SUBURBAN RAIL LOOP EAST

SRL East Draft Structure Plan – Box Hill

Urban Design Report

More Homes For Victorians

VICTORIA State Government

SRL East Draft Structure Plan

Urban Design Report

Box Hill

Technical Report R.6

Rev 01 February 2025

aurecon | Jacobs | MOTT MACDONALD M M

SUBURBAN RAIL LOOP

AJM Joint Venture

Document Control Record

222 Exhibition Street
Melbourne VIC 3000
PO Box 23061 Docklands VIC 8012 Australia

DOCUMENT CONTROL			
Project Title	**Suburban Rail Loop**		
Document Title	**SRL East Draft Structure Plan – Urban Design Report – Box Hill**		
Document ID	**Technical Report R.6**		
Rev	**Date**	**Revision details/status**	**Author**
01	February 2025	For Exhibition	Mark Sheppard
Current revision	01		

Contents

This document is to be read in conjunction with:

SRL East Structure Plan - Urban Design Report - Attachment A: Supporting Research

SRL East Structure Plan - Urban Design Report - Attachment B: Gehl Public Space and Life study

SRL East Structure Plan - Urban Design Report - Attachment C: Assessment of Solar Access to the Public Realm

Executive summary

Suburban Rail Loop (SRL) East is a city and state-shaping project that will transform Victoria's public transport system and support vibrant suburbs across Melbourne. Realised over decades, SRL will deliver sustained job creation and investment in Melbourne's already thriving middle suburbs, leading to increased demand for floorspace.

Draft Structure Plans (Structure Plans) are being prepared for the neighbourhoods surrounding the new underground stations at Box Hill, Burwood, Glen Waverley, Monash, Clayton and Cheltenham.

The Structure Plans will set a vision and framework to guide growth and change in each neighbourhood, while preserving valued existing character attributes and ensuring high quality environments.

This Urban Design Report will inform the development of the Structure Plan for Box Hill.

Recommendations

This report sets out recommendations relating to urban design to consider when developing the Structure Plans, with the objective to achieve the Vision for Box Hill and the SRL Urban Design Principles and Objectives. This includes reconciling the provision of growth with the creation of high quality amenity, defining the attributes of each neighbourhood that will deliver diverse opportunities, and identifying the public realm interventions necessary to create a well connected, comfortable and welcoming public realm.

The recommendations are organised around three major urban design components - public realm, urban form and built form.

A set of eight design directions were developed to guide the recommendations:

- Design Direction 1: Ensure streets are inviting places that support community life
- Design Direction 2: Promote active transport access
- Design Direction 3: Foster resilient urban environments
- Design Direction 4: Facilitate outdoor recreation
- Design Direction 5: Balance growth and amenity
- Design Direction 6: Establish diverse, liveable and productive neighbourhoods
- Design Direction 7: Support an inviting public realm
- Design Direction 8: Ensure high quality and responsive built form.

Each design direction provides a set of strategies to inform how the design directions can be achieved in the Structure Plan Area.

The **public realm strategies** seek to deliver an environment which invites people to walk, particularly to key destinations such as public transport, activity centres, major employment areas and large open spaces, and which provides outdoor amenity to support higher-density living and working. The initiatives include new links where there is a gap in walkability or general permeability, and new open spaces where a gap in provision has been identified. Additionally, the strategies advocate for a street and open space system with an enhanced environmental performance, creating climate resilient streets and spaces.

The **urban form strategies** seek to deliver higher-density and high-quality development for living and working in response to the increased accessibility brought about by the SRL, while also contributing to a high-quality public realm. The Structure Plan Area comprises a collection of places, each of which has distinct attributes and a distinct desired land use function. The strategies promote different forms of development in each place that will capitalise on its attributes and support its desired land use function, reinforcing their diversity and individual identity and sense of place.

The different place types include:

- A central core of well-spaced towers providing for high-density mixed-use activity, complemented by pedestrian-favoured promenades and urban spaces that support street life and events
- Grand boulevards and avenues with moderately-tall and uniform built form to capitalise on their public transport accessibility and to create a well-framed public realm, complemented by broad footpaths and formal rows of mature trees
- Mixed-use areas comprising medium-rise, adaptable buildings that create a continuous, activated street wall behind small, landscaped setbacks
- Residential neighbourhoods developed with low-medium rise apartment buildings in garden settings and leafy streets, and dissected by 'green streets' that connect them to key destinations.

(These places differ from the Structure Plan neighbourhoods, which are informed by a broader range of considerations.)

The **built form strategies** seek to deliver a vibrant public realm, a high standard of on-site amenity and environmentally responsive built form. A 'mid-rise' scale of development is generally recommended because it strikes an appropriate balance between intensification and amenity by maintaining a relatively-open streetscape and a sense of openness between buildings, enabling solar access and sky views. Mid-rise buildings also represent best practice across a range of functional, contextual, social and environmental criteria. The varied forms of mid-rise development recommended will deliver a diverse range of accommodation types, suitable for the anticipated land uses and household types, and a diverse visual experience. Building setbacks are recommended to enable increased tree canopy cover, which will help to mitigate the urban heat island effect, offer access to nature, bolster biodiversity and facilitate natural stormwater management.

The Vision for Box Hill outlines the long-term aspiration for the precinct, including the Structure Plan Area.

The Vision for Box Hill:

Box Hill will be a thriving, culturally-dynamic and cosmopolitan place where global and local communities connect.

Figure A: View from Box Hill Gardens

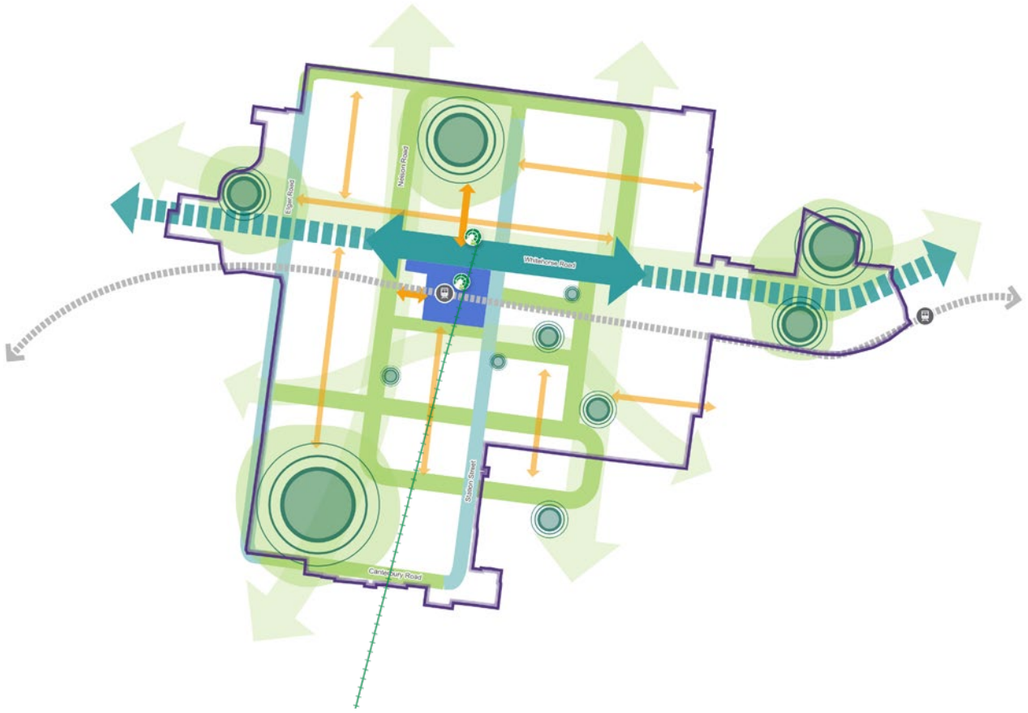
Public realm outcomes

Applying the public realm design directions and strategies in this report will achieve the public realm outcomes shown in Figure B.

Box Hill's public realm is recommended to be anchored by a highly-pedestrianised, active core around the SRL station, located at the interface of the new Whitehorse Road linear green space.

The Structure Plan Area is recommended to be interconnected by ecological green loops and linkages, comprising pedestrian-friendly, tree-lined streets and cycle paths. Major green spaces are envisaged to continue to provide opportunities for recreation and biodiversity, with improved access via new fine grain network of pedestrian linkages.

A comprehensive description of the design directions and strategies is provided in Section 3.



Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Existing rail line
- Highly pedestrianised and activated core
- Linear green space
- Boulevard
- Enhanced network of green and public spaces for recreation and urban ecology
- New and enhanced network of key links
- Pedestrian ecological green loops and linkages

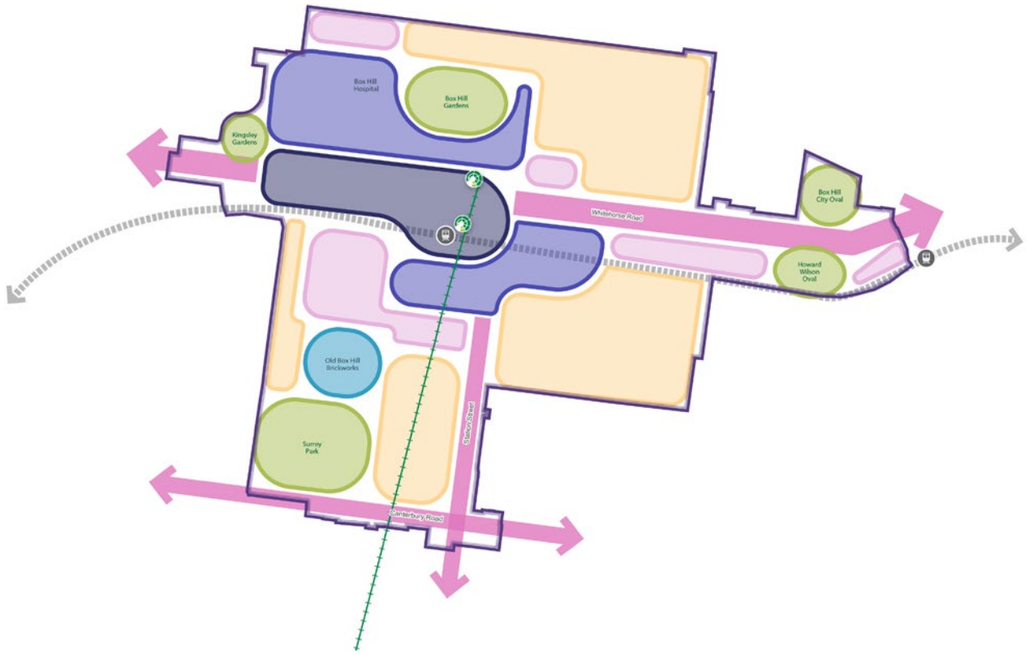
Figure B: Public realm outcomes

Urban form and built form outcomes

Applying the urban form and built form design directions and strategies in this report will achieve the urban form outcomes shown in Figure C.

Development in Box Hill is recommended to continue to be primarily centred around Whitehorse Road, west of Station Street. In this area, urban form is recommended to respond to the existing high-rise context of Box Hill. Higher densities and building heights are recommended to extend towards the north-west and south-east, providing opportunities for employment and residential growth in proximity to the SRL station.

New urban neighbouhoods of moderate density are envisaged to provide a transition to medium-density residential areas on the periphery of the Structure Plan Area. A comprehensive description of the design directions and strategies, is provided in Section 4.



Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Existing rail line
- Central Core
- Central Flanks
- Key Movement Corridors
- Urban Neighbourhood
- Residential Neighbourhood
- Strategic Site
- Public Open Space

Figure C: Urban form outcomes

1 Introduction

AJM
Joint Venture

1.1 Introduction

Suburban Rail Loop (SRL) is a transformational project that will help shape Melbourne's growth in the decades ahead. It will better connect Victorians to jobs, retail, education, health services and each other – and help Melbourne evolve into a 'city of centres'.

SRL will deliver a 90-kilometre rail line linking every major train service from the Frankston Line to the Werribee Line via Melbourne Airport.

SRL East from Cheltenham to Box Hill will connect major employment, health, education and retail destinations in Melbourne's east and south east. Twin 26-kilometre tunnels will link priority growth suburbs in the municipalities of Bayside, Kingston, Monash and Whitehorse.

SRL East Draft Structure Plan Areas will surround the six new underground stations at Box Hill, Burwood, Glen Waverley, Monash, Clayton and Cheltenham.

1.2 Purpose of this report

This report will inform the development of the Draft Structure Plan (Structure Plan) to guide land use planning and development in the Box Hill SRL neighbourhood.

It describes the existing public realm and urban design character of the Structure Plan Area, and identifies issues and opportunities relating to its development.

Recommendations to consider when developing the Structure Plans are made, with the objective to avoid, minimise or manage potential negative impacts of change, and to maximise potential for positive change.

1.3 Structure planning

Structure Plans have been prepared for defined areas surrounding the new SRL East stations to help deliver the vision developed for each SRL East neighbourhood.

The Structure Plans cover defined Structure Plan Areas that can support the most growth and change. These areas cover a walkable catchment that extends from the SRL station entrances. Additional places are included within each defined area as required to make planning guidance more robust and effective, and to align with each community's aspirations and current and future needs.

A Structure Plan is a blueprint to guide how an area develops and changes over a period of time. Structure Plans describe how future growth within the area will be managed in an appropriate and sustainable way to achieve social, economic and environmental objectives. The plans cover a wide range of matters, such as transport connections and car parking, housing and commercial development, community infrastructure, urban design, open space, water and energy management, climate resilience and sustainability.

By tailoring planning decisions to reflect the needs of a defined area, Structure Plans give effect to the policies and objectives set for these areas and cater for changing community needs. They also provide certainty for residents, businesses and developers by identifying the preferred locations and timing of future land uses, development and infrastructure provision.

Structure Plans take a flexible and responsive approach that enables places to evolve over time.

Planning scheme amendments will be required to implement the Structure Plans into the planning schemes of the cities of Bayside, Kingston, Monash and Whitehorse.

1.4 Structure Plan Area

The Box Hill Structure Plan Area surrounds the SRL station at Box Hill in the City of Whitehorse.

The Structure Plan Area covers a defined area around the SRL station that can support the most growth and change. The area covers a walkable catchment that extends from the SRL station entrance.

It is generally bordered by Severn Street and McKean Street to the north, Clota Avenue and Laburnam Street to the east, Elgar Road to the west and Canterbury Road to the south.

Whitehorse Road / Maroondah Highway and the existing Belgrave / Lilydale Line intersect the centre of the Structure Plan Area in an east-west alignment. The main road corridors include Whitehorse Road, Elgar Road and Station Street.

The Box Hill Structure Plan Area is shown in Figure 1.1.

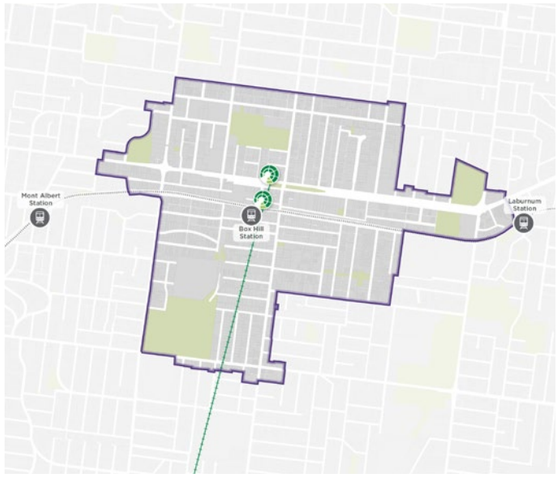


Figure 1.1: Box Hill Structure Plan Area

1.5 Methodology

The methodology for the urban design assessment involved the following steps:

- A study area for the assessment was identified. For this assessment, the study area comprised the SRL Box Hill Structure Plan Area, surrounding the station where the most change and development will occur
- Legislation, polices and other documents relevant to the assessment were reviewed. This included:
  - National, state and local government policies, legislation, strategies and guidelines relevant to the affected area
  - SRL East policy and strategies including: SRL East Precinct Visions, SRL East Urban Design Framework, SRL Precinct Development Framework, and SRL East Urban Design Strategy*
  - The community and stakeholder engagement
  - Technical assessments undertaken, including studies on housing, land use, economics, housing, retail, transport, open space, community infrastructure, flooding and water management, aviation, ecology and arboriculture, sustainability and climate response
- Research was conducted into forms of higher-density development and designs for streets and open spaces in higher-density environments
- Urban design context and background analysis, and the identification of issues and opportunities. This included a desk top review and site visits
- Testing of solar access in the public realm and private properties adjoining development
- Based on the assessment, recommendations were developed for public realm, urban form and built form
- Consideration of previous consultation undertaken for the feasibility, design development and environmental and planning approval phases of the SRL project, and engagement undertaken through the development of the Structure Plans
- The urban design peer review and advice was sought on the recommendations made in this report.

** While the SRL East Urban Design Strategy was only developed to guide the use and development of the SRL Rail and Infrastructure Project, this document seeks to ensure that the urban design strategies for the broader Structure Plan Area align, respond and build-on the SRL East Urban Design Strategy.*

1.6 Recommendations

The report outlines the basis for the recommended urban design strategies and initiatives. These are organised around:

A **Public Realm Framework**, **Design Directions** and **Strategies** that seek to deliver an environment which invites people to walk, particularly to key destinations such as public transport, activity centres and major open space areas, and which provides outdoor amenity to support higher density living and working. This includes recommendations for:

- New streets, lanes and pedestrian links to provide convenient walking routes throughout the Structure Plan Area
- Improvements to existing streets, lanes and pedestrian links based on their role in the movement network, to support their appeal and safety for pedestrians, and social activity
- New and upgraded open spaces to provide for the recreation needs of the future community.

An **Urban Form Framework, Design Directions and Strategies** that seek to deliver create a range of distinct, higher density neighbourhoods and high quality development for living and working in response to the increased accessibility brought about by the SRL and the land uses sought in each area, while also contributing to a high quality public realm. This includes recommendations for:

- The types, and forms intensity and land use of new buildings in each part of the Structure Plan Area
- Specific locations within each area where greater or lesser building scale is appropriate. The further design of key interfaces between built form and public realm.

A **Built Form Framework, Design Directions and Strategies** that seek to ensure high quality development for living and working, and to contribute to high quality public realm amenity. This includes recommendations for:

- The design of buildings where they address the public realm
- The massing of built form at its interface with neighbouring properties
- On-site landscaping.

Outcomes that illustrate how the public realm, urban form and built form strategies can be delivered in each Place Type within the Structure Plan Area.

1.7 Report structure

Section 1. Introduction
Provides a brief overview of SRL and the purpose, method, recommendations, scope and structure of the Structure Plan Urban Design Report.

Section 2. Context
Outlines the context for the urban design recommendations, including the strategic context, SRL urban design principles and objectives, the urban context of the Structure Plan Area and the Vision.

Section 3. Public realm
Sets out a Public Realm Framework to support the achievement of the Vision, including a summary of the underpinning public realm analysis, and proposed future public realm and open space network.

Section 4. Urban form
Sets out an Urban Form Framework to support the achievement of the Vision, including a summary of the underpinning urban form analysis and proposed future urban form pattern.

Section 5. Built form
Sets out a Built Form Framework that identifies the recommended built form outcomes.

Section 6. Outcomes
Brings together and elaborates on the public realm and built form outcomes recommended by the Public Realm, Urban Form and Built Form Frameworks for individual places within the Structure Plan Area.

Section 7. Recommendations summary
Summarises the urban design initiatives recommended to be incorporated in the Structure Plan.

Appendices
Appendix A. *Provides an analysis of the existing public realm and urban design characteristics in the Structure Plan Area.*

Appendix B. *Provides an analysis of development conditions in the Structure Plan Area.*

Appendix C. *Provides an analysis of the street network and public realm quality.*

Supporting Documents

Attachment A: Urban Design Supporting research
Summarises the research undertaken on:

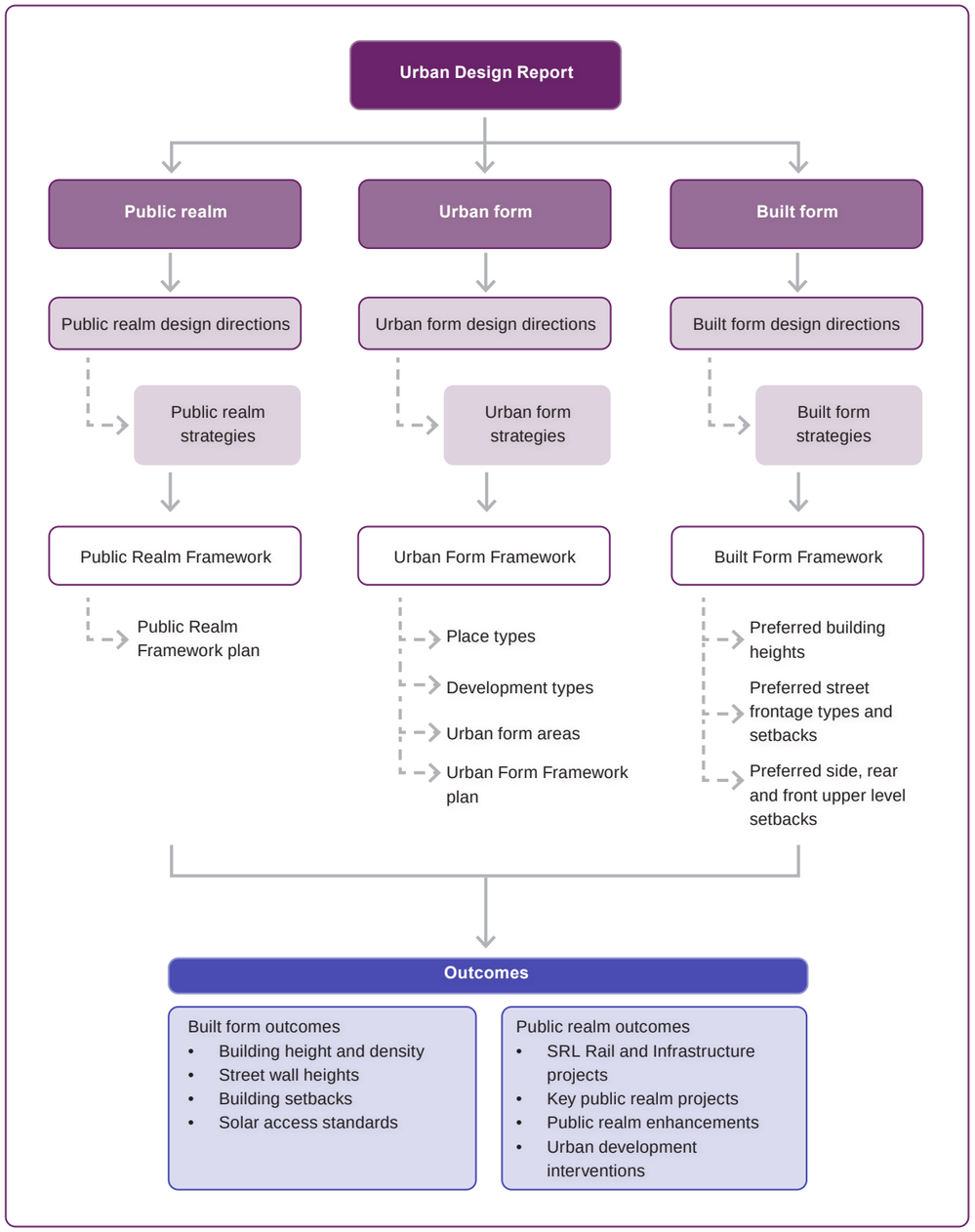
Part 01. *Urban development typologies*

Part 02. *Public realm typologies*

Attachment B: Gehl Public space and Life Study
Supporting urban design research, containing the Public Space and Life Study produced by Gehl.

Attachment C: Assessment of solar access to public realm
Summarises testing undertaken of solar access to public realm.

1.8 How to use this report



1.9 What is urban design?

Urban design is the practice of shaping the built environment to improve the quality of design and overall liveability, productivity and connectivity of cities. While built form is a key contributor, urban design is about more than just the appearance of the built environment. Urban design also relates to functional, environmental, economic and social outcomes of a project.

Urban design operates at a variety of scales, from precinct and neighbourhood planning to the design of a station forecourt or public park.

Achieving high-quality urban design requires good processes and guidance that optimise outcomes and value for money. High-quality design is authentic, contextual and site-specific.

Density Done Well

Density can mean different things, in different places. Each location requires consideration of the scale of density appropriate to its specific local context and future role. Different scales of density bring different benefits and present different challenges. Good urban design can help address these challenges, to improve:

- Functionality, character and spirit of public places for individuals and communities
- Levels of comfort, accessibility, safety and inclusiveness of places
- Expression of social and cultural values associated with places and people
- Socio-economic composition, diversity and economic vibrancy of urban areas
- Ecological systems, sustainability and the resilience of urban environments
- Community connectedness, health and wellbeing, and pride of place.

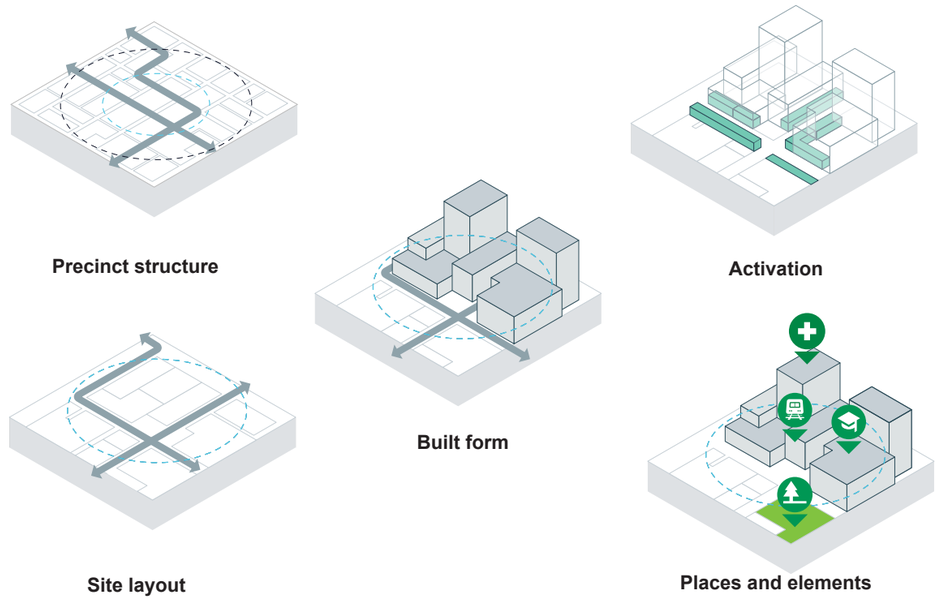


Figure 1.2: How urban design works across different scales of a project

2 Context

AJM
Joint Venture

2.1 Policy context

Plan Melbourne 2017–2050

Plan Melbourne is the Victorian Government's long-term planning strategy for the future development of Melbourne, providing the strategic basis for the planned growth of the city in response to key challenges and opportunities facing Melbourne for the next 30 years. These include a growing population; remaining competitive in a changing economy; housing that is affordable and accessible; keeping up with the growing transport needs; and the need for climate mitigation and adaptation.

Plan Melbourne 2017-2050: Addendum 2019 updates the growth projections for Melbourne and identifies the need for: an additional 1.8 million jobs and 1.6 million dwellings to support Melbourne's growth by 2051; and a transport network able to cope with an extra 11.8 million trips per day by 2050.

The Addendum recognises that Melbourne's public transport network needs to develop to support the distribution of population and employment in line with growth estimates, stating that: '*Melbourne needs a huge, well-planned investment that enables the city to grow while meeting these transport challenges*'.

SRL is recognised as providing opportunity to create a direct rail connection between Melbourne's major employment, health and education precincts and activity centres outside the CBD. The role of 20-minute neighbourhoods in making Melbourne a city of inclusive, vibrant and healthy neighbourhoods is recognised.

The focus of Plan Melbourne is delivering more homes near transport, jobs and essential services in vibrant liveable and sustainable neighbourhoods.

Box Hill is identified in Plan Melbourne as a Metropolitan Activity Centre (MAC). These are higher-order centres intended to provide a diverse range of jobs, activities and housing for regional catchments that are well served by public transport. As a MAC, Box Hill is designated for substantial development, growth and investment.

Victoria's Housing Statement 2024–2034

Victoria's Housing Statement 2024–2034 sets an ambitious goal for addressing Victoria's housing needs.

The overall target is to increase housing delivery from 54,000 homes a year to 80,000 homes a year (equivalent to 800,000 homes over the next decade), with 70 per cent provided in established areas and 30 per cent in growth areas.

The Housing Statement focuses on five key areas to achieve these targets and other housing aspirations:

1. ***Good decisions, made faster***
   The Victorian Government is reforming Victoria's planning system to boost housing supply across the state – clearing the backlog and giving builders, buyers and renovators certainty about how long approvals will take.
2. ***Cheaper housing, closer to work***
   The Victorian Government is making it easier to build more homes, with the best design standards, where Victorians want to live – that means going up and out, not just out.
3. ***More social housing***
   The Victorian Government is building more social and affordable homes across Victoria – launching Australia's biggest urban renewal project on top of the Big Housing Build.
4. ***A long-term housing plan***
   We know our state will keep growing – and we know we'll need a plan to manage that growth in the decades ahead.

Planning Policy Framework

The Victorian Planning Provisions (VPPs) are established under Victoria's Planning and Environment Act 1987 as a state-wide reference document or template that a municipal planning scheme or planning scheme provision must be based on.

The VPPs set out state and regional planning policies relating to settlement, environmental values and risks, natural resource management, built environment and heritage, housing, economic development, transport and infrastructure.

The VPPs specifically reference SRL in:

Clause 11.01-1R (Settlement) – The strategy seeks to 'develop the Suburban Rail Loop through Melbourne's middle suburbs to facilitate substantial growth and change in major employment, health and education precincts and activity centres beyond the central city at an appropriate scale to address the needs of Melbourne's rapidly growing population'.

Clause 72.08 (Background Documents) includes Plan Melbourne 2017-2050: Addendum 2019 as a reference document

Victoria's Infrastructure Strategy 2021–2051

Victoria Infrastructure Strategy 2021–2051 provides a practical roadmap for action over the next 30 years across a broad range of public policy areas including housing, energy, transport and social infrastructure.

The strategy seeks to address existing infrastructure pressures, demand on existing infrastructure, and assist with planning the timing and location of required and necessary new infrastructure.

Strong emphasis is placed on improving public and active transport connections in established areas by improving pedestrian, tram, bus and train infrastructure.

Recommendations focus on improving the connection and integration between these nodes of travel.

SRL will address will help achieve the objectives of the strategy, connecting activity centres, providing economic growth and housing opportunities, and improving access to jobs and services.

Victorian Infrastructure Plan 2021

The Victorian Infrastructure Plan 2021 lays out the infrastructure priorities of the Victorian Government.

The priorities include providing transport infrastructure to better connect people in Melbourne and regional areas to health, education and employment centres via public transport.

Urban Design Guidelines for Victoria 2017

The Urban Design Guidelines for Victoria 2017 support the delivery of functional and enjoyable places for people to live, work, and spend leisure time.

SRL aims to create neighbourhoods that foster community interaction and make it easy for people of all ages and abilities to live healthy lifestyles and engage in regular physical activity.

Better Apartment Design Standards for Victoria 2017

The Better Apartment Design Standards 2017 provide guidance for applicants, architects, building designers and planners for designing and assessing apartment developments to ensure their quality and functionality benefits the health and well-being of residents, and improves the environmental performance of apartment buildings.

SRL aims to deliver apartments that provide diverse, well-designed housing options to meet the long-term needs of Box Hill's growing community.

2.2 The Vision for Box Hill

The Vision for Box Hill outlines the long-term aspiration for the precinct including the Structure Plan Area.

The Vision for Box Hill:

A thriving, culturally dynamic and cosmopolitan place where global and local communities connect.

Box Hill will continue to be an exciting, culturally diverse destination – a connection between Melbourne's east and the rest of our city and state.

Its exceptional transport accessibility will elevate its strategic importance as one of Melbourne's economic and lifestyle centres, and it will play a key role in the city's visitor economy.

The centre of Box Hill is already the community heart and will continue to be a place where people can share experiences and traditions. Celebrating diversity will strengthen the connection between the many residents who call Box Hill home.

The wider area will be a place of many neighbourhoods – better connected to each other – each with its own character, identity and sense of place.

High quality design, greener streets and enhanced natural environments will support resilient and sustainable living and increase local biodiversity.

Whitehorse Road will be a better experience for people and pedestrians. Leafy streets and open spaces will make walking and cycling between new and well-loved places more comfortable and enjoyable.

Building on existing strengths, new economic opportunities in Box Hill will leverage established health, education, cultural and recreational services, as well as the vibrant local business community. There will be a need for new homes, high quality offices, services and community amenities that strengthen both housing and employment choice and enhance quality of life for the growing Box Hill community.

SRL will unlock new opportunities to create a sustainable, affordable and vibrant lifestyle in Box Hill that continues to celebrate cultural diversity.

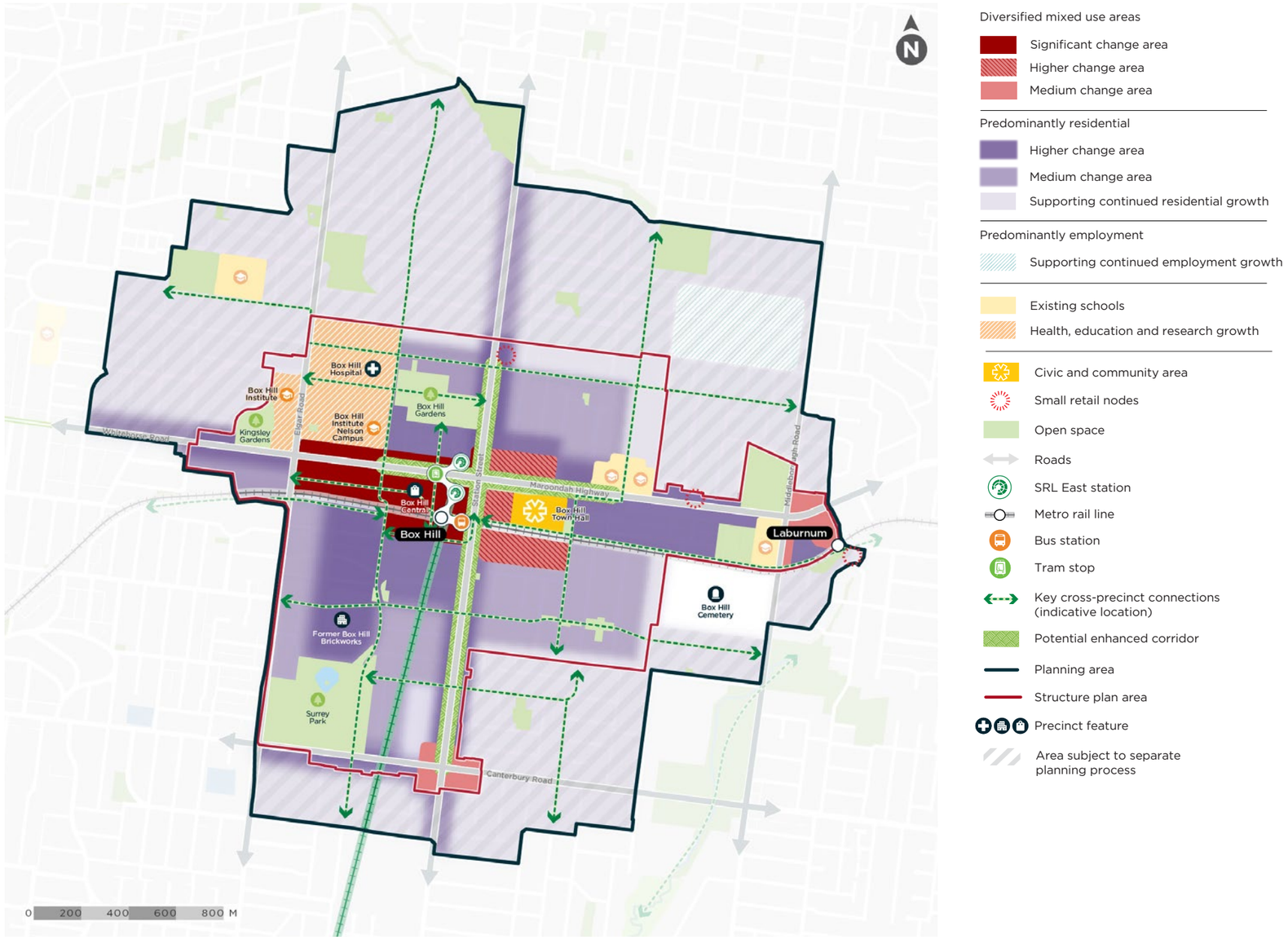


Figure 2.1: Box Hill Conceptual Precinct Plan

2.3 Urban design principles and objectives

The SRL Urban Design Strategy sets out what the project must achieve achieve design-wise.

It seeks to provide consistently high-quality urban design so that SRL Structure Plan Area continue to be great places for people to live, work and visit as development and density in them increases..

The SRL Urban Design Strategy sets out three core objectives of ‘productivity’, ‘connectivity’ and ‘liveability’, with a supporting set of principles and objectives to guide an integrated approach to urban design.

The SRL Urban Design Principles and Objectives are set out below.

Productivity

To support population growth and a focus on jobs and investment closer to where people live; strengthen access to, and investment in regional Victoria

Principle 1
Enduring

Places that are functional now and for generations to come

- **Objective 1.1 Legacy**
  Create a design that is enduring and functional for generations to come, is easy to maintain and manage, is adaptable to changing uses with minimal reconstruction, and will age gracefully in concept and detail.
- **Objective 1.2 Future ready**
  Ensure the design catalyses urban renewal, encouraging the evolution of the precincts and changing uses over time.
- **Objective 1.3 Resilient**
  Ensure the infrastructure, buildings and places can survive, adapt and thrive when subjected to stresses and acute shocks such as changes in climate and technology, and extreme events.
- **Objective 1.4 Environmentally sustainable**
  Optimise environmental performance and embed sustainability initiatives into the design response of the infrastructure project and surrounding precinct.

Principle 2
Diverse

Places that are inclusive and offer a diverse range of experiences.

- **Objective 2.1 Strategic alignment**
  Facilitate integrated land use and transport solutions that respond to the precinct ambition and strategic transport and land use planning.
- **Objective 2.2 Functional urban structure**
  Create an urban structure that ensures the adequate provision of public spaces that support a complementary mix of activities.
- **Objective 2.3 Integration with context**
  Ensure new works accommodate travel routes and activities that connect to, integrate with and complement those in the wider precinct.
- **Objective 2.4 Welcoming**
  Design places and movement networks that are welcoming, inclusive and pleasant for the whole community and encourage diverse social and cultural interaction within public spaces.

Connectivity

To support the development of an integrated transport network that increases travel options and access to places, and enhances the passenger experience

Principle 3
Connected

Places that are connected physically and spatially

- **Objective 3.1 Linkages**
  Improve people’s ability to walk, cycle and access public transport within a permeable urban structure that offers safe and efficient links and reduces barriers to movement.
- **Objective 3.2 Transport integration**
  Facilitate seamless intermodal transfers prioritising public transport, walking and cycling networks, and design movement networks for safe interactions between transport modes.
- **Objective 3.3 Legible**
  Reflect walking and cycling desire lines, promote intuitive wayfinding, reduce reliance on signage and minimise visual clutter and obstructions to key views.
- **Objective 3.4 Green network**
  Facilitate green networks that link public and private open space and support urban ecology, biodiversity and cooling.

Principle 4
Accessible

Places that are socially connected, enjoyable and easy to walk and wheel around

- **Objective 4.1 Universally inclusive**
  Enable all people to access, understand, use and enjoy spaces across the project area and surrounding precincts regardless of their age, size, ability or disability. To the greatest extent possible, move beyond baseline accessibility compliance towards support for genuine dignity, equity, social inclusion and independent mobility in the use of public places.
- **Objective 4.2 Twenty-minute neighbourhoods**
  Support and enhance convenient and desirable access to everyday services, facilities and key destinations within a 20-minute walking distance from home.
- **Objective 4.3 Active transport**
  Encourage walking and cycling for transport and recreation with integrated active transport infrastructure that can accommodate future growth and connects seamlessly with surrounding networks and with existing and proposed infrastructure.
- **Objective 4.4 Safer Design**
  Design places that feel safe for the community using them. Increase passive surveillance and decrease barriers to participation in public space by acknowledging and accommodating the specific needs and experiences of all population groups within the community.

Liveability

To create more sustainable and resilient precincts in Melbourne’s suburbs to generate new social and economic opportunities.

Principle 5
Enhancing

Places that enhance the local environment and community

- **Objective 5.1 Heritage**
  Celebrate, respect and respond to Indigenous and non-indigenous cultural heritage, values and local history.
- **Objective 5.2 Responsive**
  Design to respond, connect and build on the unique and valued social, cultural, physical and economic aspects of the precinct.
- **Objective 5.3 Sensitive**
  Sensitively enhance landscape and urban realm outcomes; and minimise negative physical and visual impacts associated with the new infrastructure.
- **Objective 5.4 Healthy**
  Design infrastructure and green networks, spaces and places that support active lifestyles, and encourage social interaction to improve physical and mental health.
- **Objective 5.5 Quality design**
  Create a high-quality design that makes a positive contribution to the local built and natural environment.

Principle 6
Liveable

Places that are comfortable and welcoming

- **Objective 6.1 Amenity**
  Improve urban amenity by realising site specific opportunities to enhance environmental comfort and create pleasant and attractive places that feel safe and are safe for people to move through and spend time in.
- **Objective 6.2 Landscape values**
  Create a coherent and engaging landscape response that embraces natural qualities and community and cultural values.
- **Objective 6.3 User experience**
  Enhance the journey and precinct experience for local communities, visitors and transport users.
- **Objective 6.4 Places for people**
  Create inviting, people-friendly streets, open spaces and public places, and maximise the opportunities to create green places.
- **Objective 6.5 Activation**
  Create activated, memorable and diverse places in the short and long term; manage interfaces and encourage a range of activities to deliver vibrant mixed-use neighbourhoods.

2.4 Urban context

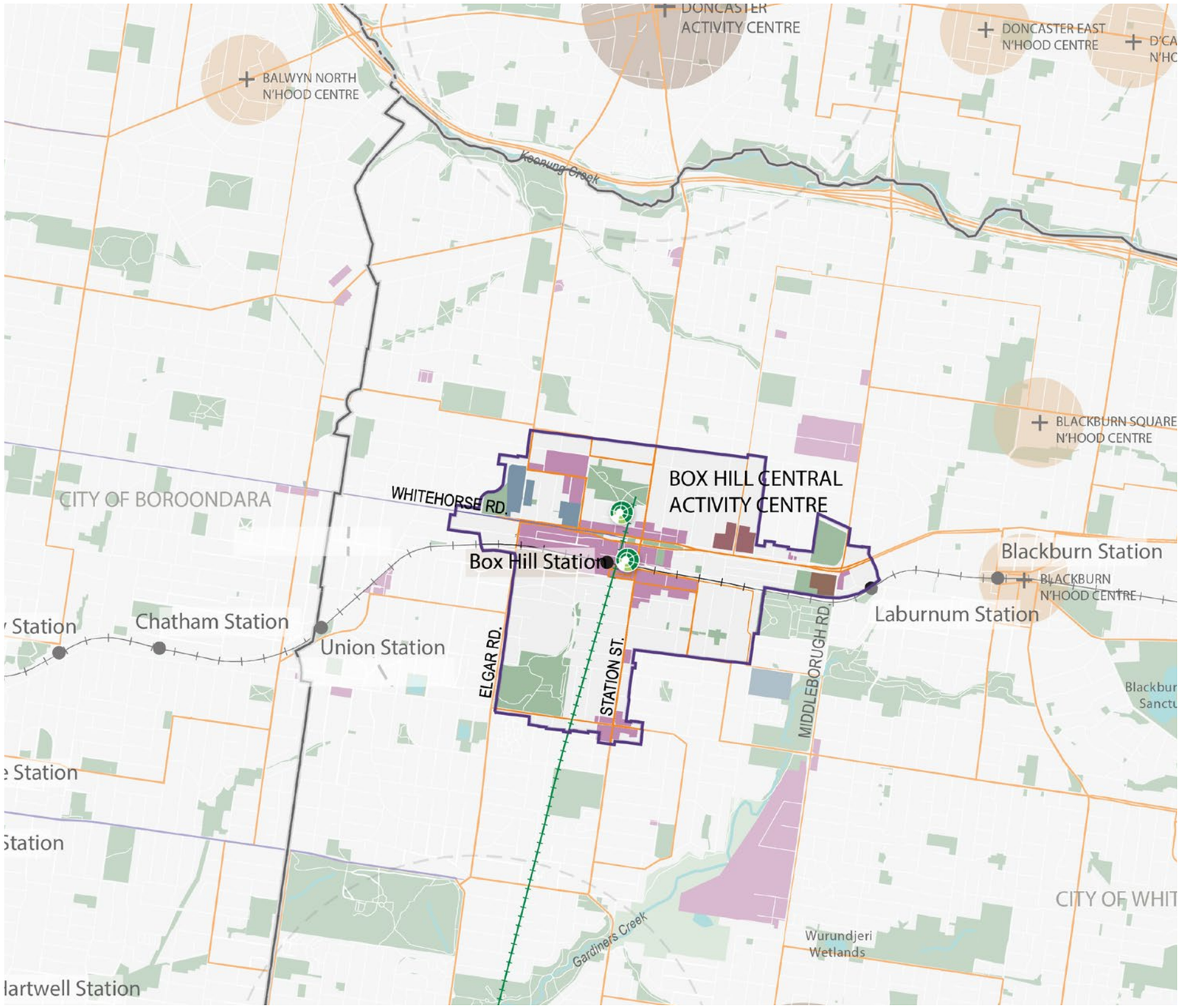
Regional context

Box Hill is located in the City of Whitehorse 14 kilometres east of Melbourne's CBD.

Whitehorse Road / Maroondah Highway and Station Street are the principal vehicle and public transport corridors, along with the Belgrave / Lilydale Line and the existing Box Hill Station.

The Box Hill Structure Plan Area sits on a topographic high point that falls to Koonung Creek in the north and Gardiners Creek in the south-east.

Activity centres and neighbourhood centres are located to the north, east and south in Doncaster, Blackburn and Burwood. Supporting activity centres connected by the Belgrave / Lilydale Line include Mont Albert to the west and Laburnum to the east.



Legend

- SRL station
- SRL East alignment
- Structure Plan Area
- Existing rail line
- Existing train station
- Tram line
- Existing bus route
- Local government boundary
- Property
- Open space
- Water bodies
- School
- Major Activity Centre
- Neighbourhood Activity Centre
- University campus / TAFE
- Employment area

Figure 2.2: Regional context of Structure Plan Area

2.5 Existing conditions

Urban structure

The Structure Plan Area is centred around a spine of movement and activity running east-west along Whitehorse Road and a commercial / retail core which spans the northern and southern sides of the Belgrave / Lilydale Line.

Pedestrian activity is the highest where key destinations exist. These include around Whitehorse Road, the existing Box Hill Station, Box Hill Central, Box Hill Hospital, Box Hill Gardens, Surrey Park, Laburnum Station and shopping area, and Canterbury Road shopping area.

Major open spaces are dispersed around the periphery of the Structure Plan Area, with limited open space located within the commercial / retail core.

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Belgrave / Lilydale Line
- Activity node - place of high pedestrian activity and attraction
- Civic, education and health
- Open space
- Commercial / retail core
- Medium density housing
- Traditional retail
- Highway
- Key street / arterial road
- Large landholding
- Valued-character (Neighbourhood Character Overlay)

Figure 2.3: Main urban structure elements of the Structure Plan Area

Movement and access

The Structure Plan Area has movement networks for public transport, private vehicles and active travel.

Barriers to pedestrian connectivity occur where vehicle-dominated key road connections 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 has a range of street types which complicates the ease of movement and legibility of the network.

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 significant barrier to movement in a north-south direction, particularly for pedestrians and cyclists. Staggered pedestrian crossings over Whitehorse Road provide access to the health and education, retail, civic and culture precincts.

Pedestrian crossings are present at regular intervals along Whitehorse Road. Crossings are concentrated around commercial and civic uses, while four-way crossings are present at major intersections with Elgar Road, Nelson Road, Station Street and Middleborough Road.

Lack of pedestrian permeability within the retail / commercial core often leads to crowding, particularly at pedestrian crossings along Whitehorse Road.

Large blocks exist across the Structure Plan Area decreasing the walkable catchment from SRL station entrances and reducing ease of pedestrian access to key destinations.

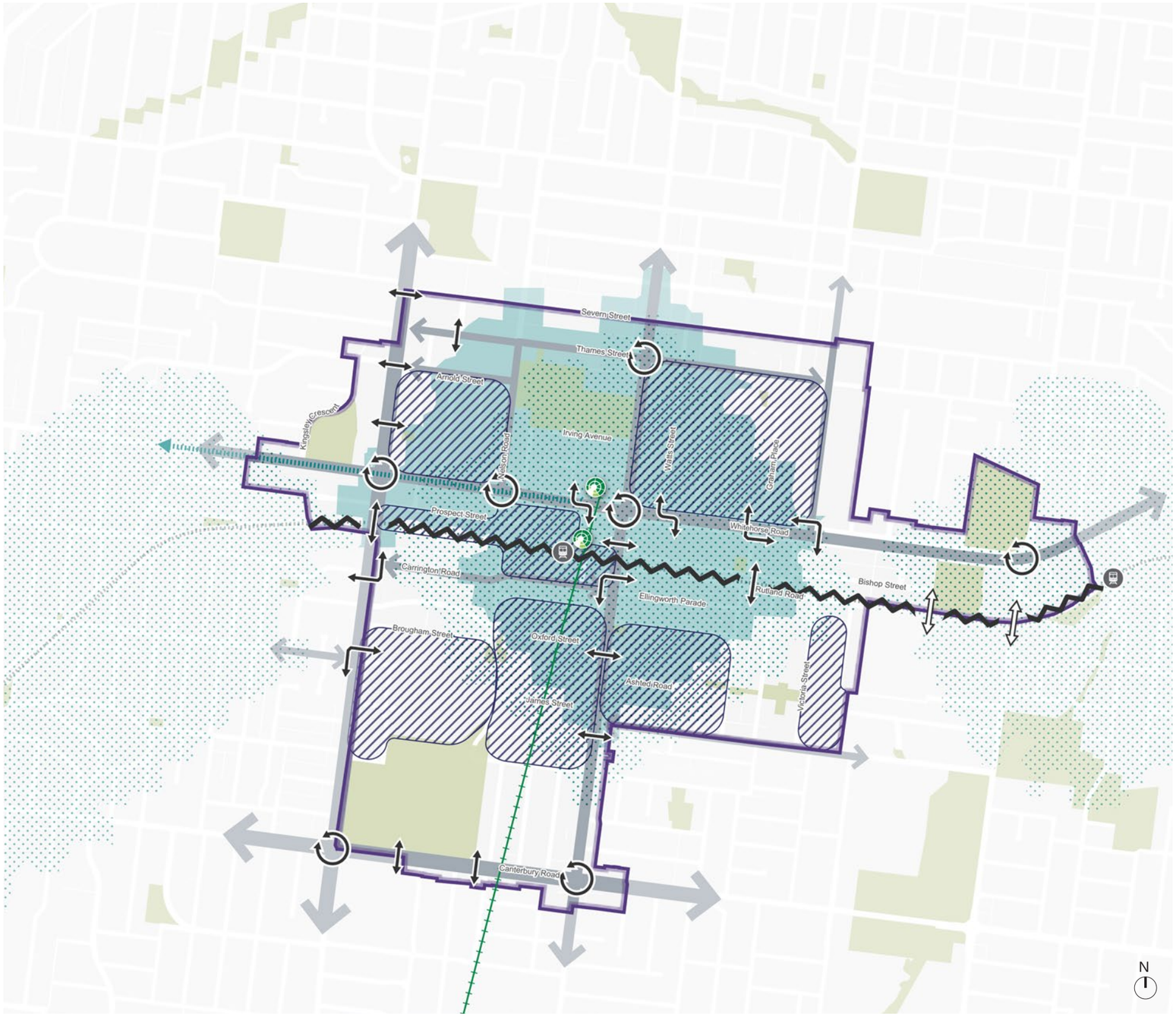


Figure 2.4: Movement and access in Structure Plan Area

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Belgrave / Lilydale Line
- Clusters of large blocks
- 800-metre walkable catchment from SRL station entrances
- Metro station walkable catchment
- Open space
- Key road connection
- At-grade pedestrian crossing point
- Pedestrian underpass
- Barrier
- Tram line

Built form

The Structure Plan Area is characterised by a mix of building typologies at varying scales. High-density development is consolidated within the commercial / retail core and decreases towards the edge of the Structure Plan Area.

