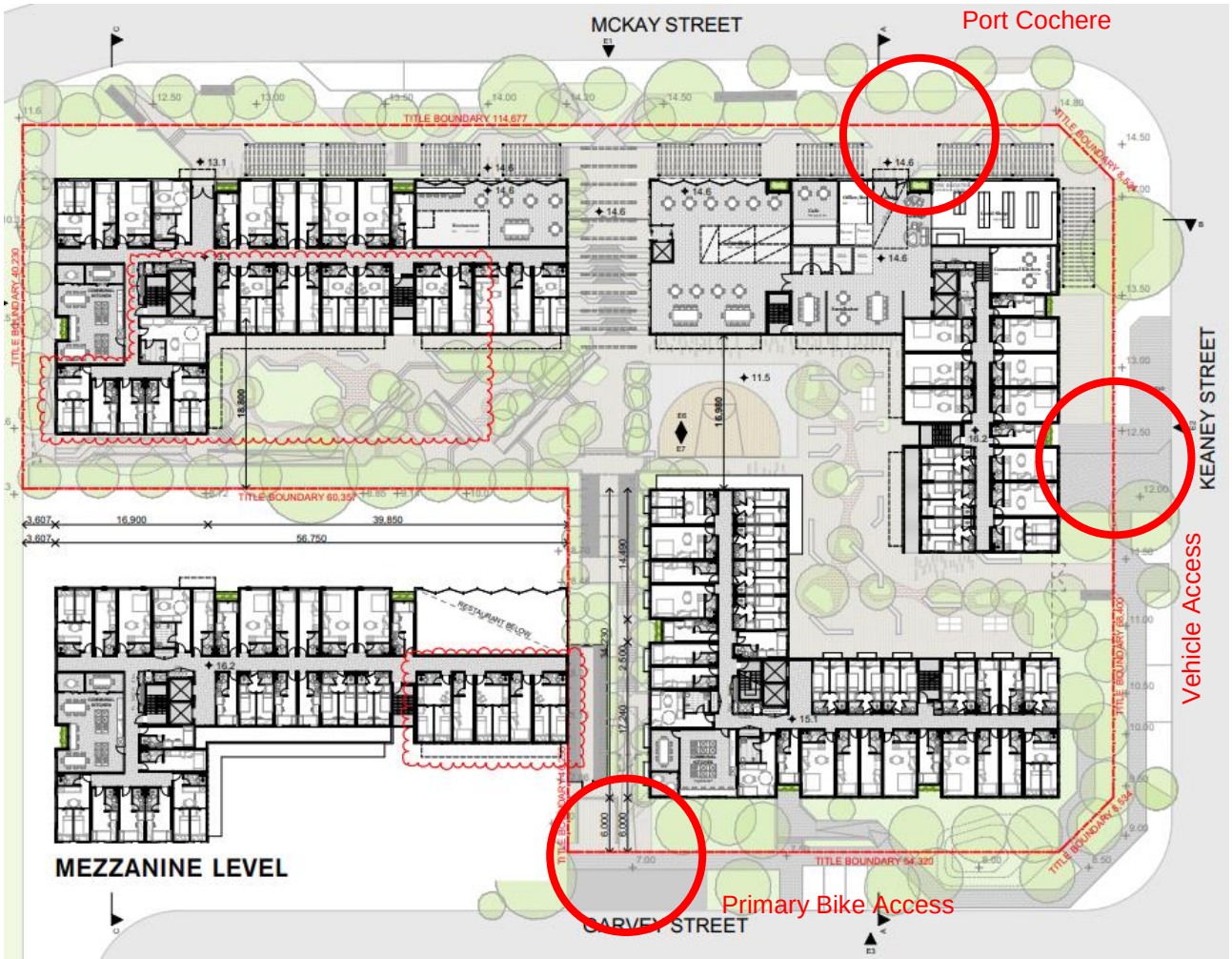
As part of the development, vehicular access is proposed to be via the Keaney Place crossover, at the eastern boundary, provides access to the on-site residential/car share parking bays, as well as staff parking for the restaurant uses.

Access to the on-site bike storage areas is provided at-grade from the periphery, with a dedicated and secure space for share bikes with direct access to Garvey Street. These access points and areas are shown in **Figure 8-1**.

