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Traffix Group

Traffic Engineering Assessment

Proposed Commercial Development
69 Carrington Road, Box Hill

Prepared for
Golden Age Group

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1. Introduction

Traffix Group has been engaged by Golden Age Group to undertake a Traffic Engineering Assessment for the Proposed Commercial Development at 69 Carrington Road, Box Hill.

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

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

Our assessment is as follows.

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2. Existing Conditions

2.1. Subject Site

The subject land, addressed as 69 Carrington Road, Box Hill, is located on the southern side of Carrington Road, approximately 80 metres east of Thurston Street.

The subject site is rectangular in shape with an approximate area of 1,120 square metres. The site has a frontage of approximately 23 metres to both Carrington Road and Cambridge Street to the north and south, respectively.

The site slopes down from Carrington Road to Cambridge Street. The level difference is approximately 2 metres.

The site is subject to an easement that relates to a pipe (sewer/water) that runs beneath the site.

A locality plan and aerial photo of the area are provided at Figure 1 and Figure 2, respectively.

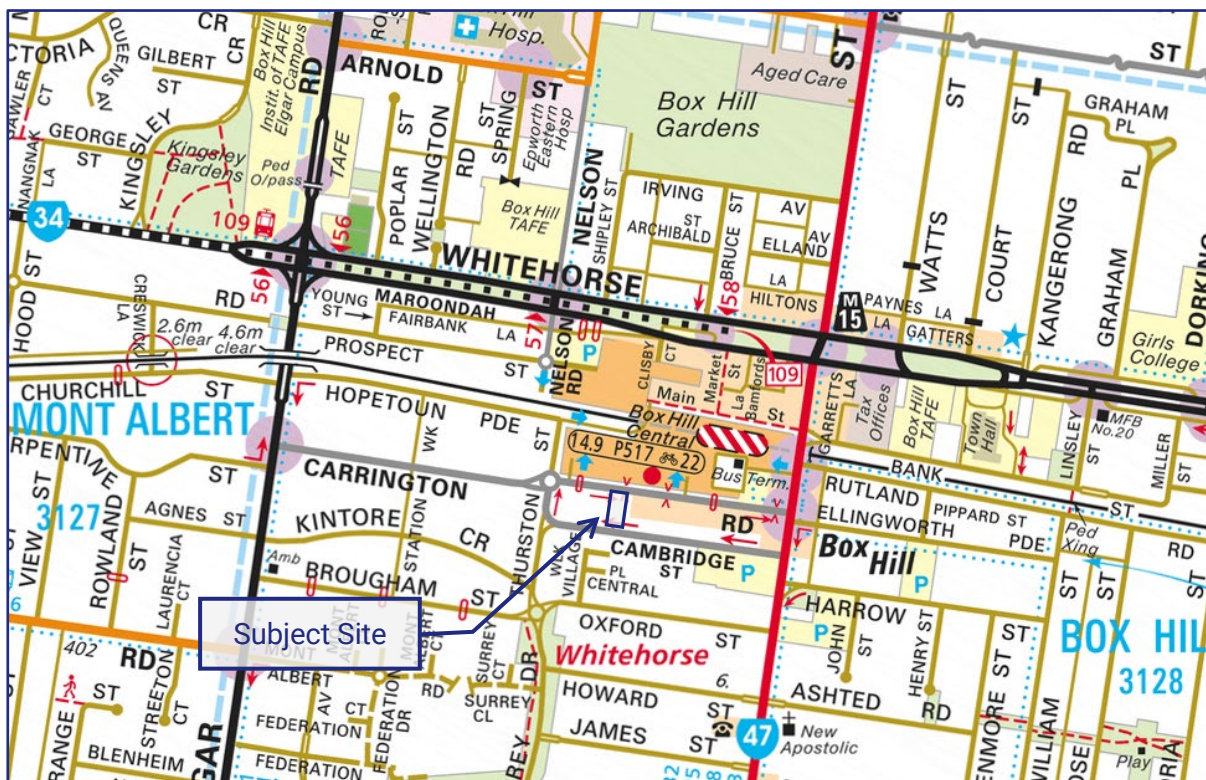


Figure 1: Locality Map

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Figure 2: Aerial View

Source: Nearmap

2.2. Existing / Historical Use & Vehicle Access

Historically, the site was occupied by a single storey commercial building with an at-grade car park which accommodated 13 car spaces. The commercial building has since been demolished and the site is now vacant.

Vehicle access to the site is afforded via two crossings including:

- A double width vehicle crossing with Carrington Road, located near the north-eastern corner of the site, and
- A double width vehicle crossing with Cambridge Street, located near the south-eastern corner of the site.

2.3. Existing Permit

Planning Permit WH/2020/850 was issued on 16 December 2020 on the site, permitting the development of a three-storey commercial building (2100m² GLA), including a reduction in the car parking requirement.

Access was approved via a single lane ramp connection with Cambridge Street, providing access to basement car park with 9 car spaces. This is essentially equal to a parking rate of 0.43 car spaces per 100m².

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2.4. Planning Scheme Zones & Surrounding Uses

The subject site is zoned as Commercial Zone 1 (C1Z) under the Whitehorse Planning Scheme, as shown in the planning zone map provided in Figure 3.

Existing land use in the immediate vicinity of the subject site is predominantly commercial, with residential zoning to the south and west.

The site is located within the Box Hill Metropolitan Activity Centre which is centred along Whitehorse Road between Kingsley Crest in the west and Graham Place in the east.

Notable nearby uses include:

- **Box Hill Central**, in the immediate north-eastern vicinity,
- **Box Hill Railway Station**, approximately 130 metres north,
- **Australian Taxation Office building**, located approximately 350 metres north-east of the site, and
- **Box Hill Hospital**, approximately 700 metres north-west.

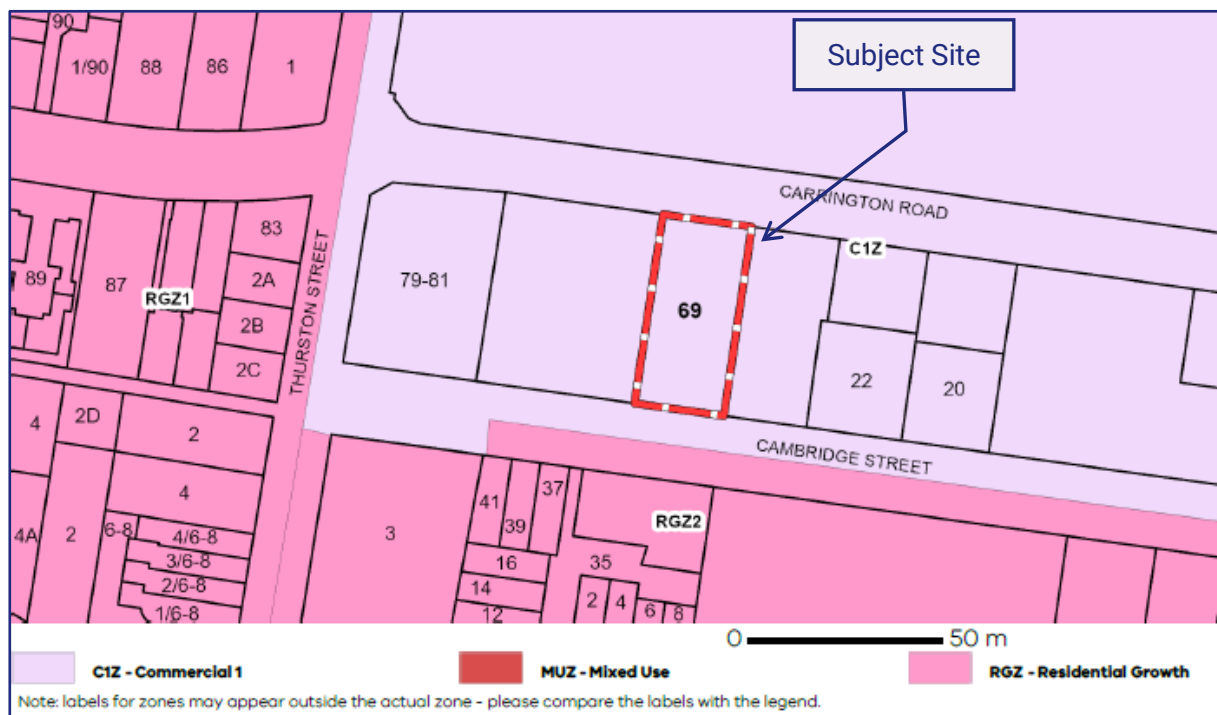


Figure 3: Planning Zone Map – Whitehorse City

2.5. Road Network

Carrington Road is classified as a Collector Road under the Whitehorse Register of Public Roads. It is aligned in an east-west direction between Elgar Road and Station Street to the east and Elgar Road to the west.

In the vicinity of the site, Carrington Road operates one-way in an eastbound direction (between Thurston Street at the west and Station Street to the east). It has a carriageway of

approximately 8.5 metres width, generally accommodating a single through lane of one-way traffic and kerb-side parallel parking on both sides.

Kerbside parking is generally subject to short-term restrictions and is ticketed.

The verge along the Carrington Road site frontage is approximately 4.5 metres wide, inclusive of a 2 metre wide footpath. There is a street bench located within the verge along the frontage. Public bike hoops are situated within the verge approximately 10 metres west of the site frontage.

The default urban speed limit of 50km/h applies to Carrington Road in the vicinity of the site.

Cambridge Street is classified as a Collector Road under the Whitehorse Register of Public Roads. It is aligned in an east-west direction between Station Street at the east and Thurston Street to the west.

In the vicinity of the site, Cambridge Street operates one-way in a westbound direction. It has a carriageway of approximately 10.5 metres width, generally accommodating a single through lane of one-way traffic and kerb-side parking on both sides.

Kerbside parking is generally subject to short-term ticketed restrictions on the northern side, and medium-term (4P) ticketed restrictions on the northern side.

The verge along the Cambridge Street site frontage is approximately 4 metres wide, inclusive of a 1.5 metre wide footpath.

The default urban speed limit of 50km/h applies to Cambridge Street in the vicinity of the site.

Figure 4 and Figure 7 provide views of Carrington Road and Cambridge Street.

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Figure 4: Carrington Road - View East



Figure 5: Carrington Road - View West



Figure 6: Cambridge Street - View East



Figure 7: Cambridge Street - View West

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3. Proposal

3.1. The Development

The application proposes to develop the site for the purposes of a multi-storey building for commercial tenancies, including office and retail uses.

The proposed development schedule is provided in Table 1.

Table 1: Proposed Development Schedule

Use	No. /Size
Retail (inc. food & beverage)	1,390 m ²
Office	6,661 m ²
Total	8,051 m²

3.2. Pedestrian Access

A pedestrian laneway is proposed along the eastern boundary. This will provide a connection between the two proposed pedestrian access points.

Pedestrian access is proposed with Carrington Road at the north-east and Cambridge Street to the south-east.

The pedestrian laneway will afford access to the central lobby and direct access to the southern retail tenancy. The northern tenancy will have direct pedestrian access to Carrington Road frontage.

3.3. Bicycle Parking

The application proposes the provision of 50 bicycle spaces allocated as follows:

- 40 staff spaces within a secure bicycle store at basement level 2, and
- 10 visitor spaces located within the Carrington Road verge that are subject to Council approval.

End of Trip facilities are proposed on-site for staff, inclusive 7 showers and changeroom facilities.

The proposed laneway along the eastern boundary will afford access for cyclists via a dedicated shuttle lift (at the south-east extent of the site) that will take cyclists to the bike parking and EoT.

3.4. Car Parking Provisions, Allocations and Access

The proposal includes a total of 41 car parking spaces across 2 basement car parking levels as follows:

- 17 spaces in basement 1 (including one DDA space and 2 pairs of tandem parking spaces), and
- 24 spaces in basement 2 (including 7 pairs of tandem parking spaces).

This is equivalent to a rate of 0.51 car spaces per 100 m², which is generally consistent with the existing permit.

Parking is to be allocated as follows:

- Retail staff – 3 spaces
- Office staff – 38 spaces

Vehicle access to the site is to be provided along the southern boundary of the site, via Cambridge Street. The proposal includes a setback of the car lift from the southern boundary to accommodate queuing, turning and access to the car lift.

3.5. Loading & Waste Collection

Loading and waste collection will take place within a loading area proposed at ground level, accommodating vehicles up to a 6.4 metre long Small Rigid Vehicle (SRV). The loading area is accessible from Cambridge Street.

A summary of the proposed pedestrian, bicycle, vehicle and loading access arrangements is illustrated at Figure 8.