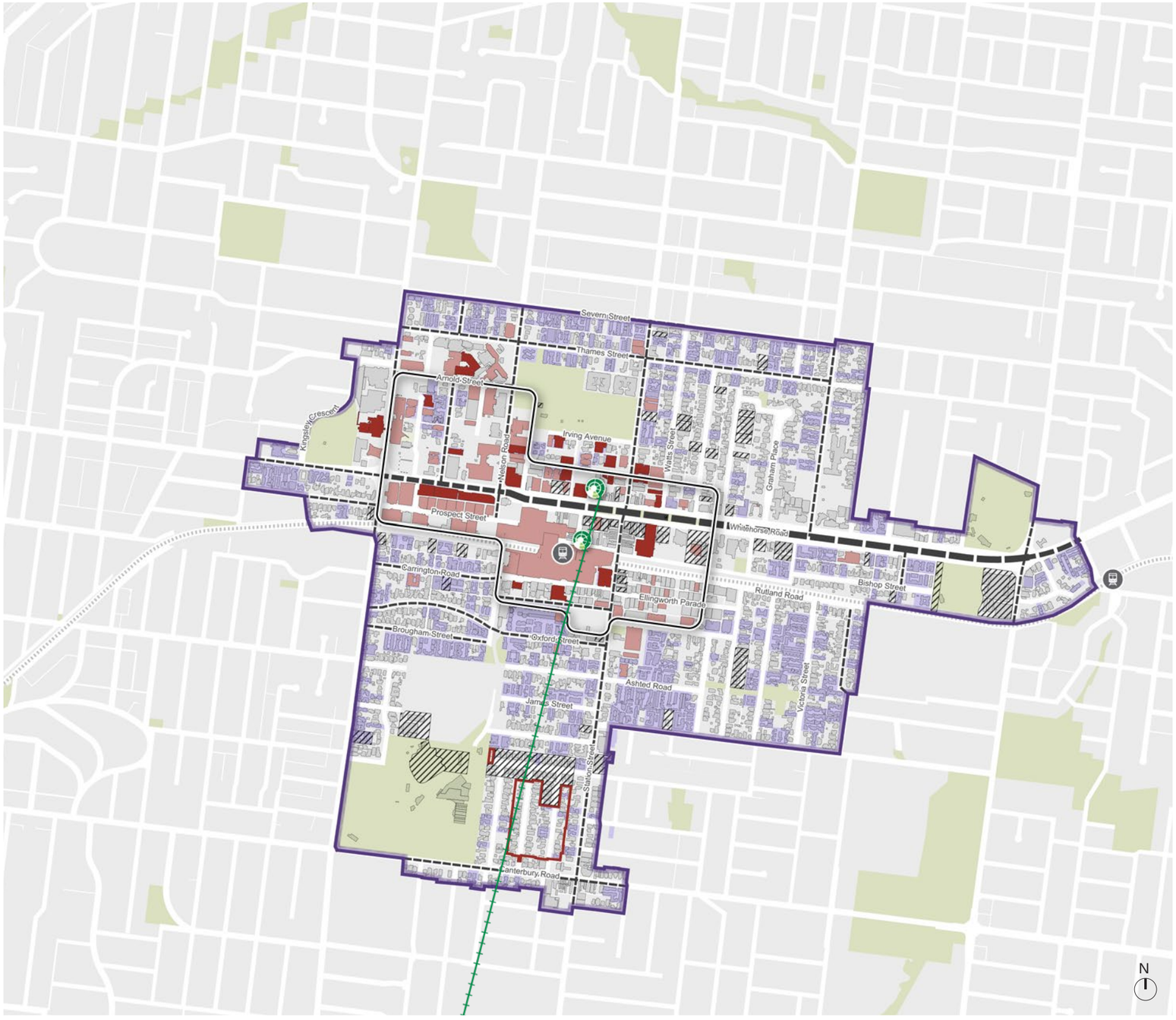
Low-density suburban detached housing of 1 to 2 storeys dominates although the commercial / retail core features higher density (high and mid-rise) residential apartments and commercial buildings.

The most prominent high-rise buildings are along Station Street, Whitehorse Road 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.

A Neighbourhood Character Overlay applies in the south of the Structure Plan Area. This area has an established residential character, featuring some heritage and valued characteristics that indicate a sensitivity to change.

There are heritage buildings in the Structure Plan Area, with the most sensitive located on the southern side of the Whitehorse Road and Station Street intersection.

Road widths vary across the Structure Plan Area with the greater widths occurring along Whitehorse Road. Streets surrounding the commercial / retail core are predominantly 20 to 30 metres wide. In the mid to high-rise area there is no consistency, with various street-width-to-building-height relationships.



Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Belgrave / Lilydale Line
- Strata titled lots
- High-rise buildings
- Mid-rise buildings
- Low-rise buildings
- Heritage
- Neighbourhood Character Overlay
- Open space
- Area with predominantly mid to high rise buildings.
- Road width greater than 40 metres
- Road width 30 to 40 metres
- Road width 20 to 30 metres

Figure 2.5: Building typologies in Structure Plan Area

1:15,000 0 150 300 450 600M

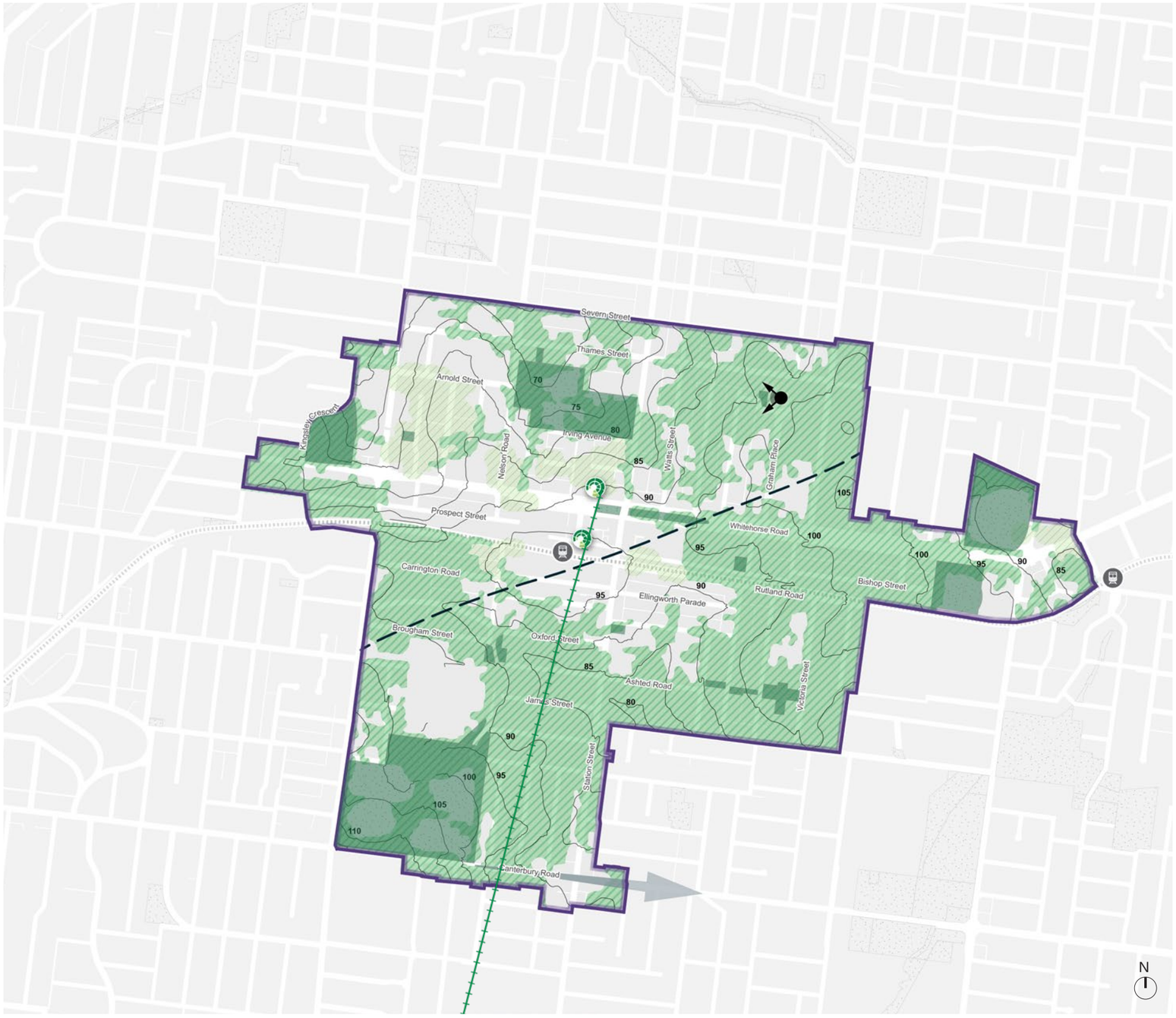
Topography and vegetation

The topography of 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 commercial / retail core.

This flat central area is a distinctive feature that enhances thewalkability of the commercial / retail core of the Structure Plan Area.

The topography means there are significant views from residential areas in the north toward high-rise buildings in Box Hill and the Melbourne CBD, and from residential areas in the south-west towards the Dandenong Ranges.

Landscape vegetation includes shrubs, garden beds, lawn areas and many tall canopy trees in private gardens and in local streets.



Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Belgrave / Lilydale Line
- Medium tree density
- Low tree density
- Open space
- Viewpoint to CBD
- Key view to Dandenong Ranges
- Ridgeline
- Contours every 5 metre

Figure 2.6: Topography and vegetation of Structure Plan Area

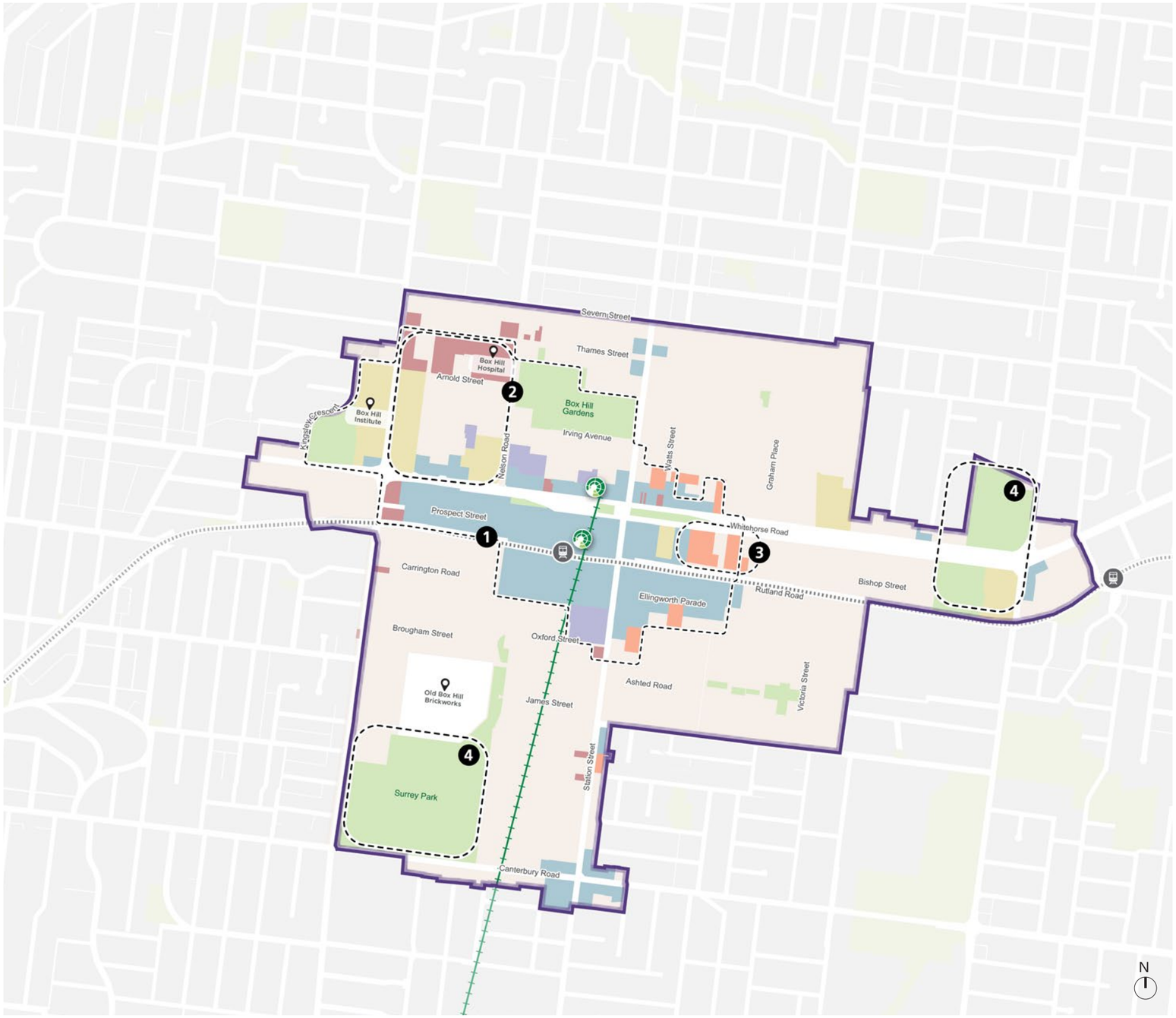
Land use

The Box Hill Metropolitan Activity Centre (MAC) is located in the centre of the Structure Plan Area. The MAC features a high concentration of commercial, enterprise, education, health, civic and cultural areas along Whitehorse Road and the Belgrave / Lilydale Line.

The commercial / retail core surrounding the existing Box Hill Station is an important destination in the municipality and for Melbourne's eastern suburbs. It is characterised by an offering of multicultural retail and services, which is increasingly mixed- use and expanding towards Ellington Parade and Prospect Street with mid and high-rise residential buildings.

North of Whitehorse Road is a health and education precinct, with a concentration of health and education services including Box Hill Hospital and the Box Hill Institute, and specialised and ancillary services.

Outside the commercial / retail core, the Structure Plan Area is almost entirely characterised by suburban residential area with sparse but large open spaces, including Box Hill Gardens, Surrey Park, and sports and recreation facilities. These residential areas often include a small-grain neighbourhood retail anchor as well as local civic services set along a significant local or arterial road.



Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Belgrave / Lilydale Line
- Residential
- Commercial / retail
- Education
- Mixed use
- Health / medical
- Open space
- Public use
- 1 Metropolitan Activity Centre

Land use clusters

- 2 Health, education and employment
- 3 Civic
- 4 Sports and recreation

Figure 2.7: Land use in Structure Plan Area

3 Public realm

AJM
Joint Venture

3.1 Introduction

This section outlines a Public Realm Framework to achieve the Vision for Box Hill. It summarises the analysis that underpins the framework, and sets out design directions and strategies.

The Public Realm Framework builds upon strategies and background documentation developed by SRLA and the Victorian Government, as well as the City of Melbourne. These include:

- **Suburban Rail Loop East** – **Urban Design Strategy** (Suburban Rail Loop Authority 2022)
- **Open Space Assessment** (prepared by AJM Joint Venture for Suburban Rail Loop Authority 2024)
  Aboriginal Cultural Heritage Technical Report – **SRL East Structure Plan** (2023)
- **Flooding and Water Management Technical Report** – **SRL East Structure Plan** (2023)
- **Trees for Cooler and Greener Streetscapes:** Guidelines for streetscape planning and Design (Department of Environment, Land, Water and Planning 2019)
- **Future Streets Framework:** To guide the design and Delivery of Streets in the Hoddle Grid (City of Melbourne 2023)
- **Nature in the city:** Thriving Biodiversity and Healthy Ecosystems (City of Melbourne 2017)
- **Living Melbourne:** Our metropolitan urban forest (The Nature Conservancy and Resilient Melbourne, Melbourne 2019)
- **Movement and Place Framework** (Victorian State Government, Department of Transport)
- **Open Space for Everyone** (Victorian State Government, Department of Transport)
- **SRL Public Space and Public Life Study Report** (Gehl, 2023) (see SRL East Structure Plan - Gehl Public Space and Life Study -Attachment B)
- **SRL East Transport Technical Report** (Suburban Rail Loop Authority, 2024).

An analysis of the existing public realm in the Structure Plan Area was undertaken (see Appendix A), along with extensive research of best practice public realm typologies and mechanisms to deliver successful high-density places (see SRL East Structure Plan - Urban Design Supporting Research - Attachment A).

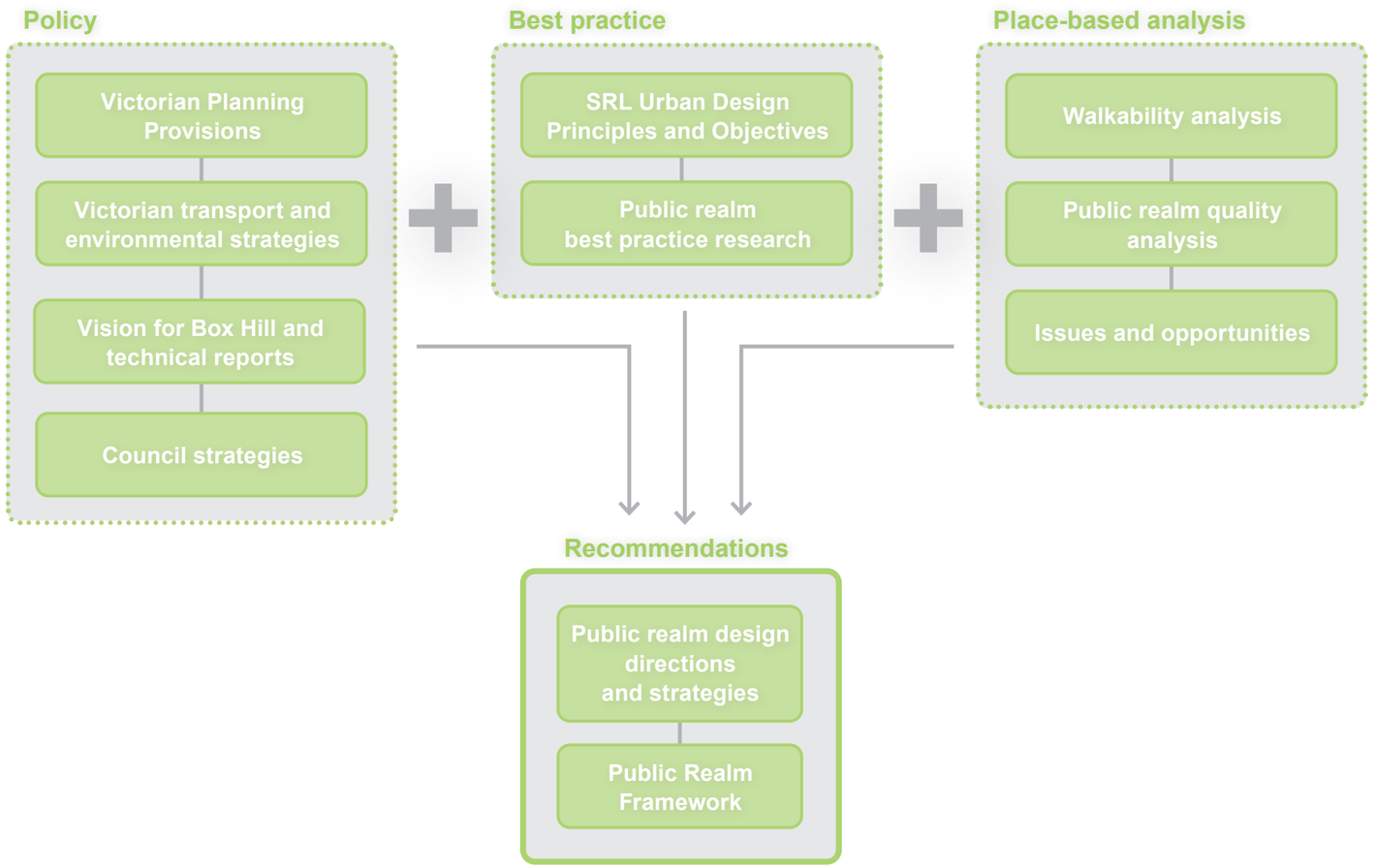


Figure 3.1: Methodology for developing the Public Realm Framework

3.2 Summary of analysis

Extensive analysis was undertaken to identify the issues and opportunities in delivering a public realm that supports the Vision for Box Hill.

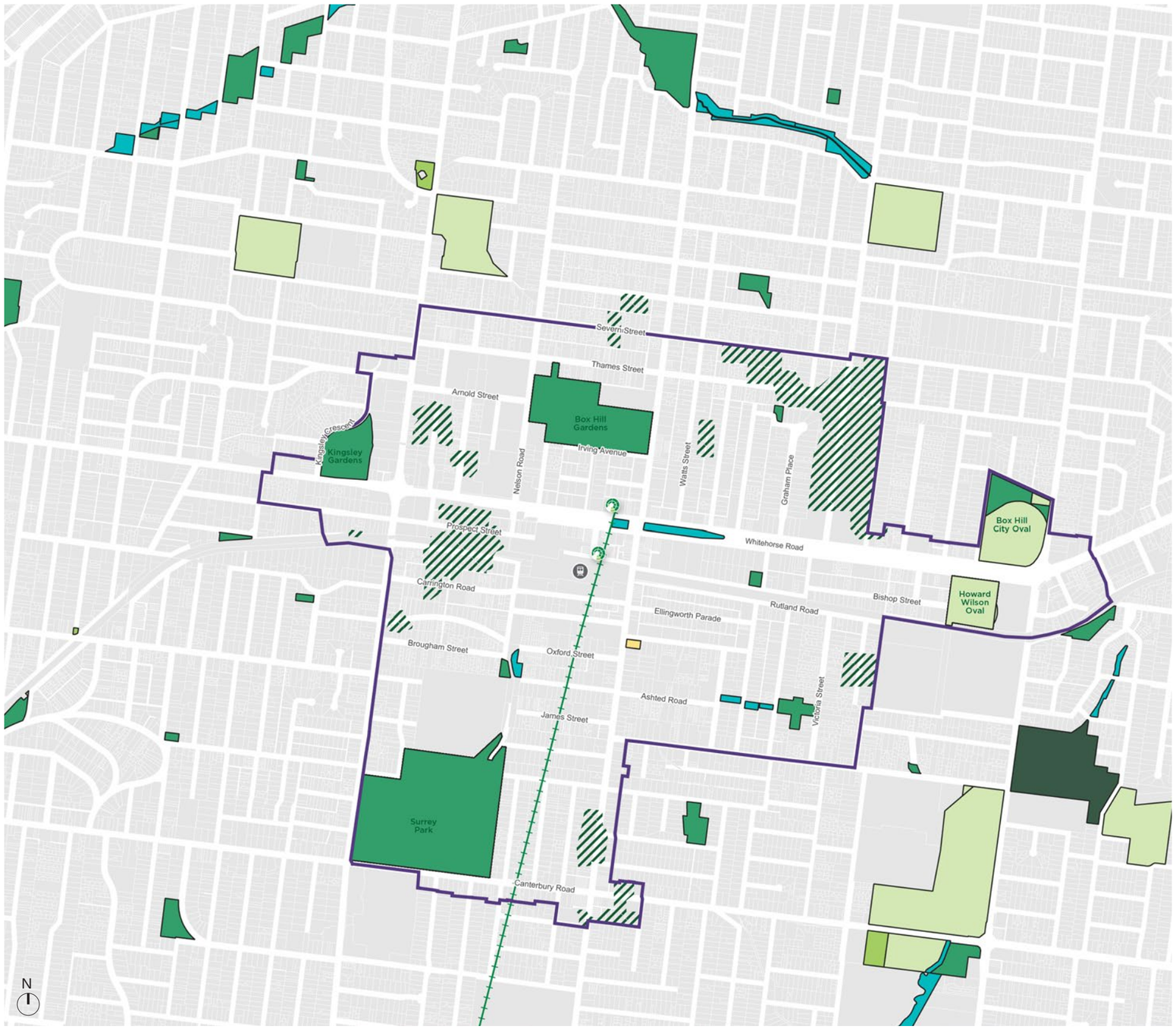
This section summarises the analysis. It focuses on the structural elements that must be addressed to deliver a public realm that encourages active and public transport, catering for the projected development growth in the Structure Plan Area. These elements include walkability, permeability and open space access and distribution.

The Public Space and Public Life Study - Urban Baseline Study (Gehl, 2023) also informed this report (refer SRL East Structure Plan - Gehl Public Space and Life Study - Attachment B). The Gehl study uses a similar method and has similar findings.

Open space distribution and walkable access

Within 1.6 kilometres of the SRL station there are 39 separate public open spaces with a combined area of 740,000 square metres. These open spaces are primarily owned and/or managed by Whitehorse City Council, and include areas categorised as Pocket, Neighbourhood, Community, and District catchment parks. Some areas are not within walking distance (400 metres) of a public open space. This is due to the absence of open space, or a lack of permeability that prevents easy walking access to an existing open space.

Figure 3.2 shows the locations of the public open space in the Structure Plan Area, and the gaps in access to them. These gaps may be addressed by improving access or providing new open space.



Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Civic space
- Community park
- Conservation park
- Landscape park
- Linear park
- Sports park
- Gap in 400-metre walkable access to public space

Note: Categorisation of open space sourced from SRL Open Space Assesment.

Note: This analysis does not include planned or proposed open spaces. Refer Public Realm Framework (Fig 3.15) for proposed open space.

Figure 3.2: Gaps in walking access to open spaces in the Structure Plan Area

Walkability and strategic linkages

Good pedestrian connectivity to public transport (including the SRL station) and public open spaces is critical for achieving the vision for and unlocking the development potential of the Structure Plan Area.

The walkability analysis shown in Figure 3.3 identifies the areas with poor pedestrian access to the SRL station and the gaps in the walkable catchment to public open spaces, as well as the indicative links required to address these issues.

Local permeability and optimal block sizes

A permeable movement network is required to support active and public transport in the Structure Plan Area. Appropriate standards of permeability are outlined in Section 3.3 – Public realm design directions under Design Direction 2: Promote active transport access.

To achieve good permeability, the commercial / retail core should have a maximum block length of 100 metres. All other areas should have a maximum block length of 180 metres. The permeability analysis identifies blocks that do not achieve these standards, and therefore require consideration of through-block links.

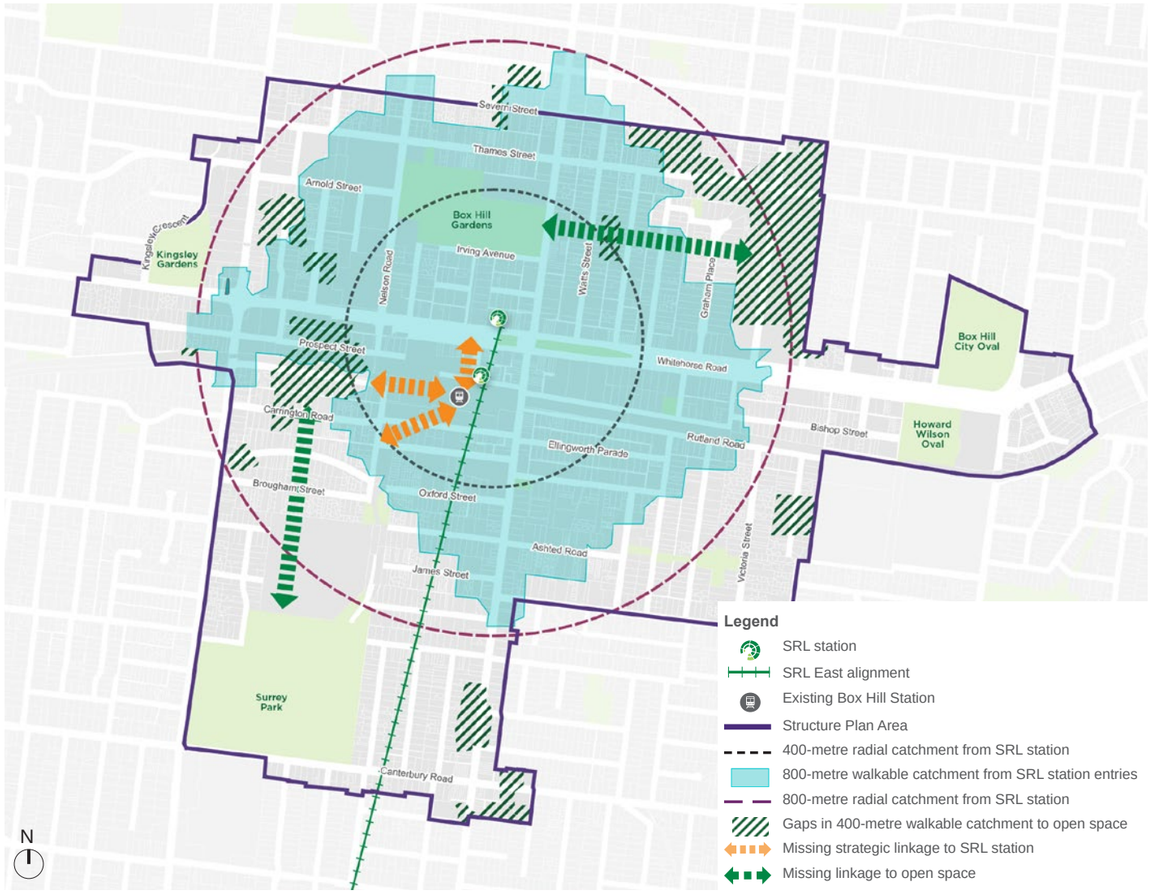


Figure 3.3: Walkability analysis

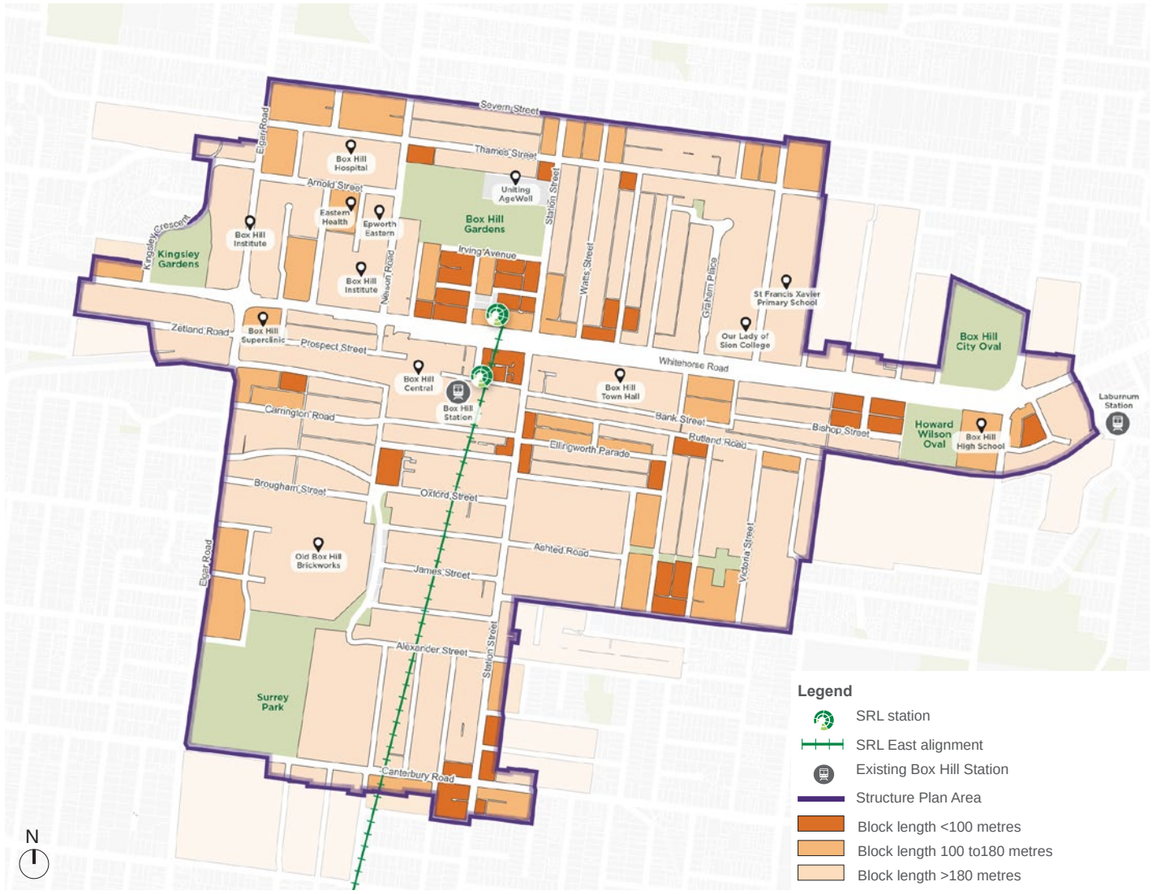


Figure 3.4: Permeability analysis

Public realm quality

The quality of all streets in the Structure Plan Area were assessed in terms of the pedestrian experience. Figure 3.5 summarises the findings of the assessment. It shows a general indication of the public realm quality in the area, and the variation between streets.

However, it should be noted the assessment is qualitative and does not reflect the role of each street in the Public Realm Framework. More work is required before street improvement requirements can be determined.

More detail about the public realm quality assessment is provided in Appendix C.

The Gehl ‘Public Space and Public Life Study’ uses a similar method and has similar findings. For more details of this study refer to SRL East Structure Plan - Gehl Public Space and Life Study -Attachment B.

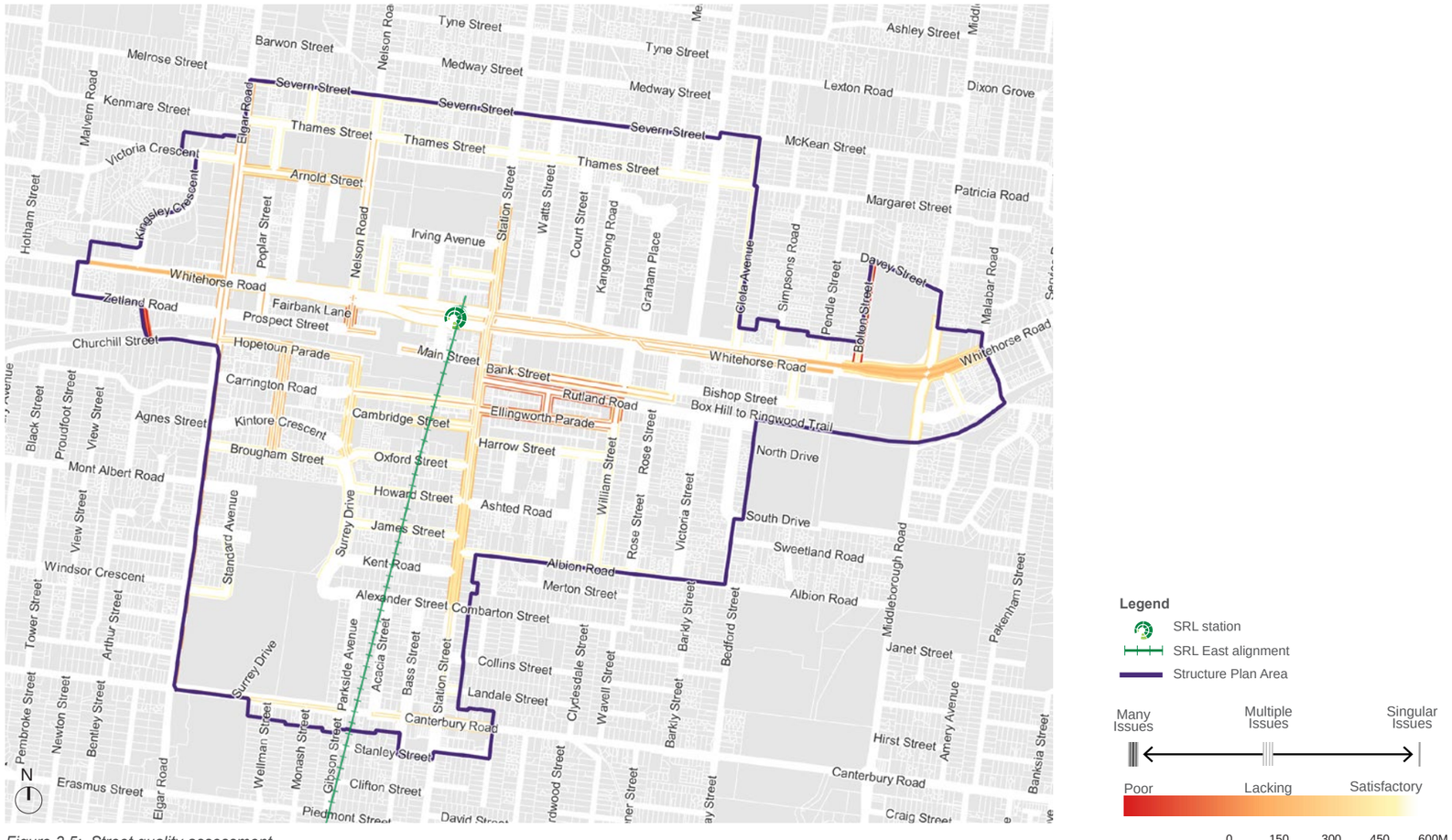


Figure 3.5: Street quality assessment

AJM
Joint Venture

Issues and opportunities

Public realm issues and opportunities in the Box Hill Structure Plan Area identified in the assessment are summarised below and shown in Figure 3.6.

Leverage existing key open spaces by increasing connectivity to them, and further enhancing the interfaces and quality of facilities within the parks.

Leverage from and expand the existing street-based activity centre environment to deliver a renewed and expanded activated core.

Opportunity to leverage from and expand the existing open spaces on Whitehorse road, for an east-west linear green open space.

Increase fine-grain connectivity to areas with poor permeability.

Overcome Whitehorse Road as a barrier and improve pedestrian amenity and landscape quality along the corridor.

Improve connectivity between the SRL station, retail core and surrounding area.

Improve quality of public realm.

Planned additional open space.

New active transport link - crossing over rail.

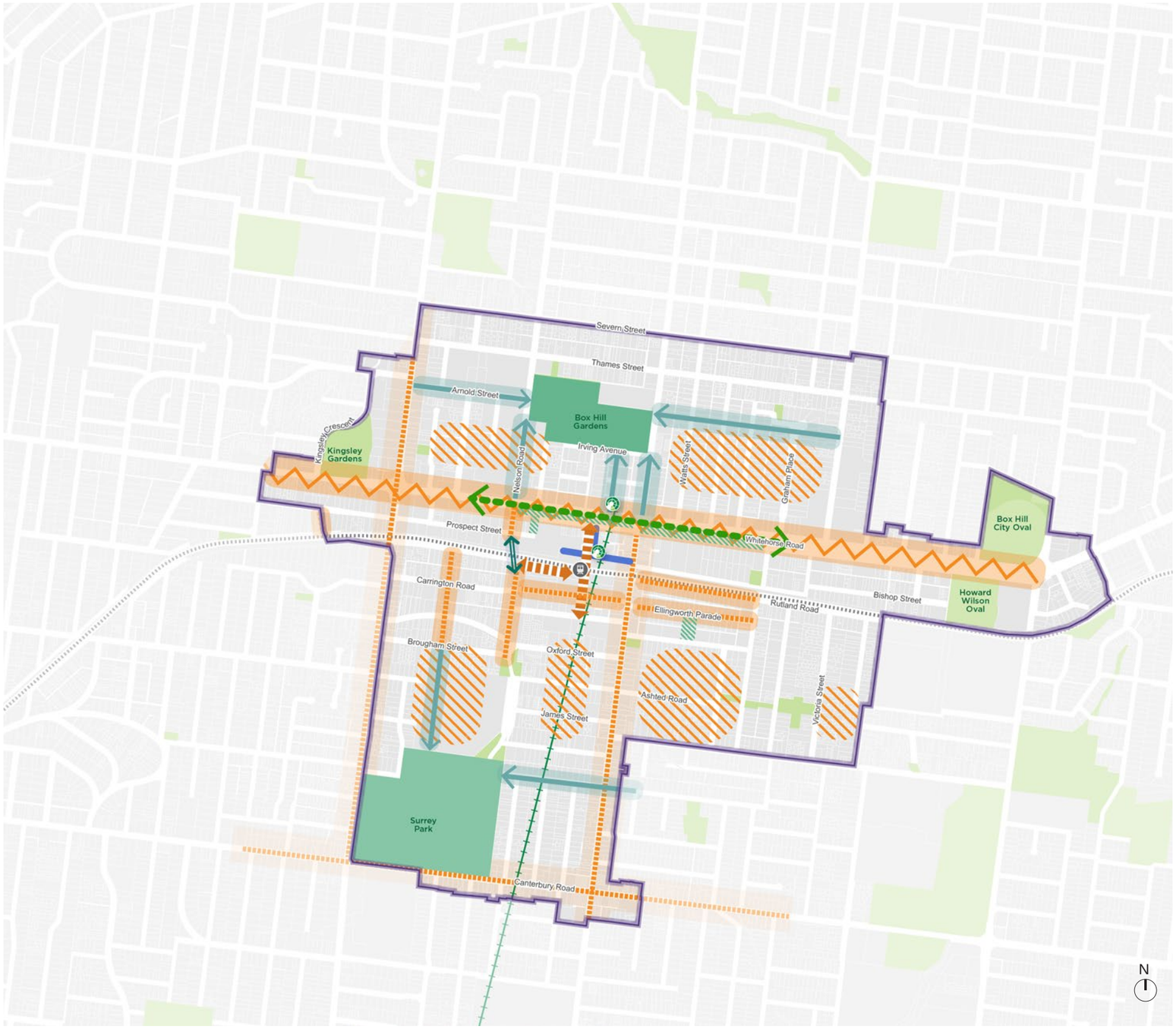


Figure 3.6: Issues and opportunities

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area

3.3 Public realm design directions

The public realm design directions are proposed to achieve the Vision for Box Hill.

The design directions informed the development of the Public Realm Framework in Section 3.4 and the public realm outcomes identified in Section 6.

The order of the design directions does not imply an order of priority.

Design Direction 1: Ensure streets are inviting places that support community life

Why is this important?

Attractive streets are important for a thriving public life and to encourage healthy active lifestyles – and to draw residents, workers, visitors, businesses, developers and investors to the Structure Plan Area.

People are more likely to inhabit the public realm and choose to cycle or walk if streets are welcoming, safe, attractive and comfortable. A well inhabited public realm is self-reinforcing, with the presence of people further contributing to its appeal, and the success of commercial enterprises.

Streets also provide the address and setting for development, so their quality influences the appeal of the area to attract investors and developers. Again, this is self-reinforcing – as density increases, so does public realm use and footfall, which in-turn further increase the attractiveness for development to locate to the area.

Safety

In order for streets to be inviting for walking and social life, they need to be safe and provide a feeling of safety. Safeguarding pedestrian safety includes ensuring pedestrians are protected from traffic movement and have safe and convenient opportunities to cross streets. Pedestrians also need to have a perception of safety from crime and antisocial behaviour during the day and night.

Street experience

Streets not only provide a means to travel to a destination, they also provide for a social and experiential journey. The opportunity for social interaction and an interesting experience is part of the attraction of a successful urban area, and reinforces the appeal of walking over other travel modes.This includes space for people to stand and linger, sit or gather, and an engaging sensory experience.

Distinct streetscapes

Distinct streetscapes are more memorable. This supports the legibility and appeal of a successful urban area for pedestrians and cyclists.

A memorable and appealing street has a range of qualities which may include:

- A human scale
- Street trees and landscaping
- Protection from sun in summer, rain and wind
- Clean and well maintained surfaces and street furniture
- A pleasant sensory experience.

Alignment with SRL Urban Design Framework:

Design Direction 1 will help to achieve the following SRL Urban Design Objectives (see Section 2.3):

- Objective UD1.1 Legacy
- Objective UD1.2 Future ready
- Objective UD2.3 Integration with context
- Objective UD2.4 Welcoming
- Objective UD3.1 Linkages
- Objective UD4.1 Universally inclusive
- Objective UD4.4 Safer design
- Objective UD5.1 Heritage
- Objective UD5.2 Responsive
- Objective UD5.4 Healthy
- Objective UD5.5 Quality design
- Objective UD6.1 Amenity
- Objective UD6.4 Places for people
- Objective UD6.5 Activation

What is happening now in Box Hill?

There are some streets that successfully support and encourage public life and activity including Market Street and Main Street, sections of Whitehorse Road and Carrington Road.

However, many streets do not provide the level of pedestrian, cycle, public transport priority, or function desired. In particular:

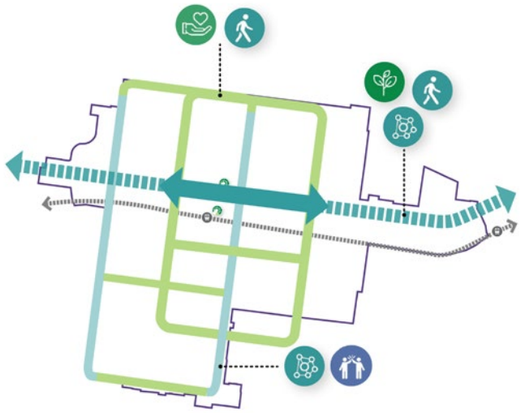
- Sections of Whitehorse Road and Station Street are dominated by vehicle traffic, detracting from their appeal for walking and cycling. The width of Whitehorse Road provides an inactive median strip which has the potential to provide valuable open space
- Some local streets do not provide especially inviting pedestrian links to key destinations such as the commercial / retail core, employment areas, train stations and larger parks.

Market/Main Street "has a lively atmosphere and a human scale of buildings, frontages and things to look at"" - SRL Public Space and Public Life Study Report (Gehl, 2023)"

How can this direction be achieved in Box Hill?

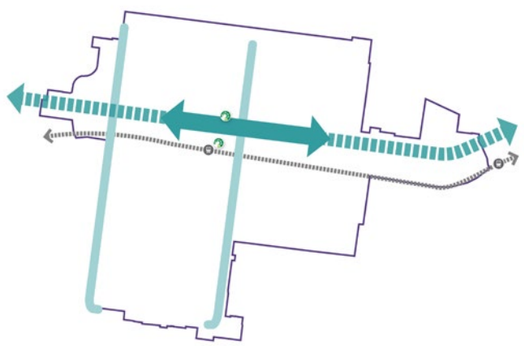
Strategy PR1: Street hierarchy and identity

Establish a street hierarchy which supports each street's movement and place function, and place identity.



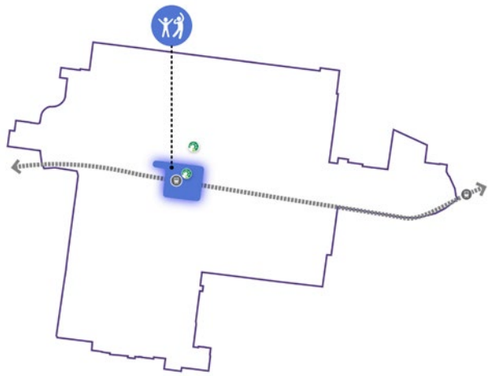
Strategy PR2: Boulevards and Avenues

Optimise main roads for pedestrian movement and amenity while maintaining access by other travel modes, ensuring distinct and attractive setting for public life and development.



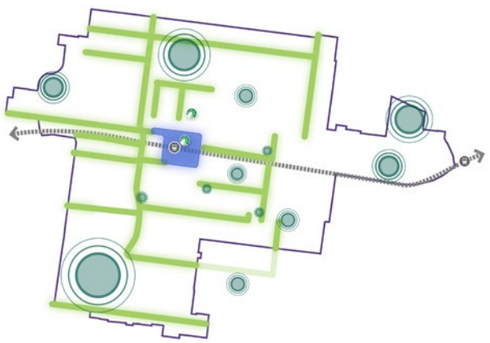
Strategy PR3: Activity Streets

Prioritise pedestrian movement and activity in streets and lanes within the commercial / retail core, and ensure they provide distinctive and attractive places for public life.



Strategy PR4: Green Streets

Provide a network of safe and inviting leafy streets for walking and cycling into the commercial and retail centres and to other key destinations.



Strategy PR5: Streets

Establish a minimum standard for all streets to ensure they provide a safe and inviting environment which is appropriate for the future needs of the community.

All streets within the Structure Plan Area should provide a minimum level of amenity to respond to the significant increase in population and their role and function. For example, they should have footpaths on both sides of the road, appropriate lighting and canopy tree planting wherever possible.

Design Direction 2: Promote active transport access

Why is this important?

An inviting environment for walking, wheeling and cycling is critical to a successful urban area.

Key factors for encouraging walking, wheeling and cycling include direct connections to major destinations and key places of employment, general permeability to support everyday movement by foot and bike, and a safe and inviting public realm. The quality of the public realm is addressed by Design Direction 1: Ensure streets are inviting places that support community life.

