

Review of Box Hill Metropolitan Activity Centre

3

3.6 Strategic Transport context and issues

The *2007 Structure Plan* access framework is focussed on the need to:

- Improve pedestrian amenity and safety
- Make riding a bicycle a viable transport option
- Prioritise public transport
- Manage traffic to minimise negative impacts
- Reduce parking and support walking as the primary means of access in and around Box Hill
- Encouraging most trips of 1km or less to be made on foot

It is notable that the *2007 Structure Plan* emphasises the importance of the shift to pedestrian priority and provides a plan to guide this shift. With respect to the dominance of private vehicles, through traffic and parking, the structure plan also states that this dominance needs to be reduced, but it does not provide a robust plan to manage the issues. There is reference to reducing parking requirements, and reducing lanes of traffic. However, the actions are relatively broad and are focused on encouragement and deferred action through a series of investigations.

For the most part the rhetoric, the objectives and strategies related to the transport network discussed in the *2007 Structure Plan* are commendable, but very little change has occurred over the past decade.

The future transport vision should therefore build on Box Hill's strengths and focus on a high-amenity centre with high quality pedestrian spaces, excellent active transport links and efficient public transport. Car parking will be required, but should be provided carefully so as to minimise the negative impacts that large parking areas have on centres (effectively creating large dead-zones of reduced or no economic activity).

There is a need to reallocate space to more efficient modes or suffer very significant increases in traffic and pedestrian congestion. In addition to this, projected growth in population and employment will place significant pressure on open spaces and raise the need for improved linkages to Box Hill Gardens, Kingsley Gardens, Surrey Park and new open space areas in the heart.

From a range of incomplete data sources it is roughly estimated* that on each average weekday:

- There are around 100,000 people in Box Hill
- Around 13,000 people arrive in Box Hill by train
- Around 6,000 people arrive at Box Hill by bus
- Around 1,500 people arrive at Box Hill by tram
- Around 1,000 people ride a bicycle to Box Hill
- Around 30-35,000 people arrive at Box Hill by car
- Around 40-45,000 people walk to Box Hill

Of course, once inside the activity centre itself, all people are pedestrians when moving between various destinations within Box Hill. The pedestrian network needs to be proportioned to accommodate significant numbers at peak periods.

A total of 68,700 vehicles are driven into Box Hill each day (including buses, trams, cars and trucks). Whitehorse Road carries 20,000 vehicles per day. Elgar Road carries over 30,000 per day. Considering the number of people accessing the centre itself (set out above), this means that around half the cars on the road in Box Hill are through traffic. Through traffic makes no contribution to the economic vibrancy or function of the activity centre and would be better diverted elsewhere.

* **Note:** These figures are rough estimates due to lack of data availability. For instance, data is available for total traffic volume, however, no data is available from VicRoads on through traffic. An accurate figure would require further data collection and it is recommended that this exercise is undertaken as part of any current or future transport study.

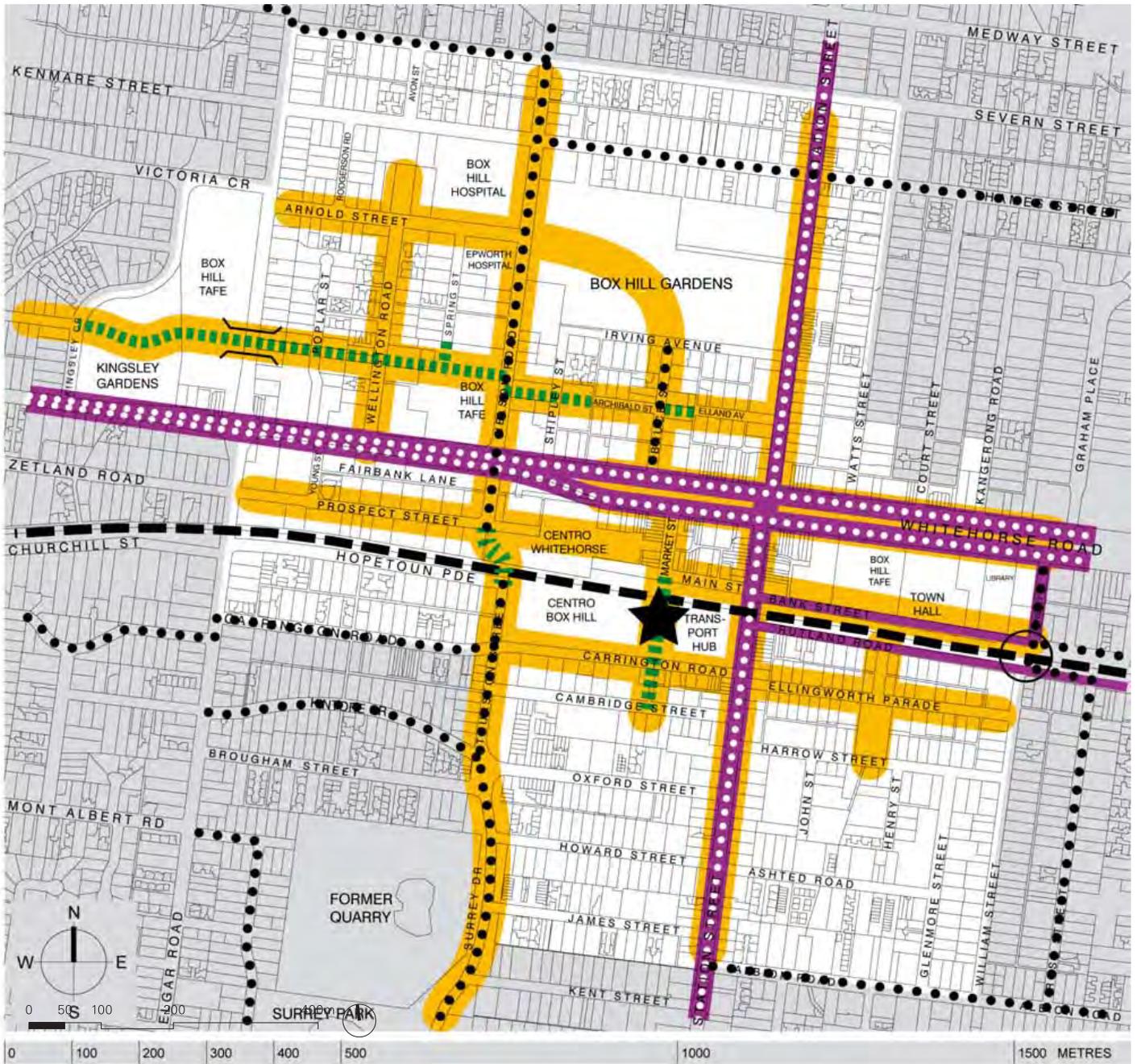


Figure 3.22 'Access Framework' |
 Reproduced from 2007 Structure Plan,
 pg.15

- Priority Pedestrian Corridors
- Proposed or significantly improved pedestrian and cycle links
- Proposed public Transit Priority streets (with peak-period bus lanes) + Principal Bicycle Network
- Existing local bicycle routes (on- and off-street)
- Railway
- ★ Train / bus station and transit interchange
- | | Existing pedestrian overpass
- Existing pedestrian level crossing

3.6.1 Transport Capacity

The transport network in Box Hill has limited capacity across all modes. The total capacity of the road network to provide for access to Box Hill is limited by the lane and intersection capacity around the centre. In total there are six road entry points to Box Hill (Whitehorse Road, Elgar Road and Station Street) each with a maximum peak period capacity of two lanes in either direction. As an initial estimate from first principles this road network cannot cater for more than 9,700 vehicle movements in any given hour.

In comparison, the bus network provides capacity for 5,000 passenger movements in the peak hour and the railway line provides capacity for up to 50,000 passenger movements in the peak hour into Box Hill.