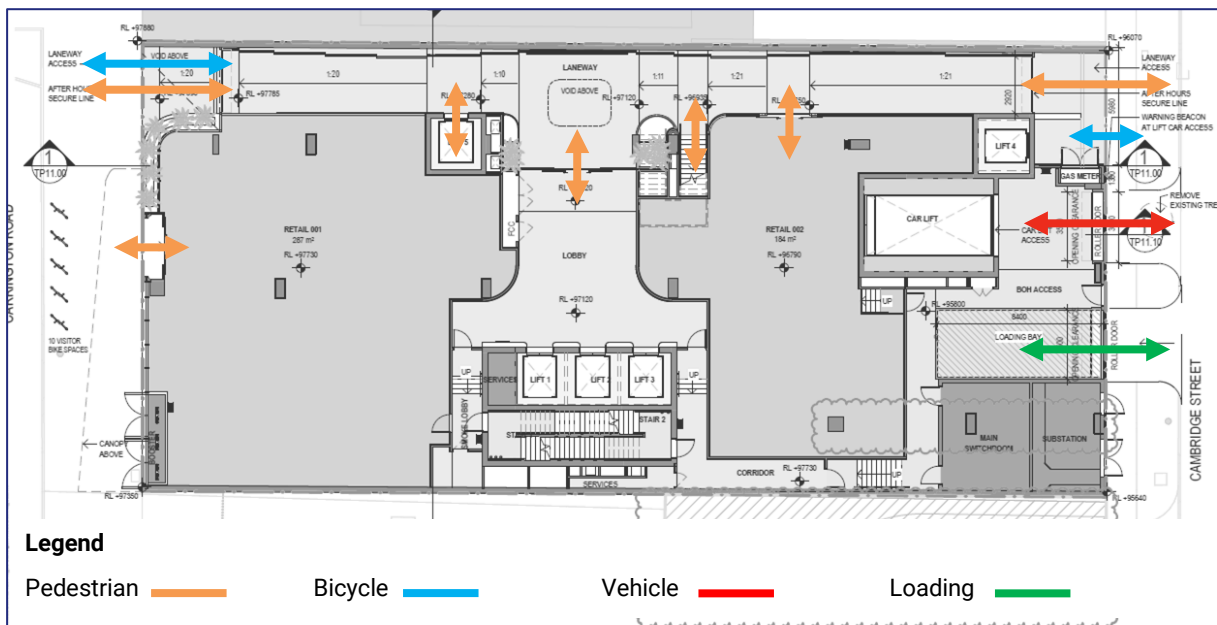


Figure 8: Proposed Access Arrangements

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4. Car Parking Considerations

4.1. Statutory Requirements – Clause 52.06

The site is part of the Box Hill Activity Centre and is therefore subject to Schedule 1 to Clause 45.09 Parking Overlay.

The purpose of the Box Hill Activity Centre Parking Overlay is to:

- *Manage car parking demand and supply to satisfy user needs (with a focus on maintaining/increasing the viability of Box Hill).*
- *Locate and manage car parking so as to minimise traffic generated by the search for a parking space.*
- *Reduce vehicle trips through minimising parking provision where appropriate.*
- *Encourage the use of active and sustainable travel modes rather than increased private vehicle travel.*
- *Improve general amenity for pedestrians within Box Hill to increase the willingness for visitors and staff to walk to and within the Centre to their destination.*

Schedule 1 to the Parking Overlay identifies specific rates for residential and office uses. Where a rate is not listed in the table within the Parking Overlay, parking must be provided in accordance with Column B of Table 1 at Clause 52.06.

A statutory assessment of the proposal under Clause 45.09 and Clause 52.06 is provided at Table 2.

Table 2: Statutory Car Parking Requirements (Clause 52.06 and Clause 45.09)

Use	No / Size	Statutory Requirement	No of Spaces Required
Retail (Shop)	1,390 m ²	3.5 spaces to each 100 square metres of leasable floor area	48 spaces
Office	6,661 m ²	2.0 spaces to each 100 square metres of net floor area	133 spaces
Total			181 spaces

Based on the table above, the development is statutorily required to provide 133 car spaces for office staff and 48 spaces for the retail tenancies.

A permit is sought to provide 41 spaces, which represents a shortfall of 140 car parking spaces.

4.2. Relevant Decision Guidelines

Planning Practice Note (June, 2015) specifies that the provisions draw a distinction between the assessment of likely demand for parking spaces, and whether it is appropriate to allow the

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supply of fewer spaces. These are two separate considerations, one technical while the other is more strategic. Different factors are taken into account in each consideration.

Schedule 1 to the Parking Overlay requires that:

Before deciding on an application to reduce (including reduce to zero) the minimum number of car parking spaces required for a specified use, the Responsible Authority must consider as appropriate:

Any effect on vehicle and pedestrian traffic in the area.

Any empirical analysis which supports a variation in the number of car parking spaces that should be provided.

The particular characteristics of the proposed use with regard to the likely car parking demand generated.

For commercial and residential visitor uses, the availability of car parking in the locality and its suitability to accommodate parking generated by the development.

For reductions in the rate of provision of residential uses:

the likelihood of residents not owning cars and of using active and public transport options

the protection of parking in the surrounding area such that new residents are not able to use those spaces.

The likely contribution of public transport and opportunities to walk and cycle in mitigating car parking demands, and whether appropriate provision can be made for use of sustainable transport to encourage a mode shift from private vehicle travel.

Whether the development includes bicycle and motorcycle parking.

Whether site size, access, design or other constraints warrant reducing the parking requirement.

Clause 52.06 requires an assessment of car parking demand likely to be generated by the proposed use to have regard for listed factors, as appropriate, including:

- *The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use*
- *The variation of car parking demand likely to be generated by the proposed use over time*
- *The short-stay and long-stay car parking demand likely to be generated by the proposed use.*
- *The availability of public transport in the locality of the land.*
- *The convenience of pedestrian and cyclist access to the land.*
- *The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.*
- *The anticipated car ownership rates of likely or proposed visitors or occupants (residents or employees) of the land.*
- *Any empirical assessment or case study.*

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The following provides an assessment of the likely demands generated by the proposal whilst also considering the relevant decision guidelines under Schedule 1 to the Parking Overlay.

4.2.1. Sustainable Modes of Transport

The site has excellent access to sustainable transport modes and is well located with regard to retail and essential services as detailed below.

Pedestrian and Bicycle Accessibility

The site is well located to promote walking to everyday services, being situated within the Box Hill Metropolitan Activity Centre, which provides a variety of everyday services such as restaurants, specialty shops, supermarkets and other essential services.

The subject site also has access to bicycle infrastructure with on-road bicycle lanes and informal bicycle routes on roads in the immediate vicinity of the subject site, including routes on Thurston Street and Carrington Street (west of Thurston Street).

An excerpt of the Principal Bicycle Network map is provided at Figure 9.

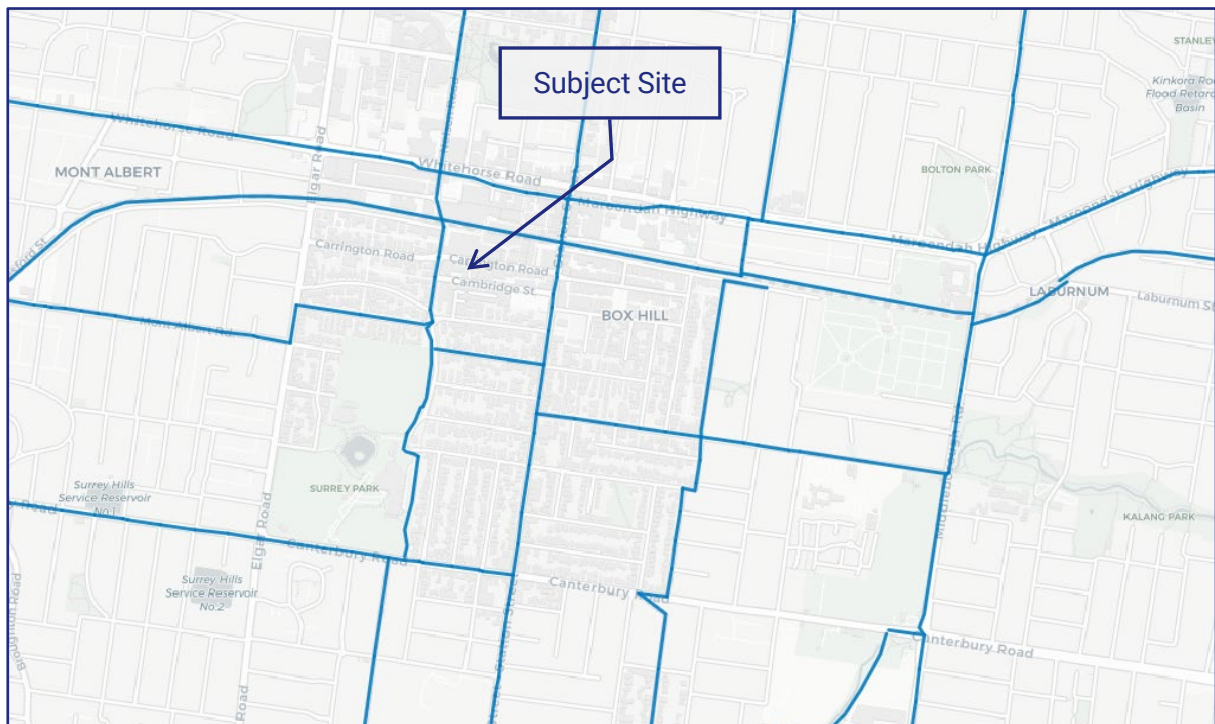


Figure 9: PBN Map – Whitehorse City

Existing and Future Public Transport

The site is very well serviced by public transport with train, tram and bus services within close proximity to the site. The Box Hill Bus Interchange is located a short walk 200 metres north-east from the site and provides 17 bus routes which service the surrounding area.

Box Hill Station is also located on the northern side of Carrington Road in Box Hill Central, 150 metres north-east of the site.

Box Hill has been identified within the Suburban Rail Loop (SRL) East Project and will include a new 94 metre long north-south platform that will connect Cheltenham to Box Hill via Clayton, Monash, Glen Waverley and Burwood. The next stage of the SRL (North) will continue north from Box Hill through Doncaster, Heidelberg, Reservoir, Fawkner, Broadmeadows and connect to the Airport.

In Box Hill, a new station access point will be provided south of Whitehorse Road on Market Street, which will also connect to the existing Station Platforms through the underground network.

Early works commenced in late 2022 and the SRL is proposed to open in 2035.

A map of the proposed platform in relation to the subject site is provided Figure 10 in showing that the site is in the Station precinct and will have immediate access to the new station.

Table 3 summarises the available services, whilst Figure 11 illustrates the nearby routes.

It is clear that this site is within a significant location in relation to access to public transport now and into the future.

