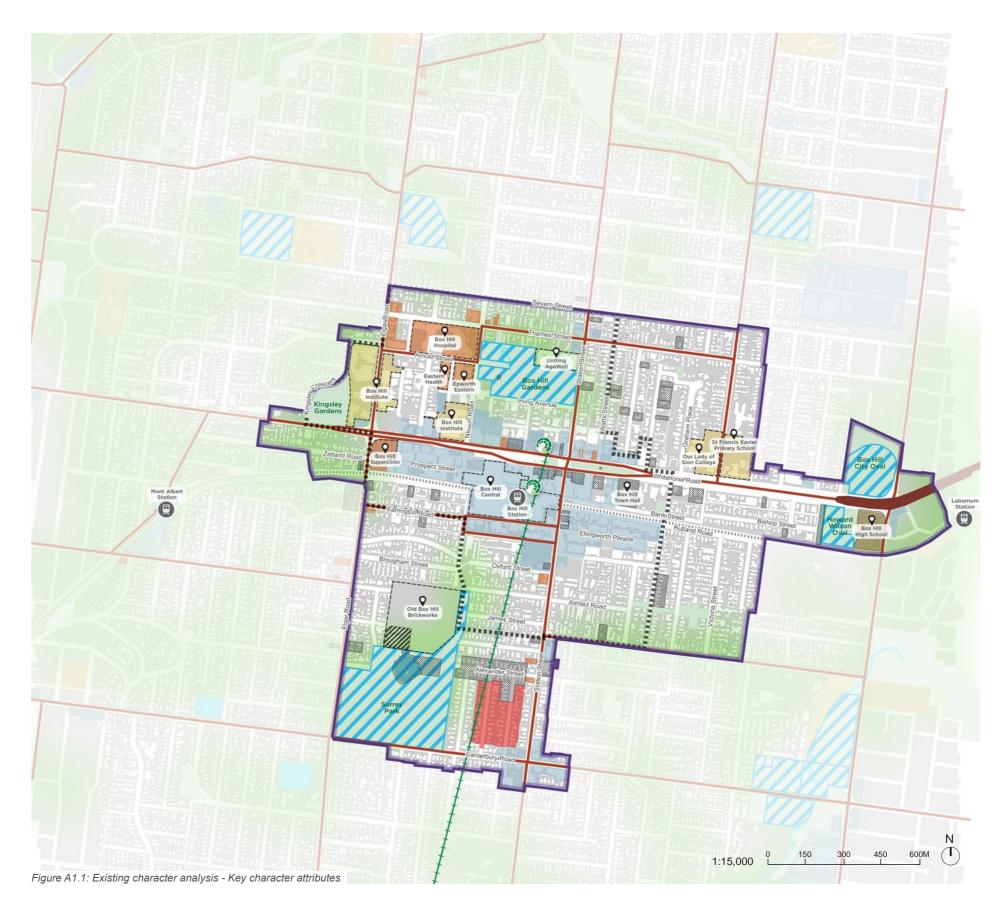
Appendix A Existing conditions analysis

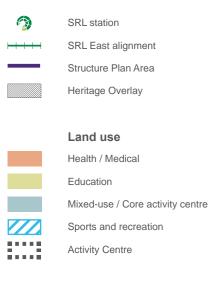


Key character attributes

Urban character areas refer to areas within the Structure Plan Area that possess distinct physical, architectural, cultural and functional characteristics. These areas are typically defined by their physical and land use attributes, which may include natural and man-made features.



Legend





Built form

Large landholders

Valued-character (Neighbourhood Character Overlay)

Landscape features

Water Public open space Canopy - major **Movement** Highway

Arterial roads



Summary

Following a review of the background documents and local policy, desktop and site analysis was undertaken to understand the character elements and features within the Box Hill Structure Plan Area.

A number of character typologies and character areas have been defined. The following is a description of the key character drivers for the Box Hill Structure Plan Area.

Land use and key destinations

Box Hill is characterised by a high concentration of commercial, enterprise, education, health, civic and cultural areas along Whitehorse Road and the Belgrave / Lilydale Line, surrounded by leafy suburban residential areas.

The core retail area surrounding Box Hill Station is a crucial destination for all of Whitehorse and Melbourne's eastern suburbs. It is characterised by a wide offer of multicultural retail and services. The core area is increasingly mixed-use, expanding towards the enterprise areas in Ellington Parade and Prospect Street with mid- and high-rise residential buildings. North of Whitehorse Road, the concentration of health and education services, including Box Hill Hospital and the Box Hill Institute, and many other specialised and ancillary services constitute a large and expanding employment ecosystem.

Outside of the core, the Structure Plan Area is almost entirely characterised by a suburban residential use with sparse but large open spaces, including Box Hill Gardens, Surrey Park, and many ovals and athletic fields. These residential areas often include a small grain neighbourhood retail anchor as well as local civic services set along a local or arterial road.

Topography, natural features and landmarks

The topography across the Structure Plan Area slopes gently down from a high point in the residential areas in the south-west to a relatively flat central area in the Box Hill Metropolitan Activity Centre (MAC). The relatively flat central area is a distinctive feature that enhances the walkability in the MAC. The height differences in the peripheral areas result in views for residential areas in the north toward high rise buildings in the Box Hill MAC and residential areas in the south-west towards the Dandenong Ranges.

A few prominent natural features are located in public spaces like Box Hill Gardens and Surrey Park. Large areas have a distinctive landscape and large tree canopy, protected by the landscape overlay (SLO9).

Urban structure

Maroondah Highway / Whitehorse Road and the Belgrave / Lilydale Line are the primary organising elements of the Structure Plan Area and act as a barrier for pedestrian movement. The urban structure in the central area of Box Hill has a higher street density, and shorter blocks that facilitate movement and legibility to support diverse land uses and mixed activities. There is a mix of long- and medium-sized regular blocks in the peripheral residential areas, with some examples of curvilinear street networks and cul-de-sacs which support a more local suburban character.

Built form

Most of the Structure Plan Area is characterised by low density suburban detached housing in 1 to 2 storeys.

However, the MAC includes higher density (high and mid-rise) residential apartments and commercial buildings. The most prominent high-rise buildings are visible along Station Street, Whitehorse Road and between Maroondah Highway and Prospect Street. The taller built form is visible across the Structure Plan Area, especially from the lower areas in the north-west along Elgar Street and the south-east from Station Street.

The Box Hill Structure Plan Area also has multiple clusters of heritage dwellings in various architectural styles (Victorian, Edwardian, Federation, Californian Bungalow and Interwar), from the 1950s to contemporary infill development. The most heritage precincts are Combarton Street, Alexander Street, and Mont Albert.

Elements contributing to character

In the following pages, the analysis highlights the main drivers of character within the Box Hill Structure Plan Area. The analysis highlights the main contributors to character and distinguishing characteristics across the area.

The main character drivers identified are:

- residential areas
- and Town Hall
- Nelson Road
- Area and beyond
- precincts with heritage value.

• The robust health and education cluster including Box Hill Hospital and Box Hill Institute, multicultural retail and enterprise activity in the centre, and leafy suburban

· Whitehorse City Council's major institutions and community facilities include multiple fields, ovals, the Aqualink aquatic centre, and the Box Hill Library

• Active edges and landmarks along with Maroondah Highway / Whitehorse Road and health, enterprise and education institutions along Elgar Road and

• Parallel transport corridors of Whitehorse Road and heavy rail, resulting in characteristic large horizontal urban blocks of 300 to 400 metres long

 The topography gently slopes to the north and south-east, with a ridgeline passing through Box Hill Central, providing views to multiple areas in the Structure Plan

 Generally, exotic landscape vegetation includes shrubs, garden beds, lawn areas, and many tall canopy trees in private gardens and regularly planted in local streets

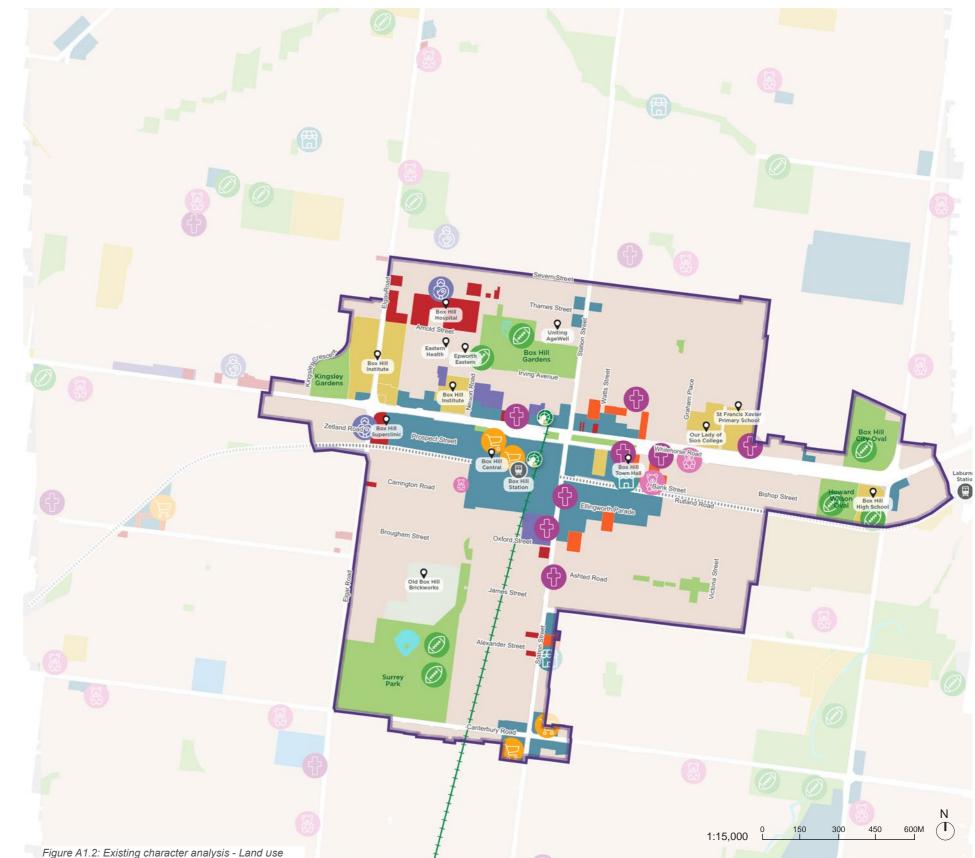
· High- and mid-rise contemporary buildings along main corridors and in the core of Box Hill contrast with the lower scale residential areas to the periphery, including

Land use

Box Hill is recognised by the mixed-use Metropolitan Activity Centre (MAC), which includes large scale and fine-grain retail, hospitality, health and education multicultural services, enterprise areas and important civic institutions. Pockets of intense residential development have emerged in the MAC and along the main corridors in Whitehorse Road and Station Street. Still, the Structure Plan Area is characterised by suburban residential land use outside the MAC.

Key non-residential uses are summarised below:

- The pedestrian mall along Market Street and Main Street has an inviting social atmosphere. It interfaces with fine-grain retail, restaurants, and the large format Box Hill Central and Box Hill Station
- Prospect Street is characterised by mid-rise enterprise buildings, with mainly education, employment, health and IT services. However, the northern edge along Whitehorse Road has transitioned into high-density residential uses, commonly with a commercial ground floor
- There is some enterprise activity remaining along Elingworth Parade, but, the area has transitioned chiefly to local multicultural hospitality, residential and education services, with a growing presence of mid-density residential development
- Along Whitehorse Road, there is a high concentration of public land and community spaces, including Box Hill Town Hall, Police Station, Library and fire station
- North of Whitehorse Road between Kingsley Gardens and Shipley Street, there is a high concentration of medical and education services, with the Box Hill Hospital and Box Hill Institute as the main anchors. There is also a range of ancillary uses located along Arnold Street and Nelson Street.



Legend





Community facilities

The Structure Plan Area has numerous community facilities, including education and health services, schools, childcare, local council, and sports and recreation facilities. Community facilities include the following, which are dispersed throughout the area.

The main community facilities include:

- Primary schools are primarily located in the south of the Structure Plan Area, and secondary education along or north of Whitehorse Road, including:
 - Primary Schools St. Francis Xavier's Catholic Primary School, Our Lady's Primary School
 - High schools Box Hill High School, Our Lady of Sion College.
- The Box Hill Institute is the only major tertiary education in the Structure Plan Area offering higher education and vocational courses in biotechnology, animal science, business, IT, creative industries and other trades. Without any active edges, and by employing a private walkway over Elgar Road, the institute is inward-oriented and self-contained
- The eastern side of Whitehorse Road has a distinctive civic character with a treelined boulevard surrounded by critical civic spaces, especially to the south of the road. These include Box Hill Town Hall, an imposing neoclassical facade that is a landmark along the road. Further east, there are open spaces (Box Hill City Oval, Howard Wilson Oval next to Box Hill High School). To the north of the Structure Plan Area, Box Hill Gardens and Surrey Park have primary community services to the south. These are further described on the next page.

Box Hill Gardens

- Box Hill Gardens is an ample 6.6-hectare open space located 200 metres north of Whitehorse Road, with its western boundary defined by Nelson Road and its east by Station Street. An aged care facility and private homes back onto the park along its northern boundary, and Irving Avenue and the Box Hill RSL Bowls Club define its southern boundary
- The park provides large grassy areas for games, a small lake with a bridge across the centre, a large playground, multi-purpose sports courts, a war memorial, a cricket pitch, BBQs and public toilets. There is also a 1-kilometre running track that loops around the park. The Nelson Road side is opposite Box Hill Hospital, and it is a popular spot for hospital staff to sit and eat lunch.

Box Hill City Oval

- Box Hill City Oval is located on the north-western corner of the Middleborough Road and Whitehorse Road intersection. The site includes a football / cricket oval with a large pavilion and additional outdoor stands to seat large crowds. There are two off-street car parks and a large open space and playground located to the north of the oval on the corner of Balton Street and Davey Street
- The Box Hill City Band is located in a small brick building north of the oval on Middleborough Road.

Surrey Park / Aqualink Box Hill

• Surrey Park is a large multi-purpose recreational and sporting facility located on the north-east corner of Elgar Road and Canterbury Road. The reserve provides

a range of recreational spaces, including three football/cricket ovals, a baseball field, basketball courts, tennis courts, indoor futsal courts and indoor and outdoor swimming pools

• Initially dug to provide clay for the nearby brickworks, an artificial lake is located north of Surrey Park. There is a path that runs around the perimeter of the lake and a large playground with BBQ and picnic facilities next to the lake. Today the lake is used by the model boat racing club.

Kingsley Gardens

 Kingsley Gardens is located 100 metres west of Elgar Road on Whitehorse Road alongside Box Hill Institute. Mature trees characterise the 2.75-hectare park, winding paths, a sloping lawn and a central playground with a Picnic and BBQ area. The park has established residential areas to the north, south and west. It has access to the 109 tram on Whitehorse Road.



Figure A1.5: Box Hill Town Hall



Figure A1.3: Pedestrian mall along Market street and Main street



Figure A1.6: Surrey Park Lake



Figure A1.4: Kingsley Gardens



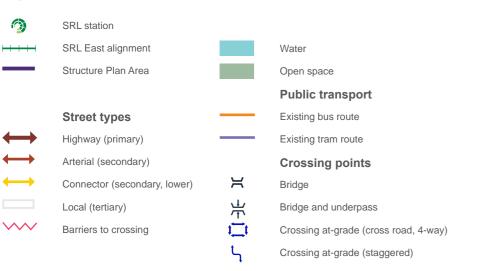
Figure A1.7: Box Hill Gardens

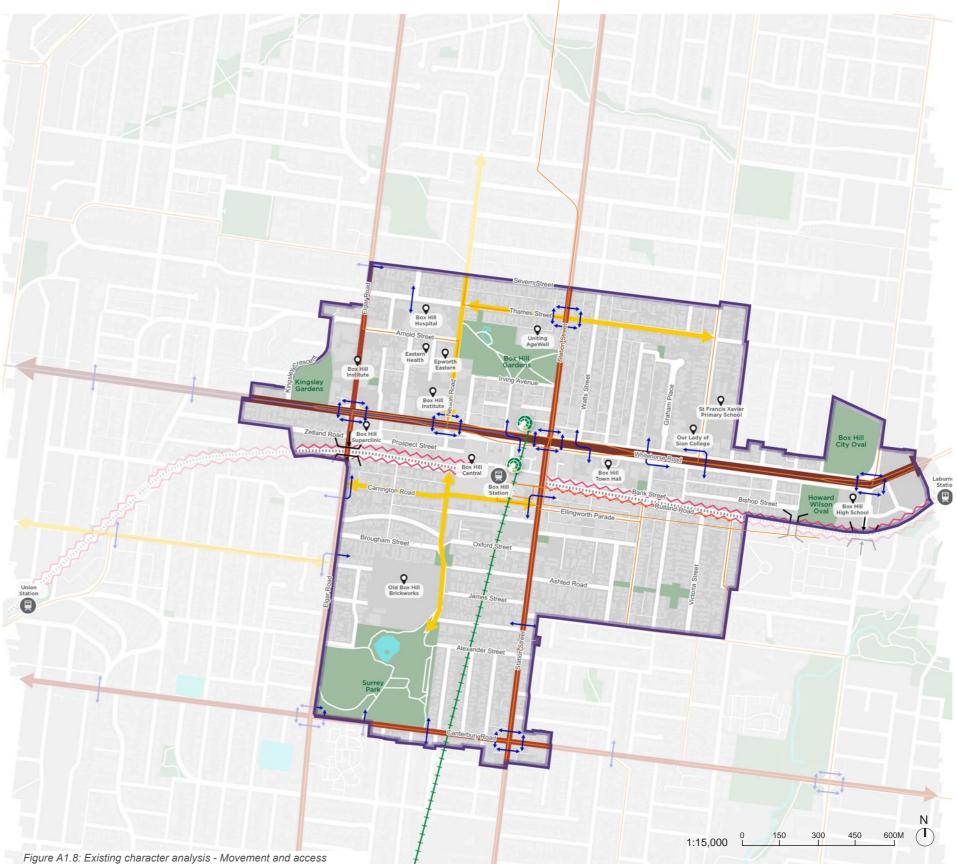
Movement and access

The Box Hill Structure Plan Area has movement networks for public transport, private transport and active travel, walking and cycling.