Missing links to key destinations

The street network should provide legible, safe and convenient links to key destinations, including public transport nodes, activity nodes, employment areas, health and education facilities, key open spaces and community areas. Where areas lack such links, they should be introduced.

Connections to existing open space

In order to improve the liveability of neighbourhoods with poor access to open space, new links to existing open spaces should be created. The Public Realm Framework in Section 3.4 identifies where new links are recommended.

Permeability

Addressing barriers to active transport involves enhancing the permeability of the existing block structure. The appropriate standard of permeability in an activity centre is generally defined by block lengths no greater than 100 metres — for example, City of Melbourne DDO1 and DDO61. In higher-density urban areas outside activity centres, a maximum block length of 180 metres is considered appropriate. This is the mid-point of the range of block lengths promoted by the Urban Design Guidelines for Victoria (120 to 240 metres), approximately mid-way between the 100 metre block length for activity centres identified above and the maximum 240 metres required by Clause 56 of the Victorian Planning Provisions for typical subdivisions, and consistent with the maximum block length recommended by the NSW Movement and Place – Network Planning in Precincts Guide.

Links created by private development

Private development that incorporates new links should be designed to provide direct, attractive and well-lit public connections. They should be safe and free of entrapment areas, and be located at ground level. Passive surveillance should be maximised from both ground floor and upper levels Consideration should be given to the function of the link and it's implementation to maintain safety and amenity.

Public realm quality

A successful walking, wheeling and cycling network also depends on the quality of the connections. Connections should be safe, attractive and designed for the specific purpose, as outlined in Design Direction 1: Ensure streets are inviting places that support community life.

What is happening now in Box Hill?

Within the Structure Plan Area, walking, wheeling and cycling access is indirect, inconvenient and unsafe from some areas to key destinations including the health and education precinct, Box Hill Station, Box Hill Gardens and Box Hill civic precinct.

A key barrier to north-south movement is the existing rail line, offering only a few north-south crossings within the Structure Plan Area.

In addition to the rail line, the central shopping centres located within the commercial / retail core further restrict north-south movement and hinder the fine-grain pedestrian connectivity required to support a highly active pedestrian environment.

A number of areas have large block sizes, impacting the permeability of the area and discouraging walking and cycling.

Alignment with SRL Urban Design Framework:

Design Direction 2 will help to achieve the following SRL Urban Design Objectives (see Section 2.3):

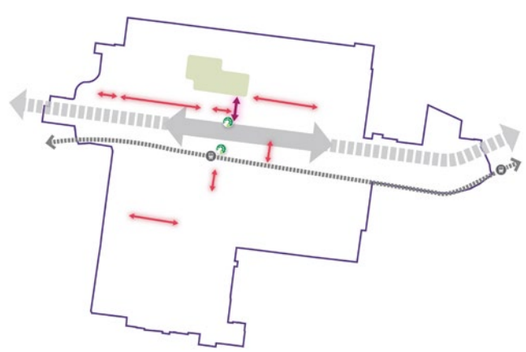
- Objective UD1.1 Legacy
- Objective UD1.2 Future ready
- Objective UD1.3 Resilient
- Objective UD1.4 Environmentally sustainable
- Objective UD2.1 Strategic alignment
- Objective UD2.3 Integration with context
- Objective UD3.1 Linkages
- Objective UD3.2 Transport integration
- Objective UD3.3 Legible
- Objective UD3.4 Green network
- Objective UD4.2 Twenty-minute neighbourhoods
- Objective UD4.3 Active transport

How can this direction be achieved in Box Hill?

Strategy PR6: Critical and important links

Create new links to improve access to key destinations.

Critical and important links should be designed to provide direct, attractive, well-lit public connections, be safe and free of entrapment areas, reduce barriers to movement, and be located at ground level. Consideration should be given to the function and implementation of the link to support user safety and amenity.



Strategy PR7: Local links

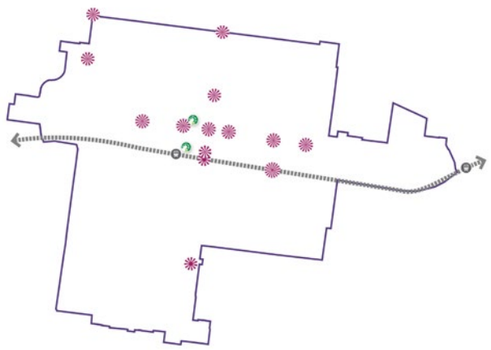
Require the provision of new mid-block links to enhance pedestrian permeability.

Local links should be designed to provide direct, attractive, well-lit public connections, be safe and free of entrapment areas, reduce barriers to movement, and be located at ground level. Consideration should be given to the function and implementation of the link to support user safety and amenity.

Strategy PR8: Pedestrian crossings

Introduce new controlled pedestrian crossings and improve existing crossings where needed to support walking, wheeling and cycling.

Opportunities to enhance pedestrian crossings or provide new crossings should be explored to reduce barriers to movement and create a convenient, safe and accessible active transport network.



Design Direction 3: Foster resilient urban environments

Why is this important?

A healthy ecosystem is a critical component of healthy, liveable and resilient urban environments.

The street and open space system presents an opportunity to improve the environmental performance of the Structure Plan Area by thinking about it as part of the broader eco-system. This includes:

- Increased tree canopy and vegetation cover to reduce the urban heat island effect
- Landscaping to provide habitat and wildlife corridors and/or support urban biodiversity
- Water sensitive urban design treatments to sustainably treat and re-use water and to improve health of trees and vegetation
- Strengthening the metropolitan Melbourne open space network.

As urbanised environments are densified, urban forests play a critical role in mitigating the urban heat island effect, and contribute valuable ecological amenity such as water filtration, shade and habitat value. The SRL East Climate Response Plan has identified a tree canopy cover target of 30 per cent. Street tree planting is valuable in defining a sense of place and identity as well as providing thermal comfort for human and non-human communities. The management and conservation of trees in urban settings creates healthy and resilient ecosystems for a changing climate.

Alignment with SRL Urban Design Framework:

Design Direction 3 will help to achieve the following SRL Urban Design Objectives (see Section 2.3):

- Objective UD1.3 Resilient
- Objective UD1.4 Environmentally sustainable
- Objective UD3.4 Green network
- Objective UD5.2 Responsive
- Objective UD5.4 Healthy
- Objective UD6.2 Landscape values

Corridors of diverse flora and fauna are essential to biodiversity. Protecting, enhancing and providing habitat in existing and new corridors can foster connection between people, plants and animals, and prevent habitat fragmentation. Biodiversity Sensitive Urban Design principles should be integrated within the network of streetscapes and open spaces to provide for diverse animal species, including shelter (such as dense, protective shrubs), food (such as flowers, fruits, seeds, pollen, nectar), nesting sites (such as tree cavities), and water.

Water Sensitive Urban Design (WSUD) works to mitigate the impact of urbanisation on the surrounding environment and waterways. WSUD strategies treat and reduce stormwater flows, improve cooling, reduce potable water demand, increase soil moisture, and passively irrigate planting in urban environments. Embedding water sensitive design strategies across all public realm scales and typologies is critical to reducing flood risk, stormwater runoff, reducing the urban heat island effect, and improving the health and performance of trees and vegetation.

There is also opportunity in the Structure Plan Area to strengthen the metropolitan Melbourne open space network as critical green infrastructure. These open spaces provide a network of natural systems that support urban ecosystems across a broader area, while mitigating the impacts of urban heat.

Increasing canopy coverage within the private realm is discussed in Design Direction 8.

What is happening now in Box Hill?

The Structure Plan Area has a leafy character, except for the commercial / retail core which has a reduced tree canopy cover and vegetation due to large building footprints and increased density.

Outside the commercial / retail core, streets and front setbacks generally feature mature canopy trees and understorey planting.

A number of open spaces provide distinct landscapes with varied canopy cover. Box Hill Gardens is predominantly grassed with varied tree arrangements and some small garden beds. Similarly, Box Hill City Oval and Surrey Park feature large grassed areas with mature trees at the perimeter.

How can this direction be achieved in Box Hill?

Strategy PR9: Public realm landscaping

Optimising tree canopy cover and other planting in streets and public open spaces that support cooling, greening and urban biodiversity.

The existing leafy streetscape character should be maintained and enhanced, particularly in areas which are a further distance from the SRL station. Streets and public open space should contribute to a broader ecosystem while providing local amenity and urban heat island relief.

Strategy PR10: Water Sensitive Urban Design

Incorporate water sensitive urban design treatments into streets and public open spaces to optimise sustainable water management outcomes.

Streets and public open spaces should contribute to treating and reducing stormwater flows, improving cooling, reducing potable water demand, increasing soil moisture, and passively irrigating urban planting.

Design Direction 4: Facilitate outdoor recreation

Why is this important?

Access to distinctive and high quality open space increases the attractiveness of the Structure Plan Area to live and work.

A collection of diverse open spaces is required to fulfill the full range of human and environmental needs in the Structure Plan Area. This includes provision for recreation, social engagement, connectivity, biodiversity, habitat and integrated water management. In denser urban areas such as this, it is important to optimise the functionality of open spaces. This includes consideration of multi-purpose spaces.

The quality of open space enhances amenity and recreational opportunities. The programming, amenities and facilities provided by open spaces serve different people with the community with higher quality spaces supporting a large proportion of community need. Therefore, existing open spaces should be optimised to ensure they are providing the amenity and recreational needs required for the existing and future population.

When connected into a network, the value of a collection of public open spaces is greater than the sum of its parts, offering increased public realm opportunities and benefits than those provided by the spaces in isolation. A holistic network provides a diversity of experiences, landscape opportunities and outcomes which ensures that the public realm serves as many purposes as possible.

Alignment with SRL Urban Design Framework:

Design Direction 4 will help to achieve the following SRL Urban Design Objectives (see Section 2.3):

- Objective UD1.1 Legacy
- Objective UD1.2 Future ready
- Objective UD1.4 Environmentally sustainable
- Objective UD2.1 Strategic alignment
- Objective UD2.2 Functional urban structure
- Objective UD2.4 Welcoming
- Objective UD3.4 Green network
- Objective UD4.1 Universally inclusive
- Objective UD4.2 Twenty-minute neighbourhoods
- Objective UD4.4 Safer design
- Objective UD5.2 Responsive
- Objective UD5.4 Healthy
- Objective UD5.5 Quality design

What is happening now in Box Hill?

A number of open spaces exist within the Structure Plan Area providing a range of recreational opportunities.

Box Hill Gardens 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 one-kilometre running track that loops around the park.

Box Hill City Oval 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.

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.

A number of small parks are scattered throughout the Structure Plan Area, providing playgrounds and green space to the local communities. The SRL Open Space Assessment (2023) identifies that while there are some areas that do not have walkable (400 metres) proximity to public open space, overall, there is a high walkable access to public open spaces within 400 metres within the Structure Plan Area. This is illustrated in the summary of the public realm analysis in Section 3.2.

"Box Hill Gardens is a great public space with a wide range of options for play, exercise, and enjoying nature " - SRL Public Space and Public Life Study Report (Gehl, 2023)"

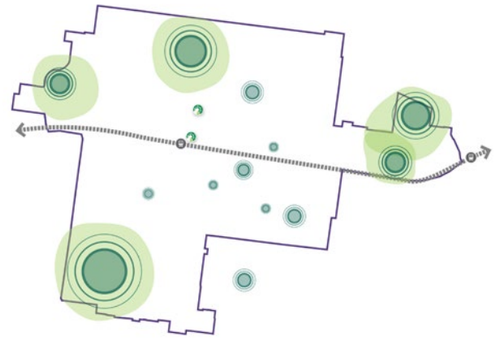
- Objective UD6.1 Amenity
- Objective UD6.2 Landscape values
- Objective UD6.4 Places for people
- Objective UD6.5 Activation

How can this direction be achieved in Box Hill?

Strategy PR11: Enhance existing open spaces

Enhance the functionality, character and safety of existing public open spaces.

Open spaces should service and cater for the diverse needs of the existing and future community. These open spaces should have improved safety through passive surveillance, activation and lighting.



Strategy PR12: Connections to open space

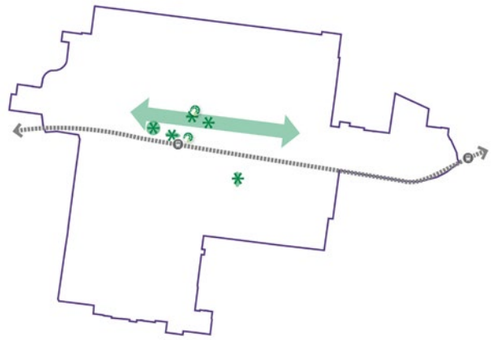
Create new connections that improve accessibility to open space and create a network of spaces.

Opportunities for new connections through redevelopment of abutting properties should be explored.

Strategy PR13: New open spaces

Introduce new open spaces where required.

New open spaces should provide suitable opportunities for the community and address identified gap areas.



3.4 Public Realm Framework

The Public Realm Framework has been developed by applying the relevant public realm design directions presented in Section 3.3. The key features of the framework are outlined below.

Public realm outcomes

Figure 3.7 outlines the broad strategic intent behind the public realm strategies. These are further detailed in the Public Realm Framework plan, Figure 3.15.

The actions needed to realise these strategies are detailed in Section 6: Outcomes.

Key Moves

- Transformation of Whitehorse Road into a tree-lined Boulevard with a pedestrianised linear green space between Nelson Road and Box Hill Town Hall
- A new pedestrian and bicycle crossing over the rail line will bridge a gap in the movement network, connecting Nelson Road to Thurston Street
- A new and enhanced network of pedestrian linkages will provide increased permeability and access to open spaces
- Box Hill Gardens and Surry Park will continue to provide recreation opportunities for an increased number of visitors and residents, whereas new and enhanced smaller open spaces will service the needs of the local community.

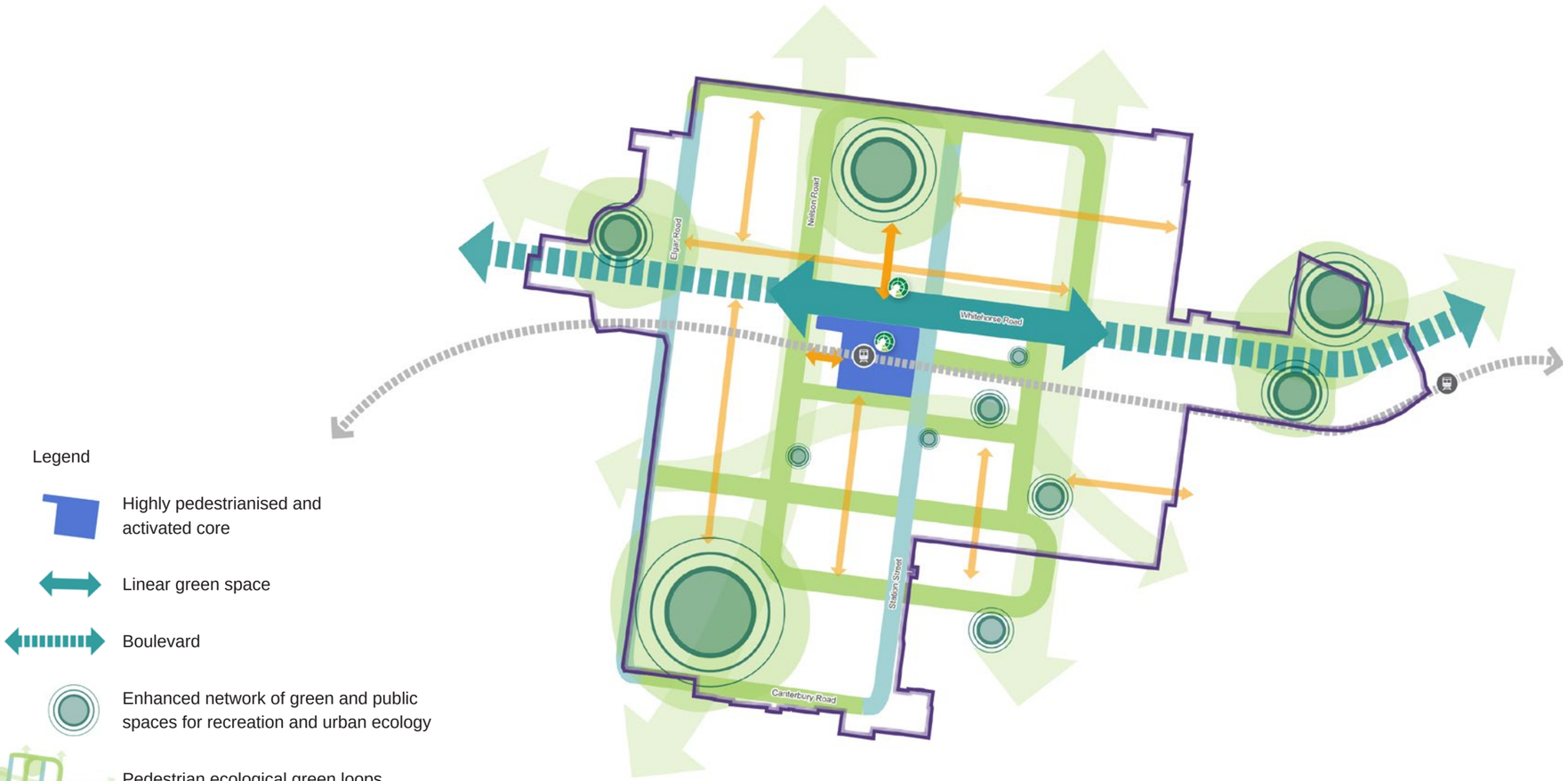


Figure 3.7: Public realm outcomes

The following indicative sections illustrate the street typologies envisaged in the Public Realm Framework. Precedent case studies for each typology are provided in SRL East Structure Plan - Urban Design Supporting Research - Attachment A.

Sections are typical and indicative only to communicate intended outcomes and to establish a hierarchy of streets. The final arrangement and design of the streets and associated infrastructure (including carparking, paths, landscaping etc) would be subject to further resolution that would consider the local context, site constraints, and other technical and relevant authority requirements.

Boulevard

Wide, generous primary road and public transport corridor that serves multiple uses and provides strong landscape and pedestrian outcomes including canopy trees and pedestrian crossing opportunities.

Figure 3.8: Indicative section, Boulevard

- Canopy tree planting and expanded understorey planting.
- Multi-modal transport opportunities.
- Pedestrian pathways, refuge and crossing points.
- Opportunities for public art.
- Potential threshold zones that promote pedestrian crossing / land use relationships.
- High quality furniture zones at regular intervals for pedestrians to pause and rest

Avenue

Wide and tree-lined ‘connector’ street that accommodates active and/or public transport with nodes of pedestrian amenity to create places for people to move and dwell.

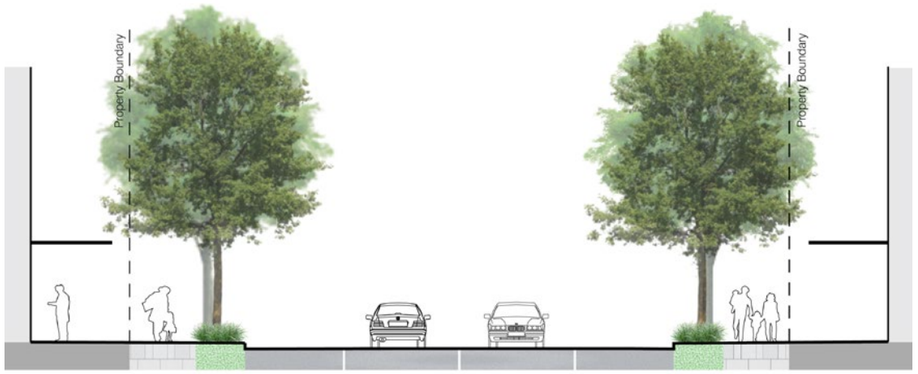


Figure 3.9: Indicative section, Avenue

- Public transport connectivity (bus stops / waiting zones)
- High amenity public transport waiting facilities for users
- Potential active transport link
- Streetscape and landscape outcomes
- Generous pedestrian zones
- Wayfinding, regular seating points and leafy shade

Activity Street

Highly urbanised street that supports public life and provides an attractive and comfortable pedestrian experience, with generous pedestrian circulation space, streetscape treatments that encourage activation of street frontages and provide durable, high quality materials.

Figure 3.10: Indicative section, Activity Street - Type A

Figure 3.11: Indicative section, Activity Street - Type B (Flush Kerb)

- High quality paving
- Street trees
- Expanded areas for outdoor dining and activity
- Awnings, shelter and lighting
- Understorey planting and rain gardens
- Public street infrastructure (such as seating, lighting, drinking fountains, signage, creative and interpretive elements)
- PTV shelters and seating
- Micro mobility infrastructure storage (such as bicycle hoops)

Green Street

A broad classification for a collective network of local streets that should be prioritised for improvement due to their significance for sustainable travel and their ability to support pedestrian experience to key destinations (such as recreational facilities, public transport stops and stations and key employment areas), environmental outcomes, and bike and public transport routes.

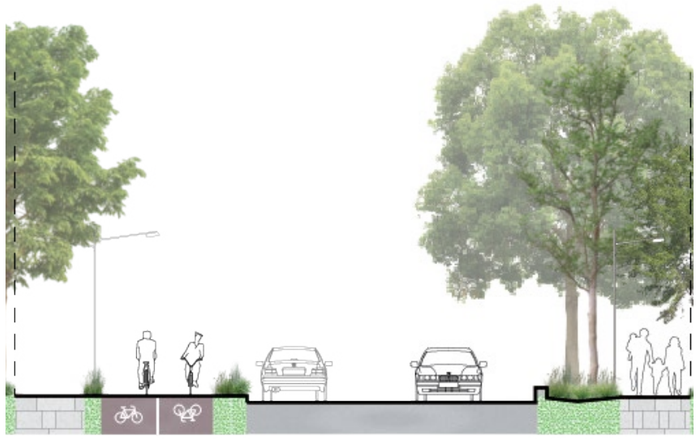


Figure 3.12: Indicative section, Green Street - Type C - Cycling

- Street trees and biodiverse understorey planting WSUD initiatives
- Active transport (walking and cycling) paths and connections
- Activity nodes and pause points with seating
- Street lighting to one side to light the full street
- Separation between transport modes
- Micro mobility infrastructure storage (such as bicycle hoops)
- Bus stop shelters and seating
- Indented parking for pick-up and drop off

Key links

New or improved links that provide connections to key destinations, or through large urban blocks or impermeable corridors (such as railway lines or arterial roads). These links typically have limited or no vehicular access, may include provision for cycling and seek to prioritise pedestrian circulation.

Critical links: connections that provide direct pedestrian access to the SRL station.

Important links: connections that reduce gaps in walking access to key destinations such as areas of employment or major open spaces and may support a biodiversity corridor.

Local links: connections that generally improve permeability and local walking access, particularly where there are long blocks or barriers preventing through movement.

Key links in the Public Realm Framework plan can be either ‘fixed’ or ‘flexible’.

Fixed key links are where the location of the link has been established and it is unlikely to change. Whereas for flexible key links the exact location is still to be determined and may adjust to respond to an opportunity or circumstance, provided the link delivers on the intended outcome – whether this is to connect to a key destination (critical or important link) or to improve general permeability and walkability (local link).

Figure 3.13: Indicative section Pedestrian link- Type A - Urban amenity

Figure 3.14: Indicative section Pedestrian link Type C - Shared path

- CPTED, clear sight lines, lighting and wayfinding.
- Generous pedestrian and shared-use paths.
- Support activation through outdoor dining and urban furniture.
- WSUD and biodiverse vegetation

Public Realm Framework

The Public Realm Framework shows the key elements of the public realm strategy.

Figure 3.15 shows the recommended new and improve pedestrian links and crossings in the Structure Plan Area, along with proposed new open spaces.

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Boulevard
- Avenue
- Activity Street
- Green Street
- *Work with land manager / owner to improve links and access through site*
- Critical key link (new) - fixed
- Critical key link (new) - flexible
- Important key link (new) - flexible
- Local key link (new) – fixed
- Local key link (new) – flexible
- Improved pedestrian connection
- Existing open space
- Open space (new) - SRL East
- Open space (new) - planned or proposed
- Pedestrian crossings (new or upgraded)
- Pedestrian crossings (new or upgraded) - SRL East

Transport legend *

- Upgraded strategic corridor
- Active transport - C1, C2, C3
- Major active transport link
- *Refer to the Structure Plan Transport Plan for more detail

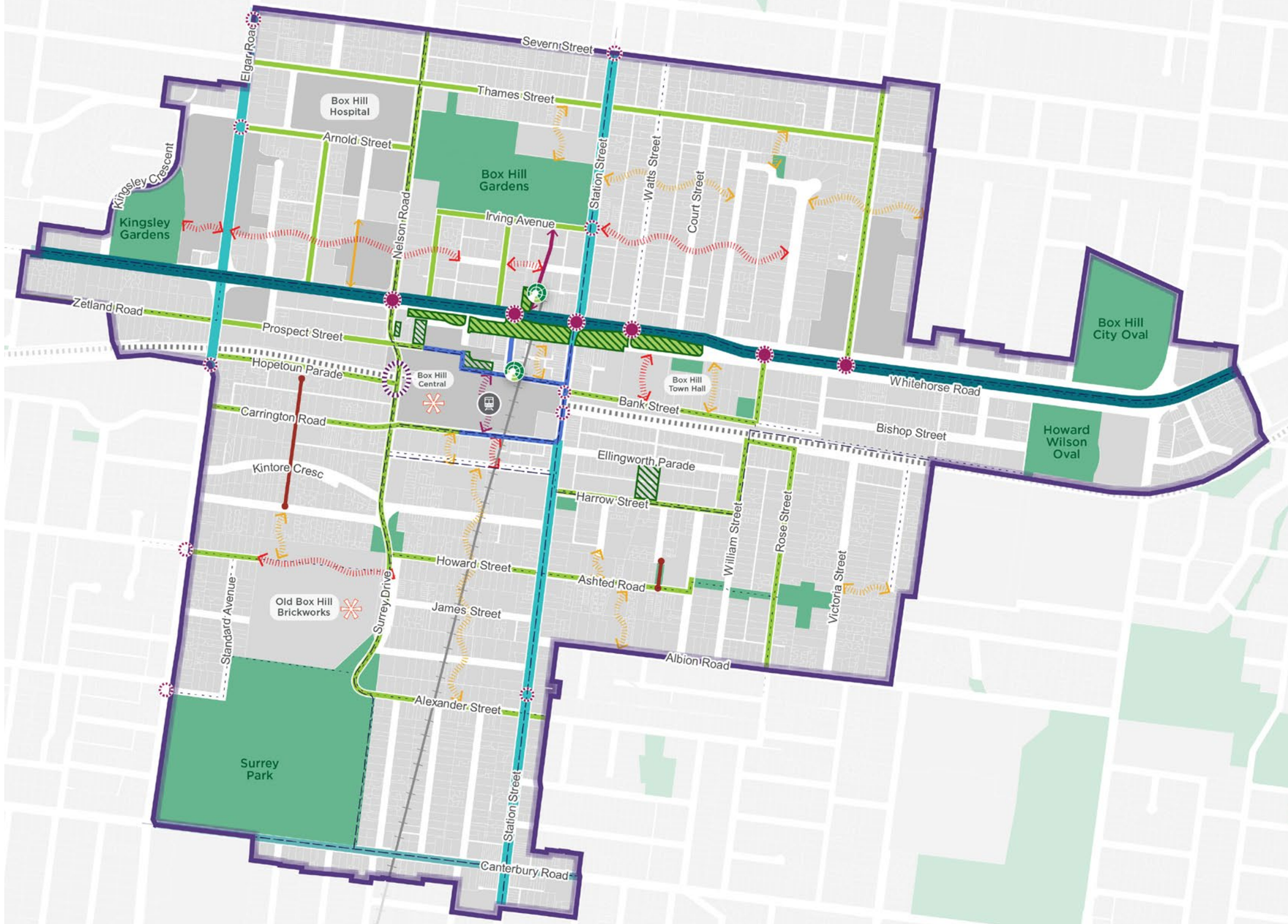


Figure 3.15: Recommended improvements to the public realm

4 Urban Form

AJM
Joint Venture

4.1 Introduction

This section outlines an Urban Form Framework to achieve the Vision for Box Hill. It summarises the analysis that underpins the framework, and sets out design directions and strategies.

The design directions, strategies and Urban Form Framework was informed by the SRL Urban Design Framework and the Vision for Box Hill. This was supplemented by an analysis of the existing development conditions (see Appendix A) and extensive research into best practice urban development typologies provided in Urban Design Report - SRL East Structure Plan - Urban Design Supporting Research - Attachment A.

The Urban Form Framework was developed concurrently with the Public Realm Framework, and Built Form Framework and each informs the other.

The methodology for developing the Urban Form Framework is summarised in Figure 4.1.

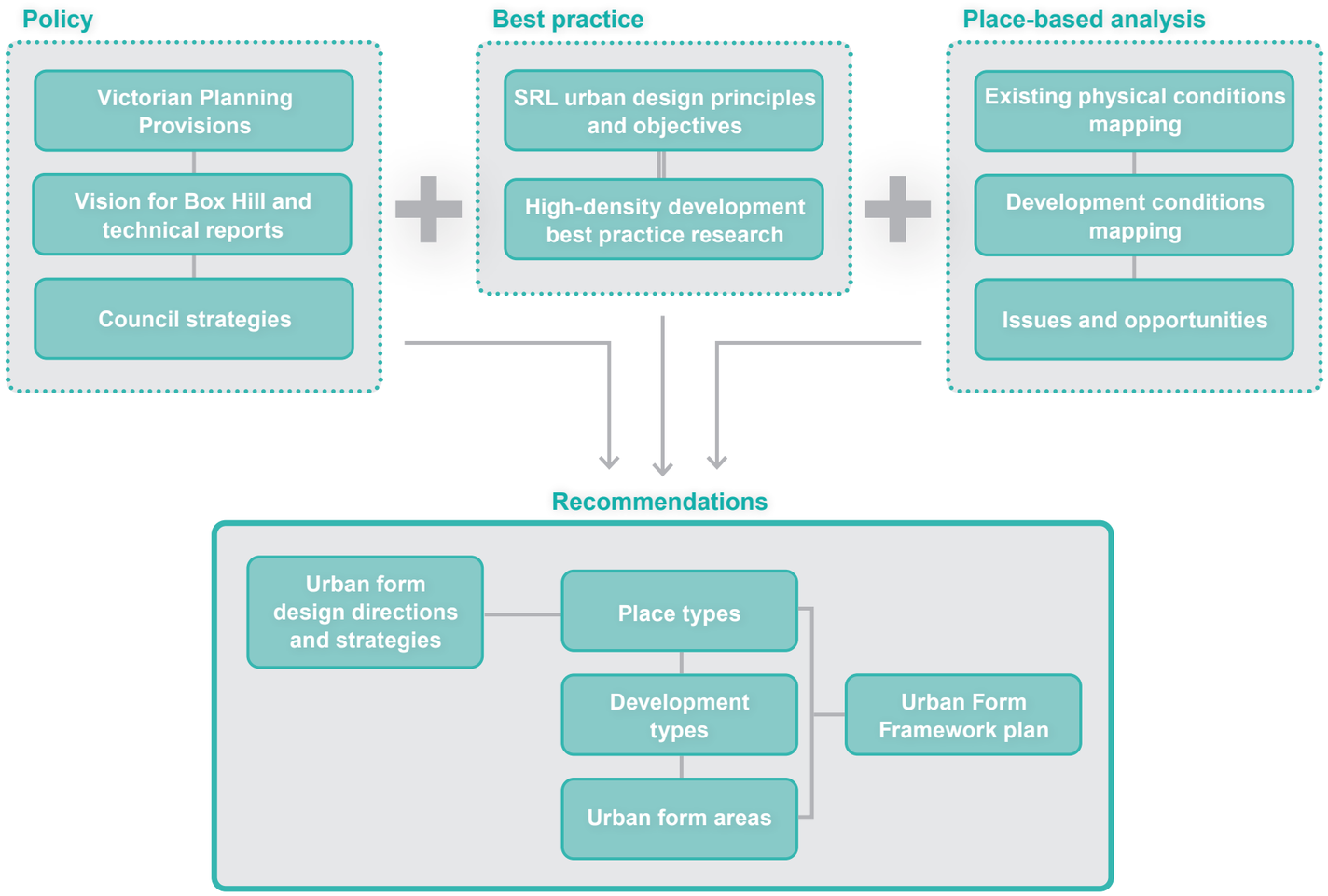


Figure 4.1: Methodology for developing the Urban Form Framework

4.2 Summary of analysis

Extensive analysis was undertaken to identify opportunities and constraints in achieving an urban form that supports the Vision for Box Hill.

Opportunities

Figure 4.2 summarises the opportunities for urban form areas identified by the urban form analysis.

Opportunities for Box Hill include:

1. Existing commercial / retail core centred around the SRL station will be improved by increased pedestrian amenity and new open spaces providing a vibrant destination attracting new residents, businesses and visitors from the neighbouring areas
2. Health and education precinct will continue to grow providing employment and service opportunities for the local and broader communities
3. Former Box Hill Brickworks Site - Opportunity for wholesale development in proximity to high-amenity open space with potential to deliver higher-density mixed-use outcomes

Residential hinterland with an established landscape character and moderate tree density

Open spaces

Low rise residential area with lot sizes suitable for mid-rise building typologies including apartments on amalgamated lots and townhouses on single lots.

Wide roads, which can accommodate mid-high density development and enhanced pedestrian infrastructure:

- Road width greater than 40 metres
- Road width 30 to 40 metres
- Road width 20 to 30 metres

Heritage buildings which strengthen the place identity.

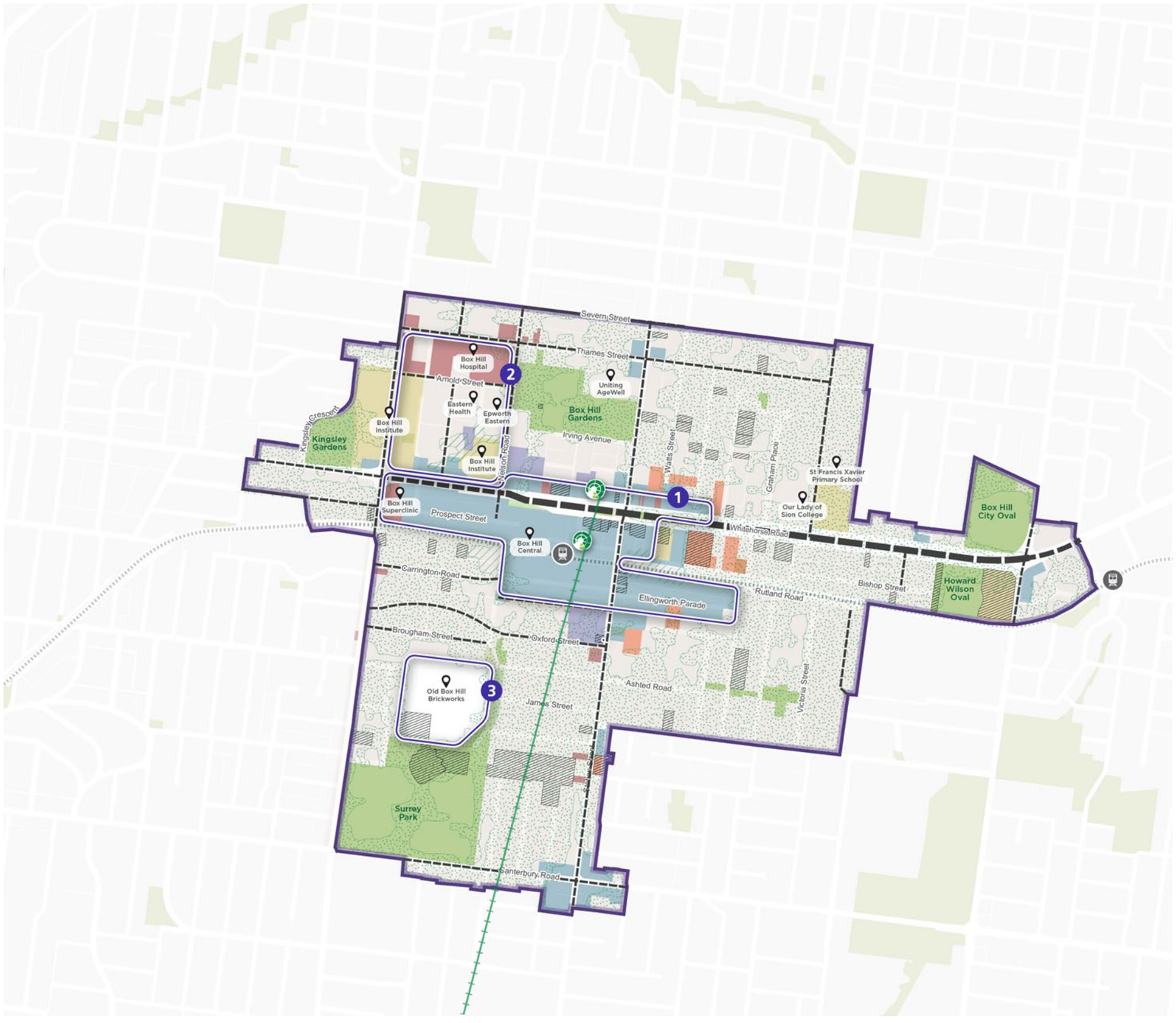


Figure 4.2: Opportunities for urban form in Structure Plan Area

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area

Constraints

Constraints to change in urban form may relate to the lot pattern, lot ownership, existing development height or age, or character overlays associated with a specific property or group of properties. Combined, these constraints play a role in shaping the feasibility, nature of development and built form character that can be achieved within the Structure Plan Area in the future.

Constraints to change in urban form have been categorised in order of significance (low to high) as follows:

- Lot size and ownership
- Character overlays
- Building heights
- Recently developed buildings.

There is a level of constraint to urban form change within the Box Hill Structure Plan Area. Whereas the central core area comprises a large number of recently developed tall buildings, areas south of Whitehorse Road and around Box Hill Gardens present a high incidence of 4 to 5 and 6+ residential strata-titled properties, which could limit further future development without consolidation. West of Nelson Road, large landholdings consisting of established health and education land uses represent a low likelihood of future development for other uses.

Although areas east of Station Street and west of Thurston Street generally present lower lot-configuration-related constraints, a wealth of heritage and landscape character overlays may affect the potential for future urban form change.

Note: A range of constraints were identified across the Structure Plan Area. The more development constraints have been included on this page. Where a property is affected by multiple constraints, only the greater constraint is shown here. Further detail on the development constraints identified can be found in Appendix B.

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Heritage Overlay
- Victorian Heritage Register
- Valued-character (Neighbourhood Character Overlay)
- Significant Landscape Overlay
- Large landholders
- Large landholders - Health & education land use
- Small lots (0 to 400 square metre)
- Special Building Overlay

- Views
- 2 to 3 residential strata titles
- 4 to 5 residential strata titles
- More than 6 residential strata titles
- Recent developments / unbuilt approvals > 12 storeys
- Recent developments / unbuilt approvals < 12 storeys
- Recent developments / unbuilt approvals < 8 storeys
- Recent developments / unbuilt approvals < 4 storeys
- Existing buildings > 13 metres in height

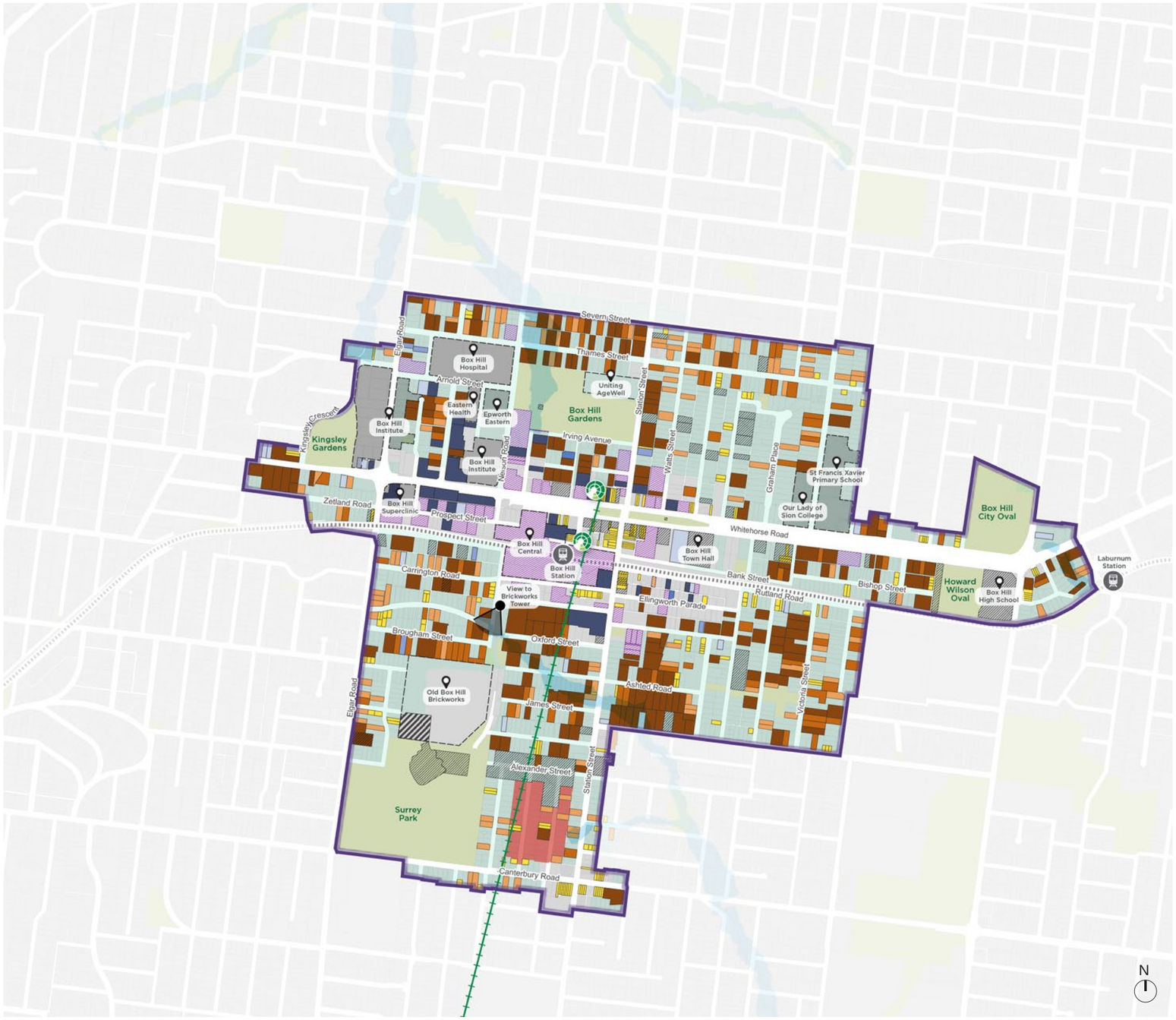


Figure 4.3: Constraints to change in urban form character in Structure Plan Area

1:15,000 0 150 300 450 600M

4.3 Urban form design directions

This section outlines the urban form design directions to achieve the Vision for Box Hill.

The design directions informed the development of the Urban Form Framework in Section 4.4 and the built form outcomes identified in Section 6.

The order of the design directions does not imply an order of priority.

Design Direction 5: Provide for growth in a form that delivers high amenity environments

Why is this important?

Substantial change

SRL will significantly amplify accessibility to employment, services, education and community facilities across Melbourne. Therefore, a substantial increase in residential development is warranted to enable more people to have good access to jobs and services. A significant increase in employment, health and/or education facilities close to the SRL station is also merited to improve accessibility to jobs and services for people elsewhere on Melbourne's rail network, further reinforcing the justification for increased residential density within the Structure Plan area.

Denser areas with a mix of uses have an improved environmental performance, because they reduce travel distances and encourage sustainable modes of travel. They also increase support for local businesses, and make better use of existing infrastructure.

Increased residential density helps to create 20-minute neighbourhoods with local services within walking distance, supporting liveability and better health (as sought by Plan Melbourne 2017-2050). Denser areas offer a more vibrant environment and a more diverse range of opportunities for cultural and recreational experiences.

A significant increase in residential, employment, health, education and commercial uses within the Structure Plan Area is supported by Clause 11.01-1R of the Whitehorse City Council Planning Scheme, which states that 'the Suburban Rail Loop will facilitate substantial growth and change in major employment, health and education precincts and activity centres beyond the central city at an appropriate scale to address the needs of Melbourne's rapidly growing population'.

The level of growth envisaged in the Structure Plan Area represents a transformative change in character. A significant uplift in development potential is also necessary to stimulate redevelopment.

Therefore, in general, existing character should not act as a constraint on the level of growth proposed. However, the built form design directions outlined in Section 5 seek to manage the transition over time between the existing and proposed future characters.

Development capacity

Demand for additional dwellings and jobs within the Structure Plan Area has been forecast to 2041. Consistent with orderly planning, the Structure Plan should provide for at least this level of growth, subject to acceptable amenity outcomes.

More specifically, the development capacity provided for by the Structure Plan should not be limited to the need to accommodate these forecasts for the following reasons:

- Demand is likely to continue to grow after 2041. If the Structure Plan sets built form parameters which limit growth to that needed to accommodate the forecast growth to 2041, it may not be possible to accommodate further demand given the likely predominance of strata-titled buildings that are difficult to redevelop
- Demand forecasting is an imperfect science - past experience indicates that the actual demand may be greater than forecast.
- There is uncertainty about the rate of redevelopment and number of properties that will occur between now and 2024. If the Structure Plan relies on all properties being redeveloped to provide for the forecast demand but this does not occur, the demand will not be able to be accommodated
- It is State planning policy to encourage intensification close to public transport, jobs and other services to promote public transport and active transport over car dependency for a range of environmental, economic and social reasons.

Building scale

Given the Structure Plan Area's very high level of accessibility to education, jobs and public transport, and the benefits of urban density, it should generally have a level of intensification greater than that intended for the surrounding residential hinterland or close to most other passenger stations or activity centres within Melbourne (other than Central Melbourne and the other SRL Structure Plan Areas), which are less well served by jobs and public transport.

Residential zones generally support building heights of 2 to 4 storeys, and phase 2 of the *Future Homes* initiative is planned to support heights of 5 storeys in the General Residential Zone within 800 metres of a passenger station or any activity centre. Therefore, in general, building heights within the Structure Plan Area should be at least 6 storeys to capitalise on the planned accessibility to jobs and public transport. Exceptions to this may include areas with heritage values, an identified special character, areas relatively distant or disconnected from the SRL station, or where development is relatively constrained.

Building form

As noted above, greater density has a range of benefits. However, if designed poorly, it can adversely affect the public and private amenity of an area, and therefore its attractiveness as a place to live, work and play. Tall buildings cause longer shadows and tend to have greater wind effects. Bulky buildings reduce access to daylight and sky views. These effects are increased in relatively narrow streets.

Therefore, higher-density development needs to be shaped to ensure a high standard of amenity.

What is happening now in Box Hill?

The most accessible part of the Structure Plan Area contains the majority of current, approved and proposed high-rise buildings. The most prominent high-rise buildings are along Station Street, Whitehorse Road 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 Road and the south-east from Station Street.

High-rise and mid-rise contemporary buildings occur along main movement corridors and contrast with the predominantly lower-scale residential areas to the periphery. The low-rise built form is typically 1 to 2-storey detached houses, with strata-titled properties occurring throughout the residential areas, particularly north of Maroondah Highway. There are also examples of higher-density developments in medium-density apartments and terrace housing, typically ranging from 3 to 4 storeys.

Most streets within the Structure Plan Area are 15 to 20 metres wide (road reserve width), and typical lot sizes are 15 to 20 metres wide and 30 to 45 metres deep.

Alignment with SRL Urban Design Framework:

Design Direction 5 will help to achieve the following SRL Urban Design Objectives (see Section 2.3):

- Objective UD1.1 Legacy
- Objective UD1.2 Future ready
- Objective UD1.3 Resilient
- Objective UD1.4 Environmentally sustainable
- Objective UD5.2 Responsive
- Objective UD5.3 Sensitive
- Objective UD5.5 Quality design

How can this direction be achieved in Box Hill?

Strategy UF1: Substantial change

Provide for higher-density development throughout the Structure Plan Area, except in isolated, sensitive or constrained areas.

Strategy UF2: Mid-rise development

Promote mid-rise development throughout the Structure Plan Area, except immediately around the SRL station where high-rise buildings are preferred.

Higher-density development within the Structure Plan Area will deliver growth in this extremely well-serviced location, and the environmental, economic, liveability and health benefits of urban density.

In order to reflect the greater accessibility of this location to jobs and services, building heights should be generally greater than 5 storeys. However, a lower height may be appropriate in isolated, sensitive or constrained areas as follows:

1. Isolated areas are those more than approximately 10 minutes by foot or local public transport from a train station or major employment, health or education campus, which are considered to have lesser accessibility to public transport or jobs, and therefore less suitability for intensification. Exceptions to this include properties:
   - Fronting a large open space, whose amenity benefits should be capitalised upon
   - Large enough to form a distinct character pocket.
2. Sensitive areas are pockets of land with particular sensitivities that limit the appropriateness of greater height, including:
   - On the north side of a narrow open space
   - Affected by a Heritage Overlay and in the outer parts of the Structure Plan Area
   - Affected by a Neighbourhood Character Overlay
   - Adjacent to properties zoned GRZ or NRZ outside the Structure Plan Area.
3. Constrained areas are those where comprehensive redevelopment is relatively unlikely due to a high proportion of:
   - Properties with more than 3 strata-titled lots
   - Small or narrow lots.

Most streets within the Structure Plan Area are 15 to 20 metres wide (road reserve width), and typical lot sizes are 15 to 20 metres wide and 30 to 45 metres deep. Mid-rise buildings (those between 5 and 12 storeys) are the most appropriate way to provide for substantial growth in these circumstances because they can deliver higher densities while maintaining good public realm and internal amenity.

In particular, the typical street widths and lot sizes can accommodate mid-rise buildings without unreasonable shadow, visual and wind impacts[1]. Mid-rise buildings can also be sited and shaped in a way that manages their impact on the existing character of low-rise areas[2,3].