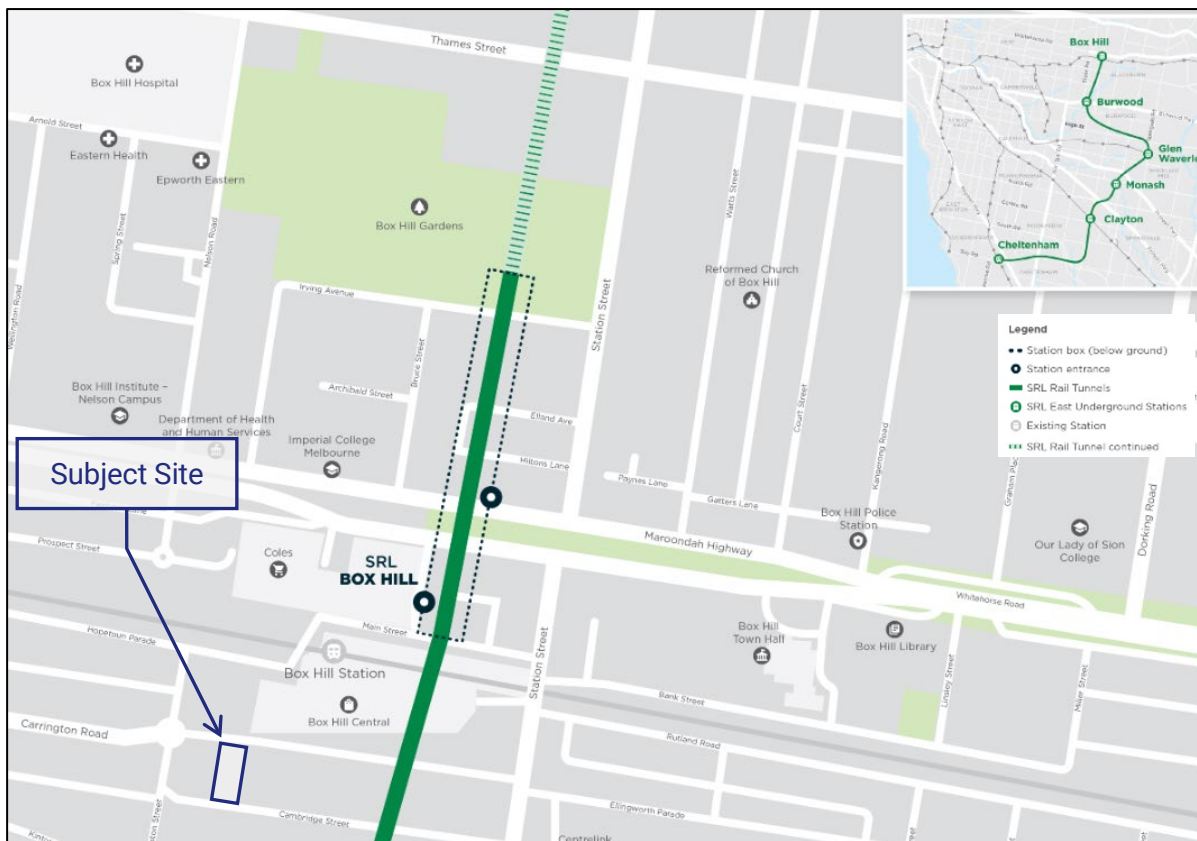


Figure 10: SRL East Box Hill Station Map

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Table 3: Public Transport Services in the Vicinity of the Subject Site

Service	Between	Distance
Train		
Box Hill Station	Belgrave - Melbourne CBD (Belgrave Line) Lilydale - Melbourne CBD (Lilydale Line)	~150m north-east
East Box Hill Station	Future SRL (Cheltenham to Box Hill) Box Hill Station entrance	~200m north-east
	Future SRL (Cheltenham to Box Hill) Whitehorse Rd entrance	~450m north-east
Tram		
Route 109	Box Hill - Port Melbourne	~300m north-east
Bus		
Route 612	Box Hill - Chadstone via Surrey Hills & Camberwell & Glen Iris	~200m north-east
Route 201	Box Hill Station - Deakin University	~200m north-east
Route 270	Box Hill - Mitcham via Blackburn North	~200m north-east
Route 271	Box Hill - Ringwood via Park Orchards	~200m north-east
Route 279	Box Hill - Doncaster SC via Middleborough Rd	~200m north-east
Route 281	Templestowe - Deakin University	~200m north-east
Route 284	Doncaster Park & Ride - Box Hill via Union Road	~200m north-east
Route 293	Box Hill - Greensborough via Doncaster SC	~200m north-east
Route 302	City - Box Hill via Belmore Rd and Eastern Fwy	~200m north-east
Route 732	Box Hill - Upper Ferntree Gully via Vermont South & Knox City & Mountain Gate	~200m north-east
Route 733	Oakleigh - Box Hill via Clayton & Monash University & Mt Waverley	~200m north-east
Route 735	735 Box Hill to Nunawading	~200m north-east
Route 765	Mitcham - Box Hill via Brentford Square & Forest Hill & Blackburn	~200m north-east
Route 766	Box Hill - Burwood via Surrey Hills	~200m north-east
Route 767	Southland - Box Hill via Chadstone & Jordanville & Deakin Uni.	~200m north-east
Route 768	Deakin University via Canterbury Rd	~200m north-east
Route 903	Altona - Mordialloc (SMARTBUS Service)	~200m north-east
Route 207	City - Doncaster Shopping Centre via Kew Junction	~300m north-east

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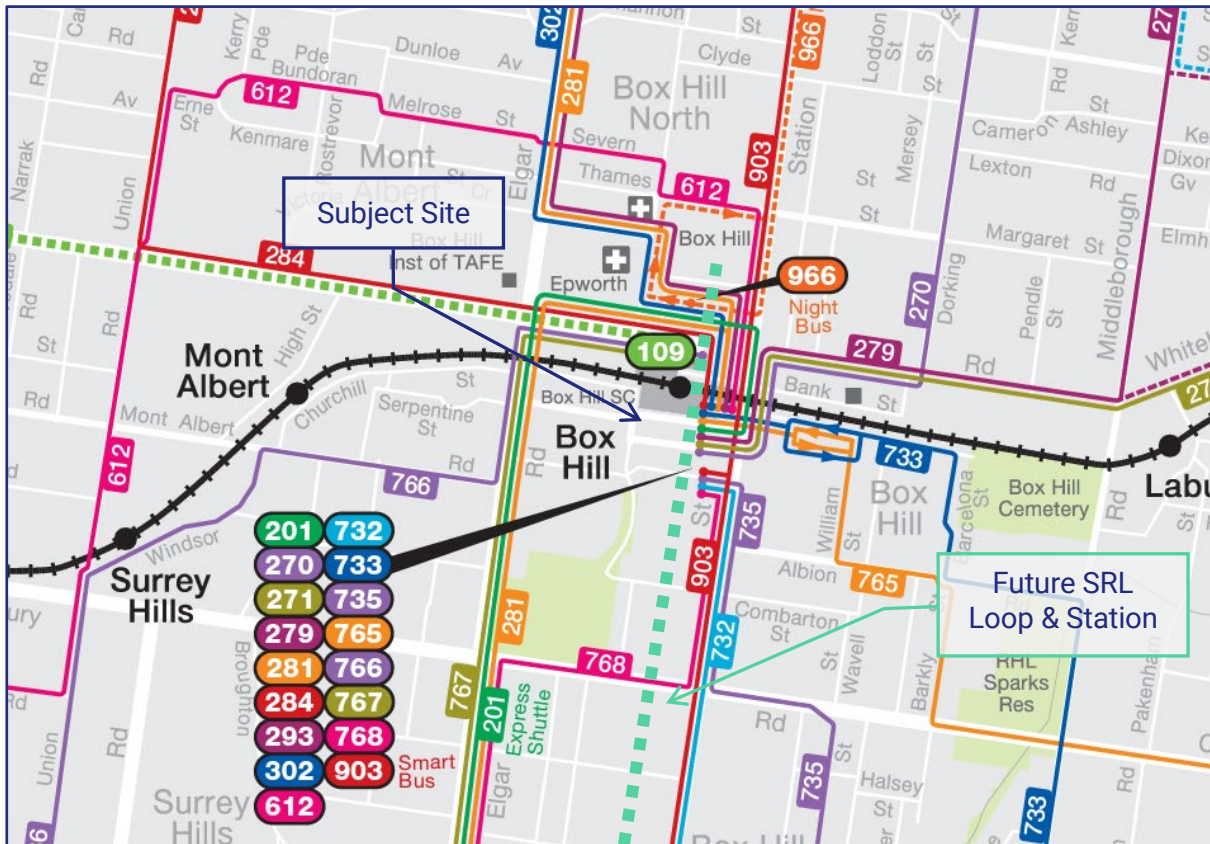


Figure 11: PTV Public Transport Map – Whitehorse

Source: Public Transport Victoria

Car Share

Car sharing schemes have been operating in Melbourne since 2003 with a number of inner metropolitan Councils actively supporting their use by allocating public spaces throughout their municipalities for the purposes of accommodating 'car share' cars¹.

Car sharing schemes provide accessibility for businesses that may require a car for short trips during the daytime period, but otherwise can easily commute to/from the site at the start and end of the day. This actively encourages the use of alternative transport modes for the main commuter trips.

The City of Whitehorse supports 'car sharing' schemes by allocating spaces within private developments and Council operated off-street car parks for the purposes of accommodating 'car share' cars. Whitehorse City Council has appointed GoGet Car Share as the primary operator in the Box Hill Activity Centre.

There are 6 GoGet cars currently available proximate to the subject site within approximately 800 metres walking distance, as shown in Figure 12. These include:

- Cambridge Street (1 car),
- Ellingworth Parade near Station Street (1 car),

¹ The three main schemes supported by these Councils are Flexicar (www.flexicar.com.au), Go Get Car Share (www.goget.com.au) and Green Share Car (www.greensharecar.com.au).

- Nelson Road near Whitehorse Road (2 cars), and
- Secure parking at 813 Whitehorse Road (2 cars).

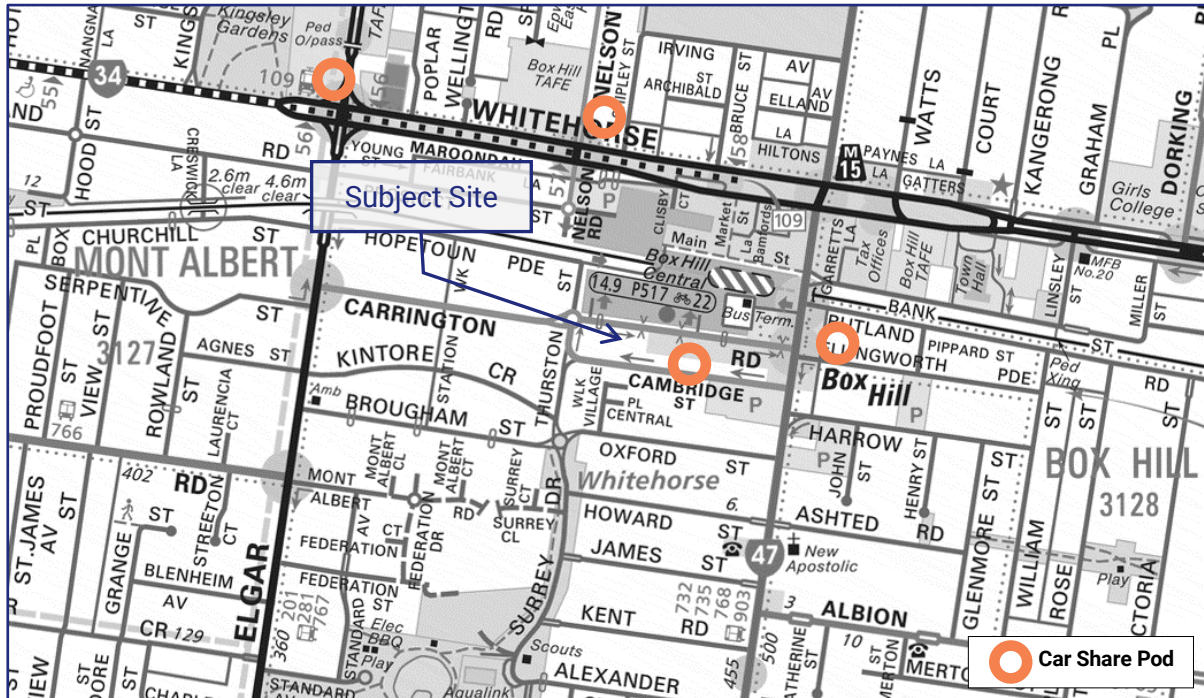


Figure 12: Proximate Car Share Pods

4.2.2. Anticipated Parking Demand

Site and Parking Demand Context

Column B rates are based on average rates across the whole of Victoria. They do not necessarily contemplate the very polar differences between a Major Activity Centre such as Box Hill which has access to multiple existing and future high capacity transit modes, as compared to a local Neighbourhood Activity Centre which is centred around a single Smart Bus route or tram route.

Accordingly, we are of the view that it is appropriate to consider both the likely existing (and future) demands of a proposal, like this, in this location in the context of the wider Local and State Policy and travel trends.

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Office Staff

The subject site falls within the Whitehorse – Box Hill SA2 statistical area. A review of the ABS 'Journey to Work' data for the 2011 and 2016 census identifies that a significant number of employees who work in this area, use active or alternate transport modes to travel to work, rather than a car, as driver.

COVID-19 lockdowns were in place during the 2021 census. Travel patterns during this period would not be representative of normal conditions. Accordingly, this data has been excluded from our analysis.

Notably, the shift to public transport mode choices has increased from 2011 census, resulting in a decline in car usage for employees in this area whilst employment and residential opportunities have sharply increased in the area. This is expected to be a continuing trend and one that is supported by Council's strategic approach to limiting/reducing parking.

The 2011 and 2016 Journey to Work Data for Box Hill is summarised at Table 4.

Table 4: Journey to Work Data (2011 & 2016) - Employees in Box Hill - SA2

Mode of Travel for 'journey to work' trips	2016	2011
Car as driver	65%	66%
Public Transport	12%	11%
Walking	4%	3%
Cycling	1%	1%
Other	18%	19%

This data highlights a lower reliance on private cars by office employees working in Box Hill – SA2, which is supported by the high level of public transport access and ability to walk to the site and day to day services. It also shows a trend for increased sustainable transport use.