Actual capacity of all modes depends on the ratio of visitors to through movements on each mode. For example, the trains are used by a high proportion of people travelling through Box Hill to reach Melbourne CBD, and these absorb capacity that could otherwise be used by people getting off (and other people getting on) at Box Hill. In a similar way, through movements on the road network take up capacity that could otherwise be used by people for whom Box Hill is their destination.

There is no scope for increasing road space to provide significant additional capacity for cars, as the road network is already maximising car throughput in the morning and afternoon peak periods. The Eastern Freeway widening will make getting to Box Hill by car even easier than it is today. Key to reducing traffic congestion levels will be encouraging future residents and visitors to arrive in Box Hill using space efficient modes such as walking, bicycle riding and public transport.

Active transport demand will increase as the population in Box Hill grows. There are two different factors that will cause this:

- Local residents (particularly those in apartments) will walk more.
- As traffic congestion increases, some local and regional residents will switch to bicycle riding for transport (as the travel time by bicycle is more reliable).

To achieve this transition and provide a safe environment for the additional pedestrians and bicycle riders, there will need to be a reallocation of road space – specifically wider footpaths and more protected bicycle lanes. This is very similar to what has occurred in the Melbourne CBD over the past two decades. As the population has grown, economic activity needs to be supported by increased space and infrastructure for active transport modes.

There is significant spare capacity in the public transport network in Box Hill, however, there is a need for greater priority for public transport through congestion and traffic signals to improve the effectiveness of the public transport network.

There is a need for the Council to ensure that efficient transport modes are given priority over through movement of private vehicles that do not stop at Box Hill. The State Government, and particularly VicRoads, has a key role with respect to providing greater priority to active and public transport modes on the arterial road network such as Whitehorse Road, Station Street and Elgar Road. In this context, Council has an important advocacy role to play. There is a risk that as more development occurs, traffic congestion will get progressively worse and the community could become less inclined to see changes occur.

While policies such as congestion pricing and broader PTV infrastructure are implemented at a State level (and under statutory authorities such as VicRoads and VicTrack), local councils have an important role in ensuring priority for pedestrian access within and between local neighbourhoods.

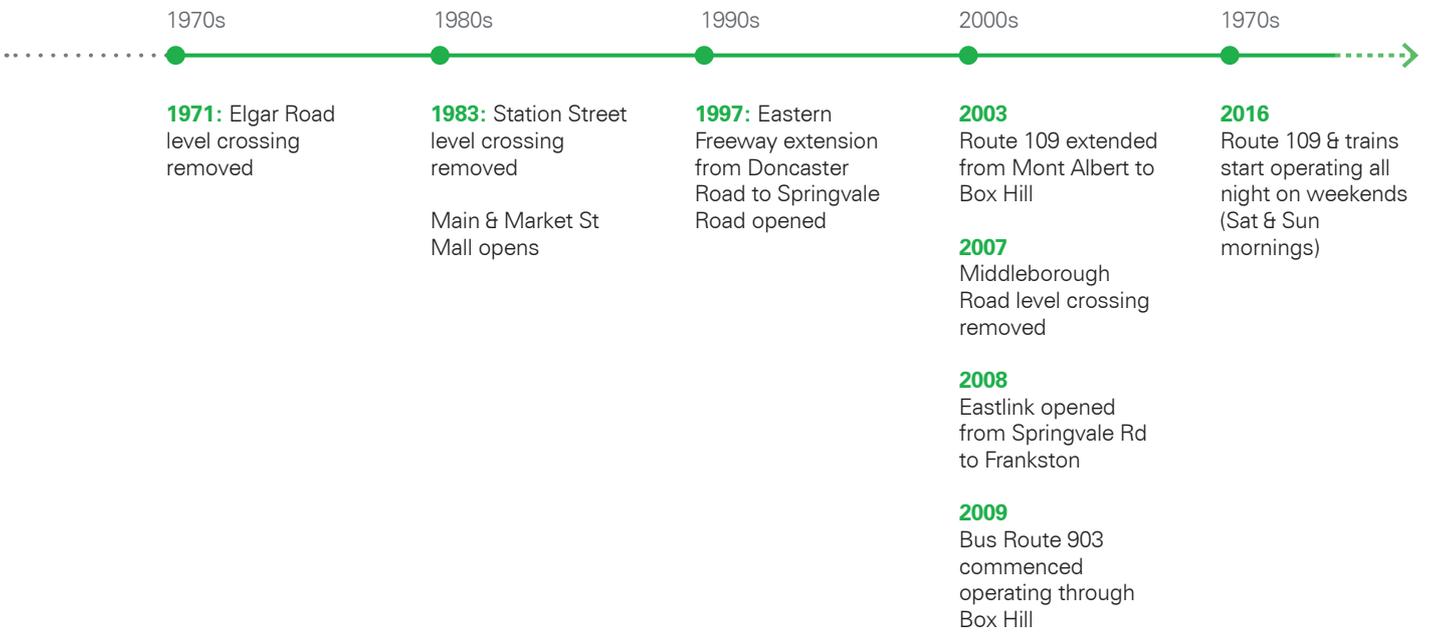


Image: Intersection of Main & Market Streets | 1970s



Image: Intersection of Main & Market Streets | Today



Images: Digging the trench for Box Hill Station (1982)



Images: Box Hill Transit Interchange



3.6.2 Pedestrians

Currently, pedestrians in Box Hill are provided for well in some areas, whilst in other areas they are treated indifferently; there are minimal spaces to congregate and make connections within and between neighbourhoods. Only in the very core of the centre (Main and Market Streets) is the pedestrian space really dominant, and even then, it rapidly changes within a 100-metre walk in any direction.

The pedestrian spaces are either high quality (malls) or very low quality. The low quality areas have inadequate width for pedestrian movement, inappropriate surfaces, lack of pedestrian priority, minimal shade and a lack of intuitive wayfinding and directness.

Significant improvement is required to make Box Hill a nice place to visit and linger. The only public areas that any significant number of people linger in is the pedestrian mall at Main & Market Streets and Box Hill Gardens. As the population increases, a new set of more urbane public spaces will be required. This will need to include spaces in each neighbourhood and will also require strengthened links to green spaces that are a short distance from the activity centre.

Pedestrian connections into the hinterland are a mix of new high-quality shared paths and low quality, disconnected links that lack the amenity required to encourage walking for transport to Box Hill. Opportunities to link into green space have been explored but not acted upon with enough vigour.

Pedestrian links connecting the neighbourhoods within the activity centre also need significant improvement. This is partly due to the significant barriers that are presented by the railway line, Whitehorse Road and Station Street. Narrowing these barriers, through the provision of additional pedestrian crossings or physically reducing the width of the arterial road could significantly improve the potential for agglomeration to occur in the activity centre.

3.6.3 Cyclists

Bicycle riders tend to emerge when congestion and parking prices cause car drivers to consider alternative options. The conditions in Box Hill are perfect for more bicycle riders to emerge if appropriate infrastructure is provided for them and marketed appropriately.

Bicycle riding offers the greatest potential to reduce traffic congestion, because bicycle riders:

- Have a longer range than pedestrians
- Tend not get impeded by traffic congestion like buses do
- Cost less to establish than rail-based modes.

Less confident bicycle riders (those yet to switch from driving a car to Box Hill) need two key things to make the trip possible:

- Safe bicycle riding infrastructure (*such as bicycle priority traffic signals, on-street bicycle lanes, off-street dedicated paths and off-street shared user paths*)
- High quality end of trip facilities (*such as showers and lockers at offices, well-lit bicycle parking areas*)
- On-street bicycle parking (*such as adequate provision of bicycle hoops and bicycle commuter parking garage. Another consideration is the update of e-bikes and delivery bikes that are increasing the need for more dedicated bicycle parking infrastructure*)

Box Hill has some safe bicycle riding infrastructure including new paths along the railway line and bicycle lanes along Thurston Street. There is significant scope for more paths linking to key destinations.

Some buildings and institutions in Box Hill have end of trip facilities for bicycle riders, but few of them are high quality and many are restricted to specific institutional users.