Mid-rise buildings have a range of other attributes that would complement the opportunities provided by higher-rise and lower-rise buildings. These include:

- Research indicates that mid-rise residential buildings have positive outcomes in terms of social connectedness and well-being[4,5]
- Mid-rise buildings are said to be suitable for families, because parents are able to supervise children's outdoor play[6]
- Mid-rise development is less expensive to build than taller buildings per square metre of sellable or leaseable area, likely because of the lesser requirements for structure and services[7]
- Mid-rise residential development is more likely to be owner-occupier standard than speculative investor-grade housing
- Mid-rise apartments offer a distinctly different housing choice, compared with high-rise buildings and townhouses[8,9]
- Fewer properties need to be amalgamated to create a mid-rise development site than a high-rise development site
- The same number of dwellings is spread across more mid-rise than high-rise buildings, increasing competition between developers and choice for purchasers and renters
- There is a greater number of developers and builders who can create mid-rise than high-rise buildings, increasing the capacity of the industry to deliver the desired number of dwellings and increasing competition between them

Adopting a mid-rise development pattern across the Structure Plan Area would result in the same amount of growth being spread over a larger area. Given that the factors listed above are strongest for residential buildings, and commercial buildings have a stronger need to be close to the SRL station and activity centre, the mid-rise preference is not recommended to be applied in the vicinity of the SRL station.

Mid-rise buildings range from 5 to 12 storeys. Therefore, a general preference for this form of development does not preclude the potential for distinct characters within the Structure Plan Area.

Mid-rise precedents

1. *Ewing, R., & Cervero, R. (2010). Travel and the Built Environment: A Meta-Analysis. Journal of the American Planning Association, 76(3), 265-294*
2. *SRL Housing Recommendations Report*
3. *Congress for the New Urbanism. (2001). Charter of the New Urbanism. McGraw-Hill*
4. *Gehl, J. (2010). Cities for People. Island Press.*
5. *Gifford, R. (2007). The Consequences of Living in High-Rise Buildings. Architectural Science Review, 50(1), 2-17*
6. *Heenan, Dr R. (2017). Healthy Higher Density Living for Kids. NSW Government & City of Parramatta*
7. *Urban Land Institute. (2013). The Economics of Mid-Rise versus High-Rise Construction.*
8. *SRL Housing Needs Assessment*
9. *Glaeser, E. L. (2011). Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier. Penguin Press*

Design Direction 6: Establish diverse, liveable and productive neighbourhoods

Why is this important?

Clusters of buildings with similar scale and massing contribute to distinct place identities. The variation between these identities enhances the experience and legibility of the broader urban area. Varied building types also contributes to a diverse range of housing and business accommodation types, creating a more mixed and balanced community.

As noted in Strategy UF2: Mid-rise development, mid-rise buildings generally range from 5 to 12 storeys and are no greater than 15 storeys. Therefore, a general preference for this form of development need not result in uniform character outside the area around the SRL station. Distinct characters can be created by adopting a more specific height range within the mid-range scale, along with particular building siting and setback parameters (and land use mixes).

These built form choices should be based on the particular characteristics of the area and factors such as:

- Accessibility to public transport, jobs and services
- Housing choice, affordability and diversity
- Desired land use, including an aspiration to connect distinct activity nodes
- Accessibility to parkland
- Valued existing character including urban structure and topography.

In summary, specific built form attributes should be promoted in different parts of the Structure Plan Area, to create places with distinct identities, contribute to legibility, facilitate housing and business accommodation diversity across the whole area, and to support the land use and transport aspirations for those urban form areas.

Main streets

Although the aspiration to accommodate growth generally outweighs that to maintain the existing character, activity centres featuring fine-grain main streets are an exception. This is because their narrow lots present a particular challenge for viable floorplates, disincentivising redevelopment compared with other locations. Their fine-grain subdivision pattern also creates a distinctive character of small tenancies that support local, independent retailers. This character contributes to a more engaging public realm and is generally highly valued by local communities.

Existing small retail strips have a different character and present an opportunity to be comprehensively redeveloped due to their relatively small size. Therefore, these areas are proposed to have bespoke outcomes that complement their surrounding retail character.

The challenges of redeveloping narrow lots mean that it is likely that many such lots in a strip will remain undeveloped for the foreseeable future. Therefore, the form of development that is promoted in such areas should complement the existing fine-grain, low-rise character.

Public transport oriented development

Denser development supports greater use of public transport that is within easy reach. However it can also change the character of an area and the amenity its public realm and private spaces.

In each part of the Structure Plan Area, there is a need to strike a balance between providing for growth and moderating change to amenity and character. This balance should be weighted towards growth in the central core and SRL station environs, where access to jobs and services is greatest, and the need for sensitivity to existing character within and immediately outside the Structure Plan Area is least.

In contrast, it should be weighted towards maintaining the existing amenity and complementing the existing character towards the edges of the Structure Plan Area (without ignoring the need for growth). The areas between the core and edge should have a more balanced weighting.

This pattern creates the classic cone form of increasing building scale towards the centre of the Structure Plan Area, which contributes to the legibility of the broader area. The gradient of this cone should respond to the scale of public transport, jobs and services in the core, such as reaching taller buildings in centres with more than one rail line and/or a particularly significant number of jobs, such as Box Hill / Monash / Clayton and lower buildings in centres with only one rail line and/or a lesser number of jobs, such as Burwood.

Main roads generally carry public transport and are wider than local streets. Public transport provides a high level of accessibility to jobs and services. Greater width enables taller buildings to be accommodated without overwhelming the street. Therefore, denser buildings should be provided for along main roads. A mix of commercial and residential uses is appropriate to capitalise on the higher level of accessibility, along with adaptable buildings able to respond to changes in market demand for different uses. Denser, mixed-use buildings will contribute to a distinct 'boulevard' character.

Land use facilitation

Different forms of development facilitate different land use outcomes. For example:

- Taller buildings contribute to more vibrant environments, suited to commercial uses, and lower buildings support quieter places with higher environmental amenity, suited to residential uses
- Larger floorplates support commercial uses and narrower floorplates support residential uses
- Some industrial uses require large to very large floorplates with generous loading areas
- Buildings that are built close to the street frontage support commercial uses (notably those forming a continuous street wall for retail uses) and those that are set back from the street and freestanding provide more privacy and amenity for residential uses.

There is a desire to establish a stronger connection between the Box Hill Hospital and surrounding associated uses, and the commercial / retail core.

Demand for different uses varies over time, and is not possible to predict with any accuracy. Designing adaptable buildings that can accommodate a land use change over time is one possible solution. Adaptable buildings facilitate changes in use without the need for redevelopment, which is environmentally and financially costly. Adaptability is supported by a modest street setback, ground floor facades oriented towards the street, generous floor-to-floor dimensions to support commercial uses, and relatively shallow floorplates to provide good internal residential amenity.

Areas immediately adjacent to the commercial / retail core with an existing medium-density character are most suited to accommodate mixed-use and adaptable buildings, because they are contiguous with existing commercial activity and because the change in built form character is less abrupt than it would be in lower-density areas.

Diversity of housing

As discussed in Design Direction 5, residential typologies need to provide a diversity of housing options, allowing for future residents to have access to suitable 'right sized' and affordable accommodation. Accommodating for these diverse housing options will result in different areas requiring a different place identity.

Employment neighbourhoods

Areas with a high concentration of employment uses require careful consideration of the ambitions and expectations of these industries to ensure the built form and public realm support them. To attract and foster technology-led life science, health and education sectors, these neighbourhoods need to be sustainable, connected and desirable places. These areas need to support the needs of all-hour workers by ensuring a safe and attractive public realm at night and day. The public realm and built form should also foster incidental social connections and transfer of knowledge between workers.

Alignment with SRL Urban Design Framework:

Design Direction 6 will help to achieve the following SRL Urban Design Objectives (see Section 2.3):

- Objective UD1.1 Legacy
- Objective UD1.2 Future ready
- Objective UD1.4 Environmentally sustainable
- Objective UD2.1 Strategic alignment
- Objective UD2.2 Functional urban structure
- Objective UD2.3 Integration with context
- Objective UD2.4 Welcoming
- Objective UD3.1 Linkages
- Objective UD3.2 Transport integration
- Objective UD3.3 Legible
- Objective UD3.4 Green network
- Objective UD4.2 Twenty-minute neighbourhoods
- Objective UD5.2 Responsive
- Objective UD6.1 Amenity
- Objective UD6.3 User experience
- Objective UD6.5 Activation

What is happening now in Box Hill?

The Box Hill Structure Plan Area is characterised by a high concentration of commercial, enterprise, education, health, civic and cultural areas along Whitehorse Road and the Belgrave / Lilydale Line, The commercial / retail core 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.

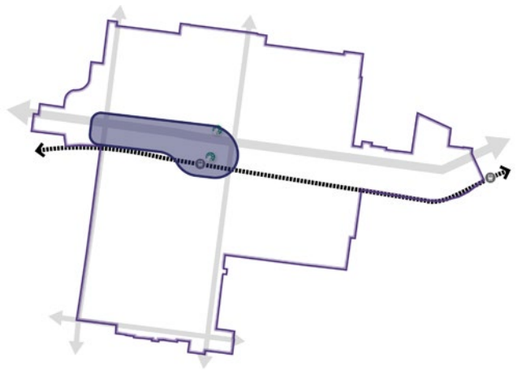
Outside the central area, suburban residential neighbourhoods dominate, with small shopping strips occurring along main roads.

How can this direction be achieved in Box Hill?

Strategy UF3: Vibrant core

Promote higher-density mixed-use development in the Structure Plan Area core.

Taller built form should be facilitated within the commercial / retail core to complement the existing and desired built form intensity of the area, while supporting a range of land use types.

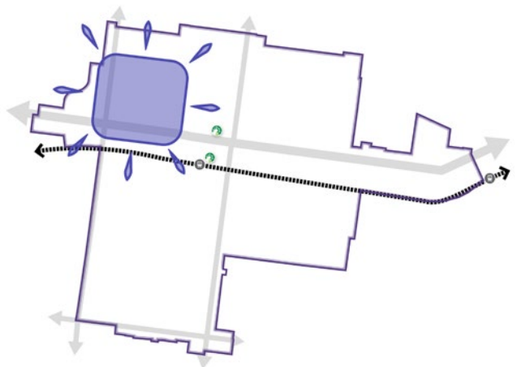


High-rise precedents

Strategy UF4: Compact employment neighbourhoods

Provide for compact buildings with large floorplates in the health and education neighbourhood.

The health and education neighbourhood should support the creation of a sustainable, connected and desirable place, to assist sector attraction. This area should flexibly support a range of land uses within a mid-rise building typology that can accommodate large floorplates.

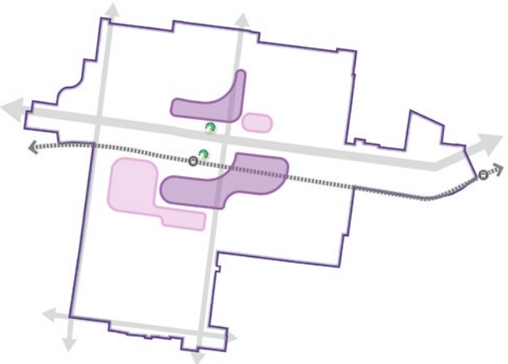


Employment area precedent

Strategy UF5: Mixed-use neighbourhoods

Facilitate mid-rise mixed-use neighbourhoods adjacent to the urban core or nearby transport nodes.

An adaptable building typology which can accommodate a range of land uses and has a commercial-capable ground floor design should be provided in mixed-use neighbourhoods.

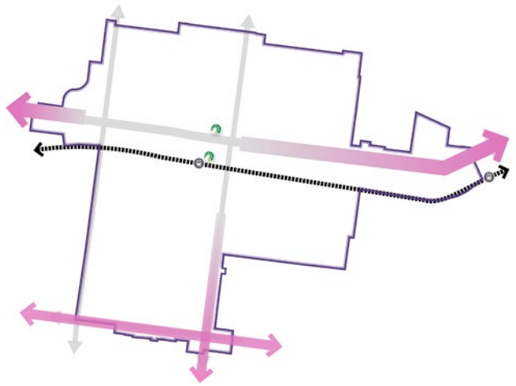


Mixed-use precedents

Strategy UF6: Boulevards and Avenues

Facilitate continuous, mixed-use, mid-rise built form along main roads.

Buildings should strongly frame the wide roads, and provide an adaptable building typology with commercial-capable ground floors.

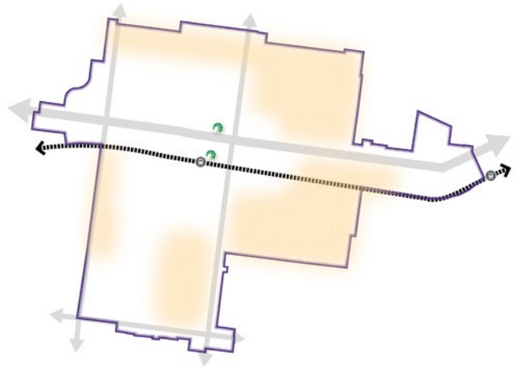


Boulevards and avenue precedent

Strategy UF7: Residential neighbourhoods

Promote low to mid-rise apartment buildings and townhouses in a garden setting in most residential neighbourhoods.

Buildings should promote the existing garden setting and feature front, side and rear landscape setbacks, on single and consolidated lots

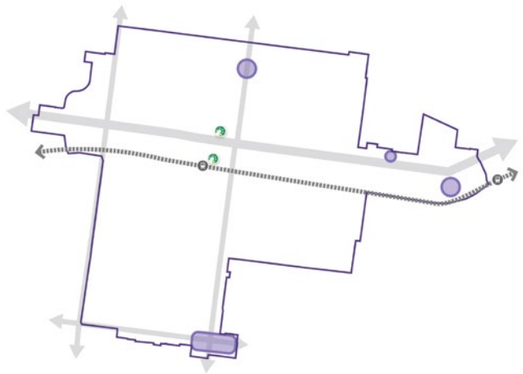


Residential precedent

Strategy UF8: Main streets and existing small retail strips

Complement the fine-grain, low-rise character of local shopping strips.

Main street buildings and buildings located within existing small retail strips should complement the existing scale and rhythm of the streetscape, maintain amenity to the public realm and support a retail ground floor.

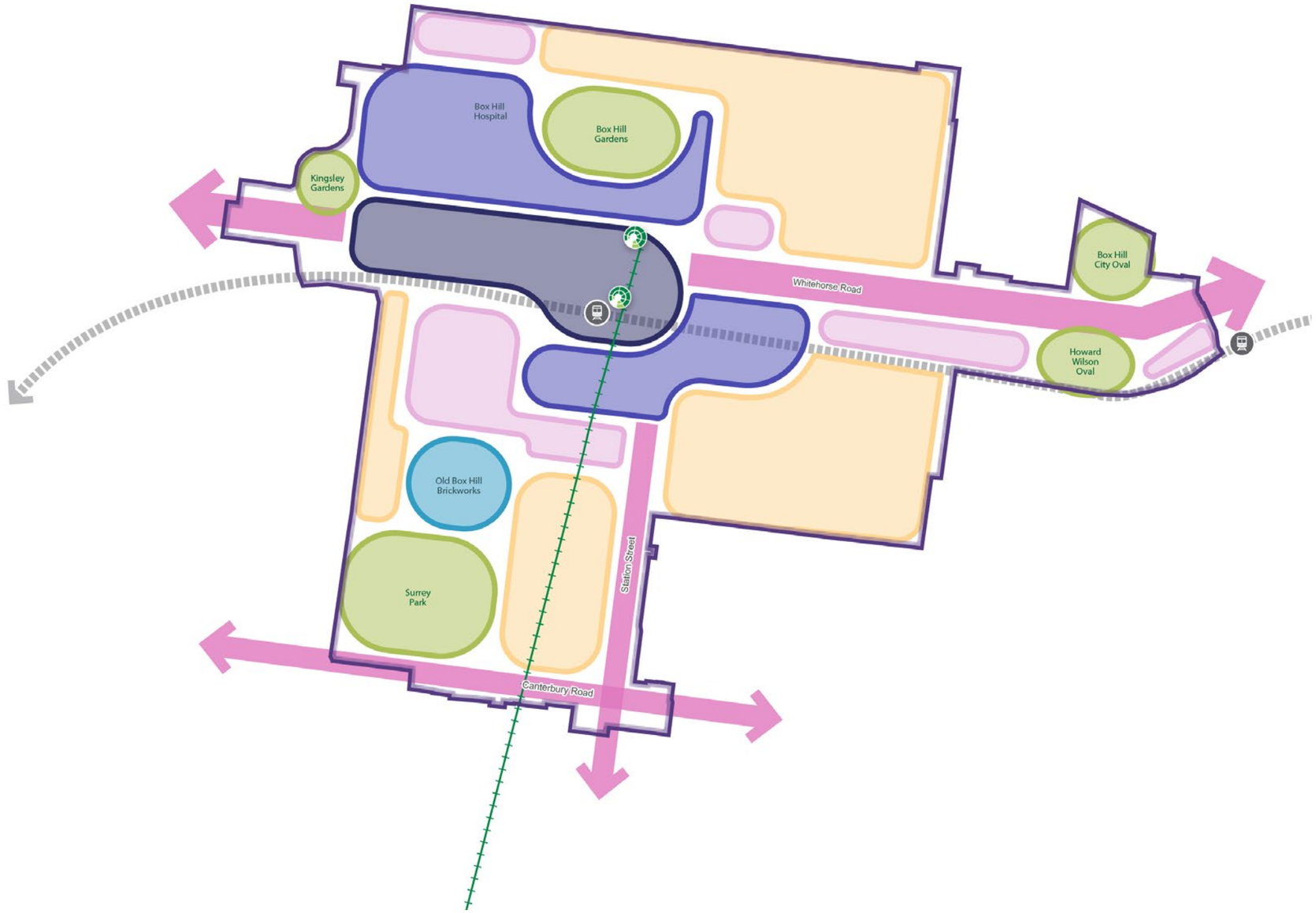


Main streets and existing small retail strips precedent

Place types

As a result of the urban form design directions and strategies, a pattern of distinct place types has emerged within the Structure Plan Area.

Each place type represents a different urban form outcome which capitalises on its existing attributes and supports its desired land use function, reinforcing their collective diversity, individual identity and sense of place.



Legend

- SRL station
- SRL East slignment
- Existing Box Hill Station
- Structure Plan Area
- Belgrave / Lilydale Line
- Central Core
- Central Flanks
- Key Movement Corridors
- Urban Neighbourhood
- Residential Neighbourhood
- Strategic Site
- Public Open Space

Figure 4.4: Place types

Development types

A range of development types was explored for each place type based on their specific opportunities and constraints, and desired land use outcomes.

While the development types were employed to develop the Urban Form Framework for the Structure Plan Area, the proposed typologies are indicative and, in reality, a range of built form outcomes is likely to occur.

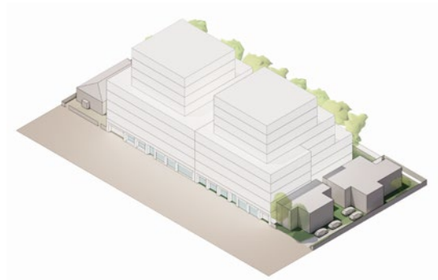
The development types were informed by research into best practice development typologies, contained in SRL East Structure Plan - Urban Design Supporting Research - Attachment A.

Place type: Central Core

The development type recommended in the Central Core is the high-rise podium-tower. Medium-high rise towers in the form of podium-tower buildings can deliver the level of intensification envisaged for the Central Core. Smaller lots will require lot amalgamation to enable the development of podium-tower buildings.

Provided it is appropriately-scaled, the podium provides a street-edge form that facilitates good public realm amenity in terms of human scale, sky views, sun and wind conditions, and complements the existing character, which generally comprises low-rise street walls. Best practice podium-tower design includes active street facades with any above-ground car parking ‘sleeved’ behind other uses, and well-separated towers with generous setbacks.

A mix of uses is necessary to deliver the desired vibrancy and activation. The podium-tower format enables a range of retail types in the podium and office and/or residential uses above.



Place type: Central Flanks

The development type recommended in the Central Flanks is the mid-rise podium-tower. It delivers high density while maintaining good solar provision to the public realm. This type typically requires a large lot or lot amalgamation.

The zero front setback and lack of side setbacks at the base of the building ensure a highly-activated and strongly-framed public realm. This will complement the prevailing existing character of low-rise buildings.

The strong relationship with the street also supports commercial uses at ground and potentially upper levels to provide the desired vibrancy and activation. Best practice design provides for car parking in a basement or ‘sleeved’ behind other uses.

Behind the street wall, the base of the building is set back from the side and rear boundary to provide space for tree planting. This typology provides a 5 to 10 per cent deep soil area at the sides and rear of the lot.

Above the street wall, the upper levels are setback from all sides to maintain sunlight, sky views and a sense of openness in the public realm. These setbacks also maintain good internal amenity and equitable development opportunities on neighbouring properties.

Place type: Residential Neighbourhoods

The development types recommended in the Residential Neighbourhoods are the garden apartments, which are apartments on amalgamated lots, generally equal or greater than 24 metres in width, and townhouses on single lots, generally less than 24 metres in width.

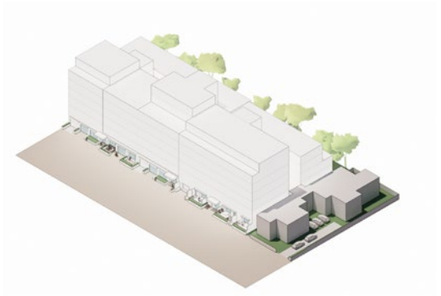
The garden apartment development type provides for the same type of development on amalgamated lots as proposed in Phase 2 of the Future Homes program or, going back further, the art deco apartment boom of the 1920s and 30s, but with a slightly increased density, which is considered appropriate because these areas are within walking distance of a higher order (SRL) station. However, the density is limited to mediate the transition in character and provide a different housing choice than that offered in other urban form areas. In particular, approximately 20 per cent of the apartments will have generous ground level gardens, making them suitable for families.

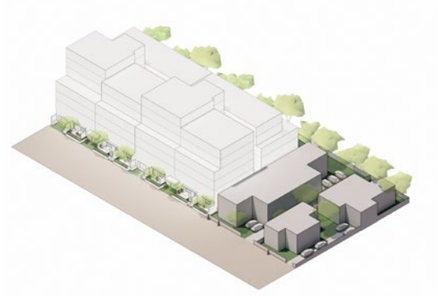
The development of 4 to 6-storey garden apartments rely on the amalgamation of two typical lots, generally equal or greater than 24 metres in width, which is necessary to deliver higher-density while providing good-quality internal amenity and providing a well-landscaped perimeter.

Importantly, lot amalgamation enables generous side and rear setbacks which will provide for high-quality on-site amenity and significant contribution to tree canopy cover. This typology provides a 35 per cent deep soil area across the front, sides and rear of the lot.

The substantial provision for canopy trees in front, side and rear setbacks will retain and strengthen the leafy character that predominates in these areas. These trees will significantly mitigate the visual presence of taller buildings on the existing streetscape and backyard character of these areas

The development of 3-storey townhouses with lesser side setbacks are appropriate on typical single lots, generally less than 24 metres in width. Low front fences and front doors and windows facing the street will provide passive surveillance of the street.





Place type: Key Movement Corridors and Urban Neighbourhoods

The development type recommended in the Key Movement Corridors and Urban Neighborhoods is urban infill. These highly adaptable buildings are able to accommodate commercial and / or residential uses. They deliver moderately high density along main roads, in accordance with Strategy UF6: Boulevards and Avenues, without the potentially adverse impacts of taller buildings on local character and amenity. Importantly, this development type can be developed on the vast majority of the lots found in these urban form areas without the need for lot amalgamation.

Urban infill development provides a vibrant and memorable urban character, good private amenity and protection of neighbouring amenity to the rear, adaptability for mixed and changing uses, and reasonable space for tree canopy cover. The minimal front setback and lack of side setbacks ensure a well-activated and strongly-framed public realm. The strong relationship with the street also supports commercial uses at ground or upper levels where desired.

The primary orientation of accommodation to the street and middle of the block enables differing uses to comfortably exist side-by-side where relevant. Generous rear setbacks ensure good amenity for accommodation facing towards the middle of the block, including adjacent properties to the rear, and space for tree planting.

As the Key Movement Corridors and Urban Neighbourhoods evolve through new urban infill development, they will experience a substantial change in character. As noted in Design Direction 5, this is considered to be an inevitable outcome of the vision for transformational change. This kind of transition in character is consistent with other transforming areas such as Brunswick Activity Centre, Cremorne and Box Hill between Whitehorse Road and the hospital. Low-rise dwellings will no longer represent the preferred character, and will increasingly become anomalies.

The sheer on-boundary side walls of urban infill development will change the amenity of any neighbouring low-rise dwellings to the side However, the lack of side setbacks is necessary to enable viable development of appropriate density on single lots and avoid constraining development on neighbouring properties to the side, in accordance with Strategy BF11: Building Orientation. The introduction of side setbacks to protect the existing amenity and character would mean that lot amalgamation is required to achieve a viable floorplate, and greater height is needed to maintain the density envisaged by Strategies UF5: Mixed-use neighbourhoods and UF6: Boulevards and Avenues.

The majority of lots in this place type are occupied by detached dwellings whose primary orientation is towards the street and a rear garden, rather than towards side boundaries. Therefore, the impact of sheer on-boundary side walls will be generally limited to the secondary rooms that face side boundaries.

Urban Infill development is proposed to have a generous rear setback, which will limit its impact on the amenity and equitable development of neighbouring rear gardens. The rear setbacks of existing and future development will ultimately combine to form a large green space in the middle of the block.

The building height and upper level street setbacks vary based on street width to ensure an appropriate balance between openness and enclosure in the street, along with reasonable solar access. In the Key Movement Corridors, urban infill provides a taller street wall, with upper levels maintaining a 1:1 ratio with the street. In the Urban Neighbourhoods, it provides a street wall equal to the street width, with upper levels setback to maintain an open character.

This development type includes a landscaped front setback as well as a generous, landscaped rear setback, resulting in a combined 10 to 15 per cent deep soil area.

The proposed use-mix varies with the role and function of the urban form area.

Place type: Strategic Sites: Former Brickworks

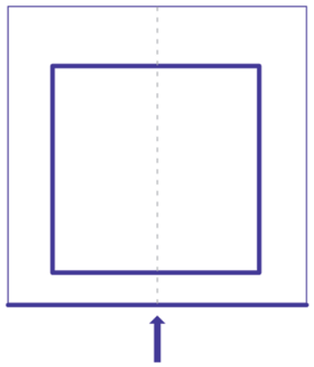
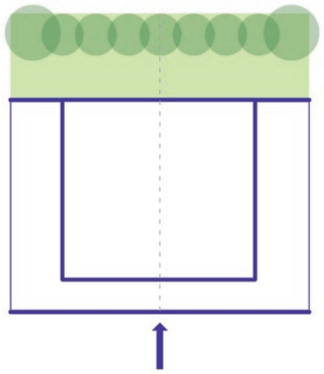
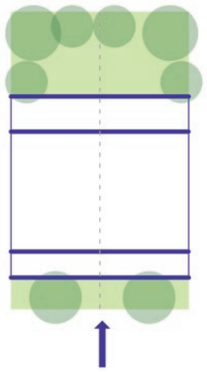
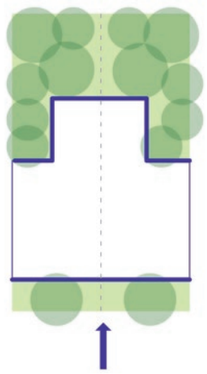
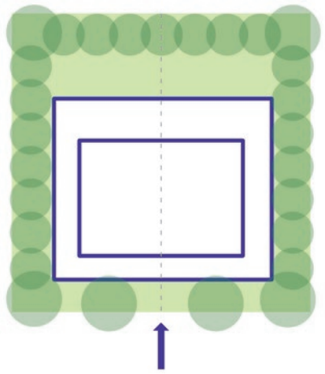
The Former Brickworks Strategic Site has increased capacity for intensification and strong potential to deliver SRLA policy objectives and/or public benefit outcomes.

This is a large site which will have a varied built form and public realm outcome and will require additional design testing and resolution beyond the role of this report. Initial design direction for this site is provided in Section 6.7.

This site will require the application of bespoke planning controls to provide direction on future development.

Development types outcomes

The following diagram provides a comparison of the general outcomes achieved by each developmet type.

	Place type: Central Core	Place type: Central Flanks	Place type: Key Movement Corridor and Urban Neighbourhoods	Place type: Residential Neighbourhoods	
					
Height	22 to 40 storeys	9 to 15 storeys	6 to 8 storeys	2 to 3 storeys	4 to 6 storeys
Density	10-13:1	5-7:1	3.5:1	1.2:1	2:1
Deep soil area and canopy trees	0 per cent	5 to 10 per cent	10 to 15 per cent	20 to 25 per cent	35 per cent
Use mix	Mixed-use	Mixed-use	Mixed-use	Residential	Residential
Application	Commercial / retail core / SRL station area	Outer core	Mixed-use or higher-density residential area	Residential area - single lot	Residential area - amalgamated lots

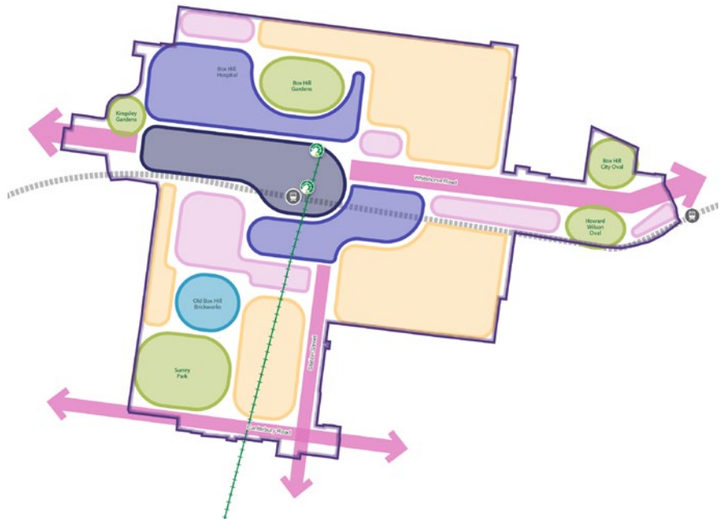
4.4 Urban Form Framework

The Urban Form Framework outlines the future urban form and land use attributes for the Structure Plan Area. It has been developed by refining the pattern of place types into collections of more precise urban form areas within the Structure Plan Area based on:

- Existing urban structure such as key movement corridors, barriers and key anchors (see Section 2.5)
- Existing character attributes
- Areas with a similar level of constraints to urban form change (see Figure 4.3)
- Existing land use pattern
- Box Hill Vision
- Land use directions.

The urban form areas are outlined on the following pages.

Place types

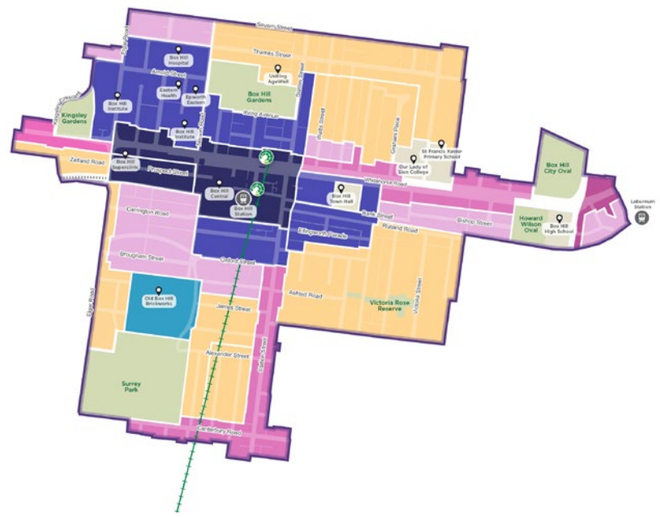


+

Urban form areas

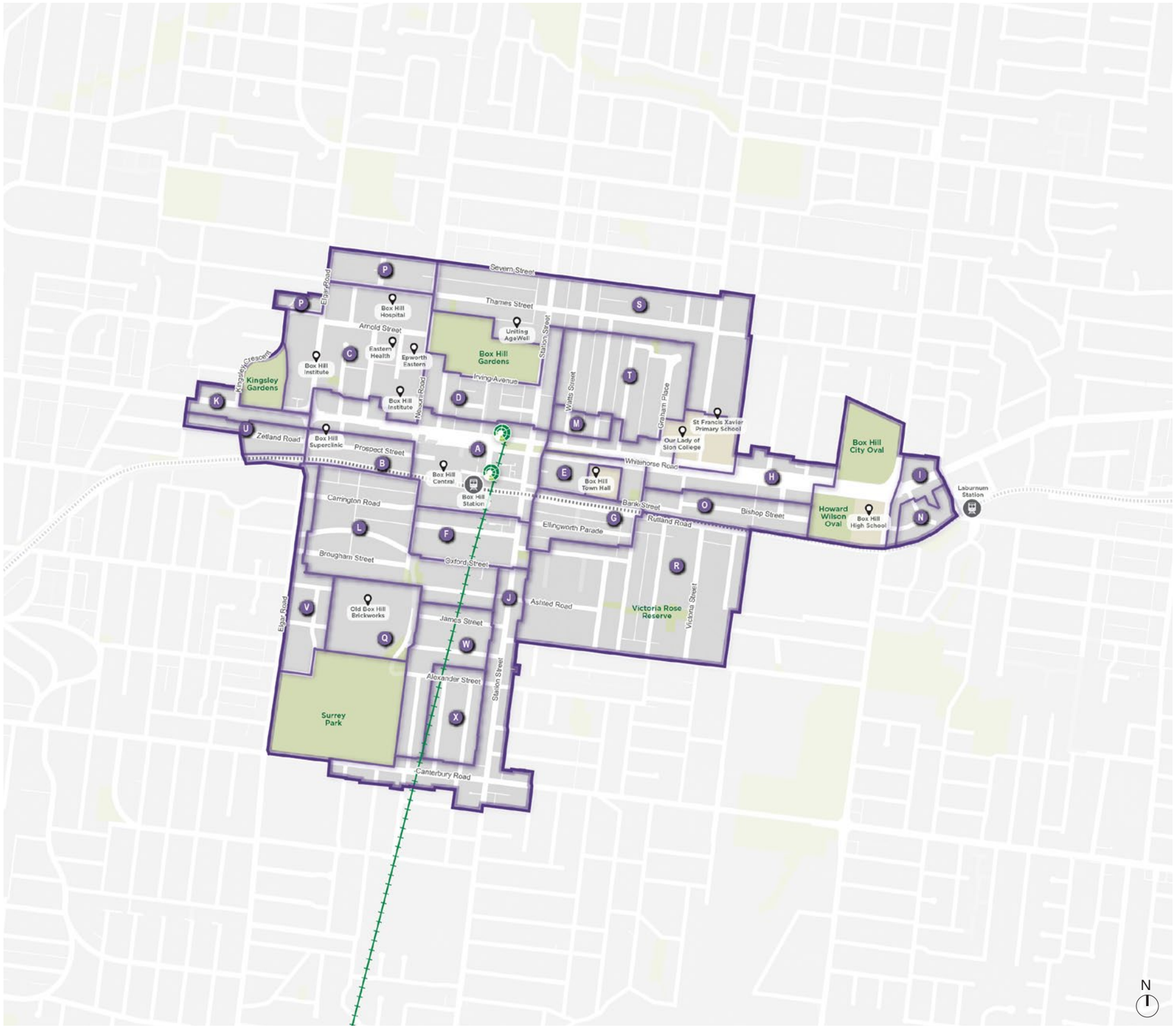
=

Urban Form Framework plan



4.5 Urban form areas

Figure 4.5 identifies the future urban form areas and the following pages describe their attributes, grouped by place types.



Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Urban form area
- Civic areas - Victorian or local government or institutional land not envisaged for substantial change

Figure 4.5: Future urban form areas

Place type: Central Core

The urban form areas within the Central Core are the most accessible and contain the SRL station, existing Box Hill Station and the majority of the centre's retail uses. High-density podium-tower development type is recommended to capitalise on the high level of accessibility and services.

A Core Area

The Core Area is the most accessible part of the Structure Plan Area and contains the majority of current, approved and proposed high-rise buildings (see Figure 4.3). It contains the SRL station, the existing Box Hill Station, the station development areas (Strategic Sites), and the majority of the centre's retail uses, which are primarily located within Box Hill Central and the central section of the Whitehorse Road corridor. The Core Area extends to the northern side of Whitehorse Road and the eastern side of Station Street to ensure coordinated design for these street environments. A distinctive built form characterised by tall towers around the centre of the commercial area has emerged. Fine-grain shop front buildings exist at the intersection of Whitehorse Road and Station Street and along Station Street. A number of properties that have not yet been redeveloped offer the potential to complete the emerging character, providing housing and employment opportunities within a high-amenity area, while responding to Box Hill's retail street tradition of fine-grained activated built form. All of the Core Area is currently zoned C1Z, except some properties on the north side of Whitehorse Road west of Nelson Street whose zoning reflects their current use.

B Prospect Street

Prospect Street is a distinct area of commercial land immediately abutting the Core Area and bound by Elgar Road to the west and the existing railway line to the south. It is currently characterised by low-rise commercial buildings which are progressively being redeveloped for high-rise, mixed-use buildings. The relatively-large and regularly-shaped lots present an opportunity for the remaining commercial buildings to be redeveloped to complete a comprehensive character change. All of this area is currently zoned C1Z.

Place type: Central Flanks

The urban form areas within the Central Flanks are highly accessible and comprise health, education, commercial, and residential land uses. To continue to provide for mid-density employment and retail uses, a mid-rise podium-tower development type is recommended. This form also supports pedestrian-favoured streets with good amenity and street life.

C Health and Education

The Health and Education area is anchored and bound by Box Hill Hospital and Box Hill Institute, immediately north-west of the Core Area. This includes a mix of health providers (including Epworth Eastern and Eastern Health), together with newer mixed-use developments and remnant low-rise housing. Although the majority of the remnant housing is strata-titled, this constraint could be overcome by providing a sufficient development uplift, to deliver comprehensive character change of mid-rise buildings. The hospital and TAFE are zoned PUZ, while the majority of the remaining land is zoned RGZ.

D Box Hill Gardens

This is a distinct area lying largely between the Core Area, Box Hill Institute and Box Hill Gardens, immediately north of the Core Area. It extends to the eastern side of Station Street to ensure coordinated design for this street environment. A formerly low-rise residential area, it is transitioning to a relatively uniform character of mid to high-rise apartment buildings. It is unlikely that recently developed buildings will be redeveloped. However, redevelopment of the remnant properties is relatively unconstrained, offering the opportunity to complete a comprehensive character change. This area is currently largely zoned RGZ.

E Bank Street

Bank Street is immediately east of the Core Area. It is characterised by larger lots developed for commercial and institutional uses, including St Peter's Church, Box Hill Institute and Salvation Army. The area also envelopes the Box Hill Town Hall and Library. It is bound by Whitehorse Road and the existing railway line, and includes Linsley Park. The area contains buildings of moderate height. However, its large lot sizes offer an opportunity for redevelopment to contribute to a new, higher-density character while remaining respectful of surrounding heritage buildings. This area is currently zoned a mix of C1Z, PUZ and GRZ.

F Cambridge Street

Cambridge Street lies between the Core Area to the north and a medium-density residential neighbourhood to the south and west. It contains a mix of commercial, mixed-use, civic and residential uses, mainly in low-rise buildings, along with Harrow Park. The area is experiencing change due to its proximity to the activity centre and public transport. Although it has a range of development constraints, there is some opportunity for higher-density redevelopment to mediate between the higher scale of the core and the lower scale of the residential neighbourhood to the south and west. It is currently zoned a mix of C1Z, MUZ and RGZ.

G Ellingworth Parade

Ellingworth Parade is a distinct commercial area immediately east of the Core Area and south of the existing railway line. It is currently characterised by low-rise commercial buildings, although a new character is emerging defined by mid-rise, mixed-use buildings. The area has relatively few development constraints, presenting the opportunity for wholesale character change through widespread redevelopment. It is currently zoned C1Z.

Place type: Key Movement Corridors

The urban form areas within Key Movement Corridors have varying degrees of accessibility, and comprise a mix of low-rise commercial development and detached residential dwellings set along grand boulevards and avenues. To frame the public realm and provide adaptable buildings, the urban infill developmet type is recommended.

H Whitehorse Road East

Whitehorse Road East lies at the eastern end of the Whitehorse Road corridor through the Structure Plan Area. It is currently characterised by a mix of low-rise commercial and medium-density residential development. There is a relatively high proportion of strata-titled property, which will constrain redevelopment. However, the public transport, width and character of Whitehorse Road creates a distinct opportunity for taller buildings that may overcome these constraints and enable a new, higher-density character to be established. This area is currently zoned a mix of C1Z, RGZ and GRZ.

I North Laburnum

Laburnum is a small mixed-use pocket at the eastern edge of the Structure Plan Area, bounded by Whitehorse Road, the rail line and Box Hill City and Howard Wilson ovals. The area is currently characterised by a mix of detached dwellings, medium-rise residential and retail activity. Sitting within the Laburnum Station catchment and interfacing Whitehorse Road, the area presents few development constraints and is ripe for development of higher intensity. Laburnum is currently zoned C1Z and RGZ2.

J Station Street South

Station Street South comprises properties fronting Station Street and Canterbury Road in the southern part of the Structure Plan Area. It is currently characterised by a mix of low-rise commercial and residential development. There are relatively few development constraints other than narrow lots in the local centre on the corner of the two streets, presenting the opportunity for wholesale character change through widespread redevelopment. The main road character of these streets presents the potential for an increase in scale. This area is currently zoned a mix of C1Z, INZ, RGZ, GRZ and NRZ.

Place type: Key Movement Corridors

Place type: Urban Neighbourhoods

The Urban Form Areas within Urban Neighbourhoods are residential-focused, mixed-use neighbourhoods close to the commercial/retail core and/or public transport. To create a continuous, activated street wall which complements the scale of the street, with a landscape setback and mid-rise building form, the urban infill developmet type is recommended.

Place type: Strategic Sites: Former Brickworks

The Former Brickworks site requires further design investigation and the application of bespoke planning controls to provide direction on it's future development.

K Whitehorse Road West

Whitehorse West comprises properties fronting Whitehorse Road in the west of the Structure Plan Area. It is currently characterised by a mix of low-rise, medium-density residential development, whose strata-titling presents a degree of development constraints, and some detached dwellings in garden settings. The main road character of this street presents the potential for an increase in scale to create a more consistent medium-density character. This area is currently zoned RGZ.

L Carrington Road West

Carrington Road West is a mixed-use neighbourhood between the activity centre and the Former Brickworks site. It is currently characterised by pockets of unit development, whose strata-titling presents some development constraints, and detached dwellings in garden settings. The areas of detached dwellings have few development constraints, presenting the opportunity for redevelopment to create a more consistent medium-density character. It is currently zoned RGZ.

M Watts Street

Watts Street is a mixed-use neighbourhood between the activity centre and low-scale residential areas. It is currently characterised by a variety of commercial buildings, unity development and detached dwellings in garden settings. The areas of commercial buildings and detached dwellings have few development constraints, presenting the opportunity for redevelopment to create a more consistent medium-density character. It is currently zoned C1Z, PUZ and RGZ.

N South Laburnum

South Laburnum is a mixed-use neighbourhood adjacent to Laurnum Station at the eastern part of the Structure Plan Area. It is currently characterised by detached dwellings in garden settings with emerging unit development. The area interfaces the rail line and has few development constraints, presenting the opportunity for redevelopment to create a more consistent medium-density character. It is currently zoned RGZ.

O Bishop Street

Bishop Street is a residential pocket between the Whitehorse Road corridor, the existing railway line and Bank Street, at the edge of the Structure Plan Area, within a short walk of Laburnum Station. It is currently characterised by low-rise, medium-density housing, whose strata-titling presents a development constraint, and detached dwellings in a garden setting. The detached dwellings have few development constraints, presenting the opportunity for redevelopment to create a more consistent medium-density character. It is currently largely zoned RGZ and GRZ.

P Thames Street West

Thames Street West is a small mixed-use pocket adjacent to the health and education precinct. It is currently characterised medium-density housing and mixed-use building, which accommodate allied-health uses. Considering the proximity to major medical facilities and the already ongoing transition from a residential pocket into a mixed-use area, this pocket presents the potential for a increase in scale. The area is currently largely zoned RGZ and GRZ

Q Former Brickworks site

The Former Brickworks site is a very large vacant site that offers a rare opportunity for a master-planned development that provides a different offer to the surrounding urban form areas. It contains buildings on the VHR and has environmental constraints. It is currently zoned a mix of GRZ and SUZ.

Place type: Residential Neighbourhoods

The urban form areas within Residential Neighbourhoods are comprised of low-rise residential areas in the outer parts of the Structure Plan Area. To maintain the ‘leafy’ character while providing for increased residential density, the garden apartment developmet type is recommended. In places with specific character attributes requiring protection, or at the edge of the Structure Plan Area, a 4-storey garden apartment developmet type is recommended.

R Residential South-east

Residential South-east is a broad residential neighbourhood between the commercial core, the Station Street corridor, the existing railway line and the edge of the Structure Plan Area. It currently comprises distinct pockets of low-rise, medium-density housing, whose strata-titling presents a development constraint, and separate areas of detached dwellings in a garden setting. The detached dwellings have few development constraints, presenting the opportunity for redevelopment to create a more consistent medium-density character. It is currently largely zoned RGZ and GRZ.

S Thames Street

Thames Street is a connector street that links Elgar Road and Dorking Road at the northern edge of the Structure Plan Area. It is currently characterised by pockets of medium-density housing, whose strata-titling presents a development constraint, and detached dwellings in a garden setting. The areas of detached dwellings have few development constraints, presenting the opportunity for their redevelopment to create a more consistent medium-density character. Thames Street’s greater width than a typical residential street and its connector street function presents the potential for a slight increase in scale. The area is currently largely zoned RGZ and GRZ.

T Residential North-east

Residential North-east is a broad residential neighbourhood between the Station Street, Whitehorse Road, Thames Street and Dorking Road corridors. It is currently characterised by detached dwellings in a garden setting. The area has relatively little unit development or other development constraints, presenting the opportunity for wholesale character change through widespread redevelopment. It is currently largely zoned GRZ.

U Zetland Road

Zetland Road is a residential pocket between the Whitehorse Road corridor and the existing railway line at the edge of the Structure Plan Area. It is currently characterised by a mix of low-rise, medium-density residential development, whose strata-titling presents a degree of development constraints, and some detached dwellings in garden settings. The detached dwellings have few development constraints, presenting the opportunity for redevelopment to create a more consistent medium-density character. This area is currently zoned NRZ.

V Elgar Road South

Elgar Road South is a residential pocket located at the western edge of the Structure Plan Area, along the western interface of the Former Brickworks site. It is currently characterised by a mix of low-rise, medium-density housing along Elgar Road, whose strata-titling presents a development constraint, and detached dwellings in a garden setting next to the Brickworks site. The detached dwellings have few development constraints, presenting the opportunity for redevelopment to create a more consistent medium-density character. They are currently largely zoned GRZ.

W James Street

James Street is a residential pocket located at the eastern interface of the Former Brickworks site and Surrey Park. The area is largely zoned GRZ and RGZ and is currently characterised by a mix of low-rise, medium-density housing along James Street, whose strata-titling presents a development constraint, and detached dwellings in a garden setting along Kent Street and next to Surrey Park. The detached dwellings have few development constraints, presenting the opportunity for redevelopment to create a more consistent medium-density character. However, Heritage Overlay affected land housing pocket at the intersection of Alexander St and Parkside Avenue presents a valued low-scale residential character that is likely to be retained.

X Surrey Park East

Surrey Park East is a residential pocket towards the southern edge of the Structure Plan Area, between Surrey Park and the Station Street corridor. It is currently zoned NRZ and is characterised by detached dwellings in a garden setting, with an identified special character formalised in an NCO and a large heritage overlay, HO242. The area has relatively little unit development. Redevelopment in this area should be of lower scale to respect the heritage values of Alexander Street with greater redevelopment opportunities presented by the area currently affected by the NCO.