The site currently has convenient accessibility to multiple public transport modes and will have immediate access to the new SRL East station.

It is expected that with the introduction of the new SRL station and improved connections to the Box Hill Station precinct by the new SRL station, the public transport use for staff in this precinct will substantially increase.

The proposal includes a generous provision of bicycle parking for employees with End of Trip facilities including showers and change rooms. These facilities will actively encourage future tenants and employees to travel to the site using alternative transport (including running, walking, cycling).

The provision of 38 car spaces for office staff equates to an effective parking provision rate of 0.57 spaces per 100 square metres.

The application in effect is proposing travel demand management by suppressing car parking demands. That is, by not providing on-site car parking the applicant is forcing staff to utilise alternative transport modes to access the site.

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Whilst there is existing on-street parking surrounding the site, it is generally short-term parking and not practically able to be utilised by employees which require long term parking spaces. The limited supply of long-term unrestricted parking within the area was seen to be already heavily utilised during business hours.

Accordingly, future office employees who are not provided with an on-site car parking space will most likely seek alternative modes of transport to access the site, rather than utilise a motor vehicle, and consequently the employee parking demand will be dictated by the supply.

In our view, this is an appropriate approach to commercial office and retail staff parking in activity centres, and accordingly the proposed provision of parking for staff is considered appropriate.

Retail Use

Retail uses such as the proposed, would typically operate as service type uses that draw trade from the surrounding area and other commercial uses, particularly during business hours, rather than being a destination themselves.

During daytime periods, we would expect that the majority of trade to this tenancy will be walk up and there would be limited customer parking demand generated as staff/employees from nearby commercial uses (including the proposed office component of the development) and residents from the surrounding area walk to the site.

Notwithstanding the above, and for the purposes of a conservative analysis, the statutory rate of 3.5 spaces per 100 square metres will be adopted.

Application of this rate to the 1,390 square metres of retail use would indicate a peak demand for 48 spaces. This demand will include staff and customer demands. Unconstrained staff demands are typically observed at a rate of 1 space per 100 square metres, realising a demand composition of 14 staff space and 34 customer spaces.

The provision of a 3 staff spaces will satisfy a portion of the expected demands while the remainder will rely on alternative modes of transport to access the site.

The remaining 34 car parking spaces sought as part of the dispensation would be related to short term customer demands.

This peak demand is likely to be experienced of an evening and weekend, whilst during daytime weekday periods, there is expected to be a significantly higher proportion of walk-up trade or shared trips to the site, and therefore demands are likely to be much less.

4.3. Allowing Fewer Car Spaces

When considering if appropriate to provide fewer car parking spaces on-site, the responsible authority must consider a number of factors as appropriate. The relevant items are noted below:

- *The Car Parking Demand Assessment*
- *The availability of alternative car parking in the locality of the land.*
- *Any car parking deficiency associated with the existing use of the land*
- *The future growth and development of any nearby activity centre.*

- *Access to or provision of alternative transport modes to and from the land.*
- *Any other relevant consideration.*

A discussion of the relevant items follows.

4.3.1. Relevant Policy

Whitehorse Council supports sustainable transport and design in new and existing developments through a number of policies and initiatives. These are summarised as follows.

Clause 18.02 Movement Networks

Clause 18.02 of the Whitehorse Planning Scheme identifies the following objectives and associated strategies in relation to Movement Networks including Walking, Cycling and Public Transport.

Clause 18.02-1S Walking

- *Plan and develop walking networks to:*
 - *Provide pedestrian routes that are safe, direct and comfortable to use.*
 - *Enable walking as a part of everyday life.*
 - *Enable people to meet more of their needs locally and rely less on their cars.*
 - *Be accessible to vehicles that use footpaths, including wheelchairs, prams and scooters.*
 - *Accommodate emerging forms of low-emission, low-speed personal transport.*
- *Develop principal pedestrian networks for local areas that link with the transport system.*
- *Provide walking infrastructure in all major transport projects.*
- *Design walking routes to be comfortable by providing shelter from the sun through canopy trees, verandahs and other structures.*
- *Design direct, comfortable and connected walking infrastructure to and between key destinations including activity centres, public transport interchanges, employment areas, urban renewal precincts and major attractions.*

Clause 18.02-2S Cycling

- *Plan and develop cycling networks to:*
 - *Provide routes that are safe, comfortable, low-stress and well connected.*
 - *Enable cycling as a part of everyday life.*
 - *Enable people to meet more of their needs locally by cycling and to rely less on their cars.*

- Accommodate emerging forms of low emission, low and moderate speed personal transport.

Clause 18.02-3S Public Transport

- Plan and develop public transport to:
 - Connect activity centres, job-rich areas and outer suburban areas.
 - Enable people to not have to rely on cars for personal transport.
 - Integrate bus and tram networks and stops and public transport interchanges in new development areas, including key urban renewal precincts and outer-suburban areas.
 - Integrate with land use and development in outer suburban and growth areas.

Clause 15.01-2L Environmentally Sustainable Development

- Transport
 - Design development to promote the use of walking, cycling and public transport, in that order; and minimise car dependency.
 - Promote the use of low emissions vehicle technologies and supporting infrastructure.

The proposal supports the transport strategies and objectives of Whitehorse Council by providing commercial developments within walking distance to facilities in nearby activity centres and the Melbourne CBD. These areas are within walking distance or a short trip by public transport or bicycle.

Box Hill Master Plan and Revisioning

The Box Hill Major Activity Centre is currently being re-visioned to incorporate a true mixing of transport modes and land uses.

The Box Hill Transit Interchange Advisory Committee was established by the Minister for Planning to provide direction and guidance on improving the transport interchange and connections between existing bus, tram, train and pedestrian modes within the Centre. A significant amount of work has previously been done, and is ongoing, to establish a long term plan for transport upgrades and the potential relocation of the existing Bus Terminus which is currently located at Box Hill Central.

In 2019, Council released the Box Hill Metropolitan Activity Centre Analysis and Options Report for consultation with the community and in 2020, the Box Hill Draft Integrated Transport Strategy (Stage 3) was also released for consultation.

Amongst other things, these two documents contemplate:

- An ambitious transformation of Whitehorse Road to improve pedestrian amenity, public open space, and connections between the existing parts of the larger centre which are currently divided by Whitehorse Road.
- A relocation and upgrade of the Box Hill Bus Interchange to Whitehorse Road, providing better connections to the existing trams, trains and uses within the Centre.

- A review of “the parking rates and investigate replacing parking rate minimums with maximums for new developments, as part of a planning scheme amendment to alter the existing car parking overlay.” This will “enable Box Hill to slow the growth of the number of private vehicles and congestion within the MAC”.

This is in response to a “Key Issue in Box Hill” being that “the car parking requirement for new developments are not sustainable with the anticipated population and employment growth”.

The documents also acknowledge that “State averages and are not helpful in areas like Box Hill. Areas of intensity like Box Hill have:

- Lower demands for parking relative to the State average
 - Higher requirements for bicycle storage relative to the average
 - Demand for motorcycle parking also occurs in commercial centres that also have congestion on arterial roads or paid parking (the VPP does not include any motorcycle parking requirement)”
- Implementation of Car Share Schemes into the centre to support reduced car ownership and peak hour congestion by supplying residents and employees with short term access to a car for intermittent trips (where the use of existing public transport is not practical).

The site’s location in the context of the MAC Strategic Review Plan is provided at Figure 13.

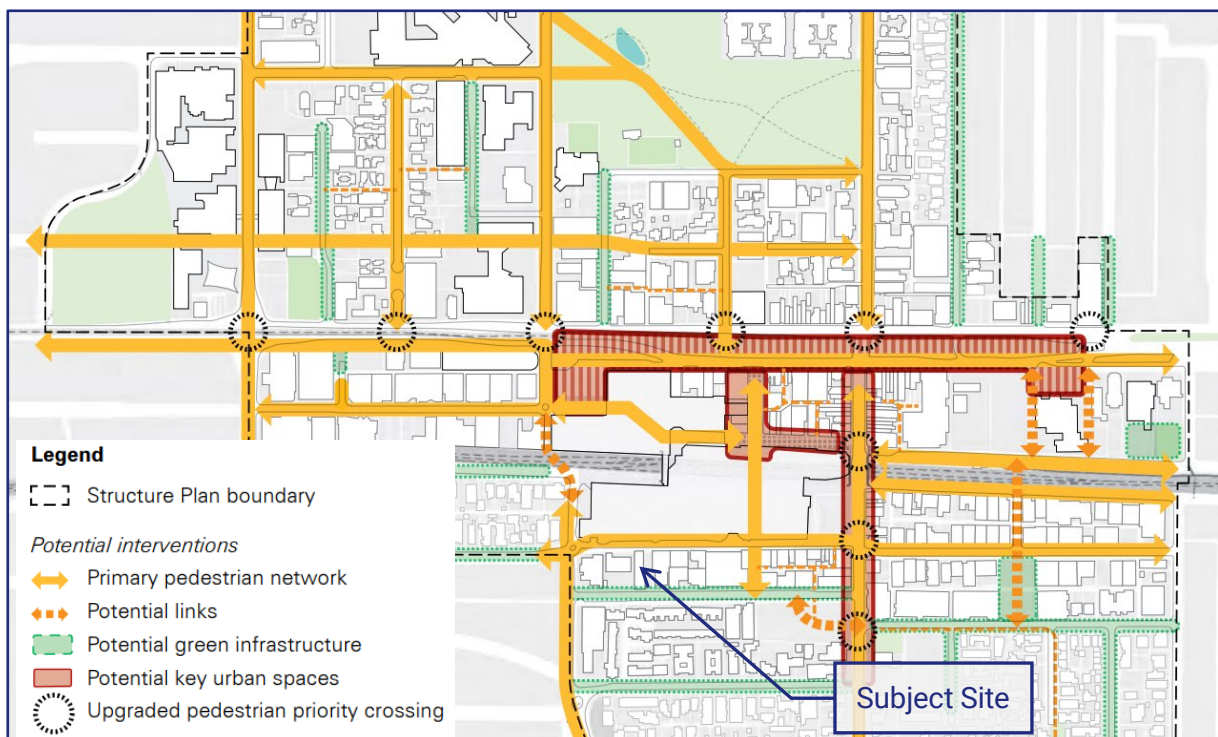


Figure 13: Box Hill MAC Analysis and Options - Figure 4.3 Primary Pedestrian Network

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69 Carrington Road, Box Hill

Box Hill Activity Centre Transit City Structure Plan

The site falls within the study area included in the Box Hill Activity Centre Transit City Structure Plan.

Stated objectives within the Structure Plan that relate to the reducing car dependency within the Box Hill Transit City Activity Centre are:

- **1.3.A Melbourne 2030 and the Transit Cities Program**

Reduce private motorised vehicle trips by concentrating activities that generate high numbers of (non-freight) trips in highly accessible locations.

Improve access by walking, cycling and public transport to services and facilities for local and regional populations.

- **2 Vision**

Box Hill will be sustainable. It will contain complementary land uses in a compact area, enabling easy access to and between them by public transport, walking and cycling. It will support a dramatic increase in the proportion of trips made using sustainable transport and encouragement of walking and cycling; the proportion of car trips will dramatically decrease.

- **4.4.E Promote public transport and reduced use of cars**

- *Promote car sharing and/or pooling.*
- *Provide staff with public transport tickets instead of car parks or company cars.*
- *Provide travel packs to employees to inform them of all travel options.*
- *Promote awareness of the area with maps, signs and photos of destinations.*
- *Demonstrate potential time and cost savings when using public transport.*

- **4.6.B Encourage lower parking provision rates in new development**

Development should be managed to significantly reduce dependency on cars, and increase the role of public transport.

Rates of car parking provision should therefore be reduced. Allowing lower parking rates in Box Hill than the current standard requirements (either reduction or full waiving) can promote a number of favourable outcomes in line with the Transit Cities objectives.

Strategy with minimised rates for mandatory provision of parking in new development, or upper limits for parking provision rather than minimum rates.

- **4.6.C Support sharing of parking spaces between multiple users**

Car parks should allow for sharing between different users at different times. The more widely parking is shared, the more any variation in its use by one group is balanced by variations in others, so that use of each space is maximised. Sharing between offices and entertainment activities, and between residents and daytime workers, is likely to be feasible given their differing peak hours. Even where current arrangements do not allow shared or public parking within a particular building it is still desirable to support options in its future management. The need for large lots to build parking structures efficiently also limits development densities on small properties, if they must provide on-site parking. The ability

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to use nearby car parks would enable higher density development on small properties, and is another factor promoting parking structures for multiple users.