Figure 3.23 Peak Hour Network Capacity by mode

The railway station is one particular destination with significant demand for bicycle parking. Improving bicycle parking facilities at the station could significantly reduce traffic congestion around the activity centre. Research shows that high quality bicycle parking facilities and separated bicycle paths both increase the likelihood of people riding a bicycle to the station. Across Melbourne, the Department of Transport (DOT) are planning for an increase in this mode of access to stations, also due in part to local congestion and car parking constraints. Box Hill should be planning for 8% of train passengers to arrive by bicycle by 2030. There are around 13,000 people using the station each weekday. At 8%, this would equate to a demand for over 1,000 bicycle parking spaces in proximity to the station. Even more bicycle parking will be required across the entire centre.

The Box Hill-Ringwood shared use path is a key piece of new infrastructure that will encourage more people to cycle to Box Hill. It will ease traffic congestion and make parking more available for other visitors. However, it needs to be supported with end of trip facilities for employees and the public.

Additional on & off-road lanes will also be required – a bike superhighway model should be explored. The first bicycle superhighway serving Box Hill utilises the railway corridor. This is currently part of the Box Hill-Ringwood Trail but the trail lacks connectivity through Box Hill, terminating at Station Street. A second bike superhighway link should be investigated between Bushy Creek Reserve Trail in Box Hill North and Gardiners Creek Trail in Box Hill South in addition to Whitehorse Road. The *Whitehorse Cycling Strategy 2016* (pg.8) present a compelling economic case on the value of cycling and the need to increase the uptake of cycling.

Key destinations should also be a focus of infrastructure links. These include Box Hill Institute, the Hospitals and major office and residential buildings.

3.6.4 Public Transport

The train line provides mass transit to and through Box Hill from three directions (Belgrave, Lilydale and Melbourne CBD). It provides the greatest potential capacity to bring visitors to Box Hill and it provides swift access for Box Hill residents to Melbourne CBD. In the weekday peak it takes just 16 minutes to travel between Box Hill and Melbourne CBD by express train. During the inter-peak and on weekends the travel time increases by 60% to 26 minutes each way (stopping all stations).

The train station is not compliant with the *Disability Discrimination Act 1992* (DDA), by virtue of a range of factors, but most significantly the access to Platform 4. The elevator to Platforms 2 and 3 is aging and has been known to fail on occasions. Access to the station needs to be made DDA compliant by 31 December 2022. It is not clear whether or not this milestone will be achieved.

Tram Route 109 provides a connection to Box Hill from the west (Balwyn and Kew) along Whitehorse Road. It takes around 45 minutes to travel between Box Hill and Melbourne CBD by tram. Most people on the tram are taking shorter journeys from suburbs close to Box Hill such as Balwyn (9 minutes away), Deepdene (14 minutes away) or Kew (24 minutes away).

Before the tram was extended to Box Hill there was no viable way to reach Box Hill by public transport from Kew or Balwyn. After 15 years of service the tram is carrying about 300 people in the peak hour from these locations, reducing the car parking demand and local congestion by around 250 vehicles (in the peak hour alone).

The tram was extended from Mont Albert to Box Hill in 2003 and reduced Whitehorse Road to one lane of through traffic past each set of tram stops. The reduction in lane capacity of Whitehorse Road between Elgar Road and Union Road was forecast to increase the average delay for each private vehicle by 7 seconds per trip. There are a significant number of commuters to Box Hill from Blackburn and only 14% of them take public transport which is much lower than Balwyn where 23% take public transport. Extending the tram to Box Hill High School or Blackburn is worth investigating, as it would further reduce car dependent travel in the corridor.

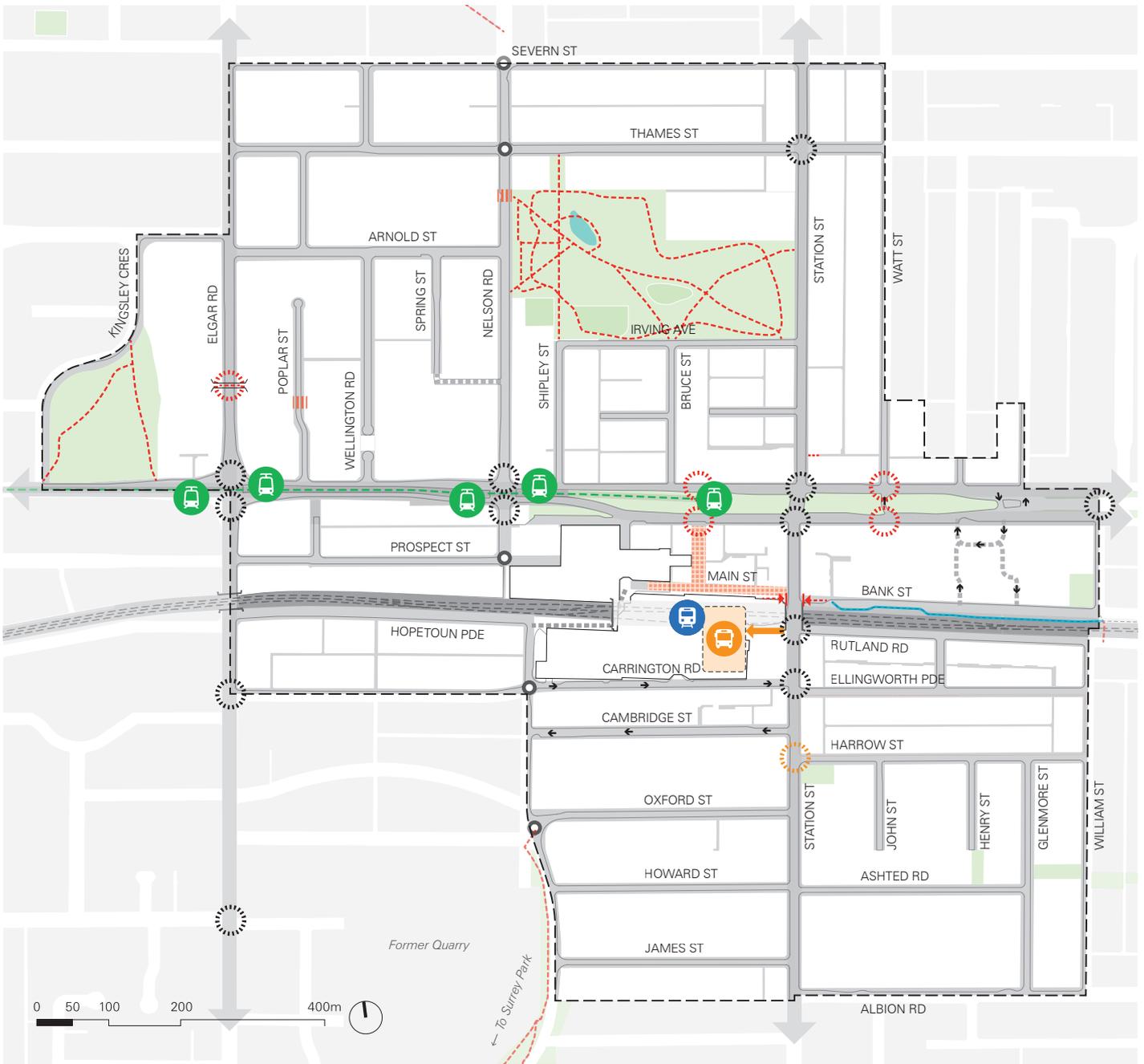


Figure 3.24 Movement Network

Legend

[- -] Structure Plan boundary

Vehicular movement

- ➔ Arterial or key road
- ➔➔ One way road
- ⊙ Signalised intersection
- Roundabout
- ⌈⌋ Above grade crossing | bridge

Pedestrian movement

- ▤ Pedestrian mall
- - - Pedestrian pathway
- ⊙ Signalised crossing
- ⊙ Proposed signalised crossing
- ▤ Zebra crossing
- ⌈⌋ Pedestrian underpass

Cycling movement

➔ Bicycle route

The tram stops in this section of Whitehorse Road are amongst the best in Melbourne for passenger convenience, though access across Whitehorse Road is constrained by multiple road lanes on either side. However, the interchange could be further improved by locating the bus stops immediately adjacent to the tram platforms (as is the case in Queensbridge Street, Southbank).