Urban Form Framework plan

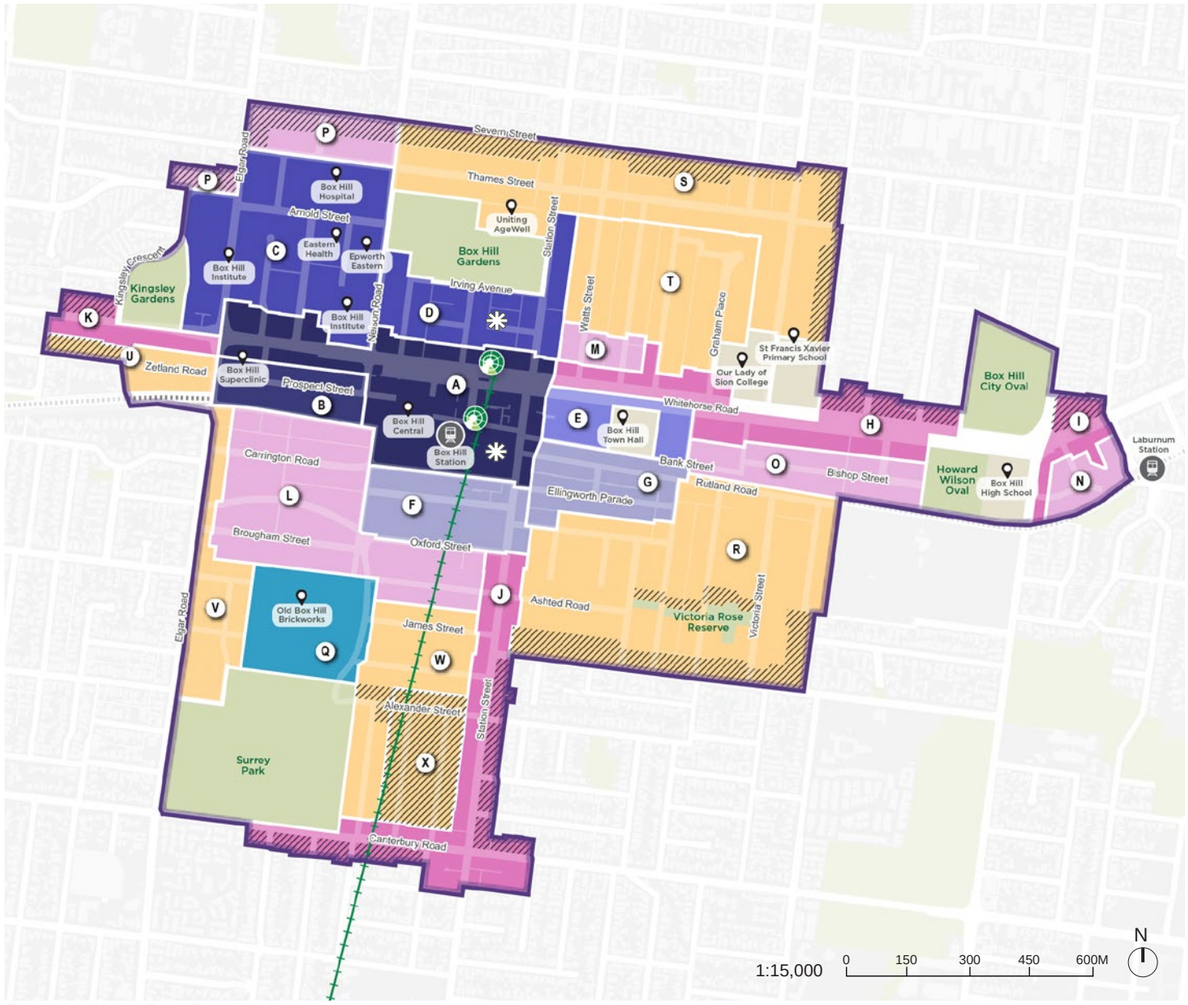


Figure 4.6: Urban Form Framework

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Strategic Sites - station development area
- Civic areas - Victorian or local government or institutional land not envisaged for substantial change
- Sensitive areas [5]

Legend	Place type	Urban form area	Indicative density [1]	Indicative building height [2]	Land use mix [3]
	Central Core	A - Core Area	FAR 13	133 metres (34 to 40 storeys)	Commercial
		B - Prospect Street	FAR 10	85 metres (22 to 25 storeys)	Commercial
	Central Flanks	C - Health and Education	FAR 7	52 metres (13 to 15 storeys)	Health priority
		D - Box Hill Gardens			Commercial / housing
		E - Bank Street	FAR 6	49 metres (12 to 14 storeys)	Commercial / civic, community and cultural
		F - Cambridge Street	FAR 5	36 metres (9 to 10 storeys)	Commercial / housing
		G - Ellingworth Parade			Commercial
	Key Movement Corridors	H - Whitehorse Road East	FAR 3.5	27 metres (7 to 8 storeys)	Commercial / housing
		I - North Laburnum			Mixed-use / commercial
		J - Station Street South			Commercial / housing / civic, community and cultural
		K - Whitehorse Road West			Housing
	Urban Neighbourhoods	L - Carrington Road West	FAR 3	24 metres (6 to 7 storeys)	Housing
		M - Watts Street			Housing / civic, community and cultural
		N - South Laburnum			Mixed-use / housing
		O - Bishop Street			Housing
		P - Thames Street West			Health priority
	Strategic Sites (Refer to 6.7 Strategic Sites)	Q - Former Brickworks Site	FAR 1.8 [4]	20 to 27 metres (6 to 8 storeys) Refer to 6.7 Strategic Sites	Housing
	Residential Neighbourhoods	R - Residential South-east	Garden apartment FAR 2 Townhouses FAR 1.2	Garden apartments 21 metres (6 storeys) Townhouses 11 metres (3 storeys)	Housing / civic, community and cultural
		S - Thames Street			Commercial / housing
		T - Residential North-east			Housing
		U - Zetland Road			Housing
		V - Elgar Road South			Housing
		W - James Street			Housing
		X - Surrey Park East	Garden apartment FAR 1.5 Townhouses FAR 1.2	Garden apartments 14 metres (4 storeys) Townhouses 11 metres (3 storeys)	Housing

Figure 4.7: Urban Form Framework table

1. *Indicative densities, which may vary based on specific circumstances. Densities are provided to indicate the intensity of development, not because they are proposed to be translated into planning controls.*
2. *Indicative heights, which may vary based on specific circumstances. Refer to Section 5.3 for preferred building heights.*
3. *Based on the Land use scenario and Capacity analysis work.*
4. *Strategic Sites FAR based on an allowance of 30 per cent of the site area for internal roads and open space.*
5. *These areas are described in Strategy UF1: Substantial change.*

5 Built form

AJM
Joint Venture

5.1 Introduction

This section sets out a Built Form Framework to achieve the Vision for Box Hill, and summarises the design directions and strategies.

The Built Form Framework and strategies were informed by the SRL Urban Design Framework and the Vision for Box Hill This was supplemented by an analysis of the existing development conditions (see Appendix A) and extensive research into best-practice urban development typologies provided in SRL East Structure Plan - Urban Design Supporting Research - Attachment A.

The Built Form Framework was developed concurrently with the Public Realm Framework and each informs the other.

The methodology for developing the Built Form Framework is summarised in Figure 5.1.

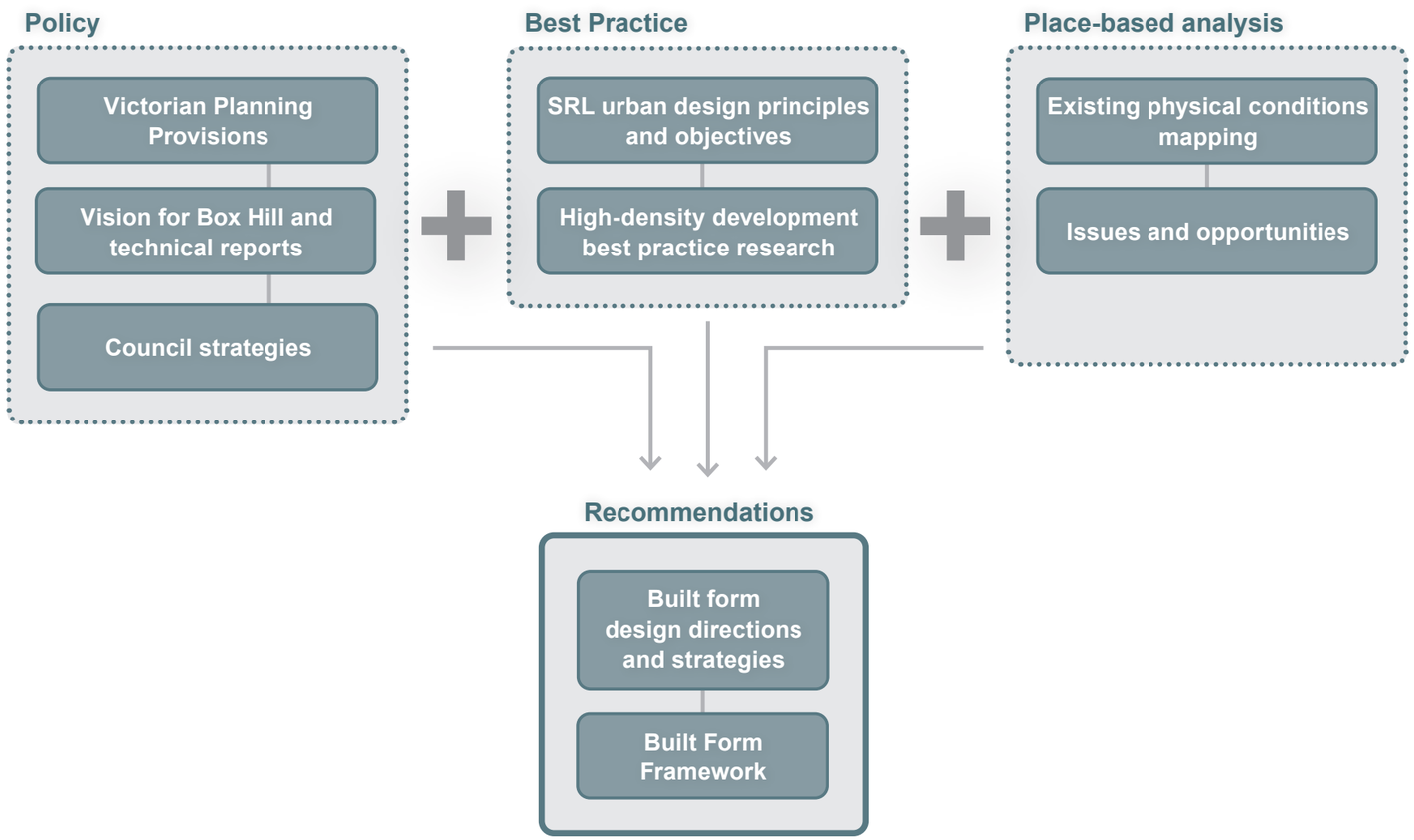


Figure 5.1: Methodology for developing the Built Form Framework

5.2 Built form design directions

This section outlines the urban form design directions proposed to achieve the Vision for Box Hill.

The design directions informed the development of the Built Form Framework in Section 5.3 and the built form outcomes in Section 6.

The order of the design directions does not imply an order of priority.

Design Direction 7: Support an inviting public realm

Why is this important?

Built form should support an inviting and engaging public realm through the distribution of its mass and street edge detail.

Distribution of mass

Development shapes the public realm and strongly influences its amenity. The siting, height and massing of buildings can positively influence the amenity of the adjoining public realm by:

- Framing streets and open spaces, which makes them more memorable
- Maintaining a sense of openness including sky views
- Maintaining solar access to pedestrian spaces.

Continuous street walls provide a more engaging street wall.

Where taller buildings are needed to deliver the desired density, a sense of openness and reasonable access to daylight and sunlight should be achieved.

Engaging facades

Lower-level building facades should contain detail that is visually engaging to enhance the pedestrian experience.

Active building frontages are also key to an inviting and safe public realm. The level of activation that is appropriate varies between employment areas and residential areas.

This includes consideration of:

- Building alignment
- Building massing and composition including rhythm and grain
- Design detail and building facade materials.

Buildings in high pedestrian activity areas should have the highest level of activation, given their pedestrian density.

Employment areas tend to have lower levels of pedestrian activity, so a lesser level of activation is acceptable. However consideration should be given to employment areas needing to support 24-hour workers.

Residential areas benefit from a quieter environment. However, it is important that they provide passive surveillance to contribute to the safety of the public realm. ‘Back of house’ uses such as car parking and car park entries, building services cabinets and loading areas should be positioned away from the primary frontage.

Solar access in the public realm

Sunshine is an important component of people’s attraction to and enjoyment of public space[1,2,] as well as their health and wellbeing[3]. It is essential for plants, enabling sunny open spaces to contribute to cooling, greening and biodiversity in accordance with Strategy PR9 - Public Realm Landscaping[4]. Sunshine is also said to boost local business by attracting more foot traffic[5].

An increase in urban density reduces people’s access to sun in their private spaces. Therefore, it is important to complement this with good solar access to key public open spaces in higher density areas.

However, maintaining sunlight in the public realm imposes a limit on the potential for taller buildings to provide for growth. Therefore, a balance needs to be struck between these two aspirations, partly by targeting solar access protection to places and times where it is most important.

The different types of public realm, and the importance of solar access in each of them, are as follows:

- **Primary public open space(s) in the Central Core:** This category of spaces includes the centrally located space(s) that will provide the primary forum for public events such as festivals, performances, parades, markets, and so on. Year-round sunshine is important to ensure that the primary open space(s) in the Central Core attract people to support events and informal public activity
- **Activity Streets:** These streets generally lie within the Central Core and are where the highest level of public life is sought. Sunshine is important in the pedestrian areas in Activity Streets to support public life
- **Medium-large parks (>1ha):** Medium-large parks are those greater than 1ha. These have a District or Community catchment classification. Sunlight is important in these spaces as they provide an important year-round recreation function, including for sports activities
- **Small open spaces in Central Flanks:** These spaces are the secondary open spaces within the central area. These spaces provide an important, year-round recreation role for workers (at lunchtime) and residents (particularly on weekends)
- **Small and narrow parks outside the Central Core and Central Flanks:** This category includes a large number of open spaces smaller than 1ha, mainly in residential neighbourhoods. As Community Parks, they provide an important year-round recreation role for residents (particularly smaller children and their parents/ carers).

What is happening now in Box Hill?

Most of the Structure Plan Area is characterised by low density suburban detached housing of 1 to 2 storeys. This type of built form is generally setback significantly from the street, providing a small degree of passive surveillance to the street and a low level of street activation. Its contribution to the public realm is through architectural style and vegetation, rather than framing the streets.

The commercial / retail core 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.

These buildings provide varying degrees of activation to the street and typically provide a poor public realm interface. They also don’t mitigate wind impacts, overshadow the public realm and dominate the sky with their upper level forms, limiting sky views.

“Most active frontages are found along Station Street, Market Street, Whitehorse Road and on the southern side of Carrington Road. However there are several streets with a great potential to diversify the ground floor by adding more openings (doors and windows), offering more things to look at and increase the variations of the facade.” - SRL Public Space and Public Life Study Report (Gehl, 2023)”

Alignment with SRL Urban Design Framework:

Design Direction 7 will help to achieve the following SRL urban design objectives (See section 2.3):

- Objective UD2.4 Welcoming
- Objective UD4.4 Safer design
- Objective UD5.1 Heritage
- Objective UD5.5 Quality design
- Objective UD6.1 Amenity
- Objective UD6.3 User experience
- Objective UD6.4 Places for people
- Objective UD6.5 Activation

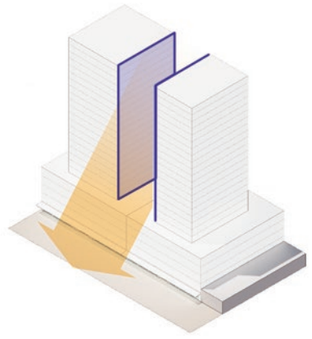
1. *Urban Studies Journal (2015): “The Impact of Sunlight on Social Interaction in Public Spaces: A Case Study of Urban Squares.”*
2. *Journal of Urban Design (2016): “Sunlight and Place-making: Enhancing the Aesthetic Appeal of Urban Squares.”*
3. *Journal of Environmental Psychology (2013): “The Role of Urban Green Spaces in Enhancing Human Health and Well-being: Effects of Sunlight Exposure on Vitamin D Levels.”*
4. *Landscape and Urban Planning Journal (2015): “Sunlight and Urban Green Spaces: Enhancing Biodiversity and Ecological Sustainability.”*
5. *International Journal of Retail & Distribution Management (2018): “The Economic Benefits of Sunlit Public Spaces: A Study of Foot Traffic and Retail Sales.”*

How can this direction be achieved in Box Hill?

Strategy BF1: Tower separation A

Provide sky views and access to daylight in the public realm through setbacks to and gaps between towers in high-rise areas.

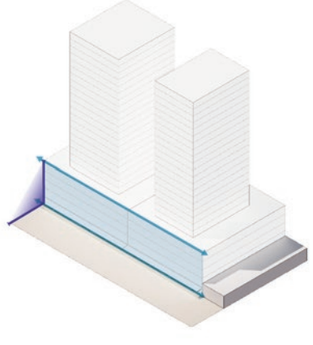
Towers should be set back and separated to support an attractive public realm, allowing for daylight, sky views and shafts of sunlight.



Strategy BF2: Podiums

Create a well-defined urban space in high-rise areas by providing continuous street wall of podium facades.

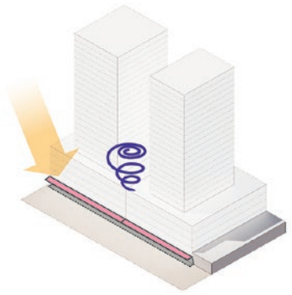
Podiums should be set on the front boundary and extend to both side boundaries to clearly frame the public realm and maximise passive surveillance and activation, with podium car parking 'sleeved' behind active land uses.



Strategy BF3: Weather protection

Podium facades should support pedestrian comfort by providing protection from rain, wind and summer sun.

Where appropriate, rain, wind and summer sun impacts should be minimised through the appropriate design of awnings, architectural articulation and building massing.

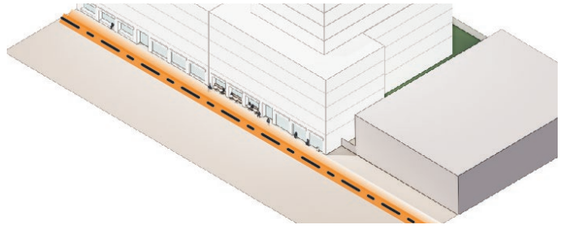


The Wind Technical Report (August 2024) found that when compared to today, the overall wind speeds in the highly-developed future scenario of Structure Plan Area will be reduced and overall wind comfort conditions improved. While some localised unsafe wind conditions were also found in this scenario, these conditions are proposed to be managed through building design at planning permit stage.

Strategy BF4: Footpath widening

Ensure buildings are set back from the street edge to widen the footpath where needed.

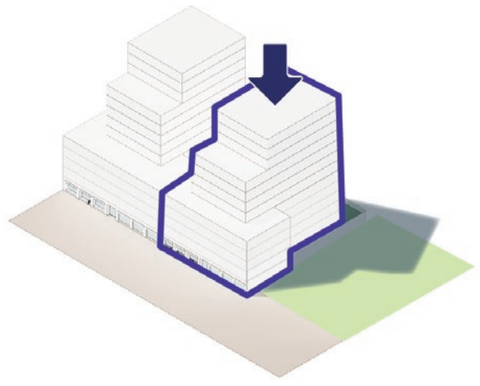
Where a wider footpath is sought, buildings should help to achieve the desired outcome by setting back from the street edge.



Strategy BF5: Sunlight to public realm

Require development to maintain reasonable solar access to key streets and open spaces.

Key streets and open spaces in the Central Core, Central Flanks and Main Streets, and residential parks, should be appropriately protected from overshadowing to support public life and outdoor recreation. A set of solar access standards have been developed which seek to balance the provision of solar access and growth for each type of street and open space. These are informed by recently introduced solar access planning provisions in Victoria, related studies and Planning Panel reports, and site-specific testing (see Attachment C - Assessment of Solar Access to the Public Realm).



Type of space	Recommended standard
Primary public open space(s) in Central Core	50 per cent of the open space for a minimum of 3 hours at mid-winter
Footpaths in Activity Streets	50 per cent of southern, eastern and western footpaths for a minimum of 3 hours at the spring equinox
Medium-large parks	70 per cent of the open space for a minimum of 3 hours at mid-winter
Small open spaces in Central Flanks	75 per cent of the open space for a minimum of 3 hours at the spring equinox
Small and narrow parks outside Central Core and Central Flanks	50 per cent of the open space for a minimum of 3 hours at the mid-winter

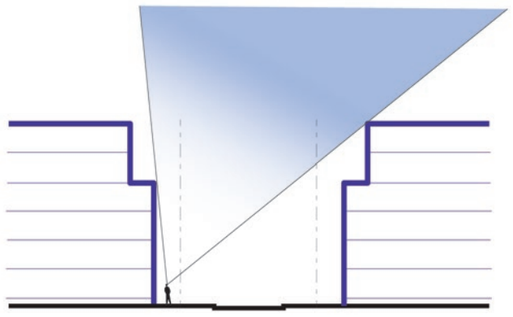
These standards are varied in specific circumstances where the size or configuration of the open space or street, and/or the scale of development envisaged around it, warrant a different solar access outcome.

Strategy BF6: Street scale

Balance street definition and openness outside the precinct core.

Buildings should be appropriately massed to define the street, and upper levels should allow for wider sky views. Upper-level setbacks should contribute to a legible composition, rather than adopting a profile that allows minimum setback requirements, which can result in unattractive outcomes.

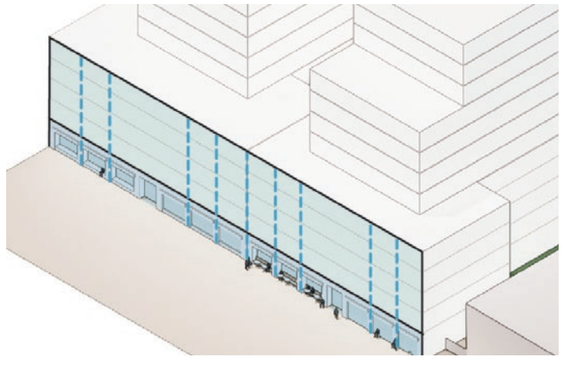
Street walls should be designed to minimise the impact of taller buildings on the public realm, and contribute a sense of enclosure.



Strategy BF7: Engaging facades

Ensure street walls provide visual interest at a pedestrian scale and pace.

Design detail of street walls should balance transparency and solid elements, create a fine-grain vertical rhythm and provide a level of depth, detail and texture to enhance the pedestrian experience.

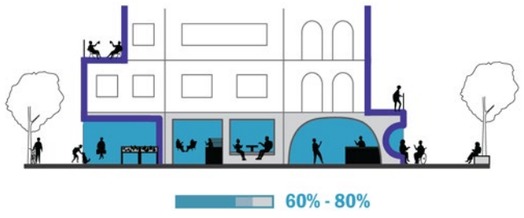


Strategy BF8: Active frontages

Ensure buildings contain active facades in commercial and mixed-use areas to provide interest and activity through visual engagement between the street and the building and to ensure pedestrian links support safety and user experience.

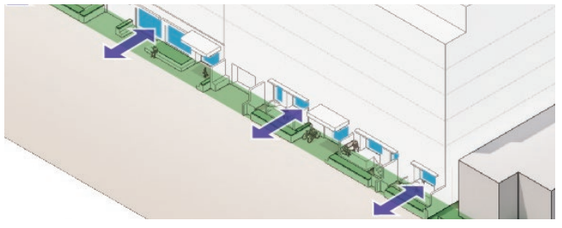
A **highly active frontage** should be provided in the commercial/retail core and existing small retail strips. This type of frontage should incorporate:

- Building frontages which are set on or within 0.4 metres of the public realm boundary except where an activated front setback is specified (such as outdoor dining or public realm widening)
- Primary ground floor functions that are relevant to passing pedestrians, such as shops and food and beverage outlets (retail, hospitality and entertainment uses)
- An at-grade connection between ground-level tenancies and the street- transitions in floor levels should not rely on external ramps and stairs in the public realm
- 60 to 80 per cent of the combined length of the ground-level interfaces of a building to streets and laneways as a pedestrian entry or clear glazing with regularly spaced solid elements to avoid a predominately glazed appearance along frontages
- A continuous fixed canopy that provides shelter from the rain and summer sun and maintains exposure to the winter sun
- Upper level uses that are active for the majority of the day and evening.



A **moderately active frontage** should be provided in the primary street interfaces of Mixed-use and employment areas. This type of frontage aims to improve the use, safety and experience of the public realm and ensure a high-quality interface between buildings and the street at ground level, which promotes pedestrian amenity and further activation as the precinct evolves. This type of frontage should incorporate:

- A minimum of 40 per cent of the combined length of the ground-level interfaces of a building to streets and laneways as a pedestrian entry or clear glazing
- A floor-to-floor height of at least 4 metres on the ground floor to allow for the adaptation of building uses over time
- Reduced number of vehicular access points to prioritise the experience and safety of pedestrians
- Provide an at-grade connection between usable space within ground-level tenancies and the street. Transitions in floor levels should not rely on external ramps and stairs in the public realm.



Strategy BF9: Residential frontages

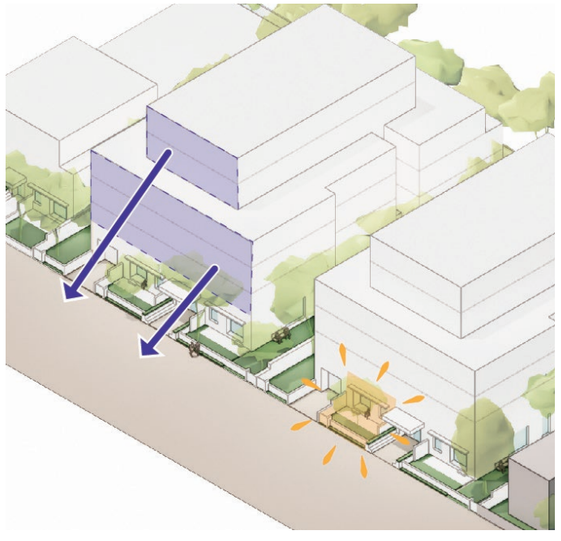
Ensure development within the Residential Neighbourhoods balances sense of address, passive surveillance and privacy, and contributes to street greening.

Residential frontages should enhance the street edge by:

- Orientating balconies and habitable rooms to the street
- Ensuring building facades identify individual dwellings
- Providing low front fences
- Providing ground floor entrances to individual ground floor dwellings facing the street
- Providing canopy trees and understorey planting to green the street and enhance privacy of ground floor dwellings.

Residential frontages should enhance pedestrian links by:

- Orientating balconies and habitable rooms to pedestrian links
- Providing ground floor entrances to individual ground floor dwellings facing the link where appropriate.



Design Direction 8: Ensure highquality and responsive built form

Building orientation, solar access and set backs

Built form can strongly influence internal amenity and the amenity of neighbouring properties. The siting, height and massing of buildings can adversely affect amenity in terms of:

- Access to sunlight
- Access to daylight
- Visual bulk
- Overlooking.

In residential areas, setbacks are typically required from common boundaries with adjoining properties to avoid unreasonable impacts on their amenity and future development potential. Clause 55 of the Victorian Planning Provisions provides setback standards for buildings up to 4 storeys high.

In higher-density areas, apartments facing side or rear boundaries often have relatively poor internal amenity due to the need for privacy screen and limited access to daylight. Mid-rise buildings can also have a significant effect on the amenity of neighbouring properties in terms of sunlight, daylight and outlook, and on their future development potential.

Clause 58 of the Victorian Planning Provisions provide internal amenity standards, however it doesn't provide prescriptive set back guidance.

Therefore, strategies are needed to ensure good internal amenity for development and its neighbours.

Scale transition

Increased building heights can create inappropriate visual bulk at interfaces with lower-rise areas, either inside or outside the Structure Plan Area. Care is needed to manage these transitions.

Increasing tree canopy cover

Landscaping associated with new development can contribute to environmental performance, amenity, health and character outcomes. In particular:

- Increased tree canopy cover can reduce the urban heat island effect
- Landscaping can provide wildlife habitat and stormwater infiltration
- Trees can provide building shading and resident amenity
- Nature supports mental health
- Trees can complement the existing character of leafy areas and help to integrate new, denser development.

Achieving these objectives will rely on forms of development that contribute to tree canopy cover, not only trees in the public realm.

Clause 58 of the Victorian Planning Provisions contains requirements for deep soil planting. However, this is not sufficient to achieve the tree canopy cover target, nor does it apply to non-residential development.

What is happening now in Box Hill?

Within the Structure Plan Area, high-rise buildings are within a podium-tower typology and provide a high-rise living. These new developments are typically large floor plates which don't provide landscape setbacks or canopy trees.

The low-rise areas provide dwellings with a high internal amenity and good tree canopy cover, but they don't provide the level of density required to accommodate the level of growth envisaged for the area.

Alignment with SRL Urban Design Framework:

Design Direction 8 will help to achieve the following SRL urban design objectives (see Section 2.3):

- Objective UD1.1 Legacy
- Objective UD1.2 Future ready
- Objective UD1.3 Resilient
- Objective UD1.4 Environmentally sustainable
- Objective UD5.2 Responsive
- Objective UD5.3 Sensitive
- Objective UD5.5 Quality design

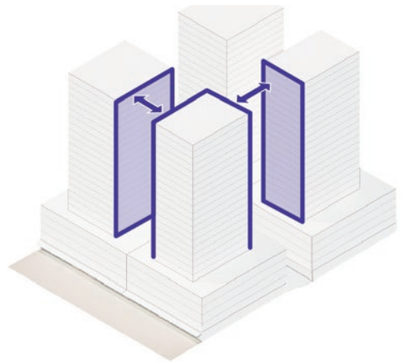
How can this direction be achieved in Box Hill?

Strategy BF10: Tower separation B

Ensure reasonable internal amenity and equitable development opportunities through side and rear tower setbacks.

Maintaining good internal amenity in towers requires consideration of access to daylight, outlook and overlooking. Ensuring appropriate upper level setbacks will help to achieve good internal amenity while maintaining equitable development opportunities of neighbouring lots.

Towers should be separated to avoid the need for privacy screening, and to ensure reasonable visual amenity and daylight. This separation should increase with the height of the towers.



Strategy BF11: Building orientation

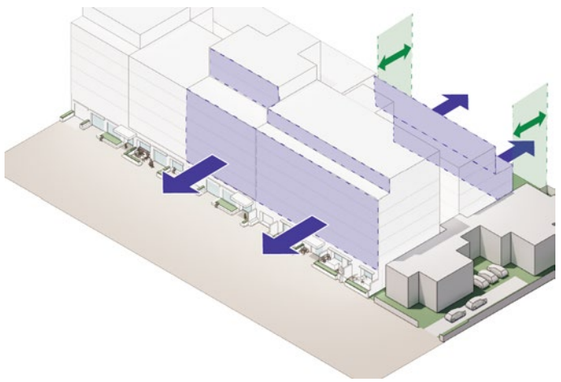
Encourage development to face the street and the rear of the property, and require generous rear setbacks.

In order to maximise internal amenity including access to daylight, outlook and privacy, habitable rooms (living, kitchen, dining, primary bedroom) should be orientated to the street or rear, and incorporate generous rear setbacks.

This helps to optimise development, as a wall without a window or balcony can be built to the side boundaries.

Additionally, to maximise internal amenity and maintain equitable development, the primary outlook of a dwelling should be adequately setback from the side boundary. A primary outlook is defined as a balcony or habitable room window.

Where lower rise residential building typologies are envisaged, buildings should be designed to provide appropriate space between dwellings in order to maximise internal amenity whilst providing for density within a landscaped setting. However, apartments and townhouses should still maximise primary orientation towards the street and rear boundary.



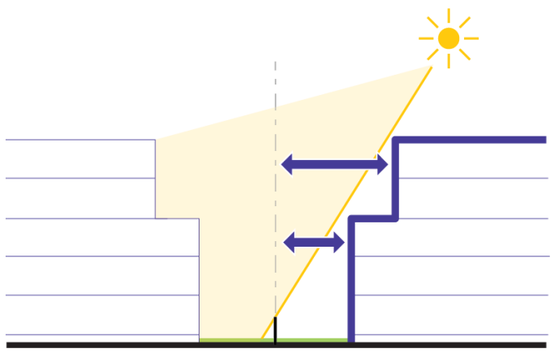
Strategy BF12: Rear amenity plane

Require rear setbacks to maintain good amenity in neighbouring properties.

Upper level setbacks should be established which ensure the appropriate protection of sunlight and daylight access and limit visual bulk to neighbouring properties.

The number of hours on the September equinox during which solar access to private open space should be maintained, should be consistent with Clause 55 of the Victorian Planning Provisions where the affected property is outside the Structure Plan Area (5 hours), gradually reducing as development increases in density towards the centre, to reflect the different balance between intensification and environmental amenity.

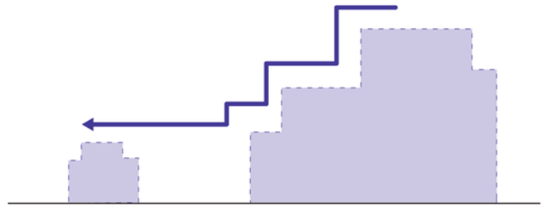
In contrast, upper levels should only be required to be set back from side boundaries in Residential Neighbourhoods sufficiently to maintain reasonable daylight, and solar access to neighbouring ground floor dwellings or recessed terraces at the desired side setback in Garden Apartment buildings. This reflects the proposed urban morphology in which primary open spaces are generally sited at the rear of lots, rather than to the side, to enable efficient development of single lots.



Strategy BF13: Transition

Transition building heights at the interface between taller and lower built form areas.

Buildings heights should step down from a higher area to a lower area to manage amenity impacts.

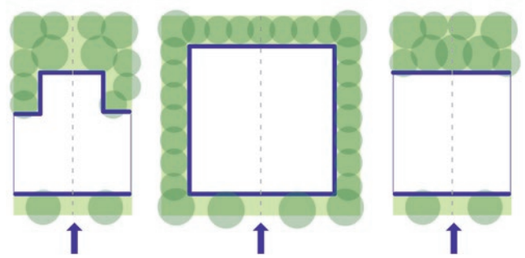


Strategy BF14: On-site landscaping

Encourage landscaping and canopy trees as part of new development, outside the Central Core.

Landscaping and canopy trees should be encouraged across all non-core areas, to enhance canopy cover, buffer built form transitions and contribute to outlook from dwellings.

However, the provision of on-site open space for trees is in competition with the aspiration for intensification, particularly given the preference for mid-rise development types. Therefore, the greatest opportunity for tree canopy cover is in the outer areas of the Structure Plan Area, where there is less aspiration for intensification.

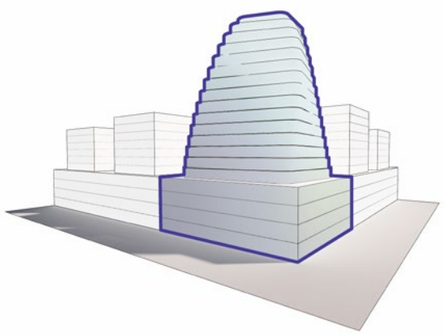


Strategy BF15: Landmark buildings

Encourage taller buildings to mark key locations in the urban structure.

Landmarks are natural or built elements that stand out from their surroundings. They contribute to the legibility of an area by creating memorable incidents on a journey through it. Built landmarks can be formed by a particularly notable use, such as a library, a distinctive design, or greater height than their surroundings.

In order to reinforce the legibility of the area, landmark buildings should be encouraged at key points in the urban structure, such as station entries, major intersections and gateways or entries to key places. In the absence of a notable use, landmarks can be created by greater height and lesser setbacks than those of the surrounding buildings. However, greater height should be complemented by a higher level of design excellence.



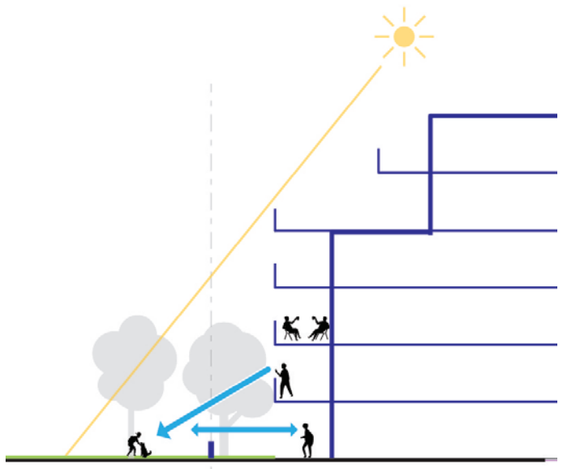
Strategy BF16: Public open space interface

Ensure buildings with an interface to public open space provide passive surveillance and a well-designed building profile.

Building facades facing public open space, including those abutting a public open space on a rear or side boundary, should balance privacy and activation through a generous, landscaped setback combined with windows and balconies.

These interfaces should be designed to maximise passive surveillance on the open space without privatising it and avoid unreasonable overshadowing of the open space. This includes orienting ground-floor active uses, communal spaces, habitable rooms and balconies towards the open space, ensuring fence design and height retain visual links to the open space, and providing a gate to access the open space.

Building facades facing open space are highly visible from the public realm. Therefore, it is important that they have visual appeal and a legible composition. For example, by avoiding multiple setbacks of the upper levels (e.g. a ‘wedding cake’ effect) and avoiding visible blank exposed walls.



5.3 Built Form Framework

Preferred building heights

Figure 5.2 shows the distribution of preferred maximum heights and street wall heights across the Structure Plan Area.

These heights have been developed by applying the preferred form of development to each urban form area and considering specific interface conditions. They are further explained in Section 6.

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Existing rail line
- Structure Plan Area
- Landmark buildings, which may exceed the maximum height by 20 per cent, and have lesser or no tower street setbacks, provided wind effects are managed and they achieve design excellence as supported by independent design review or a design competition that endorses the proposed design (see Strategy BF15)
- In addition to the preferred heights and setbacks, surrounding development should consider solar access to the public realm. Refer to overshadowing guidelines in Section 6

Preferred maximum building heights

- 133 metres (34 to 40 storeys)
- 85 metres (22 to 25 storeys)
- 52 metres (13 to 15 storeys)
- 49 metres (12 to 14 storeys)
- 36 metres (9 to 10 storeys)
- 27 metres (7 to 8 storeys)
- 24 metres (6 to 7 storeys)
- 21 metres (5 to 6 storeys)
- 14 metres (4 storeys)

Preferred maximum street wall heights

- 23 metres (5 to 6 storeys)
- 21 metres (5 to 6 storeys)
- 17 metres (4 storeys)
- 14 metres (4 storeys)
- 11 to 12 metres (3 storeys)

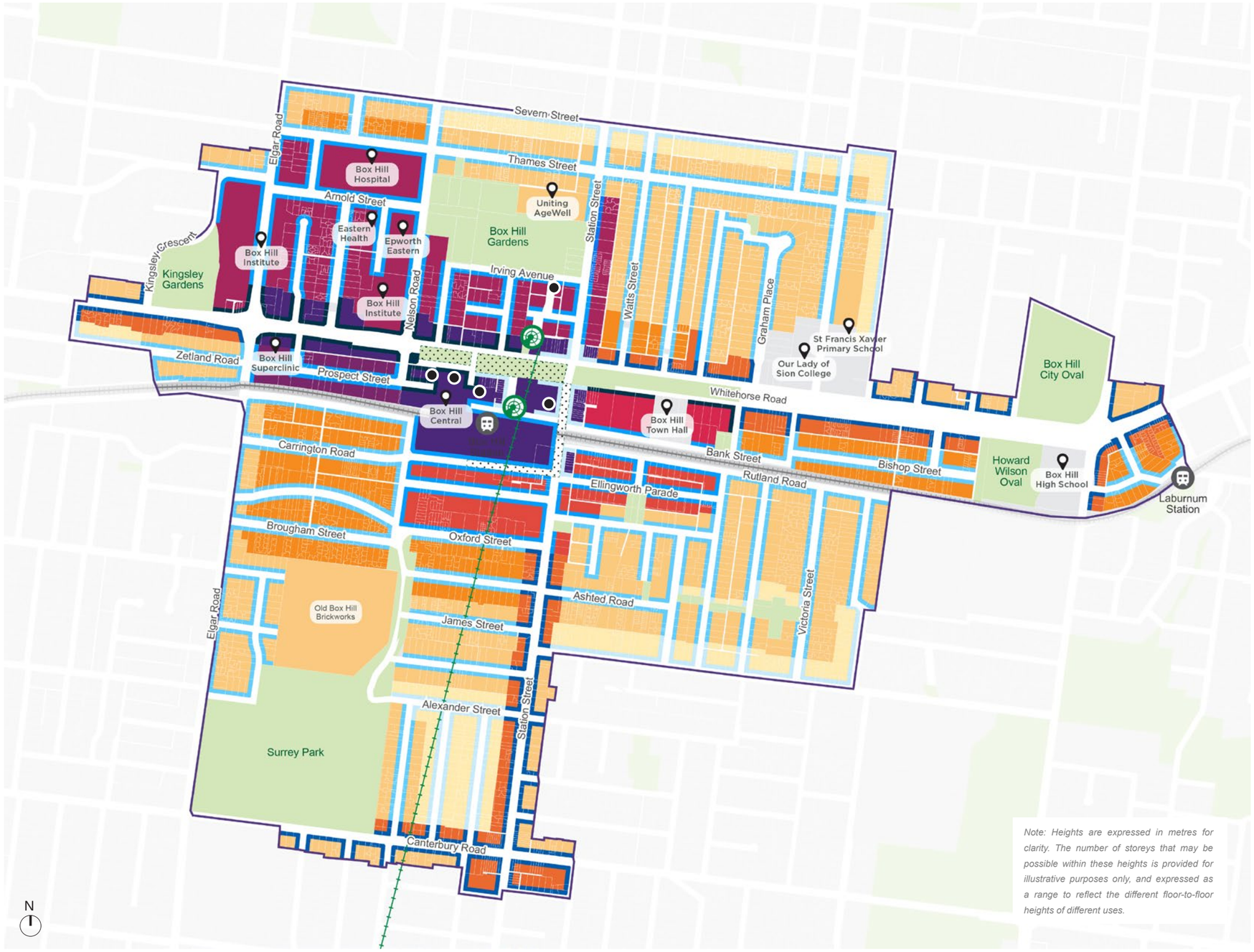


Figure 5.2: Preferred heights

Preferred street frontage types and setbacks

Figure 5.3 shows the preferred street frontage types and setbacks throughout the Structure Plan Area, in accordance with Strategy BF8: Active interfaces.

These have been developed by applying the built form strategies to each street, taking account of the desired role and function of each urban form area. They are further explained in Section 6.

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Existing rail line
- Structure Plan Area
- Key link (new) - flexible
- Key link (new) - fixed

Front setbacks

- Zero setback
- Match the prevailing building line
- 2-metre setback
- 2-metre setback at ground level only
- 3-metre setback
- 4-metre setback

Interfaces

- Highly-active frontage
- Moderately-active frontage
- Indicative link interface

Note: Where a building abuts an open space, additional setback controls apply. See Section 6 for further information.

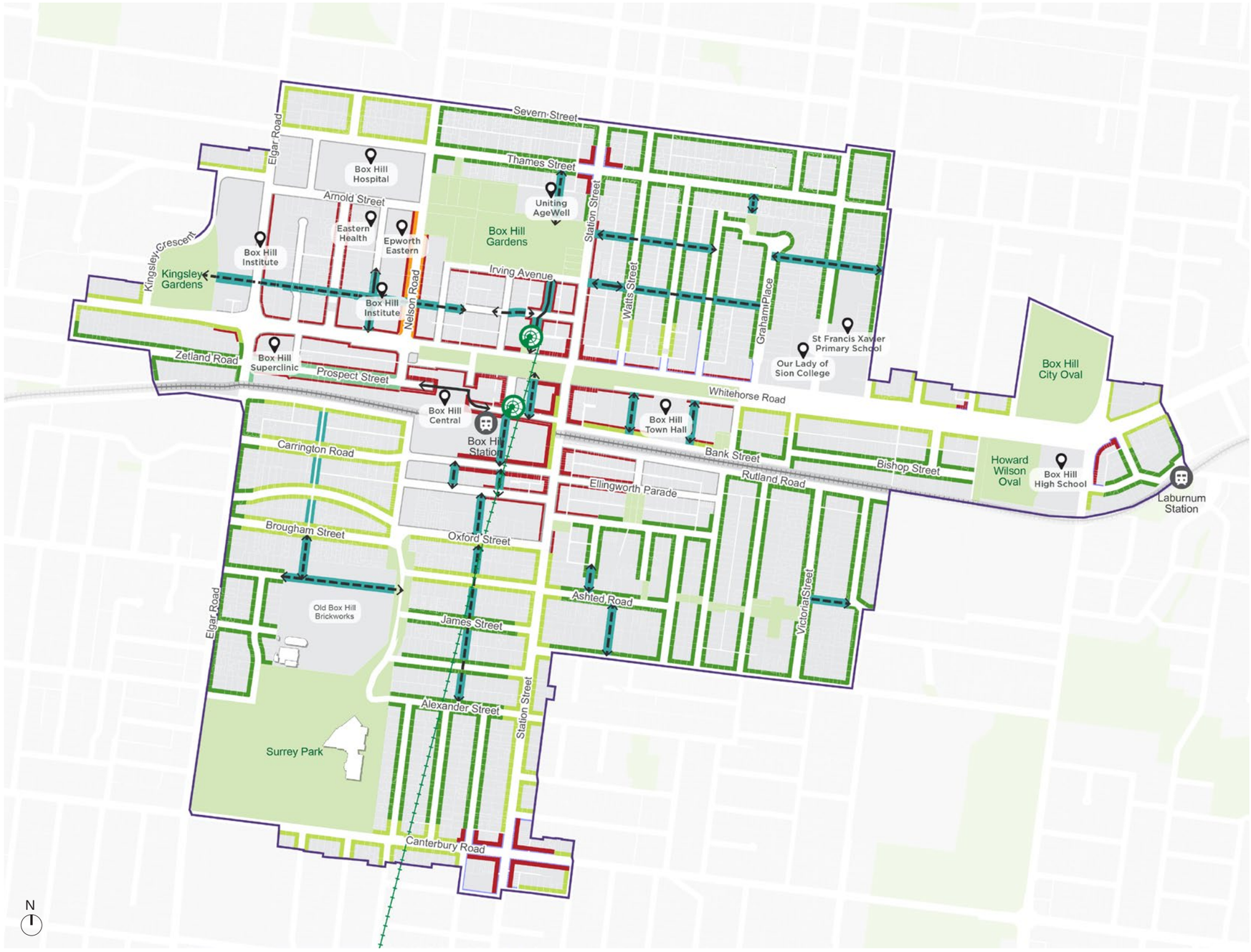


Figure 5.3: Preferred street frontage types and setbacks

Preferred side, rear and front upper level setbacks

This plan illustrates the distribution of side, rear and front upper level setbacks throughout the Structure Plan Area.

These were developed by applying the preferred forms of development and built form strategies to each urban form area. They are explained in Section 6.

In addition to the setbacks summarised below, overshadowing provisions are proposed to protect solar access to neighbouring properties. These are outlined in Section 6.

Figure 5.4: Preferred side and rear setbacks

Setbacks

	Side and rear - podium	Zero or 4.5 metres (primary outlook) [1]
	Side and rear - tower	4.5 metres for towers up to a height of 27 metres 6 metres for towers up to a height of 41 metres 7.5 metres for towers up to a height of 66 metres 10 metres for towers higher than 66 metres 12.5 metres for towers higher than 100 metres
	Front - upper level	5 metres from podium facade up to a height of 66 metres 7.5 metres from podium facade for height above 66 metres
	Side - podium	Zero or 4.5 metres (primary outlook) [1]
	Side - tower	4.5 metres for towers up to a height of 27 metres 6 metres for towers up to a height of 41 metres 7.5 metres for towers higher than 41 metres
	Rear - podium and tower	6 metres landscaped
	Rear - podium and tower at interface with Key Movement Corridors, Urban Neighbourhoods or Residential Neighbourhoods	Additional 0.6 metres per metre of height above 17m
	Front - upper level (general)	3 metres from podium facade plus 0.6 metres per metre of height above 33 metres
	Front - upper level (north side of east-west streets)	3 metres from podium facade plus 0.8 metres per metre of height above 23 metres
	Side	Zero or 4.5 metres (primary outlook) [1] [2]
	Rear	6 metres landscaped plus 0.7 metres per metre of height above 11 metres [2]
	Front - upper level	4 metres above 21 metres
	Side	Zero or 4.5 metres (primary outlook) [1]
	Rear	6 metres landscaped plus 0.7 metres per metre of height above 11 metres
	Front - upper level	Additional setback above 14 metres to remain below a 45° plane from opposite street boundary
	Side - lots equal or greater than 24 metres wide	4.5 metres landscaped plus 0.8 metre per metre of height above 14 metres [2]
	Side - lots less than 24 metres wide, front half of the site	Zero up to a height of 6.9 metres [2] 2 metres above heights of 6.9 metres
	Side - lots less than 24 metres wide, rear half of the site	2 metres plus 1 metre per metre of height above 6.9m [2]
	Rear	6 metres landscaped plus 0.7 metres per metre of height above 11 metres [2]
	Front - upper level	0.5 metres per metre above street wall
	Strategic Sites - require bespoke planning controls to provide direction on their future development.	

1. *4.5 metres applies to the parts of the building that provide a primary outlook to the rear and side boundaries. If interfacing with side/rear service lanes, the setback is measured from the centre of the laneway.*
2. *Setback standard does not apply to existing small retail strips in this area - refer to Section 6 for existing small retail strips setbacks.*
3. *Where a building abuts an open space, additional setback controls apply. See Section 6 for further information.*

6 Outcomes

AJM
Joint Venture

6.1 Introduction

This section sets out urban form and public realm initiatives to achieve the Vision for Box Hill.

Initiatives are set out for each place type. An examination of each place interface is provided, and the urban development typology testing method is summarised.

The urban form and public realm initiatives are informed by the analysis provided in the Appendices, and the best practice urban development and public realm typologies research in SRL East Structure Plan - Urban Design Supporting Research - Attachment A.

Place types

Place types have been derived by grouping urban form areas, as described in Section 4, into six categories as shown in Figure 6.1.

Preferred development has been identified for each place type, based on the urban form strategies. The place types are illustrated here and explored more in sections 6.2 to 6.7.

For each place type, this section presents:

- Existing conditions and key drivers
- A summary of the built form and public realm outcomes
- Cross-sections combining the typical building and public realm profile
- Cross-sections of specific places, particularly where there is a variation to the standard developmet type proposed to achieve the desired public realm outcome.

Legend

- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Strategic Sites - station development area
- Civic areas - Victorian or local government or institutional land not envisaged for substantial change.
- Sensitive areas

Place types

- Central Core
- Central Flanks
- Key Movement Corridors
- Urban Neighbourhoods
- Strategic Sites
- Residential Neighbourhoods

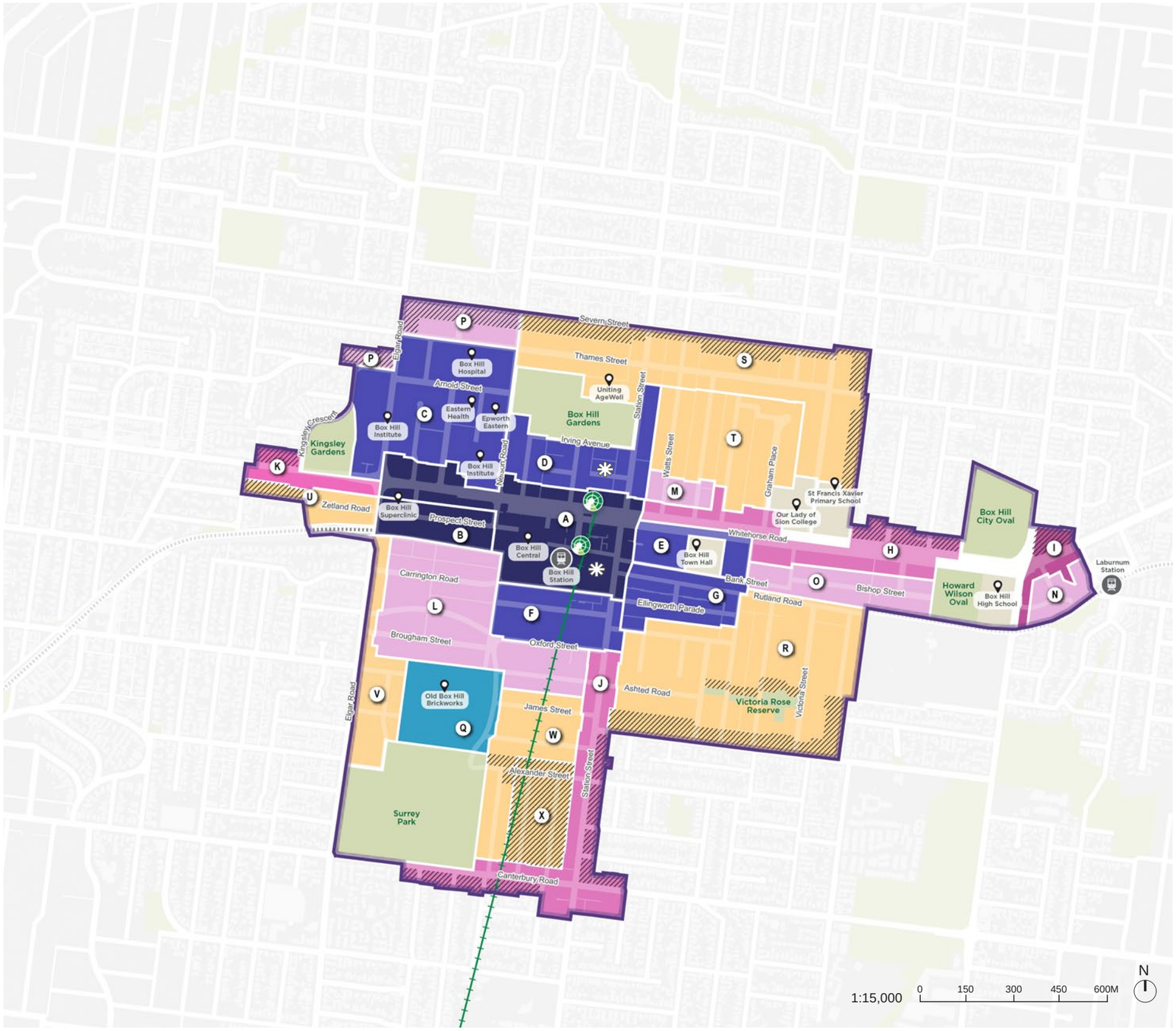


Figure 6.1: Place types

6.2 Central Core

The core of the Structure Plan Area

The urban form areas identified as belonging to this place type include:

- A - Core Area
- B - Prospect Street.