It is noted that a number of municipalities are implementing strategic policies that encourage active transport modes by reducing parking requirements for new developments in areas close to public transport and in and around activity centres.

In areas such as the **Central City, Fishermans Bend and Footscray Metropolitan Activity Centre**; the City of Port Phillip, City of Melbourne and City of Maribyrnong have introduced maximum parking rates to actively suppress parking demands by limiting the supply.

Whilst the City of Whitehorse Parking Overlay within the Box Hill Metropolitan Activity Centre supports significantly reduced car parking requirements for residents and office uses, they are currently set as minimums.

The **Box Hill Metropolitan Activity Centre Analysis and Options Report** and the draft **Box Hill Integrated Transport Strategy** identify a number of key strategies and objectives, and in particular contemplate:

- *“replacing parking rate minimums with maximums for new developments” to “enable Box Hill to slow the growth of the number of private vehicles and congestion within the MAC”.*

This is in response to a “Key Issue in Box Hill” being that *“the car parking requirement for new developments are not sustainable with the anticipated population and employment growth”.*

A summary of some similarly located examples of approvals for mixed and commercial uses and their staff parking rates is provided in Figure 14.

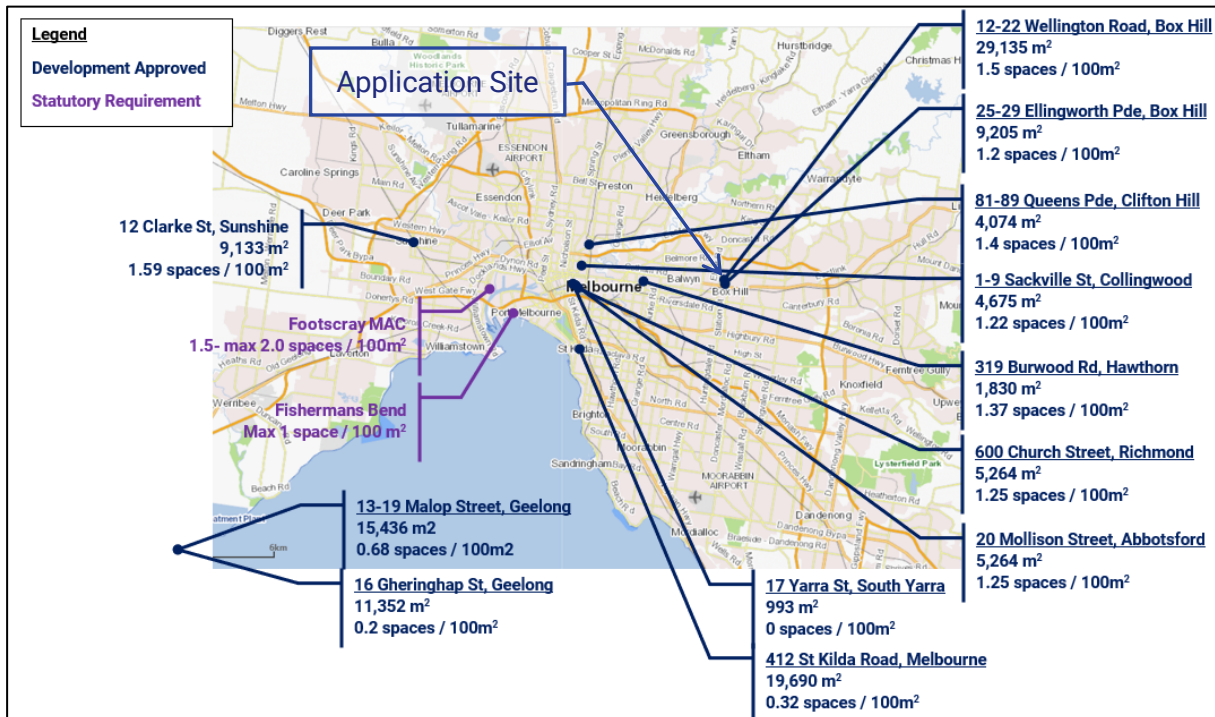


Figure 14: Examples of Staff Parking Rates in Similar Locations

Activity Centre Parking

It has been a long-held practice within Activity Centres to rely on a centre based approach to parking. That is, individual sites do not provide car parking on their land but rather rely on a pool of car parking throughout the activity centre.

More specifically, Practice Note 22 (Using the Car Parking Provisions, August, 2023) states:

"Where a change of use or a small extension is consistent with the strategic plan for a centre and car parking cannot easily be provided, a reduced car parking provision is often appropriate. Some activity centres will have excellent public transport access, ample car parking or mainly serve local customers who arrive on foot. In such circumstances, an increase in business and activity would increase the overall viability of the centre and the reduced number of car trips would provide positive impacts."

"Car parking should be considered on a centre-wide basis rather than on a site-by-site basis, to support a centre's long-term viability."

For this site, this is particularly important in considering the future that the Box Hill SRL Station will play in transforming this part of the Activity Centre to encompass the site and its immediate surrounds as part of the Station precinct.

4.3.2. Practicality of Providing More Parking

In relation to the parking provisions, the site is relatively constrained in size and limited in opportunity to provide multiple levels of parking within an efficient floor plate. The proposed design allows for an efficient parking layout across two basement levels, accessible via a single car lift.

Furthermore, the site is subject to an easement that relates to a pipe (sewer/water) that runs beneath the site, limiting how deep the development can be constructed.

We are advised that introducing additional car lifts and parking levels would impact on the feasibility and practicality of the proposal.

4.3.3. Previously Permitted Commercial Development

In addition, we note that the previously permitted development of the subject site (WH/2020/850) included a commercial development with office and retail/restaurant uses, with a total leasable floor area of 2,100m².

The approval included a car parking provision of 9 car spaces, equivalent to a rate of 0.43 car spaces per 100m².

The proposal includes a total of 41 car parking spaces, at a rate of 0.51 car spaces per 100 m². The proposed car parking provision is generally consistent, albeit slightly higher compared to the existing permit.

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4.3.4. Appropriateness of Sought Reduction

Based on the proceeding, the site is very well serviced by public transport and has excellent access to everyday services.

The site will have convenient access to the future proposed Box Hill SRL station.

For staff, the proposal, in effect, seeking to suppress parking demands by limiting the supply. This is supported by existing ABS data which is already showing an increasing trend toward more sustainable transport modes and there is a significant amount of Local and State Policy that supports a reduction in the parking provisions for this site.

In relation to short term visitor demands, short term demands are expected to be generated by customers to the retail components and can be accommodated within existing publicly available parking.

Furthermore, car parking is proposed at a rate of 0.51 car spaces per 100m², which is generally consistent with the existing approval applicable to the site.

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4.4. Car Parking Layout & Access Arrangements

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

A review of the car park layout reveals:

General Car Parking Layout

- Car spaces are provided with minimum dimensions of 2.8 metres width and 4.9 metres length, accessible from 5.8 metre wide aisles, in accordance with Table 2 of Clause 52.06 the Planning Scheme.
- Tandem parking bays have been provided with an additional 500mm in length between the front and rear space, in accordance with Clause 52.06-9 (Design Standard 2).
- A DDA parking bay has been provided in accordance with the requirements of AS2890.6:2009. A dedicated bay and shared area have been dimensioned at a minimum width of 3 metres, minimum length of 5.4 metres (noting that the Clause 52.06 allows for disabled car spaces to encroach 500mm into the aisle) and provided with a minimum headroom clearance of 2.5 metres.
- Car spaces adjacent to walls and structures have been provided with appropriate clearances to allow for satisfactory car door opening and in accordance with AS2890.1:2004 for employee parking.
- Columns adjacent to car spaces are located within 0.25-1.25 metres from the aisle end of car spaces in accordance with the car parking envelope of Clause 52.06-9 (Design Standard 2).
- Sufficient headroom clearance is to be provided to, from and throughout the basement car park including to/from the car lift. In particular, a minimum headroom clearance of at least 2.2 metres will be provided in excess of the statutory requirement under Clause 52.06-9 of the Planning Scheme (Design Standard 2) and in accordance with the relevant Australian Standard (AS2890.1:2004).
- Access to and from each of the critical to access car spaces have been checked for the 85th percentile design vehicle and has been found to be satisfactory. Some car spaces may require an additional manoeuvre to access, however, this is expressly permitted by AS2890.1-2004 for long-term (i.e. staff/employee) parking and is consistent with current practice.

Car Lift and Access Arrangements

- Access to the site is proposed via a Machine Room Less (MRL) car lift accessed via Cambridge Street.
- Car lift dimensions have been provided in accordance with information provided by the supplier. The car lift design will allow for internal cabin dimensions of 3 metres width and 5.8 metres length. The lift will include door opening widths of 3 metres and a headroom clearance of at least 2.2 metres. The car lift will accommodate the B99 vehicle and is considered acceptable.

- Information regarding the timing and queuing of the car lift is provided at Section 5.2 of this report to demonstrate that the proposed arrangements are appropriate.
- Swept paths demonstrating access into the car lift have been prepared and are provided at Appendix A.
- The car lift is to be set back 5.5 metres from the southern boundary, allowing for a vehicle to prop within the subject site before entering the car lift.

In this regard, the above access arrangements, car parking layout, clearances and car lift design have been assessed and, in our view, meet the intent of the relevant standards.

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

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5. Traffic Considerations

5.1. Traffic Generation & Impacts

A total of 41 car spaces are proposed on site.

In our experience commercial car parking that is allocated for staff typically fills in the morning or vacates in the afternoon on a weekday at a rate of 0.3-0.5 movements per space per hour.

Typically, a rate of 50% of parking supplied to fill in the morning and vacate in the afternoon would be adopted as a base rate. However, updated case study data suggest that for actual car parks within Melbourne where parking is long term and commercial in use, rates can be even less.

With consideration of the above and the location of the subject site (with regard to proximity to sustainable modes of transport), it is considered acceptable to adopt a peak hour traffic generation rate of 0.4 movements per space per hour.

It is therefore projected that the development will generate up to 16 arrivals and 16 departures in the morning and afternoon peak hours respectively, to/from Cambridge Street.

This level of traffic generation is relatively low in traffic engineering terms, equivalent to an average of one vehicle movement being generated every 3.75 minutes during the peak periods.

With consideration that the historical use of the site included a provision of 13 on-site car spaces that would have generated a level of traffic during peak hours, the net increase in traffic of the development will actually be less than 16 arrivals and 16 departures noted above.

Importantly, Cambridge Street operates one-way and accordingly, in the morning all traffic will arrive from Station Street and in the afternoon all traffic will depart toward Thurston Street. This level of traffic generation will have minimal impact on the one-way operation of Cambridge Street and the surrounding road network.

5.2. Car Lift

The proposed lifts are expected to have a travel speed of 1 metre per second, and an average service time of around 50 seconds. This is equivalent to a capacity of approximately 72 vehicle movements per hour.

The peak traffic generation (16 vehicle movements) relates to a utilisation of 0.22, or 22% of the overall capacity.

Based on standard queuing theory, a 98th percentile queue of 2 vehicles is expected, and this includes a vehicle within the car lift.

Traffic generated to/from the site is tidal with all vehicles expected to be arriving in the morning and departing in the afternoon.

In the afternoon peak, all vehicles are exiting the site, so there will be no potential queuing impacts to the external road network.

In the morning peak, in the scenario where an arriving vehicle must wait to access the car lift, a waiting bay is proposed adjacent to the car lift allowing for a vehicle to prop fully within the subject site and not impact the operation Cambridge Street.

It is noted that a red/green display will be provided at the front of the lift to advise a user if it is available or occupied.

Based on the above, the proposed car lift and operational specifications/speed is considered acceptable.

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Traffic Engineering Assessment

69 Carrington Road, Box Hill

6. Bicycle Considerations

Clause 52.34 of the Planning Scheme specifies the bicycle parking requirement for new developments. The relevant requirements are summarised in Table 5.

Table 5: Statutory Bicycle Parking Requirements

Use	Units	Statutory Requirement	No. Of Spaces Required
Retail (Shop)	1,390 m ²	1 to each 300 sq m of leasable floor area to staff 1 to each 500 sq m of leasable floor area to customers	5 staff spaces 3 customer spaces
Office	6,661 m ²	1 to each 300 sq m of net floor area to staff 1 to each 1,000 sq m of net floor area to visitors	22 staff space 7 visitor spaces
Total			27 staff spaces 10 visitor/customer spaces

Based on the above assessment, the development is required to provide a total of 37 bicycle spaces, comprising 27 staff spaces and 10 visitor/customer spaces.

The application plans illustrate the provision of 50 bicycle spaces exceeding the minimum requirements under Clause 52.34 of the Planning Scheme, including:

- 40 staff spaces within a secure bicycle store at basement level 2, and
- 10 visitor spaces provided as bicycle hoops located within the Carrington Road verge that are subject to Council approval.