There are 18 bus routes that serve Box Hill. Just two of these routes provide for travel through Box Hill, the other 16 terminate at Box Hill and do not provide seamless access across the activity centre. The table below shows all the public transport services in Box Hill and the number of services per hour, weekday and week.

The bus network design causes two significant issues for the activity centre:

- Passengers cannot get to their destination easily
- Significant space within the activity centre is dedicated to laying over buses in the core

As the majority of local bus routes terminate on the bus deck in Box Hill, it is almost impossible to make local journeys to Box Hill by bus unless your destination is the very heart of the activity centre. A student trying to get from Mont Albert to Box Hill High School needs to take two 7 minute bus trips, but the total travel time is between 30-35 minutes due to the need to interchange at Box Hill between different routes. This interchange more than doubles the journey time for short trips and also creates a time delay during the journey. Similarly, people trying to get from the east of Box Hill to Box Hill Institute or the Hospital precinct either have to transfer between buses at the interchange or walk.

| Route | Description | Services per | | |
|-----------------|--|-----------------------------|---------------------|---------------|
| | | Weekday peak hour (one way) | Weekday (Both Ways) | Week |
| 201 | Box Hill – Deakin University (Express Shuttle) | 3 | 91 | 455 |
| 270 | Box Hill – Mitcham via Blackburn North | 6 | 111 | 625 |
| 271 | Box Hill – Ringwood via Park Orchards | 3 | 77 | 435 |
| 279 | Box Hill – Templestowe via Blackburn North | 6 | 127 | 706 |
| 281 | Templestowe – Deakin University via Box Hill | 3 | 42 | 232 |
| 284 | Box Hill – Doncaster P&R | 2 | 40 | 222 |
| 293 | Box Hill – Greensborough via Doncaster | 3 | 64 | 356 |
| 302 | Box Hill – Melbourne CBD | 5 | 83 | 504 |
| 612 | Box Hill – Chadstone via Camberwell | 3 | 58 | 313 |
| 732 | Box Hill – Upper Fern Tree Gully | 3 | 85 | 493 |
| 733 | Box Hill – Oakleigh via Monash Uni | 4 | 88 | 518 |
| 735 | Box Hill – Nunawading via Burwood East | 2 | 59 | 349 |
| 765 | Box Hill – Mitcham via Forest Hill | 3 | 67 | 394 |
| 766 | Box Hill – Burwood via Surrey Hills | 2 | 47 | 265 |
| 767 | Box Hill – Southland via Chadstone | 4 | 79 | 483 |
| 768 | Box Hill – Deakin University via Canterbury Rd | 2 | 29 | 145 |
| 903 | Altona – Mordialloc via Box Hill | 7 | 184 | 1,073 |
| 966 | Box Hill – Melbourne CBD (Night Bus) | 0 | 0 | 32 |
| Tram 109 | Box Hill – Port Melbourne | 11 | 229 | 1,489 |
| Train | Belgrave & Lilydale – Melbourne via Box Hill | 20 | 278 | 1,551 |
| Total | | | | 10,640 |

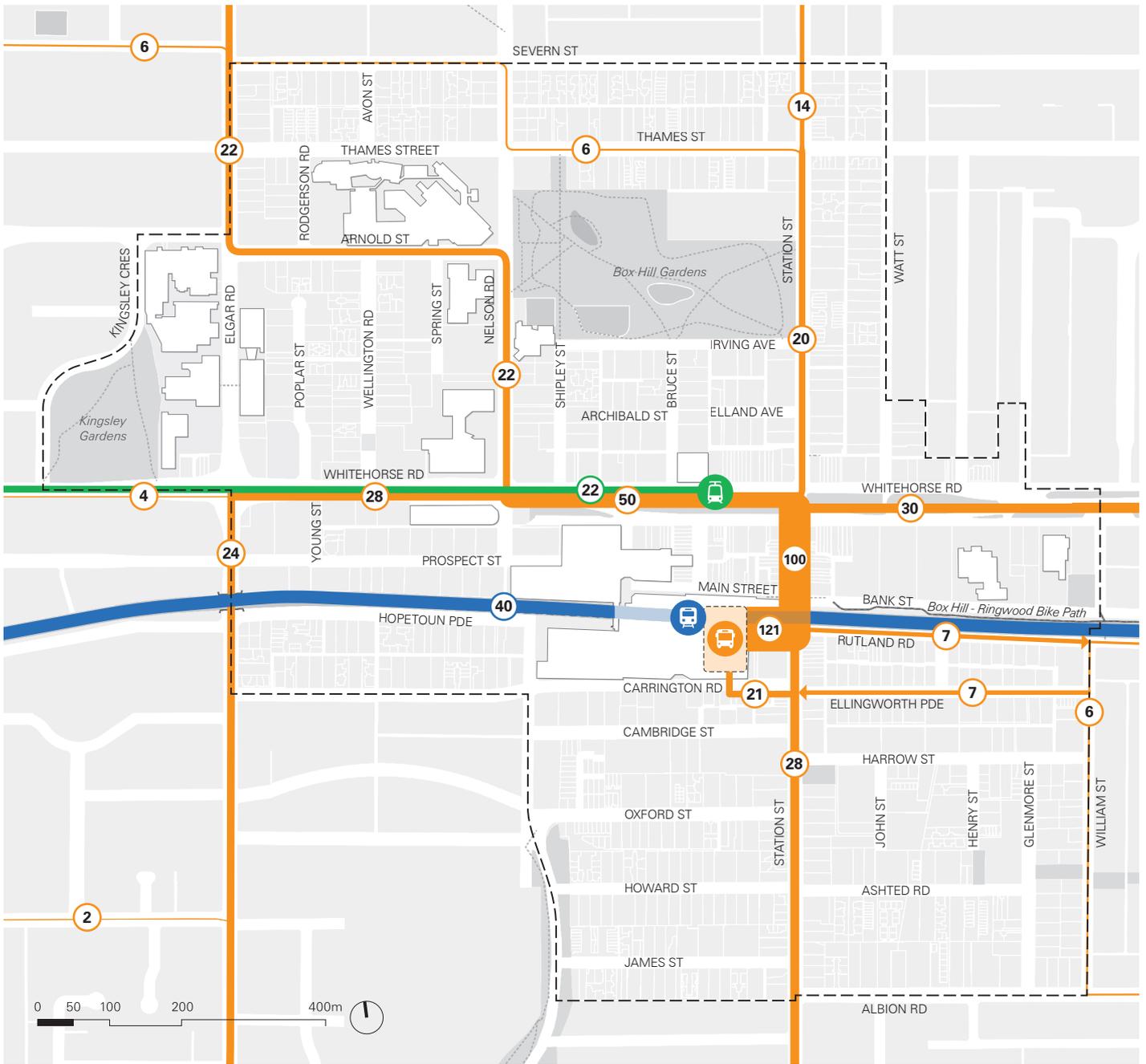


Figure 3.25 Public Transport services during on-peak times (*only inbound services are displayed for simplicity*)

Legend

[- -] Structure Plan boundary

Public Transport

⑩ Number of services / hr

— Route | thickness indicates services / hr

In addition, people wanting to reach local destinations in Box Hill quickly may need to remain on the bus and walk back from the bus interchange to their final destination. This is the case for passengers on Routes 281 and 767 trying to access the new buildings on Whitehorse Road. Currently to access their destination they need to walk over 500 metres from the bus stop, despite the bus travelling straight past their building. An additional bus stop on Whitehorse Road level with Market Street would resolve this issue.

The current network and focus on train interchange above local access results in many local visitors to Box Hill opting to drive their car.