The development also proposes an off-street port cochere with entry and exit via McKay Street, to allow for resident pick-up/drop-off, food delivery, etc. This access will be limited to one-way from east to west, and will be controlled via signage and line marking. Sufficient space is available for two vehicles to park without affecting vehicular flow.

Use will be restricted to a 5-minute duration at all times to prevent extended use by students, and to ensure the system operates as intended. On-site management staff will assume the responsibility for keeping the port cochere functioning as intended.

Figure 8-1 Access to the Site (Ground Floor)



8.2 Parking Provision and Requirements

8.2.1 On-Site Parking

A detailed demand and supply analysis has been undertaken as part of the Parking Needs Assessment required by the *Waterford Triangle Design Guidelines* for Purpose-Built Student Accommodation.

Based on benchmarking against student vehicle ownership in the local catchment, and national exemplars, it has been determined that a 918-bed facility would require as much as 367 parking spaces, ***if parking supply were to be provided in an unconstrained*** manner. That is, if no restrictions are placed on vehicle ownership, the demand for parking is approximately 1 space per 2.5 students.

This would create significant costs at construction which would need to be recouped through increased rental fees or reduced student amenities. The resulting on-site provision could also increase development height and impinge upon local pedestrian amenity, traffic function etc.

To mitigate these effects, parking on the Site will be constrained, limiting the number of cars that the student population can own and store on-site. Benchmarking against other suburban student accommodation locations (details provided in the *Parking Needs Assessment Report*) suggests that a supply of 1 parking bay per 7 beds is sustainable ***without any additional intervention***.

To support an even lower vehicle ownership rate, this development proposes to operate an active management system that provides car and bike share service for all student residents. This is in addition to the high levels of resident bike parking provision and excellent access to public transport, both which decrease the need for on-site residential car parking.

The proposed development therefore supports the growing population of car-free young people, using a strong self-selection model reinforced with unbundled parking provision and strict site management.

Table 8-1 summarises the parking requirements which have been assessed through a *Parking Needs Assessment* for the development and takes into consideration a potential uptake rate of 73% for car share.

Table 8-1 Proposed Requirement of Parking Spaces

Yield	Private Residential Parking	Share Cars	Staff Parking	Total Car Parking	Secure Bike Parking	Share Bike Parking	Visitor Bike Parking
918 beds	33	28	8	69	236	36 (sufficient for 288 students)	20

8.2.2 On-Street Parking

Research undertaken by Macquarie University and described in the *Parking Needs Assessment* illustrates that visitor parking demand is very low for purpose-built student accommodation. As such, there is not expected to be any significant demand for visitor parking by the development. For incidental demand, the proposed improvements to on-street parking are considered to be sufficient, as follows:

There are 8 on-street parking bays proposed, consisting of:

- 2 parallel bays along McKay Street (to be available for use by service/waste collection vehicles and managed through parking restriction signage and enforcement)
- 3 parallel bays along Keaney Street (limited to short-stay use through parking restriction signage)
- 3 perpendicular bays on Garvey St (limited to short-stay use through parking restriction signage).

This parking has been discussed with the City, with no objections identified. Further restrictions of on-street parking are supported by the developer, to ensure the local supply is available for use by residents, and to limit the impact of the primary competing user group – students and staff of Curtin University.

8.2.3 Electric Vehicle (EV) Charging Bay

Six electric charging bays are provided on the Basement Floor at inception, intended to support car share vehicles. To provide future-proofing for further roll-out of EVs, electrical conduit will be installed at construction and the on-site substation enclosure sized to allow for conversion of additional bays to slow-charge EVs.

These bays will include appropriate signage, line-marking and symbology to be easily identified as an electric car charging bay (an example is provided in **Figure 8-2**). These bays will occupy prime positions

to ensure ease of access and wayfinding. Parking at these bays shall be restricted to electric vehicles only.