Refer to Section 4.5 for a detailed description of this urban form area.

Figure 6.2: Key map - Central Core

Future role and function

Substantial change of built form, delivering mixed-use neighbourhoods which provide space for jobs growth and local services

The Central Core will provide the greatest accessibility to jobs and services from the SRL catchment. It is where the level of intensification and provision of jobs and services should be highest.

Some residential floorspace should be provided to ensure that the core is vibrant outside business hours.

Future drivers

Recognise existing moderate to high level of intensification

The Central Core is already developed to a higher intensity than the remainder of the Structure Plan Area. Future development should complement this more intense urban form character, providing housing and employment opportunities within a high-amenity area.

High level of activation to the street

The Central Core is where the highest level of pedestrian activity will occur as a result of its intensity of development and people accessing public transport, jobs and services. This includes activity in the evening and weekends. It is critical that a high level of activation is provided to ensure safety, consistent with the SRL Urban Design Objectives: Activation and Safer design.

Maintain solar amenity to key public spaces

Solar access remains important in the Central Core. However, the desire for intensification means that solar access is only prioritised to the key public spaces.

Future urban form

The Central Core is proposed to have a fine-grain network of highly pedestrianised Activity Streets providing optimised permeability surrounding the station entries, and supporting retail and hospitality activities. Whitehorse Road will be transformed into a high-amenity Boulevard and enhanced linear public space for active transport, place-making and recreation in heart of Box Hill. Public realm improvements will include enhancements to Market and Main Streets and a new high-amenity connection between Main Street and Prospect Street. A new pedestrian a cycle bridge between Nelson Road and Thurston Street will facilitate pedestrian connections of the existing rail line.

The existing heritage street walls along Whitehorse Road and Station Street will be complemented through appropriate upper levels and facade composition and articulation that complements the streetscape character.

The Central Core will continue to provide the majority of the Structure Plan Area's retail activity, along with high-density employment and housing in the form of high-rise buildings while maintaining an activated and continuous street wall. Towers will be set back above the street wall and well separated from each other to ensure good amenity in the public realm and neighbouring buildings.

On the western side of Station Street, between Whitehorse Road and the existing rail line, built form will be set back to create a widened, high-quality public realm for pedestrian movement and public life.

Figure 6.3: Examples of the form of development envisaged for the Central Core.

Built form outcomes

The development type recommended in the Central Core is the podium-tower. Medium to high-rise towers in the form of podium-tower buildings can deliver the significant level of intensification envisaged for the activity centre. Smaller lots will require lot amalgamation to enable the development of podium-tower buildings.

Provided it is well designed, the podium-tower format provides for a street-edge scale that facilitates good public realm amenity in terms of human scale, sky views, sun and wind conditions, and complements the existing character. Best practice podium-tower design includes active street facades with any above-ground car parking 'sleeved' behind other uses, and well-separated towers with generous setbacks.

A mix of uses is necessary to deliver the desired vibrancy and activation. The podium-tower format enables a range of retail types in the podium and office and/or residential uses above.

Building height and density

The maximum building height has been determined based on:

- The importance of the Central Core in terms of its envisaged provision of jobs and retail floorspace, which should be expressed by building scale
- The number of rail lines serving the Central Core area, which is an indicator of its public transport accessibility and consequent suitability for growth
- The width of abutting roads, which influence the capacity of the public realm to accommodate height without unreasonable amenity impacts
- Emerging built form character, which new development should complement.

The Central Core has a well-established emerging character of high-rise podium-tower buildings reaching heights in the order of 85 to 133 metres (25 to 40 storeys).

It is considered appropriate to enable future development to reinforce this emerging character, provided good amenity outcomes are ensured through appropriate setbacks.

Based on testing of a 34 to 40-storey building with appropriate building setbacks on a property of typical dimensions, it is envisaged that a density of approximately 13:1 can be achieved. This is illustrated in SRL East Structure Plan - Urban Design Supporting Research - Attachment A.

Street wall height

The following street wall heights are proposed:

- A minimum street wall height of 12 metres (3 storeys) to ensure that the public realm is well framed
- A maximum street wall height of 12 metres in areas of valued character, such as the intersection of Whitehorse Road and Station Street, in keeping with existing built form
- A maximum street wall height of 23 metres (5 to 6 storeys) along Whitehorse Road
- A maximum street wall height of 17 metres (4 storeys) in all other areas to maintain a reasonable level of openness and solar access in the public realm in accordance with Strategy BF2: Podiums.

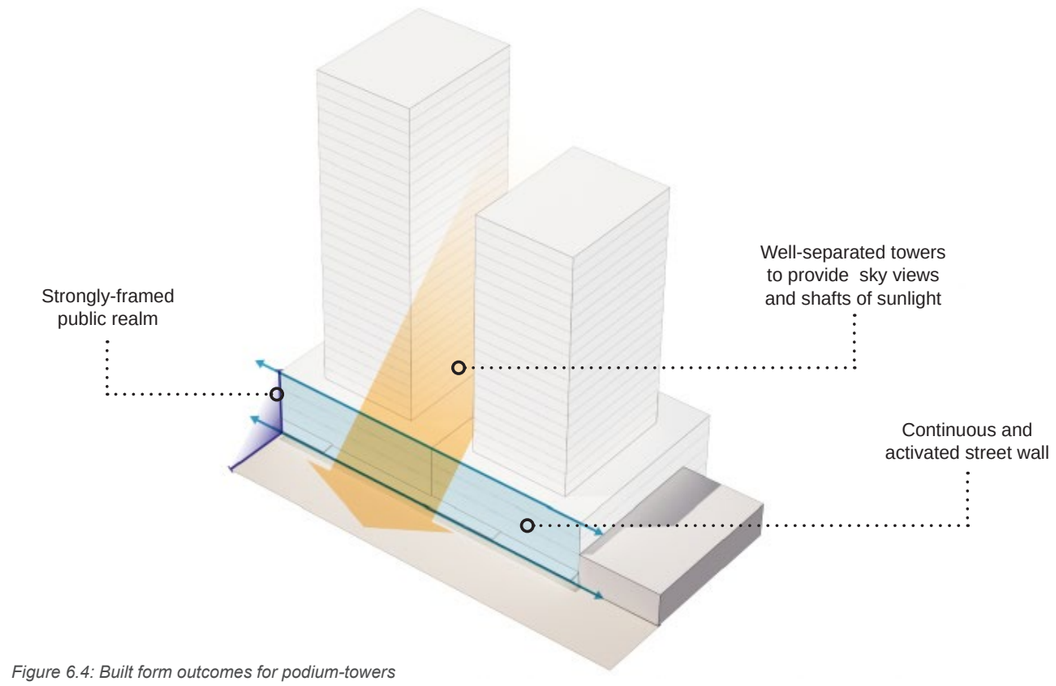


Figure 6.4: Built form outcomes for podium-towers

Building setbacks

The following minimum setbacks are proposed:

Podium

- Generally, a zero street setback to frame the public realm and support public realm activation, in accordance with Strategies BF2: Podiums and BF7: Engaging facades. In selected locations, a front setback is proposed for various reasons. These are described on page 71
- A 3-metre street setback on the western side of Station Street, between Whitehorse Road and Carrington Road to provide for increased pedestrian amenity, in accordance with Strategy BF4: Footpath widening
- A 2-metre, landscaped street setback on Prospect Street, in keeping with the existing streetscape character and in accordance with Strategy BF14: On-site landscaping
- Zero side and rear setbacks where there is no primary outlook
- A 4.5-metre side and rear setback where there is a primary outlook. Wherever applicable, side and rear setbacks should be measured from the centreline of an adjoining laneway.

Tower

- Front setbacks above podium of:
  - 5 metres up to height of 66 metres (17 to 20 storeys)
  - 7.5 metres above a height of 66 metres
- Front tower setbacks are designed to distinguish towers from the street wall, maintain a sense of openness and manage wind effects, in accordance with Strategies BF2: Podiums and BF3: Weather protection. This may be relaxed on Whitehorse Road given its broad width, provided the towers are distinguished and wind effects managed in some other way. It may also be relaxed on the intersection of two major streets to express the urban structure, provided wind effects are managed.
- Side and rear setbacks of:
  - 4.5 metres for towers up to a height of 27 metres
  - 6 metres for towers up to a height of 41 metres
  - 7.5 metres for towers up to a height of 66 metres
  - 10 metres for towers up to a height of 100 metres
  - 12.5 metres for towers higher than 100 metres
- Side and rear setbacks are designed to maintain a sense of openness and sky views, allow solar access to the public realm, ensure reasonable amenity for tower occupants and to maintain equitable development opportunities for neighbouring properties, in accordance with Strategies BF1: Tower separation and BF2: Podiums.
- For all floor levels above the height of the street wall where the building exceeds a height of 41m, a maximum tower floorplate of 900 square metres for residential uses and 1,350 square metres for office uses.

Building separation

Within a site, buildings should be separated by a minimum of:

- 9 metres for towers up to a height of 27 metres
- 12 metres for towers up to a height of 41 metres
- 15 metres for towers up to a height of 66 metres
- 20 metres for towers up to a height of 100 metres
- 25 metres for towers higher than 100 metres.

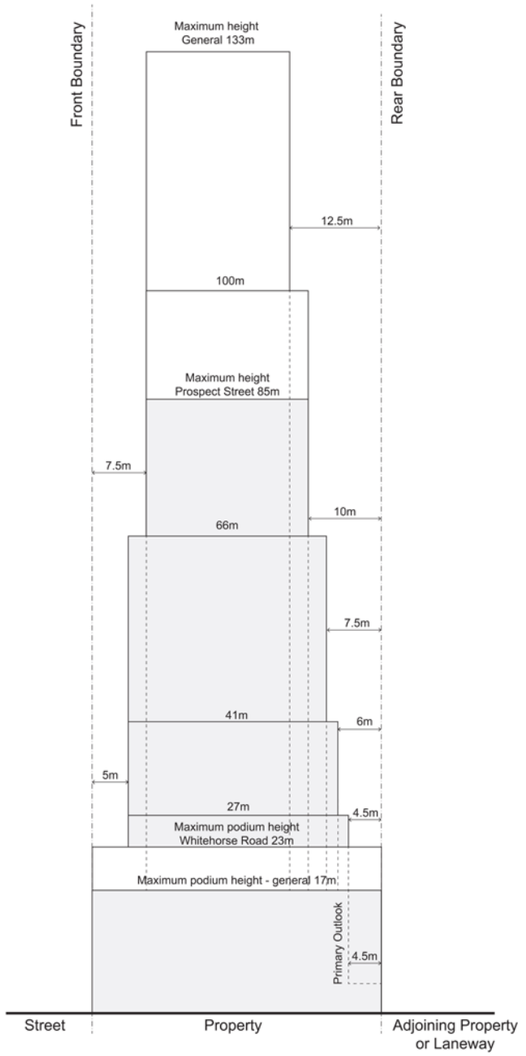


Figure 6.5: Built form outcomes - front and rear boundaries

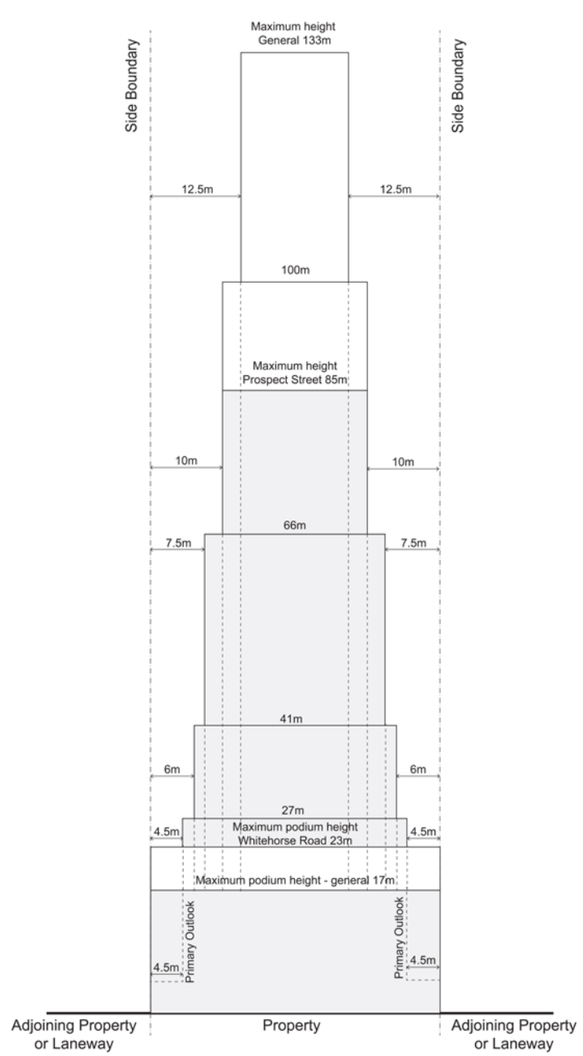


Figure 6.6: Built form outcomes - side boundaries

Overshadowing

The Whitehorse Road Linear Reserve is intended to be the primary gathering space for the Structure Plan Area. It warrants the highest level of solar access protection. However, this conflicts with the urban form aspirations for the north side of Whitehorse Road where the SRL station is located. As this is a large space, a smaller percentage of the open space still represents a relatively large area, and a lower percentage of sunlit space is offset by the availability of a sunny park only a short distance to the north in Box Hill Gardens. Therefore, it is proposed that development along the northern interface of Whitehorse Road, between Station Street and Nelson Road, should provide solar access to 50 per cent of the open space for a minimum of 3 hours at the spring equinox.

Activity Streets are intended to support the highest level of street life. However, they are also where development is most intense, in response to the accessibility created by the SRL station. A balance needs to be struck between ensuring solar access and providing for growth. In response, it is proposed that development should maintain solar access to 50 per cent of the southern, eastern or western footpaths of Activity Streets for a minimum of 3 hours at the spring equinox. Exceptions to this are Main Street and Market Street, where no solar access standard is recommended, given the availability of sunny streets and public open spaces nearby.

No solar access standard is recommended for small open spaces in the Central Core as this would unreasonably constrain the provision for growth, particularly given opportunities for solar access to the new Ellingworth Parade open space and the Whitehorse Road linear reserve nearby. These spaces include:

- Main Street / Prospect Street Plaza (Box Hill Vicinity redevelopment)
- Critical key link (new) - Whitehorse Road to Irving Avenue.

Summary of built form outcomes

The built form outcomes for the podium-tower development type are summarised below.

Building height and density	
Maximum height - general	133 metres (34 to 40 storeys)
Maximum height - Prospect St	85 metres (22 to 25 storeys)
Maximum density - general	13:1
Maximum density - Prospect St	10:1
Street wall	
Minimum height	12 metres (3 storeys)
Maximum height – valued-character areas	12 metres (3 storeys)
Maximum height – general	17 metres (4 storeys)
Maximum Height - Whitehorse Road	23 metres (5 to 6 storeys)
Activation	High
Building setbacks	
Minimum street - podium - general	Zero
Minimum street - podium - western side of Station Street, between Whitehorse Road and Carrington Road	3 metres
Minimum street - podium - Prospect Street	2 metres, landscaped
Minimum street - tower	5 metres from podium facade up to a height of 66 metres 7.5 metres from podium facade for height above 66 metres
Minimum side and rear - podium (non-primary outlook)	Zero
Minimum side and rear - podium (primary outlook)	4.5 metres
Minimum side and rear - tower	4.5 metres for towers up to a height of 27 metres 6 metres for towers up to a height of 41 metres 7.5 metres for towers up to a height of 66 metres 10 metres for towers up to a height of 100 metres 12.5 metres for towers higher than 100 metres
All floor levels above the height of the street wall where the building exceeds a height of 41m	900 square metres for residential uses 1,350 square metres for office uses
Building separation	
Minimum building separation within a site	9 metres for towers up to a height of 27 metres 12 metres for towers up to a height of 41 metres 15 metres for towers up to a height of 66 metres 20 metres for towers up to a height of 100 metres 25 metres for towers higher than 100 metres

Public realm outcomes

The Public Realm Framework identifies the future aspiration for the public realm in the Central Core. Achieving this aspiration relies on development and public realm projects that vary in scale and importance as outlined below.

SRL Rail and Infrastructure

Public realm elements of SRL works.

- Open space (new) - Whitehorse Road linear public space
- Critical key link (new) - fixed
- Activity Streets
- Whitehorse Road transformation (part) - Boulevard
- New or upgraded pedestrian crossings

Development

Development features creating an accessible and permeable Central Core, as part of Design Direction 2: Promote active transport access.

- Proposed open space - Box Hill Vicinity redevelopment
- Building setback to widen public realm
- Important key link (new) - flexible
- Local key link (new) - flexible

Catalyst public realm projects

These are major public realm interventions with the potential to have a substantial and positive influence on the transformation of the broader area.

- Whitehorse Road upgrades - Boulevard
- New major active transport link

Public realm enhancements

Streets to be considered for enhancements to deliver Design Direction 1: Ensure streets are inviting places that support community life.

- Improvements to Green Streets
- Station Street upgrades - Avenue
- Pedestrian crossings (new or upgraded)

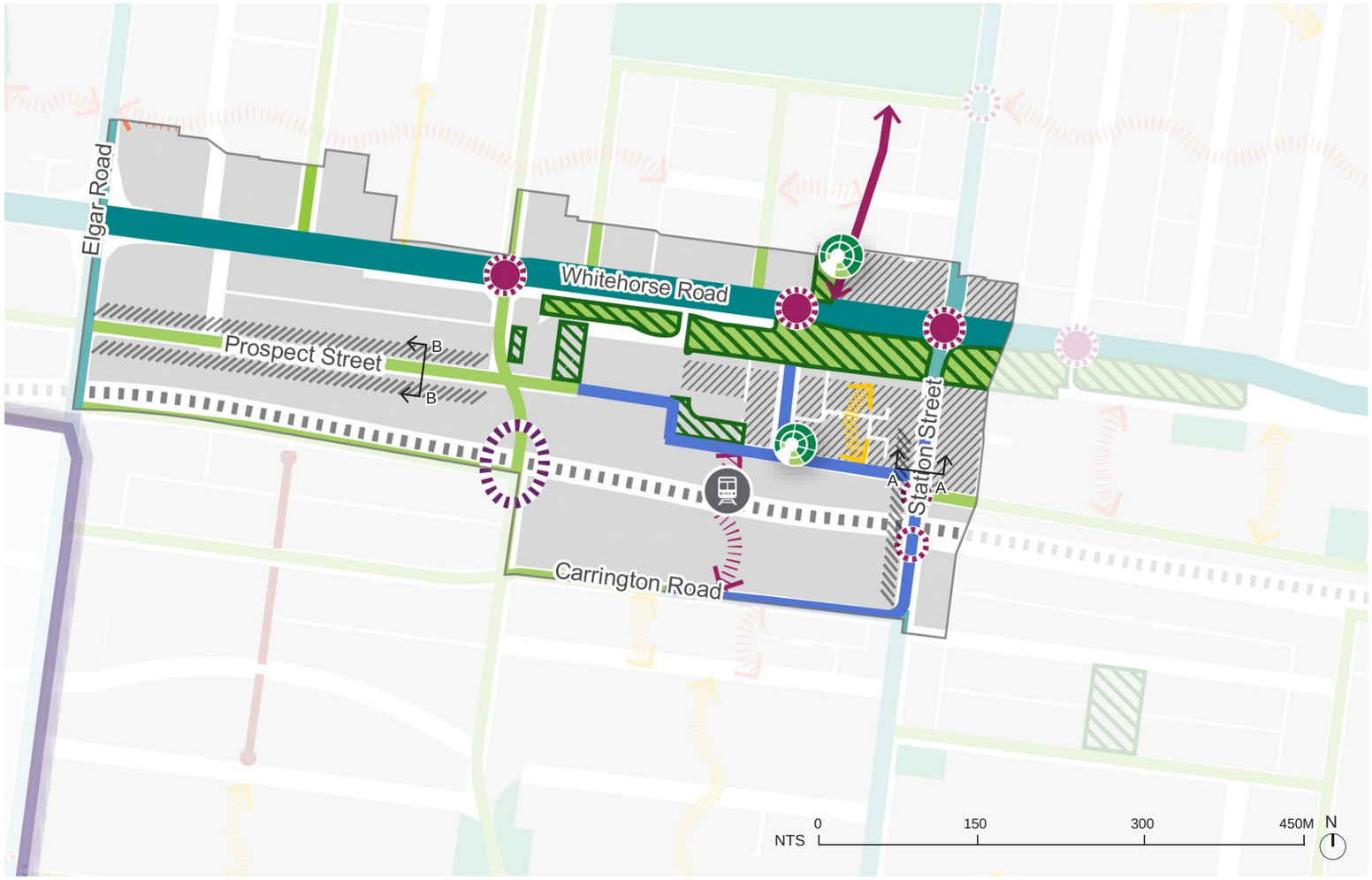


Figure 6.7: Public realm outcomes

Legend

- SRL station
- Existing Box Hill Station
- Structure Plan Area
- Urban form area
- Valued-character area

Typical building and public realm profile

This cross-section of Whitehorse Road (Boulevard street typology) and the linear public space provides an illustration of the potential future built form interface with the public realm in the Central Core.

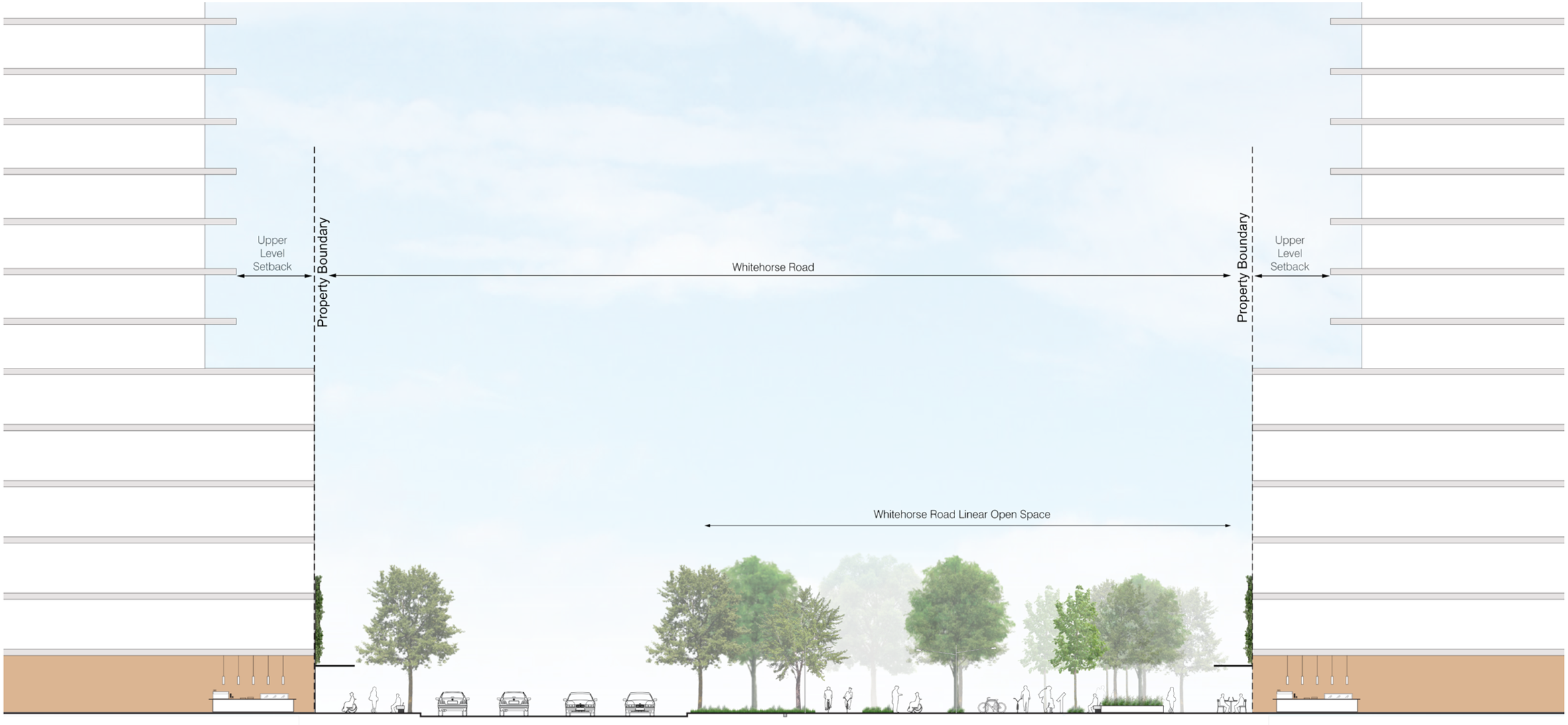


Figure 6.8: Potential section - Whitehorse Road

Special case cross sections:

Streetscape / built form conditions which depart from the general guidance.

Special case - Cross section A:

Station Street between 611 Station Street and Carrington Road

Station Street is 20-metre-wide public transport corridor and is assigned to receive Avenue treatment. In this location, footpaths are approximately 2.5 metres wide, which is considered insufficient, given the development density proposed for this area. Buildings on the west side of Station Street are proposed to be setback 3 metres to provide for increased pedestrian amenity and foot traffic. Given the narrow lot widths and existing valued-character buildings on the eastern side of the street, built form on that side are not proposed to be set back. Preferred street frontages and setbacks are shown in Figure 5.3 in Section 5.

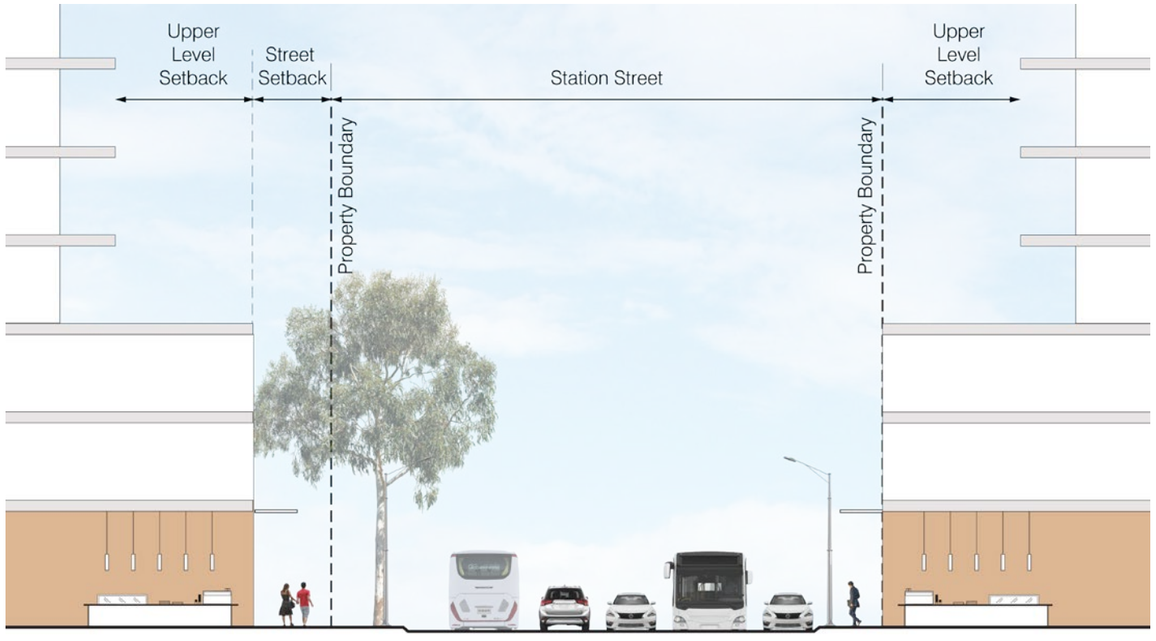


Figure 6.9: Section A - Potential section - Station Street

Special case - Cross section B:

Prospect Street

Prospect Street is a 15-metre-wide street and is defined as a Green Street typology in the Public Realm Framework. In this location, the majority of the buildings present a landscaped street setback, which contributes to the leafy character of the area. In keeping with the existing character, a 2-metre front setback is proposed on both sides of the street to ensure an appropriate level of street enclosure, provide for street activation by outdoor dining and maintain the existing character of landscape. Preferred street frontages and setbacks are shown in Figure 5.3 in Section 5.

Figure 6.10: Section B - Potential section - Prospect Street

6.3 Central Flanks

The remainder of the central areas beyond the Central Core

The urban form areas identified as belonging to this place type include:

- C - Health & Education
- D - Box Hill Gardens
- E - Bank Street
- F - Cambridge Street
- G - Ellingworth Parade.

Refer to Section 4.5 for a detailed description of this urban form area.

Figure 6.11: Key map - Central Flanks

Future role and function

Substantial change of built form providing space for jobs growth, local services and housing surrounding the core

These areas will provide a high level of accessibility to jobs and services within the Central Core, and the next highest level of accessibility to jobs from the SRL catchment after the Central Core. They should provide for substantial growth of jobs and dwellings. However, some of them also lie adjacent to areas of lower intensity. They should have a more moderated level of intensification than the Central Core.

Future drivers

High level of activation to the street

There will be a high level of pedestrian activity in this area as a result of its intensity of development and people accessing public transport, jobs and services in the core. This includes activity in the evening and weekends. It is critical that a high level of activation is provided to ensure safety, consistent with SRL Urban Design Objectives Activation and Safer design.

Maintain sunlight amenity to the public realm

The slightly lesser focus on intensification compared with the Central Core allows for a greater focus on ensuring sunlight in the majority of the public realm, consistent with the SRL Urban Design Objective Amenity.

Recognise existing moderate to high level of intensification (except Urban Form Area E - Banks Street and G - Ellingworth Parade)

These areas are already developed to a higher intensity than the surrounding parts of the Structure Plan Area. Future development should complement this more intense urban form character.

Future urban form

The Central Flanks are proposed to have a fine-grain network of Green Streets and local links, providing inviting pedestrian routes and contributing to urban biodiversity. This includes new strategic links to key destinations such as open spaces. including a high-quality north-south pedestrian promenade connecting the SRL station to Box Hill Gardens.

The Central Flanks will provide high-density employment and housing in the form of mid-rise buildings. These buildings will respond to the emerging mid-rise urban development character, and maintain an activated and continuous street wall. Upper level built form will be setback from the street wall to protect sunlight access to the public realm and neighbouring properties. A zero street setback at podium level will frame the public realm and will support its activation, except in narrow streets, where buildings are proposed to be set back to create a wider footpath.

Figure 6.12: Examples of the form of development envisaged for the Central Flanks.

Built form outcomes

The developmet type recommended in the Central Flanks is the mid-rise podium-tower. This development type delivers high density while maintaining good solar provision to the public realm. This type typically requires a large lot or lot amalgamation.

The zero front setback and lack of side setbacks at the base of the building ensure a highly-activated and strongly-framed public realm. The strong relationship with the street also supports commercial uses at ground and potentially upper levels to provide the desired vibrancy and activation. Best practice design provides for car parking in a basement or 'sleeved' behind other uses.

Behind the street wall, the base of the building is set back from the side and rear boundary to provide space for tree planting. This typology provides a 5 to 10 per cent deep soil area at the sides and rear of the lot.

Above the street wall, the upper levels are setback from all sides to maintain sunlight, sky views and a sense of openness in the public realm. These setbacks also maintain good internal amenity and equitable development opportunities on neighbouring properties.

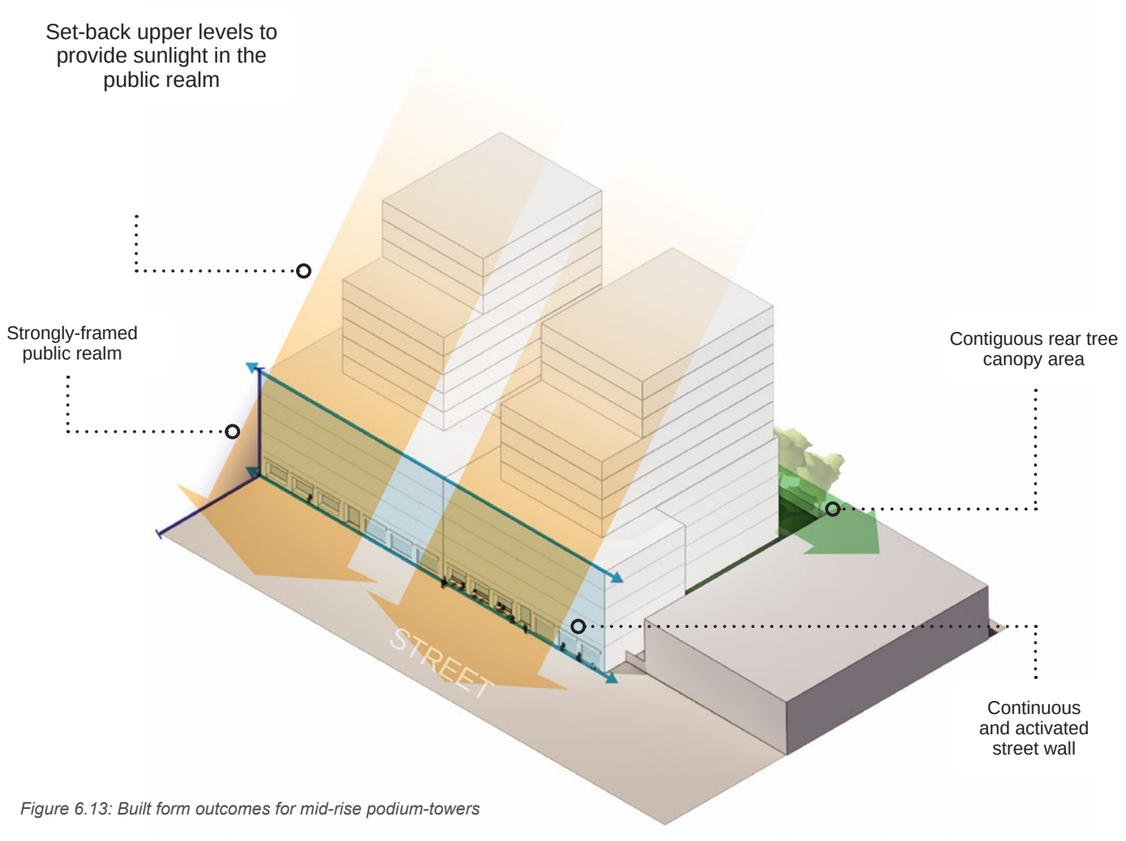


Figure 6.13: Built form outcomes for mid-rise podium-towers

Building height and density

Building heights are determined by the application of a September equinox solar plane to protect sunlight access to either a footpath on the opposite side of the street, or a residential property to the immediate south. This enables taller buildings on deeper lots.

Based on testing of typical property sizes in each urban form area within this place type, it is envisaged that heights of 36 to 52 metres (9 to15 storeys) and a density of approximately 7:1 can be achieved. Testing of mid-rise podium-tower development in typical Central Flanks lots is illustrated in SRL East Structure Plan - Urban Design Supporting Research - Attachment A.

Street wall height

A minimum street wall height of 13 metres (3 storeys) is proposed to ensure that the public realm is well framed, in accordance with Strategy BF2: Podiums. A maximum street wall height of 23 metres (5 to 6 storeys) is recommended for Whitehorse Road, whereas a maximum of 17 metres (4 storeys) is proposed for all other areas.

Building setbacks

The following minimum setbacks are proposed:

Podium

- Generally, a zero street setback to frame the public realm and support public realm activation, in accordance with Strategies BF2: Podiums and BF7: Engaging facades, except where public transport, active transport and street activation are proposed. In these locations, a front setback is proposed to create a more generous pedestrian environment
- A 2-metre setback at ground level only on Nelson Road to provide for footpath widening and street activation, in accordance with Strategies BF2. Podiums, BF3: Weather protection and BF4: Footpath widening
- A 3-metre setback on Bank Street to provide street actvation and protect existing trees
- Zero side setbacks where there is no primary outlook
- A 4.5-metre side setback where there is a primary outlook. Wherever applicable, side setbacks should be measured from the centreline of an adjoining laneway
- A rear setback of 6 metres to provide for canopy trees, in accordance with Strategy BF14: On-site landscaping. It is envisaged that these rear setbacks will combine to create a green spine along the rear of all lots in this place type, establishing valuable habitat and potentially communal amenity.

Tower

- A 3-metre setback front setback from the podium facade, to distinguish towers from the street wall, maintain a sense of openness and manage wind effects, in accordance with Strategies BF2: Podiums and BF3: Weather protection
- An additional front setback of 0.6 metres per metre of height above 33 metres, except 0.8 metres per meter of height above 23 metres on the north side of east-west streets, to maintain a sense of openness and solar access to the opposite footpath
- Side setbacks of:
  - 4.5 metres for towers up to a height of 27 metres
  - 6 metres for towers up to a height of 41 metres
  - 7.5 metres for towers higher than 41 metres
- These setbacks may be measured from the centreline of an adjoining laneway. They are designed to ensure reasonable amenity for tower occupants and to maintain equitable development opportunities for neighbouring properties, in accordance with Strategies BF1: Tower separation and BF2: Podiums
- A rear setback of 6 metres, aligned with podium rear setback
- Where adjacent to the rear boundary of land in a Key Movement Corridor or Urban Neighbourhood, a rear setback of 6 metres plus 0.6 metres per metre of height above 17 metres.

Building separation

Within a site, buildings should be separated by a minimum of:

- 9 metres for towers up to a height of 27 metres
- 12 metres for towers up to a height of 41 metres
- 15 metres for towers above 41 metres.

Overshadowing

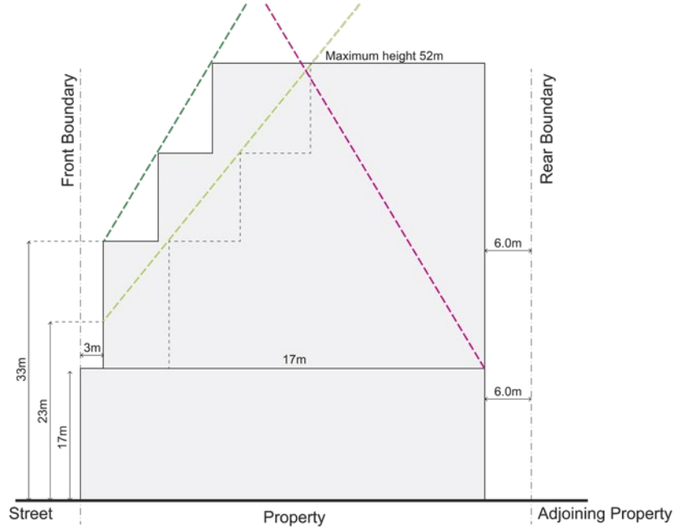
The recommended building scale and massing will achieve the recommended solar access standard to ensure good amenity in the public realm and to complement the existing character of typical streets. The solar access standard recommended will maintain sunlight to southern, eastern and western footpaths in typical streets at the September equinox. This is considered to strike an appropriate balance between solar access and providing for growth.

The building scale and massing recommended at the edges of:

- The new Ellingworth Parade open space will maintain sunlight to more than 75 per cent of the space for a minimum of 3 hours at spring equinox and over 40 per cent in mid-winter
- Kingsley Gardens and Box Hill Town Hall forecourt will maintain sunlight to 70 per cent of the open space for a minimum of 3 hours at mid-winter.

No solar access standard is recommended for Pioneer Park and Linsley Park as this would unreasonably constrain the provision for growth, particularly given opportunities for sun at the Ellingworth Parade open space and the Whitehorse Road linear reserve nearby.

The building scale and massing will also limit additional shadow to private open space in the rear setbacks of properties in Key Movement Corridors, Urban Neighbourhoods and Residential Neighbourhoods.



Additional front setback of 0.6 metres per metre of height above 33 metres

Additional front setback of 0.8 metres per metre of height above 23 metres on the north side of east/west streets

Adjacent Key Movement, Urban Neighbourhood and Residential Nighbourhoods set back additional 0.6 metres per metre per height above 17 metres

Figure 6.14: Built form outcomes - front and rear boundaries

Figure 6.15: Indicative streetscape typical only to illustrate potential outcomes

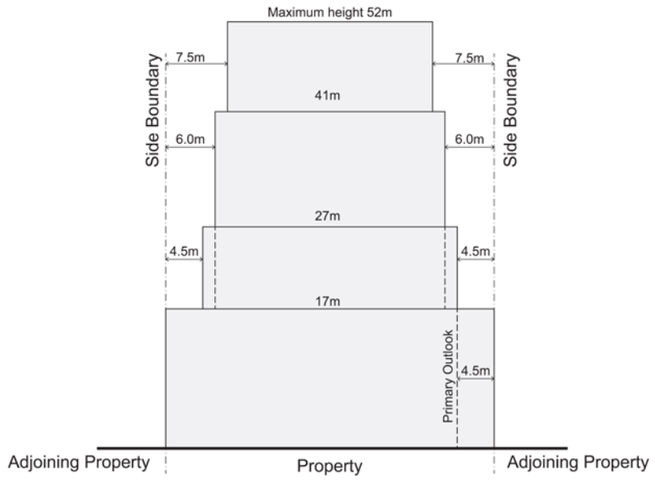


Figure 6.16: Built form outcomes - side boundaries

Summary of built form outcomes

The built form outcomes for the mid-rise podium-tower development type are summarised below.

Building height and density	
Maximum height	36 metres to 52 metres (9 to 15 storeys)
Maximum density	7:1
Activation	High
Street wall	
Minimum height	13 metres (3 storeys)
Maximum height - general	17 metres (4 storeys)
Maximum height - Whitehorse Road	23 metres (5 to 6 storeys)
Building setbacks	
Minimum street - podium - general	Zero
Minimum street - podium - Nelson Road	2 metres at ground level only
Minimum street - podium - Bank Street	3 metres
Minimum street - tower	3 metres from podium facade plus 0.6 metres per metre of height above 33 metres, except 0.8 metres per metre of height above 23 metres on the north side of east-west streets.
Minimum side - podium (non-primary outlook)	Zero
Minimum side - podium (primary outlook)	4.5 metres
Minimum side – tower	4.5 metres for towers up to a height of 27 metres 6 metres for towers up to a height of 41 metres 7.5 metres for towers higher than 41 metres
Rear - podium and tower	6 metres landscaped
Rear - podium and tower at interface with Key Movement Corridors, Urban Neighbourhoods or Residential Neighbourhoods	Additional 0.6 metres per metre of height above 17 metres
Building separation	
Minimum building separation within a site	9 metres for towers up to a height of 27 metres 12 metres for towers up to a height of 41 metres 15 metres for towers higher than 41metres

Public realm outcomes

The Public Realm Framework identifies the future aspiration for the public realm in the Central Flanks. Achieving this aspiration relies on development and public realm projects that vary in scale and importance as outlined below.

SRL Rail and Infrastructure

Public realm elements of SRL works.

- Open space (new) - Whitehorse Road linear public space
- Critical key link (new) - fixed
- New or upgraded pedestrian crossings

Development

Development features creating an accessible and permeable Central Flanks, as part of Design Direction 2: Promote active transport access.

- Important key link (new) - flexible
- Local key link (new) - Fixed
- Local key link (new) - flexible
- Building setback to widen public realm

Key public realm projects

Key projects to create accessible open spaces as part of Design Direction 4: Facilitate outdoor recreation.

- Ellingworth Parade - proposed open space

Public realm enhancements

Streets to be considered for enhancements to deliver Design Direction 1: Ensure streets are inviting places that support community life.

- Improvements to Green Streets
- Elgar Road and Station Street upgrades - Avenue
- Pedestrian crossings (new or upgraded)

Figure 6.17: Public realm outcomes

Legend

- SRL station
- Existing Box Hill Station
- Structure Plan Area
- Urban form area
- Existing open space

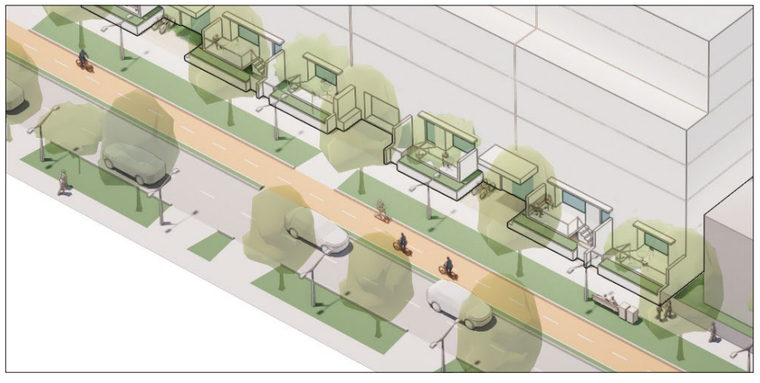


Figure 6.18: Example of a Green Street within an Central Flanks

AJM
Joint Venture

Typical building and public realm profile

This cross-section shows a typical Central Flanks building interfacing with the street to provide an illustration of the future built potential form and public realm outcomes for this area.

Figure 6.19: Potential section - Green Street

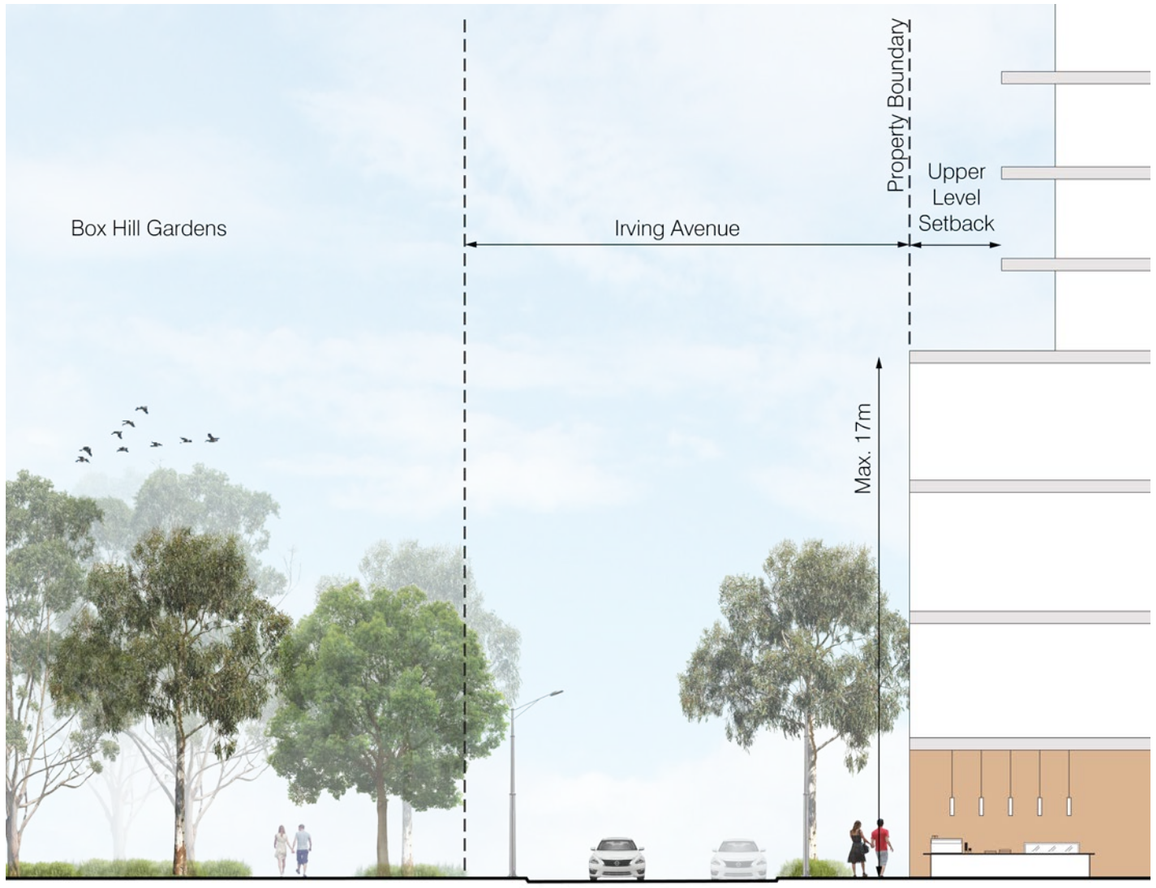


Figure 6.20: Potential section - Irving Avenue

Special case cross sections:

Streetscape / built form conditions which depart from the general guidance.

Special case - Cross section C:

Nelson Road between Whitehorse Road and Arnold Street

Nelson Road is a 20-metre-wide public transport corridor and is defined as a Green Street typology in the Public Realm Framework. In this location, the footpaths are only approximately 1.5m wide, which is considered insufficient given the development density proposed for this area. Considering the spatial requirements for new transport and green infrastructure buildings on both sides of the street are proposed to be setback 2m at ground level only to provide for activation. Preferred street frontages and setbacks are shown in Figure 5.3 in Section 5.

Special case - Cross section D:

Bank Street between Station Street and Linsley Street

Bank Street is a 13.5-metre-wide street and is defined as a Green Street typology in the Public Realm Framework. In this location, footpaths are approximately 2.5m, which is considered insufficient given the development density proposed for this area. Considering the narrow street width, buildings on the northern side of the street are proposed to be setback 3m to provide for increased pedestrian amenity. Preferred street frontages and setbacks are shown in Figure 5.3 in Section 5.

Additionally, part of the proposed public realm interventions, including the footpath cycle lane on southern side of the street, are envisioned to be delivered within the rail corridor (VicTrack land).