The bus network has not been simplified since well before 1980. The bus service reviews conducted in 2010 recommended a range of changes to the bus network, few of which have been implemented. Two that have been involve providing a greater level of service to Deakin University. Three new bus connections have been provided between Box Hill and Deakin University since 2010. Each of these routes are slightly different in terms of travel times and operating alignments. The differences create confusion for little benefit.

There needs to be a dramatic change to the bus network in order to achieve customer objectives in Box Hill. Simplification of the network will increase legibility of the network and lead to increased use and reduced traffic congestion.

High quality, fast connection to the station platforms is essential for some bus routes (that are serving as railway feeders) but other routes (operating as feeders to Box Hill activity centre) are less dependent on the connection to train services.

3.6.5 Vehicle Traffic

The amount of space available for private vehicles to use getting to, and travelling through, Box Hill is not increasing. The number of car spaces is increasing and the amount of freight deliveries to Box Hill is also increasing. These two factors are the main reason why traffic congestion on the road network will rise in the future.

However, as the residential, student and employee populations all increase in Box Hill, there will also be greater need to increase the allocation of space to pedestrian areas. In particular, Station Street and Whitehorse Road do not have adequate space for pedestrians in the street. This is causing an unsafe situation with large groups of people waiting at pedestrian crossings regularly throughout the day.

Whitehorse Road is not a traffic priority route between Dorking Road and Elgar Road. The Movement & Place classification for general traffic is "Encourage local access only". As Whitehorse Road is a traffic route (not a priority traffic route) through a Metropolitan Activity Centre, this stretch of road should prioritise pedestrians, public transport, bicycle riders, local freight and local access.

The significant spare lane capacity in Whitehorse Road could be contributing to traffic congestion on nearby roads as people are attracted to use Whitehorse Road as a link between north-south arterials.

The speed zone in Whitehorse Road (60km/h) is currently inappropriate for the Movement & Place classification of the street, while in Station Street the speed zone is 40km/h from 8am-7pm Monday to Saturday. Consideration should be given to applying 40km/h speed zones across the entire activity centre during business hours including weekend business hours. This would make Box Hill more pedestrian centric and provide safer conditions for pedestrians and discourage through traffic.

Clearways and parking may need to be replaced with wider footpaths and bicycle lanes in some places. Temporary closures of lanes or carriageways should be tested on Sundays to gauge the reaction from all road users (including pedestrians walking around Box Hill). This could be trialled with events taking over the southern carriageway of Whitehorse Road such as an Ice Rink or Farmers Market.

Many roads in Box Hill are severely restricted due to their narrow width (one-way operation is used in some of them). Carrington Road is almost perpetually congested due to the Vicinity car park and Station Street is regularly congested due to the complexity of the car park and bus deck traffic signals.

Improving the car movement within the centre could be achieved by providing parking areas on the outer edges of the activity centre, getting some cars out of the traffic stream before they reach the congested core of the network.

This approach would divert drivers to car parking located on the side of Box Hill that they are coming from – reducing the need for them to drive through the centre just to get to parking. This approach provides a better balance of parking demand by providing cheaper and higher quality parking for those drivers willing to accept the trade-off between lower cost parking and a slightly longer walk to their destination. This approach is routinely applied in CBD environments and already exists in Box Hill through informal provision of long-stay on-street car parking (storage) at no charge in locations distant from the core activity centre area.

3.6.6 Car Parking

Car parking is abundant within Box Hill but it is not well distributed across the centre or utilised efficiently. Box Hill currently has over 13,000 car parking spaces including over 4,000 on-street spaces. The majority of these are used for car storage (meaning for longer than 4 hours). Importantly, only 3,000 are dedicated to short term parking supply, which provides for the needs of approximately 15,000 visitors each day.

A significant weakness in the overall parking supply results from 30% of the spaces being unavailable to the public. This is generally because these spaces are located on private property and hence locked away for private use. This is a highly inefficient use of land, given that very few people have a car in Box Hill 24 hours a day, seven days per week.

Car parking provision is a key factor that influences people's decision to own and use a car. The provision of more car parking in Box Hill will increase local congestion. Car parking is near fully occupied in some areas such as commuter storage spaces at the station, near hospitals and in key employment areas. However in other areas or at other times of the week, there is significant availability of parking – meaning that there is not enough demand in those locations and in those times. For example, car parking in Rutland Road, Bank Street, Watts Street car park, Cambridge Street, Whitehorse Road and many other areas of the CBD are not full for any significant part of the day. The ITS has indicated that mid-week peak utilisation of current off street car parking is currently 71% (p.50).

Parking around the hospital is a particular issue that impacts on irregular visitors' perception of Box Hill and also makes being employed at the hospital and Box Hill Institute difficult. Most people much prefer to pay money in return for certainty and ease of finding a car space. A small number of people prefer to pay by walking longer distances from free parking.

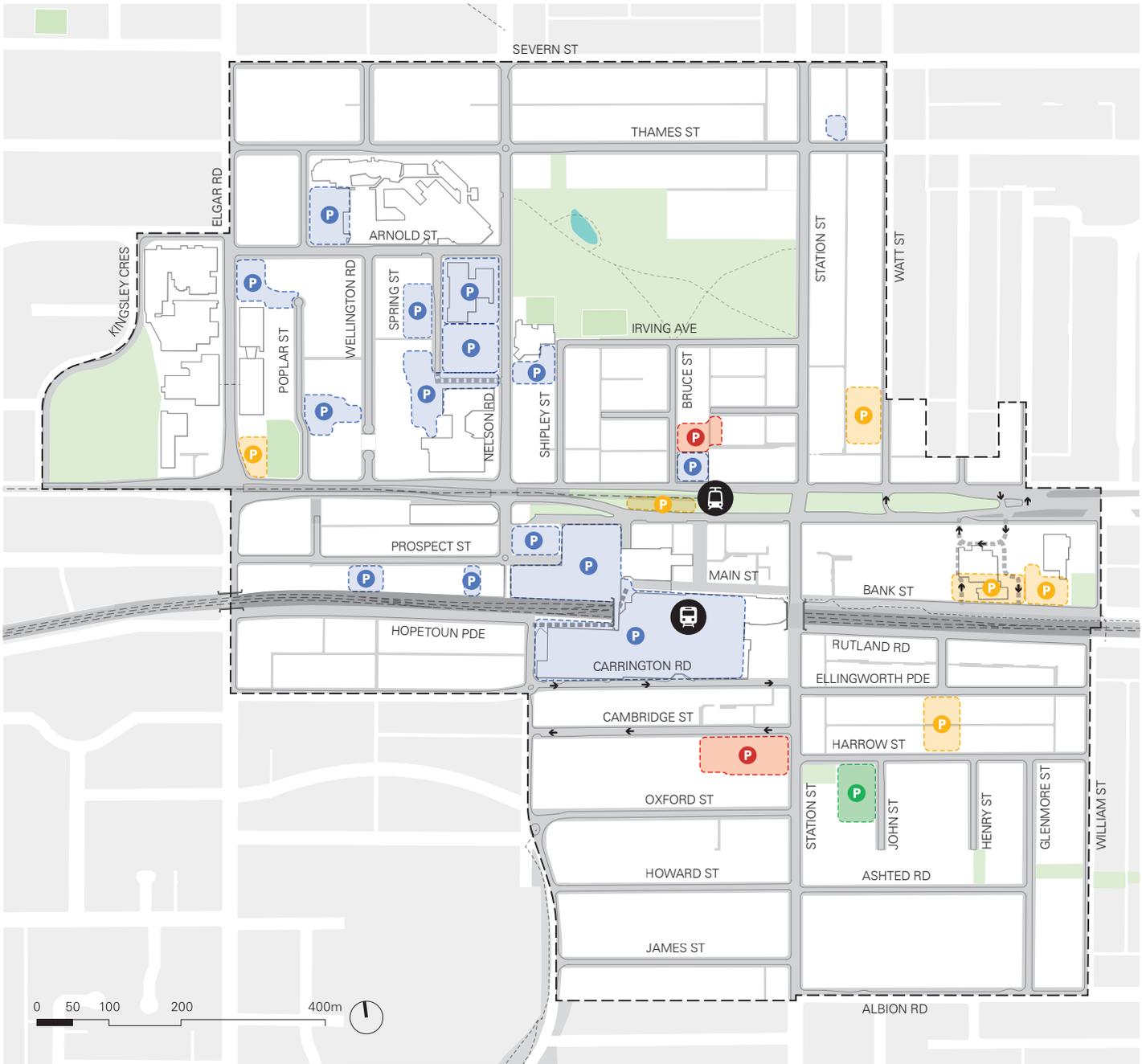


Figure 3.26 Major existing parking nodes

- Legend**
- Structure Plan boundary
 - Major car parking nodes*
 - Council car park
 - Council car park | sold
 - Council car park | under construction
 - Publicly accessible car park

3.6.7 Freight Deliveries and Waste

Loading areas in Box Hill are relatively concealed but typically difficult to get to. There is a wide range of loading needs across the centre and these needs are further diversifying with the rapid growth of apartment buildings. There are currently at least six loading areas for the north and south Vicinity Centre Malls.