Figure 8-2 Example of Electric Vehicle Charging Bay Symbol

Source: Department of Transport and Main Roads Queensland

8.2.4 Bicycle Parking / End of Trip (EoT) Provision

The proposal comprises up to 36 shared pool bikes and 236 secure bike parking spaces, plus 20 visitor bike parking spaces. The racks are located in three areas:

- The bulk of the residential bike bays (162 spaces) can be accessed from the Lower Ground Floor level via Garvey Street (**Figure 8-3**), and have been located within the building envelope. An additional shared staff/resident facility (74 bays) will be provided at-grade while also creating an attractive landscaping feature.
- Share bike parking is provided in a secure, managed facility accessed from ped/bike access points within the internal courtyard (**Figure 8-4**). The proposed location is visually prominent and easily accessible to all residents.
- Visitor parking is also located within the courtyard, spaced around the periphery adjacent to key entry points, and integrated into the landscaping design.

By supplementing the provision of resident bicycle parking with shared (pool) bikes, the operators can maximise access to cycling opportunities for residents. The flexible arrangement of share bikes means that additional space can be allocated for this purpose if demand is high. This may take two forms:

1. **Reallocation of resident parking bays for share bikes** – if residents prefer to use on-site share bikes *instead* of owning their own, then spaces within existing bike stores can be formally reallocated to share bikes
2. **Construction of additional facilities** – while the previous option is considered more likely from a functional perspective, in the event that demand for bike storage outpaces supply, this would be directly associated with a reduction in private car ownership. As such there would be opportunities to increase the provision of bike parking be reclaiming car parking bays.

Initial estimates of requirements can be found in **Table 8-1**.

In addition to the facilities available to residents, end of trip facilities for employees are located on the Ground Floor level above the Bike Store.

It is expected that all access to resident/staff bicycle end-of-trip facilities will be managed by electronic swipe access. However, the majority of staff are likely to either arrive by car or be drawn from the pool of on-site residents, reducing the overall requirement for exclusive staff bike parking and EoT facilities.

By supplementing the provision of resident bicycle parking with shared (pool) bikes, the operators can maximise access to cycling opportunities for residents. The flexible arrangement of share bikes means that additional space can be allocated for this purpose if demand is high.

The supply of bike parking (combined across resident and shared bikes) is designed to support cycling participation in excess of 50%. This enables the development to achieve the high cycling mode share target of 15% identified in **Section 5** of this Report.

To assist with accessibility to bike parking, clear and legible wayfinding and signage will be provided within the site.

Figure 8-3 Bicycle Access and EoT facilities (Lower Ground Floor)

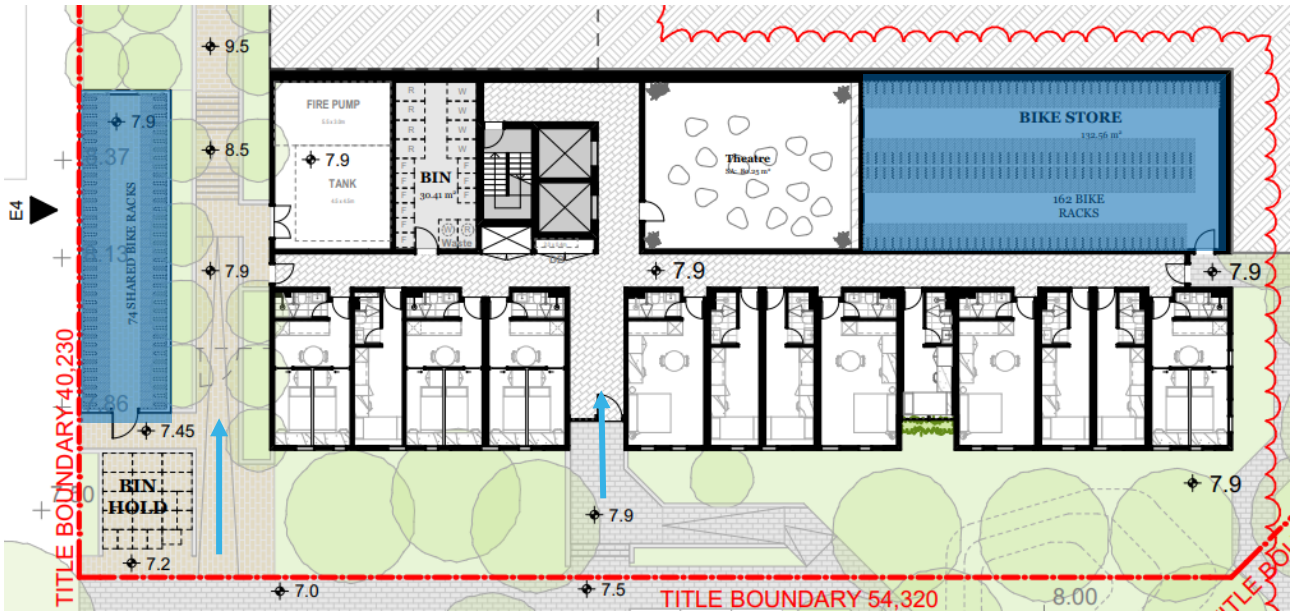


Figure 8-4 Share Bike Access and Staff EoT (Ground Floor)