The requirement for 27 staff spaces also triggers a requirement for shower and changeroom facilities be provided at a rate exceeding of 5 shower/changeroom for the first 5 staff bicycle spaces, and 1 shower/changeroom per 10 spaces thereafter.

End of Trip facilities with at least 7 showers and changerooms are provided adjacent to the bike store area in basement level 2.

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

- Double-sided horizontal rails are provided with dimensions of 2 metre lengths, spaced at 1 metres centres, and are accessible from an aisle at least 1.5 metres wide;
- Wall mounted vertical rails are dimensioned at 1.2 metres deep spaces, 0.5 metres spacings, and are accessible from an aisle 1.5 metres wide; and
- Multi-tier racking systems are provided with dimensions of 2 metre lengths, spaced at 400mm centres (staggered) and are accessible from an aisle at least 1.7 metres wide. These dimensions accord with those listed within the multi-tier racking system product specification sheet (*Josta 2-tier High Capacity Racks*) attached at Appendix B, and will provide functional access.

The proposed bicycle parking arrangements and facilities are therefore considered appropriate, and a permit is not required under Clause 52.34.

7. Loading Considerations

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

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

A loading bay has been provided at the southern end of the site, which has access to Cambridge Street.

Swept paths have been undertaken to demonstrate ingress and egress via a 6.4 metre long Small Rigid Vehicle (SRV) and are provided at Appendix A.

This will cater for both loading and waste collection.

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

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8. Conclusions

Having undertaken a detailed traffic engineering assessment of the proposed commercial development at 69 Carrington Road, Box Hill, we are of the opinion that:

- a. the proposed development has a statutory car parking requirement of 181 car spaces under the Planning Scheme and the provision of 41 car spaces results in a shortfall of 140 car spaces,
- b. the required reduction in parking under Clause 52.06-6 is supported on the following grounds:
 - i) the site is located within the Box Hill Metropolitan Activity Centre and is well served by public transport and alternative transport modes.
 - ii) The future Box Hill SRL station will be immediately accessible by the site, further reducing the reliance on cars for future staff.
 - iii) For those staff who do not have an on-site parking space and do not wish to park on-street or within other publicly available (but priced) car parking, they have the opportunity to make a mode shift to more sustainable transport to access the site.
 - iv) The dispensation sought for retail parking is less than that approved for the previously permitted development of the subject site.
- c. the proposed parking layout and access arrangements generally accord with the requirements of the Planning Scheme, AS2890.1:2004 (where relevant) and current practice,
- d. the level of traffic generated as a result of this proposal is relatively low and will not have a detrimental impact along Cambridge Street or the surrounding road network,
- e. bicycle parking is provided in accordance the requirements set out at Clause 52.34 of the Planning Scheme,
- f. the on-site loading area has been designed to meet the objectives of Clause 65.01 of the Planning Scheme, and
- g. there are no traffic engineering reasons why a planning permit for the proposed commercial development at 69 Carrington Road, Box Hill, should be refused, subject to appropriate conditions.

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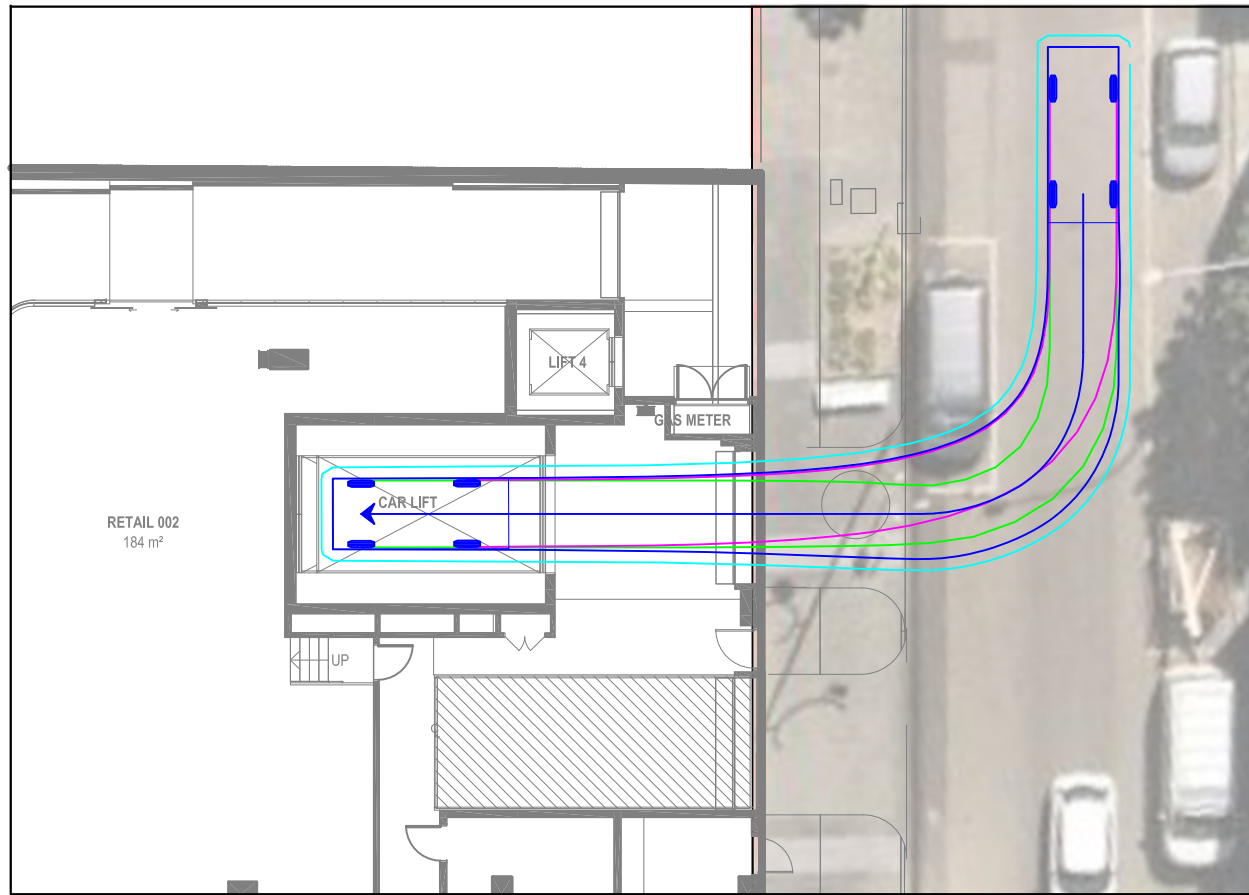


Appendix A

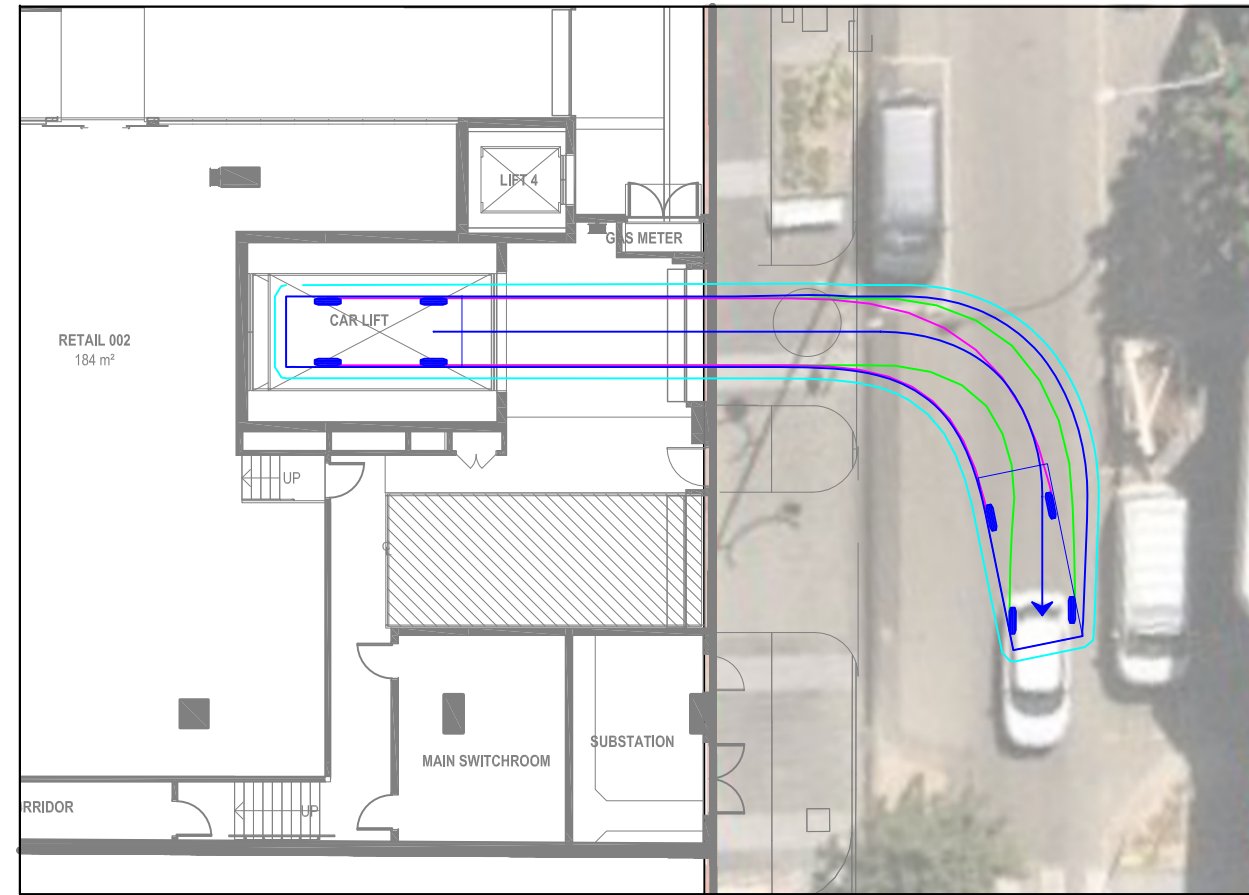
Swept Paths

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CAMBRIDGE STREET CAR LIFT VEHICLE INGRESS - B99



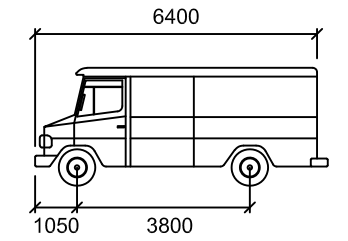
CAMBRIDGE STREET CAR LIFT VEHICLE EGRESS - B99



VEHICLE PROFILE

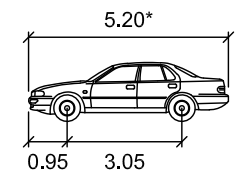
VEHICLE USED IN SIMULATION

(VEHICLE SPEED - 5KM/H)



6.4m SRV

Width	: 2300
Track	: 2300
Lock to Lock Time	: 6.0
Steering Angle	: 38.0



99th percentile
(AS/NZS 2890.1:2004)