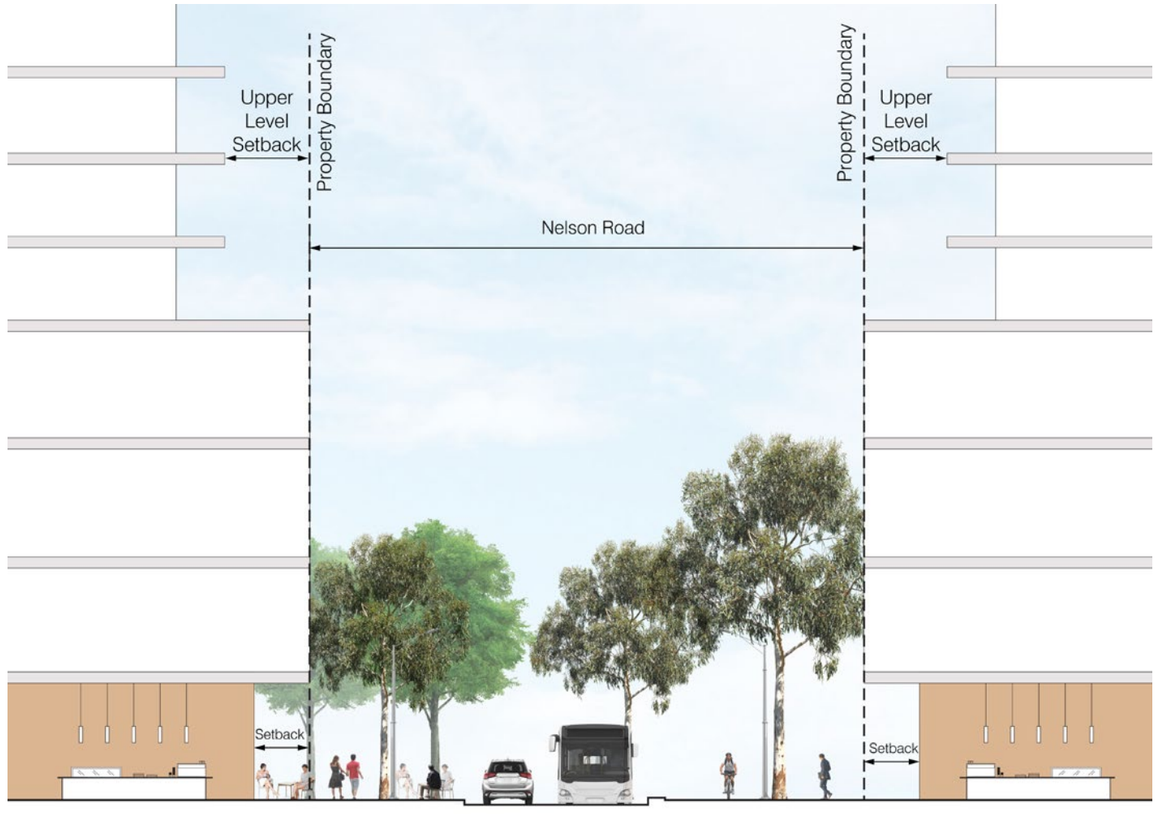


Figure 6.21: Section C - Indicative cross section of Nelson Road

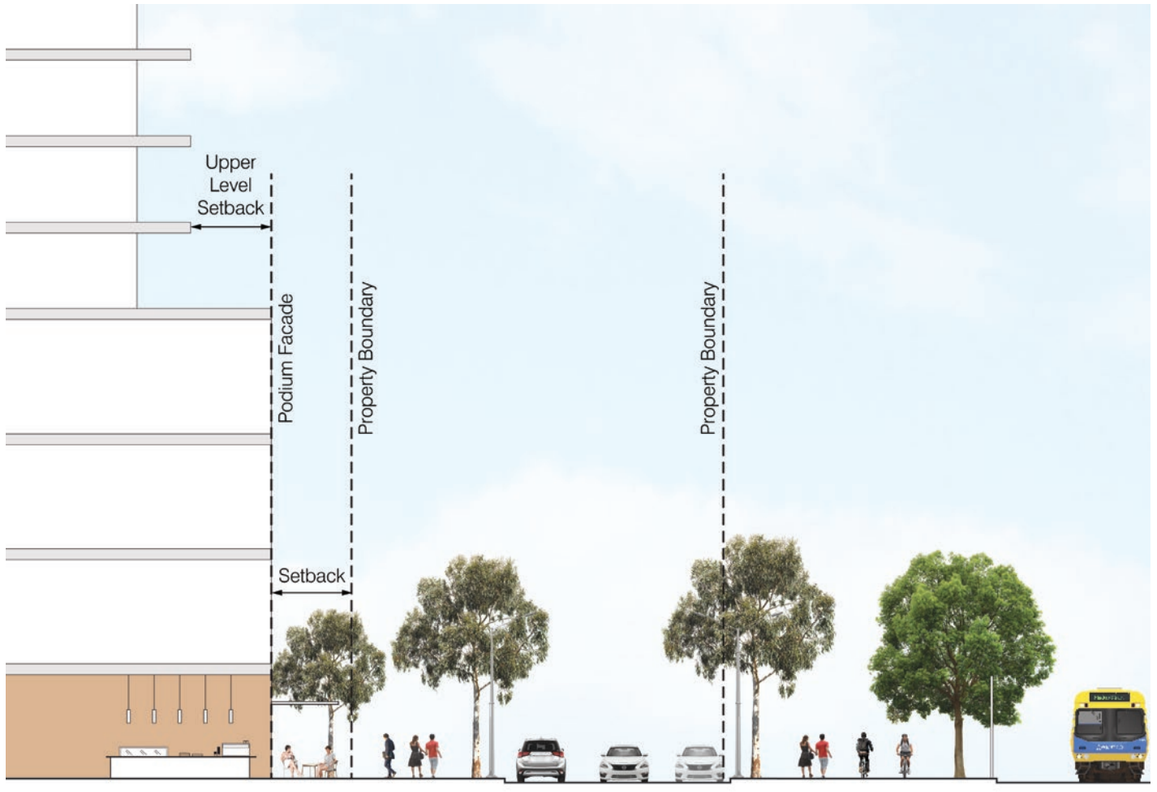


Figure 6.22: Section D - Indicative cross section of Bank Street

6.4 Key Movement Corridors

Main roads

The urban form areas identified as belonging to this place type include:

- H - Whitehorse Road East
- I - North Laburnum
- J - Station Street South
- K - Whitehorse Road West.

Refer to Section 4.5 for a detailed description of this urban form area.

Figure 6.23: Key map - Key Movement Corridors

Future role and function

Substantial change of built form providing space for jobs growth, local services and housing along Key Movement Corridors

These urban form areas are associated with the key street-based movement corridors, being main roads carrying public transport. They offer a high level of accessibility to jobs and services. They are an appropriate location for a higher level of intensification and mixed use to contribute to a new 'boulevard' character.

Future drivers

Balance between openness and enclosure of the street

These urban form areas are outside the core of the Structure Plan Area and generally border the residential hinterland. Their development should seek to deliver moderate growth in a form that gives consideration to amenity and character.

Moderate level of activation to the street (Urban Form Area H - Whitehorse Road East and J - Station Street South)

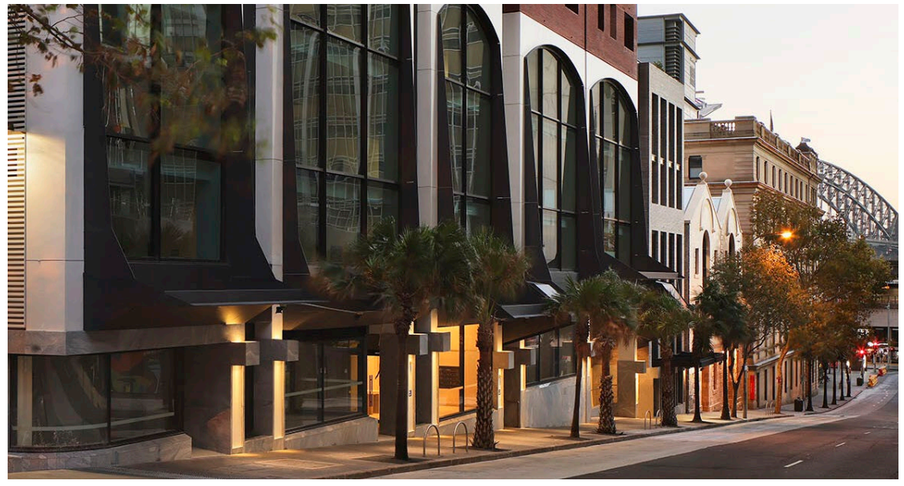
These streets are intended to have commercial activity at ground floor, comprising a mix of retail services, office and showroom uses. There will be a moderate level of pedestrian activity in this area as a result of people walking to these uses. It is critical that a good level of street activation is provided to ensure safety, consistent with SRL Urban Design Objectives: Activation and Safer design.

Future urban form

Whitehorse Road is proposed to become a tree-lined Boulevard, with public transport and activated pedestrian zones supported by placemaking outcomes, and tree canopy. The remaining Key Movement Corridors will become Avenues: wide and tree-lined 'connector' streets that accommodate active and/or public transport with nodes of pedestrian amenity.

The Key Movement Corridors will be lined with mid rise apartment buildings with pockets of mixed use. Upper levels will be setback from the street wall to maintain solar access and a sense of openness in the public realm, while rear setbacks will minimise shadow and visual bulk impacts on neighbouring properties. A modest street setback will maintain definition and activation of the public realm, and provide privacy for ground floor dwellings.

Figure 6.24: Examples of the form of development envisaged for the Key Movement Corridors



Built form outcomes

The development type recommended in the Key Movement Corridors is the urban infill. This is a traditional form of development that delivers highly adaptable buildings able to accommodate commercial and/or residential uses.

This development type delivers moderately high density along main roads, in accordance with Strategy UF6. Boulevards and Avenues, without the potentially adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these places without the need for lot amalgamation (see Best Practice Urban Development Typologies report in SRL East Structure Plan - Urban Design Supporting Research - Attachment A).

This development type provides a vibrant and memorable urban character, good private amenity and protection of neighbouring amenity to the rear, adaptability for mixed and changing uses, and reasonable space for tree canopy cover. The minimal front setback and lack of side setbacks ensure a well-activated and strongly-framed public realm. The strong relationship with the street also supports commercial uses at ground or upper levels where desired.

The primary orientation of accommodation to the street and middle of the block enables differing uses to comfortably exist side-by-side where relevant. Generous rear setbacks ensure good amenity for accommodation facing towards the middle of the block, including adjacent properties to the rear, and space for tree planting.

As the Key Movement Corridors evolve through new urban infill development, they will experience a substantial change in character. As noted in Design Direction 5, this is considered to be an inevitable outcome of the vision for transformational change. This kind of transition in character is consistent with other transforming areas such as Brunswick Activity Centre, Cremorne and Box Hill between Whitehorse Road and the hospital. Low-rise dwellings will no longer represent the preferred character, and will increasingly become anomalies.

The sheer on-boundary side walls of urban infill development will change the amenity of any neighbouring low-rise dwellings to the side However, the lack of side setbacks is necessary to enable viable development of appropriate density on single lots and avoid constraining development on neighbouring properties to the side, in accordance with Strategy BF11: Building orientation. The introduction of side setbacks to protect the existing amenity and character would mean that lot amalgamation is required to achieve a viable floorplate, and greater height is needed to maintain the density envisaged by Strategies UF5: Mixed-use neighbourhoods and UF6: Boulevards and Avenues.

The majority of lots in this place type are occupied by detached dwellings whose primary orientation is towards the street and a rear garden, rather than towards side boundaries. Therefore, the impact of sheer on-boundary side walls will be generally limited to the secondary rooms that face side boundaries.

Urban Infill development is proposed to have a generous rear setback, which will limit its impact on the amenity and equitable development of neighbouring rear gardens. The rear setbacks of existing and future development will ultimately combine to form a large green space in the middle of the block.

The building height and upper level street setbacks vary based on street width to ensure an appropriate balance between openness and enclosure in the street, along with reasonable solar access. In the Key Movement Corridors, urban infill provides a taller street wall, with upper levels maintaining a 1:1 ratio with the street. In the Urban Neighbourhoods a building height of 24 metres with a 4-storey street wall and upper level setback is proposed to maintain an open character.

This development type includes a landscaped front setback as well as a generous rear setback, resulting in a combined 10 to 15 per cent deep soil area across the front and rear of the lot.

The proposed use-mix varies with the role and function of the urban form area.

Building height and density

Building heights are proposed to be determined by the street width and lot depth, up to a maximum of 8 storeys. In order to balance spatial definition and a sense of openness, building form is proposed to be limited by two variables:

- A 45° plane from the opposite street boundary, in accordance with Strategy BF6: Human-scale streets
- An angled plane at the rear to or limit visual bulk impacts to neighbouring properties, while enabling taller buildings on deeper lots, and to avoid unreasonable shadow impacts on neighbouring properties in accordance with Strategy BF12: Solar access.

Based on testing of typical property sizes in each urban form area within this place type, it is envisaged that heights of 27 metres (7 to 8 storeys) can be achieved, resulting in a density of approximately 3:1. An exception to this is Testing of urban infill development in typical Key Movement Corridors is illustrated in SRL East Structure Plan - Urban Design Supporting Research - Attachment A.

In sensitive areas, a maximum building height of 21 metres (5 to 6 stroreys) is proposed. Sensitive areas are shown in Figure 6.1.

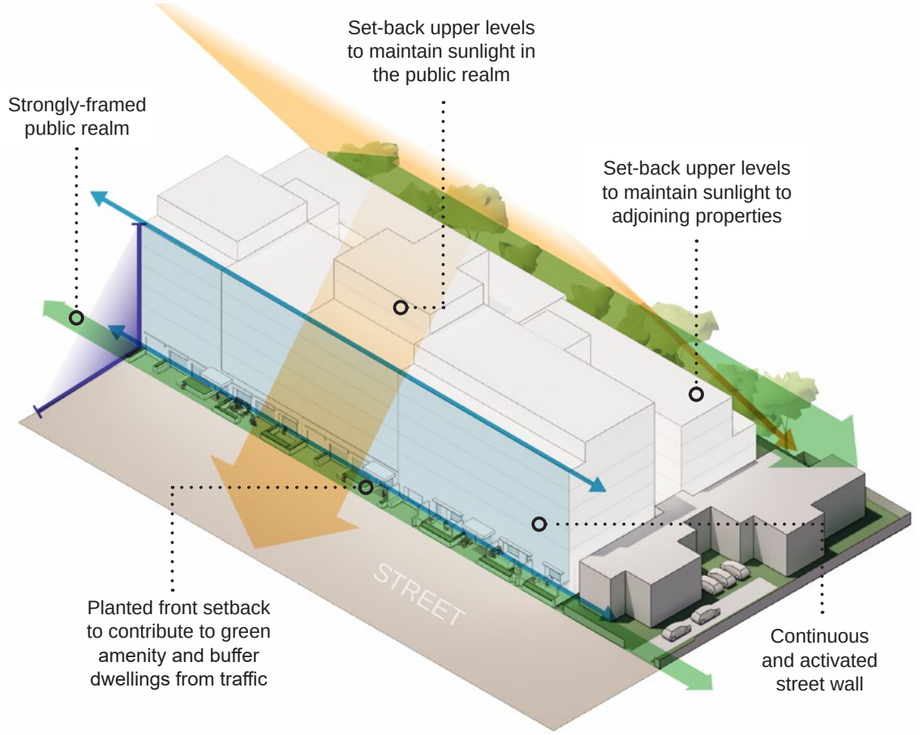


Figure 6.25: Built form outcomes for urban infill

Street wall height

A minimum street wall height of 14 metres (3 to 4 storeys) is generally proposed to ensure that the public realm is well framed, in accordance with Strategy BF6: Street scale.

A maximum street wall of 21 metres (5 to 6 storeys) is generally proposed to balance spatial definition and a sense of openness, and to maintain solar access in the streets.

In areas of valued character, such as the intersection of Station Street and Canterbury Road, a street wall height of 11 metres (3 storeys) is recommended in keeping with existing built form.

Adaptability

A minimum floor-to-floor dimension of 4 metres is proposed at ground floor level to ensure that it is able to be used for commercial purposes.

Building setbacks

The following minimum setbacks are proposed:

- A 3-metre street setback to balance spatial definition and public realm engagement with the privacy of ground floor dwellings, in accordance with Strategies BF8: Active frontage and BF9: Residential frontage
- In existing small retail strips, the street setback should match the prevailing building line, in accordance with Strategy BF8: Active frontages. These include:
  - Pendle Street small retail strip
  - Laburnum Local Centre small retail strip
  - Box Hill South Shopping Centre small retail strip (Canterbury Road / Station Street
  - Northern side of Whitehorse Road between Station Street and Graham Place
- An additional 4 metres setback above 21 metres to maintain a sense of openness and solar access
- Zero side and rear setbacks where there is no primary outlook to enable the development of single lots with buildings that face the street and the rear of the lot. This will also maintain equitable development opportunities for neighbouring properties, in accordance with Strategy BF11: Building orientation
- A 4.5-metre side setback where there is a primary outlook to an adjacent private property. Wherever applicable, side setbacks should be measured from the centreline of an adjoining laneway
- A 3-metre side setback where abutting public open space
- A rear setback of 6 metres to provide for deep soil planting, in accordance with Strategy BF14: On-site landscaping. It is envisaged that these rear setbacks will combine to create a green spine along the rear of all lots in this place type, establishing valuable habitat and potentially communal amenity. This does not apply at ground floor in existing small retail strips
- Additional rear setbacks of 0.7 metres per metre of additional height above 11 metres, or above 14 metres where abutting public open space, to manage visual bulk impacts.

Building separation

Within a site, buildings should be separated by a minimum of 9m.

Overshadowing

The recommended building scale and massing will achieve the recommended solar access standard to ensure good amenity in the public realm and to complement the existing character of typical streets. The solar access standard recommended will maintain sunlight to southern, eastern and western footpaths in typical streets at the September equinox. This is considered to strike an appropriate balance between solar access and providing for growth.

The building scale and massing recommended at the edges of Box Hill City Oval will maintain sunlight to 70 per cent of the open space for a minimum of 3 hours at mid-winter.

The building scale and massing will also limit additional shadow to private open space in the rear setbacks of properties in Key Movement Corridors, Urban Neighbourhoods and Residential Neighbourhoods.

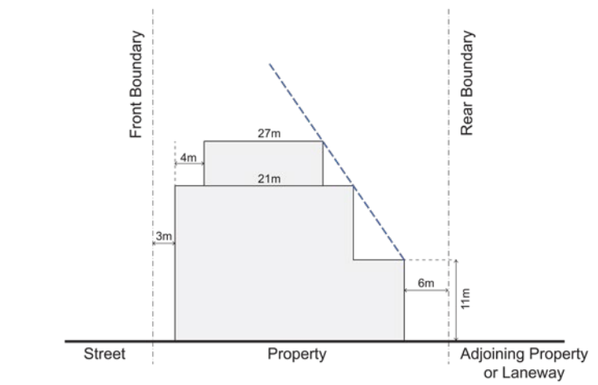


Figure 6.26: Built form outcomes - front and rear boundaries

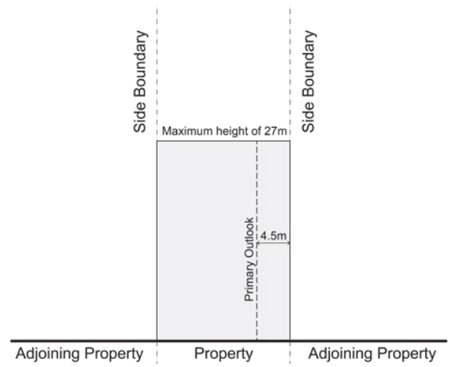


Figure 6.27: Built form outcomes - side boundaries

Summary of built form outcomes

The built form outcomes for the urban infill development type are summarised below.

Building height and density		
Maximum height	27 metres (7 to 8 storeys)	
Maximum height - sensitive areas	21 metres (5 to 6 storeys)	
Maximum density	3.5:1	
Street wall		
Minimum height	14 metres (3 to 4 storeys)	
Maximum height	21 metres (5 to 6 storeys)	
Preferred height - valued character area	11 metres (3 storeys)	
Activation	Moderate	
Building setbacks		
Street - general	3 metres landscaped plus 4 metres above 21 metres	
Street - existing small retail strips	Match the prevailing building line plus 4 metres above 21 metres	
Rear - general	6 metres landscaped plus 0.7 metres per metre of height above 11 metres, or above 14 metres where abutting public open space	
Rear - existing small retail strips	6 metres above ground floor plus 0.7 metres per metre of height above 11 metres	
Side - non-primary outlook	Zero	
Side - primary outlook	4.5 metres	
Side - abutting public open space	3 metres	
Building separation		
Minimum building separation within a site	9 metres	
Overshadowing		
Place type of neighbouring property	**Number of hours between 9am and 3pm at the September equinox during additional shadow is to be avoided**	**Minimum area of open space to which additional shadow is to be avoided**
Key Movement Corridor, Urban Neighbourhood	3 hours	40 square metres or 75 per cent of any open space in a rear setback, whichever is the lesser.
Residential Neighbourhood	4 hours	40 square metres or 75 per cent of any open space in a rear setback, whichever is the lesser.
Residentially-zoned properties outside the Structure Plan Area	5 hours	40 square metres or 75 per cent of secluded private open space, whichever is the lesser
Adaptability		
Minimum ground level floor-to-floor height	4 metres	

Public realm outcomes

The Public Realm Framework identifies the future aspiration for the public realm in the Key Movement Corridors. Achieving this aspiration relies on development and public realm projects that vary in scale and importance as outlined below.

SRL Rail and Infrastructure

Public realm elements of SRL works.

- Open space (new) - Whitehorse Road central linear public space
- New or upgraded pedestrian crossings

Public realm enhancements

Streets to be considered for enhancements to deliver Design Direction 1: Ensure streets are inviting places that support community life.

- Whitehorse Road upgrades - Boulevard
- Station Street and Canterbury Road upgrades - Avenue
- Improvements to Green Streets
- Pedestrian crossings (new or upgraded)

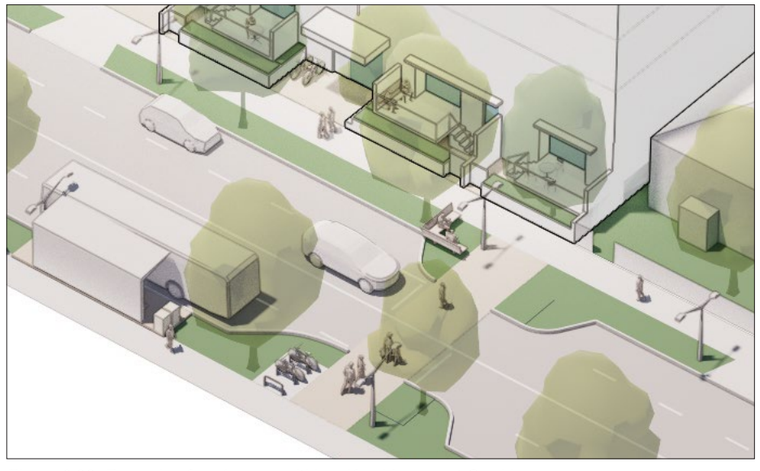


Figure 6.28: Example of an Avenue within a Key Movement Corridor

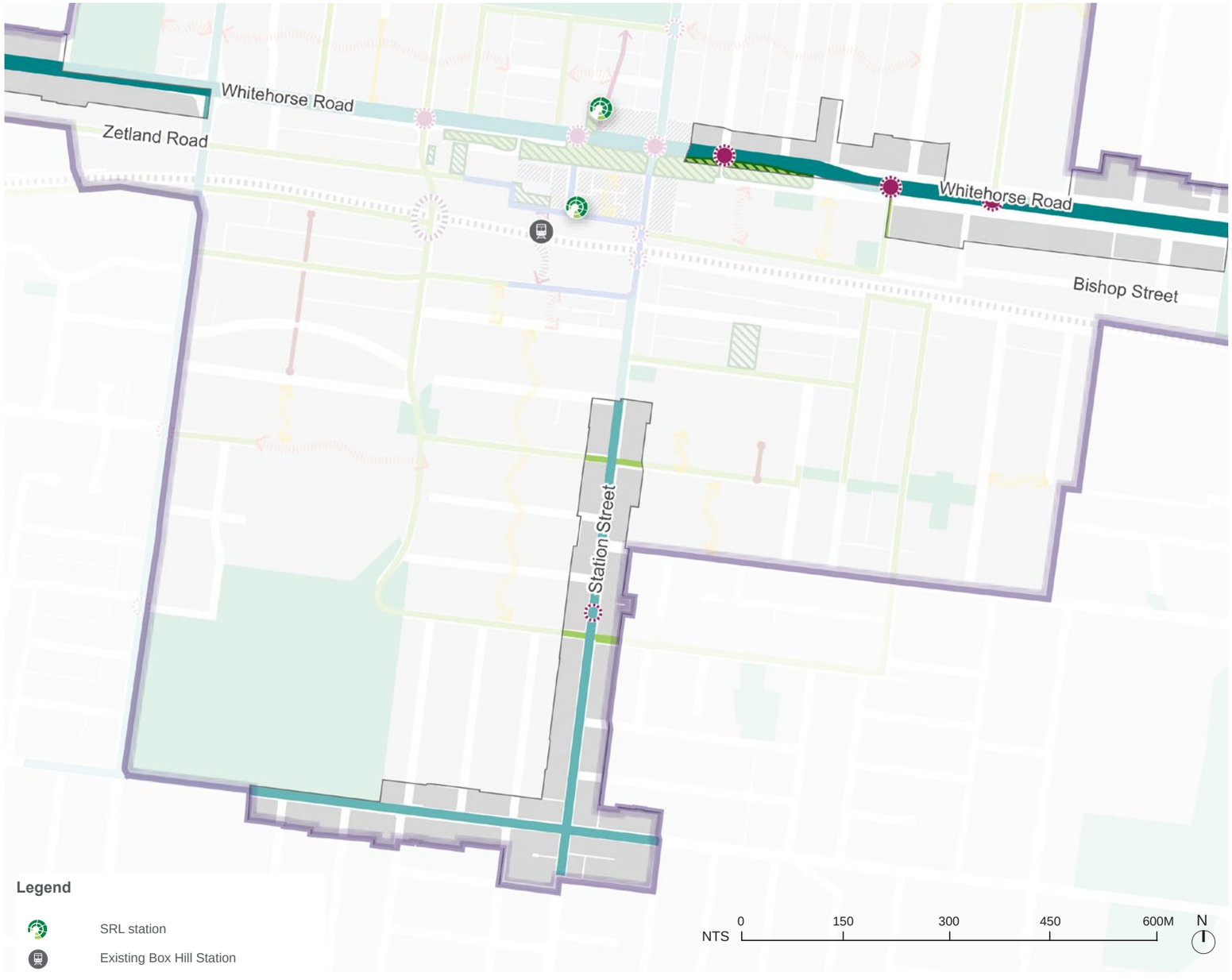


Figure 6.29: Public realm outcomes

Typical building and public realm profile

This cross-section shows a typical Key Movement Corridors building with a Avenue to provide an illustration of the future built form and public realm outcomes for this area.

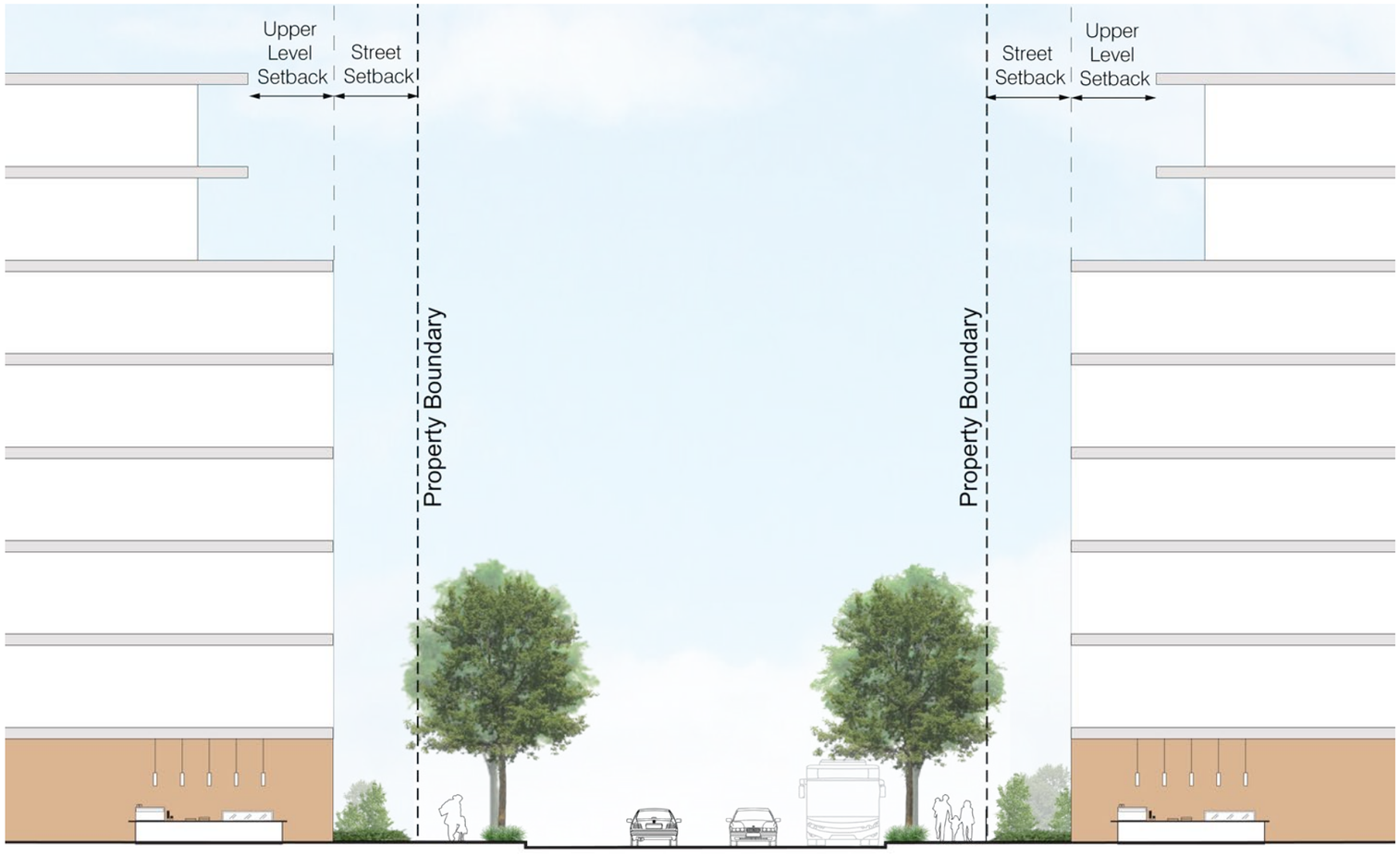


Figure 6.30: Potential section - Avenue

6.5 Urban Neighbourhoods

Well-served residential areas

The urban form areas identified as belonging to this place type include:

- L - Carrington Road West
- M - Watts Street
- N - South Laburnum
- O - Bishop Street
- P - Thames Street West.

Refer to Section 4.5 for a detailed description of this urban form area.

Figure 6.31: Key map - Urban Neighbourhoods

Future role and function

Substantial change of built form providing space for jobs growth, local services and housing surrounding the core

These areas lie immediately adjacent to and/or are well integrated with an activity centre. They offer a high level of accessibility to jobs and services. They are an appropriate location for a higher level of intensification and mixed use.

Future drivers

Balance between openness and enclosure of the street

These urban form areas are outside the core of the Structure Plan Area and/or border the residential hinterland. Their level of intensification should be balanced with amenity and character considerations.

Future urban form

The Urban Neighbourhoods are proposed to have a permeable street network with a number of Green Streets to enhance urban biodiversity and provide inviting pedestrian routes to key destinations including open spaces and public transport.

The Urban Neighbourhoods will be developed into mid-rise apartments and mixed-use buildings which maintain solar access and a sense of openness in the public realm. A continuous street wall will frame the public realm, while a modest street setback will maintain spatial definition and public realm engagement, while providing privacy to ground floor dwellings. Built form will be setback from the rear to minimise shadow and visual bulk impacts on neighbouring properties.

Figure 6.32: Examples of the form of development envisaged for the Urban Neighbourhoods

Built form outcomes

The development type recommended in the Urban Neighbourhoods is the urban infill. This is a traditional form of development that delivers highly adaptable buildings able to accommodate commercial and/or residential uses.

This development type delivers moderately high density along main roads, in accordance with Strategy UF6. Boulevards and Avenues, without the potentially adverse impacts of taller buildings. Importantly, it can be developed on the vast majority of the lots found in these places without the need for lot amalgamation (see Best Practice Urban Development Typologies report in SRL East Structure Plan - Urban Design Supporting Research - Attachment A).

This development type provides a vibrant and memorable urban character, good private amenity and protection of neighbouring amenity to the rear, adaptability for mixed and changing uses, and reasonable space for tree canopy cover. The minimal front setback and lack of side setbacks ensure a well-activated and strongly-framed public realm. The strong relationship with the street also supports commercial uses at ground or upper levels where desired.

The primary orientation of accommodation to the street and middle of the block enables differing uses to comfortably exist side-by-side where relevant. Generous rear setbacks ensure good amenity for accommodation facing towards the middle of the block, including adjacent properties to the rear, and space for tree planting.

As the Urban Neighbourhoods evolve through new urban infill development, they will experience a substantial change in character. As noted in Design Direction 5, this is considered to be an inevitable outcome of the vision for transformational change. This kind of transition in character is consistent with other transforming areas such as Brunswick Activity Centre, Cremorne and Box Hill between Whitehorse Road and the hospital. Low-rise dwellings will no longer represent the preferred character, and will increasingly become anomalies.

The sheer on-boundary side walls of urban infill development will change the amenity of any neighbouring low-rise dwellings to the side However, the lack of side setbacks is necessary to enable viable development of appropriate density on single lots and avoid constraining development on neighbouring properties to the side, in accordance with Strategy BF11: Building orientation. The introduction of side setbacks to protect the existing amenity and character would mean that lot amalgamation is required to achieve a viable floorplate, and greater height is needed to maintain the density envisaged by Strategies UF5: Mixed-use neighbourhoods and UF6: Boulevards and Avenues.

The majority of lots in this place type are occupied by detached dwellings whose primary orientation is towards the street and a rear garden, rather than towards side boundaries. Therefore, the impact of sheer on-boundary side walls will be generally limited to the secondary rooms that face side boundaries.

Urban Infill development is proposed to have a generous rear setback, which will limit its impact on the amenity and equitable development of neighbouring rear gardens. The rear setbacks of existing and future development will ultimately combine to form a large green space in the middle of the block.

The building height and upper level street setbacks vary based on street width to ensure an appropriate balance between openness and enclosure in the street, along with reasonable solar access. In the Key Movement Corridors, urban infill provides a taller street wall, with upper levels maintaining a 1:1 ratio with the street. In the Urban Neighbourhoods a building height of 24 metres with a 4-storey street wall and upper level setback is proposed to maintain an open character.

This development type includes a landscaped front setback as well as a generous rear setback, resulting in a combined 10 to 15 per cent deep soil area across the front and rear of the lot.

The proposed use-mix varies with the role and function of the urban form area.

Building height and density

Building heights are proposed to be determined by the street width and lot depth. In order to balance spatial definition and a sense of openness, building form is proposed to be limited by two variables:

- A 45° plane from the opposite street boundary, in accordance with Strategy UF5: Public realm amenity
- A September equinox solar plane from the top of a typical rear boundary fence to avoid unreasonable impacts on neighbouring residential properties, in accordance with Strategy UF6: Residential amenity. This will limit visual bulk impacts to neighbouring properties at the rear, while enabling taller buildings on deeper lots.

Based on testing of typical property sizes in each urban form areas within this place type, it is envisaged that heights of 24 metres (6 to 7 storeys) can be achieved, resulting in a density of approximately 3:1. Commercial uses are envisioned for Urban Form Area P: Thames Street West. Testing of urban infill development in typical Urban Neighbourhoods is illustrated in SRL East Structure Plan - Urban Design Supporting Research - Attachment A.

In sensitive areas, a maximum building height of 21 metres (5 to 6 stroreys) is proposed. Sensitive areas are shown in Figure 6.1.

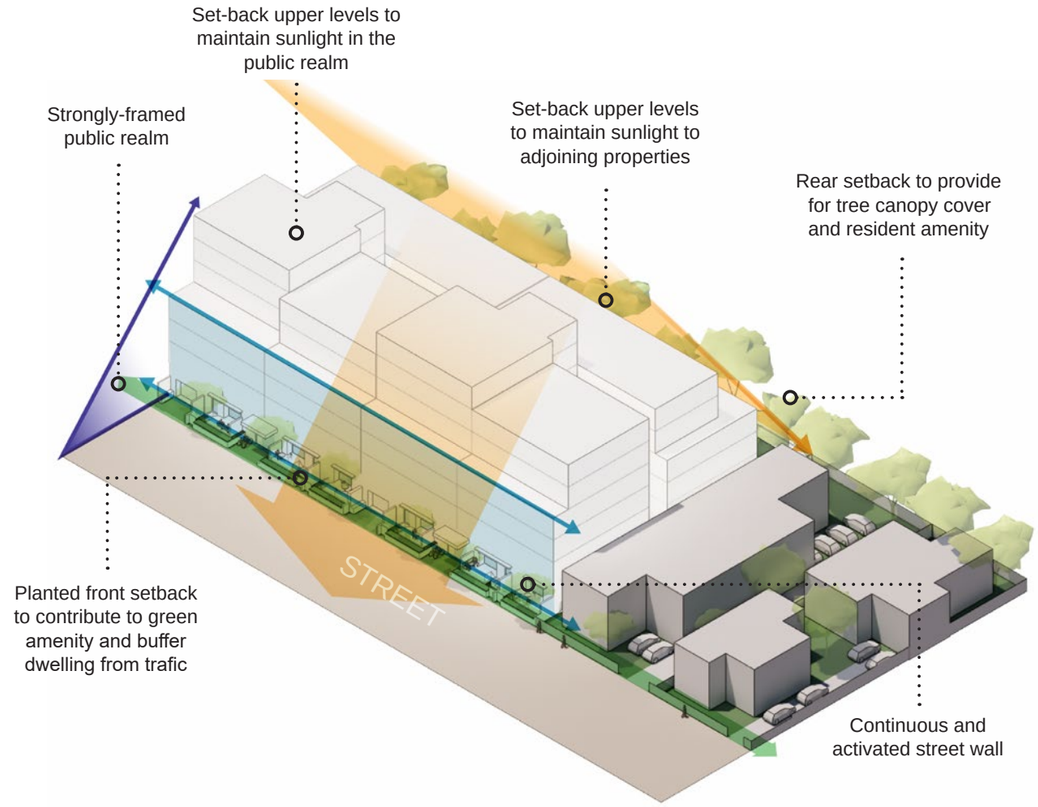


Figure 6.33: Built form outcomes for urban infill

Street wall height

A minimum street wall height of 11 metres (3 storeys) is proposed to ensure that the public realm is well framed, in accordance with Strategy UF5: Public realm amenity. The maximum street wall height is proposed to be 14 metres (4 storeys), to complement the existing lower-rise buildings in these areas.

Adaptability

A minimum floor-to-floor dimension of 4 metres is proposed at ground floor level to ensure that it is able to be used for commercial purposes.

Building setbacks

The following minimum setbacks are proposed:

- A 3-metre street setback to balance spatial definition and public realm engagement with the privacy of ground floor dwellings, in accordance with Strategies BF8: Active frontages and BF9: Residential frontages
- An additional street setback above 14 metres of 2 metres or that required to remain below a 45° plane from the opposite street boundary, whichever is greater to maintain a sense of openness and solar access
- Zero side setbacks where there is no primary outlook. This is designed to enable the development of single lots with buildings that face the street and the rear of the lot. This will also maintain equitable development opportunities for neighbouring properties, in accordance with Strategy BF11: Building orientation
- A 4.5-metre side setback where there is a primary outlook to an adjacent private property. Wherever applicable, side setbacks should be measured from the centreline of an adjoining laneway
- A 3-metre side setback where abutting public open space
- A rear setback of 6 metres to provide for deep soil planting, in accordance with Strategy BF14: On-site landscaping. It is envisaged that these rear setbacks will combine to create a green spine along the rear of all lots in this place type, establishing valuable habitat and potentially communal amenity
- Additional rear setbacks of 0.7 metres per metre of additional height above 11 metres, or above 14 metres where abutting public open space, to manage visual bulk impacts.

Building separation

Within a site, buildings should be separated by a minimum of 9m.

Overshadowing

The recommended building scale and massing will achieve the recommended solar access standard to ensure good amenity in the public realm and to complement the existing character of typical streets. The solar access standard recommended will maintain sunlight to southern, eastern and western footpaths in typical streets at the September equinox. This is considered to strike an appropriate balance between solar access and providing for growth.

The building scale and massing recommended at the edges of:

- Whitehorse Reserve / Howard Wilson Oval will maintain sunlight to 70 per cent of the open space for a minimum of 3 hours at mid-winter
- Brougham Street Playground and the associated Surrey Drive Reserve will maintain solar access to 50 per cent of the open space for a minimum of 3 hours at mid-winter.

The building scale and massing will also limit additional shadow to private open space in the rear setbacks of properties in Key Movement Corridors, Urban Neighbourhoods and Residential Neighbourhoods.

Figure 6.34: Indicative streetscape typical only to illustrate potential outcomes

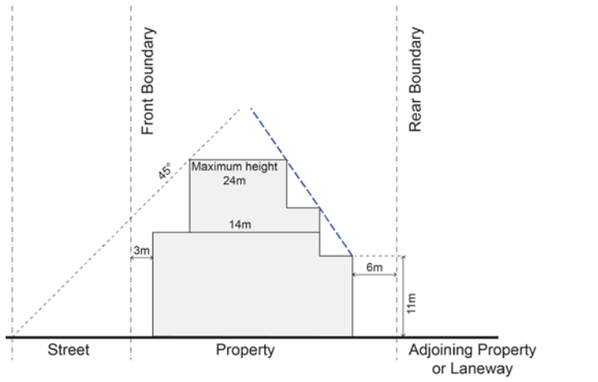


Figure 6.35: Built form outcomes - front and rear boundaries

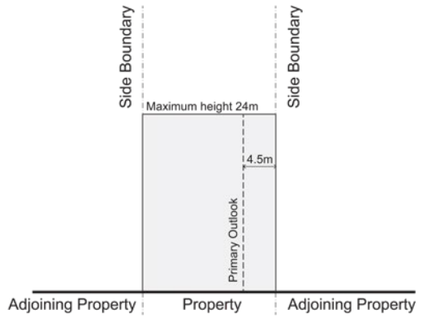


Figure 6.36: Built form outcomes - side boundaries

Summary of built form outcomes

The built form outcomes for the urban infill development type are summarised below.

Building height and density		
Maximum height	24 metres (6 to 7 storeys)	
Maximum height - sensitive areas	21 metres (5 to 6 storeys)	
Maximum density	3:1	
Street wall		
Minimum height	11 metres (3 storeys)	
Maximum height	14 metres (4 storeys)	
Activation	Moderate	
Building setbacks		
Street	3 metres landscaped; Additional setback above 14 metres of 2 metres or that required to remain below a 45° plane from opposite street boundary, whichever is greater	
Rear	6 metres landscaped plus 0.7 metres per metre of height above 11 metres, or above 14 metres where abutting public open space	
Side - non-primary outlook	Zero	
Side - primary outlook	4.5 metres	
Side - abutting public open space	3 metres	
Building separation		
Minimum building separation within a site	9 metres	
Overshadowing		
Place type of neighbouring property	**Number of hours between 9am and 3pm at the September equinox during additional shadow is to be avoided**	**Minimum area of open space to which additional shadow is to be avoided**
Key Movement Corridor, Urban Neighbourhood	3 hours	40 square metres or 75 per cent of any open space in a rear setback, whichever is the lesser.
Residential Neighbourhood	4 hours	40 square metres or 75 per cent of any open space in a rear setback, whichever is the lesser.
Residentially-zoned properties outside the Structure Plan Area	5 hours	40 square metres or 75 per cent of any open space in a rear setback, whichever is the lesser.
Adaptability		
Minimum ground level floor-to-floor height	4 metres	

Public realm outcomes

The Public Realm Framework identifies the future aspiration for the public realm in the Urban Neighbourhoods. Achieving this aspiration relies on development and public realm projects that vary in scale and importance as outlined below.

Catalyst public realm projects

These are major public realm interventions with the potential to have a substantial and positive influence on the transformation of the broader area.

New major active transport link

Development

Development features creating an accessible and permeable Urban Neighbourhoods, as part of Design Direction 2: Promote active transport access.

Local key link (new) - flexible

Public realm enhancements

Streets to be considered for enhancements to deliver Design Direction 1: Ensure streets are inviting places that support community life.

Improvements to Green Streets

Improved pedestrian connection

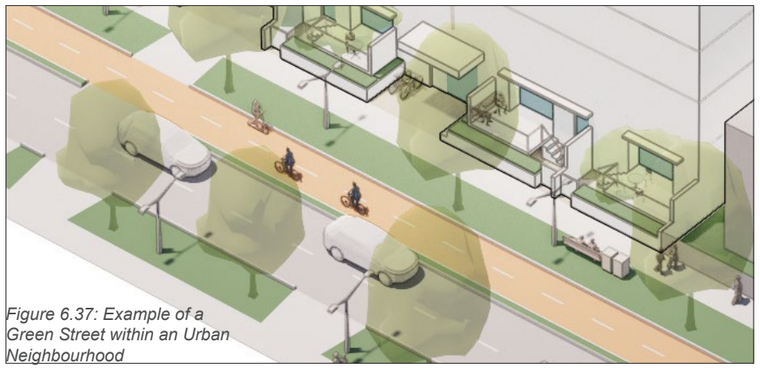


Figure 6.37: Example of a Green Street within an Urban Neighbourhood

Figure 6.38: Public realm outcomes

Typical building and public realm profile

This cross-section shows a typical Urban Neighbourhoods building with a Green Street to provide an illustration of the future built form and public realm outcomes for this area.

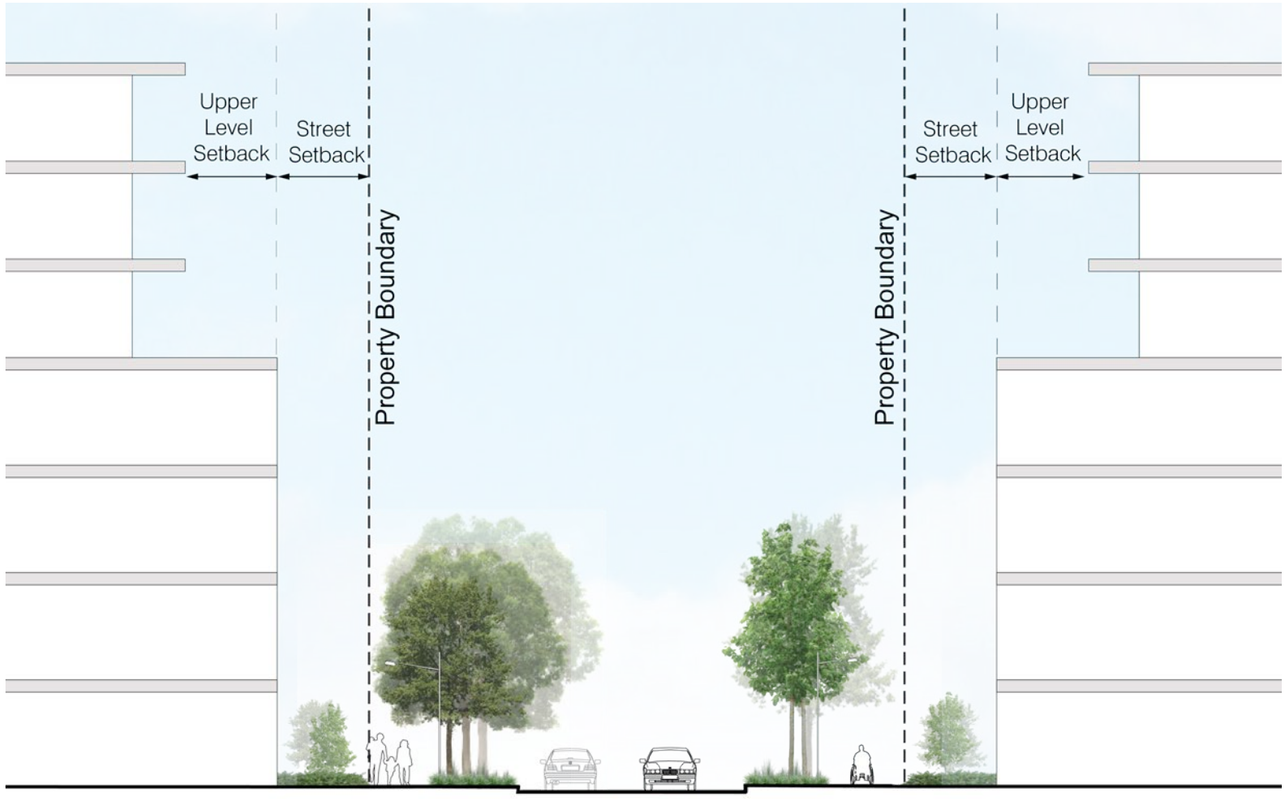


Figure 6.39: Potential section - Green Street

6.6 Residential Neighbourhoods

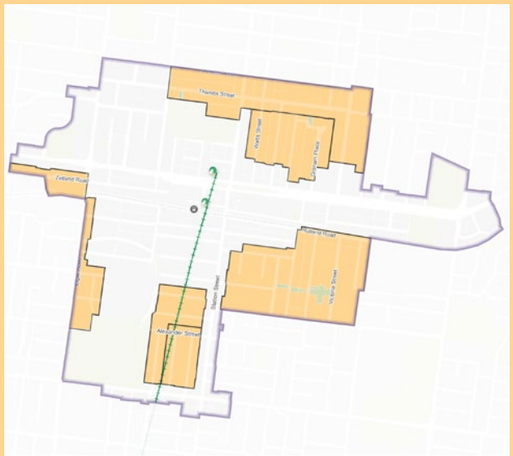
Low-rise neighbourhoods

The urban form areas identified as belonging to this place type include:

- R - Residential Southeast
- S - Thames Street
- T - Residential Northeast
- U - Zetland Road
- V - Elgar Road South
- W - James Street
- X - Surrey Park East.

Refer to Section 4.5 for a detailed description of this urban form area.

Figure 6.40: Key map - Residential Neighbouhoods



Future role and function

Moderate intensification of built form providing space for more housing.

These areas either lie further from the core so have the least accessibility to jobs and services within the Structure Plan Area, or have a low-rise residential character and/or lie adjacent to the lower-rise residential hinterland. Only a moderate level of intensification is sought to balance aspirations for growth with responsiveness to existing character, consistent with the SRL Urban Design Principle: Enhancing.