8.3 Share Car and Share Bike

There is a significant opportunity as part of the Waterford PBSA development to reduce parking provision through implementation of car and bike share arrangements, as well as encouraging the use of active and sustainable transport through the restriction of parking supplies.

Millennials and Gen Z in particular show a preference towards subscription-based mobility services rather than traditional ownership models. Car sharing has been developed as an answer to the many negative consequences of overreliance on private vehicles, and is intended to reduce the overall quantity of private vehicles required by communities.

8.3.1 Share Car Provision

Car sharing has grown significantly in recent years, attributable in large part to the proliferation of technologies enabling on-demand access. Car sharing provides people with short-term access to vehicles for a range of uses, allowing personal mobility without associated costs of vehicle upkeep and operation.

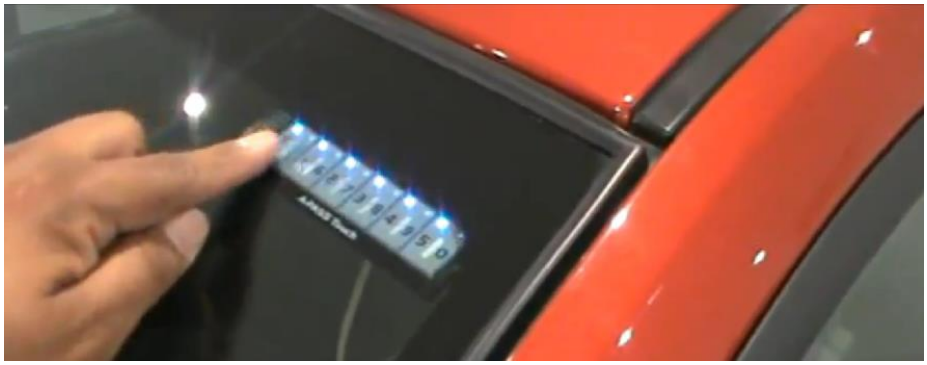
The *Parking Assessment Needs Report* calculated the quantity of share cars required based on the percentage of uptake in the program. It is expected that an uptake rate of 73% can be achieved, requiring a total of 28 car share parking spaces to be constructed. An annual review of the demand for car share is recommended in the ***Travel Behaviour Plan*** to determine if more residential bays should be converted to car share bays.

The building manager may choose to use an external company to manage the share cars or may choose to acquire vehicles through a leasing program, and manage the share car program in-house. It is understood that the prospective site manager has extensive international experience in similar installations for student accommodation.

8.3.1.1 Ownership and Operation

Student accommodation developments in Perth and across Australia are already supported by Student Car Share, a car sharing company and preliminary partner for the Waterford PBSA project. Student Car Share Australia currently has vehicles in 3 locations near Curtin University, as well as vehicles on UWA and ECU campuses. An operator, such as Student Car Share, maintains the vehicles and has a platform that allows the students to use an app to book a vehicle when it is required. Combined with a keyless locking system, the delivery of car share services to the approved student residents is flexible and robust.

Figure 8-5 Keyless Car Lock



As an alternative to third-party management, a fleet of vehicles can be leased for use by an on-site managed car share program. Businesses such as SG Fleet can manage the service of vehicles while online car reservation systems can manage bookings. Keypad locks for vehicles, or an integrated app-based locking system can be used to avoid managing keys (**Figure 8-5**).

8.3.1.2 Student Access

The mode of access for either potential car share option is the same. All students will be eligible (assuming they hold a driver's license) to sign up to the system, with information provided to them during on-boarding. Thereafter, use of the share car would operate under a user-pays system, based on a time-of-usage model.