Key connectivity issues include:

- Barriers to pedestrian connectivity occur where vehicle dominated highways, arterial roads and train corridors intersect with local streets and other pedestrian paths. Long crossing times and low pedestrian amenity at these intersections discourage pedestrian movement
- The street network ranges from highest order/primary streets (Whitehorse Road) to high order/secondary streets (such as Elgar Road) to residential streets. Lower order streets throughout the area are present in gridded and cul-de-sac network types, with occasional curvilinear layouts. The ease of movement and legibility of the network thus varies throughout the Structure Plan Area
- While Whitehorse Road provides efficient movement for a large volume of vehicles through the Structure Plan Area, the scale of the highway (three lanes in each direction) poses a barrier to movement in an east-west and north-south direction, particularly for pedestrians and cyclists. Movement is facilitated by the frequency of staggered pedestrian crossings along with the health and education, retail, and civic and culture precincts
- Lack of pedestrian permeability within the retail core often leads to crowding, particularly at pedestrian crossings along Whitehorse Road
- Pedestrian crossings are present at several intervals along Whitehorse Road. Interval crossings are concentrated around commercial and civic uses, while fourway crossings are present at major intersections with Elgar Road, Nelson Road, Station Street and Middleborough Road
- Just outside the retail core, the existing train line poses a barrier to movement in a north-south direction, with only one other pedestrian crossing available between Elgar Road and Middleborough Road.





Legend





- While there is little dedicated bicycle infrastructure (excepting the Box Hill to Laburnum Bike Path), many unofficial, on-road routes are well traveled and offer opportunities to connect Box Hill to the Koonung Creek Trail in the north and Deakin University Burwood in the south
- Arterial streets with a double carriageway in each direction include Elgar Road, Middleborough Road and Station Street. As with Whitehorse Road, these street acts as obstacles to pedestrian and cyclist movement. A variety of crossing types are located at destination points.



Figure A1.9: Vehicle and pedestrian underpass, Elgar Road.



Figure A1.12: Interface with Railway Line, Rutland Road



Figure A1.10: Connection to Surrey Park, Surrey Drive



Figure A1.13: Box Hill to Laburnum Bike Path



Figure A1.11: Intersection of Whitehorse Road and Elgar Road



Figure A1.14: Pedestrian street connection to Box Hill Central, Main Street

Street width

The Box Hill Structure Plan Area has a predominantly regular street network, with only a few scenic curvilinear residential streets and rare cul-de-sacs. These regular streets do not respond directly to the sloped topography in some areas resulting in more pronounced slopes that permit views across the area towards the Box Hill MAC and distant landscape features, including the Dandenong Ranges.

The street network consists of arterials, main roads and local/connector roads. Some arterial roads widen along with high activity areas, resulting in a perception of fragmentation that makes pedestrian connections difficult. Peripheral residential areas are characterised by narrow streets and often include traffic slowing features that develop a more local suburban residential character.

Whitehorse Road / Maroondah Highway is the main highway crossing the area. The road widens from 20 metres on the edges of the Structure Plan Area to 30 metres when entering the Box Hill MAC and 60 metres through the core of the activity centre between Nelson Road and Kangerong Road. The widest part includes just a few pedestrian crossings, and signals operate with short time cycles, often requiring two cycles to cross the Highway. This demonstrates the extent to which the street represents a pedestrian barrier. The street itself is also a destination, including a central median as wide as 30 metres with large canopy trees, some open spaces, landmark monuments, and car and bicycle parking.





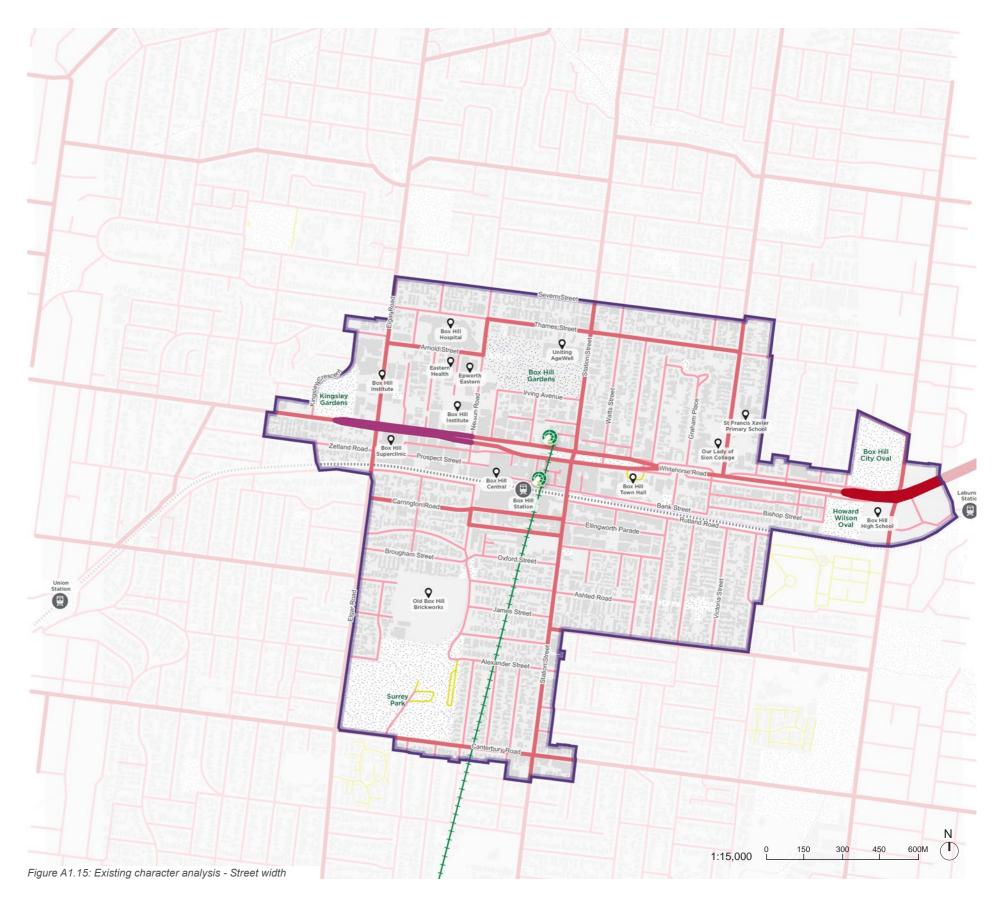








Figure A1.16: Arnold Street



Figure A1.17: Whitehorse Road

Figure A1.19: Elgar Road



Figure A1.20: Watts Street



Figure A1.18: Widened Whitehorse Road

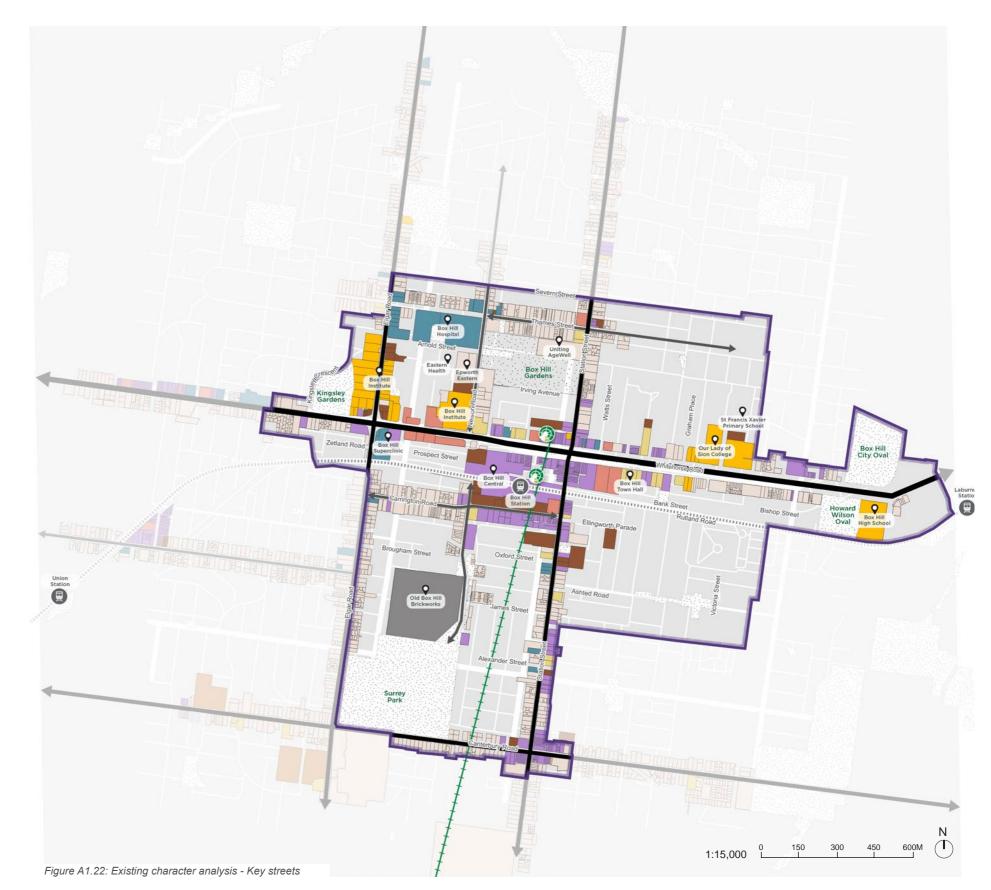


Figure A1.21: Carrington Road

Key streets

The Box Hill Structure Plan Area includes multiple streets aligned to the distinctive character of different areas. These range from streets along enterprise areas with distinctive canopy, winding streets in heritage areas that create a local residential atmosphere and the more civic character on Whitehorse Road. The key streets that influence the character in the Structure Plan Area are summarised below:

- Whitehorse Road The aforementioned Whitehorse Road forms part of Maroondah Highway, a key east-west highway that is 188 kilometre in length, connecting the north-eastern fringes of Melbourne to the lower alpine region of Victoria. The central road reserve provides places for pedestrians to sit and relax or wait for a tram. The reserve provides the only space for greening because of insufficient footpath space to the road edge
- Station Street provides connections to suburbs in the north and south as well as arterial roads such as the Eastern Freeway and Monash Freeway. The street has retail and business uses around Box Hill Central and also at the Canterbury Road intersection. Area's in-between are generally low rise residential with the occasional small business or community building. The street is 20 metres wide, comprising two traffic lanes in each direction. In Box Hill Central this reduces to a single lane of traffic in each direction with on-street car parking. There are very few street trees within the Box Hill Central section of Station Street. The residential areas of Station Street have a more consistent tree canopy, particularly north of Whitehorse Road where more regular planting improves street appeal and shade levels
- Elgar Road is a 20 metres wide road that provides important connections to suburbs in the north and south as well as to the Eastern Freeway. The southern end of Elgar Road (south of the rail bridge) is characterised by large canopy street trees, wide nature strips and an established residential interface. North of the rail overpass the topography slopes down and the road corridor widens out to the Whitehorse Road intersection. A much greater level of development is apparent in this location. Institutions such as Box Hill TAFE and the Box Hill Hospital come into view and large business and residential towers punctuate the skyline. Mid-rise buildings define this part of Elgar Road and extend along the eastern edge of Elgar Road to Thames Street.



Legend







- Carrington Road can be split into two very distinct halves:
 - The western end of Carrington Road (west of Thurston Street) characterised by free standing houses and townhouses, the occasional apartment building, large canopy street trees with wide nature strips and on street car parking
 - The eastern end of Carrington Road has become well known for its bustling character, budget-friendly restaurants and specialist shops.
- · Canterbury Road is a 20 metres wide roadway that starts in Camberwell and runs 25 kilometres east terminating at the intersection with Mount Dandenong Road in Montrose. Located 1-kilometre south of central Box Hill, Canterbury Road provides important connections to suburbs in the east and west. The 20 metres wide road corridor has two traffic lanes in each direction and intermittent street trees. There is a local shopping area at the Station Street intersection that services Box Hill South
- Thames Street is located to the north of Box Hill Hospital and the Box Hill Gardens. It provides an important east west link between Station Street and Elgar Road and separates the hospital / mixed use area from the established residential area located in the north. The 20 metres wide street corridor provides a single lane of traffic in each direction, on-street car parking, wide nature strips and large canopy street trees.



Figure A1.23: Station Street - central precinct



Figure A1.24: Market Street



Figure A1.27: Elgar Road - north of the rail overpass



Figure A1.28: Bank Street

Figure A1.25: Main Street



Topography and natural features

Topography and natural features strongly influence the character of the Box Hill Structure Plan Area. Long, leafy streets and a connection to the natural landscape corridor of Gardiners Creek in the east contribute to the suburban garden character of the area.

Box Hill Central is located at a relatively high point within its surrounding regions and, as a result, has occasional long views across the surrounding suburbs. Elevation reaches a high point where Box Hill Central and Box Hill Station are located. The topography of the area slopes down to Gardiners Creek in the south-east.

A series of green spaces lead to the creek, enabling the collection and passage of water. Topography also sloped down to the Koonung Creek valley in the northeast, with a depression along the Elgar Road alignment. A second depression runs between Box Hill Gardens and Hagenauer Reserve, going to meet Elgar Road. Further north, another depression runs along the Bushy Creek Trail. The area to the southwest of the Structure Plan Area is elevated, with a high point near the Canterbury Road and Elgar Road intersection.

Topography influences the experience in some of the area's low and high points. This includes:

- The high point of Whitehorse Road Passing through Box Hill along an east-west axis, the road reaches a high point at the activity centre, with Box Hill Central, the existing Box Hill Station, residential towers, and other commercial and civic functions taking advantage of the prominent topography
- Canterbury Road is a traffic corridor running in an east-west direction. From various positions, the topography of this area provides views towards the Dandenong Ranges in the east, views of the Melbourne CBD in the west, and an outlook towards the Box Hill MAC to the north. The topography around Surrey Park on Canterbury Road lifts to one of the highest elevations in the Structure Plan Area
- Elgar Road travels down a change in topography as it travels north to link with Koonung Creek and the Eastern Freeway.