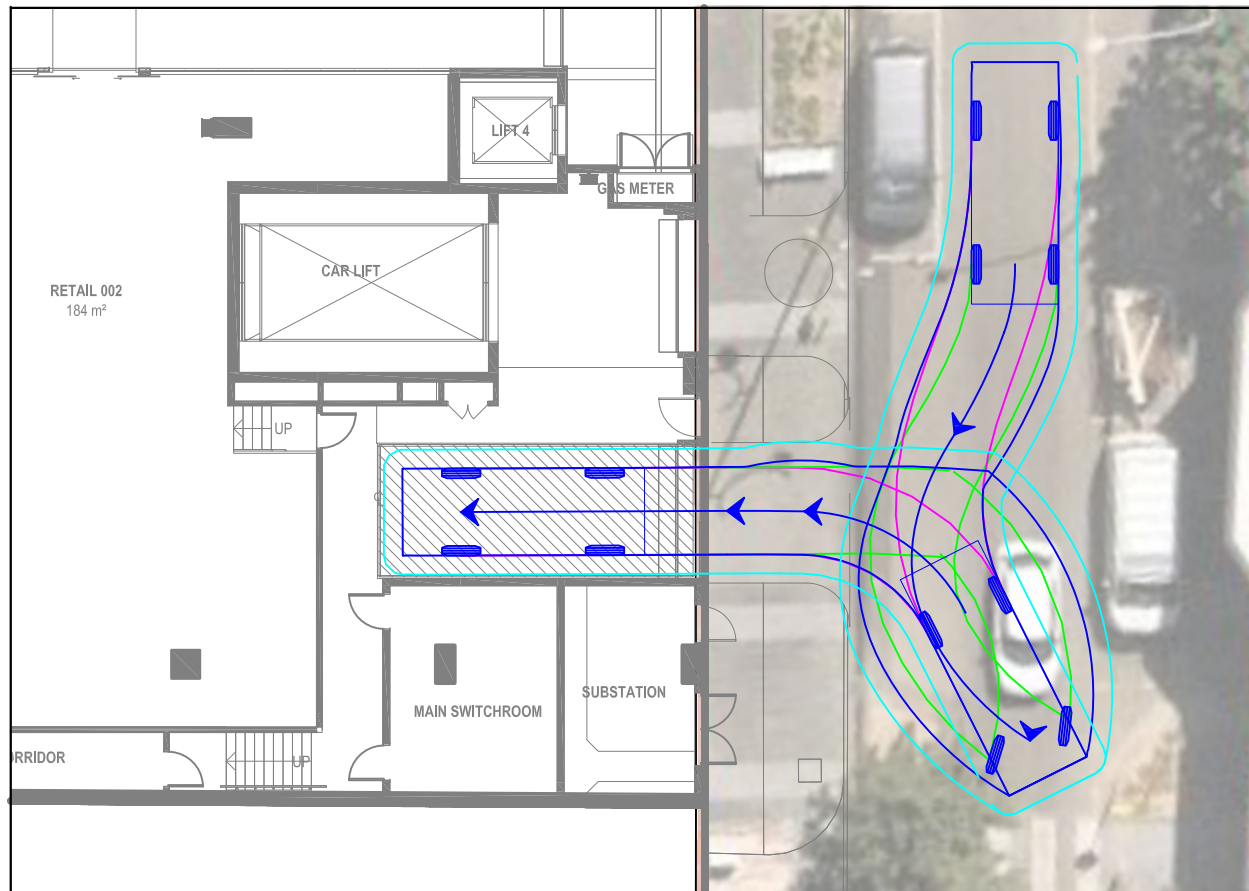
Width	: 1.94
Track	: 1.84
Kerb to Kerb Radius	: 12.5m

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

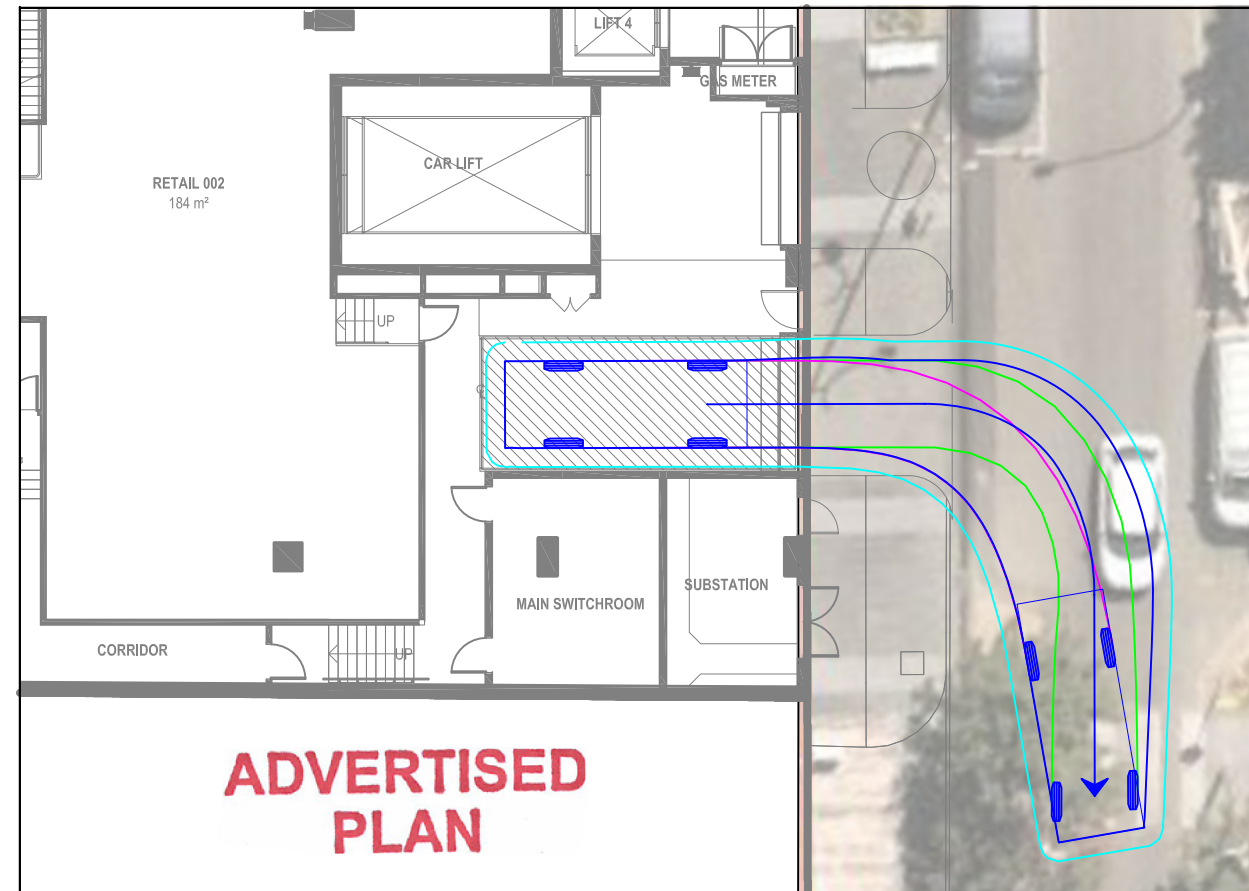
LEGEND

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

CAMBRIDGE STREET LOADING BAY INGRESS - 6.4m SRV



CAMBRIDGE STREET LOADING BAY EGRESS - 6.4m SRV



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	12/12/2023	TOWN PLANNING	H. ROBERTSON	T. AMANATIDIS (RPE11292)
B	16/05/2024	AMENDED PLANS	H. ROBERTSON	T. AMANATIDIS (RPE11292)
C	12/12/2024	AMENDED PLANS	J. LEWIS	T. AMANATIDIS (RPE11292)

69 CARRINGTON ROAD, BOX HILL
PROPOSED COMMERCIAL DEVELOPMENT

GENERAL NOTES:
BASE PLANS PREPARED BY GRAY PUKSAND,
DATED DECEMBER 2024.

FILE NAME: G33509-01
SHEET NO.: 01



SCALE: 1:200 (A3)

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Appendix B

Bike Rack Specification Sheet

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The Cycle Storage Specialists

Josta® 2-tier High Capacity Racks



The market leaders in high capacity bicycle racks, offering space efficient and cost-effective cycle storage.

- Double the number of bicycle storage spaces
- Easy and safe to use - with a proven track record in the UK, Europe, Australia and the USA
- Space-efficient
- Flexible and adaptable
- Neat and organised
- Individual racking - one bike per space
- Low maintenance
- Patented gripping system holds bike securely
- Maximises cycle parking spaces and allows more car parking (if required) or creates space for other uses
- The racks can be used to help demonstrate compliance with BREEAM and achieve a high BREEAM rating
- Framework can be coloured in any standard RAL colour (optional extra)

There are many unique features of the Josta® racks. This includes the low, easy to use handles, the clever, patented way the bikes are held on the racks and the general ease of use.

They are also designed for a long, tough life of constant heavy use, with low maintenance. However, the most important factor is always safety, and the Josta® racks are very safe to use. This is a particularly important feature for heavy bikes.



before



after

Liverpool Street Station, London

London Liverpool Street Station more than doubled its awkward bike parking in a limited space. By using the Josta® 2-tier capacity was increased from 80 to 189 bike spaces.



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The Cycle Storage Specialists

Josta® 2-tier High Capacity Racks

Innovative unique features



Wheel Gripping Mechanism

A special, patented gripping mechanism ensures that the bike cannot roll back and injure the user. As the bike is pushed into the rack, the mechanism gently clamps around the front wheel. As you push the bike up the channel, the front wheel is released and the back wheel is clamped securely into place.

The mechanism is very well designed and fabricated, so that if an extended rack containing a bike should be accidentally dropped, the bike will be securely held in place, causing no harm to user or bike. The Josta® 2-tier rack is the only 2-tier system to offer this type of safety feature.



Movable Security Bar

The Josta® 2-tier rack comes with a movable bar as standard. This security feature is positioned at the rear of the rack in the optimum location to securely lock the rear wheel and bike frame.

When the rack is not in use, the security bar is lowered down, lying parallel to the rack. It is the feature that allows the bike to be easily pushed up the channel without any obstructions for the pedals.



Pivoting Channel

The central channel that holds the bike is built around an extending, pivoting channel. It is this feature that utilises a 'sweet spot' for pivoting, allowing a full rack to be very easily lifted up and pushed back into place.

The strong box section, galvanised mild steel construction and precision engineering all ensure that this product has an extremely long and low maintenance life.

Code for Sustainable Homes

All our lockers, shelters and racks they can be used to help contribute towards gaining your 2 ENE8 Cycle Storage Credits when used in an appropriate situation, under the Code for Sustainable Homes.

[more info](#)

BREEAM

All our lockers, shelters and racks they can be used to help demonstrate compliance with BREEAM and achieve a high BREEAM rating when used in an appropriate situation.

[more info](#)

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Gas Assisted

Josta® have developed a new 'gas cylinder' model that makes lifting and lowering the racks even easier. The strong gas strut is built into the middle of the top rack, in a unique design. This means there are no moving parts to catch fingers and the whole structure is modern and stylish. 2700mm headroom is needed for G.A. racks.





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The Cycle Storage Specialists

Josta® 2-tier High Capacity Racks

The Josta® 2-tier rack is a high capacity double decker bicycle rack.

Josta® is the market leader for high capacity racking systems. Their racks are popular across Europe, the USA and Australia. Many bike stations in Germany, Holland and the US also specify the Josta® rack as standard. Cycle-Works are the UK's exclusive distributor of the Josta® 2-tier rack system and have extensive experience of providing cycle parking including shelters, compounds, racks and bike lockers.

Josta® 2-tier sites range from small open access installations of less than 80 bike spaces (e.g. Surbiton station) to large manned cycle parks of 7000 (e.g. Leiden, NL). They are also increasingly used in the basements of new office blocks and apartments (e.g. The prestigious Foster's Albion Riverside development in Battersea).

Why the Josta® rack is the market leader in high capacity bike parking

This space efficient racking system stores one bike directly above the other. It therefore increases the amount of bicycles parked (or reduces the size of the site) by up to 50%.

The rack is custom made for specific sites to maximize the cycle parking capacity, and can be used in conjunction with other systems.

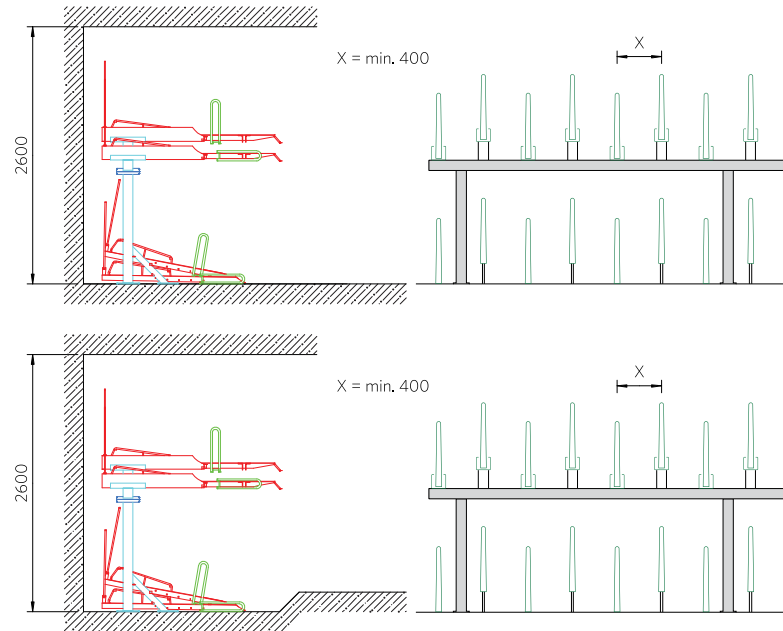
A special patented gripping mechanism ensures that the bike cannot roll back and injure the user. We find the top racks are usually filled first as users like to store their bike 'out of harm's way'. It is also easier to lock the bike when on the top rack. This usually leaves enough space in the bottom row for users who do not wish to use the top row.