8.3.1.3 Contingency

As described above, there are different third-party or on-site options for the back-end management of the share car service. This provides a level of contingency, whereby an individual operator can be replaced, or

the contract taken over on-site as necessary to support the program. This insulates the student residents from potential risks of loss of provider which could impact their level of service.

While a provisional supply of share cars has been recommended in the *Parking Needs Assessment*, this estimate will be tested through application of the program. Where demand for share cars exceeds availability, additional spaces can be allocated from the private pool. The mechanism for allocation of private car bays is described in more detail in **Section 8.4.1** below.

8.3.2 Share Bike Provisions

Conveniently located bike share programs provide additional mobility options for residents. Accommodation-based bike-share facilities reduce vehicle ownership by providing a convenient mode for short-distance travel. There are share bike providers that can be utilised to manage the system, or alternatively, the building manager may choose to acquire bicycles and manage the use by residents in-house.

8.3.2.1 Ownership and Operation

A preliminary recommendation from the bike share provider Urbi was given for provision of share bikes at a rate of approximately 1 per 8-10 residents. The uptake would vary depending on the type of model used, and would likely change over the lifetime of the scheme to support the needs of the residents. There is also an opportunity for integration of on-site bike share with a future Curtin Bentley campus share scheme, should that be reinstated.

Bikes may be leased through a third-party provider, leveraging established physical and digital infrastructure to make management easier. Alternatively, the Site Manager could use an internal bike rental program and their own proprietary app specifically for students residing at the Waterford PBSA. This method allows oversight of multiple aspects of a student's stay and can be used to streamline the experience. Essentially, the provision of these app-based services represents a localised form of MaaS (Mobility-as-a-Service).

8.3.2.2 Student Access

Access to a share bike would be provided to all students during on-boarding. Thereafter, use of share bikes would operate under a user-pays system, based on a time-of-usage model.

8.3.2.3 Contingency

As described above, there are different third-party or on-site options for the back-end management of the share bike service. This provides a level of contingency, whereby an individual operator can be replaced, or the contract taken over on-site as necessary to support the program. This insulates the student residents from potential risks of loss of provider which could impact their level of service.

While a provisional supply of share bikes has been recommended in the *Parking Needs Assessment*, this estimate will be tested through application of the program. Where demand for share bikes exceeds availability, additional spaces can be allocated from the private pool. The extent of private supply allows for substantial expansion of the program as required to meet demand.

8.4 Management and Allocation of On-Site Parking

8.4.1 Private Residential Parking

Residential bays for the Site are located on the Ground Floor and Lower Ground Floor levels.

Estimates for share car usage have been used to determine the proportion of supply allocated to private resident vehicles. These bays would be offered to prospective students at an indicative market rate entirely unbundled from their room rental. By separating out the cost of parking from the cost of accommodation, the demand for each can be managed to match the available supply.

This requires an iterative process for pricing allocation. A general methodology is described as follows:

1. The price for a parking space would be determined by Site Management based on their understanding of the market rate.
2. Permits for parking will be allocated for the duration of one semester, and up to the number of private spaces available; after which students will ***only*** be permitted to rent an accommodation unit *without* a vehicle.
3. The price of the permits will be re-evaluated each semester based on excess demand, with preference given to existing permit-holder residents.

This methodology allows for variation in the provision of spaces, which may result from construction staging or increased share care demands. It also establishes a clear link between vehicle ownership and storage costs, and disincentivises vehicle ownership for residents.

Through this restricted ownership model is understood that students will self-select their accommodation based on need. That is, students who need access to their own private car *are likely to choose other accommodation options*.

8.4.2 ACROD Bays

Three ACROD bays are provided on the Ground Floor. The ACROD bays have been designed in accordance with AS2890.6. The bays shall provide appropriate signage, line-marking and symbols to be easily identified as an ACROD bay (as per AS2890.6). ACROD bays are only to be used by drivers who display the relevant permit.

These bays are provided in acknowledgement that some people with disabilities have additional requirements for private vehicle use.