Legend

SRL station		Topography
SRL East alignment		35 to 40
Structure Plan Area		45 to 50
Trails		55 to 60
Open space		65 to 70
Features		75 to 80
Low lying area		85 to 90
High lying area		95 to 100
High Point		105 to 110
Key D'nong Ranges Views		115 to 120
Views to CBD		125 to 130
Views to Box Hill MAC		135 to 140
Ridgeline		145 to 150
	SRL East alignment Structure Plan Area Trails Open space Features Low lying area High lying area High Point Key D'nong Ranges Views Views to CBD	SRL East alignmentStructure Plan AreaTrailsOpen spaceFeaturesLow lying areaHigh lying areaHigh PointKey D'nong Ranges ViewsViews to CBDViews to Box Hill MAC

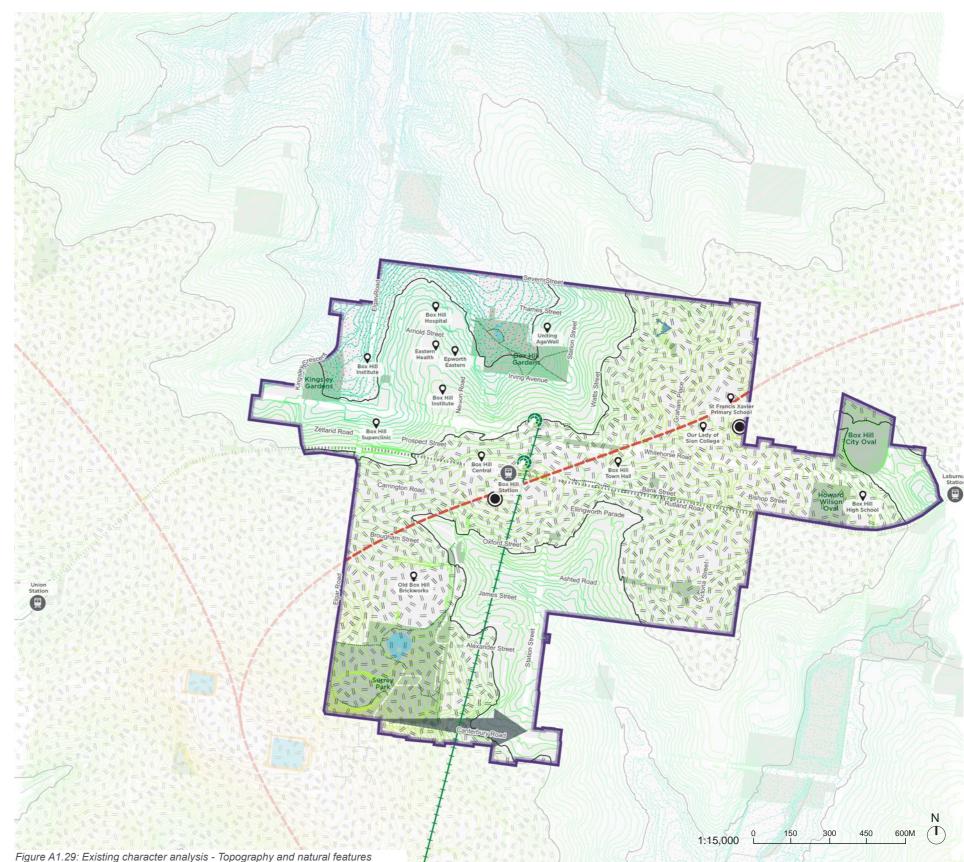






Figure A1.30: Top of Whitehorse Road looking south towards Station Street



Figure A1.33: View south along Elgar Road



Figure A1.31: Albion Road, view to Dandenong Ranges



Figure A1.34: Box Hill Gardens looking southwards towards Bruce Street



Figure A1.32: Sloping topography in residential area



Figure A1.35: Box Hill Gardens looking southwards towards Bruce Street

Landscape character and tree canopy

The Box Hill Structure Plan Area has a garden suburban character, with continuous canopy cover across most areas, except the central retail and health and education urban form areas, where large building footprints and competing needs compromise the leafy character. Residential areas beyond the retail and hospital precincts generally have a good coverage of street trees due to the wide streets and building setbacks. Areas of particularly high canopy cover include Box Hill Gardens and Kingsley Gardens.

- Retail, commercial and light-industrial areas typically possess low levels of tree canopy cover and urban greening. This is particularly the case for those areas directly south and south-west of Box Hill Central. It is also the case along Whitehorse Road, west of the Box Hill Interchange, and within the health and education precinct
- Other area of canopy cover can be found in gardens, such as Box Hill Gardens and Kingsley Gardens. These include a mixture of exotic and indigenous species at varying heights. Many other public spaces, such as sports fields, can be found within the Structure Plan Area, exhibiting established canopy trees around their perimeter
- There are tall trees populating the ground of most public and civic facilities, including schools, Box Hill institute, recreation facilities and cemeteries. Consistent with the garden suburban character, most streets feature grassy nature strips with regularly planted trees, predominantly of exotic origins.

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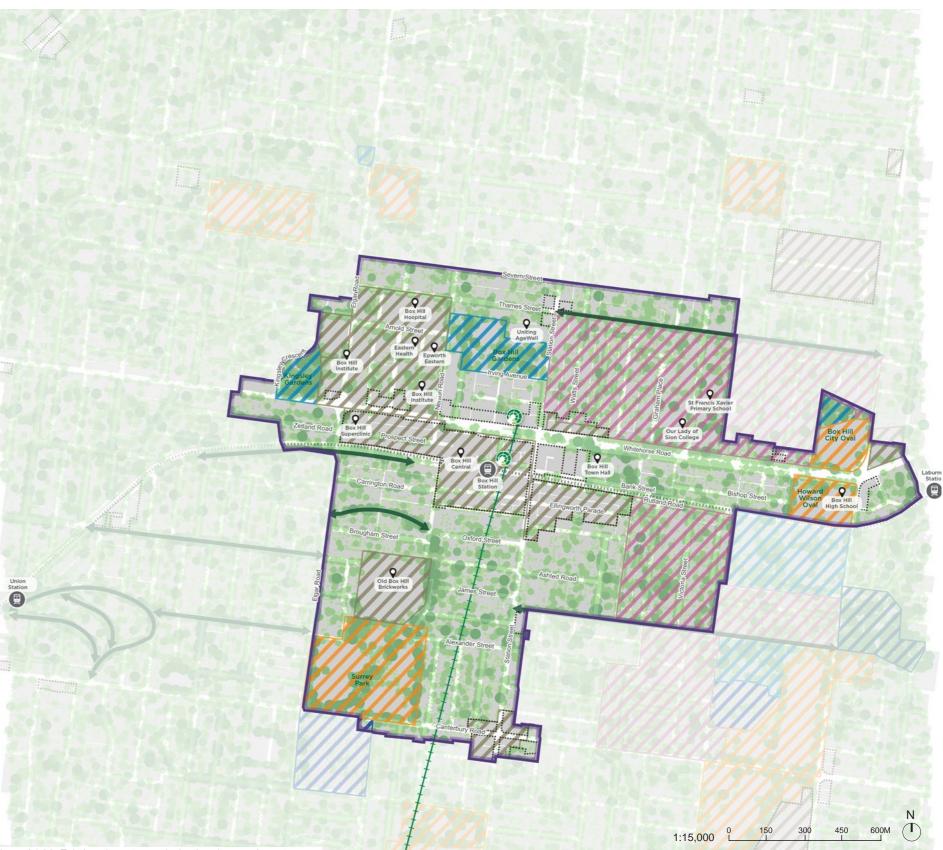


Figure A1.36: Existing character analysis - Landscape character

Legend

Ø	SRL station
⊢ +-+-+	SRL East alignment
	Structure Plan Area
	Property
	Employment area
	Tree canopy
٠	Tree canopy 0 to 2 metres
•	
•	0 to 2 metres
•	0 to 2 metres 2 to 4 metres

Landscape character

- Tree lined corridor (road, rail, pedestrian) Indigenous landscape
 - Low canopy
 - Civic space edge eucalyptus
 - Urban contemporary
- $\overline{}$ Garden suburban
- Designed nature
- Residential estate



AJM Joint Venture

The landscape, vegetation and tree canopy influence the character of some streets, including the following:

- Kingsley Crescent sits at the edge of the health and education precinct, with the eastern edge forming the boundary of Kingsley Garden. Kingsley Gardens provides a generous diversity of native and exotic species, of varying canopy coverage and heights, while the eastern side interfacing the Box Hill Institute has poor landscape amenity
- Prospect Street anchors the business precinct to the west of Box Hill Central and provides a leafy pedestrian link to the activity centre, with high-quality canopy cover provided by street-planted Oriental Plane Trees
- Albion Road provides an east-west traffic vehicle link between Station Street and Middleborough Road, with continuous established Oriental Plane Trees. Consistent building setbacks with extensive tree and shrub planting contribute further to the leafy character of Albion Road and increase the diversity of planting
- Whitehorse Road/Maroondah Highway is a organising element within the Box Hill Structure Plan Area. The stretch between the Box Hill Tram Interchange and Middleborough Road features a uniquely high level of canopy cover and green open space. Wide medians down the centre and separating service lanes are grassy and support a diverse mix of well-established trees contributing to the landscape character. A linear park separates the two directions of traffic around the tram interchange, creating a green public space that offers comfort to varying users and activities and dampens the effect of traffic volumes.

Parks and reserves have a distinctive landscape, canopy and vegetation type that relates to the character of the space and its surrounding areas. Such spaces include the following:

- Box Hill Gardens has an undulating ground surface that is predominantly grassed, with arrangements of trees at varying heights and some small garden beds providing an organised landscape character
- Kingsley Gardens is of a similar character to Box Hill Gardens, yet at a smaller scale. Trees are grouped closer and with less intent, providing a denser cover of the canopy
- Box Hill City Oval incorporates established eucalyptuses and exotic species line the perimeter. Bolton Park is a neighbourhood park that closely scattered eucalyptuses, and native scrub punctuates cleared grassy areas by adjoining the oval to the northern residential interface.



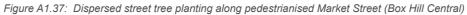




Figure A1.38: Residential streets such as Albion Road exhibit extensive canopy coverage



Figure A1.40: Prospect street provides a leafy pedestrian link into the activity centre



Figure A1.41: Harrow Park provides the presence of canopy to the southern edge of the activity centre



Figure A1.39: Sparse street trees around the medical precinct

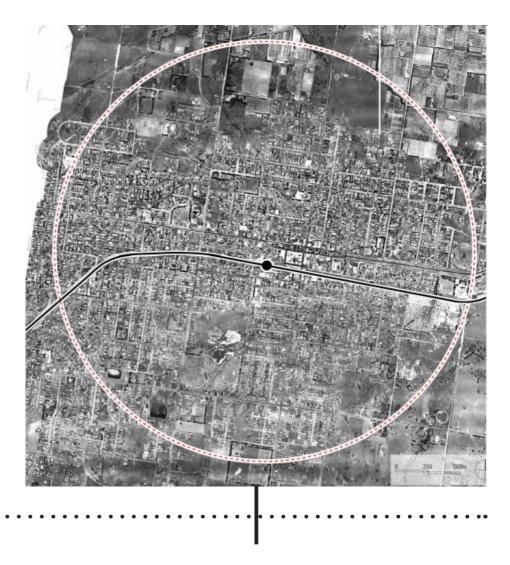


Figure A1.42: The widened central median of Whitehorse Road acts as a unique public space

Urban evolution and heritage

The Traditional Owners have lived sustainably in the region for thousands of years, moving within their lands while making use of seasonal plant and animal resources and sharing similarities in speech, burial practices, initiation, kinship marriage ties and religious beliefs.

As Melbourne started to develop through the late 1800s, Box Hill comprised of predominantly farmland. A township began to develop with the construction of what is now known as Whitehorse Road, and the arrival of a railway connection. The pace of development increased after World War I, when a garden suburban character was established. Box Hill continued to grow after World War II, establishing itself as a dense suburban district centre.



PRE-EUROPEAN SETTLEMENT

The Wurundjeri Woi Wurrung People is the Registered Aboriginal Party for Box Hill (in accordance with the July 2021 determination of the Victorian Aboriginal Heritage Council).

The Traditional Owners continue to be custodians of the region today, maintaining their connection to their Country.

Research into the culture and heritage of the traditional owners in the Structure Plan Area should be explored through a separate specialist report.

POST-EUROPEAN SETTLEMENT - 1920

As Crown lands were subdivided and sold in 1850, settlers came to farm the land around Box Hill. Housing during the early period of settlement was crude, with examples of mud, timber, and wattle-and-daub being recorded in the Box Hill area. A planned route from Gippsland to Melbourne encouraged the construction of a hotel at Box Hill in 1853 and a post office in 1861, establishing the beginnings of a township.

Box Hill was connected to central Melbourne by rail in 1882, as part of an extension of the Camberwell line to Lilydale. This attracted subdivision and development in the immediate area, as well as throughout Mont Albert and Surrey Hills. The lack of networked tram lines hindered the growth of Box Hill. The commercial importance of Box Hill was established in 1895, when a market opened near the railway station. In the same decade, a gasworks, brickworks and private girls' high school opened in the suburb. Much of the housing development around the early 1900s demonstrated both Victorian and Federation styles.

Key heritage sites include:

• Former Standard Brickworks (1884). Origins in the boom years of the 1880s as a producer of machine- and hand-made bricks.

1920 - 1945

Residential growth increased after World War I. In 1925, the borough of Box Hill was created and was declared a city two years later. The peak in development around this period was boosted by electrification of the railway in 1926 and the establishment of tram services to the western and eastern boundaries of Box Hill. A girls' technical school was built in 1924, and a boys' high school in 1930. The inter-war years were characterised by larger Edwardian, Californian Bungalow and Inter-War style dwellings.

Key heritage sites include:

- West Melbourne Presbyterian Church (1867)
- · Former Box Hill Technical School (1943).



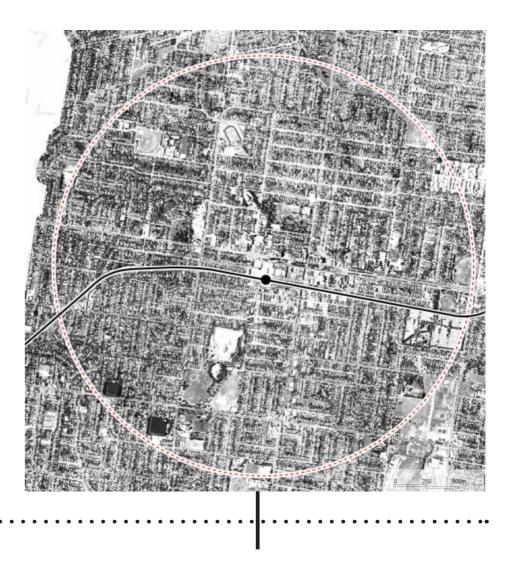
• Box Hill Town Hall (1934-35). The building was the administrative and community headquarters of the City of Box Hill prior to formation of the City of Whitehorse

• Box Hill Presbyterian (now Uniting) Church (1935). Re-erected from the dismantled

Former Colonial Gas Association Building (1936)







1945 - 1951

Further suburbanisation of Box Hill continued after the end of World War II, although Box Hill North and South remained relatively undeveloped.

Box Hill was at the time appreciated as a Garden City Suburb which displayed rural beauty being surrounded by orchards and poultry farms. Access to services and amenities was also high, with schools, health and recreation facilities, industry, and a library situated in the city.

Extensive residential subdivision had taken place in the post-war period, with dense networks of suburban streets present through Box Hill from Belmore Road in the north through to Gardiners Creek in the south-east. Subdivision of rural holdings at this time followed a random pattern, dependent on who was willing to sell land, however most development radiated out from the railway station in a north-south direction.

1951 - 1970

From the 1950s, Box Hill underwent a rapid period of residential expansion. The population of Box Hill grew over this time from 20,000 to 50,000, resulting in vast acreages of land being built upon with the subdivision of any remaining orchards and farmland. Notably, development included a Housing Commission in Box Hill South, where an estate of single-dwelling concrete houses were constructed. The construction of a district hospital took place in 1956. In 1954, the Melbourne and Metropolitan Board of Works designated Box Hill as a district centre for metropolitan Melbourne. The commercial area around Box Hill Station continued to enjoy growth and drive general development in the area. Residential subdivision in Box Hill was virtually complete by 1960, and little undeveloped land remained. This became apparent and presented a problem during the 1960s when suburban residents became aware of the importance of public open space with limited scope for the establishment of larger reserves.

1970 - TODAY

The current Box Hill station was built in 1983, which involved undergrounding the station and building Box Hill Central Shopping Centre with a bus interchange above.

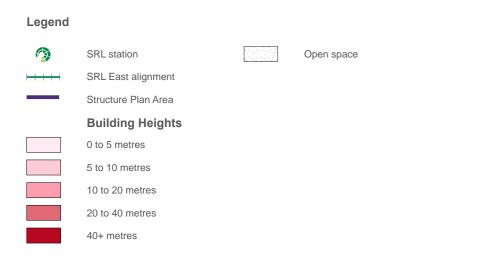
Box Hill city was amalgamated with Nunawading city in 1994, forming the City of Whitehorse. This re-established the boundaries that began with the Nunawading Shire from which Box Hill originally established itself.