The existing loading areas are also being intruded upon due to increases in construction and pedestrian activity. Left in their current locations, the loading areas will cause increasing congestion and safety issues. Consolidation of deliveries and waste removal will be essential to reducing congestion and negative impacts of waste removal.

In each neighbourhood of the activity centre, consideration must be given to the types and amount of deliveries and waste that will be required to move to and from the neighbourhood each day. A series of consolidated delivery and waste collection locations should be established across the activity centre. This could apply best practice approaches used by the City of Melbourne in Caledonian Lane, where restaurant waste is consolidated and dried out prior to removal (resulting in many fewer truck movements to and from the site).

Electric cargo bicycles are already being used by some businesses such as food delivery services. Shared electric cargo bikes could make local businesses more competitive and productive. These should be investigated as part of a package to make it easier for businesses to deliver goods across the activity centre and the wider area.

Car share vehicles could also improve efficiency for some businesses, such as those sharing office space in one of the many serviced office premises. Council should support fixed-base shared transport service providers (cars and electric bicycles) by allocating on-street parking spaces for storing the vehicles.

3.7 Public Realm

As cities increase in density, providing access to high quality and useable open space, safe and inviting streets and public spaces becomes increasingly important. However, strategies to support urban planning that is resilient to climate change and enhances comfort for people as well as increasing opportunities for biodiversity have become increasingly challenging for city leaders.

Increasingly, the public realm within Box Hill does not meet the needs of an emerging higher-density environment, due in part to the domination of private motor vehicles over everything else. The amenity and useability of the public realm is often directly impacted by buildings including by articulation, depth, separation, overshadowing, landscape treatments and pedestrian and vehicle access. Council has recently prepared an operational document, *'Box Hill Urban Realm Treatment Guidelines'* by Hansen Partnership, which contains the specification of an improved landscape and material palette throughout the activity centre. These guidelines, yet to be realised, are relevant and its implementation should be complimentary to future public realm enhancements outside its scope, for example, new public spaces and potential reconfiguration of streets.

Box Hill's centre comprises a number of existing public realm typologies as follows:

- Arterial road streetscapes including Whitehorse Road which (east of Nelson Road), features a wide, vegetated median, tram terminus and treed service lanes.
- Well used main streets on Whitehorse Road, Station and Carrington Streets featuring City of Whitehorse paving and furniture palette
- The Box Hill pedestrian mall with a bespoke landscape palette
- Residential streetscapes featuring predominantly established avenue plantings of both native and exotic tree species
- Public open space in the form of parks and gardens, road reserves and closures and linear open spaces

Public Realm Analysis

- 1 Traditional Residential Streets. Generally good quality, with mix of exotic and native canopy trees, some quite established. New developments are changing established rhythm of garden frontages.
- 2 Two 'disconnected' sides of Whitehorse Road. Limited pedestrian crossing opportunities.
- 3 Underutilised central median and garden space features established tree specimens. Can be better utilised for the creation of a new civic space.
- 4 Pedestrian shopping Mall lacks 'civic' presence. Link to Train Station is underplayed.
- 5 Inconsistent streetscape treatments and poor integration of Shopping Centre
- 6 Generous setbacks and established landscapes are currently underutilised.
- 7 Poor street interface with rail. Precinct would benefit from streetscape upgrade to improve pedestrian connectivity.
- 8 Public realm treatment of laneways used by pedestrians need improvement.
- 9 Existing public open space is a valuable passive space and needs improvement.
- 10 Traffic volumes and narrow footpaths make Station Street unattractive for pedestrians. Opportunities for improvement of presentation and removal of pedestrian underpass.
- 11 Valuable public open space at Kingsley Gardens, with established tree canopy and playground. Some intensification of use may be appropriate as well as improved pedestrian connectivity through to Elgar Road.
- 12 Valuable public open space at Box Hill Gardens, with established tree canopy, playground, multi-use ball court, pond and circuit path. Poor interface with rear of residences to north. This area would benefit from introduction of mid block connections and improved streetscapes to encourage north-south pedestrian circulation.
- 13 Established streets trees and good quality streetscape to Nelson Road.
- 14 'Institutional' uses with forecourts and gardens but little activation of street frontages.
- 15 Little mid-block connectivity between institutions and between buildings.
- 16 Traffic volumes and narrow footpaths result in constrained public realm to Elgar Road.
- 17 Poor landscape treatment to Whitehorse Road. Potential for streetscape improvement.