8.4.3 Motorcycle/Scooter Bays

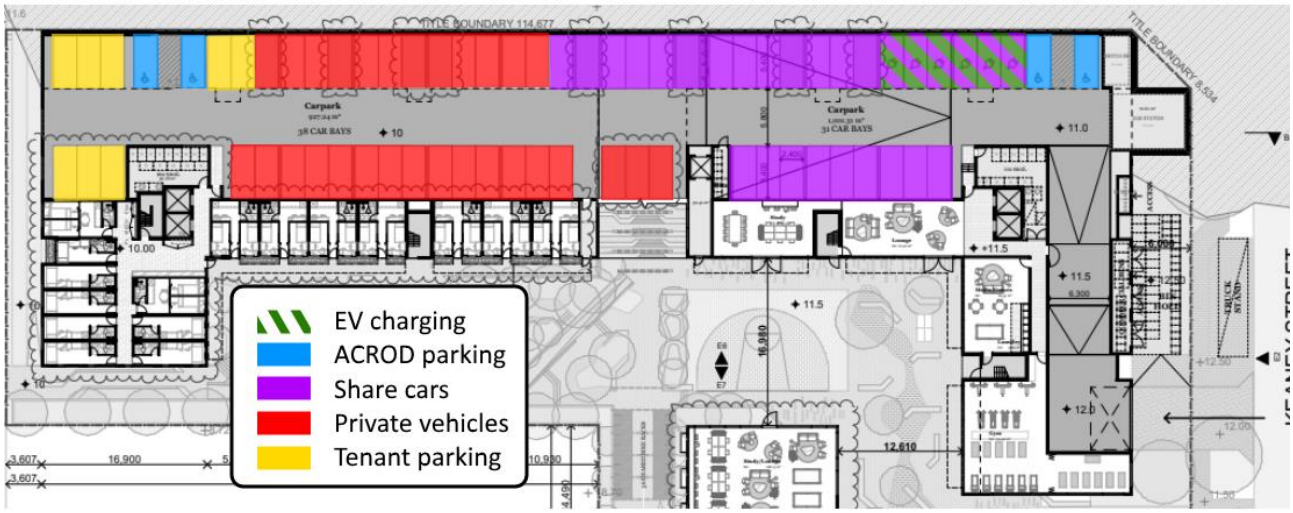
No motorcycle/scooter bays have been provided in this proposal.

8.4.4 Tenant Bays

A total of 8 bays are to be supplied for on-site management, ancillary retail/food & beverage service staff.

The proposed allocation of all of the above parking bays is shown in **Figure 8-6**.