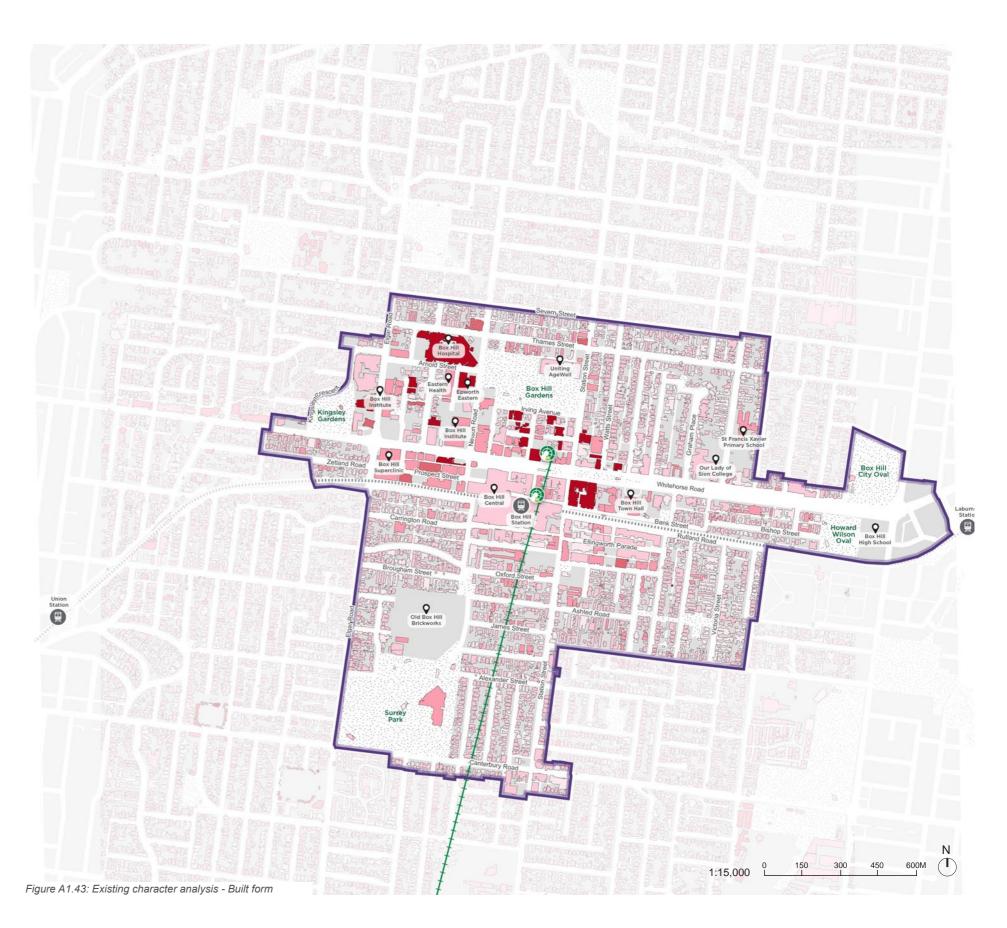
Changes to strata title legislation in the 1960s prompted a boom in the construction of higher-density living throughout Box Hill that proliferated in the 1970s. Villas and townhouses became prominent along many east-west roads north of Whitehorse Road. Flats came to dominate a number of streets south of Whitehorse Road.

Built form

Residential areas surrounding the activity centre include both small, low-rise buildings and low-mid rise residential intensification. Buildings of height (up to 36 storeys) and footprint dominate the immediate area around Box Hill Central. Some examples of the original housing can be found in many streets and consolidated heritage precincts. The following key built form characteristics have been identified across the Structure Plan Area:

- The extent of housing development in the 1800s was limited. Housing was inhabited by farmers and orchardists and was often crudely constructed. Examples of mud, timber, and wattle-and-daub are recorded
- Housing developments in Box Hill around the early 1900s demonstrate both Victorian and Federation styles. Many of the areas developed in this period displayed a uniformity of style, detailing, and materials due to speculative development. Houses were predominantly single-storey with a mixture of brick and weatherboard construction
- Housing development in the inter-war years was characterised by larger Edwardian, Californian Bungalow and Inter-War style dwellings. Construction in brick and weatherboard was typical at the time, and most buildings were singlestorey. Much of the land initially subdivided during the land boom of the 1880s was first built upon at this time
- In the post-war period, developments such as those undertaken by the Housing Commission in Box Hill South contributed to residential growth. These dwellings were single homes or duplexes of concrete construction
- Higher-density living throughout Box Hill proliferated in the 1970s. Villas and townhouses became prominent along many east-west roads north of Whitehorse Road. Flats came to dominate several streets south of Whitehorse Road, many of which are still present today
- Buildings of height (up to 36 storeys) and footprint dominate the immediate area around Box Hill Central. Large footprint civic, commercial and industrial buildings are located around the periphery of the activity centre. Areas of fine-grain retail are still found within the activity centre.







The Structure Plan Area is characterised by a mix of building typologies at varying scales. High-density development is consolidated within the core of the area. Building density transitions decrease further away from the core as elaborated below:

- The perception of character in Box Hill MAC is influenced by high-rise, mixeduse podium towers, which have become synonymous with the skyline of Box Hill. These towers reach heights up to 34 storeys and typically have a podium with eight stories
- Two main typologies characterise the retail areas in the MAC:
- Fine-grain 1 to 2-storey commercial buildings along main local and arterial roads of Whitehorse Road and Station Street. This type is also present as inwardfacing commercial buildings along the pedestrianised Market Street and Main Street
- The 3-storey Box Hill Central with a large footprint, mixing small shops with large format retail, supermarkets, a fresh market and a range of services, retail and businesses. The shopping centre also services the bus interchange on its roof and the Box Hill Train station below with a high flow of interchange movement in the morning and evening.
- The medical cluster north of Whitehorse Road between Nelson Road and Elgar Road concentrates a high diversity of built form. These include:
 - Low-rise 2 to 3-storey medical purpose buildings and converted detached houses that host specialised clinics and other ancillary spaces
 - Mid-rise buildings of 4 to 6 storeys with extensive floorplates and floor to ceiling heights such as Box Hill Hospital
 - High-rise buildings of up to 12 storeys for medical and office space, and up to 15 storeys (lower floor to ceiling heights) in recently completed residential towers.
- Many of the residential sites located along the periphery of the MAC have been consolidated and undergone redevelopment to deliver medium-rise apartments. These will typically range from 4 to 9 storeys high. These medium apartment buildings are located at the edge of the Box Hill Activity Centre
- Further away from the core of the area, the residential areas are typically characterised by low rise, 1 to 2-storey detached dwellings. There are also examples of higher-density developments in medium-density apartments and terrace housing, typically ranging from 3 to 4 storeys in height.

The structure and character of built form within the Structure Plan Area vary, with land use a key driver of building typology and height. Therefore, built form typologies have a substantial influence on the character of the area in comparison to architectural style.



Figure A1.44: Diversity of building typologies in Box Hill activity centre



Figure A1.45: Inter-war housing in Box Hill



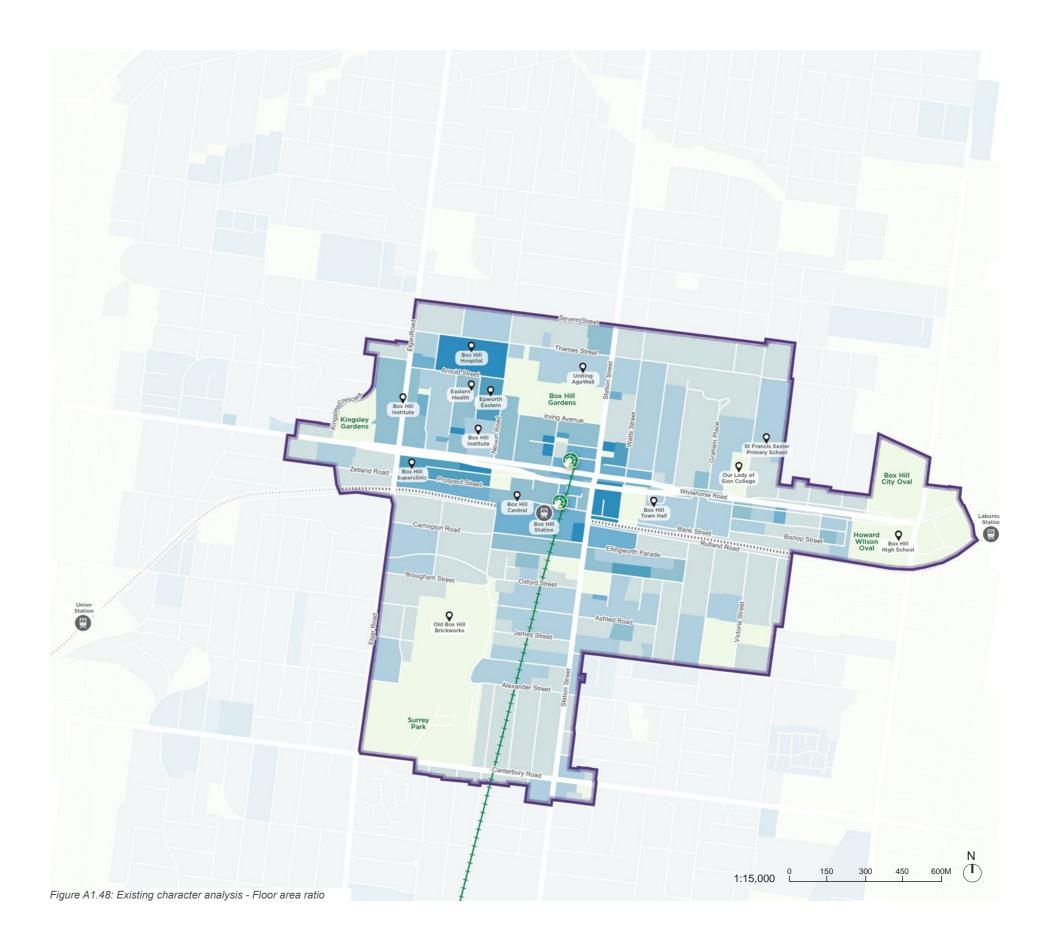
Figure A1.47: High rise commercial building and podium towers



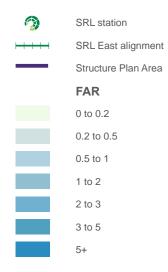
Figure A1.46: Large format shopping centre

Floor area ratio (FAR)

The Box Hill Structure Plan Area is characterised by developments of high scale (high FAR) within the core activity centre and medical and education precinct, and developments of low scale (low FAR) in the surrounding areas.



Legend

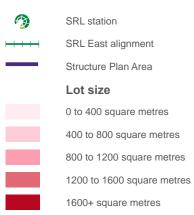


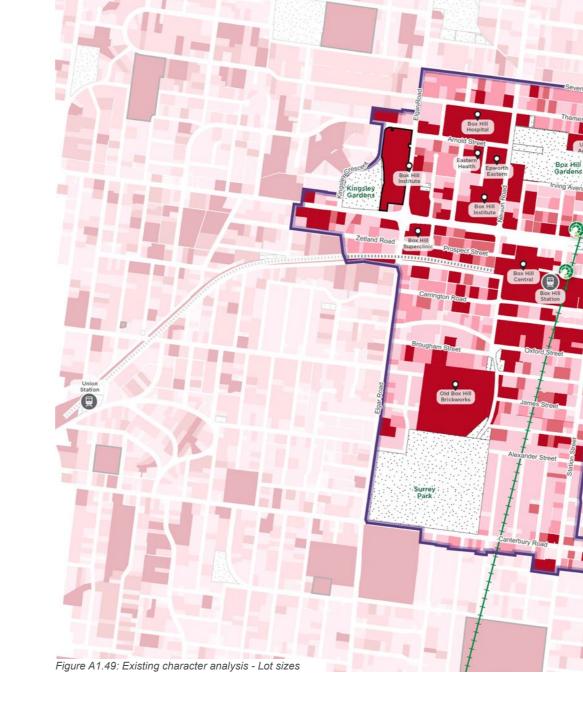


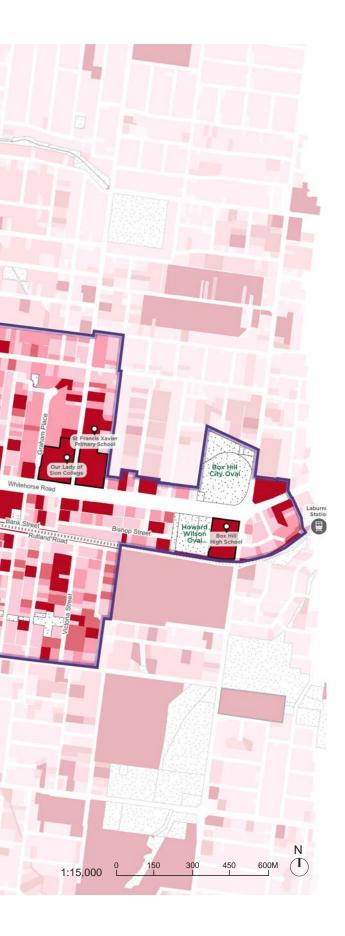
Lot sizes

A great variety of lot sizes can be found in the Box Hill Structure Plan Area. Generally, smaller lots are predominant in pockets of low-scale residential development and groups of fine-grain retail along activity streets. Larger lots are present across the entire area, predominantly within the core activity centre, health and education precinct, along Whitehorse Road and east of Station Street, where a number of residential strata can be found. Due to its unusual large size in comparison to the surrounding urban fabric, the Brickworks site provides opportunities for development.









Block structure

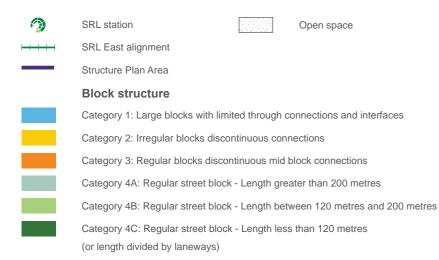
The structure of urban blocks in the Box Hill Structure Plan Area are generally regular with a mix of long and short blocks in an east-west orientation. This characteristic is influenced by the two main movement corridors of the Whitehorse Road and Belgrave / Lilydale Line.

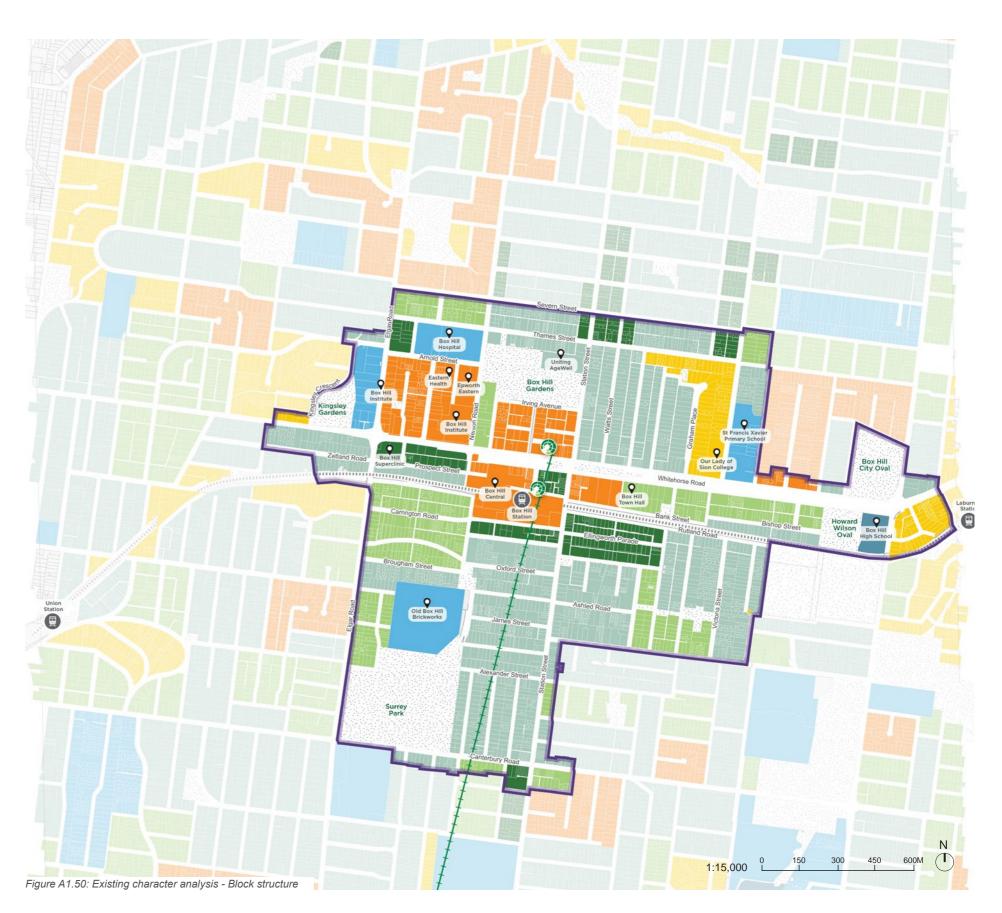
The central area of the Structure Plan Area is characterised by small and long blocks (east-west), with a number of these including laneways for rear vehicle and pedestrian access to sites. This area tends to be more permeable and may include multiple active frontages; on one side, a pedestrian flows area is amenable on quiet laneways or pedestrian streets (such as Market Street). On the other side, a vehicle dominated character on an arterial road or a main local street with high transit.