Layout and Space Requirements

This racking system is designed to fit your exact space. It can be used in conjunction with our other cycle parking systems to give the maximum capacity for your site.

Mounting/Installation

A level concrete base is usually required (not screed). This racking system is then installed by our team of experienced installers. Special supports for non-concrete sites with strong level surfaces can be supplied for a small additional charge.



Site Planning

We are happy to give advice or assist you with your site planning. For this, please let us have your draft site plan (DWG or PDF format), clearly marked with all relevant dimensions, obstacles and access ways. Please see the next page for a guide on designing a site yourself.

Please contact us to obtain DWG files of the product layout.

Locking mechanisms and options

A security bar allows the cyclist to lock the bike frame and wheels with their own chain or D-lock. The front wheel and frame can also be locked easily.

Delivery

The current lead time is 6-8 weeks, but larger projects can require more than this. It is really beneficial if Cycle-Works are involved in the site planning as soon as possible.

Material options

These racks are usually galvanised with a red handle on the top racks, the framework can be powder coated in any standard RAL colour.



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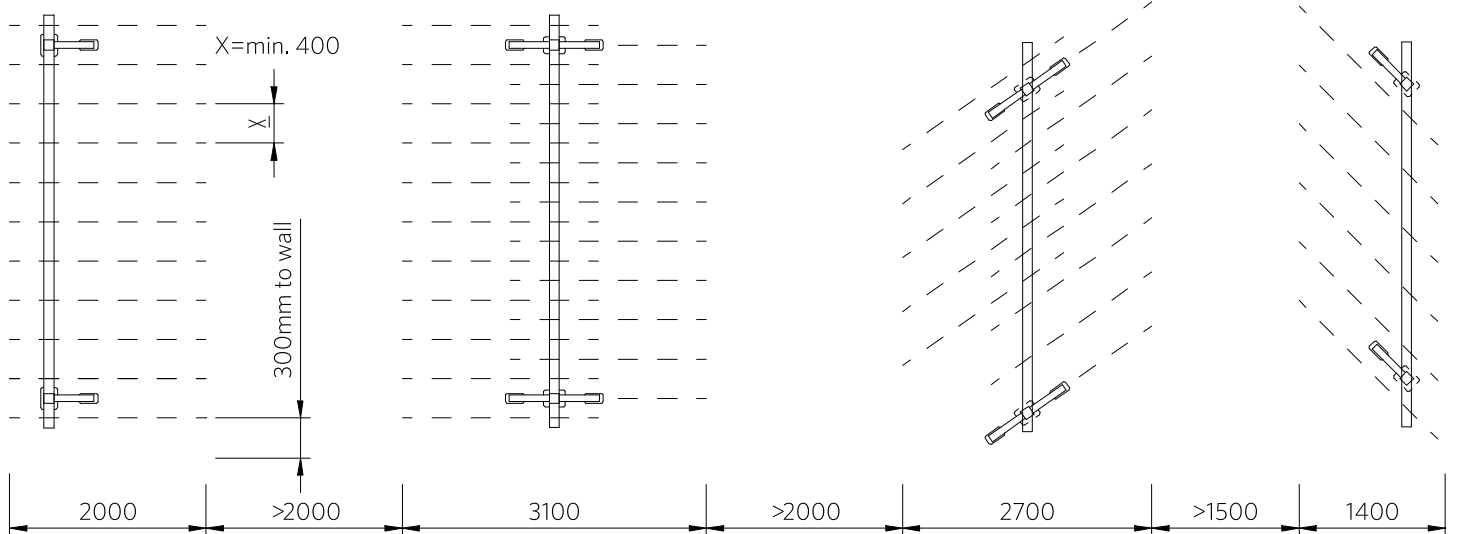
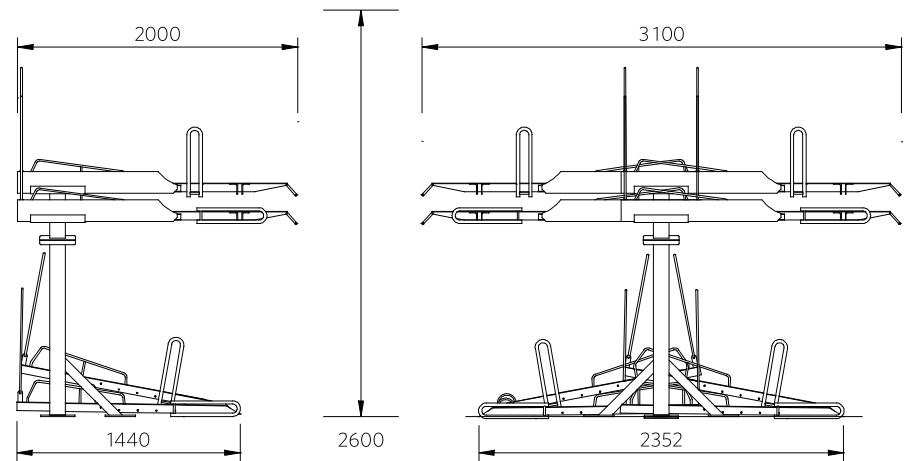
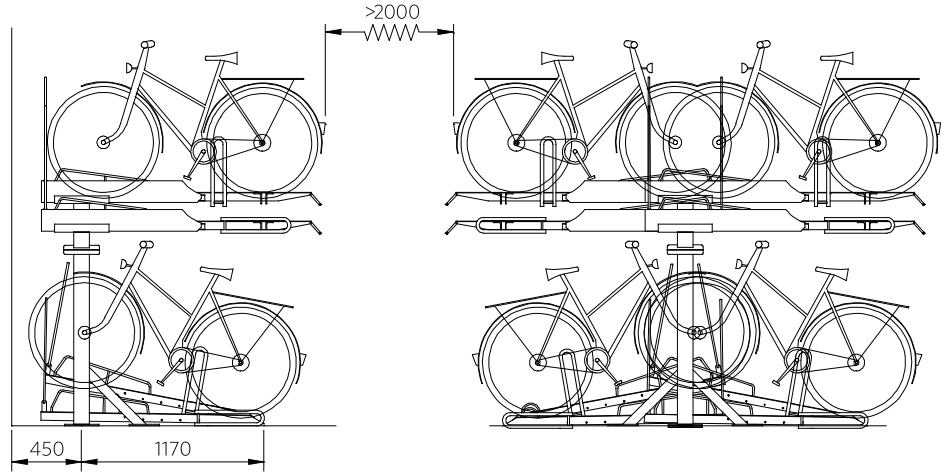
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The Cycle Storage Specialists

Josta® 2-tier High Capacity Racks

Site Requirements

- A minimum of 2600mm of clear headroom is required for maximum capacity.
- Leave 300mm to any adjoining side wall to give space for the handlebars.
- The racks are then spaced at a minimum of 400mm centres. We have found 450mm to be a good spacing, giving capacity as well as ensuring ease of use.
- Please allow 2000mm for the rack itself and another 2000mm in front for loading the bike. It is possible to allow 1700mm for loading but we strongly recommend at least 2000mm for optimal operation.
- The racks can also be installed from a central spine. For this option, please leave 2000mm for access on both sides. The 2-sided unit is then 3100mm wide.
- Racks can also be installed at a 45 or 55 degree angle to minimise space.





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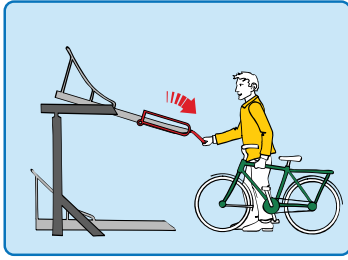
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The Cycle Storage Specialists

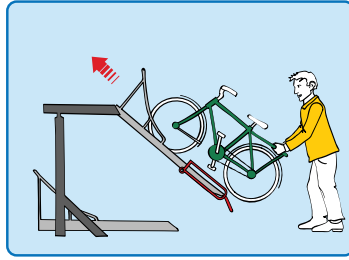
Josta® 2-tier High Capacity Racks

Store and retrieve your bike in four easy steps

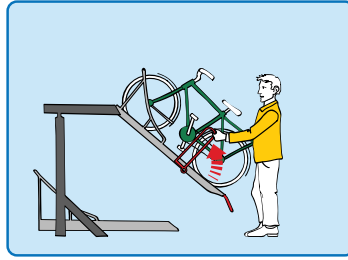
Loading your bike on to the upper racks



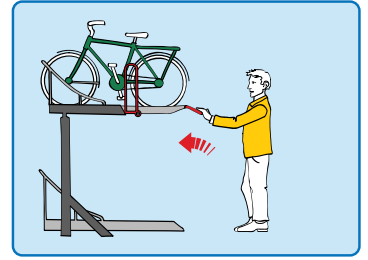
1. Pull down the upper rack.



2. Lift the front wheel onto the lowered rack and push forwards.

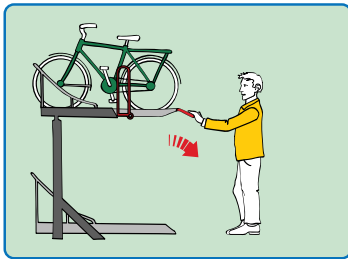


3. Raise the locking bar and lock the bike to it.

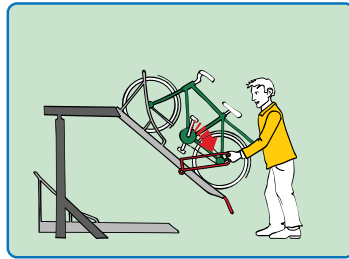


4. Lift the rack back into the horizontal position

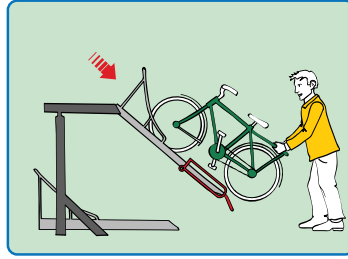
Unloading your bike from the upper racks



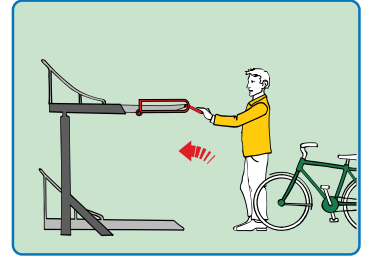
1. Pull down the upper rack, the bike will lower slowly towards you



2. Unlock the bike and lower the locking bar



3. Hold the bike and guide backwards towards you



4. Return the upper rack to its original position

Shelters

Cycle-Works can also provide a range of quality shelters and compounds to complement the Josta® 2-tier rack. These can be customised as required.

Shelter height

2700mm recommended
2600mm minimum



[more info](#)

Higher Kennet, East Croydon train station



[more info](#)

Higher Solent, Euston train station



[more info](#)

Medway Shelter, St George's Hospital



[more info](#)

Medway Compound, St George's Hospital



[more info](#)

Berlin Lockable Compound

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Josta® 2-tier High Capacity Racks



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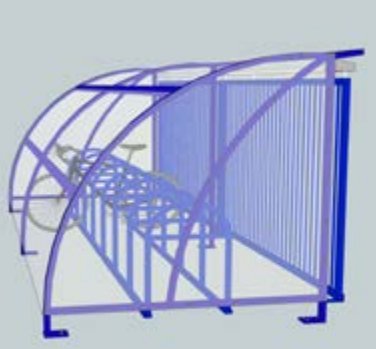




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3D Visualisations



Precision Engineering



Powder Coating



Professional Installation



Commercial / Residential



Healthcare



Rail

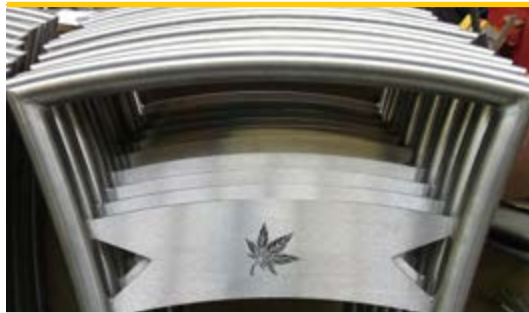


Education

About Cycle-Works

Cycling is our passion. We believe that cycling is good for people, good for society and good for the environment. This belief underpins everything we do. We believe that the provision of quality facilities will increase the use and acceptance of the bicycle.

All our employees and associates cycle regularly in diverse disciplines such as commuting, touring and long distance audax rides. We are active in both local and national cycle campaigning.



Our Products

- Individual bicycle lockers
- High capacity 2-tier racks
- Open access and lockable shelters
- Wide range of individual racks
- Vertical and horizontal racks



Our Services

- Initial site visits
- Advice on product selection
- Consultation on your plans
- Full delivery and installation
- Aftercare and maintenance



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