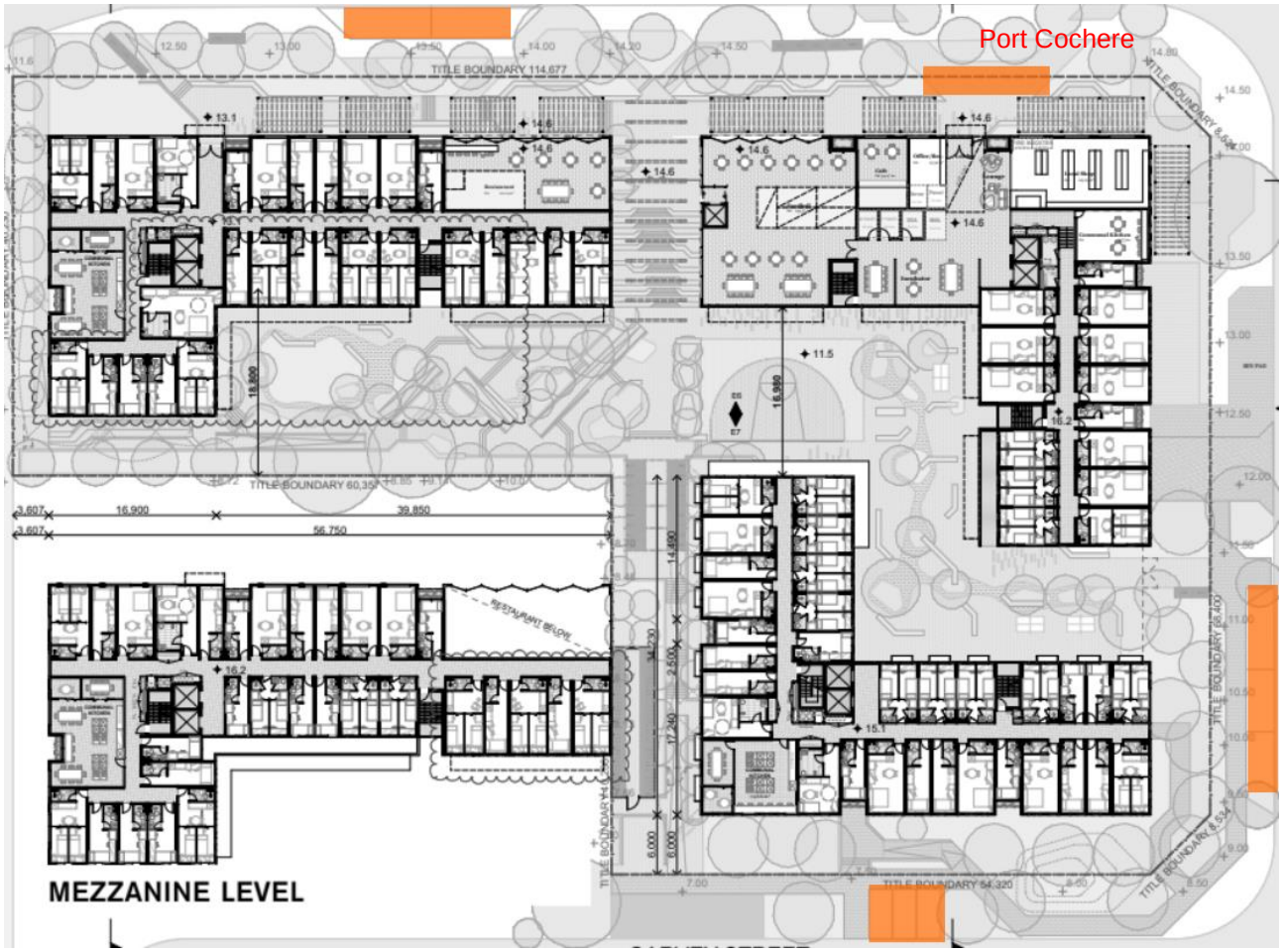
Figure 8-6 Parking Allocation



8.4.5 Visitor Bays

No on-site visitor bays have been provided, in line with the *Parking Needs Assessment* recommendations for student accommodation. Adjacent on-street parking facilities (**Figure 8-7**) incorporated into the design will permit some degree of short-stay parking, managed through duration restrictions.

Figure 8-7 On-street parking and port cochere



8.5 Refuse Collection and Deliveries

Waste removal and service/deliveries are proposed to be undertaken along the street frontage, with bin pad areas located on the Lot adjacent to trafficable collections points nominated along Garvey Street and Keaney Place. Waste collection is also proposed from the designated embayment on McKay Street.

8.6 Parking Compliance and Enforcement

8.6.1 Resident/Visitor Feedback

Feedback from residents and employees of the Site will provide a good indication of parking compliance. A reporting system shall be implemented to allow residents and employees to easily report any parking non-compliances occurring on Site (e.g. filling out a form, online reporting and/or reporting via phone/in person).

8.6.2 Monitoring Car Park

The Site Management will be tasked with patrolling the car park areas periodically to ensure compliance with the parking conditions and restrictions on-site and to report damaged or worn out signage.

8.6.3 Demonstrating Compliance

A warning will be issued to those who fail to comply with the conditions and restrictions set for the parking area. Multiple offences will incur further disciplinary action, which may include having the vehicle towed off the Site or a fine issued. Any non-compliances should be kept on record and an annual/biannual review should be conducted to determine the effectiveness of the implemented parking management plan.

Modification to the PMP should be made if further restrictions are required to ensure compliance.

8.6.4 Review of Parking Management Plan

The measures implemented in the PMP should be reviewed periodically (ideally once every 12-18 months) to evaluate which management measures were most/least effective. This allows for the inclusion of new measures and modifications of existing measures (including parking pricing adjustments) to improve parking management.

8.7 Safety and Security Measures

8.7.1 CCTV Cameras

CCTV cameras should be installed in the car park to provide an additional layer of security and surveillance throughout the car park, as required. The placement of any CCTV cameras should cover all areas of the car park and ensure that there are no blind spots.

8.7.2 Monitoring Car Park

The building caretaker or security staff shall be tasked with patrolling the car park areas periodically and using the CCTV system to monitor any suspicious behaviour and ensure that visitors and residents are feel safe and secure when entering and leaving the Site.

About Cardno

Cardno is a professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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