Outside of the core area in the Box Hill MAC, most of the area comprises long regular suburban blocks in an east-west orientation—with some blocks more than 200 metres long and some less. Overall, these block sizes support walking and cycling through a high degree of permeability and legibility and minimise congestion by distributing traffic evenly.

Irregular blocks with cul-de-sacs are less common in the Box Hill Structure Plan Area. There are a few examples surrounding open spaces, natural features (Bushy Creek and Gardiners Creek) and more relevant to the character in Mont Albert, where the block type influences lot size and dimension resulting in particular built form, subdivision patterns and the presence of small pocket parks, less common across the area.









Subdivision Patterns

- The Box Hill Metropolitan Activity Centre (MAC) generally comprises medium and larger sized land parcels with finer grain parcels located at the boundaries of the MAC and across the remainder of the area
- The subdivision pattern within the MAC supports a diverse range of uses and development types, with retail, commercial and residential uses clustered around Box Hill Central and Box Hill Train and Bus Stations. This development pattern continues east-west along Maroondah Highway and north-south on Station Street
- At the east of the MAC, several civic and municipal uses are located on medium and larger land parcels fronting Maroondah Highway
- A health and education cluster is located north of Maroondah Highway and west of Box Hill Gardens on medium and more extensive land parcels
- To the south of the train line and east of Station Street is an area with mediumsized lots comprising commercial uses with some retail and residential uses. Until relatively recently, buildings within the MAC were low to mid-rise
- Over recent years, several residential and commercial tower developments have been completed resulting in a high proportion of apartments within the MAC
- Outside of the MAC, the remainder of the area generally comprises finer grain, lowrise residential areas. Several land parcels within these areas are strata-titled, with a higher proportion located north of Maroondah Highway. While the vast majority of strata-titled properties are residential, some commercial properties are in the northeast of the area
- Open spaces of varying sizes are distributed across the area. Box Hill Gardens and Kingsley Gardens are the most substantial open spaces within the MAC. However, both gardens are located to the north of Whitehorse Road, with Kingsley Gardens located on the western edge of the MAC.

Larger opportunity sites for further investigation include:

- The Former Standard Brickworks sits at the southern edge of the MAC. Listed on the Victorian Heritage Register (VHR Number: HO720), the large, roughly square site interfaces with low-rise residential dwellings to the north and west, Surrey Drive to the east and Surrey Park Playground and Arthur Field to the south. The brickworks site comprises a rare and unusually intact brickmaking plant of the early 20th century
- Ace Parking is a large, rectangular surface car parking site orientated east-west. Located at 519 Station Street Box Hill, the site interfaces with the commercial and retail activity of Box Hill to the north and east, a group of religious buildings to the south and mid-rise apartment development to the west.







Figure A1.53: Small urban blocks with rear laneways



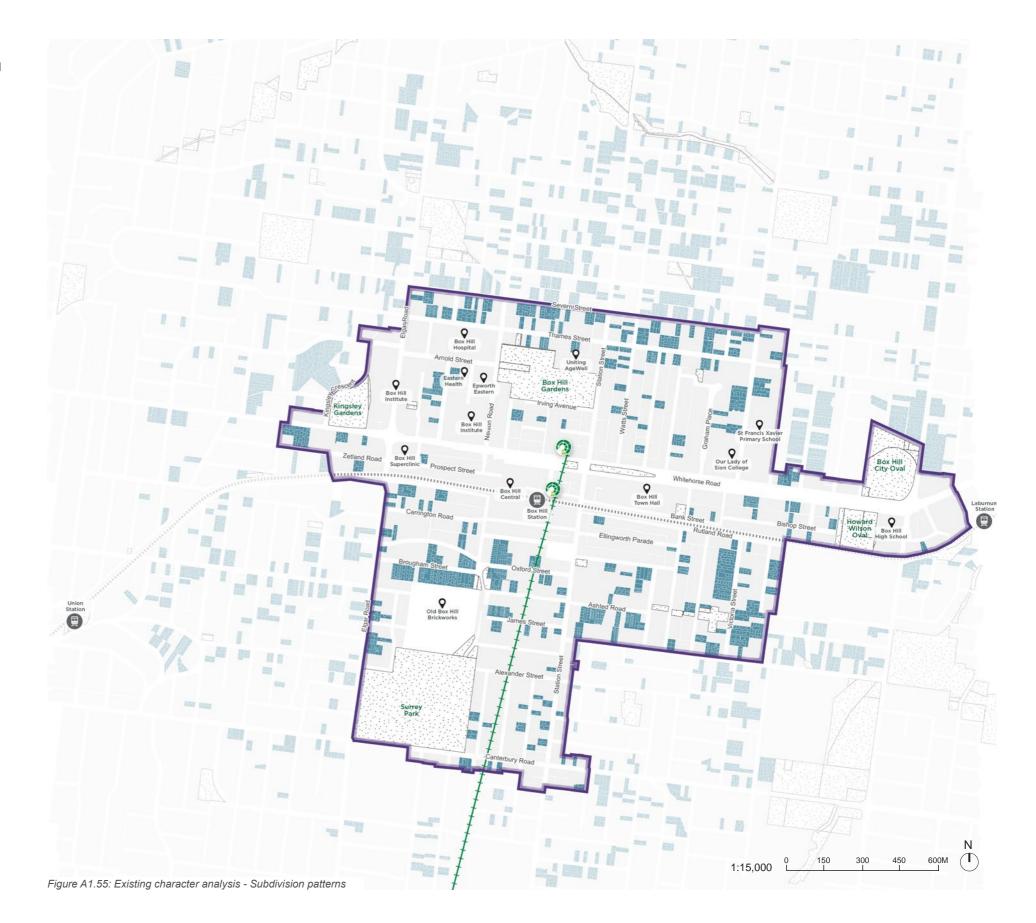
Figure A1.52: Strata titled townhouse subdivision



Figure A1.54: Strata titled dual-occupancy dwelling

Subdivision patterns

Strata subdivision can be found mostly outside the core activity centre in residential areas along Thames Street and south of the rail corridor.



Legend



SRL East alignment

SRL station

Structure Plan Area

Open space

Strata titled sub-divisions



Setbacks

Areas of zero setback predominantly occur within the core activity centre and Carrighton Road activity centre, where commercial and mixed-use developments are present. Setbacks tend to increase within low-scale residential areas.







Existing character areas

The existing character of the Structure Plan Area has been reviewed and existing character areas identified on the basis of their unique combination of topography, urban structure, main corridors, natural features, destinations, block and lot structure, tree canopy, landscape character, heritage and built form.

The existing character areas are summarised on the following pages, and as follows:

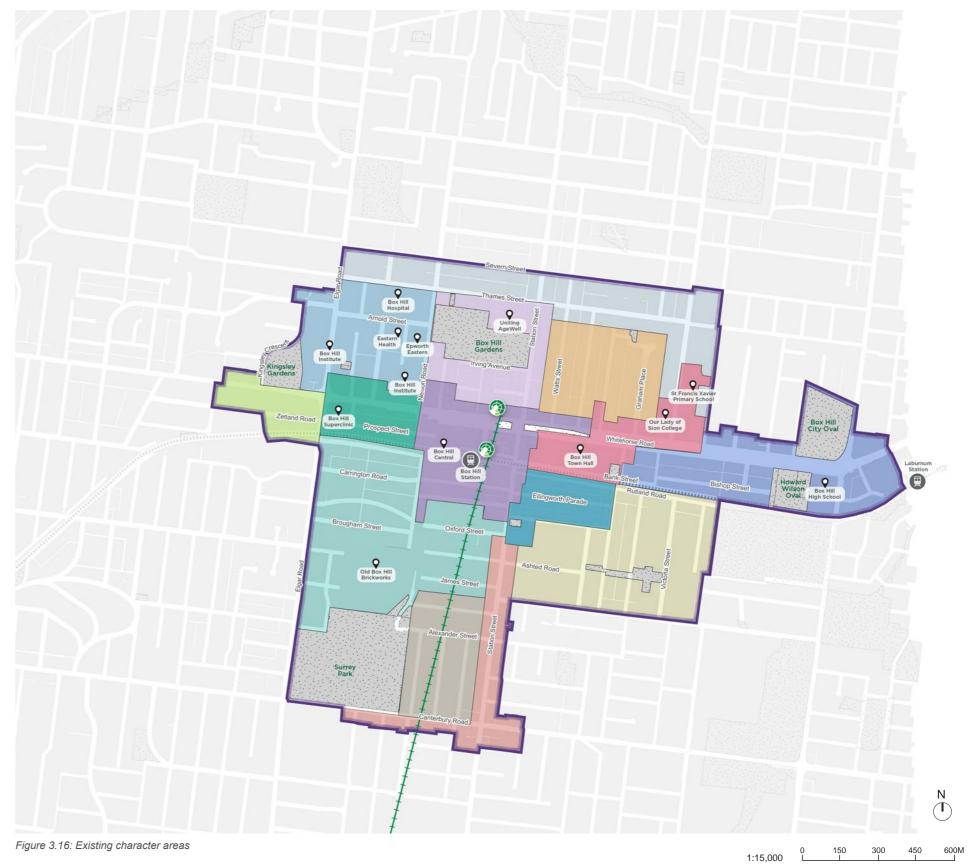


Legend

SRL station SRL East alignment

Structure Plan Area

Public open space





Core area

The core area is the traditional retail area surrounding Box Hill Station and Box Hill Central shopping centre. It concentrates a high diversity of activities and built form along vehicular and pedestrian corridors, including Whitehorse Road which is a dominant feature, and restricts north-south pedestrian permeability. Whereas Main and Market Streets present a unique pedestrian environment within the Structure Plan Area. Despite the intense level of development, this area contains a number of mature trees along Whitehorse Road, Market and Main Streets.

Prospect Street

This mixed-use area is characterised by ultra high-rise residential developments with 8-storey street walls along Whitehorse Road that abruptly transition to low-rise, highsite-coverage commercial buildings along Prospect Street. The high-rise built form that has appeared in this area in recent years is driving a new typology for the Box Hill Structure Plan Area. Despite the intense level of development, Prospect Street presents substantial tree planting.

Health and education

This character area is primarily driven by large impermeable blocks and major health and education uses, including Box Hill Hospital, Epworth Eastern and Box Hill Institute. Medium-rise 8 to 10-storey residential buildings are present on Wellington Road, Poplar and Arnold Streets. However recently, over 20-storey medical developments indicate that a transition in character is underway. Despite the interface with Box Hill and Kingsley Gardens, existing institutional buildings tend to present an inwards configuration, resulting in little to no activation to the public realm. Vegetation in this area is sparse, with some trees along Nelson Road and Spring Street.

Box Hill Gardens

This area is anchored by Box Hill Gardens and is characterised by a variety of built form residential typologies that interface or benefit from proximity to the gardens. Existing low-scale strata-tile and detached dwellings are rapidly giving way to medium to high-density built form up to 20 storeys in height, especially south of Box Hill Gardens and along Station Street.

Residential north-east

This is a primarily residential area with a mix of heritage, older-style dwellings and contemporary infill buildings. The area is leafy with well-preserved landscape character, featuring a distinctive local feeling in close proximity to the Core Area. Long north-south-oriented blocks lead to low east-west permeability for pedestrians.

Bank Street

Large-format civic and institutional buildings typify this area. Large building footprints with landscaped setbacks interface with Whitehorse Road, while car parking areas are located to the rear of the sites towards the rail line.

Ellingworth Parade

This east-west-oriented enterprise area is characterised by low-rise, high-sitecoverage commercial buildings built to property boundary. The existing light-industrial of this area has partially evolved into mixed-use with the development of mediumdensity residential primarily along Harrow Street. Narrow streets and low levels of landscaping and tree planting typify this area.

Whitehorse Road East

This area presents a predominant residential-garden, suburban character. Whitehorse Road, which is landscaped, is a dominant feature, severing the area and reducing pedestrian permeability. Although providing amenity to the area, major sports ovals also reduce the level of street activation and passive surveillance, leading to a lack of public life and perceived low levels of safety on surrounding streets. Built form is more intense around Whitehorse Road, where several mid-rise apartments and townhouses are present. Local fine-grain retail activity occurs in proximity to Laburnum Station.

Residential south-east

This is a primarily residential area with a mix of detached housing and contemporary strata-title and infill buildings. The leafy and well-preserved landscape character with rolling topography is a distinctive feature of this pocket.

Station Street South

This area presents a mixed character comprising primarily low-scale residential with pockets of light industrial along Station Street and local fine-grain retail activity at the intersection of Station Street and Canterbury Road. Long-distance views to Box Hill MAC and surrounding mountain ranges are granted at the intersection of the streets.

Surrey Park East

A valued character area with well-established heritage look and feel, and wellpreserved landscape character with consistent street tree planting. Built form in this area is typically low-scale, detached dwellings with some dual-occupancy recently built. The area presents long, impermeable blocks and benefits from its interface with Surrey Park.

Residential South-west

This area is predominately characterised by its residential use and landscape features, with recent infill development transforming some of the traditional front landscaped setbacks by introducing low to mid-rise apartment buildings and large lot subdivisions. The area includes the former Box Hill Brickworks site, which is currently an undeveloped, inaccessible, large site adjacent to Surrey Park. The area benefits from direct access to Surrey park, which is a high-quality open space within the Structure Plan Area.

Zetland Road

This area is distinctly severed from the rest of the Structure Plan Area by Elgar Road, Whitehorse Road, Kingsley Gardens and the rail line. The area is predominately characterised by low-scale detached housing with medium-density typologies beginning to emerge along Whitehorse Road. Well-preserved landscape, both within properties and streets, create a distinct leafy character to the area.

Thames Street

This area is primarily characterised by low-rise, strata title residential development along a tree-lined movement corridor. Medium-rise, mixed-use and commercial buildings have been recently developed at the intersections of Thames Street and, Nelson Road and Station Street, signalising a potential driver for future character change.

CORE AREA



HEALTH AND EDUCATION



Main drivers of character:

- The streetscape along Whitehorse Road signals the centre of Box Hill, with a wide vegetated median with signature City of Whitehorse paving and furniture palette, tram terminus, mature trees and service lanes
- The Box Hill pedestrian mall along Market Street and Main Street is an inviting social area featuring the City of Whitehorse paving, furniture palette, and large canopy trees providing shelter on sunny days
- Much of this area preserves the historical rhythm and scale of the traditional town centre, including laneways with scenic views of the surroundings and levels of street life and activity across extended hours of the day. Box Hill Central departs from this character, yet is relatively well integrated with the urban context at its main north entrance.

Considerations for change:

- A lack of north-south streets and lanes results in low permeability and walkability
- There are two 'disconnected' sides of Whitehorse Road. There are only two main crossings on Market Street and Station Street, with traffic signals offering insufficient time to cross. These barriers to access will need to be solved in order to create a successfully intensified core
- There is limited integration to the east across Station Street due to high vehicular traffic, narrow footpaths, absence of signaled pedestrian crossings and the use of footpath railing
- · Box Hill Central shopping mall dominates the south and west interface of the area. It features inconsistent streetscape treatments and poor integration in a large floorplate extending approximately 3.6 hectares of leasehold VicTrack land and 1.8 hectares of freehold land. Redevelopment may be required to integrate these parts of the building into a successfully intensified core
- High-rise development and urban intensification in this area is well underway. Ensuring that this development is sympathetic to the existing and historical character of the area should be an important consideration.



Main drivers of character:

- · Prospect Street is characterised by mid-rise enterprise buildings (2 to 4 storeys), with narrow landscaped setbacks and large canopy trees lining both sides
- Along Maroondah Highway / Whitehorse Road, the character is dominated by prominent podium tower typologies with ground-floor retail activities wrapped around a car-parking podium
- The urban structure has three main east-west oriented blocks (250 to 350 metres) with a regularity of lot depth and width along Prospect Street defining a coherent rhythm of built form. The lots in this area are generally larger, with a median size of 1200 square metres.

Considerations for change:

- There are just a few narrow east-west streets (15 metres) and laneways (3 metres). Recent development includes the addition of a semi-private laneway surrounded by 8-storey street wall podiums. Ensuring accessibility of future developments is key
- · Consideration to the lack of tower separation may need to be addressed in future development to limit overshadowing to the south and ensure sunlight amenity to the interior of buildings
- Sitting at a relatively high point in the area, tall developments in this area may cause taller building forms to be more visually prominent.