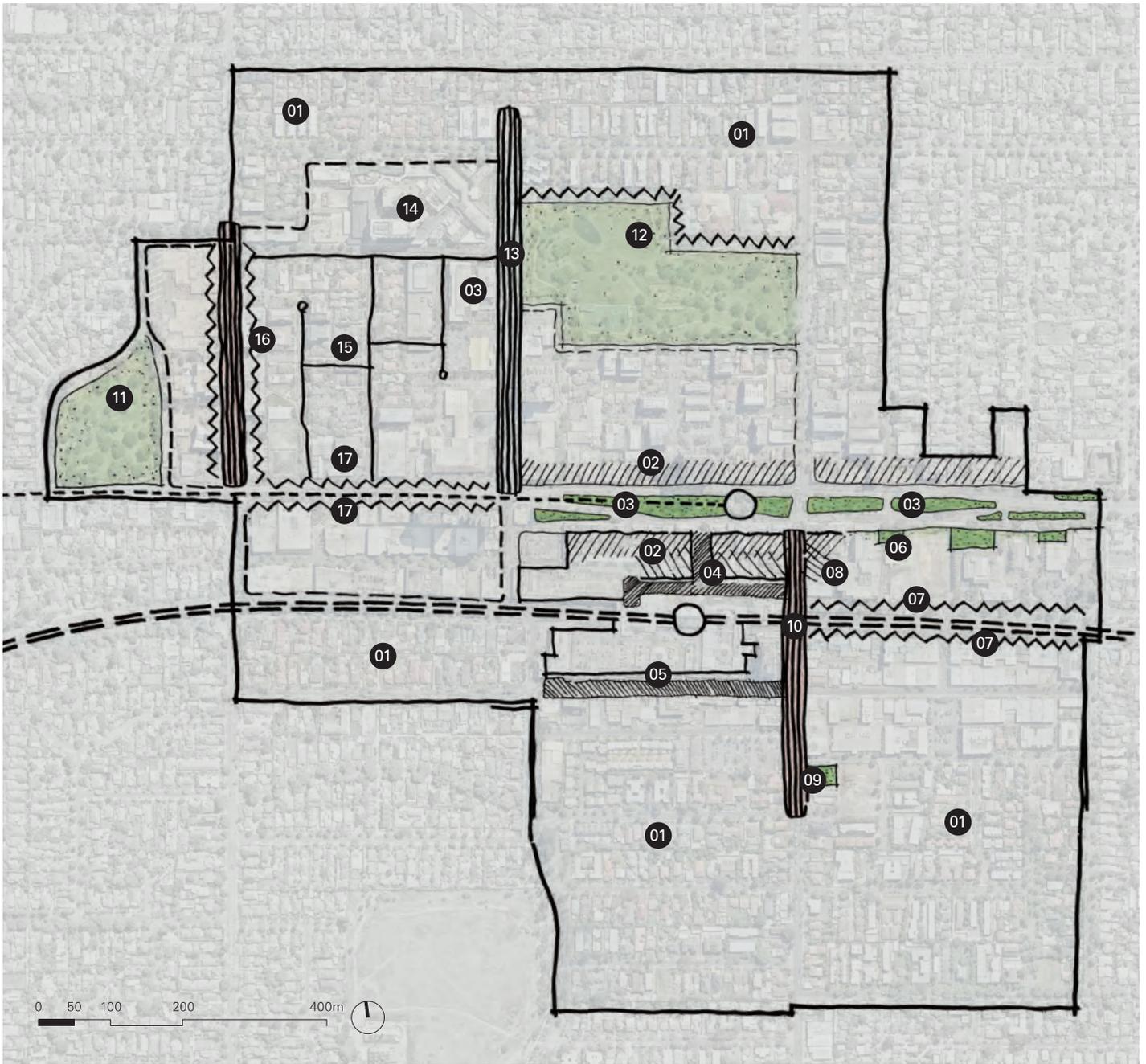


Figure 3.27 Existing Public Realm

3.7.1 Key public open spaces

Box Hill's centre features a number of municipal, neighbourhood, local, small local and linear public open spaces as classified in the Whitehorse Open Space Strategy (WOSS) 2007.

Box Hill Gardens: a municipal open space asset featuring botanical style tree plantings. Tree species are native and exotic, evergreen and deciduous, with limited understorey vegetation. A small lake, a new regional children's playground and circuit path. Also recently completed is a multi-purpose hard court and barbecue area adjacent to the playground. Streets mark almost the full length of the Garden's edge. The rear of residential properties including a right of way access to garages forms the northern boundary. A single link through to Thames Street provides connection to residential streets to the north. Box Hill Gardens is a valuable public open space asset used for both passive and active recreation. The landscape uses could be intensified in pockets to support the varied needs of a growing population, without impacting its expansive landscape character.

Kingsley Gardens: a neighbourhood open space asset featuring botanical style tree plantings. Tree species are native and exotic, evergreen and deciduous, with limited understorey vegetation. A children's playground and barbeque area are present. To the north and west, Kingsley Crescent marks the edge of the Gardens. At the eastern boundary, the ground rises to interface with the Box Hill Institute from which there are a number of pedestrian connections. Whitehorse Road forms the southern edge. The landscape uses could be intensified in pockets to support the varied needs of a growing population, without impacting its expansive landscape character.

Pioneer Park (Harrow Street Park): a small local open space asset featuring established, exotic deciduous trees and ornamental garden beds. Seating and commemorative plaques recognising pioneering members of the Box Hill community are present. The Harrow Street multi level carpark currently under construction will enhance the Park's eastern frontage where a welcoming plaza including bike parking forms part of the new development.

Ashted Road and Linsley Street Reserves: small local reserves currently functioning as linking spaces. These reserves are informal and underdeveloped in character and could be more intensively programmed (landscape uses) to support the recreation needs of a growing population.

Whitehorse Road Central Median: classified as a small local open space asset, this significant road reserve comprises tram terminal, food and beverage tenancy and outdoor dining space and seating areas. It also incorporates the main pedestrian crossing point for north south movement over Whitehorse Road. Established native and exotic, deciduous and evergreen trees are a feature of the space. The presence of car parking undermines the integrity and purpose of the median Reserve. Developed over time, the landscape treatment is not cohesive and requires upgrade to provide a landmark space of appropriate quality, and useability.

Street Closures: A number of street closures including at Young Street, Zetland Road and Bruce Street have created linking spaces for improved pedestrian connectivity. These could be treated as small local spaces, cleverly designed to support the recreation needs of a growing population.

Box Hill Mall: Bespoke design and public realm palettes have been installed on Market and Main Streets to denote their significant shopping function and to identify the extent of the pedestrian area. As their street-like character has effectively been retained, a valuable opportunity to create a true civic space supporting community needs has been missed. Additionally, the space is compromised by activities at loading bay located at the western end of Market Street. The connection between the tram terminus within the Whitehorse Road median, and the train station could be amplified for better legibility.



Box Hill Gardens



Whitehorse Road Central Median



Box Hill Mall | Market Street towards ATO Building



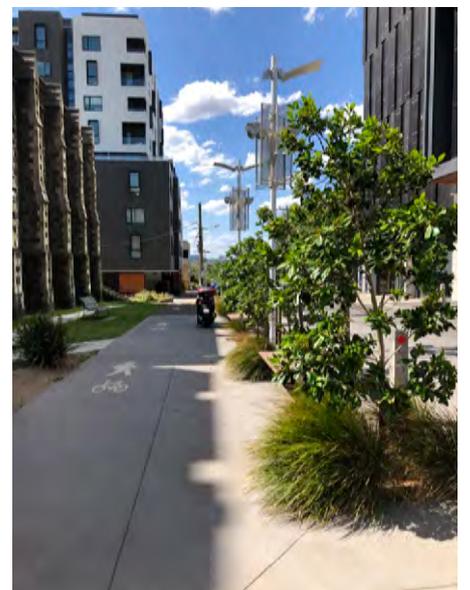
Box Hill Mall | Main Street towards the east



Pioneer Park



Kingsley Gardens



Improved shared pathway alongside partial closure of Bruce Street

3.7.2 Access to open space, including outside of the centre

The WOSS identified 'gap' areas within Box Hill's centre — along Prospect Street at the southern end of Nelson Road, in the centre near Station Street, and south of the rail line between Rutland Road and Ellingworth Parade to the east of Station Street.

Surrey Park and the Aqualink Aquatic Centre are an important 'municipal' open space assets, located to the south of Box Hill's centre. Improving access to Surrey Park will help to address the 'gaps' in public open space access identified by the WOSS.

East-west connectivity and access to Surrey Park could be enhanced by the provision of safe crossing points for pedestrians and cyclists over Station Street at Ellingworth Parade and Harrow Street. Streetscape improvements to Carrington Road and Cambridge Streets could improve connection to Thurston Street linear reserve linking to Surrey Park. Improvements to Howard and Ashted Streets would further enhance pedestrian connection from the Victoria / Glenmore chain of parks to the east.

North-south connectivity and access to Surrey Park could be enhanced by streetscape improvements to Thurston Street and connections through the Thurston Street linear reserve. A crossing point for pedestrians and cyclists over the rail line at the southern end of Nelson Street should be considered.

Victoria / Glenmore Chain: a 'linear' public open space, Victoria / Glenmore chain of parks provides an open space connection across three street blocks. Streetscape improvements to Ashted Street, across Station Street and along Howard Street would provide improved access to public open space for pedestrians and cyclists, including to Surrey Park.