Future drivers

Retain garden setting

These areas are characterised by detached dwellings in a garden setting. This delivers high quality amenity and tree canopy cover, and manages the impact of dwellings on neighbouring amenity. Therefore, new development in these places should retain the garden setting attribute to maintain these outcomes.

Maintain sense of openness in the street

These areas generally lie towards the edge of the Structure Plan Area and have a low-rise existing character. Future development should maintain a sense of openness in the street to mediate the transition in character.

Future urban form

The Residential Neighbourhoods are proposed to have a permeable street network with a number of Green Streets to enhance urban biodiversity and provide inviting pedestrian routes to key destinations including open spaces. A number of local new pedestrian links are proposed to enhance pedestrian permeability, including a new link connecting Station Street and Graham Place.

The Residential Neighbourhoods will be developed into a mix of mid-rise apartment buildings and low-rise townhouses within a garden setting. Generous building setbacks and landscaping will manage the change in scale from the existing built form. The built form will be set back from the street to provide for canopy trees, while the upper levels will be set back to lessen their visual impact on the public realm. Rear setbacks and side setbacks of apartment buildings will provide for canopy trees and lessen the visual and shadow impact of the upper levels on neighbouring properties.

Figure 6.41: Examples of the form of development envisaged for the Residential Neighnourhoods

Built form outcomes

The development types recommended in the Residential Neighbourhoods are the garden apartments on amalgamated lots and townhouses on single lots.

Garden apartments provide for the same type of development on amalgamated lots as proposed in phase 2 of the Future Homes program, or, going back further, the art deco apartment boom of the 1920s and 30s, but with a slightly increased density, which is considered appropriate because these areas are within walking distance of a higher-order (SRL) station. However, the density is limited to mediate the transition in character and provide a different housing choice than that offered in other urban form areas. In particular, approximately 20 per cent of the apartments will have generous ground level gardens, making them suitable for families.

The development of 4 to 6-storey garden apartments rely on the amalgamation of two typical lots, which is necessary to deliver higher density while providing good-quality internal amenity, and providing a well-landscaped perimeter (see Urban Development Typologies in SRL East Structure Plan - Urban Design Supporting Research - Attachment A).

Importantly, lot amalgamation enables generous side and rear setbacks which will provide for high-quality on-site amenity and significant contribution to tree canopy cover. This typology provides a 35 per cent deep soil area across the front, sides and rear of the lot.

The substantial provision for canopy trees in front, side and rear setbacks will retain and strengthen the leafy character that predominates in these areas. These trees will significantly mitigate the visual presence of taller buildings on the existing streetscape and backyard of these areas.

The landscaped setbacks from all boundaries will also offset the impacts of taller built form on the amenity of neighbouring properties.

Garden apartments are proposed to be limited to 4 storeys in isolated, sensitive or constrained areas, in accordance with Strategy UF1: Substantial change.

The development of 3-storey townhouses with lesser side setbacks are appropriate on typical single lots.

Low front fences and front doors and windows facing the street will provide passive surveillance of the street.

Building height and density

The height of garden apartments in most parts of Residential Neighbourhoods is determined by solar planes intended to protect the amenity of neighbouring properties, resulting in an indicative maximum height of 6 storeys. Although this substantially exceeds the existing building heights, generous landscaped setbacks are proposed to manage this change in character and limit amenity impacts. The proposed maximum height and minimum setbacks delivers a density of approximately 2:1.

In sensitive areas, garden apartments are proposed to be limited to 4 storeys for the reasons outlined in Strategy UF1: Substantial change. The areas where garden apartments are proposed to be limited to 4 storeys are shown in Figure 4.6 in Section 4. Where appropriate, the boundaries between areas of 4 or 6 storeys have been adjusted to maintain coherent character areas. This delivers a density of approximately 1.5:1.

Lots less than 24 metres wide (most single lots) are not able to accommodate the proposed side setbacks. Therefore, lesser side setbacks are allowed on these lots. However, they are limited to a height of 3 storeys to manage the impacts of those modest side setbacks. This delivers a density of approximately 1.2:1, which is hoped to incentivise lot amalgamation to enable higher amenity and greening outcomes.

Street wall height

The maximum street wall height is proposed to be 14 metres (4 storeys) for garden apartments, except 11 metres (3 storeys) in sensitive areas and for Townhouses, to complement the existing lower-rise buildings in these areas.

Building setbacks

The following minimum setbacks are proposed:

- A 4-metre street setback, to provide for canopy trees, in accordance with Strategy BF14: On-site landscaping. This does not apply to existing small retail strips
- An additional setback above the street wall of 0.5 metres per metre to lessen the visual impact of the upper form
- A rear setback of 6 metres to provide for canopy trees, in accordance with Strategy BF14: On-site landscaping. This does not apply at ground floor in existing small retail strips
- Additional rear setbacks of 0.7 metres per metre of additional height above 11 metres, or above 14 metres where abutting public open space to manage visual bulk impacts.

Lots equal or greater than 24 metres in width (including where abutting public open space):

- A 4.5-metre side setback to provide for canopy trees, in accordance with Strategy BF14: On-site landscaping
- For buildings higher than 14 metres, a further side setback of 0.8 metres per metre of height to lessen the visual and shadow impact of the upper form.

Lots less than 24 metres in width, front half of the site:

- Zero side setback for buildings up to a height of 6.9 metres
- A 2-metre side setback for buildings higher than 6.9 metres to lessen the visual and shadow impact of the upper form
- A 2-metre side setback where abutting public open space.

Lots less than 24 metres in width, rear half of the site (including where abutting public open space):

- A 2-metre side setback for buildings up to a height of 6.9 metres
- For buildings higher than 6.9 metres, a further side setback of 1m per metre of height to lessen the visual and shadow impact of the upper form.

Side street

- A 4-metre setback for lots equal or greater than 24 metres in width, to provide for canopy trees
- A 2-metre setback for lots less than 24 metres in width, to provide for canopy trees.

Existing small retail strips

- In the existing small retail strip located at Station Street / Thames Street intersection, the street setback should match the prevailing building line, in accordance with Strategy BF8: Active frontages
- Zero side setback for buildings up to a height of 6.9 metres to maintain the existing commercial function
- For buildings up to a height of 11 metres, a 2-metre side setback above a height of 6.9 metres to provide good internal amenity in accordance with Strategy BF11: Building orientation
- For buildings higher than 11 metres, a 4.5-metre side setback above a height of 6.9 metres and a further side setback of 0.8 metres per metre of height above 14 metres to provide for good internal amenity and equitable development, in accordance with Strategy BF11: Building orientation.

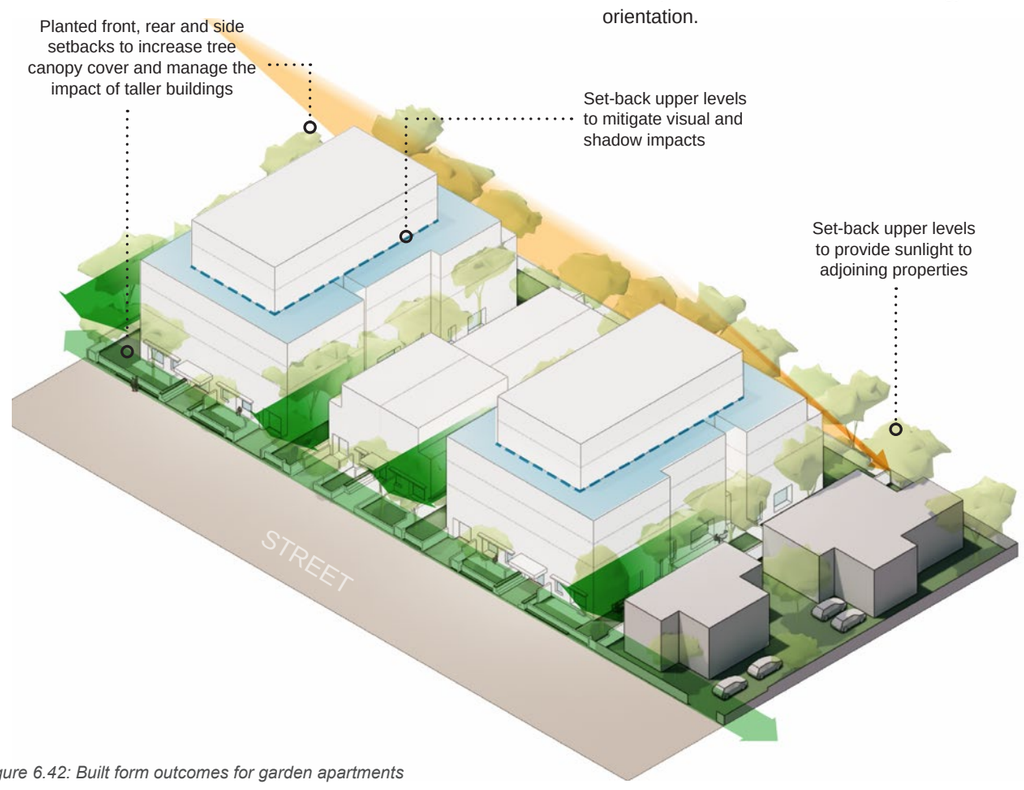


Figure 6.42: Built form outcomes for garden apartments

Building separation

Within a site, buildings should be separated by a minimum of 9m.

Overshadowing

The recommended building scale and massing will achieve the recommended solar access standard to ensure good amenity in the public realm and to complement the existing character of typical streets. The solar access standard recommended will maintain sunlight to southern, eastern and western footpaths in typical streets at the September equinox. This is considered to strike an appropriate balance between solar access and providing for growth.

The building scale and massing recommended at the edges of:

- Box Hill Gardens and Surrey Park will maintain sunlight to 70 per cent of the open space for a minimum of 3 hours at mid-winter
- Victoria-Glenmore Chain Reserve will maintain sunlight to 50 per cent of the open spaces for a minimum of 3 hours in mid-winter, also achieving 75 per cent at the spring equinox
- Graham Bend Reserve and Ashted Road Reserve will maintain solar access to 50 per cent of the open space for a minimum of 3 hours at mid-winter.

Figure 6.43: Indicative streetscape typical only to illustrate potential outcomes

Townhouses

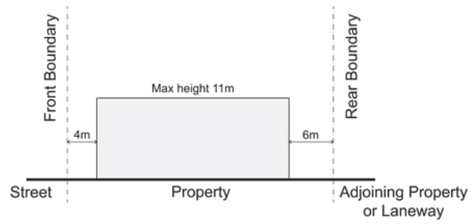


Figure 6.44: Townhouses built form outcomes - front and rear boundaries

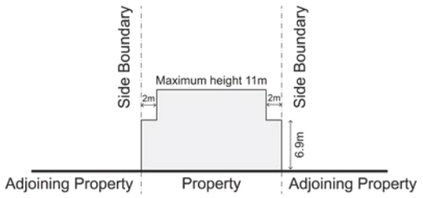
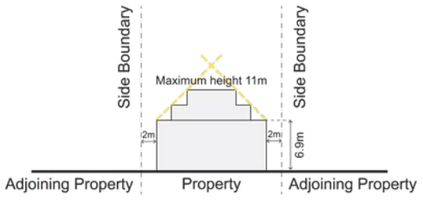


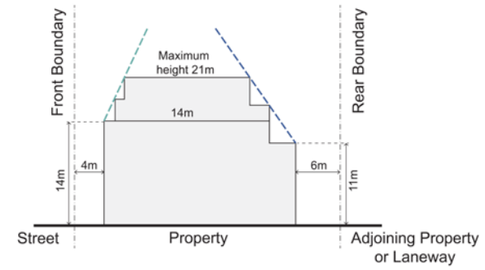
Figure 6.45: Townhouses built form outcomes - side boundaries, front half of the site



Additional side setbacks of 1m per metre of height above 6.9 metres

Figure 6.46: Townhouses built form outcomes - side boundaries, rear half of the site

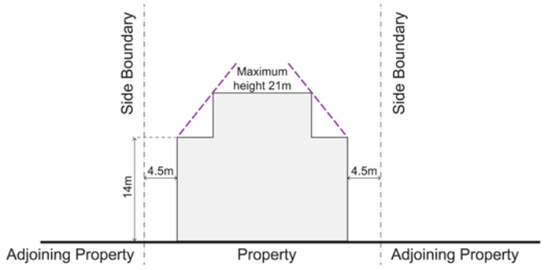
Garden apartments



Additional 0.5 metres per metre front setback above street wall

Additional rear setback of 0.7 metres per metre of height above 11 metres

Figure 6.47: Garden Apartments built form outcomes - front and rear boundaries



Additional side setbacks of 0.8 metres per metre of height above 14 metres

Figure 6.48: Garden Apartments built form outcomes - side boundaries

Summary of built form outcomes

The built form outcomes for are summarised below.

Lots equal to or greater than 24 metres in width (garden apartments)	
Building height and density	
• Maximum height • Maximum height - Sensitive areas	• 21 metres (6 storeys) • 14 metres (3 to 4 storeys)
• Maximum density • Maximum density - Sensitive areas	• 2:1 • 1.5:1
Street wall - street and side street	
• Maximum height • Maximum height - Sensitive areas	• 14 metres (4 storeys) • 11 metres (3 storeys)
Activation	Passive surveillance
Building setbacks	
Street - general	4 metres landscaped
Street - existing small retail strips	Match the prevailing building line
Side street - general	4 metres landscaped
Side street - existing small retail strips	Match the prevailing building line
Above street wall	Additional 0.5 metres per metre
Side - general (including where abutting public open space)	4.5 metres landscaped plus 0.8 metres per metre of height above 14 metres
Side - existing small retail strips	Zero metres up to a height of 6.9 metres, above that 4.5 metres plus 0.8 metres per metre of height above 14 metres
Rear - general, adjacent to developable property	6 metres landscaped plus 0.7 metres per metre of height above 11 metres
Rear - general, abutting public open space	6 metres landscaped plus 0.7 metres per metre of height above 14 metres
Rear - existing small retail strips	6 metres above ground floor plus 0.7 metres per metre of height above a height of 11 metres

Lots less than 24 metres in width (townhouses)	
Building height and density	
Maximum height	11 metres (3 storeys)
Maximum density	1.2:1
Street wall - street and side street	
Maximum height	11 metres (3 storeys)
Activation	Passive surveillance
Building setbacks	
Street - general	4 metres landscaped
Street - existing small retail strips	Match the prevailing building line
Side street - general	2 metres landscaped
Side street - existing small retail strip	Match the prevailing building line
Side - general, front half of the site adjacent to developable property	Zero metres up to a height of 6.9 metres, 2 metres above heights of 6.9 metres
Side - general, front half of the site abutting public open space	2 metres
Side - general, rear half of the site (including where abutting public open space)	2 metres plus 1 metre per metre of height above 6.9 metres
Side - existing small retail strips	Zero metres up to a height of 6.9 metres, 2 metres above a height of 6.9 metres
Rear - general, adjacent to developable property	6 metres landscaped plus 0.7 metres per metre of height above 11 metres
Rear - general, abutting public open space	6 metres landscaped plus 0.7 metres per metre of height above 14 metres
Rear - existing small retail strips	6 metres above ground floor

All lots		
Building separation		
Minimum building separation within a site	9 metres	
Overshadowing		
Place type of neighbouring property	**No. of hours between 9am and 3pm at the September equinox during additional shadow is to be avoided**	**Minimum area of open space to which additional shadow is to be avoided**
Key Movement Corridor, Urban Neighbourhood	3 hours	40 square metres or 75 per cent of any open space in a rear setback, whichever is the lesser.
Residential Neighbourhood	4 hours	40 square metres or 75 per cent of any open space in a rear setback, whichever is the lesser.
Residentially-zoned properties outside the Structure Plan Area	5 hours	40 square metres or 75 per cent of any open space in a rear setback, whichever is the lesser.

Public realm outcomes

The Public Realm Framework identifies the future aspiration for the public realm in the Residential Neighbourhoods. Achieving this aspiration relies on development and public realm projects that vary in scale and importance as outlined below.

Development

Development features creating an accessible and permeable Residential Neighbourhoods, as part of Design Direction 2: Promote active transport access.

- Important key link (new) - flexible
- Local key link (new) - flexible

Key public realm projects

Key projects to create accessible open space as part of Design Direction 2: Promote active transport access.

- Ellingworth Parade - proposed open space

Public realm enhancements

Streets to be considered for enhancements to deliver Design Direction 1: Ensure streets are inviting places that support community life.

- Elgar Road and Station Street upgrades - Avenue
- Improvements to Green Streets
- Pedestrian crossings (new or upgraded)
- Improved pedestrian connection

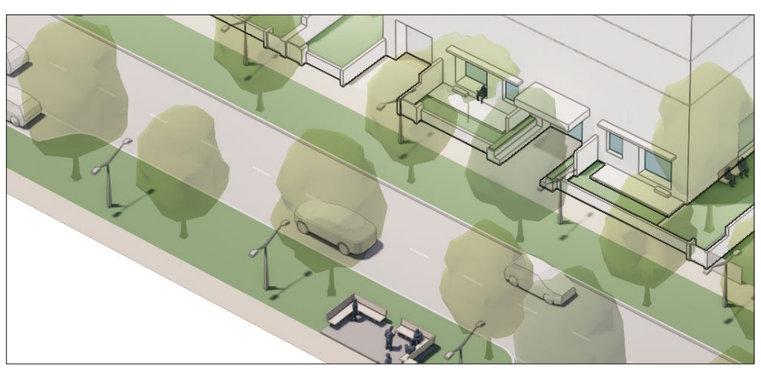


Figure 6.49: Example of a Green Street within an Residential Neighbourhood

Figure 6.50: Public realm outcomes

Typical building and public realm profile

This cross-section shows a typical Residential Neighbourhoods building within a local street to provide an illustration of the future built form and public realm outcomes for this area.

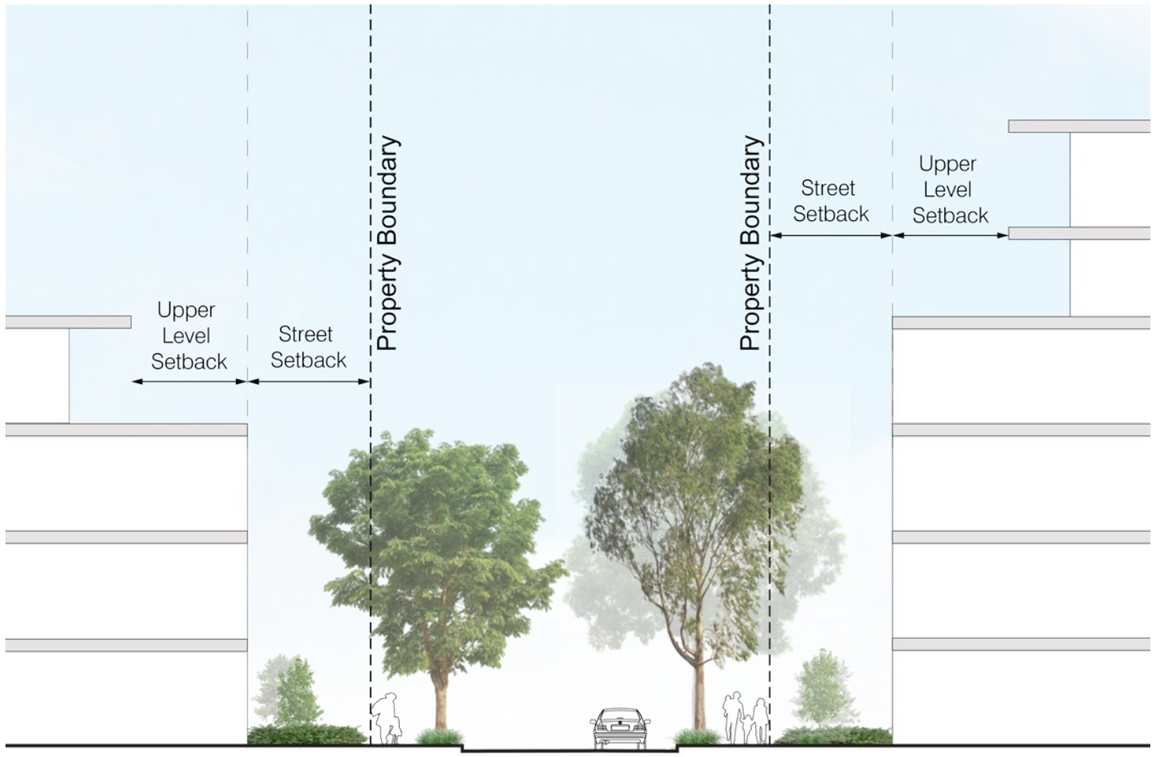


Figure 6.51: Potential section - Local Street

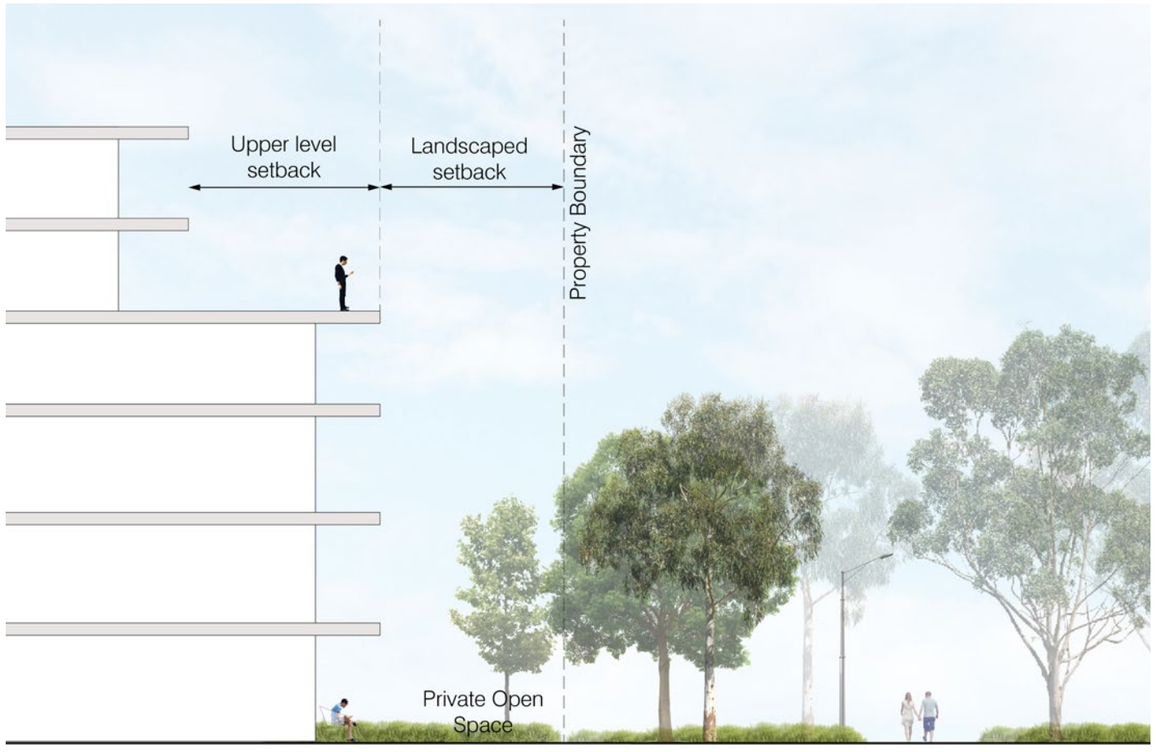


Figure 6.52: Section D - Indicative cross section along the northern interface of Box Hill Gardens

6.7 Strategic Sites

Strategic sites are those that have increased capacity for intensification and strong potential to deliver SRLA policy objectives and/or public benefit outcomes

Strategic Sites in Box Hill:

- Q - Former Brickworks site
- Station development area.

Refer to 4.5 for a detailed description of this.

Figure 6.53: Key map - Strategic

What is a Strategic Site?

Strategic sites have increased capacity for intensification and strong potential to deliver SRLA policy objectives and/or public benefit outcomes.

A strategic site should meet at least two of the below criteria:

- Complexity of issues to resolve including land use, built form, movement that require a bespoke planning control or process to achieve desired outcomes
- Opportunity for strategic public benefit (including significant contribution towards housing or employment growth) and/or support Government policy outcomes, that would be lost if the site was not clearly identified as strategic
- Capacity and scale – ability for significant investment or benefit to be unlocked within the lifespan of the Structure Plan (i.e. by 2041).

The Strategic Sites that meet the criteria above and require the application of bespoke planning controls are:

- Q - Former Brickworks site
- Station development area.

These are shown in Figure 4.6 in Section 4.

Station development areas

These are sites where future development is proposed on land surplus to SRL East operations in the core of the Structure Plan area. These sites will include adjacent or over SRL stations and station buildings that leverage the high level of accessibility and services available by directing intensified built form closest to the SRL station.

Former Brickworks site - preliminary design guidance

As the focal point of the Neighbourhood, the Former Box Hill Brickworks will be imaginer as a vibrant residential area, with diverse and affordable housing. Housing will be delivered in a mix of mid-rise apartment buildings and townhouses in a variety of heights transitioning in scale to respond to the established surroundings. New public open space will benefit the wider community. New pedestrian and cycling links through this large site will further improve local permeability, making trips within and beyond the Neighbourhood safer and easier.

Key elements and components

The Former Brickworks site will be revitalised. Its development will provide for a community-focused, mixed-use outcome comprising the following key components:

- A predominantly housing-focused urban renewal site with diverse and affordable housing
- Appropriate built form height and massing with sensitive interfaces to adjacent residential development, as well as positive interfaces with high levels of amenity to Surrey Park and new public open spaces
- The redevelopment of site should be planned having regard for the future conservation and adaptation of the VHR-registered portion of the site. Taller buildings should sensitively frame existing heritage structures on the site, preserving view lines to these significant assets
- New north-south and east-west through-block links to increase permeability and improve walkability, including a new east-west active transport link connecting the site to the broader movement network
- A new public open space that contributes and connects to the broader open space and movement network. Location to be determined as part of a master-planned development scheme
- Enhanced landscaped interface to Surrey Drive Linear Reserve and opportunity to improve landscape and biodiversity connectivity to Surrey Gardens
- Opportunity to enhance tree canopy and green infrastructure within the site.

Figure 6.54: Former Box Hill Brickworks Plan

6.8 Urban development typology testing

Calculating floor area ratio (FAR)

An indicative floor area ratio (FAR) was calculated for each urban development type based on 3D modeling on typical lot sizes within the relevant urban form area.

The FAR was determined by calculating the total gross floor area of a building above ground level, measured from the outside of external walls, and includes all roofed areas (in accordance with GFA definition at Clause 73.01 of the VPP) divided by the area of the site).

The envelope includes:

- All enclosed areas
- Covered balconies
- Services
- Voids associated with lifts, car stackers and similar service elements (considered as multiple floors of same height as adjacent floors).

The envelope does not include:

- Basements
- Any uncovered communal outdoor areas.

This is consistent with the approach taken in the City of Melbourne.

As this report is focused on urban design outcomes, it seeks to understand the overall building volume that may be possible with each development type, and makes no assumptions about the degree to which this volume may be occupied by car parking.

Any calculation of useable residential or commercial floor areas would need to make appropriate adjustments to allow for car parking.

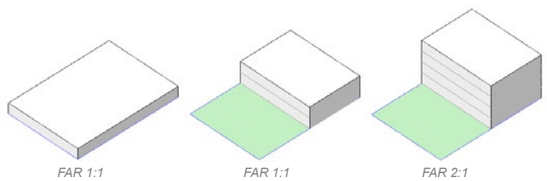
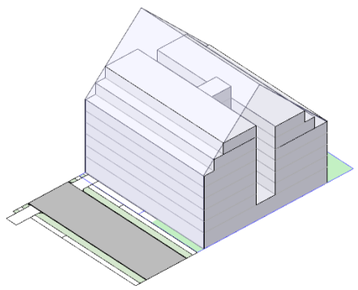


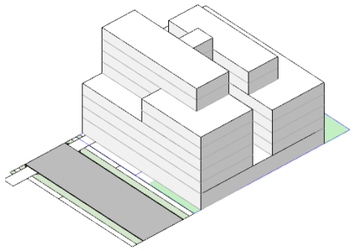
Figure 6.55: Floor area ratio (FAR) principle

Architectural articulation efficiency

A likely building volume was modeled within the maximum permissible envelope on each site based on the proposed maximum height and minimum setbacks, and the floor-to-floor assumptions in Figure 6.53. Thereafter, 10 per cent of that FAR was deducted to allow for further architectural design flexibility and massing articulation, such as reducing the number of upper-level setbacks or adaption to specific site conditions.



Permissible building envelope



Architectural articulation reduces yield by 10 per cent

Figure 6.56: Architectural articulation principle

Floor height assumptions

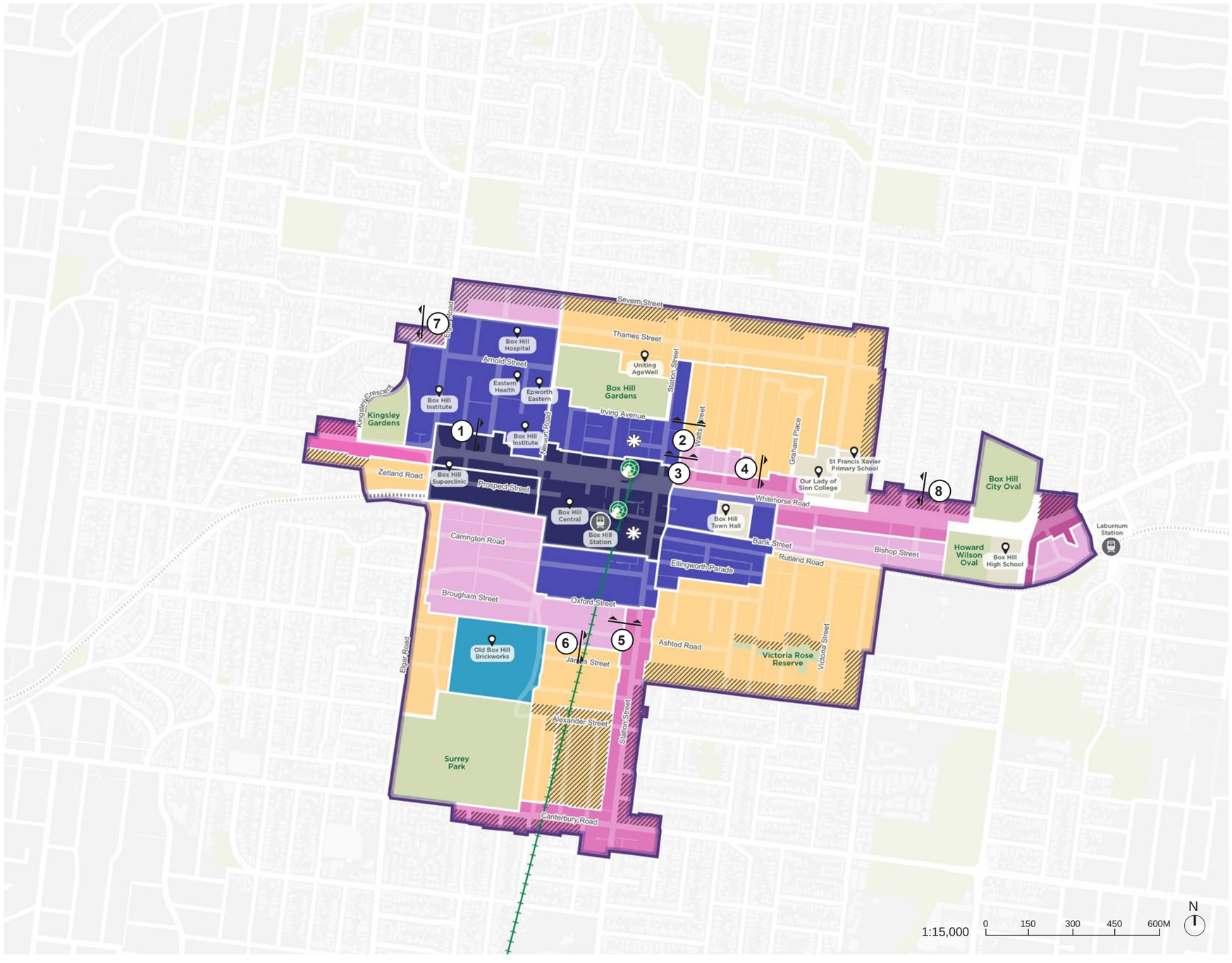
The development types were defined according to current best-practice and compatibility with Clause 58 as a minimum standard.

Building floor-to-floor height	
Residential levels	3.2 metres
Residential ground floor (raised floor or high ceilings for adaptability)	4 metres
Commercial ground floor	4.5 metres
Commercial upper floor	3.8 metres (4 metres in purely commercial buildings)

Figure 6.57: Floor height testing assumptions

6.9 Place type interfaces

This section illustrates the built form interfaces between different place types through a series of section drawings. Figure 6.59 indicates the location of each section.



Legend

- Section line
- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Strategic Sites - Station development area
- Civic areas - Victorian or local government or institutional land not envisaged for substantial change.
- Sensitive Areas

Place types

- Central Core
- Central Flanks
- Key Movement Corridors
- Urban Neighbourhoods
- Strategic Sites
- Residential Neighbourhoods

Figure 6.58: Place Type interfaces

1 Central Flanks to Central Core

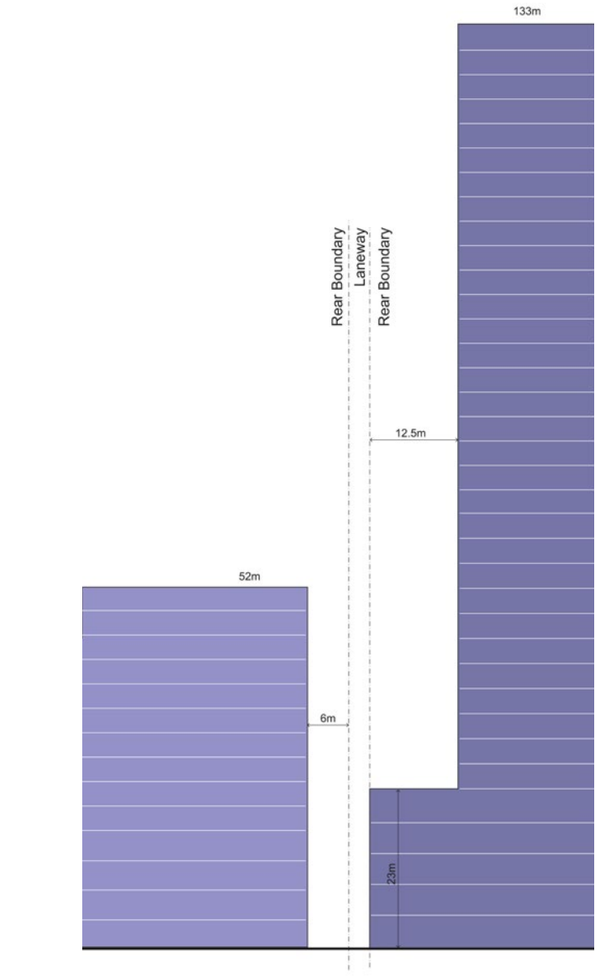


Figure 6.59: Typical interface section 1 (indicative only)

2 Central Flanks to Residential Neighbourhoods

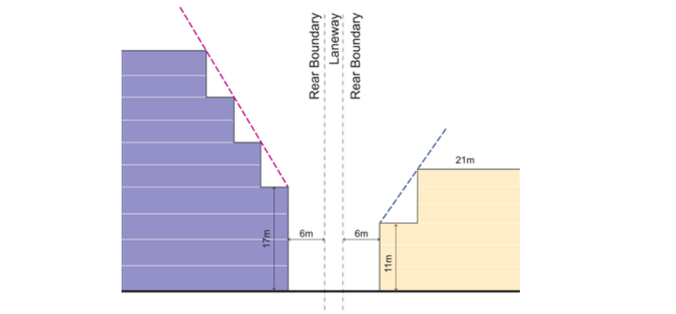


Figure 6.60: Typical interface section 2 (indicative only)

Legend

- Adjacent Key Movement, Urban Neighbourhood and Residential Neighbourhoods set back additional 0.6 metres per metre per height above 17 metres
- Additional rear setback of 0.7 metres per metre of height above 11 metres

3 Central Flanks to Urban Neighbourhoods

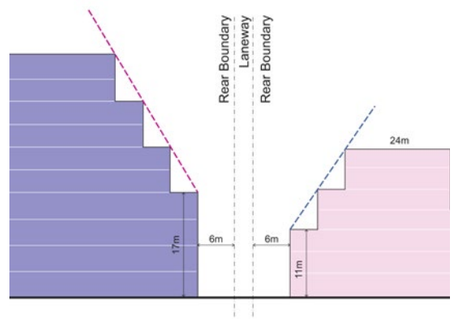


Figure 6.61: Typical interface section 3 (indicative only)

Legend

- Adjacent Key Movement, Urban Neighbourhood and Residential Neighbourhoods set back additional 0.6 metres per metre per height above 17 metres
- Additional rear setback of 0.7 metres per metre of height above 11 metres

4 Residential Neighbourhoods to Key Movement Corridors

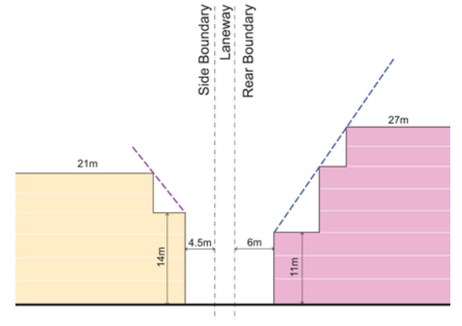


Figure 6.62: Typical interface section 4 (indicative only)

Legend

- Additional side setbacks of 0.8 metres per metre of height above 14 metres
- Additional rear setback of 0.7 metres per metre of height above 11 metres

5 Urban Neighbourhoods to Key Movement Corridors

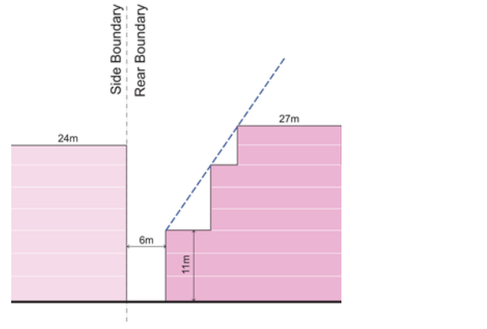
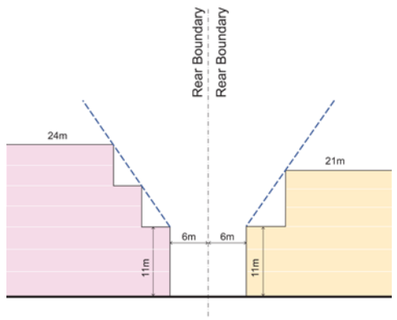


Figure 6.63: Typical interface section 5 (indicative only)

Legend

- Additional rear setback of 0.7 metres per metre of height above 11 metres

6 Urban Neighbourhoods to Residential Neighbourhoods



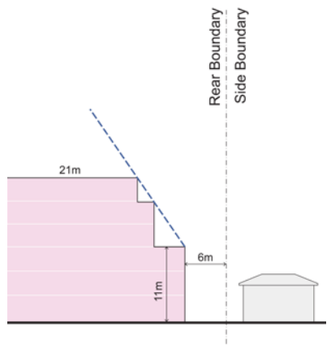
Urban Neighbourhoods | Residential Neighbourhoods

Figure 6.64: Typical interface section 6 (indicative only)

Legend

Additional rear setback of 0.7 metres per metre of height above 11 metres

7 Urban Neighbourhoods to residential land outside Structure Plan Area



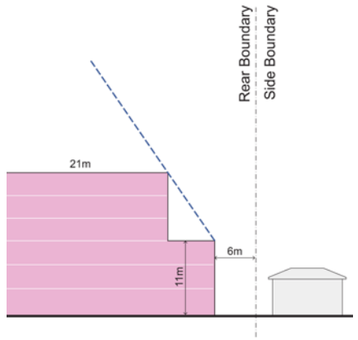
Urban Neighbourhoods | Residential Neighbourhoods outside SP Boundary

Figure 6.65: Typical interface section 7 (indicative only)

Legend

Additional rear setback of 0.7 metres per metre of height above 11 metres

8 Residential Neighbourhoods to residential land outside Structure Plan Area



Key Movement Corridors | Residential Neighbourhoods outside SP Boundary

Figure 6.66: Typical interface section 8 (indicative only)

Legend

Additional rear setback of 0.7 metres per metre of height above 11 metres

7 Recommendations summary

Joint Venture

This report recommends a range of urban design initiatives to be incorporated within the Box Hill Structure Plan. These initiatives will deliver a permeable and inviting public realm that promotes walking and street life, and a series of new urban character areas that will deliver the level of growth and diversity appropriate for this highly accessible and jobs-rich location.

The urban design initiatives are summarised below.

Legend

- 00 — SRL Rail scope
- 00 — Structure Planning scope initiative / recommendation
- SRL station
- SRL East alignment
- Existing Box Hill Station
- Structure Plan Area
- Boulevard
- Avenue
- Activity Street
- Green Street
- Green Street - new
- *Work with land manager / owner to improve links and access through site*
- Critical key link (new) - fixed
- Critical key link (new) - flexible
- Important key link (new) - flexible
- Local key link (new) – fixed
- Local key link (new) – flexible
- Improved pedestrian connection
- Existing open space
- Open space (new) - SRL East
- Open space (new) - planned/proposed
- Pedestrian crossings (new or upgraded)
- Pedestrian crossings (new or upgraded) - SRL East

Transport legend *

- Upgraded strategic corridor
- Active transport - C1, C2, C3
- Major active transport link
- *Refer to the Structure Plan Transport Plan for more detail

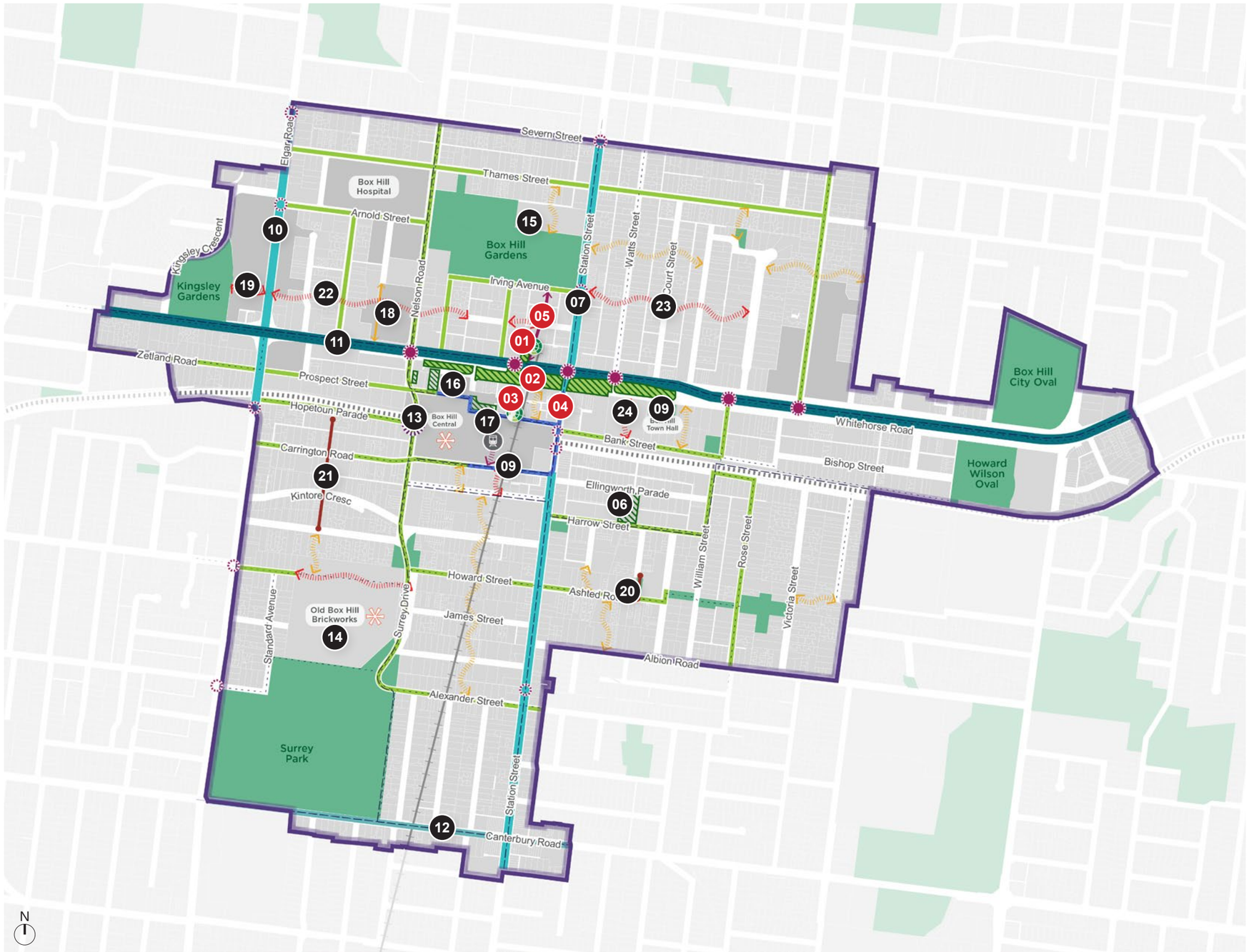


Figure 7.1: Implementation plan (with public realm outcomes base)

Ref.	Urban design initiatives / recommendations
01.	**New public space at SRL station entrance** Deliver high-quality public realm around the new station entrance north of Whitehorse Rd as part of the approved SRL station development.
02.	**Whitehorse Road linear public space** Deliver a high amenity boulevard and enhanced linear public space along Whitehorse Road between Elgar Rd and Linsley St as part of the approved SRL station development.
03.	**Market Street and Main Street upgrades** Deliver upgrades to Market St and affected areas of Main St as part of the approved SRL station development to enhance this urban space and create vibrant public realm experience that accommodates increased pedestrian movement.
04.	**Widening Station Street footpath** Deliver widening to the western side of Station St as part of the approved SRL station development (between Railway Hotel and Main St), to improve pedestrian accessibility and connections.
05.	**New North-south pedestrian promenade** Deliver a new high-quality north south pedestrian promenade (Critical Link) that connects Whitehorse Road to Box Hill Gardens as part of the approved SRL station development.
06.	**New open space at Ellingworth Parade** Enable a new permanent high-quality open space at the Ellingworth Parade / Harrow Street Council carpark. [TBC]
07.	**Station Street improvements** Enable improvements to Station Street to provide a high-quality street with enhanced pedestrian amenity, accessibility including continuous footpath, more crossings and greenery.
08.	**Whitehorse Town Hall public space improvements** Facilitate improvements at the Whitehorse Town Hall open space to improve quality and function, and deliver a pedestrian link through the site.
09.	**Carrington Road enhancements as an Activity Street** Deliver improvements to Carrington Rd to increase appeal, support public life and activity, and provide an attractive and comfortable pedestrian experience.
10.	**Elgar Road upgrades** Plan for Elgar Rd upgrades that accommodates public transport with pedestrian amenity to create attractive places for people to move and dwell.
11.	**Whitehorse Road upgrades** Enable upgrades to Whitehorse Road to reinforces its role as a public transport corridor and to improve landscape and active transport outcomes.
12.	**Canterbury Road streetscape upgrades** Facilitate Canterbury Rd upgrades that accommodate active and/or public transport with pedestrian amenity to create attractive places for people to move and dwell.

Ref.	Urban design initiatives / recommendations
13.	**New major active transport link over rail** Enable delivery of the new north-south major active transport link connecting Nelson Rd and Thurston St via a new crossing over the rail line.
14.	**Former Box Hill Brickworks** Facilitate re-development of site at 14 Federation St, Box Hill to deliver good urban design outcomes including new pedestrian connections through site to improve connectivity and a potential new public open space (subject to future master planning).
15.	**Uniting Age Well Box Hill Community** Enable delivery of new linkages to Box Hill Gardens through site and an enhanced public realm interface to Box Hill Gardens and Station Street.
16.	**Box Hill Central North** Provide for enhanced public realm including new public space (west of Main St), open space at the former Prospect St off-street car parking site, and high amenity and attractive connections between Main St and Prospect St, and facilitate pedestrian connections over existing rail line (such as spatial provisions for a future pedestrian crossing between Nelson Rd and Thurston St).
17.	**Box Hill Central** Plan for enhanced public realm and good urban design outcomes including a direct and convenient north-south ground level pedestrian connection linking Market St and Carrington Rd through the site.
18.	**Box Hill Institute (Nelson Campus)** Investigate improvements to the interface of Box Hill Institute (Nelson Campus) with public realm as a corner site and to investigate potential through site links.
19.	**Box Hill Institute (Elgar Campus** Investigate improvements to the Box Hill Institute (Elgar Campus) to improve the interface and through links to Kingsley Gardens.
20.	**Improved pedestrian connection between Henry Street and Ashted Road** Facilitate an improved local pedestrian connections as part of enhancement to Existing open space.
21.	**Improved pedestrian connection along Station Walk** Facilitate an improved pedestrian connection along existing route between Hopetoun Pde and Brougham St.
22.	**Important new pedestrian links – connecting Elgar Road and Station Street** Facilitate additional through-block links (Important Key Link) to improve permeability and east-west access between Elgar Rd and Station St, including access to Nelson Rd cycling corridor and the SRL station.

Ref.	Urban design initiatives / recommendations
—	**Green Streets improvements** Enable streetscape improvements to existing local streets that support pedestrian connectivity and access to recreation facilities, enhanced environmental/biodiversity outcomes, and/or the potential to accommodate cycle and bus routes as appropriate at: • Alexander St • Ashted Rd • Arnold St • Bank St • Bruce St • Carrington Rd • Dorking Rd • Harrow St • Hopetoun Pde • Howard Rd • Irwing Ave • Mont Albert Rd • Nelson Rd • Prospect St • Rose St • Shipley St • Surrey Dr • Thames St (between Elgar Thurston St • Rd and Dorking Rd) • William St (north of Harrow St) • Willington Rd • Zetland Rd
23.	**Important new pedestrian links – east of Box Hill Gardens** Facilitate additional through-block pedestrian links (Important key links) to improve east-west connections between Station St and Graham Pl, including to Box Hill Gardens and the new SRL station.
24.	**Important new pedestrian link – 1000 Whitehorse Road** Facilitate improved north-south pedestrian link (Important key link) through site at 1000 Whitehorse Rd connecting Bank St and Whitehorse Rd.
—	**New local pedestrian links** Investigate new local pedestrian links (Local key links)
-	**Built form planning provisions** Provide built form provisions to achieve future character, public realm amenity and off-site amenity outcomes.
-	**Public realm amenity planning provisions** Provide design provisions to achieve public realm amenity outcomes.