Main drivers of character:

- · Established street trees and landscaped front setbacks develop a recognisable streetscape along Nelson Road
- pedestrian mobility
- along Thames Street and Arnold Street.

Considerations for change:

- · Multi-deck carparks and medical building services tend to dominate the character of most streets in the area, with limited mid-block connectivity between buildings
- Elgar Street has high traffic volumes and narrow footpaths, which results in low pedestrian amenity and connectivity between the east and west side of the road
- · A recent development to the south of Box Hill Hospital includes mid-rise residential buildings with narrow, low landscape setbacks and loss of street tree canopy
- The expansion of the medical cluster in Box Hill competes for land with mid and high rise residential development in the south. This could restrict the capacity of medical services to expand in the future.



- · Poplar Street, Wellington Road and Spring Street do not offer vehicular connections, instead of terminating in landscape features that only allow
- · The topography gently slopes to the northeast, with views available to the east

BOX HILL GARDENS

Main drivers of character:

- · Box Hill Gardens includes an established tree canopy, playground areas, multi-use ball court, pond and a circuit path and running track. However, the park lacks active edges to the south and has poor integration with the north residential areas
- The laneway network between Nelson and Station Streets results in most lots having two frontages or more but currently lacking activation.

Considerations for change:

- Mid-high rise development is emergent in the area south of Box Hill Gardens. Redevelopment potential for these sites may be limited
- The park sits at a lower topography point in the area and serves as water retention and infiltration space subject to Special Building Overlay (SBO)
- · Overshadowing impacts on the park may be a challenge for development intensity in this area
- Proximity to employment, retail and public open space makes this area desirable for residential intensification.

RESIDENTIAL NORTHEAST





Main drivers of character:

- forms, and materials
- landscapes, which are currently under-utilised.

Considerations for change:

- forms would be highly visible across the area.



Main drivers of character:

- · Most streets are green and leafy, with grassed nature strips and footpaths, and limited through connections, instead of terminating in small, landscaped areas that only allow bicycles and pedestrians to move through
- Graham Place has a distinctive L-shape with wide tree planting strips on both sides and incorporates a central circular green area that influences the sitting and perception of the adjoining dwellings
- Built form is characterised by 1 or 2 storeys, detached and semi-detached (units, terraces and townhouses) and a few attached (apartment type) infill dwellings. There are several architectural style periods, including several heritage Victorian dwellings.

Considerations for change:

- · This area has an established residential character, featuring some heritage dwellings that may indicate a sensitivity to change
- · Minimal east-west accessibility in this area may limit development potential.

· High concentration of public land and community spaces south of Whitehorse Road in mid-rise specialised buildings of diverse architectural styles, footprints, built

• Whitehorse Road service road enjoys a consistent canopy cover from mature trees and pockets of open space and includes generous setbacks and established

· Large sites are subject to a heritage overlay, including Box Hill Town Hall and Box Hill Institute, Old Whitehorse Campus and the fire station. Exclusion of these sites, and maintaining sensitivity to them, may limit development potential

· The area sits near one of the highest points in the topography, meaning taller built

ELLINGWORTH PARADE



RESIDENTIAL SOUTHEAST





Main drivers of character:

- The area has east-west horizontal long blocks (150 to 200 metres) with most lots sized between 450 to 600 square metres and 15 metres in width, creating a consistent rhythm of lot dimensions and proportions
- Most of the area has low rise enterprise and retail buildings of one or two storeys (5 to 10 metres). Emerging development is predominately residential mid-rise in four to five storeys and just one recent development in 10 storeys
- The public realm is dominated by at-grade car parking, including on-street car parking along both edges of east-west streets and a 4,000 square metres car parking area between Ellingworth Parade and Harrow Street, which also has the highest density of tree canopy in the area.

Considerations for change:

- Large lot sizes are highly developable and may increase the potential for change in this area
- East-west streets are narrow (15 metres); however, many lots on Rutland Road, Ellingworth Parade and Prospect Street (Fairbank Lane) are serviced by narrow rear laneways. This rear access may allow for increased development intensity to occur here.



Main drivers of character:

- · Architecture is predominantly in a Post-War style constructed of brick. A number of the 1980s to contemporary infill developments are present
- · Front setbacks are usually 5 to 8 metres, with 1 to 3 metres side setbacks usually from both side boundaries
- Dwellings are 1 to 2 storeys, detached and semi-detached (units), with some attached infill (2-storey flats/apartments) closer towards Whitehorse Road
- · Garden styles are generally low yet established, consisting of exotic shrubs, garden beds, lawns, and small canopy trees
- · Presence of small pockets of retail along Maroondah Highway.

Considerations for change:

- · Proximity to Laburnum Station and Box Hill MAC makes this area valuable. Current barriers such as Whitehorse Road, Middleborough Road, and the Belgrave / Lilydale Lin would need to be overcome
- · Residential subdivision and strata titled parcels in this area may pose difficulties in achieving urban intensification.



Main drivers of character:

- Heritage Overlays
- between 2 to 3 storeys
- townhouses)
- larger exotic avenue trees.

Considerations for change:

- development potential

- development potential.



• Architecture predominantly consists of pre-WWII era styles, including Californian bungalows, with Post-War, 1960s to 1980s. A few properties are included in

· Contemporary infill development includes subdivisions with detached and semidetached infill (units and townhouses) and many low rise apartment buildings of

 A mix of north-south and east-west, short and long regular blocks dominated by 1 to 2-storey detached housing with large footprints and low building separation

· Dwellings are 1 to 2 storeys, detached with semi-detached infill (units and

• Garden styles are spacious and provide views of dwellings, comprising shrubs, garden beds, lawns and canopy trees. Plants are established and generally exotic

• Street trees are regularly planted and predominantly native, with some older and

· A large heritage precinct is located within this character area. This may limit

• The landscape character of Albion Road is valued, and would need to be treated with sensitivity should redevelopment occur in this area

• The established low-rise residential character in this area may restrict development potential. Furthermore, the landscape character of the street and residential parcels may be difficult to maintain if substantial change occurs

· Residential subdivision and strata-titled land in this area may be a limiting factor to

STATION STREET SOUTH

SURREY PARK EAST

RESIDENTIAL SOUTHWEST



Main drivers of character:

- The architectural styles in this area are mixed, consisting of pre-WWII, Post-War, 1950s to 1980s and contemporary styles. Californian bungalow styles dominate some stretches of the street and contribute to the area's character
- Dwellings are predominantly 1 to 2 storeys, detached with some semi-detached infill (units and townhouses)
- Front setbacks are generally 5 to 7 metres, with 1 to 2 metres side setbacks from at least one side boundary
- · Gardens are established with predominantly exotic species, comprising shrubs, lawns, garden beds, and canopy trees
- Street trees are regularly planted and mixed in species, spacing and sizes.

Considerations for change:

· Movement corridor can enable development of mixed-use character and higher built form.



Main drivers of character:

- · Most streets are green and leafy, with grassed nature strips and footpaths
- Graham Place has a distinctive L-shape with wide tree planting strips on both sides and incorporates a central circular green area that influences the sitting and perception of the adjoining dwellings
- · Built form is characterised by 1 or 2 storeys, detached and semi-detached (units, terraces and townhouses) and a few attached (apartment type) infill dwellings
- There are several architectural style periods, including a row of building subject to a heritage overlay along Alexander Street and a couple rows of buildings subject to a neighbourhood character overlay along Acacia Street and Bass Street.

Considerations for change:

• This area has an established residential character, featuring some heritage and valued character areas that may indicate a sensitivity to change.



Main drivers of character:

- are included in Heritage Overlays
- townhouses)
- generally exotic
- influence of the character in this area.

Considerations for change:

- capacity for change in this area
- Plan Area.

· Architecture predominantly consists of pre-WWII styles, including Californian bungalows, with Post-War, 1960s to 1980s and contemporary infill. A few properties

• Dwellings are 1 to 2 storeys, detached with semi-detached infill (units and

• Former Brickworks site is largely open and grassed, with an undulating terrain. Established canopy trees line the perimeter of the site. The Surrey Park sporting and recreation facilities are located directly south of the site

• Garden styles are spacious and provide views of dwellings, comprising understorey plants, garden beds, lawns and canopy trees. Plants are established and

• Large, established native trees are a notable feature to the perimeter of Surrey Park. These extend up the adjoining residential streets and have a distinct

• Landscape character and established low-rise residential character may limit the

• The Old Box Hill Brickworks site is large in size, combined with its proximity to the activity core. It is a valuable site for achieving urban intensification in the Structure

ZETLAND ROAD







Main drivers of character:

- The section of Whitehorse between Inglisby Road and Laing Street has a predominantly hardscape character with limited green space or canopy cover
- The area features inconsistent setbacks, some employed as grade car parking, an extension of the workspace, outdoor dining areas and vegetation
- The built form has relatively high site coverage, with buildings generally singlestorey tilt-up concrete or masonry forms
- Larger sites are between Victoria Crescent and Laing Street and include warehouses with a characteristically industrial slanted roof.

Considerations for change:

- This is an evolving fine-grain industrial area subject to an Environmental Audit Overlay. The need for an environmental audit on these sites may limit their redevelopment potential
- Some blocks in this area include relatively wide rear laneways (5 to 7 metres). This access may support higher intensity development on these sites
- The width of Whitehorse Road in this area lessens the potential impact of overshadowing to the low-rise residential buildings on the southern side of Whitehorse Road.



Main drivers of character:

- Architectural styles mix pre-WWII, Interwar, Post-War, the 1960s to 1980s and contemporary development. Only a few properties are included in the Heritage Overlays
- The street network consists of a mix of north-south and east-west, short squared and regular long blocks that are dominated by 1 to 2-storey detached housing with large footprints and low building separation
- Dwellings are 1 to 2 storeys, detached with semi-detached infill (units and townhouses) and have consistent front setbacks and spacing between dwellings.
 Dwelling surrounding Box Hill City Oval have a formal street setting that takes advantage of the open space outlook
- Garden styles are spacious and provide views of dwellings, comprising shrubs, garden beds, lawns and canopy trees. Plants are established and generally exotic
- Street trees are regularly planted and predominantly native, with some older and larger exotic avenue trees.

Considerations for change:

• Uniform low-density residential character may restrict development potential, particularly further from the activity core where buildings heights are lower and landscape character is more established.



Appendix B Development conditions analysis



Heritage

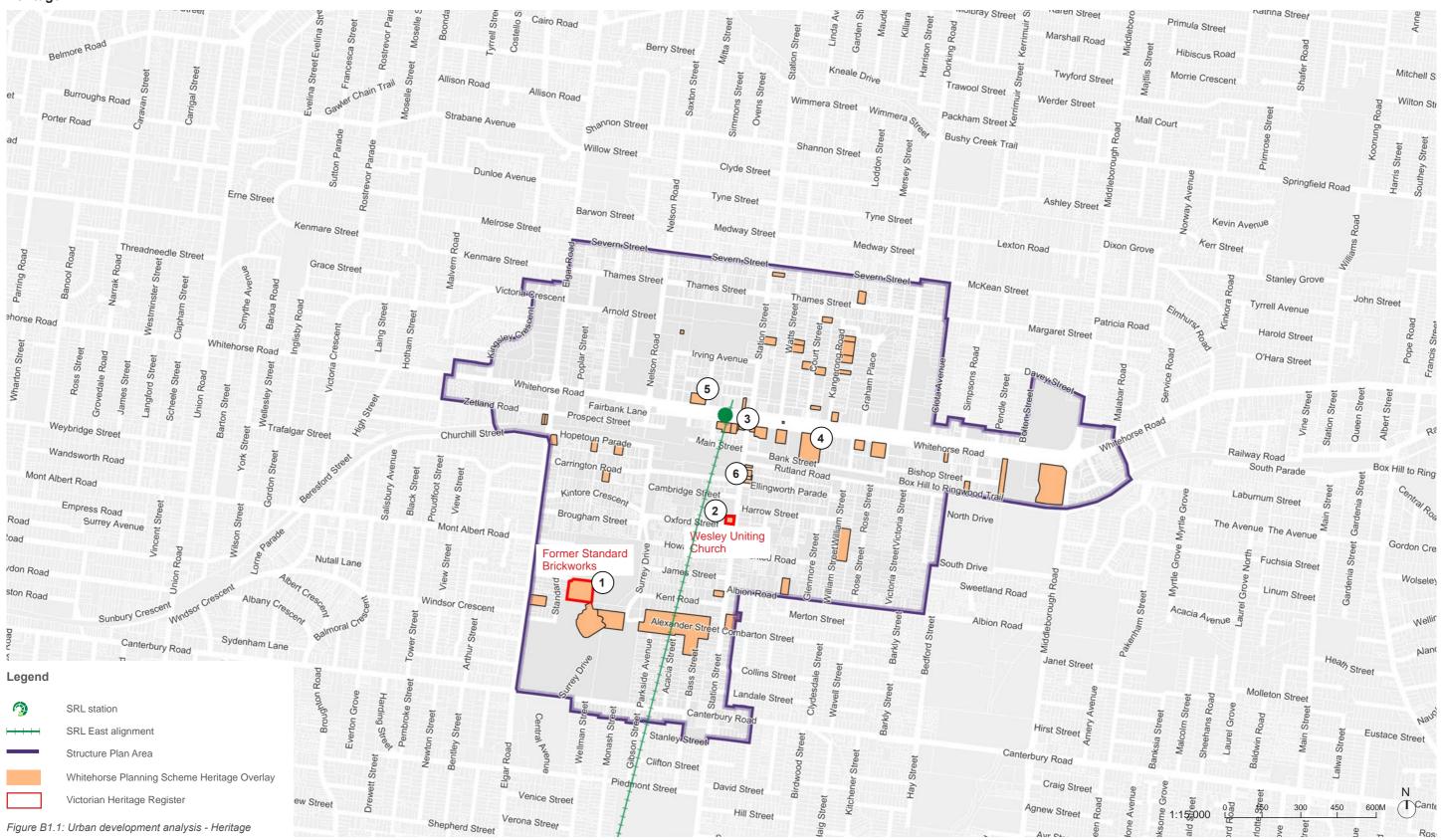






Figure B1.2: Former Standard Brickworks

The Former Standard Brickworks is of outstanding historical and technological significance. The complex is the rare remnant of a series of bricks and tile making works which were established in the eastern suburbs between the 1880s and 1940s. The complex comprises a rare and unusually intact brickmaking plant of the early twentieth century. The site retains material evidence from all the stages of the brick production process from clay extraction to dispatch of finished bricks.

Until the closure of the works in 1988, the Hoffman patent brickmaking kiln was one of the last such operative kilns in Victoria.

The distinctive form and internal fittings of the clay mill building provide evidence of superseded brickmaking processes and ancillary trades, in particular the tramway system for hauling clay, and the blacksmith's shop. The grinding pans and brick press machinery on site exhibit the same fundamental technology which was introduced with the industrialisation of brickmaking to Victoria in the second half if the nineteenth century.

Source: Whitehorse City Council

Other relevant heritage places within the Structure Plan Area include, but are not limited to the Wesley Uniting Church, Former Railway Hotel, St Andrews Uniting Church, Box Hill Town Hall and Box Hill Baptist Church.



Figure B1.3: Wesley Uniting Church



Figure B1.5: Former Railway Hotel



Figure B1.7: St Andrews Uniting Church



Figure B1.4: Box Hill Baptist Church



Figure B1.6: Box Hill Town Hall

Views and vistas

Major views and vistas have been recorded to assess any views which might constrain future development.

Considering the orthogonal nature of Box Hill's urban fabric, most views to key open spaces, heritage places and landmarks occur along existing streetscapes, not posing major constraints to future development.

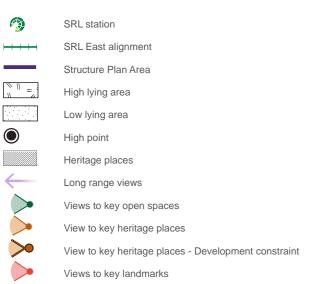
Existing high-rise buildings, especially along Whitehorse Road and south of Box Hill Gardens, have created an urban environment in which the juxtaposition of contemporary development and heritage buildings have become the norm. These buildings have become referential landmarks in their own right and today, contribute to the character and identity of Box Hill.