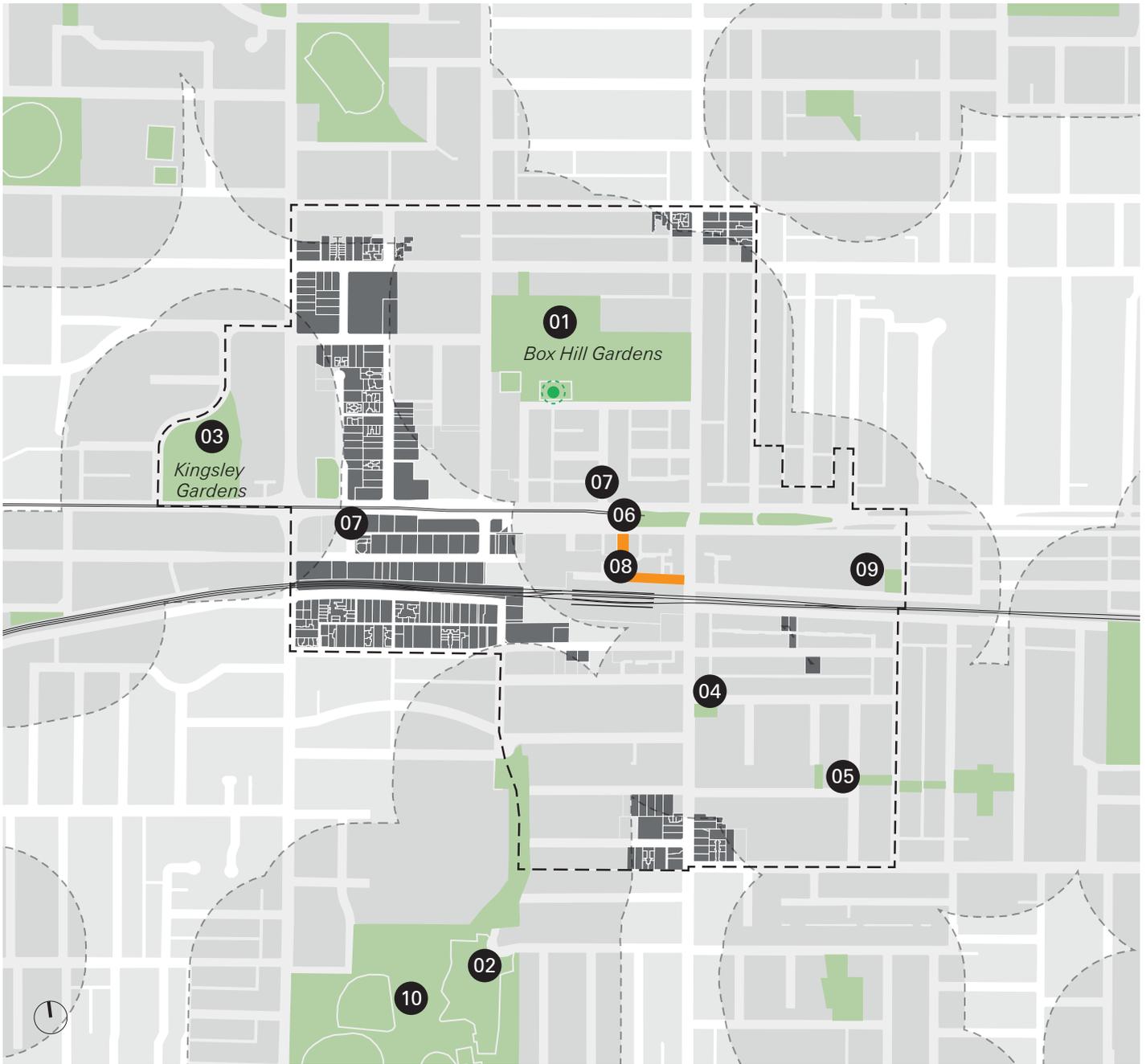


Figure 3.28 Public open space network within MAC and broader surrounding area (~1km)

Legend

[- - -] Structure Plan boundary

Public Transport

■ Open space

■ Box Hill Mall

● Active recreation

■ Lots without access to open space
(Box Hill Bowls Club exempted due to limited public accessibility)

○ 200m buffer

- 01** Box Hill Gardens
- 02** Aqualink Aquatic Centre
- 03** Kingsley Gardens
- 04** Pioneer Park (Harrow Street Park)
- 05** Ashted Road Reserve
- 06** Whitehorse Road Central Median
- 07** Street Closures
- 08** Box Hill Mall
- 09** Linsley Street Reserve
- 10** Surrey Park



Whitehorse Road



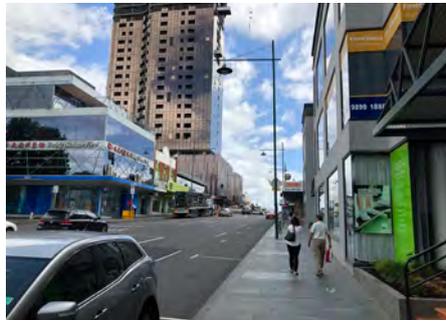
Railway reserve (Bank Street)



Railway reserve (Rutland Road)



Elgar Road



Station Street (south)



Station Street (north)



Prospect Street



Carrington Road

3.7.3 Streetscape quality

Box Hill's centre comprises streetscapes that vary in character and quality.

Residential streets: Box Hill's centre features many good quality residential streetscapes. These are generally broad, linear streets with boulevard tree plantings and grassed nature strips. Both native and exotic trees are present, although there is a predominance of exotic, deciduous species.

Whitehorse Road (general): Established evergreen and deciduous median and edge plantings east of Nelson Road contrast with the weak visual impact made by immature plantings to the west where the public realm is constrained. The overall streetscape quality does not adequately embody the importance of Whitehorse Road as arrival threshold, transport interchange and people space. This streetscape could be redeveloped to create a significant new city space. Changes to vehicular movement, space allocation and speed will be key to this and should be explored.

Whitehorse Road (east of Nelson): Plantings of Oak (*Quercus*), Brush Box (*Lophostemon*) and Plane (*Platanus sp.*) characterise the central median with Plane (*Platanus sp.*) to the service roads. Between Nelson and Station streets, City of Whitehorse paving and street furniture have been used to denote this portion of Whitehorse Road as the centre's 'main street'. The same treatment also extends for a short distance to the east of the Station Street intersection.

Whitehorse Road (west of Nelson Road) Immature plantings of Oak (*Quercus sp.*) make a limited contribution to street presentation and quality of the pedestrian experience.

Railway reserve: Poor quality interface with rail reserve compromises Bank Street and Rutland Road. Upgrade to streetscape is required to improve these streets and create comfortable and attractive pedestrian spaces. At Hopetoun Parade a wider planting zone has allowed for the establishment of trees that improve the interface with rail.

Elgar Road: Overall poor quality with constrained public realm, particularly north of Whitehorse Road creating an uncomfortable street environment for pedestrians. A fastigiate (narrow and vertical) tree form rather than a spreading canopy tree has been selected.

Station Street (general): Lack of consistency of treatment and overall poor quality of streetscape.

Station Street (north of Whitehorse Road): Paving materials vary and include concrete and asphalt sections. Tree species are a combination of native Brush Box (*Lophostemon sp.*) and exotic Plane (*Platanus sp.*). The interface with Box Hill Gardens could be highlighted and improved.

Station Street (South of Whitehorse Road): the City of Whitehorse paving palette has been installed immediately south of Whitehorse Road. Public realm is constrained here with narrow, cluttered footpaths. High traffic volumes and concerns about pedestrian safety have led to the installation of pedestrian safety barriers. A pedestrian underpass provides an east-west connection to Main Street. This part of Station Street is dominated by car traffic, and is a poor quality environment for pedestrians.

Kintore Crescent: features very established exotic Plane (*Platanus sp.*) street trees.

Prospect Street: features established exotic Plane (*Platanus Sp.*) street trees.

John Street: the carpark between John Street and Station Street features established native Eucalyptus (*Eucalyptus sp.*) trees.

Nelson Road: This streetscape is of good quality with consistent street tree planting of Oak (*Quercus sp.*) and presents a high quality approach to the hospital precinct. As a key connector, however, the footpaths could be wider.

Carrington Road: The streetscape treatment is not consistent across both sides of the street. The City of Whitehorse paving palette has been installed on the south side of the street only. The Box Hill central brick paving remains on the north side of the street and undermines the cohesiveness of this street and the centre more generally. It is noted that on the north side of Carrington Road, approximately 1.5 metres from the kerb is owned by the Council, whereas the rest to the north is owned by Vicinity Centres. To date, Vicinity has not considered it a priority to upgrade the streetscape as it will be considered as part of the master plan for the centre.