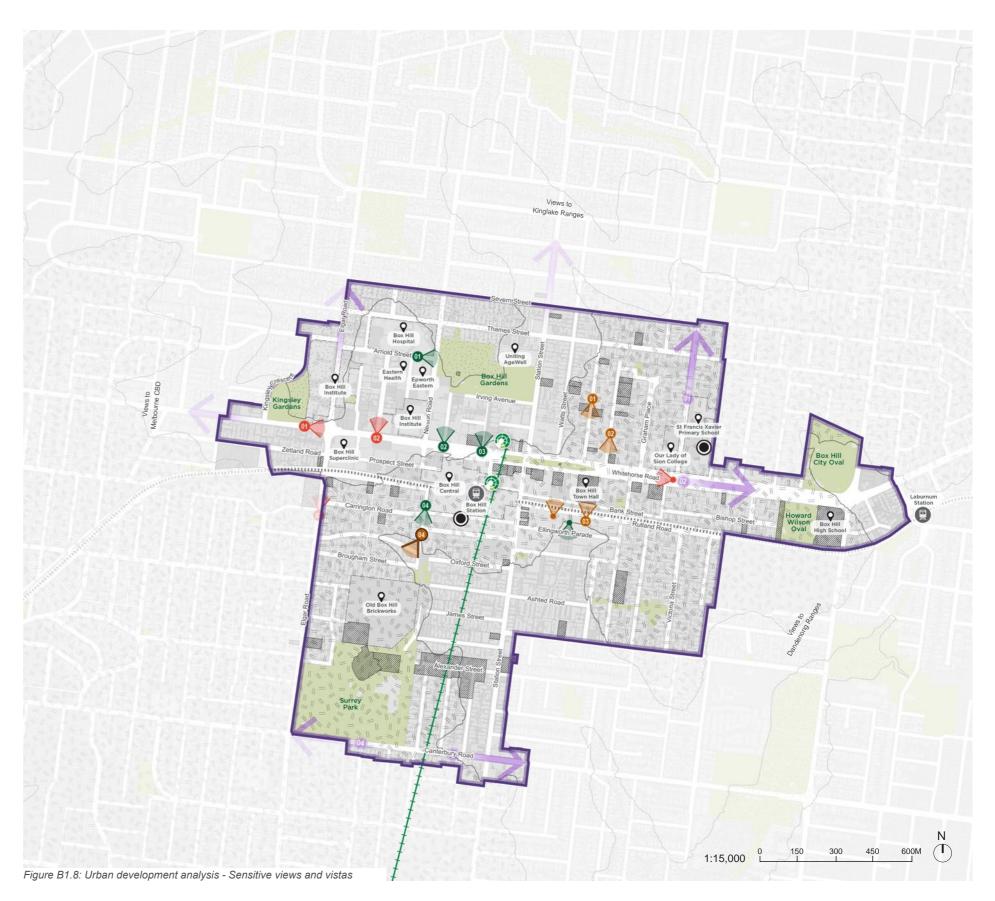
Within this context, the only identified views that might constrain future development are views to the heritage listed Brickworks tower, which can be captured from surrounding streets and open spaces. Future development within the Former Standard Brickworks might be especially impacted by that.

SENSITIVE VIEWS:

View to Former Standard Brickworks site.

Legend









Long range views



Views to key open spaces



Views to key heritage built form





















Views to key landmarks







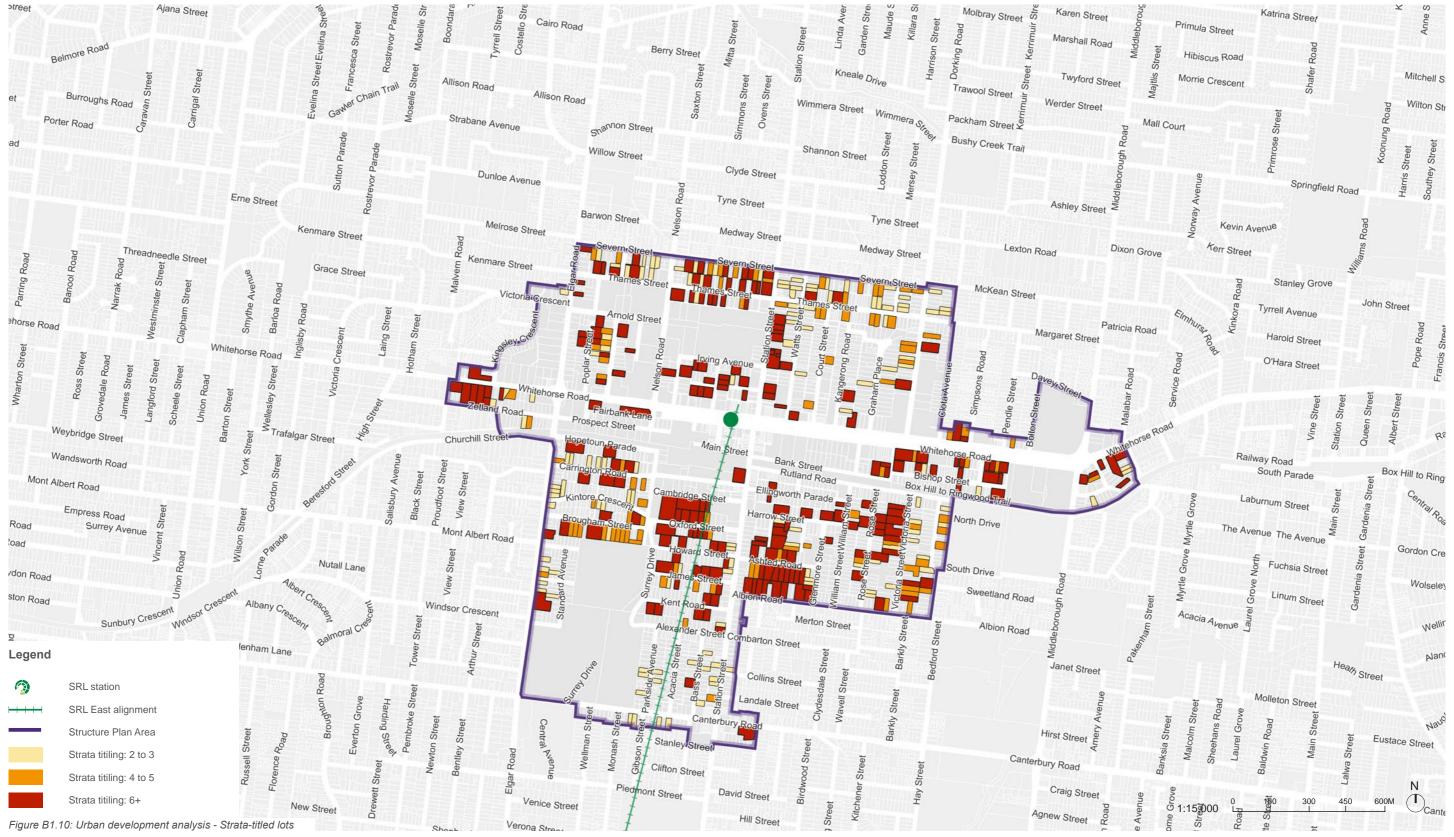
Small Lots (excluding strata titled lots)



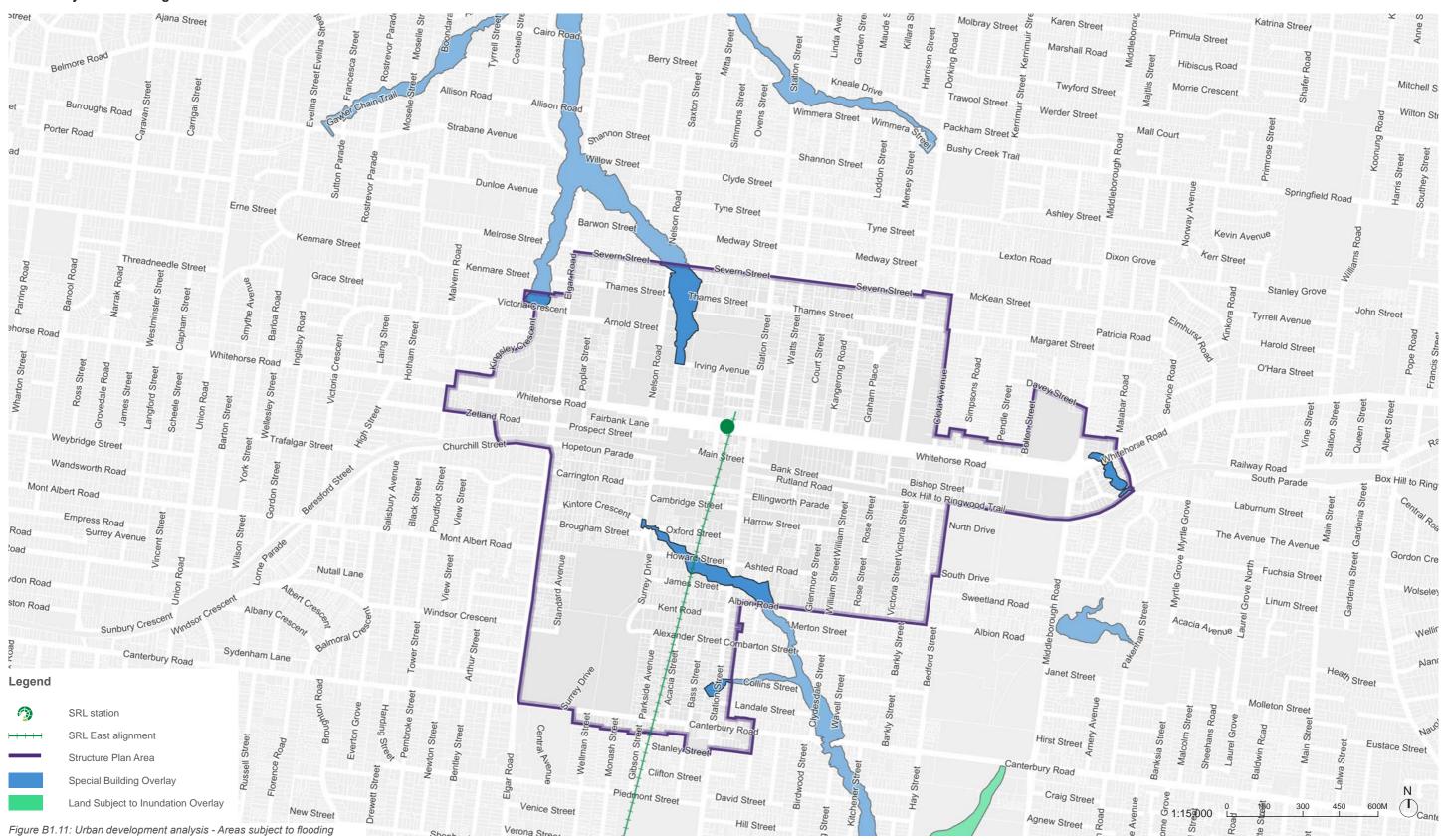




Strata-titled lots



Areas subject to flooding







Valued landscape character



Neighbourhood character







Buildings heights

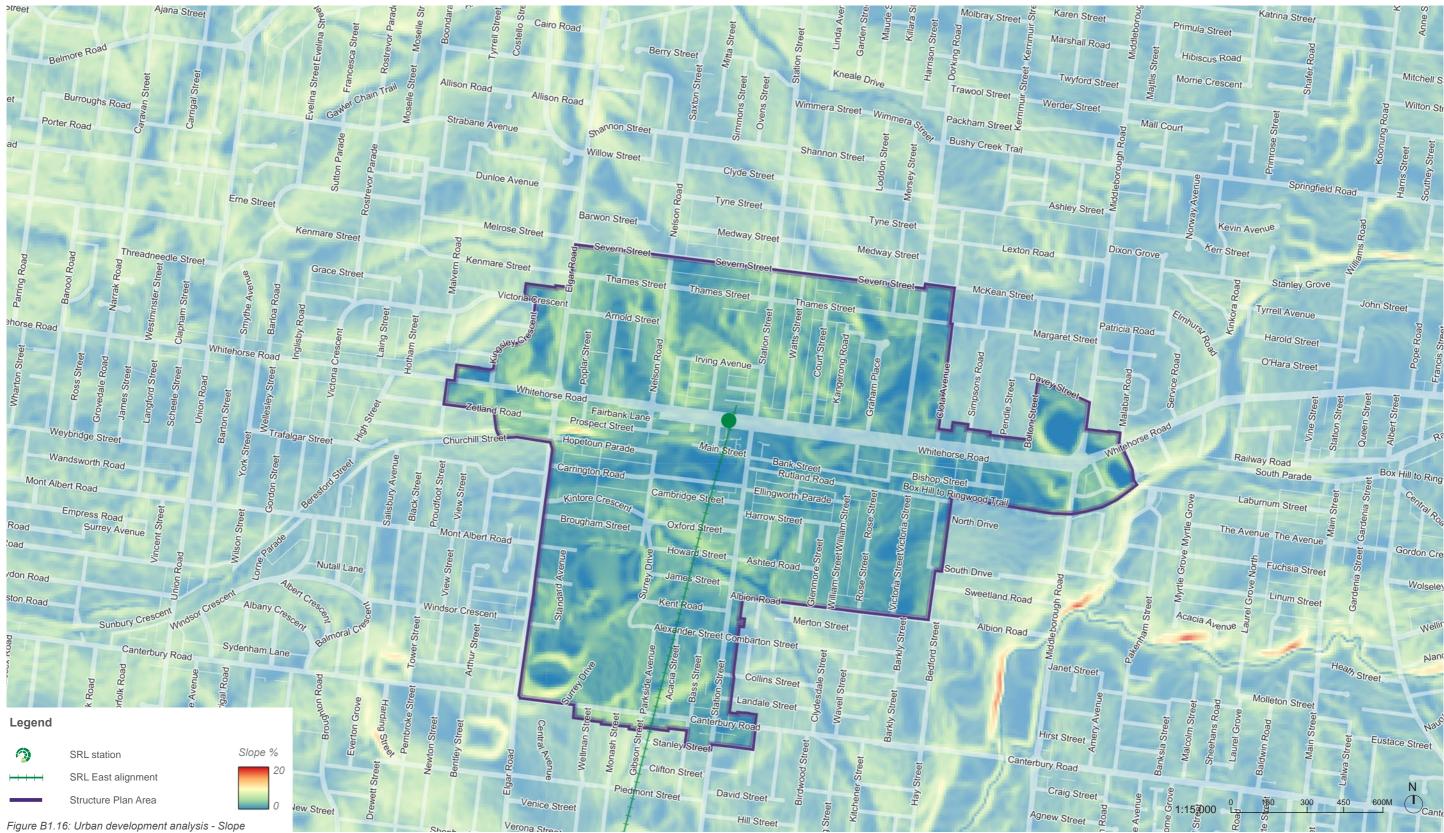


Recent building approvals





Slope



Appendix C Street network and public realm quality analysis



AJM

Street Network and Public Realm Quality Analysis to inform the Structure Planning Urban Design Report included:

- Public Space and Public Life Study Urban Baseline Study (2023) (see SRL East Structure Plan - Gehl Public Space and Life Study -Attachment B)
- Open Space Assessment (prepared by AJM Joint Venture for Suburban Rail Loop Authority 2024)
- Structure Planning Urban Design Report street quality assessment.

These are discussed more below.

Alignment with the Gehl 'Public Space and Public Life Study'

In 2023 Gehl, a globally recognised urban design and research consultancy, completed in-depth public space and public life analysis on selected streets and spaces in the SRL East Structure Plan Areas.

The Gehl study provided an understanding of the public space quality and people's experience of selected key public spaces through data collection and analysis using a tool with a 12-quality criteria rating system.

The findings of this study are in SRL East Structure Plan - Gehl Public Space and Life Study -Attachment B.

Open Space Assessment (prepared by AJM Joint Venture for Suburban Rail Loop Authority 2024)

The Open Space Assessment report was prepared to inform structure planning. This report included a quality assessment of existing open spaces within the 1600 metre radius of the SRL station which considered the Gehl study findings.

Structure Planning Urban Design Report – street network quality analysis

To inform the findings of this report, research was undertaken of various standards for permeability, along with analysis of the walkability, street block perimeters, and bock lengths of the Structure Plan Area. Further quality site assessments were also conducted to rate every street within the Structure Plan Area. As this assessment used different criteria to the Gehl study, the results differ in nuance, but generally align with similar levels of quality.

The summary research and analysis is outlined in the sections following.

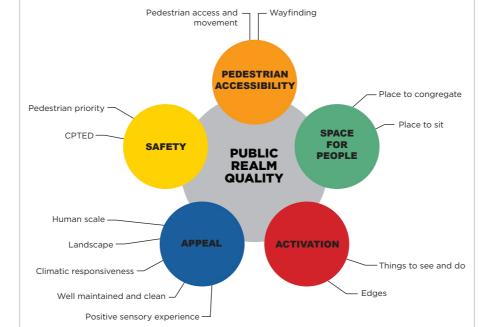


Figure C1.1: Streets and public realm quality assessment research for this report

Protection against traffic

and accidents - feeling safe

protection for pedestrians

• eliminating fear of traffic

and violence - feeling secure

Protection against crime

lively public realm

• eyes on the street

functions day/night

overlapping

good lighting

experiences

rain/snow

cold/heat

pollution

wind

Protection against

unpleasant sensory

• dust, noise, glare

Opportunities to walk

- room for walking
- interesting facades
- no obstacles
- good surfaces
 - · accessibility for everyone

There are places to stand for a rest

- edge effect / attractive zones for standing / staying
- supports standing / staying · facades with good details
- that invite staying

There are places to comfortably sit

- zones for sitting
- utilising advantages: view, sun, people
- · Good places to sit
- Benches for resting

The space relates to my (human) scale

buildings and spaces designed to human scale

The space allows me to enjoy the positive aspects of climate

- sun/shade
- heat/coolness
- shelter from wind/breeze

I like the aesthetic qualities and sensory experiences

• by day and by night • in summer and winter

There are plenty of things to

viewing distances

• lighting (when dark)

There are opportunities to

physical activity, exercise

· unhindered views

interesting views

play or exercise

· play and street

entertainment

I could easily have a

low noise levels

· street furniture that

provides 'talkscapes'

conversation

look at

reasonable

- good materials
 - fine views
- trees, plants, water

Figure C1.2: Gehl Public Space and Public Life Study (2023) Criteria

good place and a great place

good design and detailing

Permeability standards

The aspiration for walkability in SRL East station precincts is to:

 Support and enhance convenient and desirable access to everyday services, facilities and key destinations within a 20-minute walking distance from home including reducing walking distances to and from the station and within core urban zones.

This can be delivered through the following:

- Offering a fine-grain urban structure to provide a network of pedestrian connections
- Improving the current pedestrian linkages, streets and spaces in the station precincts and supplement these where required with high quality, activated and appealing linkages.

This will be achieved by identifying appropriate targets in terms of permeability and applying them with a practical lens by analysing current permeability in the Structure Plan Area.

Research has been undertaken into best practice permeability standards which is summarised in the table adjacent.

Source	Standard
Urban Design Guidelines for Victoria	Create a permeable block layout with block dimensions ranging from 120 metres to 240 metres long and 60 metres to 120 metres wide.
	A block perimeter of around 600 metres provides for good pedestrian and vehicular access and an efficient subdivision pattern of the block. Smaller blocks may be appropriate in more intense urban areas.
Melbourne Planning Scheme DD01	100 metres maximum block length
	Within 100 metres of rail station pedestrian connections less than 70 metres apart
City North Structure Plan and Melbourne DDO61	Pedestrian through block connections should be provided where the average length of a street block exceeds 100 meters. For street blocks exceeding 200 metres long at least two connections should be provided
NSW Movement and Place – Network Planning in Precincts Guide	'Create a permeable network with a grid-like structure, short block length and high intersection density'
	Less than 250 metres block lengths with a recommended block length of 120 to 180 metres
Westbrook PSP (completed May 2022)	Street block lengths should not exceed 240 metres
Case studies	Dimensions
Melbourne CBD	600-metre perimeter: 100 x 200 metres with minimum one pedestrian through connection.
Fitzroy, VIC	Approximately 75 x 80 metres blocks

Figure C1.3: Permeability research findings



	Applicability to SRL Structure Plan Areas
	Provides overarching parameters and maximum block length as a generic approach. Consideration of best practice targets for urban conditions below provide more applicable targets for SRL Structure Plan Areas.
	Perimeter of 600 metres is too large to ensure pedestrian permeability adjacent to new stations.
	Urban condition applicable to some areas within SRL East precincts subject to ultimate land use and density outcomes. A 100-metre maximum block length provides optimal outcome in areas surrounding rail station to maximise permeability.
	Urban condition applicable to some areas within SRL East precincts subject to ultimate land use and density outcomes. 100-metre maximum block length provides optimal outcome in areas surrounding rail station to maximise permeability.
1	A good benchmark for consideration within SLR East precincts which provides a range in block length to respond to desired outcomes and conditions.
	Urban condition not comparable to SRL East precincts given provision of transit.
	Applicability to SRL Structure Plan Areas
	Pedestrian through-connection increases permeability, but not consistently activated, resulting in some "back-of-house" pedestrian experiences and poor perceived pedestrian safety.
	Fine-grain and highly walkable with a variety of land use and density outcomes.

Walkability analysis

The walkability analysis and measure has been derived from a comparison of the 800-metre walkable catchment vs an 800-metre radial catchment. For the purpose of this study the walkable catchment has been derived using GIS by measuring a 800-metre distance along walkable paths from station entrances. The 800-metre radius represents an 'as the crow flies' distance from the centre of the station. A comparison of these areas gives an indication of the level of permeability achieved within the Structure Plan Area. It is noted that a 100 per cent outcome is not achievable in a logical urban block arrangement that is comprised of a gridded system. Insights:

- The analysis shows that the walking distances are increased particularly towards the south-west due to extensively large block sizes without pedestrian throughconnections. This is especially fracturing the connection between the Surrey Park open space and the existing Box Hill Station
- Box Hill achieves a walkability rating of 64 per cent which is an overall good outcome.

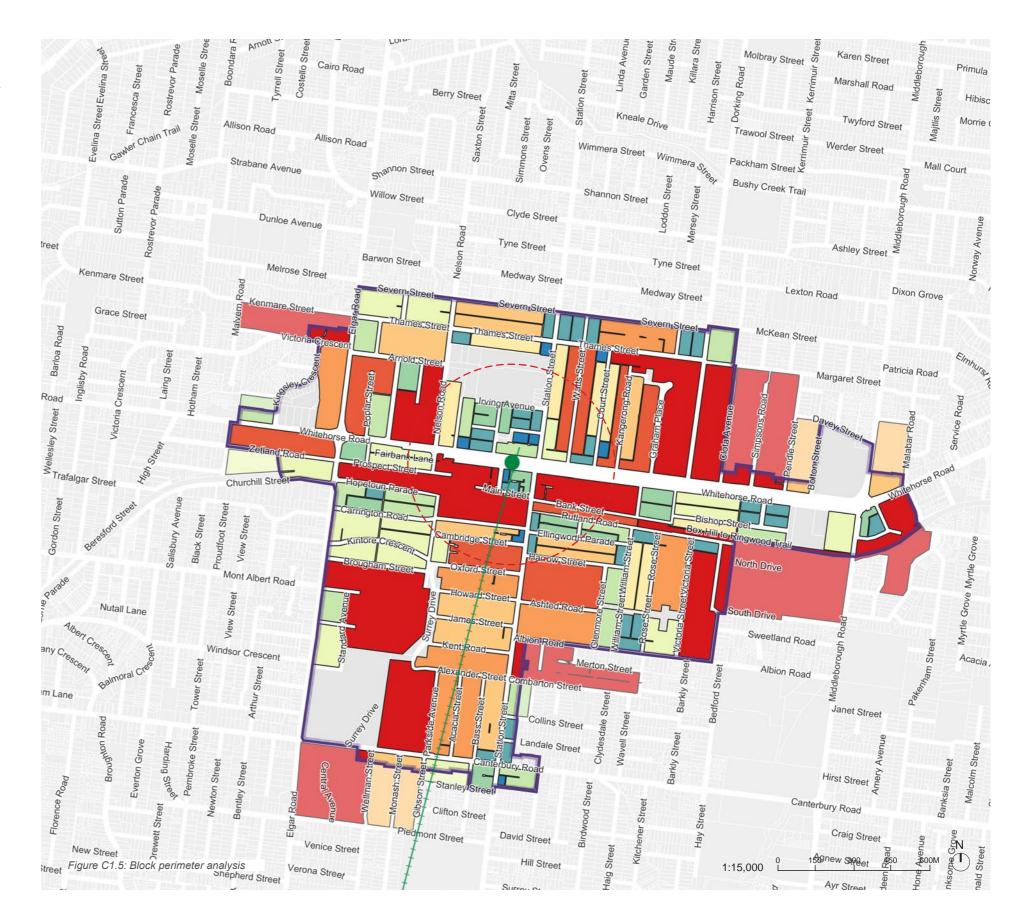


Legend

@	SRL station
	SRL East alignment
	Structure Plan Area
	400-metre radial catchment (from centre of station)
	800-metre walkable catchment from station entries
	800-metre radial catchment

Street block perimeter analysis

The following street block perimeter analysis shows the distance to walk around an urban block. This is an indicator of urban grain and demonstrates the areas that lack permeability.



Legend



- SRL East alignment
 - Structure Plan Area
- 400-metre radial catchment

SRL station

Street block perimeter length





600 to 700 metres

700 to 800 metres (10min walk)

800 to 900 metres

900 to 1000 metres

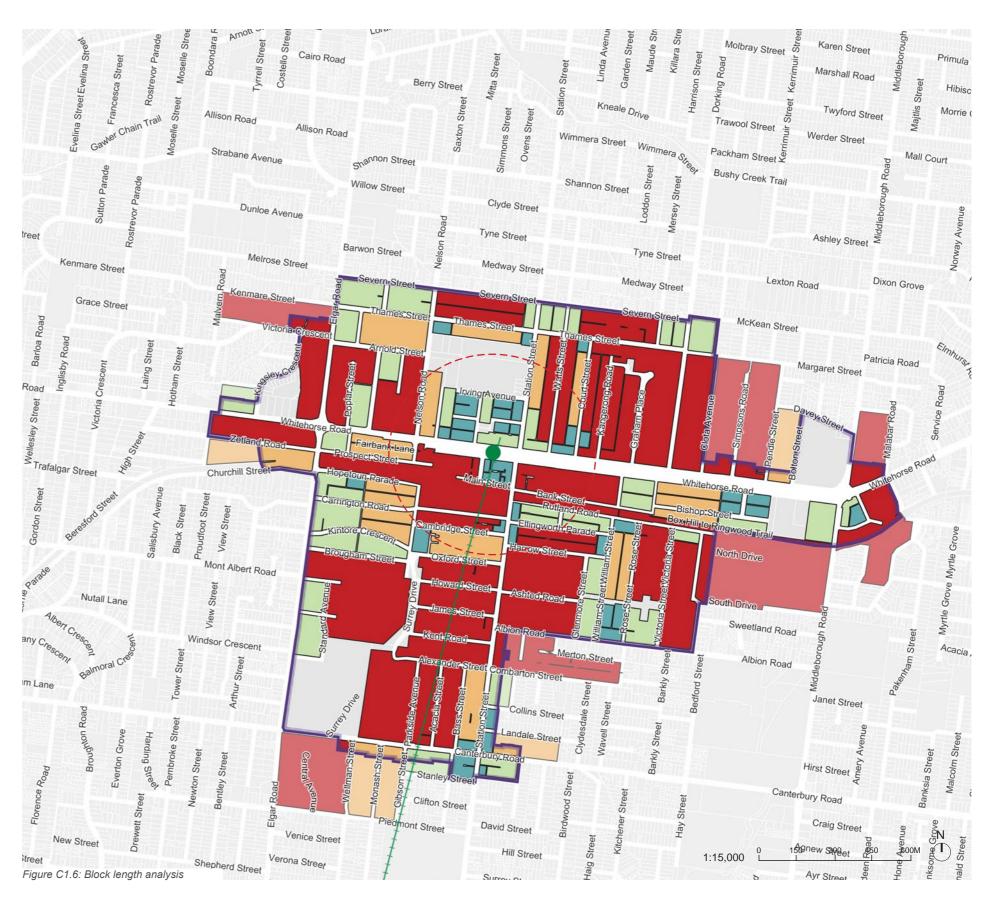
1000+ metres (>12min walk)



Block length analysis

The following analysis highlights the existing urban block length within the Structure Plan Area. Areas with urban block length in excess of the agreed targets present barriers to walkability and create issues to be considered within the public realm strategy.

Note: privatised / internal pedestrian linkages (not open 24 hours) exist currently which are not represented for the purpose of this mapping



Legend

\bigcirc	SRL station	
	SRL East alignment	
	Structure Plan Area	
	400-metre radial catchment	
	Block length 0 to 100 metres	
	Block length 100 to 200 metres	
	Block length 200 to 300 metres	
	Block length 300 metres +	

Public realm quality standards

This public realm analysis assesses the quality of the public realm, with a focus on the pedestrian experience. This assessment provides the following:

- A rating against five themes with reference to 12 criteria for all streets and spaces within the Structure Plan Area that records performance under the assessment values identified below
- An overview of the current performance of streets and spaces within the context of the current land use pattern. It does not assess against the future intended use
- Land use factored into the assessment through the score provided. Retail streets will score a higher degree of activation than residential streets. It does not offer separate rating scales for street typologies
- Spaces that do not have a pedestrian function or are private were excluded from the assessment.

Functionality of open space does not form part of the assessment. Open space is assessed against the experience for a pedestrian, not performance against community needs.

Public realm quality criteria

A set of criteria were developed for this public realm study, based on established public realm quality criteria including those provided in:

- The Public Life Diversity Toolkit, Gehl Institute
- Public space site-specific assessment, UN Habitat
- Pedestrians first, Institute for Transportation and Development Policy.

The following pages spatially map the findings of the public realm quality assessment across a range of themes.

Methodology

Site visits were conducted in the Box Hill Structure Area to evaluate the quality of streetscapes and public open spaces, based on the criteria established for the assessment. Every street, road, activity center and public open space in the Structure Plan Area was visited and assessed in Table C.3.





AĴM Joint Venture

Streets and public realm quality assessment research

Figure C1.7: Streets and public realm quality assessment checklist

1. SAFETY	2. PEDESTRIAN ACCESSIBILITY	3. SPACE FOR PEOPLE	4. ACTIVATION
Pedestrian priority	Pedestrian access and movement	Variety of places	Activities / things to engage with / look at
Are pedestrians protected from traffic?Are there safe opportunities for pedestrians to cross?	 Is it easy to get around as a pedestrian? Are pathways clear from obstruction? Wayfinding 	 Is there space to stand / linger / lean? Where appropriate, are there places to sit or gather? Are there opportunities for human interaction? Does the public realm support a diverse range of community activities and needs? 	 Are there engaging things to look at / public art? Where appropriate, are there things to do (play equipment in parks)?
 CPTED – perception of safety Is there adequate lighting? Are there 'eyes on the street/space' (windows / balconies / ground level entries / passing traffic)? 	 Is legibility intuitive and can people find their way around easily? Is their adequate provision of signage and wayfinding? 		 Edges Are edges engaging (active frontage /lots of entries and elements / blank walls)?

• Are there any entrapment points?

5. APPEAL

Human scale

- Are there any overbearing structures? Appropriate street wall height?
- Is it a highly-exposed / over-scaled space?

Landscape

- Are there street trees and planting?
- Balance of hardscape and soft scape?

Climatic responsiveness

- Can you enjoy the positive aspects of climate?
- Is there protection from sun in summer / wind and rain protection?

Well maintained / clean

- Are there public rubbish bins? Is there a lack of rubbish in the public realm?
- Is the planting maintained / cared for (no weeds, lawn mowed)?
- Are the footpaths and surfaces in good condition?

Positive setting / sensory

• Are there no unpleasant noises dust, pollution or smells?

Streets quality assessment - Safety

The safety of streets is assessed through the lens of the pedestrian experience and includes factors such as the protection from traffic and provision of safe crossing opportunities. Safety also includes Crime Prevention Through Environmental Design (CPTED) factors such as the provision of adequate lighting and the degree of passive surveillance and lack of entrapment points.







Streets quality assessment - Pedestrian accessibility

Pedestrian accessibility provides an assessment of the ease of pedestrian movement and the provision of adequate pedestrian paths and circulation. Pedestrian pathway widths are a factor as well as the inclusion of signage and intuitive wayfinding.





Streets quality assessment - Space for people

Space for people relates to the opportunity for people to sit, stand or gather, fostering human interaction and creating an environment for social engagement. This includes the provision of urban furniture items such as benches and chairs as well as providing areas where people can pause and interact without creating an obstruction in the street.







Streets quality assessment - Activation

Activation relates to the presence of engaging things to look at, elements to interact with, and edges that help drive a sense of activity, such as retail frontages, building entrances and facades that have visual interest. Inactive edges and dead zones negatively affect activation.





Streets quality assessment - Appeal

Appeal relates to attractiveness of built form, the presence of vegetation and street trees, the use of high quality and well-designed materials, and the maintenance and upkeep of a space. Appeal relates to the senses with poor amenity relating to smell, sound or sight negatively affecting the rating. The degree of human scale or sense of exposure also relates to appeal, which concerns the presence of overbearing structures, spaces of refuge, as well as protection from climatic factors such as sun, wind and rain.











80 Collins Street Melbourne VIC 3000 PO Box 23061 Docklands VIC 8012 Australia

contact@srla.vic.gov.au | 1800 105 105 (call anytime) suburbanrailloop.vic.gov.au

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